

BMUG

FALL 1996 NEWSLETTER

**Telecomm Bill...
or Phone Bill?**

**Apple...
Lost in Space?**

Web Authoring Tools

**The Dynamic Duo:
Cyberdog & OpenDoc**

**Digital Rosetta Stone:
Language Software**



The BMUG Newsletter

Fall 1996 – Volume XII, No. 2



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NEWSLETTER ARTICLE SUBMISSIONS

BMUG accepts Newsletter article submissions all year round. If your submission is published you will receive a six-month membership to BMUG.

Submissions can be in any common word processor format, but Microsoft Word version 5 is preferred. For article guidelines see the folder on the Newsletter CD-ROM, the Newsletter conference on Planet BMUG, BMUG Boston, or BMUG's forum on America Online. Submissions should have minimum styles; italics and bolds are fine. All submissions should be made electronically (via email or disk). The deadline for the Spring 1997 issue is **November 1, 1996**.

Send submissions to: BMUG Inc, Newsletter Submissions, 1442A Walnut St. #62, Berkeley, CA 94709-1496.

Or email them to: mann_sanchez@bmug.org

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Hardware consists of a PowerWave 604/132 with a 20-inch Sigma Designs ErgoView display running on internal video, Macintosh 9500/120 96 megs (28 passive/aggressive) with a 16" RasterOps monitor, and Macintosh 8100/80 with 17-inch Apple color monitor. Images were scanned on a Hewlett-Packard ScanJet IIc and Microtek ScanMaker 2HR. This book was proof printed on a Hewlett-Packard LaserJet 4MV.

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DEDICATION

BMUG's Technical Helpline exemplifies the BMUG philosophy of members empowering each other to help themselves. The Helpline gives members who are having problems with their computers an opportunity to learn how to fix the problem on their own. During scheduled Helpline Clinic appointments, offered throughout the week at the BMUG office, a more experienced BMUG member will help a less experienced member with his/her computer. Helpline volunteers also return calls for tech help left by members who live in places far from Berkeley, California, our office location.

Helpline Clinic leaders **Jonathan Arthur, Lorca Hanns, Karin Hart, Eve Lurie, Dennis McManamon, and Bob Rosas** are being honored for their unflagging dedication to coordinating and running Helpline Clinics. Dennis McManamon coordinates the Monday evening Clinic; Lorca Hanns and Eve Lurie co-coordinate the Wednesday Helpline Clinic; Jonathan Arthur is Thursday's Helpline coordinator; and Karin Hart and Bob Rosas are co-coordinators on the Saturday Helpline Clinic. Helpline Coordinators not only help members fix their computers, but they also coordinate other volunteers working with members, returning telephone calls, and responding to faxes.

All of BMUG's Helpline coordinators have developed a style that allows for the maximum amount of work and learning to take place while maintaining a friendly, informal, and laughter-filled environment. At each Helpline Clinic there are several volunteers and members huddled around computers busily diagnosing, fixing, or just explaining how the darn thing works. Other volunteers are on the phones talking to members. Helpline coordinators are simultaneously assigning volunteers new tasks, directing members where to set up their computers, answering questions, and training new volunteers on BMUG procedures. All of our Helpline Clinic coordinators accomplish this amazing juggling act with good humor, tact, and professionalism.

Jonathan, Lorca, Karin, Eve, Dennis, and Bob thank you. It is with great honor that we dedicate this Newsletter to you. BMUG would not be what it is today without your contributions. Thank you!

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		and many others...

PLANET BMUG & BMUG BOSTON

BMUG ONLINE MEMBERSHIP SERVICES

PLANET BMUG BBS: (510) 849-2684

BMUG BOSTON BBS: (617) 275-3062

One of the privileges of BMUG membership is access to our online community of over 6000 BMUG members.

Planet BMUG, our Berkeley-based BBS, and BMUG Boston, our sister BBS on the East Coast, feature over 35 lines and hundreds of popular conferences. Both BBSes are also now available via TCP/IP for those members with an Internet Service Provider

SO WHICH BBS SHOULD I USE?

BMUG members can opt to use either of our BBSes, but not more than one. Although many of the conferences are gatewayed (mirrored), each BBS has its own style. We suggest you use whichever will be kindest to your pocketbook.

HOW TO GET ONLINE WITH BMUG VIA MODEM:

Complete instructions for creating and using your BMUG BBS account can be found in the article called "How To Get Online with BMUG," at the beginning of the Telecom section in this Newsletter. In the meantime, here are the basics:

1. You get the FirstClass Client; SoftArc:FirstClass Client; FirstClass Client software when you join BMUG either via a floppy disk or via the Newsletter CD-ROM.
2. Launch the FirstClass application and modify the settings file for your modem, add the BMUG BBS phone number, and type in a UserID and password (you make these up yourself). Be sure to remember them.
 - The Client software comes with the modem settings files for most modems. You can select yours from the pop-up menu of modem types.
 - Be sure you have the correct phone number for the BBS you've selected, and remove the area code if you don't need it to reach the BBSes.
3. Once you've configured and saved your settings file, click the Login button, and it will dial the BBS for you.

4. Once connected, fill out the auto-registration screen that greets all new users. You don't get that much time to fill it out, so please fill it out quickly and completely. Oh—and make sure you use the same information you gave us when you joined BMUG. When you're ready, hit the Register button.
5. Now that you're online, find your way to the Request Validation folder (in New User Info), open it, and create a new message requesting validation (for the account you just created). You can create a new message by typing Command-N, and send it by typing Command-E.
6. It will take the Validation Volunteers a few days to check your request against our database of members. In the meantime you'll have 25 minutes a day to look around.
7. If you have any problems along the way, check the Tips on the following pages, check the article in the Telecom section of this newsletter, or call the BMUG Helpline at (510) 540-1742 and follow the instructions, for pre-recorded BBS hints and tips.
8. Have fun!

INSTRUCTIONS FOR LOGGING ON TO PLANET BMUG VIA THE NET:

Complete Instructions for logging onto Planet BMUG and BMUG Boston via the Net can be found in the articles "Getting Online with BMUG Boston" and "How to get Online with BMUG via TCP/IP" at the beginning of the Telecom section in the Newsletter. In the meantime here are the basics:

1. Make certain you are using FirstClass Client 2.6 or higher for Macintosh or Windows. Only version 2.6 and up support IP connections. Version 2.7 for Mac and 3.0 for Windows are recommended.
2. Make certain your connection to the Internet is a PPP, SLIP or better connection from a service provider with full-time Internet access. "Internet access" offered by online services such as America Online will not work.
3. Make a new copy of your FirstClass settings file for Planet BMUG or BMUG Boston. From the first screen, click on the "Setup" button and make these changes: First, substitute the appropriate IP address

in the Server field of the connection setup window. The IP address for Planet BMUG is: bmug.org or 206.80.36.91. The IP address for BMUG Boston is: bmugbos.org or 198.69.254.236. Choose TCP-IP.FCP as your connection method.

4. With the connection setup window still open, press the Setup button beside the "Connect via" popup. On the next screen click on "Advanced Settings" and check the TCP port number. Change it to 3004 (it's 3000 by default). Save your changes. Make sure you click Save after you change the settings. If the port is left at 3000 (the default), the server will not allow you to log on to either Planet BMUG or BMUG Boston.
5. Initiate your local Internet connection. Once connected, press the Login button on the FirstClass Login screen. You will be connected to the site if there are ports available. The performance you experience will depend on the bandwidth of your Internet connection—internet connection and network traffic conditions.

THE BMUG VOLUNTEER HELPLINE

BMUG'S TECHNICAL SUPPORT SERVICE

THE BMUG HELPLINE

The BMUG Helpline is where BMUG members can:

- request a technical support callback from a Helpline volunteer.
- request a Helpline Clinic hardware appointment for upgrades, floppy and hard drive recoveries, internal modem and memory installations, etc.
- listen to pre-recorded tech tips and tricks.

THE HELPLINE PHONE NUMBER

The BMUG Helpline can be reached at **(510) 540-1742**.

Please allow up to 72 hours for a response—and please don't give the Helpline number out to non-members.

HELPLINE VOLUNTEERS

The Helpline receives hundreds of calls every week. Although we wish we had the volunteer power to answer each call as it comes in, the Helpline voicemail has been designed to take the sting out of requesting a callback by keeping it simple, and clear. In addition, please take advantage of our automated help system. We feel we have provided help for nearly any Macintosh problem you may encounter.

THE BMUG HELPLINE CLINICS

Helpline Clinics are held at the BMUG office, where BMUG members can come to get Mac technical support, hardware assistance (by appointment only), and product recommendations.

Clinics are staffed by enthusiastic volunteers, who enjoy helping others. Please let us know if you'd like to become a Helpline volunteer.

HELPLINE CLINIC HOURS

Helpline Clinics are currently offered on Wednesday, Thursday, and Saturday afternoons, from 1:00–5:00 p.m., and Monday evenings from 5:00–9:00 p.m. at the BMUG office.

BMUG ADDRESSES

The BMUG office can be found at 2055 Center St., in downtown Berkeley.

Please send all correspondence to:
BMUG, 1442A Walnut St. #62, Berkeley, CA 94709-1496.

Mac Problem Quick Fixes

Before You Go to the BMUG Helpline

by Robert Glick

As BMUG Helpline Coordinator, I've realized that a huge percentage of the hardware panic problems and frantic call to the BMUG Helpline can be easily and calmly solved with a minimum of effort and know-how. What follows is a schematic account of the most basic curveballs your Macintosh will throw at you, and how you, *without the aid of the Helpline*, can either solve these problems or affirm that your Macintosh has a serious illness.

Problems with Planet BMUG

Here are a few tips for successfully logging onto and navigating the BMUG BBSes in Berkeley, Boston, and the South Bay:

- Read your Newsletter and the New User Info on your FirstClass Client disk. There are articles in the Telecom section of the Newsletter that describe how FirstClass works, how to configure your modem settings, and how to ask for validation on the Bulletin Board.
- When you register for the first time, write down your User ID and password and put them in a safe place in case you forget them (Remember, you make up your own UserID and password).
- Save a copy of your customized settings file to your Desktop. You can configure your FirstClass settings file by selecting the correct modem in the FirstClass setup screen, entering your User ID and password, and then selecting Save as to save a copy of this file to your Desktop. From that point on, if you double-click on this document, you will initiate the correct login process.
- Please register one time only. If for some reason, you have registered, and FirstClass asks you to register again the next time you log on, this means that you are using an incorrect User ID. You will not be validated if you create multiple accounts.
- If you were validated and, after not logging on for a while, FirstClass asks you

to register again, do not fret. FirstClass software is designed so that if you do not log on for 100 days, the server will delete your account. This cleans up the system so there aren't five trillion validated users. In this case, please register and request validation as if you were registering for the first time.

- Remember to *request* validation. We need a message sent to the Request Validation folder in order to verify that you are a paid member of BMUG. If you do not send a message to the Request Validation folder after you register, you will not be validated.
- If you are having problems logging on during the weekends, this may happen because the BBS is undergoing regular maintenance and backup. Try again on the next day or after a few hours.

Macintosh Emergencies

A Sad Mac or a Mac That Doesn't Chime on Startup

If you get the Sad Mac icon when you start your Mac, it probably means that you have corrupted system software or a corrupted device driver. Try to boot your computer from a floppy disk, such as the Disk Tools floppy that comes with your system software disks. If your computer boots with the floppy disk, you need to re-install your system software (see the section in this article on re-installing your system). If the problem does not disappear after booting with the Disk Tools floppy, you may have a corrupted hard disk driver. In this case, try to disconnect your SCSI devices. If you can successfully boot your computer without SCSI devices, then you may need to update a SCSI driver with a formatting utility such as the one included on the Disk Tools floppy disk.

If your Macintosh doesn't chime when you boot the computer, it means that there is a hardware problem that requires further assistance. Call the Helpline to investigate the problem, and make a Helpline appointment.

A Flashing Floppy Disk Icon on Startup

If you start your Macintosh and you see a floppy disk icon with a question mark, it generally means that your Mac is not booting off of the hard drive and cannot find a working System Folder. This does not necessarily mean that your hard drive has disappeared forever, but it does mean that your system software is probably corrupted. Before calling the Helpline, try re-installing your system software. If this does not work, call the Helpline for more assistance.

A Hard Drive That Does Not Appear on Your Desktop

- Disk First Aid recognizes your hard drive.

Your hard drive may not appear on your Desktop for a variety of weird reasons. First, try to boot your Macintosh with the Disk Tools floppy disk that comes with your system disks, and run Disk First Aid. If Disk First Aid can find your hard drive, then you know that it is still hanging around. If Disk First Aid can't fix your problem, however, you should try to recover your data using a recovery program such as Norton Utilities, Public Utilities, or MacTools (we recommend the latter).

- Disk First Aid doesn't recognize your hard drive, and you have an Apple drive.

If Disk First Aid can't find your hard drive, and you have an Apple drive, try running the Apple HD SC Setup program. You can find this program on your Disk Tools floppy disk. If Apple HD SC Setup doesn't see your Apple drive, you have a dead, deceased, and post-moribund hard drive. If Apple HD SC Setup does recognize your Apple drive, you may be able to update the driver and recover your data—instead of having to reformat your hard drive and lose all your data.

- Disk First Aid doesn't recognize your hard drive, and you have a non-Apple drive.

If you don't have an Apple drive, you'll need to use a third party hard drive utility program such as Silverlining or Hard Disk Toolkit.

- Other adventures

You can also try the following if your hard drive doesn't appear on your Desktop: Remove all external

SCSI devices from your Macintosh, and add them back in one at a time to see if you can isolate which SCSI device is giving you problems. In addition, try reseating all your cables. Sometimes a bad connection can cause your SCSI devices to act strangely or not to act at all.

If none of the above things work, call the Helpline, and we'll help.

Printing Problems

A g'zillion things can cause problems with printing. Here are some simple things to try before consulting a higher power.

- Make sure that all of your connections have power and are connected properly.
- Go to the Chooser in the Apple menu, and make sure that your Macintosh recognizes the printer.
- Check to see that the printer is connected to the proper port.
- If you think your problem has to do with fonts, try creating a new document in your application. Type a few things in this program with a basic font such as Helvetica, and print. If this works, your problem is with the particular font you are using.
- If you are sharing a printer on an Apple-Talk network, make sure that everyone is using the same driver. If you use multiple drivers, printing will take forever and more.
- Sometimes printing problems happen because the computer confuses the serial ports. You can clear the serial ports by zapping the Parameter RAM (see the section on zapping Parameter RAM—known as PRAM—in this article). You zap the PRAM by holding down Command-Option-P-R while starting up your Macintosh. When your Mac chimes, let go of the keys and let it boot up normally.
- Some applications output PostScript files directly. If you see a message that says, "Cannot print due to PostScript error," try opening a new document. Cut only the things you need from your document with the error message, and paste into the new document. Save this file, and try printing.

If none of this works, and you're fed up, call the Helpline.

Basic Macintosh Problem Solving

A Clean System Install

If you need to re-install your system software and are using System 6, you can install new system software over the existing system software. If you are using System 7, you need to do what is called a clean install.

To perform a clean install, boot your System 7 Macintosh using the Disk Tools floppy disk. In the System Folder on your hard drive, move the system and the Finder to the Trash. In the Preferences folder, move the file called Finder Preferences into the Trash as well. Empty the Trash. Once you have thrown out these three files—the system, the Finder, and the Finder Preferences—give the existing System Folder a new name, such as *Old System Folder*. This will ensure that you end up with a brand new System Folder and important files in your old System Folder will not be trashed.

After you trash the files and rename your old System Folder, you can restart your computer using the first of your system install floppy disks, and proceed with your System 7 installation.

Rebuilding Your Desktop

The Desktop file is an invisible file that keeps track of your icons, documents, and applications. Because the Desktop file can get confused, it is sometimes necessary to rebuild your Desktop. To rebuild your Desktop file, hold down Command-Option *after* all of your extensions and control panels have loaded, and *before* the Desktop appears. The system software will ask you if you want to rebuild the Desktop, and will inform you that all Get Info comments will be lost. Click the OK button and the Desktop file will be rebuilt. Note that while this is an effective way of rebuilding your Desktop, there are Shareware utilities on Planet BMUG that will rebuild your Desktop more thoroughly.

Zapping your Parameter RAM

Parameter RAM, also known as PRAM, is where your Macintosh keeps track of settings defined by the user, such as time of day, mouse speed, keyboard repeat rate, and startup driver preferences.

If you are using System 6, you can zap your PRAM by holding down Command-Shift-Option while opening the

control panels from the Apple menu. The Mac will beep to tell you that the PRAM has been zapped successfully.

If you are using System 7, hold down Command-Option-P-R while starting or restarting your Macintosh. When the Mac chimes to tell you that the PRAM has been zapped, you can let your computer boot normally.

Similar to rebuilding your Desktop, there are Shareware PRAM zappers that will do a more complete job of zapping your PRAM than this procedure.

Playing with Extensions

To figure out whether your extensions are causing problems, try to boot your computer with the extensions off. You can do this by holding down the Shift key when starting up the computer. If you do this successfully, the computer will tell you it is booting up with the extensions off. If the computer works fine, then you know that one or more of your extensions is problematic.

At this point, it's a matter of isolating the corrupted or difficult extensions. Start adding one or two extensions at a time and restart your computer until the computer stops working. In this manner, you can find out which ones are not working, or are having conflicts with other extensions or software. There are Shareware programs such as Extensions Manager or commercial software such as Conflict Catcher that will allow you to manage your extensions—and to test for conflicts.

Calling the Helpline

While this guide will help solve many of the easier problems your Macintosh will have, there are many more complex problems which these quick fixes will not affect. For more complex conundrums, my best advice is to call the BMUG Helpline and relax. *Remember that each time you lose your cool and scream at your computer—or at someone close to you—because your computer is on the blink, you are probably taking some time off of your life, and to be honest, the computer isn't worth it.* Remember also that the BMUG Helpline volunteers are people, are human, and are doing everything they can to solve your problem. Call the BMUG Helpline, and we'll do our best to help you solve your computer woes.

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Communications Crucible

Verbal, Virtual, or Bust

by Emeline Mann Sanchez, BMUG Newsletter Editor-in-Chief

From that pulsating, percolating twitch below your eye to those sticky pungent beads of sweat tracking down your clammy face, the brain very effectively communicates to the body its momentary phase of stress... or uncontained absolute terror. This is the most basic, and primal means of communications—the messages the brain sends to the body. These messages the brain sends allow the body to function in its most basic forms—to stand, for example. If your brain didn't send messages to your muscles from head to toe the whole time you were standing, you'd be flat on your face hugging the floor big time. These same messages permit your brain to transform cerebral anxiety into perhaps, a muscle spasm in your big toe. Because of this effective means of communications, the brain and body coexist harmoniously. Not so with humankind.

In the Image of Man

Humans have a tough time communicating with one another. But let's not go there. Instead, let's briefly scan the history of our eternal quest to mimic what the brain does so well. In the 1950s, Artificial Intelligence was a branch of computer science that captured the public imagination, snaring in huge chunks of research grants to the tune of billions of dollars, spawning a whole menagerie of robots that moved, or made sounds (LISPed, actually), but really fell short on delivering the goods—a machine that could reason and communicate in the way humans do. Nevertheless, the movie and television industry followed suit with its depictions of intelligent mobile contraptions in various forms ranging from The Jetson's demonstrator model, house-bot Rosie, to Star Wars' talking hologram projector R2-D2 and the multi-lingual C-3PO.

While scientists continue in their quest to make fantasy a reality, the move

to find a better *vehicle* to facilitate human interaction/communications has been ongoing. Depending on when you occupied space in time, a chat has evolved from a club over the head to tapping away at a keyboard sending messages from one side of the world to the other. Telephones, radios, and televisions are no longer the miracles of their time. Not that everyone has these amenities we BMUGers take for granted, but the fact remains that the new kid on the block is the computer.

Digital Omnipotence

The concept, the actual computer itself, is not new, but *how* it's being used and its far reaching implications is new. On average, a person's social security number can be found in hundreds, if not thousands of databases created by government organizations and private sector entities. Look around you. Aside from your Mac (or Mac clone, or other miscellaneous electronic paperweights) chances are the objects around you have computer chips in them. And if not, you can bet computers controlled certain aspects of their production, or were instrumental in getting these products into your home or office.

Email and the Internet represent the Great Technological Leap Forward for the masses, or so they say. Inter-office communications, worldwide communications, information gathering, purchasing, social activism—these and more, are literally at your fingertips.

Along with the new innovations are the new doomsday prophets. In *Silicon Snake Oil* (and in radio stations near you) Clifford Stoll lambastes our co-dependency in computers. A self-professed computer enthusiast, Stoll extols the virtues of live, real-time communications as opposed to virtual communications. Even the huge online protests to Lotus Development's Marketplace: Household CD-ROM, and

Exon's Telecommunications Decency Act does not sway Stoll. (In this issue, check out BMUG Executive Director, Ann Wrixon's review of *Silicon Snake Oil*, and Chupoo Alfonté's radio interview with the man.) What seems logical in this world of mixed nuts, is the importance of good communications—electronic or otherwise. Public Enemy's "Rebel Without a Pause" says it well—"brothers and sisters, we gotta talk." Surfing the Web is fine, talking is cool, and sometimes reading a book is where it's at. Like this Newsletter you're holding in your hands.

The Continuing Saga

We have in this current issue, another anthology of BMUG minds at work, at play, at large. When that first Victrola scratched along newly-melded vinyl grooves, a little mutt cocked his head in amazement to hear his master's voice, even though his master was nowhere to be seen. In The BMUG Newsletter, you can read thoughts from the minds of BMUGers without actually having to see them. You might be thankful for such a thing. It's a well-rounded compilation of just about everything that's out there in Mac-land.

New and Improved

Tongues Unleashed

We have a new Language Section that will run for several more issues, due to the many language products out there that merit our attention. This section is coordinated and edited by BMUGer Megan Lynch, an artist, musician, teacher, and something of a dilettante (in the old sense of the word). A love of languages led her to studies in Spanish, Swedish and Danish. Her English is quite excellent as well. Any BMUGers who wish to participate in this section should contact Megan on the Planet, or email her at spidra@sirius.com.

BMUG Japan

Also new to this issue, is the Japan News Section (JNS) coordinated and edited by BMUG Japan member, Takashi Noguchi. Takashi has worked in the computer music scene for over ten years, programming computer music for CDs, television, movies, live performances, and many ISDN Karaoke systems. He bought an SE/30 in 1991, joined BMUG in 1992, and has been volunteering at the BMUG booth for four straight years.

His right hand man, or woman, in this case, Rio Hashimoto, will head the JNS staff. Rio works for the world's leading LAN/WAN company in the Tokyo sales office as Systems Administrator in the Information Technology Group. She likes playing, or rather, working with different platforms to get them to get along with one another—although some may describe Rio as a system crusher :-).

Other JNS staff members include Japan BMUGers Yukiko Takiguchi, Hiroshi Sumio, Yasuichi Kitamura, and Kawori Ito.

Kawori works for Kids Computer School, instructing, planning curricula, and localizing software. She also does English to Japanese translation for software manuals and other documentations, very much utilizing her Quadra 610 with PowerPC Upgrade Card.

Yasuichi Kitamura works with super hi-resolution display (4000x4000). He has three Macs for the router, the file-server, and the playground:-). He joined BMUG in 1991, and has been volunteering at the BMUG booth in Tokyo and San Francisco since then.

Hiroshi Sumio works for Canon, making a Multi Function Copier (the super duper all in one copier/printer/fax machine). Hiroshi has been using Apple products for more than 12 years (Apple II and Macintosh).

Yukiko Takiguchi works for an Internet related publisher in Japan. She laid out our first Japanese written BMUG flyer on "How to reach Planet via the Internet" for this year's MacWorld Tokyo Expo. An updated version of the flyer is in this Newsletter. Yukiko loves the Macintosh and the people behind Macs (especially BMUG members). In her own words, "Hello, I'm just a woman, love dogs, ice cream, snowboarding, cycling, Sano Motoharu, club, chicken curry, and Mac."

In other inter-continental news, BMUGers Yasuichi Kitamura and that ever-talented Rio Hashimoto will be starting up the BMUG Japan BBS to go up in cyberspace soon.

JNS only has two articles this time around, but now's the time to think about or air out your Macintosh issues onto The BMUG Newsletter forum. Submit your Kanji files to:

bmug@MAILHOST.NET.

He Said... She Said..., Part II

The mastermind behind the MacWomen Section (Spring 1996 issue), Hoai-An Truong, will be taking submissions on topics of women in computing. Hoai-An Truong, a lefty, and a Macintosh fan since 1986, has been the coordinator of Bay Mac Women for four years now. Currently, she is volunteering for the Women's Economic Agenda Project (WEAP) that is creating a new and very exciting technology center, the Women & Family Center for low-income women and minorities. You can learn more about Hoai-An, her views, her aesthetic sense of information, by checking out her résumé on the Planet. MacWomen submissions should be sent to Hoai-An on the Planet, or email at ivanova@sybase.com.

Lavender Desktop

Upcoming in the Fall 1997 issue will be yet another new section, the Lavender Desktop, a collection of pieces on the lesbian & gay experience in the Macintosh world. Paul Attinello (attinell@crl.com), who will be coordinating and editing these articles, is a writer and musician who has published a number of articles in musicology as well as several stories and poems. He was founding editor of the Gay & Lesbian Studies Group Newsletter of the American Musicological Society, and co-founder of the Society of Gay & Lesbian Composers. He is also used to answering the maddening question, What does being gay or lesbian have to do with (x)? He hopes the Lavender Desktop will begin to answer this question (that is, iff (x) = (Macintosh)).

Nag, Nag, Nag

While the Lavendar Desktop won't debut until Fall 1997, all interested writers, artists, communicators of all media, should start thinking about it now. Live life on the edge. Commit yourself. To an

article, that is. And let's not blow off the concept of a BMUG Newsletter deadline. It'll be November 1, 1996, for the Spring 1997 issue. Get off your proverbial butts (I guess you need to be sitting down to key in your article). Send in those submissions at any time of the year. Don't wait until the very, very last minute. ☹

All submissions should be either on a floppy, or uploaded on the Planet to the Upload NL Articles! folder via this path: Planet Desktop —> BMUG Community Center —> NL Articles —> Upload NL Articles! If you're not on Planet BMUG or BMUG Boston, but have Internet email, send your submissions to me at mann_sanchez@bmug.org. If a modem is not on your priority list, you can send your floppies (articles preferably SimpleText or Word 5.x text files) to:

NL Submissions
BMUG, Inc.
1442A Walnut St #62
Berkeley, CA 94709-1496

Submit either TIFF or EPS graphic files at 200dpi. Do *not* send PICT files, because electronic prepress people have problems printing out PICT files on high resolution imagesetters. Do *not* embed graphics into your text files. You should indicate *where* you may want your graphics, but keep the graphics as separate files. (You can send a text file with embedded graphics, so long as you send the graphics files separately as well.) Tables should be single tabbed delimited (we'll make the columns line up when we lay out the articles), unless you're making a graphic text file (which you can very well do it yourself!). For all software and CD-ROM games reviews, include its minimum requirements as shown (when applicable):

Computer: [cpu, O/Sy, ports, etc.]
Memory: [? megs of RAM]
Hard Drive space: [? megs]
Manufacturer info: [name, address, phone, email, web URL]
Price:

The BMUG Newsletter Style Guide, and Newsletter Style Tags can be found on Planet BMUG in the NL Articles folder, and is also included in your Newsletter CD-ROM or Newsletter High Density disks, in the BMUG Newsletter folder.

Much thanks to the BMUG staff and volunteers (live and virtual) who made this Newsletter and its CD-ROM a reality, with special thanks to Kelly Pernell for kicking butt to get it out.

Letter from BMUG's Development Director

by Colleen Miller

Dear BMUGers,

Prior to writing this letter, I reread my last Newsletter doodad as I didn't want to be redundant. In that letter I mentioned that BMUG was moving into a new era—one of growth, productivity, positive challenge, and prosperity. My predictions were so correct that I am considering a job change to the Psychic Hotline.

Let's start with growth. Our membership is up and continues to grow. Much of that is thanks to Ann Wrixon and her ever vigilant eye towards improvement. Much of it is due to the hard work of Kelly Pernell and Kevin Lockey who, among many other things, are excellent customer service reps for BMUG. I like growth and plan on BMUG growing even more. With the shrinkwrap *Intro to BMUG* packages going national and an idea for a corporate membership campaign, I believe membership will be up more than ever in the coming months.

Let's next move to productivity. We're signing up more members (okay, I mentioned that); we're doing more press, we're working harder than ever on main meetings; we're teaching more people in our classes; we're placing donated computers in the homes of low-income families; we're restructuring our Helpline—and these are just a few things we're producing.

Positive challenge. Well, every day is a challenge here. A challenge to become better than ever, to serve more of

the community, to produce more readily-dispensable information and to provide more access for all walks of life. How fulfilling.

Prosperity! I must be honest in saying that we could use more of this. But if prosperity is measured by the amount of wonderful volunteers we have or by the amount of families we've made happy through our computer placement center, then I'd say we're doing okay.

And, we could always do better. Your help in the form of volunteerism, equipment donations, and monetary donations helps us tremendously. Volunteerism helps us to help more people—bottom line. Equipment donations help us to make the office more efficient or to place a computer in the home of a needy family. Monetary donations allow us the freedom to pay bills, follow up on special projects or provide furniture for our free classes.

We here at BMUG greatly appreciate your help, and, as it never hurts to ask, I'm going to ask for more of it! Please think of BMUG when you have a little extra—extra time, extra equipment, extra cash. It makes a big difference to us, to you, and to the community.

So, please give, and next year under the title of *Prosperity*, I can say “We got it! Thanks to you, we got it!” ㊦

Sincerely,

Colleen Miller

Director of Development

BMUG Thrives through the Help of Volunteers

by Kelly Pernell

BMUG, like most non-profit organizations, relies heavily upon volunteers to accomplish all the activities and services we provide for our members. Some may think that volunteering is a one-way street, where only the company benefits; however, this not the case at BMUG. By donating some of your time helping BMUG, you can improve your Mac skills by working on the Technical Helpline; gain knowledge about current software and hardware by editing BMUG Newsletter articles; get to know other Mac users in the California Bay Area; learn more about managing a FirstClass BBS by moderating a conference; and acquire many more valuable skills.

If more Mac knowledge is what you are looking for, then clearly the best way to take advantage of a BMUG membership is to volunteer. You don't even have to work at the BMUG Helpline to learn. For example, you could be labeling and stuffing envelopes, while sitting in on the tech talk. Just by spending time in the BMUG office, you can learn a lot listening to the technical conversations going on.

If you can't make it into the office to volunteer, don't despair. There are other volunteer activities that don't require your physical presence. Writing an article for the BMUG Newsletter, for instance, is a great way to contribute to BMUG—especially if you know a lot about the Mac. By contributing to the BMUG Newsletter you

not only get a free six-month membership, but you also get published and you help BMUG provide valuable information to our members. If you're not a writer but are good at grammar, you can help us edit the articles that are submitted. If these don't grab your interest, how about designing some artwork to be put on the cover of a BMUG product, T-shirt, or Spring Flyer? BMUG could use your contributions.

In the next few months BMUG is going to develop a volunteer incentive program to help maintain our volunteer base. While some incentives are already in place—such as receiving a free six-month membership for Newsletter contributions or a free pass to Macworld Expo for working in the BMUG booth—we are finding the need for a more structured volunteer program. You can expect this program to be more firmly in place by the time you read this article. (If you're interested in helping to maintain such a program, it'd be another great way of helping BMUG; suggestions are always welcome.)

What is also necessary, and also in the works, is the BMUG Helpline Certification Program. BMUG really needs more Helpline volunteers to help serve our members; we also need to prevent the ones we already have from what I call Helpline burnout. So, in addition to educating members about the different realms of the Macintosh through our special interest groups (SIGs), we want to

offer a program to our members that will empower them with basic technical knowledge to troubleshoot their own Macs. We want to encourage members to become Technical Helpline volunteers by offering a technical training program.

In order to implement the volunteer incentive and Helpline Certification programs, we need your help. If you are interested in volunteering, you can start by filling out the Volunteer Signup Sheet at the end of this section. We also welcome any suggestions on how we can best implement these programs.

So, fellow BMUGers, I hope you feel motivated to join the BMUG family of volunteers. If you need to know more about the wonderful world of BMUG and the valuable information you can find here, check out Michael Ellard's article, "Why BMUG Membership is Worth More Than \$65" in this issue.

Volunteering is a great way to meet other Mac enthusiasts, to acquire extra skills, and to get more involved in the BMUG community, so, please, join in the fun. It only gets better when more people participate. I look forward to hearing from all of you.

Thanks,

Kelly Pernell

Volunteer Coordinator

BMUG Highlights

A Year of Change and Growth

A Letter from Ann Wrixon, BMUG's Executive Director

As I reflect back on my first year as BMUG Executive Director, I am stunned by the extraordinary changes, both within BMUG and within the industry that makes and supports the Macintosh operating system. Although BMUG has grown in unexpected and exciting ways, we have also watched Apple Computer, Inc. go on a roller coaster ride that included record losses, the resignation of one CEO, and the appointment of another.

At this writing, the new CEO of Apple Computer, Dr. Gilbert Amelio, has charted a course that many hail as the road to a revitalized Apple Computer. We can only wait and see. Those of us at BMUG, however, realize that despite any problems at Apple Computer, the Macintosh operating system is here to stay. Clone makers such as Power Computing are thriving, and developers continue to provide new software for the Macintosh. And here at BMUG, we will continue to provide information and direction for users and developers working in the Macintosh environment.

I have highlighted some of BMUG's activities this past year as we shape and respond to the events in this fast-moving industry.

National Distribution of BMUG Newsletter

This is the first time many of you have ever seen, much less read, a BMUG Newsletter. Through a distribution agreement with Peachpit Press, the BMUG Newsletter (including the Newsletter CD-ROM and a six-month membership) is now available at bookstores throughout the country.

If this is the first time you have ever seen a BMUG Newsletter, you are in for a wonderful surprise. Not only is the Newsletter packed with all sorts of great information, but the enclosed free membership offer allows you to join the BMUG worldwide community. All of the software you need to log into one of BMUG's BBSes (Electronic Bulletin Board Systems) is included on the CD-ROM.

So what does it mean to be a BMUG member? Well, imagine a worldwide community where you know everyone's name and everyone is dedicated to helping each other out, especially with their Macintosh-related problems. For example, this Newsletter was written and edited by more than 100 BMUG members, many of them leaders in the industry. Everyone donates his/her time in order to provide this information to all of us.

Our BBSes in Berkeley and Boston are easy to use. Through these graphical interface electronic bulletin boards, you can ask any question about your Mac or almost any other issue you can think of, including politics, gardening, movies, and much more. Everyone uses his/her real name; you will receive friendly, helpful responses to your queries. Then, the next time someone has the same question, you can jump in and help them out.

And since conferences are not just limited to computer questions, you can participate in other areas as well. Recently, a 15-year-old BMUG member was having trouble with his calculus homework, so he posted a message on the bulletin board. The next day, two NASA engineers helped him solve the problem. Our BBSes are family-oriented, educational and fun.

Extra Bonuses to BMUG Membership

There are many other benefits of being a BMUG member. For example, earlier this year Apple released an update to its 7.5 System software, often referred to as System 7.5.3. The update was available on the Internet for free, but it took hours to download, if you could even get through to a site for downloading. It was also offered on CD-ROM for \$13 from Claris Corporation. Claris, however, took more than a month to ship the ROMs.

As a users group, BMUG had a licensing agreement with Apple that allowed us to duplicate and sell the System Update on CD-ROM. Within a week, we were shipping the Update to BMUG members who requested it—the CD-ROM was only \$12. The only catch was that our licensing agreement only allowed us to sell the product to BMUG members. The result was that BMUG members around the world were able to receive this System Update sooner than many others.

BMUG BBS to Open in Japan

As an international organization, BMUG has members in more than 50 countries around the world. Japan has an especially large number of BMUG members. In February, I went to Japan to help work at the BMUG booth at the Macworld Tokyo Exposition, and had the honor of meeting and talking with dozens of our Japanese members. Although many Japanese members regularly log onto the BMUG BBSes in Berkeley and Boston via the Internet, they explained that they would like to see a BMUG BBS in Japan in Kanji (written Japanese). They felt this would encourage a greater sense

of BMUG community in Japan, and also expand BMUG's Japanese membership. They also felt that if a small section of the Newsletter was written in Kanji by the Japanese membership it would go a long way to make the Japanese members feel a part of BMUG.

Due to the hard work of our BMUG members in Japan, we hope to have a BBS operating in Tokyo by the beginning of this next year. Also, given our large membership in Japan, we have a section of the Newsletter in Kanji. This is an additional section. We did not reduce the number of pages devoted to articles in English.

Computer Placement Program

Perhaps one of the most exciting new programs at BMUG is our computer refurbishing and placement program. This program was started a few months ago by our Development Director, Colleen Miller, after she read a statistic demonstrating how few non-white families had computers in their homes, and that poor families were even less likely to have a computer.

Realizing that many of our members have no use for their old computers once they upgrade to newer systems, Colleen issued a call for donations. Dozens of

BMUG members responded with donations of computers, hard drives, monitors, and modems. BMUG works with several social service agencies to identify appropriate families in need of a computer. Families on public assistance headed by single parents with children between 9 and 17 living in the home are given priority.

BMUG volunteer Ian Cumming has assembled a crew of volunteers he has trained to refurbish the old computers and prepare them for placement in homes. Several families now have computers, are taking BMUG classes, and even logging onto Planet BMUG.

Unfortunately, demand for the program has already outstripped the supply. People must now wait as long as three months for a computer. Rather than scale back the program, as there is a great need, we are looking for alternative funding, including grants and individual donations. If funding comes through we will be able to hire a staff member to administer the program, and manage its growth.

Ongoing Work

Over the last six months, volunteers who live near our offices in Berkeley, California have put a lot of energy into revi-

talizing, publicizing and leading our Main Meetings, MacEssential Classes, and Special Interest Groups. All of our classes, meetings, and Special Interest Groups are free and open to anyone in the community. Some weeks as many as 400 people attend our classes, meetings, and Special Interest Groups with individual classes drawing as many as 60 or 70 people.

BMUG also continues to develop and sell books and CD-ROMs. Our ROMs are collections of Shareware and Freeware, including font collections, Internet collections, games, and much more. Call the office to request a catalogue or a calendar of events.

Welcome!

In closing, to our new members, welcome! To all our long-time members, thanks for making BMUG what it is today: the world's largest Macintosh Users Group, and one of the best organizations in the world. 🦅

Ann Wrixon

BMUG Executive Director

Letter from the Chair

by Fred Swan

Welcome to BMUG's Fall 1996 Newsletter! Thanks to a new distribution program, I think it's safe to say that this Newsletter will be read by more people than any of our earlier volumes. In addition to being distributed directly to our members, this Newsletter is part of a bundle with a CD-ROM disc and a 6-month membership which is available for purchase at book, computer, and specialty stores throughout the country. If you are new to BMUG, and have purchased this as a retail bundle, be sure to return the membership registration card so that we can add you to our database and be ready to help you take full advantage of the membership you have purchased. Those of you who are continuing members and receive the Newsletter by mail will also benefit from this new program. It will be expanding our membership base, thereby adding more people to meet on the BBSes and additional content to future newsletters.

As an "industry insider," one of the questions I am most frequently asked these days—by computer users, other insiders, and curious bystanders—is, essentially, "What's going to happen with Apple?" Good question. Of course, nobody really knows the answer to that. Not the press, not the investment advisors, and not even their new CEO, Gilbert Amelio.

The computer industry as a whole is one of the most rapidly changing industries in history. The overall market is still very new. The pace of technological advancement is extremely fast. The potential profits are high, so there are constantly new companies entering the business. But, margins can be low and the costs of development high, so a lot of companies go under. With all of this going on, it's diffi-

cult to predict the future of any particular company.

Last year, many people had written Iomega off. Their sales were down, their products were old, and they went through several rounds of lay-offs. Now, of course, people are kicking themselves for not having bought the stock at \$7, or even \$20. What a difference a year makes.

The opposite is happening at Packard Bell. One of the fastest growing computer makers ever, it's unit sales quickly grew to a level where they were competing head-to-head with Compaq, IBM, and Apple. However, the low margins caught up with them and they required substantial new investments. In the meantime, other companies learned from their marketing techniques. Now, Packard Bell sales are declining almost as rapidly as they rose.

IBM is constantly reorganizing. It wasn't so long ago that Compaq was in serious trouble. Apple itself has changed directions more often than Dennis Rodman changes hair colors.

Apple has problems. There is no question of that. What gets overlooked, however, is that every company in the industry has problems. Many are just one or two big mistakes away from serious declines. Good management can usually prevent and often reverse these problems. Apple's directors think and hope that the company now has sound management at the top.

We are certainly seeing changes. The excess inventory is being moved out at bargain prices—this is a great time to buy a Macintosh. The Mac™ OS is being licensed to third parties at a fast pace, and even sublicensed by Motorola and IBM

to other manufacturers. Indications are that Apple will consolidate its line somewhat to reduce cost and customer confusion. Renewed emphasis is being placed on unique Apple technologies such as Newton and Pippin. All of these things are positive steps, and Apple still has strong cash reserves as well.

Financial reports from Apple will likely get worse before they get better, but don't write Apple off. It's a strong company with good technology, loyal customers, and a historically-proven ability to turn itself around.

Speaking of turnarounds, BMUG is continuing to improve. Our financial situation is stable, main meetings are being enjoyed by more people than in the past year or two, SIG meetings are drawing huge crowds (sometimes 70 or more people), the BBSes are solid, the Web site is getting steadily better, and we are once again fully-staffed.

Since our last Newsletter, we have added several new people to our staff. I'd like to bring them to your attention. To those members active on Planet BMUG (our Berkeley BBS), Chris Harris has been one of our most noted additions. Serving as Planet Administrator (as well as in-house network admin.) she has brought new levels of service and efficiency to the BBS. New user validations typically occur within 24 hours now. She has weeded out several unused forums and replaced them with new ones requested by Planet-teers. In addition, she has the Planet running more smoothly than ever before; backups are done in a flash and, when there is the occasional crash, she has everything up and running again in minutes. *Computer Currents* recently award-

ed Planet BMUG their Readers' Choice Award for Best BBS. If you haven't spent time on Planet BMUG in a while, try it. I'm sure you'll be pleased.

Colleen Miller has taken on the new position of Development Director. In addition to handling the fundraising activities typically associated with development positions, Colleen handles most all of BMUG's marketing, including local ad, public service announcement, and press activities, as well as much of our vendor relations. She was also responsible for founding one of BMUG's newest and most important activities, the computer placement program. Please read Colleen's column in this newsletter that describes our program for placing donated computers (which BMUG refurbishes) with needy families in the Bay Area.

Sheila Sondik, our new Accountant, and Carol Cantwell, our Accounting As-

sistant, have recently joined BMUG's staff and are working hard to make sure that we use your membership and donation dollars as efficiently as possible.

Last but not least, Kevin Lockey has joined BMUG as Office Manager and Receptionist. If you happen to call the main number, or stop by the office, Kevin will most likely be the first person you speak to. Be sure to welcome him aboard.

BMUG has improved in many ways over the past six months. The coming months promise additional positive changes. Meetings and SIGs will continue to grow, the Helpline will continue to receive our attention, the computer placement program will expand, and we are working on establishing a BBS based in Japan to serve our huge membership in that country. I'm looking forward to the next six months at BMUG and hope you are as well. ✈

BMUG

Volunteer Signup Sheet

Thank you for your interest in helping BMUG!
We welcome you to the BMUG family of volunteers.
Please complete the following survey by filling in your
personal information and checking off the items you
would like to do for the benefit of BMUG—and
yourself, of course.

**Please return the form to Kelly Pernel, BMUG, Inc.,
1442A Walnut St. #62, Berkeley, CA 94709-1492;
Fax (510) 849-9026;
Email kelly_pernel@bmug.org.**

Personal Information

Name _____
Address _____
City _____
State _____
Zip _____
Telephone _____
Fax _____
Email _____

Which way do you prefer we contact you? phone fax email

Days and Hours of Availability (Approximate) _____

Topics of Interest

Please check the boxes
beside the areas of interest
that you would like to
volunteer.

General Office Assistance

- Labeling and Stuffing Envelopes
- Assistance with Shipping Mail Orders
- Database Entry of BMUG Info Requests and Volunteer Surveys
- Managing Classifieds Listings
- Callbacks for BMUG Info
- Unpacking Shipments Returned from Expo

The BMUG Helpline

- Retrieving Phone Messages from Voicemail
- Answering Helpline Phone Calls
- Hardware/Software Installation, Repair, and Diagnosis
- Helpline Certification Program Instruction
- Assistance with Volunteer Incentive Programs/Events

The BMUG Newsletter

- Editing BMUG Newsletters (must be on Planet BMUG)
- Submitting a Newsletter Article
- Choice Products Evaluation and Database Management

Must Be Local to Berkeley, CA

- Proofreading
- Database Management of Articles and Editors
- Indexing

Publishing

- Graphic Art Design
- Pre-press Work
- Layout/Production Art
- Illustration
- Photography
- Assistance with the BMUG Web Page

Special Events

- Working in the BMUG Booth at Expos/Special Events
- Packing Shipments for Expos (in Berkeley CA)
- Hauling Materials to Show Sites (truck definitely a plus)
- Handing out Flyers and Putting up Posters
- Contacting Vendors (mainly for BMUG MacFest)

Refurb Project

- Contacting Potential Recipients
- Callbacks for General Info on Refurb Project
- Hardware Repair of Donated Computers (in Berkeley CA)

Thank You!

Features



Walks Like a Duck, Quacks Like a New CEO

Thoughts on the Changes at Apple

by Stephen Howard

The winds of change blew through Apple this spring. Fanned by the CEO swap that put Gilbert Amelio at the helm of the troubled company—and by several straight quarters of losses totaling close to a billion dollars—these winds had the power to rearrange Apple's product lineup, toss out executives, and flatten some of the towering egos in the Cupertino company. While the winds threw a lot of dust in the air, they mainly revealed the importance of Apple's nuts-and-bolts underpinnings.

At the end of the day, Apple's survival depends more than ever on its ability to make and sell computers cheaply (and in sufficient quantities) and to write and ship good software on time.

*Apple was pretty
late in the game
getting on the Net —
for once Microsoft
announced its
product strategy
before Apple did...*

Talking the Talk

Amelio told the world that he would detail his turnaround plan after 100 days in office, and he did so at the Apple Worldwide Developers Conference on May 13. His plan had three main thrusts: integrating with the Internet, cutting costs, and creating more-independent company divisions. Amelio explicitly denied that Apple would move to a “premium-pricing” model where it sold only expensive machines, and he said the company would continue to sell Macs in all its current markets, such as scientific, publishing, education, home, and big business. (“I need all the sales I can get,” was his modest explanation.)

Internet Fever

The Internet focus is the most significant change. Apple was pretty late in the game getting on the Net—for once Microsoft announced its product strategy *before* Apple did—so the company had a lot of catching up to do. Now, the company has an entire division, called AppleNet, to push Internet technologies. Atypically, Apple's Internet efforts aren't really centered around products. Instead the company plans to merge many Internet-related standards with key Apple technologies and add functions to its operating systems and products to make them all more Internet-friendly. In other words, unlike Microsoft, Apple is not competing directly with Netscape's 80 percent market share for Internet clients or Sun Microsystems' 80 percent market share for servers. That's good, because Apple would get whapped.

Apple is trying to get the community of Internet software developers and standard-setting bodies to adopt Macintosh technologies. To ease this acceptance, Apple has to give away the family jewels so that others can use them for free. The primary example is QuickTime and related multimedia technologies. This spring, Apple announced projects and plans to build more of QuickTime into Netscape Navigator, to merge QuickDraw 3D's file format into Virtual Reality Modeling Language (VRML), to create a free QuickTime implementation for use in Java programs, and to make OpenDoc able to run Java applets and Netscape plug-ins. Not one of these efforts will net Apple a dime. Who knows what more giveaways will be announced by the time you read this?

Apple will also build and sell Internet-related products, of course, but the substance of the company's strategy is a long-term effort to get ahead of the Internet curve by giving away technologies to the Internet. This is a game computer companies play all the time with international standards: donate the technology, and you know more about the new standard because you invented part of it. You then hope that such knowledge lets you build more and better products than anyone else. Apple has to be pretty desperate to play this game with something as important as QuickTime, but it could very well work. The Web is moving quickly away from static text and graphics to video, sound, animation, and all that other stuff that QuickTime is good at. There are hundreds of commercial

Mac companies and thousands of programmers already versed in QuickTime-based multimedia. If QuickTime becomes an Internet standard, then the Mac world really will be ahead in writing software for it.

Even if it fails to turn these donations into a cash advantage, though, Apple may benefit by reasserting itself as a technology leader. The incredible energy and competitiveness of the Wintel world has produced many dazzling advances for PCs, and Apple is not the pre-eminent inventor of cool stuff that it once was. If the company can make the Internet better, easier and more nifty—and takes credit where credit is due—people will admire Apple again. As the perennial underdog in the personal computer world, that coolness and admiration are important assets.

Job 1: Stop Losing Money

CEO Amelio's most obvious task in helping Apple recover is to make the company profitable. Many people expected, and recommended, that to do this Apple would sell off some big parts of its operation or abandon the low-price market. Apple is doing neither.

Amelio realized that over 90 percent of Apple revenue comes from hardware, so the company cannot pretend it's a software company like Microsoft. He also realized that the vast majority of computers sold cost \$2,500 or less, and he had to have a piece of that action or Apple would shrink dramatically. So, to the surprise of many, his turnaround strategy has Apple selling all the same products to all the same people as it did before he showed up. The difference, he said, is that Apple will simplify the underlying technology so the company makes more money on each computer and can make more computers faster to respond to customer needs. In addition, Apple's going to do this with a lot fewer employees.

A little background may be helpful. During all of 1995 (and periodically for years before then), Apple suffered from product shortages. The problems weren't in manufacturing—the company could always build plenty of Macs—they were in design and forecasting. Apple never seemed able to guess correctly which machines would be popular: if it thought

that the Power Mac 7100 was the hot ticket, everyone wanted an 8100; if its MBAs plotted to sell a lot of PowerBook 520 models, then the 540c was the one to have. In general, the company chronically underestimated the demand for high-end machines. (BMUGers can predict with unerring accuracy which of Apple's top-end models would be in short supply as soon as they're released.)

This blind spot was hard to correct once the orders started pouring in, because Apple engineers inevitably designed new Macs to have unique parts. Nine to 12 months before the new machine shipped, Apple had to order these special parts made; when it turns out that the company could really use twice as many of Widget X, it's too late to get more. If Apple were building Macs with parts that other companies used also, then it'd be more likely that there would be extra supplies of them somewhere. And that's the crux of Amelio's plan to cut costs on future Macs.

By making fewer unique Mac models and by building those models from industry-standard parts, Apple should reduce manufacturing costs and increase its responsiveness to customer demand. That's really important, because much of the \$800 million or so Apple has lost in the past six months has been due to product shortages or excess inventory. If Apple could have made more of what people wanted to buy, or altered what it had in stock to become what customers wanted, then the company wouldn't be in such sad financial shape.

Look for Apple to simplify its product line down to fewer basic models. You'll probably be able to buy just as many configurations as before, but instead of having to know that a Performa 6399 is the one with 17 megs of RAM while the Performa 6398 has merely 12 megs, you'll just have a Performa 6390 with different amounts of RAM available. Similarly, you'll probably see Apple eliminate the LC label for its line of educational Macs. These will become simply the "Power Mac 6390 for education," which makes sense because the machines were almost always identical to non-education Macs anyway.

It seems Amelio hopes to improve Apple's sales forecasting by sacking the guy who was responsible for it before.

James Buckley, the head of Apple sales in the United States and South America, left the company at the end of May. His replacement, Robin Abrams, had been in charge of sales to Asia and the Middle East, and we'll see how she picks the winners in the next big round of CPU introductions this fall.

Amelio also plans to save money by firing people. Before he even took over, Apple was going to cut 1,300 jobs during 1996. Then Amelio announced the sale of a PowerBook manufacturing plant in Fountain, CO, which effectively removed 1,100 workers from Apple's rolls. In March, he said Apple would lay off 1,500 more employees over the next 12 months. That's 3,900 people gone, about 25 percent of Apple's workforce.

Cannibalize Thyself

Lastly, and most esoterically, Apple's turnaround plans call for a reorganized company with more-independent divisions that have the freedom to make money any way they can. This reorg went into effect June 1, dividing the company into eight major groups—six of which are tracked via their own profit-and-loss accounting. That's important because it means that the vice presidents running each division can't pass the buck to anyone else when they lose money. Apple has had divisions with independent P&Ls before, but everyone agrees that Gil Amelio is the kind of boss who will demand accountability from these new organizations in a way that Apple has not previously.

Knowing the different divisions of Apple is definitely an inside-the-beltway detail, but there are some changes in Apple as a result of this reorg that will clearly affect users everywhere. First among these is the creation of an all-new AppleAssist division, which centralizes customer support. And here's the kicker: It's one of the profit centers. That means AppleAssist will have to figure out ways for users and businesses to pay for support.

Don't hit the panic button yet! Paid support can be a good thing, depending on how it's implemented. The bad way is to simply make telephone technical support a 900 number or charge package rates for support beyond 90 days. Lots of companies do this, but I doubt Apple could get away with it. More imaginative, and more profitable, are commercial support

activities like training newsletters, seminars, etc. If AppleAssist started teacher-training classes around the country or sold audio tapes for new users, I don't think many people would complain. We'll have to wait and see how Apple skins this cat.

On a similar note, it's interesting that AppleSoft and AppleNet, the divisions responsible for the Mac OS and Apple's overall Internet efforts, are not profit centers. Clearly, Amelio is not positioning the company to make money off its operating system and Net technology on their own; these groups will make stuff to be used by the other divisions. Also intriguing is the move of responsibility for Mac OS licensing to Amelio's buddy, George Scalise, a shift that took place before the rest of the reorg. Scalise is the Chief Administrative Officer of Apple, and he doesn't work for any of the new company divisions; he just works for Amelio. That seems to indicate that Apple's campaign to get other companies to use System 7.5 on Mac-compatible computers will be run independently of the rest of the company. That could be good, since the people who make and sell Macs are never going to be truly enthusiastic about helping potential competitors. (And with AppleSoft now independent of the Mac hardware division, the software engineers don't have an incentive to help the Apple hardware engineers down the hall more than the Power Computing hardware engineers down the block.)

The Macintosh division, which is most definitely a profit-and-loss center, is now being run by Fred Forsyth. He'd be just another faceless Silicon Valley executive if not for one thing: He's been in charge of Apple's manufacturing for many years. For the first time ever, one person has responsibility for designing and making Macs. That will be important in carrying out the product-simplification part of Amelio's plan, and I hope it also helps improve forecasting of demand. It's Forsyth's head on the platter if he can't sell enough Macs to turn a profit, regardless of what the sales folks told him. That sort of accountability should help, and we all should be able to buy the Macs we want when we want them.

Another division, the awkwardly named Servers and Alternate Platforms, is the home of Apple's work on the Pow-

If AppleAssist started teacher-training classes around the country or sold audio tapes for new users, I don't think many people would complain.

erPC Platform. That's the RISC-based, universal-computer standard that will be able to run the Mac OS, Windows NT, and some other operating systems sometime next year. What's worth noting about this group is that it's a separate profit center from the Mac division.

Previously, Apple had said that all future Macs would be based on the PowerPC Platform specification. By moving this effort to a separate division, Amelio is effectively saying that Macs will continue to be Macs and the PowerPC Platform will be available as a side option. If people want a Mac-only machine, the money goes to one part of the company, and if they want a more flexible and probably higher-priced PowerPC Platform box, the money goes to a different part. Thus, these two divisions will compete with each other in the market, even though the PowerPC Platform team is seriously outgunned by the Mac team. (The Mac division draws in \$8 billion or \$9 billion of Apple's revenues; servers make less than \$150 million and these alternate platforms are still on the drawing board.) The Mac division has no reason to adopt the PowerPC Platform across the board, since that will make Macs more expensive. If you thought that all future Macs would be able to run multiple operating systems, think again. I predict that this reorg means there will be

Mac-only systems from Apple for a very long time.

Parting Thoughts

Amelio resuscitated the job of Chief Technical Officer but didn't fill it. Given the wealth of talent inside the company—there are some legitimate geniuses working there—this vacancy speaks volumes. It seems to me that Amelio is looking for a different kind of technical visionary than Apple has attracted in the past. I don't know what type of CTO Amelio wants, but it will be interesting to see the kind of person he chooses.

I think it's also worth noting that Amelio promised a strategy after 100 days and delivered it, and then promised a reorganization by the end of May and delivered that. He also pushed Apple to recall from dealers a bunch of PowerBooks and Performas that were plagued with glitches, and he extended the warranty on these machines by seven years *from the date Apple stops making them*. Makes me almost wish I'd bought one of the lemons. Similarly, he pushed Apple to announce a delay of at least one year in the delivery of Mac OS 8, code-named Copland. The software wasn't going to ship on time, announcement or no, and Amelio refused to give a specific future date—he said it would ship when it was done, probably sometime in 1997. That takes guts considering that many people felt Copland was Apple's last remaining chance to stay competitive with Microsoft Windows.

This new boss at Apple seems to do things decisively and on time, neither of which are characteristics of Apple generally. I hope his methods and attitude are emulated in other parts of the company. But I'm worried that so much of his grand plan depends on Apple simply doing the same things better than it did them before. On the one hand, it's encouraging that he didn't walk in and lop off Apple's long-time involvement in printers or Performas. On the other, when for years your company has had trouble making hardware and software people want, on time, and in sufficient quantity, it's a lot easier to talk the talk than walk the walk. ☞

Stephen Howard runs the news department at MacWEEK, where he gets paid to follow Gil Amelio's every move and edits everyone's favorite rumor-monger, Mac the Knife. He loves email, so send him some at stephen_howard@zd.com.

The Future of Apple

Assuming, of Course, that the Vulnerable Computer Company Has One

by Martin Polon

The addition of the personal computer (PC) to the recording, editing, mixing, postproducing, and signal processing arsenal of the recording studio has taken place over the last ten years—until the point has been reached where a studio without a personal computer for audio work seems naked. No computer product has had more studio contact than the Macintosh computer from Apple, which some could say invented the PC audio category.

The month of January 1996 has seen a virtual firestorm explode around Apple Computer. Separating the reality of Apple from the perception based on both Wall Street and news media intolerance and prejudice against the Cupertino, CA personal-computer maker is very difficult because in the computer marketplace, the media is indeed the message. Decision makers who currently own Apple's Macintosh products and those contemplating new Macintosh purchases are supposedly—according to the news media—re-examining their commitment to the Macintosh platform.

Despite the extremely loyal nature of the Macintosh 20 million-plus user

base, the perceived possibility of Apple's relative demise has forced those who have previously never ever contemplated having to use "Wintel" (Microsoft Windows + Intel Pentium chips), to at least consider the unthinkable.

The reality of Apple Computer in 1996 is closer to the following points than the media and Wall Street currently would like to admit.

1. Wall Street and the press are finally "getting even" with the company. Many, if not all, of Apple's current problems have as much to do with the bad press and poor financial analysis directed at Apple as with actual per quarter performance.

2. Despite some well-publicized setbacks to initial software and hardware release time frames, Apple's technological progress has continued unabated. Forthcoming technologies such as imaging tools like 3D QuickTime and QuickTime VR, Internet utilities such as Cyberdog, communications enablers such as OpenTransport, the OpenDoc software suite, and so on are all on-schedule and on-course.

3. With somewhere in the range of 22 to 24 million users committed more or less to the Macintosh platform, the reality of the size of the installed base indicates that someone is going to service those users with hardware and software; albeit perhaps not at the rate currently being provided by Apple. Apple is very unlikely to go out of business, though it may well be bought, sold, merged, and/or arbitrated.

4. The current presence of Power Computing Corp., Radius, UMAX Technologies, and Day Star Digital signifies

the continued presence of Macintosh via these licensed clone makers—no matter what changes are made at Apple.

Among other major personal computer makers previously committed to the IBM-PC platform, several such as Compaq Computer Corp., Dell, Gateway 2000, and Toshiba are expected by industry analysts to join the Macintosh platform clone family. This is expected to take place in mid-year with the introduction of PPCP machines (PPCP, formerly Converged Hardware Reference Platform and before that the PowerPC Reference Platform). These Apple ROM-less Macintosh units will be built using standardized parts and are based on the Apple-IBM-Motorola PowerPC chip.

Wall Street and the press are finally "getting even" with the company.

Despite some well-publicized setbacks to initial software and hardware release time frames, Apple's technological progress has continued unabated.

5. The company's transition to the Power PC (PPC) chip set developed by Apple, IBM, and Motorola has been an overwhelming success, with successor chips approaching and exceeding 200 MHz slated for new Macintosh models. The similar introduction of PCI add-on slots and companion connection "bus" will create a significant solution for the problems facing the user base involved in the important areas of desktop publishing, audio, video, and graphics creation—but not in the short term. The lack of supporting third-party developers and product suppliers to utilize the PCI bus has left Apple's existing NuBus machines—such as the first generation Power Mac 6100, 7100, and 8100 plus powerful 68040 units with DSP such as the 660AV and the 840AV—to carry the volume of these niche users. However, Digidesign has announced a PCI-slot device for 1996 that will bring the features of the Digidesign recording family to the PCI Macs. Opcode also has recording software available for PCI. The PCI standard is also used on state-of-the-art Windows PCs. Developers and suppliers are

expected to legitimize the PCI standard within a short time.

What can the owner of a personal or project studio do to protect himself or herself from the vibrations shaking Apple and the rest of the personal computer industry?

1. Purchase any additional Apple computer needed now—not because of any fears about Apple's future, but because the coming of the new Macintosh specification will forever change the way we use our computers. The change will be for the better, but it will still be a change and the existing NuBus models will be discontinued.

2. If you do not have adequate documentation from Apple and from third-party publishers, obtain them as soon as possible. Documentation and books about discontinued machines may not be as easily obtained if Apple is acquired. It is interesting to note, however, that currently even Apple refers those looking for documentation on obsolete machines to a third-party vendor who reproduces and supplies them. Commercially published

computer books are subject to the same shelf life as any other book, and are usually seconded at a reduced price within six months to a year of being published and then disappear from bookstore shelves.

3. Have various upgrades that you have put off doing to your computers done now! Even if a computer company is charging ahead with no problems, old inventory of upgrade logic boards, level two cache memory, manufacturer specific memory boards and other similar accessories are subject to regular house cleaning. Never assume that a specific item will be held in virtual perpetuity by a computer maker.

4. If you utilize repair agreements, consider getting them from a national service vendor rather than through the manufacturer. In that way, you have hedged your bet no matter what happens.

5. Consider buying a needed new computer(s) from one of the Macintosh clone makers in order to try something different and obtain different features. Again, you hedge your bet. 🦋

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Good Cyberdog!

Apple's Whiz-Bang Internet Tool Knows Lots of Neat Tricks

by Derrick Schneider

One could argue for days about what Apple needs to survive, and no doubt some have actually done so. The one thing Apple doesn't need, however, is the ability to wow people. Not in a sort of mildly appreciative way, but in that full jaw-dropping way that makes one ask, "How do they do that?" and, "Why hasn't anyone done this before?" Witness Cyberdog, Apple's OpenDoc-based suite of Internet tools.

If you don't know what OpenDoc is, don't worry. I'll get to that towards the end of the article. If you do, then Cyberdog is going to make you salivate. If you don't know what the Internet is, well, maybe you should find out and come back to this article later.

The first thing you are no doubt thinking is, "I don't need another Web browser. I already have Netscape Navigator, and it's pretty cool." I can't deny that I used to think that was all I needed, too. I don't think that anymore.

Cyberdog isn't just a Web browser. Sure, it's got a Web browser, but that's just a piece of it. It's also a full mail manager, FTP browser, Telnet client, news reader, and a really cool use of OpenDoc. And that's just the default shipping version. Because it's OpenDoc-based, it's completely customizable and expandable. Developers can create new Cyberdog components, and you can pick and choose which ones you want to use.

Cyberdog came about because some folks down at Apple realized that dealing with the Internet was too confusing for most users. Remember, this is the company which puts ease of use above everything else. What if, they said, we could make a suite of tools that would make the Internet integrate into a user's

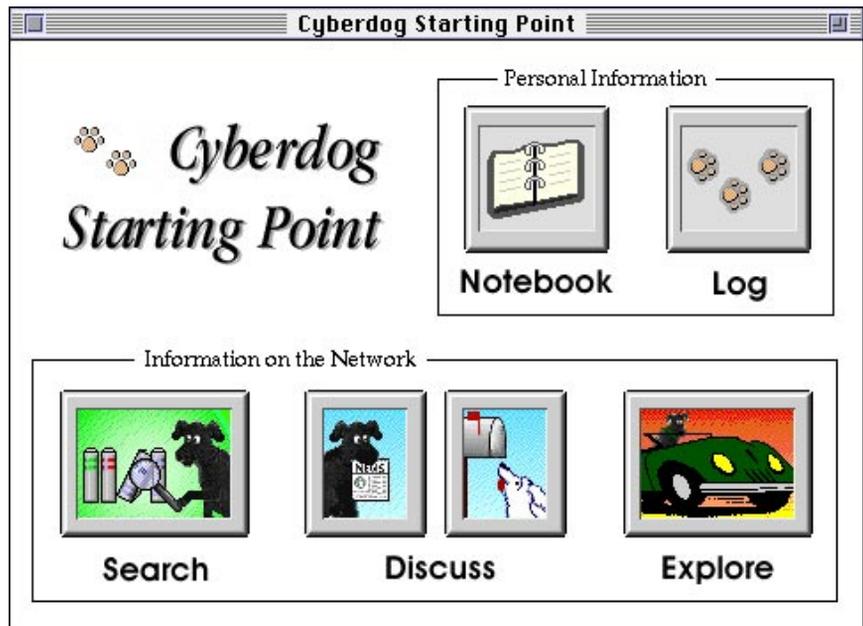


Figure 1. The Cyberdog Starting Point provides an easy way for new users to get started with the Internet.

Desktop seamlessly? Imagine giving the average user the ability to incorporate the Web and the Internet effortlessly into his or her life.

Obviously, Apple was not the first company to ask these questions. Cyberdog shows that they were the first to come up with the right answers.

Ever heard a new user ask, "Where do I start?" upon seeing the World Wide Web? Cyberdog comes with a document called the *Cyberdog Starting Point* (Figure 1). It's got buttons in it that take you to instructive Cyberdog pages, one of which has an explanation of how to use Web pages and a bunch of links to useful places. Just like that, novices can be off and running!

Going crazy trying to figure out which preferences you've set in each of

your Internet helper applications? With Cyberdog, all the preferences for the different elements are in one dialog. Easy to get to, easy to set. As new Cyberdog parts are added, their preferences will also show up in this one handy place. Easy, eh?

Doesn't it make sense as a Mac user to simply drag a file from an FTP site to your Desktop and have that file copied down to your local machine? That's what Mac users do with files from floppies, hard drives, and even servers. Why not with FTP sites? Cyberdog lets you do just that. Furthermore, you can make an item on your Desktop which acts as an alias to an FTP site. Double-click on it, like you would any alias, and it connects to the Internet and opens a window showing you the contents of the FTP site, just as if it were a folder (which, after all, it is).

Drag and Drop is everywhere in Cyberdog. Take an email address from your notebook, drag it onto the To: field of a new message, and your letter is addressed to that person. Drag a file into the body of an email message, and it's sent as an attachment. Drag a picture from a Web page, and it's copied to your hard drive. Drag the icon for a Web page (from Cyberdog's Web browser) onto your hard drive, and you've got a "document" which acts like an alias for that Web site. This is what Drag and Drop was made for.

To make something easy to use, you make rules that are easy to learn. The truly great interface is something which lets the user set the rules, and Cyberdog does just that. Organize your "bookmarks" any way you like, not just in a single long list. Create documents that have pointers to the sites you want, grouped in a way that's meaningful to you. It's not the way you work with the Internet now, but it's the way you should.

Enough with the Hype, Already!

Hopefully you're intrigued enough to want to know what one can do with Cyberdog. Let's look first at the Internet aspects, and then talk about why it's so great that it's based on OpenDoc.

By the way, I did this article based on Cyberdog b2. So, in the final version, things might work somewhat differently and look a little different, but it won't be too far off from what I'm describing here.

First, the Notebook. This is simply a place to store your Internet stuff. You can drag in or create references to Web sites, newsgroups, FTP sites, or even email addresses within a notebook. You can also create categories in which to put your "CyberItems." As you might expect, you can make new notebooks to further organize your CyberItems, and you can just drag and drop CyberItems from one notebook to another.

Each Cyberdog icon that you interact with is called a CyberItem.

Cyberdog ships with a Notebook (Figure 2) full of useful stuff. I have a personal notebook with email addresses for

my friends, as well as some of my favorite Web sites. I even set up a notebook just to use with this article, containing pertinent email addresses and Web pages. Now in the folder where I keep all the outlines and figures and drafts of this article, there is a notebook named "Cyberdog on the Internet."

This is what I mean when I say that Cyberdog lets you impose the rules on how things are organized. When I'm working on the article, I open this notebook file (which, as an OpenDoc document acts just like a regular application), and give myself ready access to people and pages relevant to Cyberdog. I don't have to open my Web browser, scroll through the list of bookmarks to find the one I want, and then switch to some other application to send email to some other person. With the notebook open, I double-click on the CyberItem that points to a Web page, or on the email address of a person on the Cyberdog team. I never leave the notebook, but I'm able to do both functions from within it.

Another important feature of Cyberdog is the Log (Figure 3). Now I'm not so besotted with Cyberdog that I think this is the first implementation of a log, but this is a pretty good log. First of all, it retains its information even when you've quit. Second, it can show you the places you've been alphabetically, chronologically, or hierarchically (in which you can expand and collapse items as needed). This unique combination of views makes

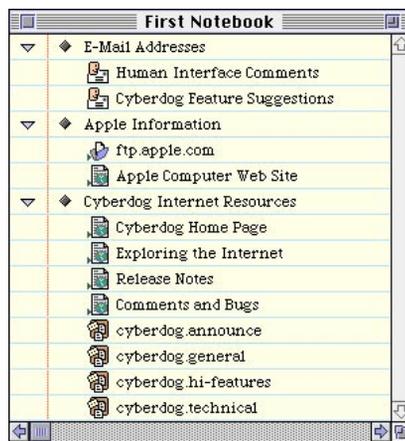


Figure 2. The default Notebook that comes with Cyberdog has (not surprisingly), lots of Cyberdog info. Note how email, Web sites, FTP sites, and even news groups are all included in one place.

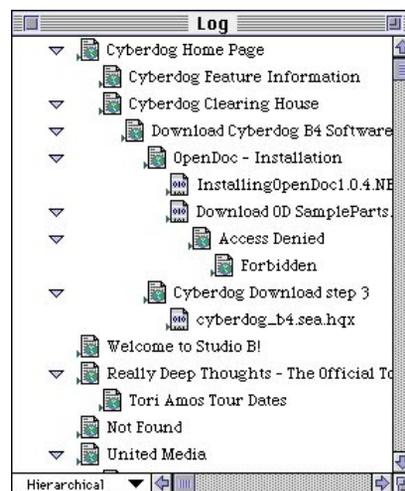


Figure 3. Cyberdog's Log keeps track of where you've been. Each of those icons is a CyberItem and can be dragged into your notebook or anywhere else.

it easy for you to find that one interesting page you were looking at a few sites ago. Oh, if you want to add that interesting page to your notebook, just drag the icon from the Log window into the Notebook window and even onto the category you want it in.

Going Postal

Even if you aren't a Net surfer, you probably use email. Cyberdog's full-featured set of mail tools could make your life a lot easier.

First of all, Cyberdog lets you set up information for multiple Internet accounts. Granted, that's not overwhelmingly useful to the majority of Internet users, but for those of you who have multiple email addresses, you'll realize how nice this is.

Cyberdog starts you with three Mail Trays: In Box, Trash, and Out Box. You can set up your own mail trays anywhere on your hard drive, and use them to categorize your mail messages in a way more meaningful to you. Moving a mail message to another mail tray is simply a matter of dragging it.

Reorganizing mail messages manually is easy, but this can be burdensome when you get a lot of mail. And if you subscribe to virtually any mailing list, you get lots of mail. So, Cyberdog has the ability to set up mail handlers (Figure 4) which will automatically filter your incoming mail for you. With-

in each mail handler, you can have up to three criteria for filtering the messages. Based on those criteria, mail can be filed into certain mail trays (including the Trash) and displayed in different colors. I've got one set up to watch for email from my best friend, another set up to watch for questions pertaining to my book, *The Tao of AppleScript*, and another one for postings from Guy Kawasaki's *Evangelist*.

Interested in learning about AppleScript? You should definitely check out BMUG's *The Tao of AppleScript*. It's great for the beginning scripter, and comes with not one, but two disks of - AppleScript stuff (including AppleScript). Interested in hearing from other Mac users about why the Mac is such an awesome computer, you should subscribe to Guy Kawasaki's *Evangelist*. Just send mail to evangelist@macway.com

So, you've been archiving the nine gazillion messages you get each day from your 400 mailing lists, and you remember that there was something in one a while back about ToadWidgets, that new game you've been looking at. Where was it again? Once again, Cyberdog to the rescue. You can quickly search through all your mail trays (or a subset of them) to get the info you want.

How quickly? The text indexing that's being used is a particularly advanced one developed by Apple's Advanced Technology Group. It will be standard in Copland, but is part of Cyberdog now! A friend at Apple tells me that they have mail trays with thousands of messages in them. Searching and retrieving all the documents takes about 2 seconds. That's very fast!

Receiving email is only half the task the Internet user must face: sending email can be just as much of a pain. Cyberdog lets you set up icons for email addresses and for groups of email addresses (Figure 5). These icons can live in your notebooks, in the Finder, or in other OpenDoc documents. You decide which works best for you.

If you want to create a new message, you can either double-click on an email icon, and it will open a new message pre-

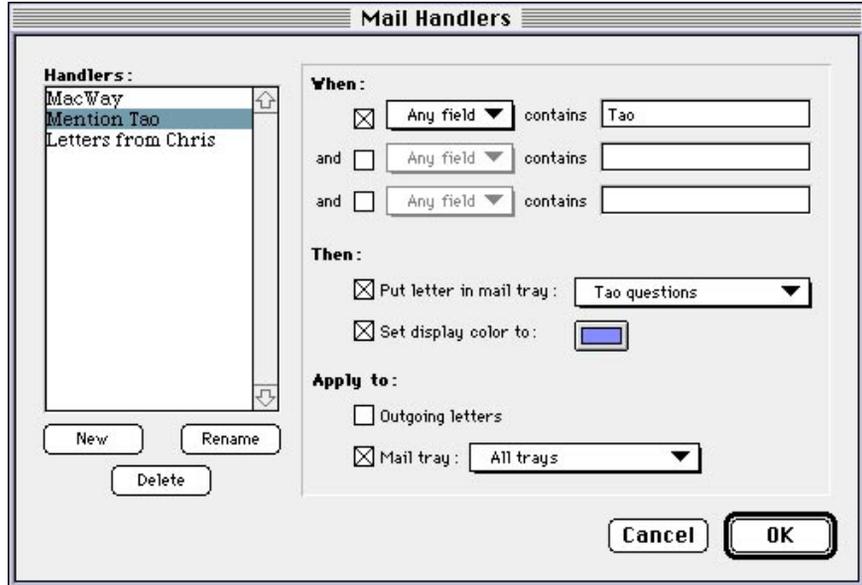


Figure 4. Mail Handlers provide an automatic way for you to sort incoming email.



Figure 5. The setup dialog for an email icon. It could either be a single address or a group of addresses.

addressed to that person or group, or you can start a blank email simply by choosing a menu item available when you're using a Cyberdog component.

Before the new message is created, Cyberdog asks you what kind of letterhead you'd like to use. You're probably thinking that this simply means different footers at the end of your message, but that's only a part of it. Cyberdog doesn't limit you to composing your email with ASCII text. You can have email messages with styled text and embedded graphics (Figure 6). Imagine that. All the recipient needs to have is a MIME-savvy mail reader to get your mail in full glory. If they don't have a MIME-savvy reader, they'll still get the text, plus some little

text blurbs stating that Cyberdog originally sent some additional information.

MIME is an Internet standard for transmitting multiple kinds of media (as opposed to all the connotations associated with "multimedia"), such as PICTs, text styles, etc.

By the way, creating your own letterhead is simple. Start a message, add the elements you want, and then save it in the Letterheads folder in Cyberdog Preferences. That's it.

Once you've picked a letterhead or a blank mail message, getting informa-

tion into the message is a snap. Not only can you double-click on an email icon to start a message, you can drag that same email icon into the To: field of your message, and that address, or group of addresses, will be added to the list of recipients. You can drag and drop text from various places to help you out as you write.

Even cooler, you can drag in any kind of file, and it will automatically get attached as a MIME attachment. If you want to try something really neat, you can drag in CyberItems. They get attached just like usual, but the recipient (if running Cyberdog) can simply double-click on the icon right there in the memo to go to the site pointed to by that icon. Try that with other email packages!

Spinning a Web

Love it or hate it, the World Wide Web is one of the major uses of the Internet these days. The common paradigm for browsing the Web is opening a huge app, which takes you to a “home page.” Want to go somewhere else? Just click on a link. Want to go to one of your favorite sites? Just pull down the Bookmarks menu and choose an item.

Easy enough, right? Well, maybe if that’s all you’re used to. After using Cyberdog, I find it awkward to use other browsers. It’s confining to only look at Web pages from within a single app. What if I want to drag text from the Web page into some other document? What if I want to organize my bookmarks differently? Cyberdog gives you all this and much more.

If you’re used to all the whiz-bang extensions which Netscape adds to HTML, you might initially be disappointed by the Cyberdog Web browser. It only supports the HTML 2 standards, and so doesn’t do all the fancy little stuff that Netscape adds, such as frames.

But don’t despair. First of all, the Cyberdog Web browser has a number of unique features that make up for the loss of Netscape extensions. Also, remember that any piece of Cyberdog can be replaced easily by third party developers. Not surprisingly, there are already some developers working on better Web browsers you can add to Cyberdog. The Cyberdog Evangelist, Jim Black, said at a recent BMUG meeting that “it is tech-

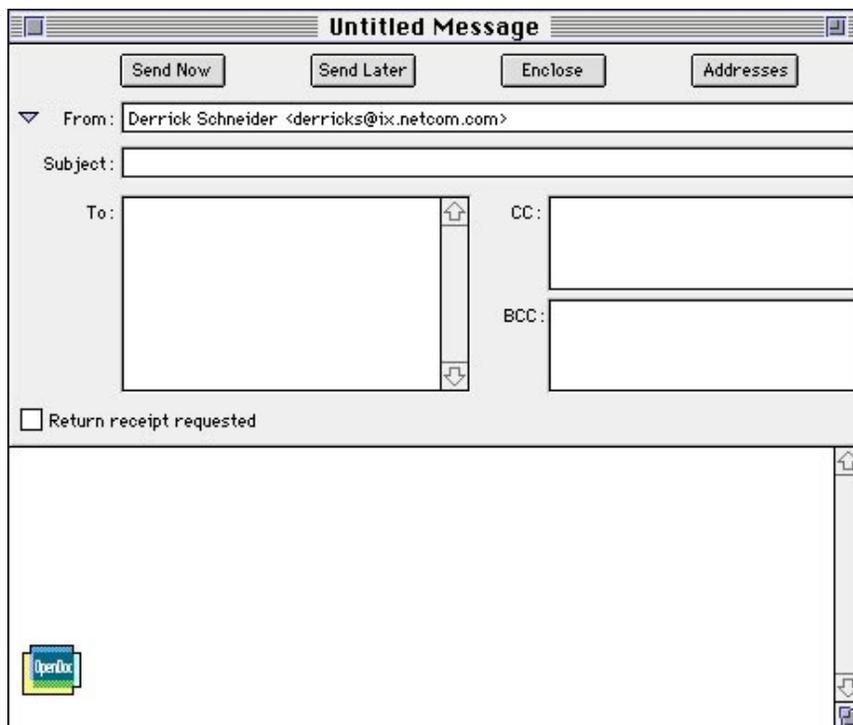


Figure 6. A blank mail message, including a graphic element.

nically trivial to add the ability to view Netscape extensions to Cyberdog.” He wouldn’t say any more, so draw your own conclusions.

You can get to Web pages in a couple of ways in Cyberdog. First, you can set up a CyberItem that takes you to a particular Web page. You can, of course, store this CyberItem in your notebook of choice, or you can put it in the Finder.

Think about what that means for a minute. Let’s say you’ve got a folder called Documents (which you will once you install OpenDoc). In that, you’ve got another folder called Funny Stuff. In that, you’ve got some files holding some of your favorite jokes, plus this little icon that says “Today’s Dilbert” (Dilbert is a comic strip by Scott Adams about life in technological corporate America, if you don’t know). It looks just like a document, and it even acts just like a document. When it’s double-clicked, instead of opening SimpleText, for example, it opens a Web browser and connects you to <http://www.unitedmedia.com/comics/dilbert>. This is pretty amazing (if you’ve seen CyberFinder from Aladdin, you’ve already got an appetite that’s whetted for this kind of thing).

The second way to get to Web sites is to choose Connect to... in the Cyber-

dog menu which is visible in any Cyberdog component. It will give you a list of different kinds of connections, one of which is URL. Just type in the URL (or drag in the text from somewhere else), and it’ll take you there. And, thankfully, you don’t have to preface everything with “http://” It assumes that unless you tell it otherwise. Unfortunately, Cyberdog doesn’t go as far as Netscape 2.x, which lets you type in a single word (such as *apple*), around which it will wrap “http://www.” and “.com” automatically.

Whichever way you specify a Web site, you end up in the Cyberdog Web browser (Figure 7). Aside from the page or content area itself, there are a number of useful gadgets floating around the window. In the upper left is the Me icon. This tells you the title of the document, and has an icon telling you what kind of document it is (in this case, a Web document). FTP sites end up in the same browser, but have a little FTP icon in the upper left. As you might expect by now, you can simply grab the Me icon and drag it somewhere else. To a notebook, the Finder, a mail message, even some other OpenDoc document. You can also grab the text in the Location field, and drag that somewhere. Want to send a URL to

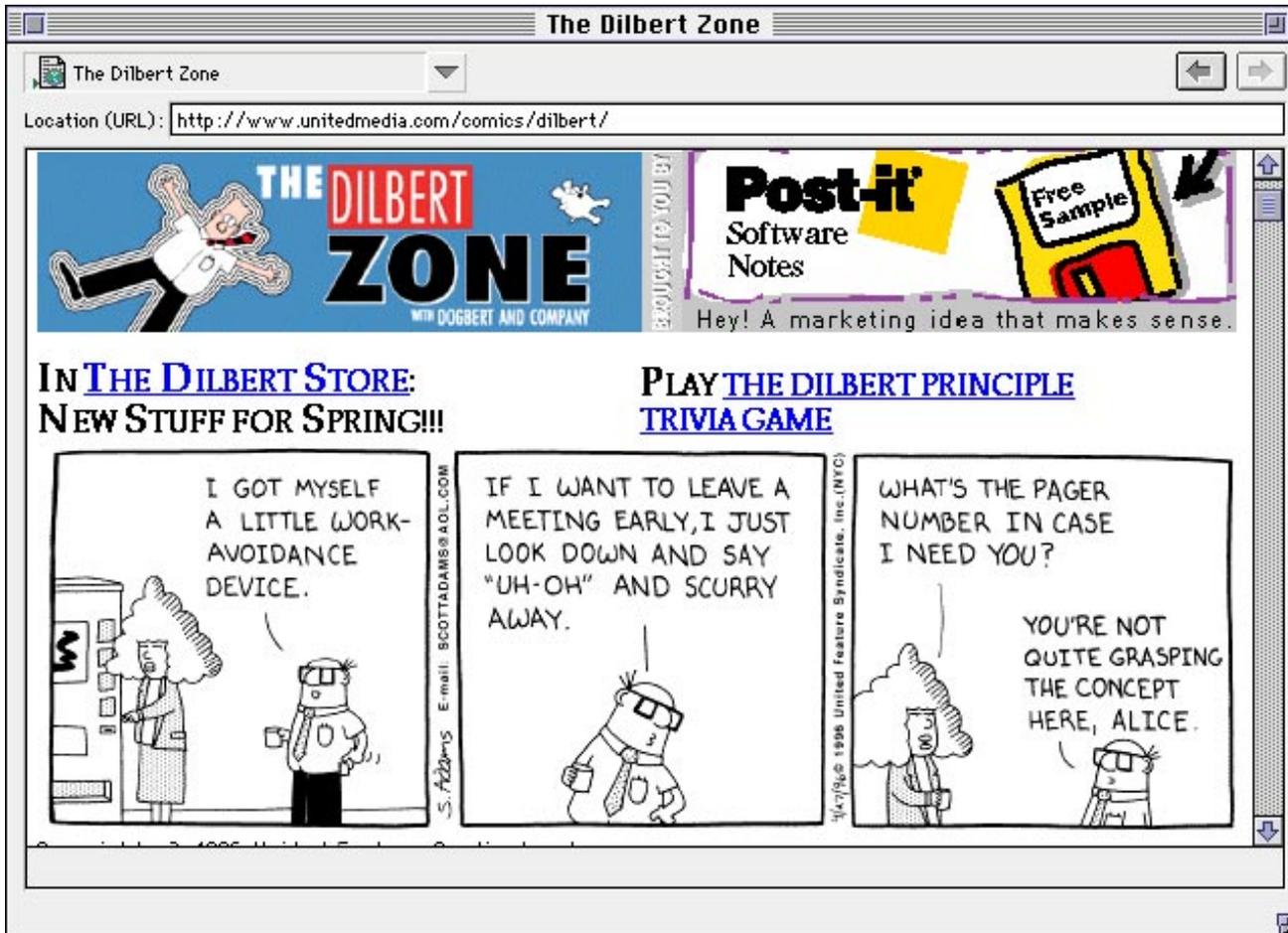


Figure 7. The Cyberdog Web browser (and one of my favorite Web sites)

a friend who isn't lucky enough to have Cyberdog? Just drag the text from the Location field into your mail message.

Next to the Me icon is a pop-up menu that shows you the history of where you've been in the current "session" of the Web browser (you can have multiple Web browsers up at any time, all pointing to different places). This lets you easily navigate back a few pages. At the bottom of the window there is a progress bar, information about what's going on with the connection, and an easy way to abort the transfer (just click on the running dog!).

The Dilbert Web site illustrates another point. The Dilbert page is actually a document done with Secure HTTP. When you enter this page, Cyberdog tells you that. It will also caution you if you are about to send in information (via a form, for instance) on a non-secure site. You can, of course, turn these warnings off (just look under Security in the Cyberdog Preferences).

Inside the page or content area, you get a couple more nifty features to make life easier. Let's say there's a great graphic on the page and you want to "borrow" it (maybe you just want to archive a particularly funny Dilbert). Just click on the graphic, and drag it to the Finder. Cyberdog simply copies the picture to your hard drive. Drag any piece of text off the Web page into some other drag-and-drop aware application. Drag a hypertext link off the page into your notebook, and you end up with one of those great Cyberdog Web document icons. Or, drag a URL CyberItem onto the browser, and it will take you to the appropriate site.

Cyberdog comes with a handy data viewer which lets you deal with virtually any kind of media you're likely to find on a Web site. Cyberdog's data viewer can "view" the standard sounds from different platforms, virtually any type of standard graphic, QuickTime movies, and a number of other formats. It doesn't connect you to the Internet, but it does

let you connect with the stuff you get from the Internet.

As you can see, the Cyberdog Web browser provides a great interface for Web surfing. By implementing some really snazzy drag-and-drop, you get to do a tremendous amount simply by moving the mouse. Whether or not you think of yourself as a "power surfer," you'll feel like one after a few minutes with Cyberdog.

Fill It Up

Another common use for the Internet (even before the World Wide Web showed up) is moving files from place to place. Most folks use FTP or Gopher to set up file repositories on the Internet. You're no doubt anticipating that Cyberdog makes working with this kind of information really easy, and you're right.

When you go to an FTP site (in all the same ways you get to Web sites), you end up in the exact same browser you used for navigating the Web (Figure 8). The same applies for Gopher sites. In fact,

for brevity's sake, assume that everything I say about FTP sites also applies to Gopher sites.

An FTP site is really just a folder. Inside it are other folders, and maybe files. Shouldn't it act like a Finder folder on your Macintosh? In Cyberdog, it does. Just like a standard window, you can expand the contents of a folder into an outline view. Double-click on a folder to open it into a new window, or double-click on a file to view it with Cyberdog's data viewer. Drag an item from the FTP window to your Desktop, and it gets copied to your hard drive.

Here's another nifty trick. Navigate down a few directories into your favorite FTP site. Grab one of the folder icons, and drag it to your notebook. Now you've got a CyberItem that will take you right to that subdirectory on that FTP site. Drag this icon to your Desktop. Now you've got an icon that looks almost exactly like a folder icon, and acts just like one, except that it connects you to the subdirectory on the FTP site. It's kind of like having System 7 aliases for the entire Internet. And you're not stuck with the name Cyberdog gives it, which is simply the name of the directory; just click on the icon's name and change it to something that's meaningful to you.

Cyberdog has other browsers (including a Telnet session and a news reader), but you get the idea. Apple's goal is to make using the Internet as easy as it is to use things on AppleShare servers. Remember when that was a big innovation? It's obvious that not only do the folks at Apple think about how people use the Internet, they use it themselves. Cyberdog doesn't only make the Internet easier for new users, it makes it easier for veteran users who are frustrated with the hoops they have to jump through to get something off the Net.

Did Someone Say OpenDoc?

If that's where Cyberdog's feature set ended, it would be an awesome product. But Cyberdog is based on Apple's OpenDoc technology, and what you can do with that will make you start saying "Wow!" all over again. If you think the text above sounded enthusiastic, wait 'til you read this next part. Long before I was a Cyberzealot, I was an OpenDoc zealot, and Cyberdog makes OpenDoc shine. If

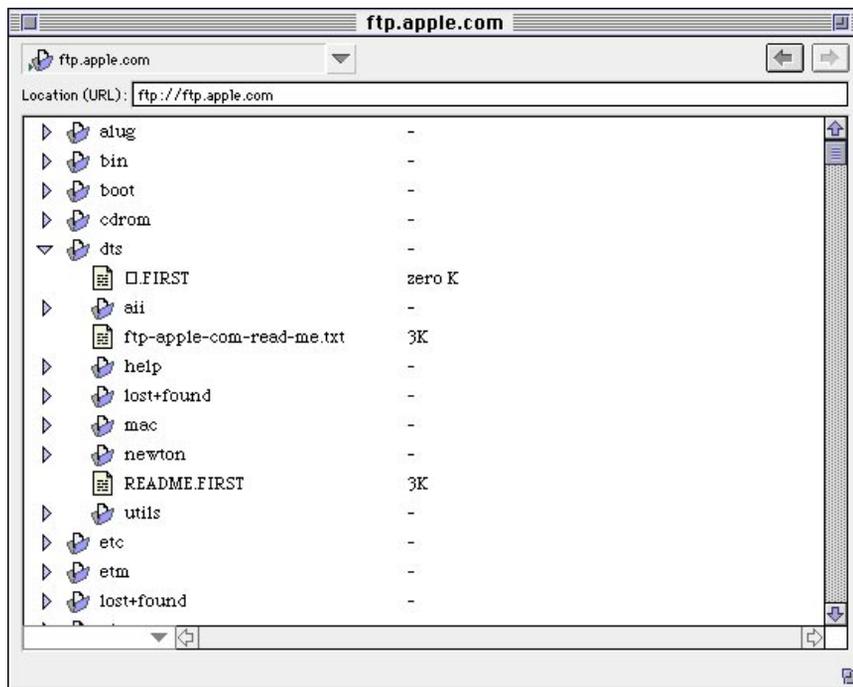


Figure 8. Using FTP sites with Cyberdog is just like using the Finder.

you know what OpenDoc is, let me assure you that using Cyberdog shows you what OpenDoc was meant to be (and Cyberdog doesn't even take advantage of all the OpenDoc features!)

Some of you are no doubt saying, "But I don't know what OpenDoc is." I could spend an entire article just talking about OpenDoc (in fact, I did; see *Parts is Parts* in the Fall 1995 BMUG Newsletter), but I'll stick to the basics here.

OpenDoc is "Apple's cross-platform compound document architecture." If you're at all familiar with the various Works packages (ClarisWorks being the best example), you've seen the basic idea.

You start with a word processing document, and into it you drop a spreadsheet. When you click on the spreadsheet element in the document, the menus and toolbars change to reflect things you'd expect to see in a spreadsheet application. In short, you have a fully functional spreadsheet in the middle of your word processing document, but you don't have to deal with the spreadsheet interface unless you're working with it, at which point you don't have to worry about the word processor interface.

This was a great innovation when it first came out, but there are a couple of problems with it. First of all, what if you'd

really like a Solitaire game (or some other non-ClarisWorks application) inside of your word processor? You're stuck with the set of modules they provide you with. And the second problem, what do you do if you're not happy with the spreadsheet in your Works package? Unfortunately, the answer is that you use a completely different spreadsheet (this pretty much defeats the purpose), or wait for an upgrade to your Works package and hope they add the features you want.

OpenDoc addresses those problems (and lots more that I haven't mentioned) by establishing a set of rules by which "components" (analogous to the various modules in a Works package) interact and share space within the same document. OpenDoc doesn't care if you want to embed a Solitaire component into a word processing component; it simply sets up a bunch of protocols that allow the components to let it happen. If you want to include a spreadsheet in a word processing document, just drag it in. If you want to use a different spreadsheet, just drag that one in. Because of the protocols OpenDoc establishes, it doesn't care which spreadsheet you use in your word processing document, it just lets you do it.

Of course, this is only the briefest sketch of what OpenDoc allows. Parts can interact in a number of ways, including

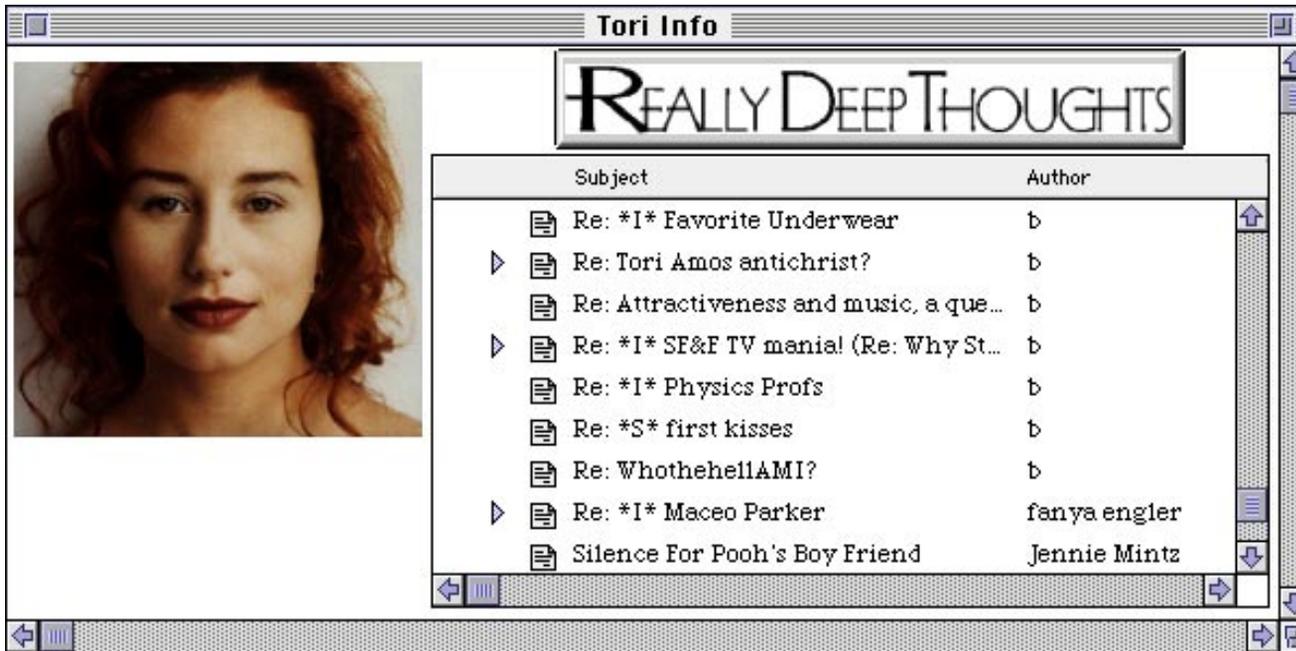


Figure 9. A custom document that contains a picture, a CyberButton, and a newsgroup browser.

(theoretically) infinite levels of embedding. Your word processor can contain a spreadsheet which has a draw component embedded inside it, which in turn has a QuickTime movie player embedded inside it. Parts can be set up to share data through real-time linking (kind of like System 7's Publish and Subscribe), and they can be scripted by you, the user. The list goes on and on, but you probably get the idea.

That's the 30-Second Tour of OpenDoc. How Does Cyberdog Play into This?

First of all, a lot of the really neat features that Cyberdog has, such as dragging information around, and embedding items into any other kind of document, are largely due to the fact that everything's based on OpenDoc. That in itself is cool, but these parts can in turn be embedded inside other OpenDoc documents or certain applications, such as a future version of ClarisWorks.

Here's one example. Remember that little Dilbert icon you've theoretically got tucked away somewhere? Drag it into an OpenDoc document, and you get an embedded version of the Cyberdog Web browser. When you reopen the document, it's got a Web browser already embedded inside it, and it will automatically reconnect to that page. Send the doc-

ument to someone else and, assuming they've got Cyberdog installed, it will do the same thing. Just like that, you've created a document which even a novice could open and use to get to a specific Web site. They don't have to know anything other than how to open a document. This is all because CyberItems are simply OpenDoc parts.

The CyberButton, another OpenDoc component, is, as its name implies, a button-like object that can connect to an Internet site. Because it's an OpenDoc part, it can be put into other documents. Imagine writing a document in ClarisWorks, and having a footnote on the page next to which is a CyberButton that takes a person directly to a relevant Web site. Remember the Cyberdog Start-up Point? All this is a document which contains several CyberButtons.

Finally, Cyberdog ships with another component called a Cyberdog DocBuilder. This is an OpenDoc part which provides you with the ability to create read-only documents containing other OpenDoc parts.

Why is this useful? Let's say you've got several Intranet sites at your company (Intranet is the latest buzzword in the industry, and it simply means using Internet technologies on an internal network). You want to provide even your most novice users with the ability to ac-

cess some of these pages. You could go through the process of teaching them how to use Netscape and several other apps, or you could use the Cyberdog DocBuilder to create a document that contains pictures, sounds, and (of course) CyberButtons and CyberItems. You make it read-only, and then pass it around. You've created something like a HyperCard front end, but the buttons on this page link to your Intranet sites instead of other cards or stacks. All your users have to do is click on a CyberButton, and Cyberdog will take them to the appropriate Intranet site.

Putting It All Together

Remember that the main goal of OpenDoc is to allow you to create documents that do what you want. Given that premise, and the various Cyberdog components, I decided to create a specific document that incorporated different types of information, including links to Internet sites that I was interested in.

Tori Amos is one of my favorite musicians, so I decided to create a document named Tori Info that would keep me up to date on what she was doing and what other fans were saying about her (Figure 9). I'll walk you through what I did so you can see how easy it is to make documents you care about and will actually use.

I started with a basic OpenDoc drawing document, the standard container used in demos, since you can make it solid white, providing a nice simple background. I didn't use a Cyberdog Doc-Builder because it wasn't available at the time I did this (though it is downloading in the background as I write this article).

I want this to be an attractive document, not just filled with dull grey buttons that go to Internet sites when you click on them. So, I used Cyberdog and the Internet to find a Web page with a decent picture of Tori on it. Of course, this is the Cyberdog Web browser, so I just dragged the picture directly from the Web page into my Tori Info document, where it linked up with the Cyberdog picture viewer.

So now I've got a drawing document with an embedded picture viewer part. If you click on the picture, the picture viewer component takes over the menu bars, allowing you to adjust the background colors and some other useful stuff. While this is somewhat nicer to look at (particularly if you like redheads), it doesn't actually do anything.

To remedy that, I drag in a CyberButton and resize it to something more useful. Now I've got a drawing document with two embedded components, the picture viewer with a picture of Tori, and a CyberButton. Remember that the only thing the drawing document knows about is the screen real estate these components take up. The button still doesn't do anything (unless you count highlighting when it's clicked on). I want it to point to the Really Deep Thoughts Web site (the official Tori fanzine).

To connect the CyberButton to a particular site, drag the appropriate CyberItem from your notebook onto the button. Of course, you could also drag the CyberItem from the Web browser, the Log, another document, or the Finder. Now when you click the button it takes you straight to the Web site.

The button remains plain grey, but that's easy to remedy. Again, I drag the fanzine's logo into the Finder from their Web site, and use a drawing program to resize it to something I'd want on a button. Then I drag the picture from the Finder onto the CyberButton in my Tori Info document. Now I've got a draw doc-

ument with a picture of Tori and a nicely decorated CyberButton which points to the Really Deep Thoughts site.

That keeps me in touch with Tori's official fanzine, but there's also a newsgroup out there about her. What I'd like is a view on the newsgroup right there in the document. I go to the newsgroup (using the Connect To... menu item and dialog), and choose Add Window to Notebook from the Cyberdog menu. This simply makes a CyberItem for this document in my personal notebook. Now I drag that icon into my Tori Info document, and I've got a view of the newsgroup reader right there in the document. I don't have to click on a button or anything to get the latest information, as Cyberdog goes out and updates the newsgroup when I open the document.

To tally it all, I've now got a drawing document with three embedded components: a picture viewer, a CyberButton, and a news reader. These happen to all be components that come with Cyberdog (except for the basic drawing document; that's part of the OpenDoc install), but they don't have to be. I've got a QuickTime movie clip I'll probably drag in one of these days, as well as some other Tori stuff. OpenDoc sets it up so that not one of these components knows anything about the other except what screen real estate it takes up. The drawing document doesn't know anything about newsgroups (nor should it), but I've got a news reader embedded inside it that knows quite a bit about newsgroups, so suddenly I've got the ability to catch up with the Tori Amos newsgroup from within a drawing document.

This whole process took me ten minutes. After all, I had to spend some time deciding which picture of Tori I wanted in my document.

OpenDoc promises to change the way everyone uses computers. This isn't just hype. Whenever I use OpenDoc for anything, it just makes so much sense. If I want a document that does something, I just create it from whatever pieces I need. No switching between applications, navigating Standard File dialogs to open files, or anything goofy like that. All the pieces I need are in one place, and editing the content of any of them is as simple as clicking. Cool!

Ad Infinitum

Due to the nature of object-oriented programming and OpenDoc's design, everything in Cyberdog is replaceable and extendible. Don't like the Web browser? Drop in another one. The mail handlers don't work the way you want? Maybe someone's written a component that extends them in a way you do want.

So you can extend what's there, but what if you want something completely new? As we all know, the Internet moves too fast for anyone to keep up with it, so it's likely that you'll want to add some new piece that isn't covered at all by the current Cyberdog. No problem. It's extremely easy for developers to write Cyberdog parts, in fact, people are writing them already. One good example is the CyberJava part, which will allow you to run Java applets right inside your OpenDoc documents. It's a Cyberdog part, and will just plop right in to Cyberdog with no effort on your part (so to speak).

I've only mentioned Cyberdog's abilities over the Internet. Even the use of TCP/IP is able to be replaced, so developers could write parts that would go out over Novell networks and connect you to resources there, or parts that go out and connect you to AppleShare servers.

I could spend far longer than you'd care to read talking about why Cyberdog and OpenDoc are so cool. But, hey, be your own judge. Point your primitive Web browser to <http://www.cyberdog.apple.com> and download it! You'll need System 7.5.1 or later, a Power Mac, and an Internet connection. The Cyberdog Web page will give you the rest. [Editor's Note: You can order the Cyberdog & OpenDoc CD-ROM from BMUG for \$12 + shipping.]

One more thing. You probably think I'm not only an OpenDoc geek, but a Net fiend as well. Nope. I hate using the Internet. Perhaps I should say I *hated* using the Internet. Now, with Cyberdog, I try and find excuses for using the Internet. I'm not kidding. Cyberdog's goal was to make the Internet more accessible, easier to use, and less an intrusion into the way you use your computer. Whether or not they succeed with you, I can tell you that they've changed my attitude about the Internet. ☸

Silicon Snake Oil: Second Thoughts on the Information Highway

A Review of Clifford Stoll's Newest Book

by Ann Wrixon

The central premise of Clifford Stoll's new book, *Silicon Snake Oil*, is that computer generated experiences such as programmed learning, or even online chats, cannot and should not replace real life and authentic experience. Stoll argues that despite the growth of huge computer networks, the Internet in particular, they cannot provide the sort of community, education, and pure joie de vivre that "real" life can. Controversial as this premise is, Stoll takes it a step further arguing that these networks "directly threaten precious parts of our society, including schools, libraries, and social institutions."

Stoll paints a disturbing picture of how this computer infrastructure is dangerous to the very relationships and institutions most of us rely on to provide structure and meaning to our lives. As Stoll explains:

"The popular mythos tells us that networks are powerful, global, fast, and inexpensive. It's the place to meet friends and carry on business. There, you'll find entertainment, expertise, and education. In short, it's important to be online.

"It ain't necessarily so.

"Our networks can be frustrating, expensive, unreliable connections that get in the way of useful work. It is an overpromoted, hollow world, devoid of warmth and human kindness."

Stoll devotes one entire chapter to the subject of computer networks in the classroom, making several interrelated points. First he explains:

"All of us want children to experience warmth, human interaction, the thrill of discovery, and solid grounding in essentials: reading, getting along with others, training in civic values.

"Only a teacher, live in the classroom, can bring about this inspiration. This can't happen over a speaker, a television, or a computer screen."

He builds on this argument by explaining that the process of teaching, whether in a classroom or via a network, is necessarily limited to the number of students the teacher can successfully interact with. He uses the example of a language teacher in North Carolina who teaches Japanese to four high schools via an interactive video system, but who cannot teach classes of more than thirty because she loses personal contact. Stoll summarizes: "even with electronic links, teachers can't handle much more than two dozen students. It was that way for our grandparents, it will be that way for our grandchildren."

Stoll further argues that computers are both incidental and, in fact, unnecessary for learning:

"Computers themselves aren't necessary for most college studies. They have nothing to do with athletics and fine art. They're only incidental to the humanities, whether philosophy, history or literature. A good term paper will shine, whether hand-lettered or laser-printed. Judging from the courses I've attended, computers aren't essential to beginning engineering classes, although professors like to assign problems with them. Okay, so I'm not an au-

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thority in engineering, humanities, or fine arts, But I've paid my dues in physics and astronomy, and in those basic sciences computers have nothing to do with learning."

Stoll explains that computers cannot teach analysis or encourage a student to develop logical thinking skills. Furthermore, the information on the computer networks, including the Internet, is generally of "unknown pedigree and dubious quality," making it a poor research tool.

Perhaps his most compelling argument is that, given their dubious value in education, the cost of computers and network connections in the classroom is exorbitant and unnecessary. He argues, "Our schools face serious problems, including overcrowded classrooms, teacher incompetence, and lack of security. Local education budgets hardly cover salaries, books and paper.

"Computers address none of these problems. They're expensive, quickly become obsolete, and drain scarce capital budgets."

With slight variations Stoll makes similar arguments about the use of computers in business, libraries, and general human communication, concluding that it not only offers much less than we have all been led to believe, but that the expense and less than quality information will actually harm these institutions.

***A good term paper
will shine, whether
hand-lettered or
laser-printed.***

Stoll does not take the position that computers or computer networks should be abandoned completely. Rather that our society has become dangerously out of balance, giving computers far too much power in our lives, and that ultimately this reliance on computers to fill in for authentic experience is going to result in the dangerous erosion of institutions that are essential to our well being, institutions such as schools, business, and libraries.

This is a compelling book, not only because of the controversial subject matter but also because Stoll is a gifted storyteller. I had expected to read this book slowly over a couple of months, but after reading the first couple of chapters I finished it in a single weekend, drawn in by the fine writing and fascinating stories. Stoll peppers the book with stories, often funny, sometimes poignant, to illustrate his points. He uses his own experi-

ences as a student, scientist, and fellow human being to illuminate the argument he makes. Yet, as anyone who has read Stoll's earlier book, *The Cuckoo's Egg*, will remember, Stoll is a master at building suspense that he uses to great advantage, even in the short tales included in *Silicon Snake Oil*.

So, as a reviewer, was I convinced by Stoll's argument? The answer is a resounding "yes." Like many of us who work with computers, including Cliff Stoll, I have deeply ambivalent feelings about the information highway and the heady promises we repeatedly hear about it. On the one hand computers are interesting and useful tools. On the other I too have seen a lot of valuable and irreplaceable time slip away beneath my keyboard and have often wondered if this was the best way to reach whatever goal I was trying to accomplish at the time. Stoll's solidifies and shapes many of those concerns in his book, *Silicon Snake Oil*. Even if you disagree with his premise, this is an important book to read, raising fundamental questions about the hype of the information highway. ✈

Silicon Snake Oil: Second Thoughts on the Information Highway

by Clifford Stoll
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Clifford Stoll on Computing

interviewed by Chupoo Alafonté

Physicist, astronomer, Clifford Stoll is the author of *Silicon Snake Oil: Second Thoughts on the Information Highway*.

Stoll: I go back in computing to the battle days when you used to keypunch cards on an IBM 1620 and eventually started using DEC-10s and PDP-11s. [I] started in the ARPANET which is the predecessor to the Internet in the mid-70s.

Over here in Berkeley, about 9 or 10 years ago, I was working up at Lawrence Berkeley Labs just over campus when [I] noticed that the accounts on one of my UNIX computers were off by 75-80¢. ...I look[ed] into it, and found that some people were breaking into my computer up on the hill. [I] tracked [them] down, traced their wires across the lab, across PacBell into TimeNet, across networks, across North America. After about ten or eleven months, [I] found that some guys in Hanover, Germany, some hackers, were breaking into our computer in Berkeley, using our system to get out over the ARPANET, to break into military computers, steal military information, copy it across the network. They'd collect it, and sell it to what was then the Soviet KGB. This was 1987.

For the past 20 years, and certainly for the past 10 years, I've been quite active online. I've been up and down the Web, wide across the Usenet. I like computers. What am I saying, I love computers! Computers are neat! I love networks! I think TCP/IP is a terrific protocol!

I like computers. It's not the Internet that bothers me. It's the culture of computing. It gives me the heebie jeebies. It's this idea going around that says: if you don't have [an] email address, if you don't have your own Web page, if you don't have a customized domain name, if you're not online, then progress is happening and you're being left back at the station. That the "train of the future" is leaving and you're just sitting there on the boardwalk. It bothers me the way computers, networking, and in general, technology is promoted as the wave of the future.

Chupoo: Why do you think that the Internet is getting so much attention? From the 70s, it was a military thing, and then the universities were using it, and now it's... this big, trendy fad thing going on. Why do you think that's happening?

Stoll: No question that it's a fad, and trendy. In part... it's a genuine, new thing. We don't talk about, 'Wow! Look at the fantastic thing called the newspaper!' No, it's been around for a century or more. We don't talk about 'Oh! Look at this phenomenal medium called radio!', but back in 1925, people did. The same predictions that were made for the Internet today were made for radio in the 20s, were made for television in the 50s. My concern is not that there's a trend and it's a really cool thing to do. My concern is that the overselling of the Internet and computing is going to have effects that might not be all that wonderful.

The widespread adoption of computers and networks as ways of communicating might not be the best way to promote the Internet. It might be that the Internet can deliver far less than advertised. I feel it's time for us to be skeptical of some of the claims made for computing and wide area networking. For all the mania involved in, 'Wow! you gotta get online!', I hear no skeptical questions. For example, if somebody were to come around and say, "Nuclear power is the wave of the future!", people would laugh and say, 'Come on, you're crazy!' If people said, 'Microfilm is the best way to get information from one place to another,' people would say, 'Huh?'. And yet, people blindly without any skeptical challenges accept promotion for the Internet without even saying, 'Hey, maybe it ain't so.'

The central point of my book and what I'm trying to say is, I'm not against the Internet, I'm not rallying against modems and computers. I'm saying please, ask skeptical questions. Challenge these obvious statements of a wonderful computational future. There's nothing wrong with your being online. I encourage you to go online. Go out there and explore. Check it out. But I challenge you, how are you going to change the world to develop coalitions electronically? Is it possible? Do you really believe that sending email to fifty or a hundred people of a like mind to you—around the country, around the world, or even around the community—will have

the same effect as meeting people face to face. If you want to change something within our society, I suspect that you must be involved with it at a deep level. Not just [dipping] your finger in. It strikes me that working together face to face delivers just that type of deep commitment. That's the very thing that you can't get online. Commitment. It's far too easy to click on a different icon. If you don't like what you see, [you] pull the plug.

There's a sense online, both on the Internet and across the World Wide Web, that there's instant gratification. That you can go out there and get what you seek right away. You can come in contact with just the right person. You're in touch with them, you're communicating with them, and everything's honky-dory. I don't think social change happens that way. ... There's no instant fast way to do it. You can't log in and change the world. ... Change happens very slowly with difficulty. The important change that happens, ... happens when people forge links on a chain, face to face, arm to arm.

If you're going to strike out for whatever your cause is: peace, justice, equality or just getting the dog laws changed in the neighborhood, you're going to have to work with people of a like mind who are there, in person. Maybe I'm wrong. Maybe you can forge coalitions. Maybe you can make political change on the Internet.

I haven't seen it though. The two big petition drives that have happened online have been to prevent Lotus from selling a CD-ROM with everybody's name and address on it—a technological issue. The other big drive was to protest the silly Exxon amendment that would freeze ... free speech online—another technological message. Is there genuine social change happening online? Maybe there is. Show it to me. Prove it to me. But I *can* see it happening on the streets. I see it when people picket. I see it when people talk over coffee. I see it when neighbors get together. I'm not convinced at all

that I see it on the Usenet or on the Internet.

Chupoo: I don't see it as an either, or. I use the technology to supplement what I'm doing, to make what I'm doing easier. You're right, it's the marches—when people get out on the streets—that make a difference. But when I can email the group in Sacramento, we can coordinate over the Internet and back East, we're all doing it at the same time. We use the Internet to supplement what we're doing so that we can make a bigger effort than just what my community can do.

Stoll: [O]bviously a good thing, what you just described. My concern is, it is way easier to spend hours online, reading, replying to email, sending email to other people, spending your hours communicating over the computer, rather than organizing within a neighborhood, rather than talking to politicians, rather than promoting people face to face, or in your own community. It strikes me that if you want to build a stronger community—who's to say we do or don't, but if you do—you have to be involved in that community. The hours that we spend behind a keyboard is time taken away from that involvement in the community.

What do I mean by that? I can spend three hours, delightful hours, surfing the Web, looking for things that interest to me. But those are three hours that I'm not talking to my neighbors. It's time that I'm not either signing petitions, or just at the coffee shop down the block. It's time that I'm not working within my community. The Internet is a terrific way to waste time that would otherwise be difficult to waste. My concern is lots of activists latch onto the Internet. But in being active online are you not turning your back on the very groups of people that you want to work with and work for.

As far as coordinating activity, what's wrong with a telephone call? If I want a protest march to happen here, in Sacramento, and in San Jose, why not talk to people, if not face to face, ... on the phone? You can reach a lot more people on the tele-

phone. People keep saying the Internet reaches everywhere. There's ... twenty, maybe thirty million people online. That means that 220 million people in North America can't be reached by email. These include the poor, the elderly, people who might not be able to afford a computer, people who can afford a computer but would rather be spending their time with their family, with their children. A telephone will reach most of those people. A postcard will reach every one of them.

If you log into the computer and expect to reach these people by way of the Internet, then you're putting blinders on. You are automatically scoping your focus to only those people who are technologically connected. In the back of your mind, you're saying, but that will change, we've got to encourage that to change, we've got to encourage everybody to be online. To which I say, maybe. Is that necessarily so, or might it be that by encouraging everyone to be online, we are discouraging them from spending time in the streets, on their front porch, at the coffee shop. Each of us has only a limited amount of free time, recreational time. And as you say, it's not an either, or, situation. I can spend time online. I can spend time watching TV. I can spend time talking with friends, but ... everytime you add one more thing to do, you subtract time from something else.

[Y]ou [might] say, 'Isn't it better to spend time on a computer than to be surfing channels and fooling around on cable and watching TV?' Probably. The Internet ... is a good substitute for TV, but in the back of my mind, I worry that maybe television is closely related to the Internet. Both are ways to sit alone in a room and pretend that you are in communication with people. Television is one way. The Internet, it might be two ways.

Chupoo: One of the most bizarre things that's happening is there's a cafe in San Francisco where they have computer terminals. It's like you go to a cafe to drink coffee and talk to your friends, but instead you go out to

look at a machine. That doesn't work for me.

Stoll: [W]hat's going on here? People go to a coffee shops to chat over [a] computer? What's wrong with this picture? To me, maybe the reason why the Internet and the Usenet news groups are so popular and considered to be the wave of the future is that they promise a virtual community. Our real communities have been so devastated over the past twenty or thirty years, that people yearn for a community. They accept a second best or a fourth best substitute. Log into the virtual community, rather than connecting to a real, genuine community. Remember the virtual community is safe—[you] can't get hurt there. You don't like what you see? Pull the plug. The real community is risky. You have to stick your neck out to go and invite your neighbor to lunch. You've got [to] really stick your neck out to circulate a petition. On the Internet, it's trivial to circulate a petition. You just start a mailing list. But I'll tell you, politicians listen a lot more to somebody in person than they do to a stack of email, just as you do.

Chupoo: [M]y first AOL bill was \$200. I was on all night. I got into the WELL. I got into UNIX. ...I was doing it. I felt like it was something new. ...I [was] obsessed with it. Now that I've been with it a couple of years, now that I've matured, ...I can rethink how I use it and what I need it for. I think it was alright that I obsessed at first. It helped me feel like I could do it. It's like a growing experience—getting used to technology. It gives us the tools that we need to decide what we want to do with the technology.

Look at you, Clifford. You have dealt with computers for twenty years or more. You mention in the book that you log on to five or six networks, four or five BBSes each day. You, like many others, feel the glee of... the new software out... . So how do you reconcile that with being in the world and being involved in the world.

Stoll: [I] just don't spend time behind a computer much anymore. I find that

I get way more boffs out of just sitting around with friends. I get much nicer feelings being with my children than with a keyboard. I've had dinner with essentially all of my neighbors, if not dinner, lunch. I've become involved in my neighborhood. I spend more time thinking. I spend time in a garden. I spend time volunteering in and around the neighborhood. I find that these reward me in really nice ways, that I don't get when I'm logged into the WELL, or America Online, or CompuServe, or the Usenet.

I'm not saying this is what you should do. ...I'm saying that it's time to ask skeptical questions. Might it not be better to spend an hour visiting an elder hostel than an hour surfing the Web? When I did, I got some terrific stories that [stuck] in my brain sideways. A guy 85 or 90 years old told me about what it was like running a speakeasy, in the 1920s, when upstairs, there was a brothel running. He told me these terrific stories. All I had to do was walk in during visiting hours to an elder hostel. I'll remember that forever. Yet, how many Web pages will I remember? How many Usenet discussions will I remember? ...Listening and chatting with people means far more [to me] than time spent online. The Internet,... the Web, [and] electronic communications said, "This empowers us, gives us ready access to information." I don't know. Maybe it enfeebles us by causing us to turn to the computer and the network rather than doing our own work, rather than building strong links into our locale. The Internet develops transient links to strangers, rather than being close to those people that I yearn to be near my family, my friends, my parents. It puts me in weak contact with strangers far distant from me. Rather than having a voice and a face to associate with a conversation, I have only 80 columns across and 24 up and down. I have Vanilla ASCII. In one sense maybe that's a really terrific thing. We can't tell gender. We can't tell race. We can't [even tell] your age online. ...For many people, these are important consider-

ations. [For some people,] they form one's self image.

Maybe this anonymity, anonymousness, of electronic communication denies us the most fascinating thing about interpersonal communication—the diversity of seeing what somebody looks like, and saying, 'Oh! And yet they think that way! Hey! Boy, that's cool!' I don't know. I am concerned that we are not asking that type of skeptical question—that maybe the Internet is causing a further suburbanization of our minds.

Chupoo: Get into class. Part of my buttons get pushed because I feel like part of it is a class issue. When I go to my community, there aren't computers. Many of us feel like this technology can be empowering. You may come from a community where the parents had computers, the kids have one, you work in computers. What about the gap that begins to happen between those communities? My community says 'I've got to catch up. These people are getting further and further apart from where I am. I need to catch up.'

Stoll: I remember in the 1950s, where... only the well-off people had televisions. There [were] a lot of questions, 'What are we going to do for the poor? ...There's this big gap. The well off people have TVs and so they are well informed. The poor don't have TVs and so they are poorly informed, and so this gap is going to spread. People with money, with televisions, they know where the bargains are, they know where the good stores are, because television informs them. Poor people don't. How are we going to get more televisions into the hands of the poor? How can we narrow this gap of television?' It cost a lot of money in the 50s. Poor people and large classes of people didn't have it. Sure enough, by the late 60s, mid 70s, the cost of televisions was such that... anyone who want[ed] a TV... [got] one. You [saw] them thrown out on sidewalks.

Has this been a good thing? Has putting a television in every household across North America been a good thing for our society, or a bad

thing? I don't know. However, I feel it's time to ask the question: is putting a computer in every household across the continent a good thing, or a bad thing? It's time to ask that type of question. It's easy to say, a computer is necessarily empowering because it gives you access to information. Can't you say the same thing about television? [Does] television necessarily give you access to information, or radio? I don't know. I'm not convinced of it. Let me explain [why]. It's that I rarely find people who stand on street corners, hand outstretched, saying, 'I need more information. My life is impoverished because I lack information.'

We have this idea in the back of our minds that information is power. If you want power, you got to have information. I don't believe that. Who has the most information in my neighborhood? The librarians do! And they're famous for having no power. Who's got the most power? Politicians do. And they're well known for being ill-informed. How do you get power? Strikes me, you get power by working with others, developing coalitions, having social skills, the ability to chat with one another, and make compromises between different people. The ability to develop friendships with people who might not look the same as you. How do you develop those social skills? You develop them by working together with other people face to face. You don't develop those social skills by sitting for hours on a computer. For all the information that the computer delivers to you, ...it doesn't give you social skills, and the sharpening of those skills [is what] you need to acquire power.

[I]'m not asking, please agree with me. Rather, I'm asking that we begin challenging these questions of: ...does a computer empower us, ...does the computer bring us together? Or might it be that sitting for two hours logged into an America Online chat-line may be that, rather than bringing us together, [it] isolates us. Instead of being with somebody else nearby, we are being with other people who are far

away, and really don't care about me sitting behind my keyboard.

Chupoo: I would not have a job, if it weren't for computers. If I hadn't decided to get computer training, and start learning about them, I'd be working at McDonalds or something. You mention in the book that computers no longer generate employment. Why do you say that?

Stoll: I'm not so much saying computers don't generate employment, I'm rather asking, do they? The accepted wisdom today is, if you want a job in the future, you're going to have to learn computing. The future belongs to the computer literate. It seems obvious. How could somebody challenge that? ...Let me ask a skeptical question about that. I'm a physicist astronomer, so I hope I'm good at describing the present. I'm no good at predicting the future. Lots of computer people say, 'You want to know what the future is, ask a computer jock.' I don't know about that.... Let me describe some jobs that I think are going to be around in the future. How about dentist, taxi cab driver, surgeon, movie [actor], plumber? How about radio announcer, school teacher, day care worker? ...These are all jobs that are going to be here in society, ten, twenty, fifty, a hundred years from now.

Our love affair with computers encourages us to say, spend time in school, high school, elementary school, college, wherever... learning computers. Where are we going to get our plumbers from? Today, I can hire a computer programmer here in Berkeley for forty, fifty, sixty bucks an hour to write HTML code to write Web pages for me. When I want to hire a plumber, it costs a hundred-twenty bucks an hour. How come? Maybe it's because every school district in the bay area, from Oakland to Richmond, to Marin, down the coast down to San Jose... teaches computing. Not one of them teaches plumbing. If you want to be a plumber, you can't learn it in school, because people say, we want to be a high-tech high school; we will teach you computers! Where

are you going to learn to solder pipes together? Where are you going to learn how to vent a sewer? Where are you going to learn what the local codes are for connecting drains together? It's not taught. Jobs of the future? I want a dentist. It's not like I'm saying, get rid of your computer, heave it out the window. No, I feel that it's our responsibility as techies, as a propeller-head, it's my responsibility to ask critical questions, skeptical questions, questions that don't make me popular. ...Unless we ask them, our field will not be healthy. We will forever be talking about, 'Oh, I'm going to make a billion dollars just like Bill Gates; by learning how to program in C++ and virtual reality is going to deliver gobs of money into my pocket.' We're bound to be let down when that doesn't happen.

Chupoo: Can you talk about the elitism?

Stoll: [T]echno-arrogance. Computer techies who are often system managers have their fingers on the information vessels of organizations. It's a peculiar type of power that is not delegated to them, but somehow or another, they acquire. We are giving a great deal of power to the computational elite. One of my professors once said, 'You divide the world into two types of people. Those who divide the world into two types of people, and those that don't.' So for a minute, let me just divide the universe into two kinds of people. People who love computers—I'm one of them; you're one of them—and those who don't like them. I know it's a real continual spectrum, but let me explore this question for a second. Those people who love computers, what is it about us, we're good at following somebody else's rule book. Microsoft says, 'Hey, you want to change margins, you just follow the following five steps. Move the mouse like this, this, and this and [you] change the margin of your thing.' People who have a hard time with computers, oftentimes are those who have a tough time figuring out somebody else's rule book. I used to run a help desk. People constantly called me up saying, 'Cliff, how do I change

the margins of my document?' I'd say, 'Oh, it's real easy. Reach for the mouse. Move the mouse over on top of the format menu. Click the mouse down one step. Move the mouse so you get the Paragraph. Let go of that, type the margin width in inches, click on OK, and you're done.' And they'd say 'Whoa,... wait a second, I don't understand. Go over that again.' And I'd say, you know, step 1, step 2, step 3, and they'd say... 'I don't want a series of rules and steps. Just tell me how to change the margins.' I'd say, 'It's really easy. Here, let me do it for you.' I'd walk over, in a sort of nasty way [and] change the margins for [them]. Two days later, they'd call again.

People who have a tough time with computers—often, but not always—it's because they have a rough time following other people's rules. They can't figure them out. As a result, they go over to the bookstore. They walk out of the bookstore with a book that says *DOS for Dummies*, *The Idiot's Guide to the Internet*. These are smart people who walk out of Cody's bookstore holding a big sign saying 'I am an idiot because I am not nimble on the keyboard.'

What do you call somebody who's good at following somebody else's rules? You call them a computer whiz. You call them a guru. You call them employed. What do you call somebody who can't follow Bill Gates' rules for changing margins? You call them a dummy, an idiot. Oftentimes, they can't get jobs.

Let me recast that, though. What is somebody who is good at following rules? They're a droid, a trog, a bureaucrat. What do you call somebody who can't follow somebody else's rules? That's an original thinker, because what is creativity, except the inability to follow somebody else's rules? We, in computing have created a wonderful system that puts us as systems jocks, as software installers, in the center, the power center of our organizations. The same system that excludes the creative, the original thinkers. Those people who don't follow rules, they're just excluded. They're constantly frustrat-

ed by walls of techno-arrogance that we in computing have created. The system of computing that we have come up with is one that puts the computationally literate in power and disenfranchises the creative and those who don't follow rules.

Big Brother controlling the Internet. I think I'm one of the very few people online who doesn't worry about Big Brother. There seems to be an attitude that says governments around the world are out to control what comes off the Internet and what goes on. Maybe they are a little bit. It's a 1984 view of the world that governments are there to control what is listened to and what is heard. I don't worry so much about Big Brother in that sense. I feel that the way information is controlled is not with bars and grates. ...Instead of 1984, it's more like *Brave New World*. ...Important messages are diluted in an ocean of gunk. What I find on the Internet is not censorship and people saying, 'Oh, you can't say that.' Rather, those good important messages are lost in a flood of trivia, unimportant stuff, and simply, factually incorrect statements. The way that we censor things on the Internet is not by preventing the promulgation. That's difficult, maybe almost impossible to do. Instead, the way we prevent it is by having such a tidalwave of gunk coming through that we just don't get important messages, don't read it. What about the paperless office? Remember the promises fifteen years ago, that computers are going to make it so that we don't need paper in the office? What a crock.

Along with the thousands of other inaccurate or misleading predictions of the computer age, this has got to be high on the list, the paperless offices, sort of like virtual communities. Computers generate more paper, as we've learned. So how do we make our lives easier using technology? I don't know. It might be that there's that difficult answer ...that our lives will never become easy. That the tough problems, social problems, how do we get along with each other, how do we make for an easier and egalitarian society. It

might be [that] there's no easy way. ...Technology's not going to do it for you. The promise of the automobile was: it'll let us get from Point A to Point B quickly; it'll speed things up and save us time. Has that happened? Has the car saved us time? I know people who commute an hour and a half each way, everyday, lost in traffic. The television is supposed to distribute information quickly, supposed to make our democracies more effective by bringing politicians out in the open. It's supposed to make us stronger, get to know each other better. It's supposed to give us better community. Has that happened? Debatably. The telephones were supposed to make our communities better. ...You could talk to [anybody] anyplace. It'd be good for families. Instead, it has essentially eliminated people walking to each other's homes and visiting with one another. Why go over and talk and have dinner with somebody, when in fact, you can just make a phone call. It has promoted the idea of living far from the rest of your family, far from your home community, because you can just make a phone call.

What I'm saying is that when you accept the technology into your community, into your world, there's a tradeoff. We always sell the positive attributes. We never examine or look at the negative side, or we seldom do. The interstate highway system was promoted as a terrific thing for farmers because ma and pa farms could now get their produce into the city quickly. It was going to be terrific for cities because cities could get their products to market to other cities quickly. It was going to be good for national defense because we can get troops from one shore to the other in two days. It'd be good for our independence because it would bind our country [together] stronger. It'd be good for local communities because we'd cut down on traffic time. Everybody would win. But in fact, the interstate highway system destroyed the ma and pop farm. You must be a huge agribusiness to stay in business [today] because semi-tractor

trailers force you to deliver huge amounts of produce, rather than just the kind of stuff that ma and pa could make on forty acres and a mule. What has happened to our cities, thanks to the interstates? ... Look at the effect of the Cyprus structure on Oakland. These on-ramps and interstates destroyed our cities, not just Oakland. [L]ook at Cleveland, Ohio, or Buffalo, New York, or any of the Rust Belt, which the highway system destroyed.

It forced us as a country to get away from the cities to live out in the suburbs. ... The result is, a large part of our urban area is blighted because it's no longer a place for the people to go and live and enjoy themselves. Was the interstate highway system good for defense and good for our independence? I don't know. But not five years ago, we went to war for a third-rate Middle Eastern power just to preserve the primary ingredient of the internal combustion engine. If we weren't so dependent on the automobile would we have fought in Kuwait? Back in the 1950s, no one asked this... ques-

tion. The interstate highway system resulted in the utter devastation and elimination of the Burma Shave sign. Who in 1950 predicted this? What I'm saying is, when you latch onto a technology—automobiles, radio, television, computing, networks—you tend to look at just the really good, happy, wonderful effects of it. Do we also look at the not so good effects? Is computing and networking a win, win, win, situation for everybody? Or might we lose important parts of our society and our life? It's our responsibility as techies, as computer users, as computer designers, to ask these questions. I can't answer any of them, but I can say that, without [our] being skeptical, the field will not be honest. 天

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Chupoo Alafonté is host of *Computer Access*, broadcast on KPFA-94.1FM.

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R.U. Sirius and St. Jude, on the Internet

Authors of *How to Mutate and Take Over the World*

interviewed by Chupoo Alafonté

St. Jude is a UNIX programmer and hacker. R.U. Sirius is co-founder and co-editor of *Mondo 2000, A Users' Guide to the New Edge*. St. Jude and R.U. Sirius are the authors of *How to Mutate and Take Over the World*.

Chupoo: [*How to Mutate and Take Over the World*] is like science fiction, but you call it an exploded post-novel. Tell us what the book is about and why you wrote this book.

St. Jude: It started out as science fiction. It's becoming all too real as a matter of fact, minute by minute, as we speak. It's all coming true.

Chupoo: That's the amazing part, because you talk about government censoring us and the way that you have described it is exactly what they're doing right now.

R.U. Sirius: It's pretty amazing. We wrote the proposal for this two years ago and everybody laughed at us and said, "Oh the government would never try to censor the Internet. It's impossible." And they wound up doing it in pretty much...the same language that we suggested...

St. Jude: Except we were funnier.

R.U. Sirius: Yeah, they use terms like "indecency"...The book itself is... a piece of dark humor aimed at the entire culture, all of media culture basically. It's exploded because it doesn't work like a normal novel.

Chupoo: Well, it's not linear.

R.U. Sirius: People tell themselves stories or they used to, and I tend to

think with each generation, there's less of a tendency to tell oneself a coherent storyline and more tendency to view the world in fragments and discreet experiences that somehow tie together at a certain level of complexity, but not as a linear, front, middle, end kind of story. Our book reflects that to some degree. ...It does move forward in time for the most part although there are some interjections that interrupt that flow. We're interested in interruptions and things that impose themselves on one through various forms of media.

St. Jude: [T]he mutation idea is that...in effect, we're always mutating. It's inevitable. We are changed by everything that we encounter and the way in which we encounter things, the way we react to them, that's changing.

Chupoo: So it's causing us to evolve.

St. Jude: Yes.

R.U. Sirius: I would have thought that the main purpose for high technology and new technology should be to end scarcity and clearly, our society and our culture in our current system doesn't view it that way.

St. Jude: Although it may be forced to.

R.U. Sirius: [At] the beginning of the twentieth century, nobody had a voice in the world. Now, several million people have a voice that they can send around the world without the interjection of an editor, or capital coming between them, other than

a thousand bucks or so that you have to spend for a computer and a modem. Now that's a big river to jump for a lot of people still, but at least it's an ongoing process.

St. Jude: Believe it or not, it's called the More Constant, but it's m-o-r-e. The More Constant says that every eighteen months, computer power doubles, and its price halves. In parts of the world where even a telephone is a luxury, that doesn't necessarily make that much difference now. But it will, because the technology is accelerating. *Wired* magazine—although there's lots of stuff that we can say against *Wired* magazine—is currently trying to wire up Africa. I have a friend who is involved in the same thing—putting villages online. This is actually happening as we speak.

Chupoo: And it's easier for them because they don't have to rip out old wire and put in [new ones]. It can start from scratch with the latest stuff.

St. Jude: That's true. They're using satellites rather than trying to march huge electrical wires across the continent. You're forced into the high technology immediately...

R.U. Sirius: Some lucky cultures get to skip the Industrial Age.

St. Jude: Yeah. No dark, satanic mills here.

Chupoo: [W]ell, we know how to mutate. We know how to change and we know how to rock with the times, but how do we take over the world?

St. Jude: It's not a matter of taking it over. ...It's a matter of taking it back. The industrial watchers have been saying that for years. That's kind of their slogan.

Chupoo: You had the telephone. You had the automobile. The automobile manufacturers...bought up the railroads and stopped us from commuting. They just like took it over before we even knew what was happening and told us how it was going to go. So how do we switch the tables on them now?

St. Jude: Think about going into this broadcast. You got one big station and all anybody can hear is what that one big station is broadcasting. Now think about the Internet. This is a global planetary connection of people to people. Not one big thing broadcasting out.

R.U. Sirius: With no center. So in that sense we are taking over the world of media. The big problem is taking over the world of economics and power and all of that. One of the big problems... the big capitalists are finding with the Web is that it's actually very hard to... make money off of it because it's so ubiquitous, it's so liquid. They're trying their best but they're already starting to denounce the Web. They're already starting to put out the rumour that the whole thing was overblown, there was too much hype, and it doesn't really work. That's because they can't make money off of it.

St. Jude: Hey, this is no good!

R.U. Sirius: In the meantime, more and more people are moving onto [the Web] and they're not necessarily going after the things that're being offered—what little there is to be offered—from the larger corporations. There's a...large breakdown of the ability to charge, make, and exchange money for what you do on the Web. Ultimately, capitalism dissolves in there because there are no solids. So I kind of like what John Barlow said about the corporate mergers—it's the rearranging of deck chairs on the Titanic. It's a little bit too sanguine, because they're going to definitely find ways of ex-

plotting this. The big view, the long view, the interim view is that we will probably have corporate oligarchy for the next ten, fifteen years, or whatever. Unless this book gets really popular, in which case we'll overthrow the whole [system] in a couple of years.

Chupoo: Let's get back to the book, *How to Mutate and Take Over the World*.

R.U. Sirius: The primary discourse in there is email and diary notes between myself and St. Jude and in between, we have all kinds of submissions from other people that we call the Internet 21. There's actually twenty six of them. We just decided to lie on the cover, part of the prankster vibe of the whole thing. That's at the center of the book. ...The book goes to the year 2002. [We] attempt to supply something vaguely like a responsible narrator for the world that we're introducing, but right in the middle of the book, we sort of admit that the narration breaks down and we're just opening up to a presentation of the world after it becomes impossible to really describe in a linear fashion.

St. Jude: [K]ind of a snide voiceover from us.

R.U. Sirius: Then we become very paranoid. We go into a whole conspiratorial thing that takes place throughout the ending of the book which I think is the most fun part of the book, actually.

St. Jude: Oh yeah, we did take on all religions impartially.

Chupoo: Right. The underground.

St. Jude: Oh yes, underhacker underground.

Chupoo: Can that ever really happen, because the people who've been on the Net for a long time, many of them are anarchists. They're not the types that get together in groups and coalesce.

St. Jude: That's exactly right as a matter of fact, so what you've got on the Net with all these old hackers is the possibility for this ultimate oxymoron, the anarchist community, the anarchist non-organization. The whole idea of the book is do-it-your-

self revolutionist. ...How anarchist can you get?

R.U. Sirius: I think it was virtually impossible to really talk to people in these cynical times about revolution but the authoritarians are making it easier to start talking about it again. The insanity of the culture war that they're carrying on is causing people who basically would just as soon be left alone and mind their own business, to get together to defend their right to be left alone and mind their own business. It's always harder for us to get together with each other than with... the true believer types.

Chupoo: So what you're advocating is everyone doing their little part in their little corner of the world.

St. Jude: Yeah, the hacker ideal is you find out what's happening, you figure out something that will be really cool to do, ...you figure out what's keeping you from doing that, and then you find your way around that. Do it anyway.

Chupoo: You all are hackers and we have said in the past, as long as there are hackers in the world, we'll be safe. ...Talk a little bit about what it means to be a hacker.

St. Jude: [At] this point, we are culture hackers. We take the same kind of hacker attitude. That is, circumventing the limits that are imposed on you into "how do we change our culture?"

R.U. Sirius: Almost everybody living in this society is a hacker to some degree or another. You find weird things that are imposed on you that don't make a lot of sense. You don't always obey all the rules and you work around them so that you can get things done. That's basically the hacker attitude. Anything that gets in the way of doing something useful, you should circumvent. That's basically what it's all about. Hackers are people doing that. Computer hackers are people doing that with computer technology—finding ways to get more out of a machine than perhaps it was even intended by the maker of the machine.

St. Jude: Or to get places where they don't want you—whoever they may be—to go. The hacker ethic—you probably heard a lot about this—the hacker ethic is that it's like you're being a warrior, a non-violent warrior, real-time, in this society, which is a very hard thing to do. You're proving yourself by entering places people are trying to keep you out of and doing things that people don't want you to do. The hacker ethic on the other hand says: intrude, fine, look around, but don't mess other people's work up. If you're a hacker, you're a programmer, you understand how much work that represents what you're seeing. This is other programmers' work. You don't want to destroy that.

R.U. Sirius: Another aspect of the ethic that I understand is that it's good to open up information from public organisms like the government or large corporations. ...On the other hand, a group like [the] Cypherpunks is dedicated to protecting the information of the individual so that people should be [protected] from the prying eyes of government, and [from] people putting [you] on lists, or what have you.

St. Jude: It's a little broader than that. Cypherpunks are concerned about whistle-blowing, about making it possible for people [to] anonymously blow the whistle on shady deals, on being able to protect your identity as you act as a free being online. You do this by anonymous remailers. ...I am St. Jude. If I wanted to be, I could keep it a complete secret who St. Jude is in real life. But I have other identities online that are protected. The technology to keep and protect your identity, to keep yourself free from censorship, to operate freely online, Cypherpunks are implementing... this technology now, and they're going to make it available.

Chupoo: Cypherpunk.

St. Jude: These are the encryption punks. Cypherpunk came from punk music and cybernetics. Cypherpunk is just a pun on that.

Chupoo: [Midnick] broke into the Well, on Netcom,... he didn't have the

hacker ethic, did he? Was he really a hacker.

St. Jude: I had some hacker friends who know Midnick, and apparently Midnick got credit for a lot of stuff that he really did not do. I myself got into his account on the WELL and found out what was going on there, after this broke. By analyzing what the traffic was on his account, you could see that he wasn't doing it. ...He was using that account as a drop for other hackers to just drop their liberated information in, and somehow it was just real punky stuff. They were taking people's private files and stashing them around. No good stuff. It was the kind of stuff that very hostile thirteen year olds might be engaged in.

R.U. Sirius: Nothing to call in the National Guard over.

St. Jude: That's right, but Midnick got the whole deal pinned on him and that was really unfair and I've since gotten John Markoff to back off a little bit on his charges, I think.

Chupoo: Clinton has just a couple of weeks ago signed the Telecommunications Act. What do we do now?

R.U. Sirius: There are a number of suggestions going around specifically about that law. There's several lawsuits going on, including a participatory lawsuit being sponsored by *Wired* magazine, and...

Chupoo: Electronic Frontier Foundation, and...

R.U. Sirius: Well, actually those are two different things. The Electronic Frontier Foundation and the ACLU have a lawsuit going. They successfully... got a restraining order so that [the government] wouldn't enforce the indecency part of the law. Now a larger group including big corporate people are joining in another suit and *Wired* is setting up a way where individuals can sign onto that suit. So that's one thing you can do. We've been encouraging people to learn about non-compliance with the law, and this is indicated in our book. You can learn about using autonomous remailer so that you can still make whatever kind of statement you want. You can make them be-

lieve that the statement is coming from Finland rather than from the U.S. Also, there's the idea of cryptonets, which, if the censorship becomes serious enough, these are entire encrypted networks that run on the back of the Internet and people at least within those autonomous zones will be able to have free speech with one another.

St. Jude: Why don't you talk about those temporary autonomous zones.

R.U. Sirius: The notion of temporary autonomous zones comes from a book by a guy named Hakim Bey. [It's] a zone of freedom where you're outside of the purview of government or any other kind of dictate, sort of a... liberated zone. In the 90s, the author himself, suggested that computer networks were a perfect place to establish virtual liberated zones even if you can't have them in real space.

Chupoo: It behooves us to start learning about encryption, PGP, Pretty Good Privacy, and anonymous remailers, and just start participating.

R.U. Sirius: I would also say that letting politicians know that people care about civil liberties is a good thing to do because right now, in both the mainstream political parties, civil liberties is really down on the bottom rung of the ladder as far as what they think people care about. Of course, Clinton is about to also push through this anti-terrorism bill that takes away freedom of speech for anybody who the government decides might be associated with a "terrorist group." Just another huge bash across the forehead of the First Amendment. If people would just speak up and say, yes we care about economics,... we care about crime on the street[s] but we also care about freedom. If enough people were saying that, politicians might start getting the message.

St. Jude: Right now, the whole online is just like a big broiling ants' nest. Everybody's all stirred up about the [Telecommunications] Act. Just to get online you can hook up with usenet groups. There're millions of angry voices on the Net. There's lots of action right now.

R.U. Sirius: One of the great things about the response to the passage of this law is that it's revealed that... 99 percent of the people on the Net are opposed to it whether they are politically conservative or radical, or moderate, or whatever their point of view is. Anybody who understands the medium understands it's like trying to put a policeman in the middle of a flowing dyke. Or trying to stop information that's pouring out of a waterhose and saying, no, those three drops over there can't get through. It can't be done. ...It's an insult to the medium. ...It's an insult to the freedom of discourse that these people have experienced. Everybody is angry about it.

St. Jude: But there's one way in which this kind of censorship can work and that is if you make everybody fearful to talk, because there's no censorship like self-censorship. If there's only one person on the planet who was going to say what you were going to say, and you're forced to shut up, [then it's] not going to get said. Self-censorship is the real enemy here.

Chupoo: What about all that stuff that you all were into in the 80s, like smart drugs, and all that stuff. Are you all still into that?

St. Jude: Pass me that bottle, Ken.

R.U. Sirius: I got an ulcer from smart drugs. There are some people who are still interested in smart drugs. John Morgenthaler has published a follow-up book. The research is still kind of interesting. It's ambiguous.

St. Jude: There are two takes on this. One is that you overdrive your brain and you use up substances that your brain makes and as long as you stay on these drugs, you're fine. But that's kind of a definition of cocaine, right? The other approach is that you force your brain to make more of the stuff so you are smarter ongoingly. We're not very good at that yet. These drugs are just in the process of being created, if at all. Down the line, there will be genuine smart drugs. That's not happening right now.

R.U. Sirius: They don't have a very good understanding of brain chemistry yet.

St. Jude: There is a genuine way to get smarter, and it's kind of a drug. It involves acting smarter and being in a very rich environment. What happens is the brain affects thought, but thought affects the brain. I don't know whether you've been reading anything about this, but if you are

suddenly in a position where you're going to learn a lot real quick, like suddenly going online, your brain connections actually get richer and when they do PET scans on your brain, they can see that your brain has changed. Do you know what this means? We can make ourselves smarter! We can help each other to become smarter. And that's what the online can do for us, as a species.

R.U. Sirius: I'd like to give our Web site out.

Chupoo: Yes, it's a cool Web site. It's www.onworld.com/mutate.

St. Jude: You can write to us online also. I'm stjude@well.com. He's rusirius@well.com.

R.U. Sirius: We have... several ongoing forums on the Web site.

St. Jude: Yeah, one's called Culture War. Join in. Get out those modems. There's a whole new world, we're making it ourselves. Join us. ☞

Chupoo Alafonté is host of Computer Access, broadcast on KPFA-94.1FM.

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What You Don't Know Can Hurt You

Telecom Article from Netscapeworld.com

by Trisha Gorman

If you think the recently passed Telecommunications Act can't possibly touch you because you work for a company that clearly doesn't deal in pornography, think again. John Newell, director of the Cardiac Computer Center of Massachusetts General Hospital in Boston, is as far from a purveyor of pornography as you could imagine. But even he's worried about the consequences of the new law called the Communications Decency Act (CDA), which was tacked on to the enormous and otherwise welcomed telecom reform legislation. "The next time we update our Web page, we'll have this new law in mind, no question about it," says Newell. And even though most of the Cardiac Center's content is aimed at medical students, in the back of his mind Newell says he's now considering how this information will look to the parents of 16-year-olds—even though they are a far cry from the intended audience.

Obviously, those who post hard-core sexual content could wake up to find the feds at their door. But what's not so obvious is that many Internet Service Providers, Webmasters and Information Systems Managers who would never consider their content indecent—hospitals with medical communications, corporations with lively chat areas and artists putting up their work, to name just a few—could find themselves swept up in a law they were barely aware of as it was being legislated.

For instance, Newell says that even though it might be entirely normal for medical institutions to exchange and pub-

licize graphic information about skin diseases in the genital region, he's worried that such information might be characterized as indecent under the new regulations. And that, contends Newell, could destroy the very strengths that have made the Internet such a great tool.

"This law violates the spirit of the Internet," he argues. "Up to now, it's been a completely open free-for-all, and that's what gives it its unique character." Newell is also concerned that the Internet's emerging creativity will be replaced by something "too grim and serious when circumscribed with all kinds of scruples."

Even more chilling, however, and harder for businesses to understand, is how to adhere to a law that is so vaguely worded. The key word in question is "indecent," defined in the law as something that is "patently offensive as measured by contemporary community standards, sexual or excretory activities or organs."

Why is this word so key? Because the penalties hinge on posting "indecent" material that could be accessed by "minors," or anyone under 18 years old. Caught in the crossfire are Internet providers who could be fined up to \$250,000 or put into jail for up to two years. This is what most worries Joe Nicholson, CEO of New York-based WSC Group, which sells Web tools for authoring and data management. "As the owner of a small business, I'm most concerned with the government suing me. I couldn't defend myself for more than a week," he says. Nicholson had been considering putting up a chat area for the developers visiting

WSC's Web site, but he doesn't want to risk it now. "You can't control what other people say in a forum," he notes, "and you can't monitor it 24 hours a day." He fears that the law, if left to stand, will "cripple the collaborative thinking" that is so much a part of the Web.

Which Community Should Set the Standard?

That *indecenty* should be defined by community standards would be humorous if it didn't reveal the degree to which the legislators are out of touch with this quintessentially international medium. Jay Friedland, Vice-President of Marketing and Sales at SurfWatch Software, says that about a third of the sites that their access control software blocks, originate abroad. "Since U.S. government regulations wouldn't extend beyond our borders," he notes, "you'd have to shut off the rest of the world to be effective."

Who Is Legally Responsible for "Indecent" Content?

The law refers to interactive computer services, which include Internet Service Providers and the makers of Web software and search tools. Yet the law might pertain to Web content sites, as well.

The owner of a cyberspace bookstore has been outraged to the point of becoming a plaintiff in one of the suits being filed to fight the law. Glenn Hauman, owner of BiblioBytes, points out that his contracts with authors and publishers already outlaw "obscenity," as do existing

laws protecting citizens of all ages from blatantly prurient material. Considering that “obscene” material is already excluded from First Amendment protection, does Congress have in mind only protecting America’s youth, or could it have other motives in mind?

Hauman notes that whereas it would be legal for him to publish Nicholson Baker’s two recent works—*VOX* and *The Fermenta*—as paper-based books, he could be “hauled up on charges” for printing that same material digitally. He says he’ll try not to “let fear cloud my judgment of what to publish.” But, he notes, “jail time and a fine sufficient to bankrupt my business are potent threats.”

What Did You Know and When Did You Know It?

It took lawyers to craft a vaguely written law; it helps to have a lawyer to decipher it. Ron Plessner, a partner at Washington, D.C.-based law firm Piper & Marbury, is a lobbyist for Netscape Communications Corp. and the Commercial Internet Exchange Association, an industry trade group that recently joined one of the lawsuits contesting the CDA.

“The American public would be outraged if the phone company listened in and decided what could be transmitted, yet that’s what’s happened on the Internet.”

— *Scott Woelfel*
Vice-president and
Editor-in-Chief, CNN Interactive

In general, Plessner notes, the person liable is the information provider who puts up questionable content, not the one who just provides access. The law says that those providing interactive computer services are not liable unless they “knowingly” transmit objectionable material. Plessner says this means that Internet Service Providers open themselves to being sued if they promote or point to something potentially indecent.

Even if they are not the originators of the content, in other words, they could still be considered guilty if found to be “a conspirator with an entity actively involved in the creation or knowing distribution of communications that violate [this bill].” Also fingered is anyone who “knowingly advertises the availability of such communications, or provides “ac-

cess or connection to a facility, system or network engaged in the violation of this [bill].”

All this obtuse language worries George N. Spiciairch, president of Net Services of Hudson, N.Y. He removed an adult page with nudity put up by a client in Manchester, England, as a precaution. Whether his assessment is accurate or not shows how much fear and uncertainty are flooding the networks.

Describing his company as “a Web space, dial-up-access and dedicated connection provider,” he wonders what to do about email and binary newsgroup postings. “I have no control over the newsgroups, of which there are about 14,000,” he says. “Literally, gigabytes of data flow through my servers every day,

*It took lawyers to
craft a vaguely
written law; it helps
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decipher it.*

and I’d have to physically look at everything continually to be safe.

“We are a family-owned business, and I have children aged eight and ten who use the Internet. The issue of their safety online is of great concern to me,” he states. “However, there [has] to be better alternatives for protecting children from pornography than to enact the sweeping free speech restrictions promulgated by the CDA.”

It was precisely such families that the Christian Coalition set out to protect. “Parents are not as computer-literate as their kids,” explains Director of Government Relations Heidi Stirrup, who lobbied strongly for the passage of the CDA. “We’re looking out for families.” She says the new law simply brings cyberspace in line with print indecency laws, which

mandate that adult-oriented magazines be under wrap or behind the counter.

Piper & Marbury lawyer Ron Plessner argues that these tiered approaches work in print because they shield kids while protecting the rights of adults. On the other hand, the CDA will have the effect of reducing the Internet to the level of a third grader. And those who don’t comply may be trapped by undercover lurkers who alert prosecutors to perceived transgressions.

Internet Standards = Television Standards?

Most industry watchers, even censorship opponents, agree that the new Telecommunications Reform Bill—the first major overhaul since 1934—is a positive step toward deregulating the telephone and cable industries. What opponents can’t abide by is being regulated by a group of legislators who are barely wired themselves.

Daniel Weitzner, deputy director of the Center for Democracy and Technology, speaks for many when he argues that “the Internet is a whole new, unique communications medium. It is not like broadcast TV, cable or radio.”

Yet it is precisely these older media forms that legislators and the legal system are turning to as they consider regulation. Because the Internet comes into the home as a mass media, the tendency is to compare it with traditional broadcast media: a pipe of information flowing onto a passive public. Yet the Internet is fundamentally different from TV because it is interactive. To find something on the Internet the user has to seek it out.

By using TV and radio as the regulatory touchstone, the standard of decency on the free-wheeling Internet has been reduced to avoiding George Carlin’s seven dirty words. What this means, says Brian Ek, of Prodigy’s public affairs department, is that when in doubt about posting something on the Web, ask yourself, “Could I put this on TV?”

Whether the Internet will be held to radio and TV broadcast standards may eventually be clarified by the Federal Communications Commission, which Congress assigned an optional advisory role. Web site developers and others trying to steer clear of prosecution should

periodically check the FCC's Web site for updates, and contribute to the debate if and when the FCC posts a "notice of inquiry" seeking industry input.

Mark Corbitt, the FCC's director of technology, says the FCC prefers a private-sector solution prior to government involvement, but in the meantime, "the Commission will move cautiously in both interpreting and executing its optional role in implementing the CDA."

And before you assume you'll never have trouble sidestepping the content police, consider that neither did we. (See the editorial letter by Lisa Stapleton, Editorial Director of *Netscape World*, and read the saga of how we had to contemplate violating the regulations just to give you the information that you need to stay out of trouble.)

A Small Silver Lining

At least the Internet community can be heartened by the so-called Good Samaritan clause, which a few congressional members managed to get into the bill. This basically removes the Catch-22 situation Prodigy found itself in recently when a judge ruled that because the online service provider maintained some filtering software on its site, it was de facto a publisher and therefore legally liable.

That case, which did not concern pornography, sent a shudder throughout the Internet community, whose members felt damned if they tried to control Web content and damned if they didn't. The CDA makes clear that those who "in good faith" attempt to restrict access to objectionable material will not be considered publishers.

What Happens Now?

Two pieces of legislation were filed immediately after the passage of the CDA. Senators Patrick Leahy (D-VT.) and Russell Feingold (D-WI) introduced a bill to repeal the law "because Americans shouldn't have to wait for court action to have their First Amendment rights protected." Representative Patricia Schroeder (D-CO.) is planning to introduce legislation to address a section of the law that outlaws Internet communications about how to obtain an abortion.

One of the two lawsuits filed so far—spearheaded by the American Civ-

il Liberties Union (ACLU)—will begin in spring. In the meantime, the ACLU has succeeded in brokering a deal with the Justice Department to refrain from prosecuting "indecent" or "patently offensive" speech until the case is decided. If the law is upheld, however, the government reserves the right to prosecute later for offenses dating from the passage of the law.

Software Solutions

The centerpiece of the Internet community's legal argument will be that there are technological solutions to protecting our children that are more reasonable than censoring the entire population. One solution that existed even as Congress deliberated was effective filtering software available from such companies as Net.Nanny, CYBERSitter, SurfWatch, and CyberPatrol. In fending off potential lawsuits, Internet service providers might want to consider offering these software solutions either bundled with their services or available for sale.

CompuServe's manager of government and industry relations, Russ Kennedy, expresses the feelings of many when he states that "empowering parents to screen out unwanted material is the best way to protect children. We don't believe that access providers should be placed in the position of determining what content is appropriate for children," he says. "That power should be in the hands of parents, where it belongs."

In addition to promoting the use of software, many in the community are anxiously awaiting the imminent release of a new labeling and selection standard called PICS. The Platform for Internet Content Selection (PICS), spearheaded by Massachusetts Institute of Technology-based W3C (World Wide Web Consortium), has attracted widespread industry support.

PICS puts the choice of content-labeling schemes back in the hands of parents. With such PICS-enabled browsers as Netscape Navigator, Spyglass Mosaic and Microsoft Internet Explorer, among others, parents will be able to download rating systems of their choice. These lists will be created by church or political groups, or such nonprofit groups as Safe-

Surf, which has already rated numerous Internet sites, permitting parents to determine a child's access based on age-determined levels. PICS will also work with the access-filtering software already on the market.

Don't Hold Your Breath

While waiting for legal deliverance, there are a few things you can do to protect yourself by showing what the courts would interpret as a good faith effort. Limit access to parts of your sites to credit card holders, who are reasonably assumed to be over 18. Pay close attention to customer complaints. Steer clear of unfamiliar sites in your "Best of the Web" links.

If you're feeling that suggestions about avoiding liability are tantamount to caving in, there's always the political action route. You can blacken your Web page, or wear a blue ribbon on your lapel or home page. Or, you might want to join one of the lawsuits.

One thing is clear, as Audrie Kraus, executive director of Computer Professionals for Social Responsibility points out: "Communications that are handwritten, phoned, or faxed carry more weight than those sent by email. Our representatives don't pay sufficient attention to email because—like preprinted postcards—they think it's too easy to send. As technology makes it easier for people to participate in democratic decision-making," she notes, "our representatives find more excuses to ignore what we are saying to them."

That advice, unfortunately, goes a long way toward explaining how the online community finds itself in the state it's in today. But the beast has finally been roused. BiblioByte's Glenn Hauman says that he predicted 1996 "would be the year of the Net as a political force on par with the gay or black vote. The numbers are now big enough—easily ten million and growing. The Net can out-think and out-organize any other political force. "The Net as an entity is angry," he says. "We've been told to shut up. We've been told that other people know better. And these orders come from outside the borders of cyberspace." ☩

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Why We Broke the Rules

Telecom Editorial from *Netscape World*

by Lisa Stapleton

When I took the job as *Netscape World's* editorial director last November, I had no idea our first issue (what does issue mean online, anyway) would contain the legendary *seven dirty words you can't say on television*. We are, after all, a business-and-technology publication—we just want to talk about business, technology, and the Internet—and I work for IDG Books. The raciest thing it publishes online is *PC World*.

So here I am, three months later, in my first stint as an editorial director. I figure I won't have a problem because never in my 10 years in the computer industry has decency been an issue for me—not once. But here it is, two weeks before our launch, and I've already stared down several Kafka-esque editorial decisions.

First, you'll see that in the main body of the telecom story [by Trisha Gorman,] we advise our users/viewers to avoid the seven words immortalized in George Carlin's comedy shtick. However, because few readers carry that word list around in their heads, we decided the logical thing to do would be to place them in a hyperlink so that interested readers know what to avoid. But that means we'd have to include the offending words in our site, making ourselves potentially liable, even though we're only using them to spur intelligent discussion in a publication not even vaguely aimed at children. That was Editorial Dilemma No. 1, in which we

decided to bite the bullet and tell you the unadulterated truth.

Having earned my editorial paycheck for the day, I figured the chances of facing another call like that during my "long" tenure here were as low as the memory on a 1976 pocket calculator—especially because the next story I would be editing was an interview with Scott Adams—the creator of Dilbert—which will appear in an upcoming issue. Yep, I figured I had a nice, easy edit—one that would likely result in copy even a four-year-old could enjoy. That was before I heard Scott use a five-letter word describing a person who has sex for money. (Hint: It rhymes with door.)

Although this word didn't make it onto Carlin's list, it could possibly be viewed as indecent, even though its use is totally understandable and natural in the context in which it's uttered, and it is not personally offensive to me or my editors. Truly. But because Adams draws a comic strip loved by children, one could argue, I suppose, that a kid might try to read that particular story.

Great. A decade of writing about bits, bytes and business, and never once did the issue of decency arise. Now the topic rears its head twice in one day. Yet, editing is done largely on a case-by-case basis: it is not a beast of policy. We think these things through story by story, decision by decision.

After reading Trisha Gorman's telecom story, *What You Don't Know Can Hurt You: How the Telecomm Bill Can Damage Legitimate Business*, with its helpful tips for Web publishers, I saw an editorially defensible way out. I decided to put half of the Adams interview on our main site under "Columns and Fun" and the other half in "Silicon Valley Radio," our paid area. That's why the interview didn't make launch: we have to re-edit the story and audio tape.

According to Trisha's well-researched story, *Netscape World* can achieve some level of protection by putting the questionable content in the paid area, where children presumably cannot hear it because they don't have the credit card required to read it. An answer! Cool.

So, we came up with a somewhat comfortable solution to one problem—though I'd prefer not to have had to second-guess myself so much. I still worry about the Carlin piece. After all, who wants to entertain even the thought of running afoul of the law in the course of doing their job? Sadly, though, the law has a chilling effect—even on word weenies like myself, who are anything but wimps. ☹

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Netscape World can be found at: <http://www.netscapeworld.com>.

Telecomm Alert

from the Web pages of Jim Hightower

Telecommunications Grizzly

February 19, 1996:

There's an old cowboy saying: "Never drop your gun to hug a grizzly."

But our so-called protectors of the public interest in Washington dropped their guns a few days ago and embraced a great big grizzly that is now headed straight for us. The grizzly is something they call the "Telecommunications Reform Act of 1996"—but it should be called the "Media Monopoly Act of '96."

Bill Clinton and Newt Gingrich alike assure us that this is just a big ol' friendly bear that will be great to have around. Right. Remember, that's what those two guys told us about NAFTA!

Their Telecommunications Act is an anti-consumer, anti-democracy monster that turns loose your phone company, cable company, newspaper and the radio and TV companies to merge and monopolize local markets—raising your monthly bills, lowering the service they provide and restricting what you get in the way of news and information.

"Oh," they say, "we wouldn't restrict your news."

Really? Notice that there was no telecommunication on the Telecommunications Act itself! The day before it was rammed through Congress, the national media was strangely silent, totally failing to inform us citizens that a grizzly was about to be turned loose. There was not a peep about it on any TV broadcast, radio news report or in the daily papers.

Why? Because such corporate owners of the media as Rupert Murdoch (who owns Fox), Disney (which owns ABC),

GE (which owns NBC) and Westinghouse (which owns CBS) all stand to make a killing with this legislative boondoggle, and they didn't want any citizen uprising to get in their way, so—shhhhhh—they kept the bill their own little secret.

This is Jim Hightower saying, "Heads up folks! It's our democracy that's at stake here. To fight back against these monopolists, call the Consumer Federation of America at (202) 387-6121." ☞

Contact us directly at:
hightower@essential.org

Sources: "Consumers say Telecomm Bill Comes up Short on Competition; Higher Cable Rates and Excessive Mergers Likely" by Bradley Stillman and Gene Kimmelman. *Consumers Union/Consumer Federation of America News Bulletin*, Feb. 1, 1996.

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Telecom and Money

March 12, 1996:

There it was again. Did you hear it? That big, wet [smoooooch] smooching sound we hear everytime Washington and Wall Street get together. This time the smooching was to win passage of that monstrous Telecommunications Act, which will lead to greater monopolization of our media sources. Why did Congress approve this thing? Money honey!

Two major players in this sordid, backroom affair were the long-distance phone companies, or LDs, and the local phone companies, called Baby Bells. These two groups were rivals, with each one wanting the bill written to favor them over the other. The watchdog group,

Common Cause, has just released a blow-by-blow report on how these two players hotly attempted to woo both the Democrats and the Republicans with lots of cold cash while the White House and Congress were hammering out the final version of this bill last summer and fall.

In July, Republican congressional leaders passed a version of the bill that favored the Baby Bells. Days later, the Republican Party received a sweet \$100,000 "thank-you" kiss from the grateful Bells.

In August, though, President Clinton said he would veto that version, which made him the darling of the LDs, so they sent a love note and \$100,000 to the Democratic Party.

In October, with both parties negotiating their differences, the LDs slipped another \$160,000 into the Democrats' purse, and the Bells sent \$90,000 more to the GOP.

In December, Clinton got a compromise favoring the LDs, and the next day they sent another \$190,000 bouquet to his party. House Republicans got all huffy about this, though, and threatened to wreck the deal. But the LDs finally sealed it with a bipartisan kiss—they sent a special gift of \$200,000 to the Republicans.

This is Jim Hightower saying, "And that, Virginia, is where laws come from." ☞

For more information:
hightower@essential.org

Source: "Local & Long Distance Telephone Companies Give Record Soft Money During Final Months of Telecommunications Overhaul" by Jackie Howell & Lori Shinseki. *News Bulletin*, Common Cause, Feb. 9, 1996.

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articles can also be found at:
<http://tap.org/hightower/1996/ht960219.html>
<http://tap.org/hightower/1996/ht960312.html>

Tele-Tomorrow:

Everybody Wants to be a Phone or Cable TV Company

by Karin Hart

In 1996, Congress brought the now-famous Telecommunications Act to the American public. With it came the outcry about privacy, decency, violence chips, and government trying to expand how it can spy on you in a digital age. What may have gotten lost in those personal concerns of Net surfers was what else the Telecommunications Act did. It released various communications companies from doing business in each others' world. The NYNEX-Bell Atlantic, PacTel-Southwestern Bell, or GTE-Contel telephone mergers weren't all that surprising when they were announced to those who worked there. Nor were any of the acquisitions TCI Cablevision has been making of several cable TV (CATV) systems in the San Francisco Bay Area. Rumors had been floating around for quite some time. Instead, what has caught many consumers off guard is the crossing over of these corporate giants venturing from the field you expect them to be in to another you don't. The first thing we heard since the Act became law was that telephone giant US West would be acquiring the remaining interest in Continental Cable, making it the first telco-cable merger if it goes through. After reviewing the first half of the years' activities, we learn this would be only a starting point.

In early April of this year, the Federal Communications Commission (FCC) gave approval for the first electric utility to offer phone service under the new Telecommunications Act. Central and South West Corp (CSW) said it has been looking beyond its role as the local electric utility and may offer CATV, electronic banking, Internet access, and other services over its own fiber optic lines in addition to telephony. Reuters' News Service quoted the FCC when it approved CSW's application that utilities "have the potential to be significant new competitors in telecommunications markets, and that such entry can result in lower prices and greater choices for customers." Although CSW

Central and South West Corp has been looking beyond its role as the local electric utility and may offer CATV, electronic banking, Internet access, and other services over its own fiber optic lines in addition to telephony.

operates in Arkansas, Texas, Louisiana and Oklahoma, I thought it worth noting because here in California PG&E has been considering whether to install its own fiber optic network to read utility meters. One of the ways utilities could justify construction costs is if they offered similar cable and telephone services.

Also in April, Cox Cable began a trial of providing telephone services via its hybrid fiber-coax cable TV system to 25 households down in San Diego. In June, Cox plans on expanding the trial to another five hundred homes before offering telephony to the rest of its more than 466,000 CATV subscribers in that com-

munity. San Diego is also where PacTel promises to showcase its PCS wireless digital phone service during the Republican National Convention later this summer. Time Warner was the first CATV company in the United States to provide telephony services and is currently delivering both commercial and residential telephone service to more than a thousand customers in Rochester, New York over a hybrid system. Adelphia Cable, TeleWest, TCI, and Viacom Cable all now have telephone trials going on.

Another provision of the Telecommunications Act is the deregulation of local control by the CATV franchising authority when there is at least a second cable type service (excluding satellite TV) competing in the same franchise area. In the spring of 1996, city officials of San Jose, California expect to have a second CATV franchise operating soon. They announced that PacTel said in a letter it would apply soon for the new video network (broadband) it has been testing. San Jose plans on charging the same 5% franchise fee it now charges TCI Cablevision in that community and the telco actually said it would pay the fee.

Finally, you might have to wait a little longer for more of those technogee-whiz features from your cable company once you tire of Sega-like games. Delivery of interactive TV to the customer has been delayed according to an announcement by TCI Cablevision because the cost of the new technology. They said that the boxes would cost \$2000 each, which is still too high to pass onto the customer. ☞

A shorter version of this article appeared in the June 1996 issue of The Voice, newsletter of Local Union 9415, Communications Workers of America, AFL-CIO. It appears with permission.

Karin Hart is a BMUG Helpline volunteer and has worked in telecommunications for over 18 years. She bargains cable TV and communications labor agreements for a union in the Bay Area.

NetDay96:

The Cyber-Emperor Has New Clothes

by Carol Haberberger

NetDay96, held March 9, was supposed to herald a new era in educational technology—at least in California. The brainchild of John Gage, Vice-president of Sun Microsystems, and Michael Kaufman of public TV station KQED in San Francisco, this ambitious project intended to start connecting the state's 5.3 million students, not to mention teachers, administrators and staff, to the Internet. Kaufman said the cabling plan addressed “the least sexy third” of what schools will need to get there, as hardware and Internet access are easiest to get donated. Afterward, Gage said that the “Internet gives kids global reach...it allows, for the first time, a student in any school in California to read, write and publish their (sic) thoughts for the rest of the world to read.”

The plan was for volunteers from the business side, parents, and schools to mobilize via the Internet to go out into the field and wire the 10,000+ schools in the state to connect them to the information superhighway. A big task, but after all, isn't California the home of the freeway and Silicon Valley? Even the president and the vice-president flew out to pull cable and enthusiastically endorse the project as a significant contributor to the Education 2000 masterplan. What Clinton characterized as a high-tech barn raising was seen by others as an assault on the sanctity of schools.

Speedbumps on the Information Superhighway

There was skepticism on the educational side and significant problems in such a venture which didn't seem to have been anticipated by the high power technocrats on the business side. One district tech director called it his worst night-

mare. First, there were other more pressing priorities. “When you've got leaky roofs, filling a room with technology seems stupid,” was the response of Kevin Gordon, a lobbyist for the California School Boards Association. Even with adequate roofs, other schools lacked basic infrastructure such as telephones and adequate electrical outlets. There was a lack of purpose as the leadership in many schools didn't get the concept. Others joined to get on the bandwagon, but weren't quite sure of where the parade

was going. And time is a precious commodity at school sites. Who would be able to plan, organize and follow through?

How did it go? It depends on what newspapers you read and whom you talked to. Headlines likened the event to a wild west boom or bust. Columnist Larry Magid called it *Netdaze* and stated his initial cynicism clearly. “Laying coaxial cable in our schools without the institutional support, budget, and hardware in place is like running electricity into a jungle school that lacks even a lightbulb.” Yet he admitted that he was hooked on the challenge and the long term commitment to both schools and home use, so he would be in his kids' school helping out.

Most schools are still finishing what was started March 9. One day just wasn't enough. Some schools or districts were already online and had a chance to get more support. Cabling was botched at some sites and will have to be redone. Some schools created new community alliances and skilled community members have signed on as long term back-up. Web pages were created for sites.

Surprisingly, one significant link in California's educational system, the community colleges, was largely overlooked in the rush. The CCC system is the largest higher education system in the world. With its 1.4 million students, it's a fertile source of training skilled high-tech workers for the technology industry, not to mention a fertile source for marketing their products in setting up technosavvy campuses. However, in May, a meeting brought together leaders in the tech world and top officials representing government and education at the Apple headquarters in Cupertino to map out strategies to bring more tech-

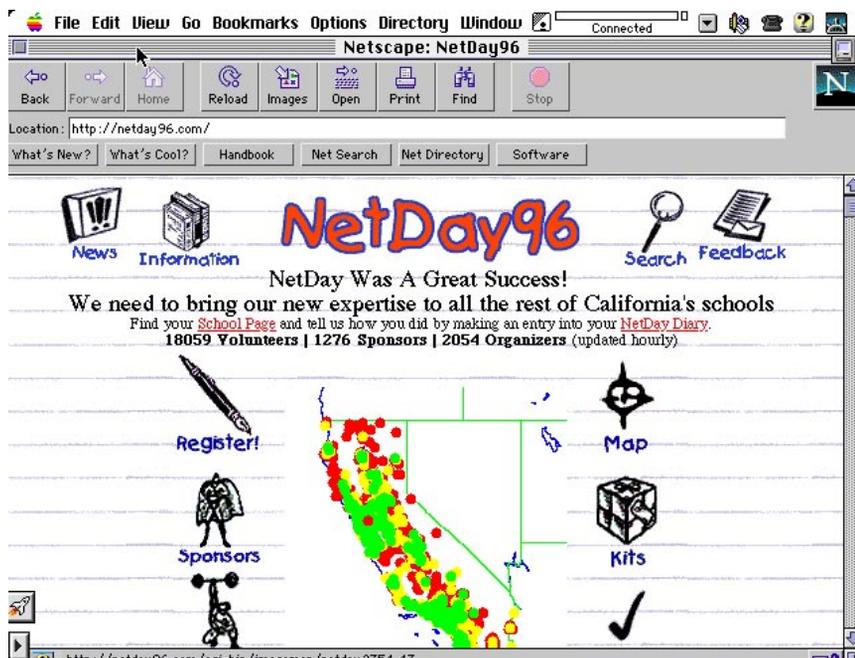
*Laying coaxial cable
in our schools
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support, budget,
and hardware in
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lightbulb.*

one significant link in California's educational system, the community colleges, was largely overlooked in the rush.

nology to the community college network. This summit was attended by hundreds, including the leadership of Apple, Sun, Oracle, Pac Bell, Cisco Systems, GTE, IBM, Hewlett-Packard, and Autodesk. Over time, this partnership is expected to "revitalize" the state's economy, noted David Springett, the president of the CCC Foundation.

A lot of learning "happened" as both business and educational paradigms were tested.

So all 360,000 classrooms weren't fully wired in a day. 100,000 volunteers. 5,000 schools. Unlimited good will and energy. Interestingly the idea caught on



in other states and they have big plans for their own NetDays. No doubt they will profit from the California experience.

Was it worth it? There have already been many positive indirect outcomes in spite of the problems. Hundreds of schools have been linked to the Internet. Oakland, one of the largest districts in the state, made unprecedented history by calling off a bitter strike that day so that NetDay could continue at many of its sites. Mobilizing thousands volunteers, both parents and community members,

was a big step in bringing people together. UCLA created an interactive database of all the state's schools which will improve communication links among all education sites. NetDay built, says John Gage, "an accounting system for what really exists in the schools. There are 13,000 home pages on the Web site," one for every school.

Or as the NetDay96 Web page said, "NetDay is Shareware for the Soul." Ironic, isn't it? Do you really only get what you pay for? ☞

Dream or Delusion?

In all the hoopla about cyberspace, computers and virtual reality, we may have lost sight of our goals in education and society. Steve Jobs was recently quoted as saying, "I used to think that technology could help education. Now my inevitable conclusion is that no amount of technology will make a dent." BMUG member and author of *Silicon Snake Oil*, Cliff Stoll, has drawn a similar conclusion about the role of technology. He sees the

future of cyberspace as "a real small topic". Online for 20 years, he's cynical about what he terms the "blind love affair with the Internet. Someday soon, we'll wake up and say, 'Oh, my God. Look at all the time I've wasted online.'" Envisioning technology as a panacea for what ails education is shortsighted. By putting technology in perspective, however, we may actually refocus on reality. The old-fashioned kind.

Computers in the Classroom

Part I, Part II, and Part III

a public affairs features by Harry Lin

Part I

California's the home of Silicon Valley, yet the state schools are graduating students who don't know the World Wide Web from *Charlotte's Web*. Depending on whose statistics you believe, California ranks either 45th or 49th in the nation in its ratio of computers to students, and it's estimated that only twenty percent of California's classrooms are sufficiently wired for the Internet.

Despite the dismal situation, educators, computer professionals, and others are trying to jumpstart California schools into the computer-linked world. In the first of three stories on getting computers into California classrooms, KQED's Harry Lin reports on a unique business in Mountain View that's become a model for moving technology into students' hands.

Ambience: sounds of big machinery humming in the background.

Mark Hass: [It] requires a fork-lift to handle the stuff. We have bins full of computers. We have some really good software...

Lin: Mark Hass sorts through cartons of software, boxes of computer equipment behind the building that houses the Computer Recycling Center founded by Hass four years ago in Mountain View. The center has become a model for moving used computers into classrooms. A tour through the center's nondescript building reveals several rooms with piles from floor to ceiling of PCs, keyboards, monitors, and hard drives.

Lin: Where are we?

Hass: Well, somebody from IBM once called it PC heaven. [It] could be referred to as a technician's wonderland. We have stuff donated from corporations in the area and we turn this whole room about every three months.

Lin: The Center takes computers that companies are going to throw away, refurbishes them, offers a \$200, two-year warranty, and distributes them to public schools in the Bay Area. The center operates on the revenues generated by the two-year warranties and by computer courses taught on the premises. A former robotics engineer and now, kind of a technological missionary, Hass says the Recycling Center is a low-cost way to give cash-strapped schools access to the computer revolution and save landfill space to boot.

Hass: America trashes a million computers a month. We've got a lot of computers we can put out there. We only need a million computers in California and five million across the country.

Lin: In just the last year Hass's operation has moved two thousand computers into schools, about 500 of them to Thurgood Marshall High School in San Francisco.

Hass: The Center has put hundreds of older model IBM computers out there, running Geoworks, which is a Windows-like program that runs in 640k of memory. Very old computers that run in a Windows-like

environment where you have icons and you double-click on them with a mouse and it looks like Microsoft Windows, but Microsoft Windows won't run on the older equipment.

Lin: But the average student doesn't need to be running Windows 95 or Word 6. Hass says older PCs or Apple Macintoshes handle the basics just fine and 2400 baud modems—about ten bucks used. They work great for email.

At Potrero Hill Middle School in San Francisco, Ray Porter shows off rooms full of computers that came from the Computer Recycling Center. Porter is the San Francisco School District's Computer Education Coordinator, a man determined to equip all the school district's sixty thousand students with computers.

Porter: We have maybe eight to ten thousand computers in our school district today. If we look at the average computer, it is a 286, or a Mac Classic.

Lin: However, that leaves tens of thousands of San Francisco school children without computer access. Ten thousand computers and sixty thousand kids doesn't come out to too good of a ratio.

Porter says to improve that ratio, more computer recycling centers need to be created, and school districts need to cut their bureaucracies to allow hassle-free donations of used equipment. Public funding for new computers, says Porter, is

not on the horizon, but the old stuff works wonders.

Porter: What I find is, when we'll put some old two-drive PC in there with some simple software, the families will change their priorities. All of a sudden, the next thing you know, they got some Pentium or a 486 in the house, because they come to realize how important it truly is, and they go about looking at things differently, which is exactly what we want to have happen.

Lin: Computers and software mean nothing, of course, without proper training and support, and in today's wired world, connections to the Internet. Increasingly, this has meant turning toward the private sector. When President Clinton last visited San Francisco to tout his plan to connect all classrooms to the Internet by the year 2000, joining him for his speech were the heads of Silicon Valley's top firms. They pledged to help wire California's classrooms to the Net in one year. The story about this upcoming effort tomorrow morning.

Part II

When President Clinton visited San Francisco last, he touted his plan to wire every California classroom to the Internet by the turn of the century. It wasn't a wholly original idea. In fact, it's a plan that's long been dreamt of by local computer professionals. In the second of three stories on getting computers into California classrooms, KQED's Harry Lin reports on NetDay96.

Lin: John Gage is like many computer company executives. The Sun Microsystem Science Office Director travels around the world attending meetings. He makes appointments for future meetings on his cell phone while in meetings. And at Sun, he goes to meetings. And over the years in all those meetings, everyone talked about what a shame it was that California's classrooms are not connected to the Internet.

Gage: [I] finally became tired of meetings because [everyday] we wire offices throughout Sun Microsystems. Every computer company does, every hospital wires rooms, every busi-

ness—Hughes, Lockheed, everyone does.

Lin: So Gage and his friends came up with the idea for NetDay96, on March 9, 1996. If all goes as planned, thousands of volunteers from high-tech companies will go into every public school in the state. They'll wire the rooms for future connection to the Internet. Then technicians will test all the wiring and survey what still needs to be done.

Gage: It has this barn-raising feel to it. It's a barn-raising with simple but high-technology equipment to let the kids in the schools suddenly have access to this exploding world of the Internet.

Lin: When President Clinton came to San Francisco last month, Clinton met with thirty CEOs from area high-tech companies and students from local schools. He spoke to them at the Exploratorium Science Museum and there, he also referred to the high-tech barn-raising. Clinton promised that all California schools would be Internet-connected by the turn-of-the-century.

Actualy: large crowd murmurings.

Clinton: Tens of millions of parents all across our nation have watched their children play at every kind of video game from Mortal Combat and Primal Rage, to Killer Instinct and Super Street Fighter, but the really important new computer game in America is learning.

Lin: Though no federal money is involved in NetDay, educators say the presidential seal of approval lends momentum to the project. State Schools' Chief, Delaine Eastin...

Eastin: That obviously adds an enormous amount of clout when the President of the United State convenes thirty top CEOs and says, "Can you help me get to scale in the biggest state in the Union?"

Lin: Sun Microsystems' John Gage acknowledges that NetDay is a one-shot deal that at best, might wire half of California's ten thousand schools. But he hopes the corporate volunteerism catalyzed by that effort will continue.

Gage: Once you've introduced a corporate entity to the incredible interest these kids have, corporations realize their future customers and their future employees come from these schools.

Lin: Where the schools are, and how you can help is accessible via the World Wide Web. The NetDay web address is <http://www.w3.com/netday96>. Gage says the low cost of the Web has made organizing NetDay easier but it's the appeal of improving education that will make NetDay a success. He says...

Gage: Every politician running in the primary, which is two weeks after NetDay96, every politician running for office, I guarantee you, will be out pulling wire on March 9th, to help the schools.

Lin: After NetDay, the schools still will need the actual computers, training on those computers, and technical upkeep over the years. Currently, only about twenty percent of California's classrooms are wired to the Net. There are notable exceptions. One is Thurgood Marshall High School in San Francisco. A visit to that Science and Technology magnet school, tomorrow morning.

Part III

Recent education studies show that a majority of students in California don't have access to computer technology. There are, however, shining exceptions, and one is a public high school in the Bayview district of San Francisco. In the last of three stories on getting computers into California classrooms, KQED's Harry Lin visits with two students at Thurgood Marshall school.

Felicia Voss: This is Thurgood Marshall's own email system. Students, teachers can email each other.

Lin: Fifteen-year old Felicia Voss commands a PC in one of Thurgood Marshall's many computer labs. The email system she's navigating allows her to send and receive messages from classmates and teachers. When Marshall students are absent from school, their teachers email them the lesson plans. The students read their email on PCs lent to them by the

school. Yes, each of Thurgood Marshall's six hundred students has a PC and a modem at home, provided to them by the school.

Voss: It's become a part of my life. As soon as I get home, I'm eager to check my email. And my mom, she's really eager to learn the computer, and I'm teaching her. If a person gets it, their whole family gets into the computer. Like, it becomes a part of their life.

Lin: Which is exactly what Thurgood Marshall's curriculum intends. Through a donation of equipment from the Computer Recycling Center in Mountain View, Thurgood Marshall has created a science magnet school where computers are used in all aspects of the student's education. That use goes beyond simply word processing. English teacher Matthew Zito pauses between classes to explain his course work.

Zito: You could do a HyperCard poetry project. You could ask them to do a large research paper and you can insist that they footnote it properly, that they use citations properly, and then be formatted in a way that a college student would format a paper.

Lin: Zito gestures across the hall towards the school's receptionist who has a computer on her desk. Across the room, the school's principal has two computers on his desk.

Zito: Everyone in this building is computer-literate. That is not the case in any other school in the city.

Lin: According to Apple Computer, teacher training is one of the most important components of introducing technology into the classroom. Also, technology remains a lump of plastic in silicon unless there's setup, maintenance, and repairs available. Thurgood Marshall has all three through

low-cost agreements with the Computer Recycling Center and volunteers from local high-tech companies.

Voss: This is room 201 and this is a Compaq computer. This is a 46-computer room where things can be done a little faster.

Lin: On Thurgood Marshall's second floor Voss shows off all the programs she knows how to run.

Voss: This is Microsoft Word which we use to write documents, Microsoft Excel which we use for graphing or making charts. This is Microsoft PowerPoint—my favorite—which we use for making presentations, and this is SuperLink which we learned last year in computer class, and this is Netscape. [It's] the Internet access [to] the World Wide Web.

Lin: You know how to use all these programs?

Voss: Yeah. We all do.

Lin: Voss' classmate, Thomas Chan, actually spent his summer vacation building his own World Wide Web site. The 15-year-old Chan says Thurgood Marshall's curriculum is project-based rather than drill-based.

Chan: We don't get [assignments] like, do numbers 1 to 38 tonight. In this program we have really difficult problems, and they require a lot of critical thinking. That's what we actually need in the real world because when we get a job, we're not going to be given the problem: what is 2+2?

Lin: A recent national report says eighty percent of the country's highschoolers don't understand science, math, and technology well enough to get a good job. The Committee for Economic Development in New York is composed of corporate executives and university presidents. Spokes-

man Henry McKinnel of the Pfizer drug company says most schools are technologically poor.

McKinnel: This will affect their ability to compete for jobs and be successful in the world, number one. Number two, it will affect our international competitiveness which will determine the standard of living for all of us, but I think more fundamentally, students who aren't able to understand complex public policy issues really aren't going to be able to make the sort of choices we expect them to make as citizens.

Lin: McKinnel's group suggests a quarter of all students nationwide could have computers in their classes by the year 2000, for just a few hundred dollars apiece. Back in San Francisco, the Thurgood Marshall program is expanding to Gloria Davis Middle School. However, demand to get into the magnet schools surpasses the spaces, and still, some fifty thousand San Francisco students don't have computer access. Back in Thurgood Marshall, Felicia Voss says that as much as she likes the newer 486 machines, hand-me-downs are fine.

Voss: I don't really care how old it is, as long as it does the work.

Lin: Felicia Voss and Thomas Chan are members of the class of '98. That's Thurgood Marshall's first graduating class since it started as a magnet program in 1994. ✈

*Harry Lin, reporter, KQED-FM
San Francisco, National Public Radio
Member Station for the San Francisco
Bay Area*

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BMUG'S Computer Placement Project

An Attempt at Equalization in a Technological World

by Colleen Miller

When I first read the numbers put forth by the National Center for Educational Statistics, I was appalled: 43% of white families have computers in the home as compared with 16% of African American families and 15% of Latino families. Appalled yes; surprised no. In my time working here at BMUG, it has become quite apparent to me that access to technology and computers for those other than white males is difficult and, at times, impossible. Computers are expensive; classes are expensive; software is expensive; mostly, lack of knowledge is expensive.

Revolution without "The People"

Let's be honest, the kind of technical revolution that's happening now is quite similar to the Industrial Revolution that happened at the beginning of the 20th century. The revolution is happening quickly and doesn't cut much slack to people who aren't on the bandwagon. The revolution has limited many people in their options for jobs, as so many jobs now require at least basic computer experience. This tells me that we are leaving a vital group of people behind. I've started to call these people "the underserved populations", a catchy oft-used non-profit kind of phrase. The "underserved populations" (often *unserved* completely) are those who are low- or no income, primarily non-white, primarily female, often single heads of households, with the occasional low-income senior thrown in for good measure. These underserved populations aren't people who want nothing to do with computers, they

simply have no idea what to do with computers. *If* they had a thousand or two to spend on the hardware, they wouldn't know what to buy. They often don't know the difference between hardware and software, let alone what RAM is or a hard drive. These underserved populations often don't have the \$50 to \$100 to go find out what hardware/software/RAM/hard drives are at the local community college. In fact, many don't even know that there are classes given that could teach them something about computers. These "underserved populations" aren't like "we" are in many respects. They don't always know where to look in the phone book to get some help; they don't always have time to get some information that

could be valuable, even vital to their lives. These "underserved populations" who have been continuously kept down in our society, see only one more area where they are not admitted—the techie or pseudo-techie world—and many are resigned to that.

But at BMUG, we are in "the business of giving away information" and as soon as we see a need, we go for it. It's always been that way, sometimes more intensely than at other times. Possibly due to the recent changes in administration, this is one of those intense times. BMUG has decided to become more involved in the community than ever before. If people are lacking knowledge, lacking equipment, lacking access, we'll do what we can to change that. With those thoughts and intentions, came the idea for the Computer Placement Project.

Underserved populations aren't people who want nothing to do with computers, they simply have no idea what to do with computers.

Old Computers Are Good Computers

BMUG had equipment that had been sitting around here for years. It was taking up space and we thought about how best to use it. The idea came to place this equipment, which was often still working quite capably, in the homes of the infamous "underserved." What a way to kill two birds with one stone. We could empty out our closets—something I'm always in favor of ;)—and the community could get computers at low or no cost! But putting a computer in someone's home who doesn't have access to knowledge could be as useful as putting a billion-piece puzzle in the hands of a kitten. It may look impressive, but nothing's gonna happen with it. So we decid-

ed to not only give away these computers, but to strongly recommend our free Basic Mac classes, to set up the computer recipients on Planet BMUG, to give a free 6 month membership and to follow-up with as much technical support as we could for the first 6 months.

Not a bad idea, huh? Actually, after placing our first few computers, we realized it was a *great* idea. People were hungry for this help. The recipients were incredibly appreciative and would do anything to make themselves knowledgeable about the gift.

Techno Testimonials

To illustrate this, let me tell you a little about our first placement, which was to an African American family with a 12 year old son. Beverly L. had been taking computer classes through the Berkeley Oakland Support Services (BOSS) in order to improve her prospects of getting an entry level administrative position. She spent long hours at BOSS, not only in classes, but practicing on BOSS's computers afterwards. When we delivered the computer to her home in East Oakland, we found that she had set up an ergonomically correct computer station and was anxiously awaiting our arrival. Her partner and son were also anxious for the computer. After a couple of visits, Beverly was set up and ready to log on to Planet BMUG. Due to a hard drive problem, Beverly's computer had to come back in for some extra work after a few weeks, but the computer is back at her home now. Her son uses the computer for homework projects. Chances are good he won't be left behind in the technology race, like his mom was.

Our second placement was to a single mom in North Oakland who also was taking classes at BOSS. She and her children were extremely excited to get this computer, and are using it every day. Stats have shown, by the way, that when parents and children learn and work on computers *together*, the results are dramatic. Both learn at a faster pace and learn more intensely. That's what we're hoping for in this family.

Our third placement involved a single mom with a 14-year-old daughter. This mom had had a hard life. She had recently kicked her addiction to drugs, and had been accepted at a local university to begin her BA degree. A computer placement would help both her and her daughter to write term papers. The mom had never had any computer experience and was, quite frankly, intimidated. After an initial session or two in our Basic Mac classes, she was ready to sign up for a WordPerfect class at her college. She states that the generosity of BMUG has made her school life much easier than it would have been and has given her an interest in an area that she never before felt was open to her.

Kudos to the Techies

These placements fill me with pride. They speak well of BMUG and the volunteers who help me with this project, like Ian Cumming, Bernie Lenhoff, Charles Baker, Chris R. Harris, Nick Kratz and Aaron Siegel. They speak well of our Executive Director, Ann Wrixon, who is never too busy to help a computer recipient learn something more about our organization. They speak well of the many people who have donated money and

computers to this project in order to help those who wish to gain technological access. Mostly, these placements truly help us to live up to our motto, as we are not only in the business of giving information away, but in giving it to people who truly need it.

And we've only just begun. There are many more families who need our help. They call me every day. There are many more unused, dusty computers out there waiting for a new home. I'd love more of these calls. We have applied for grant money to help us fund a full or part time person to coordinate this project, as it is getting too large for me to do any longer. Once we get the coordinator, we will start to train community members (once again "the underserved") to repair and refurbish computers—another way to give people access to technology.

This project has also helped us to build community relationships with other non-profits such as BOSS, Women's Economic Agenda Project, and the Center for Accessible Technology. And with all of this, we're ever so slightly changing the face of this revolution. We're making sure that many more people are a part of it; we're making sure it is *not* a homogeneous revolution. With a little help from BMUG, people are being empowered to join in and change things. And really, that's what this revolution should be about—change—change in access, change in thought, change in demographics, and mostly change in the computer world as we know it. BMUG is making its little dent. ✈

For more information or to donate computers, software, and such, please contact Colleen Miller, Development Director, at (510) 549-2684 x210.

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*The new Main
San Francisco
Public Library
may be wired,
but...
Where's the Mac?*

Living without the Mac

...at the New Main San Francisco Public Library Is Your Library Next?

by **Bill Hale**

San Francisco has just opened a new world-class Main Library (SFPL) touted as having a future that will place it amongst the most technologically advanced in the country.

Apple is AOL

However, to the Mac user, the feeling is akin to the proverbial thunder of silence as the realization dawns that, in this \$137 million dollar Wurlitzer juke box, the Apple platform is Absent withOut Leave (AOL)—our (the public's) leave.

Icepick

You need to be aware of it and its role. "Icepick" is the nickname for the acronym EIPSC which stands for San Francisco's Electronic Information Processing Services Committee. In short, this is a committee which, in part, guides and

sets local governmental allowable standards for personal computers and network software. Your local governmental district most probably has one too, and if not as yet, then probably soon.

Icepick set DOS and Windows as the only allowable operating systems for desktop computers—which does not allow for the use of Macintosh computers without a formal request by a department. In our case, none apparently has been made by the library—yet.

Status Quo

Internet access systems for public library patrons are relatively new, if present at all. To say that they are in their "infancy" is close, but to call them "preemies," would be even closer. Preliminary choices have been made here in San Francisco and so, we're just having to go from there.

Basically, we have the computer system with its "dumb" terminals. The system is DRA's (Data Research Associates') which is not compatible for Macs—or PCs for that matter—to tie into the system's network of terminals. Administration officials say that they are unaware of any automated library systems in the United States that are Mac-based, or that are systems not based on UNIX, DOS, or IBM/Intel operating systems.

San Francisco's new Main does presently have some standalone IBM/Intel multimedia machines purchased from grants.

Path of Least Resistance

Of course, a Mac user will jump up asking, "Why not? Why no formal request to accommodate Apple users in the system?" The answers will only lead to

budgetary issues and to the current administration's obvious and conscious disregard for the presence of its Macintosh users. To have ignored Macintosh was the easiest course for them at the time. They claim an "unawareness" of the presence, or of the "need" to serve such a segment in the community.

Chasing those windmills and fighting those battles would now, for us here, be only unproductive, in terms of achieving a goal of acquiring a presence of the Apple platform within the system.

The Incompatibility Issue

At first, library administration officials claimed that incompatibility of the platform was the problem but backed off that, after having the ease of Telnetting access pointed out to them. If a Mac can Telnet into their system from outside of their building, then it can Telnet in just as easily from within the building.

The First/Next Move

In playing their game, the next step will be in "establishing the need" to serve a Macintosh community. This brings to mind a call-in survey done a few months ago by recently departed, local San Francisco KSFO computer radio program host, Leo Laporte [Laporte on Computers] seeking to learn his audience's split between IBM/Intel and Mac users. His question was "yes" or "no" as to whether or not the listener wanted more Macintosh information, discussion, and topics. Even he was astonished at the results: 51% of approximately 1,000 callers wanted more Macintosh programming.

Direct action will be an email to BMUG's Executive Director, Ann Wrixon at ann_wrixon@bmug.org (please "Cc:" a copy to me at holdout@glide.org), requesting that BMUG communicate the existence of the Macintosh platform users community to Ken Dowlin, City Librarian, and to please provide access to this platform in a system on par with DOS/Windows. And to that end, request that he make a formal request to EIPSC (Icepick) to authorize use of the Macintosh platform to service those patrons using that operating system.

A Second Move—USA Technologies

There are Study Carrels on three floors of the 6-story Main library. At

present, a few of these are leased to a private vendor, USA Technologies, PA (800) 633-0340, www.usatech.com which is providing the IBM/Intel based platform equipment [Dell] and Internet access [through the ISP, Netcom.] Email at info@usatech.com.

Let me say here that "USA" is capable of, and has offered [to this writer] to provide Mac equipment to the SFPL within one week—that it will "give" the equipment to SFPL. Its software can be hooked to any operating system. "USA" views SFPL as the "Premiere Library" in the country at the moment, and wishes to gain experience from its engaging in offering the service to the library's patron base. Remember, the experience is new to all. Alternatively, other sources of Mac hardware can also be accommodated.

Because of this arrangement, the San Francisco Public Library system is a permanent beta site where USA puts up all the money and equipment. Most consumer and/or location service providers purchase its package. Note however, that all set their own charge structure in fees and everything else. San Francisco receives a nominal portion of the fees (because it hasn't purchased the equipment.)

At present, USA has a manufacturing relationship with Dell Computers which is what they now have at SFPL.

USA Technologies' service is ultimately in building the billing and control system for a computer. USA's software is capable in three separate functions as San Francisco is set up: time and use on computer; printed output; and Internet access surcharges.

They service airports (just installed Atlanta for the Olympics), major hotels, cyber cafes, copy shops, etc. They are also going world wide through free standing kiosks—because credit cards have become the "universal currency."

Applications: Their basic application packages are Microsoft Office Pro, Parson's Technology, a resume package, legal documents, announcements [greeting cards], and virus protections.

Internet Access is via a one-click icon button in Windows 95. It's an auto-load program to their Cool Internet Links software which is a 12-category Web page with over 450 URLs (sports, health, search databases, etc.) It is designed to be "easy

for first time users." If you don't like the 450 pre-selected sites, you also have access to Netscape Navigator to go wherever you want to go—total Internet usability, newsgroups, and all.

Payment is via usual, or unusual, plastic. It holds your card, while you hold its throttle. The "unusual" plastic are two types, "Access Cards" which you get from the library should you not have conventional plastic (it calculates your bill, provides a tally receipt, and you pay in cash to staff) and "Pass Cards" for those unable to afford the service and, in essence, who are subsidized by the library.

Use charges are reasonable at \$6.00/hr. compared to Kinko's minimum of \$12.00 locally (except that Kinko's offers a much greater array of graphics software). Ink jet black & white prints are 10¢ per copy and color, 25¢ per copy all with a \$1.00 minimum. Compare the latter to Kinkos! The library can charge for Internet access but, as of this writing, has not noted a policy in this area—it does not have to pass any of the charges to USA. I have heard a 15¢/minute but no charge authorizations have been sought nor obtained, to my knowledge, to date.

There is no reason why Macintosh should *not* be a choice. Mac users need to articulate our desire here, by asserting our preference. The old adage is that one must A-S-K in order to G-E-T. We need to start asking.

Please note however, that here, we enter the battleground of the fees for service issue (see More Library-Computers Background below.) Renting a computer to do one's word-processing is not unlike the old typewriter rentals of past days. But now, there are also online services marketed in these study carrels which are not otherwise available to library patrons (for free) save the library's hotly contested fees for service charging program (really and simply, Information Brokerage) at the rate of \$60/hour plus sometimes inordinate document delivery fees for small orders.

Apple is Reluctant Suitor

Though USA says it has made many overtures to Apple to form a working relationship, Apple has not responded. USA, of course, would be pleased to explore and pursue such a relationship.

Users Group Influence Needed

Be it Mac user groups or PC user groups, our libraries clearly need our help and oversight. While I was struggling to acquire my most basic literacy at all of this, I was continually fearful that users were asleep at the wheel—not watching out for user interest in our libraries' electronic computer evolution. To my horror, to our mutual horrors I trust, that has come to pass. The library (mine, at least) seems to be not quite in the loop.

Patrons cannot, as of this writing, download anything at SFPL, even on the stand-alone PCs, for the lack of security software and the justifiable fear of virus contamination. Printing from these stand-alone PCs is not an option, at present. And you can bet that this is entrepreneurial profit driven. Look for the charges to pop up in a shift (a referral) to the fees for service department (aka "Library Express.")

Mac users in particular, need to gather their forces in a collective partnership with Apple and/or the Mac industry to assert the Apple presence in our most fundamental of institutions, our public libraries.

Private Funding Needed

Note that I emphasized that the Library's standalone (and free) PCs that San Francisco presently has, were acquired through grants which means that no local government funding was sought for them. Whether or not this was because City Hall itself would have said no, or the fact that the DOS/Windows grants were easily available, or that there are many other places needy of limited funding, they might all be looked at as red herrings.

The more fundamental issue of where such funding should come from needs closer public scrutiny, with government funding ensuring the free and equal independence of our public library system versus the potential, if not, eventual, influence of private funding...

All are to a great extent, exercises that are the greater challenge—that of acknowledging as a society, the changing, growing role of our public libraries as the electronic information source they need to be in order to evolve and survive. Or not. Let's talk...

For the immediate future, we probably should follow the path the PCs were

relegated to, and seek to install a presence for the Macintosh privately through grants and other fundraising ventures. (See USA Technologies, above.)

Some Current Library Computer Issues

All of this is new to libraries and growing pains are abundant, with some Internet services becoming runaway successes, but also, looming budgetary disasters in terms of costs. Some of the items up for consideration at SFPL by librarians, and ultimately, by patrons—and it is here again, that I invite your interest and input—are (from a current librarian survey):

Searching Limits: Currently no email (accounts provided); no downloading FTP; no access to listservs and newsgroups unless hackers figure out how to telnet;

Telnetting—Overuse: Should it be blocked so that no patron has the ability to circumvent the limitations imposed on Internet use? Blocking telnetting to one's ISP and out from there is what they're talking about! One major fight coming right here.

Internet-specific Terminals: At present all terminals serve both the typical group of library databases as well as the Internet. Should some terminals be dedicated for Internet use only, or OPAC use only so that patrons who need to use a terminal for online catalog searching are not crowded out by Internet users?

Staff Time Helping Patrons Use Internet: Manageable? Or, does it take too much time away from other reference duties? Should there be system-wide training for patrons?

Downloading: If some patrons can log onto personal accounts and thus download information, what about the equal access issue for patrons without personal email accounts?

Listserv and Other Resources

Non-librarians are welcomed and encouraged:

PUBLIB is a discussion list concerned with all aspects of public libraries. Among its varied issues are Internet connectivity, administration, resources of interest to public librarians (online, etc.), intellectual freedom concerns, new

technologies for public libraries, and more. This list seems to contain the most Internet-use problems/banter amongst librarians. To subscribe, send message to listserv@nysnet.org (no subject necessary) saying: subscribe PUBLIB "your full name here."

PUBADV is a moderated discussion list, established by Libraries for the Future, for users and advocates of public libraries. It is a forum for sharing ideas about promoting citizen support, fundraising, building partnerships with other community institutions, ensuring access for all groups to library services, advocating for libraries as part of the National Infrastructure, and other issues. PUBADV is for members of existing library support groups (trustees, friends) as well as for any citizen or organization who sees his or her public library as a vital community resource and who wants to preserve and develop its potential. All are welcome. To subscribe, send message to listserv@nysnet.org (no subject necessary) saying: subscribe PUBADV "your full name here."

ALAOIF, The American Library Association [www.ala.org] is of ultimate help having established The Library Bill of Rights for patrons. Under it, an Office for Intellectual Freedom adopts interpretations of the various rights. It is a discussion list where library related issues of intellectual freedom are championed including electronic access. This is the largest of the discussion lists and can be subscribed to by sending a message to listproc@ala.org saying: subscribe ALAOIF "your full name here."

ALAOIF's interpretations are available from Gopher sites. Here we are most interested in the current draft Version No. 2—Access to Electronic Information, Services, and Networks which can be found at, gopher://ala1.ala.org:70/00/ala-gophx/alagophxfreedom/electacc.txt.

More Library Computers Background

For more background on public libraries and computers see: "Is Computerization Killing Our Libraries?" BMUG Spring '96 Newsletter, pp. 54-55. ✂

Bill Hale is a library patron, advocate & activist living in San Francisco and has attended and participated in SFPL Commission meetings since the late 80s. Contact him at holdout@glide.org.

The Computer Technologies Program

Bridging the Employment Gap for People with Disabilities

by Maureen Fitzgerald and Joan Breves

Introduction

The Computer Technologies Program (CTP), is a non-profit, intensive training organization with the goal of enabling people with disabilities to gain competitive employment in the information technologies field. CTP has graduated over 300 persons with disabilities and attributes its high level of placement success to the active involvement of the business community.

Students Served

CTP has successfully trained and placed persons with a broad range of disabilities: blindness and low vision, deafness and hearing loss, progressive disabilities, congenital disabilities, spinal cord injuries, etc. Our experience has been that an individual with an aptitude and interest can be very successful regardless of the type of disability.

For many people with severe disabilities, the professional work world appears out of reach. Many jobs require physical skills beyond their capabilities. Without an opportunity to exercise their mental abilities in a professional business environment, many persons with disabilities are forced to settle for jobs paying minimum wages supplemented with state disability and social security. CTP offers viable career options.

History

In 1972 after an IBM executive became severely disabled and was successfully retrained as a business applications programmer, IBM began to promote

computer programming as an ideal professional opportunity for people with disabilities. With the cooperation of the California State Department of Rehabilitation and the Center for Independent Living in Berkeley, IBM established the Center for Independent Living Computer Training Program in 1975.

Six years later in 1981, after 55 students with disabilities were successfully trained and placed with Bay Area corporations, the program incorporated independent of the Center for Independent Living. Later, in 1989 the name was changed to the Computer Technologies Program.

In 1994 a second training track was added: Office Systems Training (OST). This program was added in response to a need for training for people with disabilities who wanted IBM PC-based jobs. OST graduates are geared for office administration and office management jobs.

Business Advisory Council

Nearly two hundred executives and data processing personnel from as many as 65 San Francisco Bay Area corporations and businesses comprise the Business Advisory Council (BAC). This organization provides the technical support and curricula to ensure a simulated business training environment with the latest computer technologies information. Members of the BAC serve in a variety of capacities such as instructors, curriculum consultants, and guest lecturers. BAC members evaluate students' technical progress and help them develop job seeking skills.

A Partnership in Progress

Another vital component that ensures CTP's success is its partnership with the State of California. Primarily funded by the Department of Rehabilitation, CTP is a valuable resource for training people with disabilities. Students, who before entering CTP were receiving SSI (Social Security Insurance), SDI (State Disability Insurance), Medicare, and MediCal, graduate and become financially independent.

Meet the CTP Graduates

Nelson Fincher saw few opportunities for employment before learning about the Computer Technologies Program in 1978. "I was so ill at the time that I figured I would be on government assistance for the rest of my life." Born with sickle cell anemia, Nelson completed the program, passed rigorous reviews, and was hired on graduation day, 1980, by IBM as a technical trainee. He has moved nine levels within the corporate structure to become an advisory programmer working on testing for large systems software. Nelson, now a vital member of the BAC, explains that, "CTP gave me a chance to do something positive with my life; I am extremely grateful."

CTP recommended Cheryl Fleck, a deaf graduate who had recently taken C programming classes, to a project manager at Visa International who wanted to hire someone with a background in C language. Because the project manager was proficient in American Sign Language, it was the first time Cheryl met with an employer who was able to communicate in



an interview without an interpreter. After a series of interviews, Cheryl was offered a programming position with Visa. Cheryl is very pleased with the results of all the hard work she has put into this field, and feels that her education and training have enriched her life.

Fred Arriola was working in offset lithography when a loss of vision sent him to the Department of Rehabilitation for retraining. A rehabilitation counselor referred Fred to CTP's new Office Systems Training. After graduation, Fred was offered a job at Sensory Access Foundation to train clients to use accessible hardware and software. As screen magnification guru, Fred trains people to use products such as Zoom Text, Magic, VocalEyes, and Deck Talk. Though he intended to go into computer graphics, for now, Fred finds a sense of satisfaction in his work.

Programming Curriculum

To meet the changing needs of today's programming market, our curriculum promotes a strong business orientation in all phases of students' training. Programming assignments simulate realistic business problems. By incorporating considerable computer lab time, students run and test their own programs on both personal computers and mainframes. Technical courses include C, C++, Visual Basic, MicroFocus COBOL, JCL, Access,

Excel, Internet, and LAN administration. Additionally, students take an array of business skills courses including Business Communications, Presentation Skills, Team Building, Career Development, Office Policies and Politics, Job Search Skills and Conflict Resolution.

Office Systems Training Curriculum

Currently, the OST program uses IBM PC technology. Students learn Microsoft Word 6, WordPerfect for Windows 6, Excel 5, Access 2, and PageMaker for Windows 5. Students also learn business correspondence and memo writing, proofreading, effective communication techniques, meeting facilitation, presentation skills, office politics and conflict resolution. Changing business trends may lead to including Macintosh training in future classes. We would also like to add graphics classes but need support from the business community in order to do so.

Technical Review Boards

Technical Review Boards are one of the major components of the CTP's nine-month program. The Technical Review Boards provide valuable feedback about the CTP's curriculum design and each candidates' potential for success in the field of programming.

There are three technical reviews during the training. Data processing professionals from the BAC are asked to commit a day for the Technical Review Board. After examining a portfolio of each students' programs, reviewers interview the student. Students and reviewers alike find the technical review a rewarding experience. Adrienne Rush, Online Support Manager at Hewlett-Packard comments, "The CTP grads I've reviewed compare very favorably with the best entry level candidates I've interviewed."

Internship

At the conclusion of their formal class instruction, students complete an internship with a Bay Area company. The internship provides managers a no-risk opportunity to evaluate the performance and compatibility of prospective employees. Many employers have offered their interns permanent employment with the sponsoring company. 🦅

For more information about CTP training or to volunteer with the Business Advisory Council contact:

Computer Technologies Program
2101 Milvia Street
Berkeley, CA 94704
Phone (510) 849-2911

Into that Long Good Night at eWorld

Apple's Online Service Gave Up Digital Ghost March 31

by Dennis R. Dimick

Apple's eWorld online village rolled up its sidewalks at midnight Pacific Standard Time the last day of March, 1996. I thought a last visit might be in order to grab a few screen shots of this little ghost town during the waning hours. You know, a last trip to say I'd been there just before a final shuttering of the electronic doors.

eWorld appealed to me in the beginning because I wanted to support Apple Computer, plain and simple. eWorld was a lot like America Online (AOL), mostly because Apple licensed the client software from AOL for use at eWorld. The look and feel of both were quite similar, there wasn't much "market differentiation," as the financial types like to say.

A likable, quiet place eWorld was. You never had to worry about traffic jams, you could always get in, never a waiting line. Apple's eWorld technical support section was great, it was easy to grab software updates from the Apple new files section.

Admittedly, the main reason I liked eWorld was that I could get the electronic edition of next week's *MacWEEK* articles each Friday night. And if I was really hard up, I could even read Spencer Katt's column from the next week's issue of *PC WEEK*.

Yet, eWorld was a bit like the Apple Computer employee I met last August at Macworld Expo in Boston. I was visiting the Apple Pavilion at Bayside and started playing around on the new Power Mac 8500 that was running eWorld. Truth being I was interested in seeing how zippy these new 8500s were, and it just so happened this was the only one on the floor not surrounded by hundreds of onlookers.

Once I got into eWorld I switched over to the eWorld Web Browser, a clunky a piece of software (other than Word 6) that ever existed. The nice young lady from Apple, whose job it was to demo eWorld, said in surprise, "How did you do that?"

"Do what?," I said.

"Get access to the World Wide Web like that," she said. "I've never been able to figure out how to do that on eWorld."

So I showed her. She saw for the first time Apple's eWorld Web pages. And she wrote down on a piece of paper just how I switched to the Web so she could show others if anyone asked. But she seemed a little lonely. Not many people were hanging around her little booth waiting to find out.

Maybe that was the problem. Apple came a little too late to the online show,

they put up a tent, and there just weren't enough circus-goers left to fill the stands. Other circus big tops were already wooing fans just down the dial-up road.

Like the woman I met in the eWorld booth, maybe Apple just wasn't quite sure what to do with the eWorld circus or how to fill the bleachers once they set up their electronic tent.

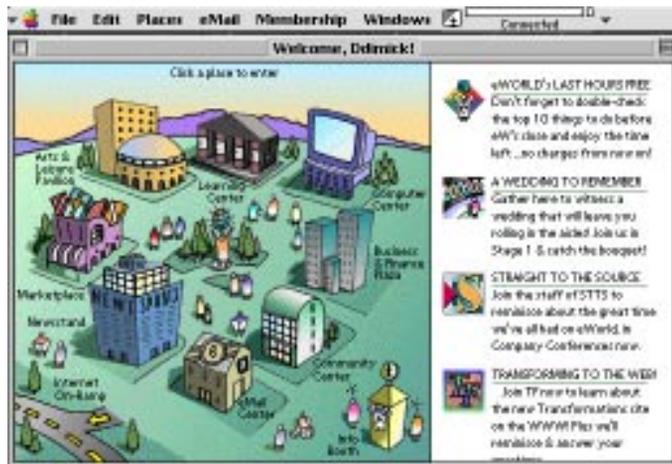
The end was near when Ziff-Davis pulled *MacWEEK* news off eWorld in late February. "We're redefining to an Internet strategy," or some such. "Come on over to our Web site and get the hot news." eWorld was such a nice little cul-de-sac, now they wanted me to get out on the Interstate. I liked staying off the big wide highway.

That last Sunday night on eWorld I logged in to say good-bye to someone, anyone who could be found. Seems like there were more people dialed in then than I'd ever seen. A couple of chat rooms had good-bye parties ongoing, eWorlders were weeping digital tears over the loss of their cyber-friends and outpost. eWorld hosts were enthusiastically hawking 20 free hours on America Online if you signed up as an eWorld émigré.

I wanted to hang out until the digital darkness arrived, but the end for me

would have been 3 a.m. from my east coast basement interface place. I poked around a few minutes, grabbed a little cyber-nostalgia and some screens shots from the waning hours. I was gone to bed with three hours of life left in eWorld.

The next day on AOL (in the new ALOHA zone for eWorld exiles), anguished reports recounted that the end arrived and it was like someone turned out the lights while people were still home. eWorlders were in the middle of typing bye-bye and their screens went blank at the witching hour. Poof! The genie was back in the bottle. ☹



CD Violence

SpyCraft Reviewed

by Karen Armstead

If I disapprove of television violence, at least I've found it monotonous enough to lull me when I want to check out. This goes for all scenes of destruction, from six-shooter brawls in old Westerns, right up to planets exploding in hyperspace. I've told myself I hate seeing this stuff—yet I have not changed channels when I'm collapsed in front of it. Maybe this kind of viewing is like smoking or eating junk food.

The interactive CD-ROM game I played recently, *SpyCraft*, was violent, but in other ways far different from television. Finding myself responsible for what was on the screen, after passively absorbing TV story lines, was revelatory. It took getting used to.

"Thorn, it's Warhurst. We've got a situation. We're building the team. You're on it. Meet me at Langley in the lobby," said a recorded message inside a phony passport that came with the CD set. Thorn was a junior CIA operative, the *SpyCraft* persona I'd been assigned. Warhurst was my CIA superior. Langley referred to Langley, Virginia, the CIA's headquarters.

I was able to see Warhurst once I had loaded the game. He was a dried-up, middle-aged white man, the kind of guy who would keep guns and photos of retired colleagues on display in his office—as, in fact, he did.

"Sorry I'm late. It's been one of those days. Bruce wants you to start with image analysis," he announced when he walked into his chamber to meet me. I was to start training immediately for my CIA mission.

We went down the hall for the image analysis. The first exercise, where I had to enlarge a computer image enough to read a license plate on a car, was a snap.

I saw my superior differently when I found out he was a combat vet, and recently divorced. Behind the swagger, I realized, was a lonely, dehumanized man—or, if you got right down to it, a bunch of pixels.

Warhurst told me I "smoked" it. The second exercise, in which I had to use an infrared scan to determine how many tanks at a military site had their engines running, was much harder.

There were at least a dozen orange blobs on the infrared scan I viewed, so I reported back to Warhurst, in an answer to a multiple choice question, that there were eleven tanks running. I was wrong. He told me to go try again. I looked at the scan a second time, and still had no idea how to determine which orange

blobs were idling tanks, and which indicated other heat sources. I guessed there were two tanks running, and submitted my answer.

I was wrong again, and this time, Warhurst chewed me out, saying it was obvious I didn't know what I was doing. Sitting at the computer in my bedroom, gazing back at his stern face, I cringed. I cut back to the test screen, and reviewed the scan, feeling stupid. Finally, I gave up trying to figure out the answer, and I guessed again. I told Warhurst six tanks, because it was an answer between one and eleven. He chided me for having taken so long to get it right.

It was shortly after this that I had to get up from the computer to answer a phone call. Not being able to pause in the game at that point, or to save it as I quit out of it, I lost all that I had done.

In starting up again from scratch, I was able to pick up more about Warhurst. I went through the game more slowly, taking optional detours to read the other characters' personnel files. I saw my superior differently when I found out he was a combat vet, and recently divorced. Behind the swagger, I realized, was a lonely, dehumanized man—or, if you got right down to it, a bunch of pixels. Warhurst's tirades came at me from his slim repertoire of potential responses: I could not take anything he said personally. The fears he triggered in me were phantoms.

I progressed through the infrared scan test quickly the second time through, not because it made more sense than it had before, but because I remembered the right answer. I felt guilty, like a faker.

After that, I had to quit the game without saving a second time. The next

Propaganda implies control from the top down. It smacks of condescension towards audiences. If it's effective, it blunts independent thinking—and that's what interactive entertainment cannot do.

time I started up, I got further than I ever had. I built up a fragile confidence. After a meritorious performance under simulated sniper fire, I met with Warhurst and the rest of the team.

We'd known that a right-wing Russian presidential candidate had been assassinated. We found out in the meeting that an anonymous Russian source, which had predicted this assassination, had also predicted an attempt on the American President's life. We were dealing with an international plot, and our mission was to get to the bottom of it.

After the meeting, I was supposed to find leads in the shooting of the Russian candidate, Zubansky, using a computer simulation model called the Kennedy Assassination Tools. It involved locating bullet holes in the buildings around the outdoor rally where the assassination had occurred, and connecting those holes to reconstruct the bullet's trajectory. Once I'd determined the bullet's origin, I was supposed to view a snapshot of the crowd nearby, and sketch the potential suspect, selecting features such as complexion and hair length from a screen menu.

I had no idea what I was doing. I found one cluster of bullet holes in a building, all right, but never did learn enough about the equipment to be able to search the site systematically for other evidence of bullet damage. Even knowing the bullet trajectory, I would still have had to find the crowd scene photo that corresponded with the bullet's origin, in relation to the outline figures I was working with on the screen. After a good twenty minutes of clueless futzing around, I cut to the email gateway for my multiple choice options. There were only two potential suspects named, so at least I had a fifty-percent chance of being right.

My first guess was wrong. Then I made the mistake of submitting the other potential answer immediately, without having returned to the model to try to figure it out. I didn't get past my colleagues. I got photo ID email from one of them, a sober young black man whom I remembered from the team meeting. He told me to "quit guessing so much."

Rattled, I couldn't concentrate on the analysis. Was the second answer correct, but invalidated because I'd guessed it? Was it a trick problem of some kind? I didn't know. I resubmitted the second answer after a few moments' more fiddling—and promptly found myself in Warhurst's office.

"I don't want to tell you this," he said dourly. "But you're off the team."

At those words, I went directly to the File menu, and Quit out of the game—bam. Then I stared at my desktop screen for several minutes, chewing my nails, my thoughts a jumble.

No failure here was final, I reminded myself. I could crank up SpyCraft as many times as needed, repeating as much of it as I had to, to reach the end of it. I could gradually become wise to this self-contained universe, as I grew inured to failure within it.

Did I decide it was worth sticking with this game—in which I'd been so humiliated—for the challenge of it? No—and my reason had to do with why interactive entertainment is a breath of revolutionary fresh air.

A noted movie maker has said that art is inherently propagandistic, that any fiction promotes someone's notion of what life should be. To support his view—from the mass entertainment side, at least—the connection between subjects' exposure to rapes and shootings on-screen and their desensitization to such crimes in real life has been well-documented. Men are less bothered by violence towards women after viewing pornography, for instance. It's not farfetched to argue that violence packaged as mass entertainment—taken in uncritically, as cultural background noise—indoctrinates viewers to ways of life that diminish others. But propaganda implies control from the top down. It smacks of condescension towards audiences. If it's effective, it blunts independent thinking—and that's what interactive entertainment cannot do.

It did glorify violence, but SpyCraft demanded my involvement. It failed as propaganda, because it would not numb me to where I could not make conscious choices about what I was taking in. ✖



SpyCraft

The Great Game

by Morgan Linton

Welcome to the world of the CIA. This world is different because not only do you have a new set of morals, but also a new life. Your job is to go through the intensive training necessary in becoming a real spy. Your mission is unknown at first. However, just like in *StarTrek*, something exciting always seems to come up. You are about to explore the realm of the government, and learn what real CIA work means.

There's nothing I'd like more than to be a spy for the CIA. The adrenaline running through your blood, and the pressure that is on you. If you want pres-

sure then this is the game for you. However, the pressure is not because of what you have to do in the game, but rather what you have to do to make a single move in the game. This game was written for a person with a lot of time and patience, who will, in the end, see some action. If you want a game to just play and have fun, you are barking up the wrong tree.

The High-Tech Life

You enter the cruel high-tech world of the CIA. It's just like you are watching a movie, and then playing out the most action-packed character. However, you

soon learn that if you are going to play out this action hero your going to have to overcome some great challenges. Throughout the whole game you are made to feel as though you are living in the future of the CIA.

You are like James Bond ready to go on his next mission. Excitement is going through your body as you suit up with your handy equipment and told everything you need to know. As you try out the equipment you realize that it is not actually as high-tech as you thought. The digitizing machines and the heat sensors are just as powerful as your plain yellow notepad at home. Maybe James Bond re-

alized this, but he just didn't want others to figure it out. Well now you have a game that allows you to feel the way that good old James really felt, and operate in a world not as high-tech as it at first seemed.

When you start this game your first missions rely on you making sure that you can find what you are looking for, otherwise you are doomed to repeat your boring task over again. As you are briefed on how to use the high-tech material, you find out how hard it happens to be to use, and that there is a lot of guesswork involved. Next you move onto a little action on the battlefield where you get a chance to test out some of your cool goodies.

On Your Missions

You are assigned many missions to complete, each one similar to the other, but each one getting you one step closer to your main goal. You are instructed how to use the materials by a trained professional, and then you are sent out to use the materials in the interests of the CIA. You must piece together valuable information in order to get to your final goal, which is to crack the case.

Each bit of information is incorporated together in a cool way where you can interact with the computer and feel part of the game. The game accomplishes this goal by incorporating QuickTime movies and a great interface. As you progress through your missions you also learn more about the interface that you are dealing with. You learn more about all of your tools, and how they can be used more effectively.

One of my favorite aspects of the game is when you get to use the 3-D modeling program originally used to help determine who killed John F. Kennedy. You use this program in order to find out who killed a presidential candidate for Russia. This game combines some fun, crack-the-code type games, along with some of my favorite shoot-em-up games to provide the user with hours of fun.

Real Life Technology

One of the most powerful features in this game is the ability to go online, on the World Wide Web through the game. This game incorporates the Internet to provide you with up-to-date case information directly from the Internet itself. I think that this is one of the most

amazing features ever to be put on a game. Now many other game companies will probably follow SpyCraft's footsteps and end up with more interactive games than ever imaginable. The involvement of the Internet in a game not only enhances the playing ability of the game, but also allows you to take the game to new levels. As you browse the Internet, the game sets everything up for you making it fairly easy.

However, there is one problem about this system. What about the people who don't have Internet access, or people that have Internet access, however it's through a service such as America Online? For now it looks like these people are just going to have to move into the big Internet trend, or find another game to play.

Inside the game the computer writes email for you when you have finished a certain task in the game. This makes you feel like you are part of a really cool high-tech agency. The only thing that the game is lacking is the ability to actually send the email that is written by you in the game. The email is instead sent to the computer which then reflects how you are going to end up in the game. Just pray that you didn't accuse the wrong person of a crime because that will kick you off the force! For all of you Internet users prepare for the ultimate game of skill, luck, and the world of cyberspace.

Realism vs. Stereotype

One of the main things you have to take into consideration when you are making a game like SpyCraft is to not misrepresent any of the people or organizations whom you are representing. I think that ActiVision did the best they could, however many stereotypes were still used. They start you off in the game with how you would expect the CIA to be; a cold-hearted, can't trust anybody, situation. You start to feel paranoid and nervous about what you are doing and if your doing it right. I feel that this is a positive aspect of the game. It makes you feel like you really are working for the CIA. As you progress through the game you get to see a little bit of information about all of the other organizations that are in some way affiliated with the CIA. I think that ActiVision did an amazing job of representing each of these associations without exploiting or misrepresenting them.

One of the areas that I think ActiVision used a stereotype was around the representation of the Russians. ActiVision represented the Russians in a very stereotypical manner that I don't think many Russian people would be happy about. However, I know that when you are designing a game it is hard not to stereotype. I still think, however, that you should do some thinking about how the persons role in the game is going to affect the people playing the game.

System Requirements

The extensive graphics, multimedia, and sound of this game are great, however you must pay a price. This game needs 8 megs of RAM to run. However I ran the game on my Power Mac 8500/120 and it ran fairly well. I wouldn't expect great playing action with less than 16 megs of RAM. One amazing thing to me was that this is the first game I have seen that requires you to have thousands of colors. So for all of you folks with 256 colors, your going to have to either wait for another game, or upgrade your VRAM. If your equipment meets all of the requirements then you are in for the ride of your life. So upgrade, move into the future, and prepare for the ultimate adventure.

Summary

SpyCraft is in a league of it's own with it's unbelievable multimedia and Internet capabilities. This game should be incorporated in any game collection. This game is not only fun for children and teens, but also will pose some challenge for adults too. So don't wait for something better, because this is the next generation of gaming. ✈

Morgan Linton is attending Berkeley High School. He is a fellow Web worshipper and graphic artist. He can be reached at: mblarts@slip.net

SpyCraft

Minimum System Requirements:

Computer: System 7.5; VRAM supporting thousands of colors

Memory: at least 8 megs

Hard Disk Space: 15 megs (uncompressed)

ActiVision

Phone (310) 207-4500;

<http://www.activision.com>

Price: \$51

Living with the Mac

In the Beginning

by Claudette Vidulich

In the Beginning, there were Computers (great big room-sized Univac-types). And life was Good (for the Corporations who owned them and enjoyed the benefits of their computing).

Then the People became restless and unhappy. They worked all day in a computer-assisted environment and wanted the benefits of computing while continuing to slave away on corporate missives and annual reports in their own homes. (Who ever said grownups don't have homework?) So Someone decided "smaller is better" and along came the "personal computer" (PC for short). But few could use them and fewer could afford them. So IBM (which really isn't an acronym for God regardless of popular myth and legend), in its infinite wisdom decided to clone itself and produce a cheaper, more accessible computer for all the People to enjoy.

Once the People had PCs, they began to grumble about the difficulty experienced using them. That's when a Minor Prophet came down from the Mount of Compute and gave everyone an equal opportunity to compute using his new language system, MS-DOS. (Some scholars say that the name MS-DOS has some mystical meaning, but most folks familiar with it feel that it must mean "MS-Dumb Operating System.") And then the People were happy. Sort of. A bachelor's degree in some field of engineering and/or a photographic memory were not required to use PCs under the MS-DOS system, but they helped a lot.

Meanwhile, in a Lowly Garage Somewhere, a Young Lad (or two, depending on which version of the True Testament one happens to read) gave birth to a strange and wonderful idea. He wondered, "What would happen if a PC were made 'user-friendly,' so that almost anyone could use it?" So he worked and thought and worked some more. And

when he was done, he emerged from that Lowly Garage bearing an Apple. And all the People rejoiced. Well, lots of them did, anyway.

Thus began the Platform Wars. The Old Guard, clutching their clones and MS-DOS manuals to their breasts proclaimed their superiority over the infant Apple. While the die-hards shunned it, the brightest and most creative minds flocked to the new Apple and its offspring, the Macintosh. The slings and arrows of rhetoric flew. "IBM stands for I Buy Macintosh" and "Two-thirds of IBM is BM" were just a couple of the battle cries heard from the outnumbered Mac People.

And why were they outnumbered when the Mac was so obviously superior? The Apple, in a fit of foolish pride, chose *not* to be cloned and thus become

fruitful and multiply. The result was that an Apple was more expensive than a comparable IBM clone. In spite of this, Apples and then Macintoshes still excited the best and the brightest, for as they evolved they became even more like an extension of the creative mind, rather than a process through which you must submit creativity.

However, we had not heard the last from the Minor Prophet. There was a small cadre of dedicated Apple/Mac followers (about 15% of the global PC market, at last guesstimate), who did not pledge allegiance to him. He decided to imitate the Macintosh to lure them away. His imitation, called MS Windows, could be viewed as a sincere form of flattery, but rather than feeling flattered, most Mac People were incensed that anyone would try to emulate their platform. And so, the Platform Wars continue to this day.

As you can plainly see from this Beginning, Mac People and PC People (as the two sides have come to be called) are as different as sushi and sardines. From the Beginning, Mac People have tended to personalize their little machines. They name them, imbue them with distinct personalities, adorn them with bells and whistles, stuff them with hundreds of fonts and thousands of graphics and generally adore them. These tendencies have not been observed in the PC sector, where the machines tend to be rather dull workhorses. They are powerful but unimaginative, speedy but on a single track. They lack, for the most part, versatility and flexibility.

So, what's the point here? The point is background. Without some background for perspective, it might be difficult for someone to understand the incredible lengths that a Mac (or Apple) owner will go to in order to keep his/her personal machine. Accelerator boards, innumerable SIMMs, external hard drives,

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upgrades for this doohicky, modifications for that thingamabob—Mac owners will do almost anything to avoid trading in their original machine for a newer one.

Which is how I came to find myself in desperate need of more hard drive space. Having bought in haste (and naive) 18 months ago, I have had a year to regret my tiny 150-meg hard drive. (The first six months were spent figuring out the difference between hard drive megs and RAM megs.) Five megs of built-in RAM was also a pain, but a pain easily remedied with an 8-meg SIMM transplant. The hard drive situation was a major problem for a newly-confirmed font junkie/graphic maniac, especially since the kids were using 100 megs of hard drive space for their “edutainment” programs. What does one do?

“Think external!” said my CyberMentor, “Not one byte less than a gig!” Off to gather catalogs! Check prices! Scrape self off floor. A gig is nice, but so is eating. Now what? Read a little, browse catalogs a little. What’s a cartridge drive? Oh, dear. Too (two) many choices. Iomega versus SyQuest. 100 megs versus 135 megs. So? Ask respected people of acquaintance. CyberMentor is unfa-

miliar, others have diametrically opposed opinions with equally valid reasons. What to do? Check the Fall ’95 BMUG Newsletter for possible guidance. Eureka! There! On page 49! Hans Hans-en’s, “Examine This Zipper.” Oh, thank you, BMUG!

Reading Hans’ review was like having a chat with a wiser and more experienced friend. Phrases written in plain English warmed my fear-frozen heart: “easy plug-and-play mechanism,” “set up in a matter of minutes” and my personal favorite, “Anyone who has played the SyQuest game knows how difficult it would be for me to write out the rules of how to properly insert or remove a SyQuest cartridge from its drive.” A clear warning if ever there was one! At last! Simple guidance for the novice!

I ordered my Iomega zip drive the next day; it arrived a few days later; it became an integral and vital part of our family computer in a matter of minutes. All for only \$199.95 (plus tax & shipping)! My first mission was to de-install over 100 megs of edutainment software from Beastie’s hard drive and re-install it on a couple of zip cartridges. I found it was easier than installing it on my hard drive the first time.

On to the font fiasco! From over a dozen floppies to a single zip cartridge—it was a breeze. Of course, I had to take time out along the way to play with a few of the space-hog programs I had been denied for so long! What a joy to have such a sleek, responsive Macintosh at my command! And it was my very own Beastie!

Zip cartridges make great stocking stuffers and are cheaper by the 10-pack, which is a very good thing, because it’s easy to become addicted. It’s so easy to organize storage; it’s so easy to retrieve things; it’s so neat to be able to hop from diskette to CD-ROM to zip drive collecting bits and pieces for projects! The kids now have Games I and Games II, their own personal environment in our computer, and are as adept at using Mr. Zippy (as they call him) as any adult. Which is another great selling point, by the way. With a zip drive, they needn’t touch your hard drive, so your stuff is safer.

Buyers remorse? No! Regrets? Not a one. Well, not unless you count a small, nagging question regarding the (even) newer Jaz drive—what’s it like to have a gigabyte? 🐉

Oh No!

My Hard Drive Crashed!

by James A. Sugar

A funny thing happened as I booted up my Quadra to work on a Photoshop file. My hard drive crashed. When this last happened some two years earlier, I had to learn a whole new set of skills and tricks to resurrect the data and repair it. Now I had to learn those skills all over again.

About ten days before the fateful day, cranking up the Mac from a cold start produced only a flashing question mark. To get the machine to run, I was forced to boot from an external hard drive containing a bootable System. In order to mount the partitions in the internal hard drive, I used SCSIProbe™. Once the partitions had mounted, I restarted the computer. Then the machine operated normally with the internal hard drive as the startup disk. When it continued to misbehave that way following every cold start, I became suspicious of the hard drive and backed up all the data on it to a DAT drive.

On the day that the internal hard drive totally crashed, a sudden power failure shut down my computer while my 7-year-old son was wrestling with MYST™. Upon returning to the computer about an hour later, I could do nothing to mount the internal hard drive. The icons for its three partitions had disappeared for good.

Apple's Disk First Aid™ indicated that the disk was damaged and could not be repaired by it. Then, since I had real work to do for a deadline that was bearing down on me the following day, I continued to use the computer with the System and applications that were installed on the external drive.

A funny thing happened as I booted up my Quadra. My hard drive crashed.

Despite the deadline, I later learned that this was my first mistake. At the very least I should have immediately run Norton Disk Doctor™. John Christopher, a technician at Drive Savers in Novato, California who does this kind of work for a living, told me that running Norton Volume Recover would have been an even better bet. But by continuing to use the machine with some combination of corrupted System and corrupted files, I further damaged the already messed up b-tree catalogue.

At this point I was joined my buddy Paul Pederson, a fellow BMUG fanatic, because I knew that I would need an extra pair of eyes and a calm mind to extricate myself and my hard drive from this Gordian Knot. Paul and I quickly realized that although I had backed up the hard drive a few days earlier, our data recovery job would have been easier if I had done two things: write down the exact size of the partitions on paper and copy the Retrospect™ catalogue files for the DAT to an external drive or floppy disk.

Lacking these two crucial pieces of information, I began a 4-hour chore of

running Norton Disk Doctor and Public Utilities™ on each of the three partitions over and over again. By 2 am, these two utilities had found and corrected enough errors to mount the three volumes. At this point I wrote down the size of the volumes and copied the Retrospect catalogue files to an external drive. But when I tried to restart the computer with the internal hard drive as the startup drive, my monitor replied with a flashing question mark. At this point it was time to go to sleep.

The first thing I did the following morning was to back up the internal hard drive on the DAT drive. I did this with the full knowledge and understanding that I was backing up a corrupted System Folder and also possibly corrupted files and preferences.

Paul and I then tried to determine which was the best formatting software to use on the hard disk. Our choices were APS PowerTools™, Drive 7™, Silverlining®, and Apple's formatting software. With time slipping away and with comparative information virtually impossible to come by, we chose APS PowerTools for reasons that had nothing to do with the quality of the software:

- APS has an 800 number for technical support.
- I purchased the 1.2-gig hard drive from APS.
- Paul was quickly able to upgrade to the latest version of the APS software by downloading the updater over the Internet.

It proved to be a good choice.

We reformatted and repartitioned the internal hard drive. We then restored the data from the DAT drive. Suspect-

ing that something in the restored System Folder had probably become corrupted at some unknown time in the past, we were prepared. We had already installed a new operating system on our external drive and were booting from that. Using every pixel of my 20-inch monitor, we opened the new and the old System Folders side by side.

By carefully comparing every item inside every sub-folder (and this works best with two pairs of eyes), we threw out each item from the old System Folder that was already in the newly installed System Folder. Then we reviewed what was left in the old System Folder, throwing out what we deemed unnecessary, questionable, or potentially corrupted. Finally, we renamed the old System Folder, copied the new one from the external drive to the internal, and copied the remaining contents of the old System Folder to their proper locations in the new System Folder.

After setting the internal hard drive to, once again, be the startup disk, Paul (who lives in a Buddhist monastery) counseled me to do one last thing before rebooting—*pray a lot*.

I ran several applications, and the computer seemed to have returned to its zippy, feisty old ways—until I tried to open FileMaker™. As soon as the splash screen appeared, the computer would hang. Although I reinstalled the applica-

tion from the original disks, the program continued to crash. At this point another computer buddy, Jerry Marks, suggested throwing out the FileMaker preferences file. Voilà. The program ran fine.

Although I have attempted to tell the story in a straightforward way, I will confess that it was wildly time-consuming and that it was among the most difficult things I have ever attempted on a Macintosh. Once the computer had returned to its old reliable ways (and I am using it now), I calculated that Paul and I spent 23-man hours backing up, reformatting, and restoring the hard drive.

At times when it seemed that we had to do three operations at once, it was difficult to determine what to do first. Often software problems seemed to masquerade as hardware problems. Until we installed a fresh System and got the computer to boot from the internal hard drive, we suspected that we were faced with a defective hard drive.

The good news was that we were able to save the data and resurrect the hard drive. In fact, John Christopher at Drive Savers said that his company would have charged in excess of \$1,000 for the same job.

I do not know how a more technically astute person would have handled the same dilemma. I am just a regular guy who knows how to run a Mac but has little experience in fixing one. But Paul

and I agreed to stay calm and attack the problem one step at a time. In discussing our resolution of the problem afterwards, we agreed on several points:

- As hard drives become larger and more affordable, the problem of a crashed hard drive becomes more serious and will require more time to fix.
- Back up the contents of your valuable data to a DAT or other archiving media as often as possible.
- Maintain some external drive with a System Folder and essential utilities (SCSI Probe, Norton Disk Doctor, Apple Disk First Aid, for starters).
- At the first sign of a crashed hard disk run either Norton Disk Doctor, Norton Volume Recover, or an equivalent utility software.
- Write down the exact size of your hard drive's partitions and store it in a place that you can quickly find.
- If you are using Retrospect software, back up the catalogue files to some external media.
- When, not if, it is your turn in the barrel because your hard drive crashed, be prepared to spend either lots of time or lots of money to solve the problem.

Good luck! But, please don't call me for help. 🐼

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Why Can't We All Just Point and Click?

by David Schneider

When I sit down in front of my Mac I know exactly how I want it. I use Conflict Catcher to customize my extensions; I use Now Utilities to customize my interface; I organize my folders; and, I know exactly what applications I want to use and how.

When my brother sits down in front of his Mac he has some idea how he wants to use it. He knows that there are some things he can turn off with Extensions Manager; he knows how to use Launcher to simplify his choices; he knows how to get files onto his hard drive and how to find them; and he knows how to use some applications pretty well.

When my Dad sits down in front of his Mac, all he knows is that he wants to get something done. He doesn't know what to turn off or how to do it. He's not quite sure how to organize his files or how best to access them. He's not even sure how the applications are supposed to work. He knows he wants to write a letter, and he just hopes he can get it all to work in less time than it would take him to write it by hand.

Most companies have defined the personal computer markets as educational, business, home, and the like. But, in reality, the differences between markets are not based as much on location of use as they are on the user. Word processing doesn't change from the office to the classroom to the living room. All that changes is the type of user and how the application is used, no matter what setting that user is in.

My Dad was a little disappointed when he bought his Mac because it wasn't as easy to use as he had expected. Sure, it was all point, click, and drag, but what

was he supposed to point at? My brother understood what he was supposed to point at, but not so sure how he was supposed to find everything and make it all work. I know exactly how to get around my system and have almost figured out how to make it work without crashing more than twice a day.

Apple, as well as most companies, has tried to customize hardware options to deal with the different types of users, but that has only been of limited value. Hardware doesn't affect how a computer is used; it affects more the limits of its

use. Some programs won't run if there is too little RAM, but how the user gets to that program and figures it out is totally independent of RAM.

Apple has also created options in the system software to tailor use to individual needs, such as Launcher and AppleGuide. While these are useful, they fall far short of customizing the Mac for each user. I had to set up my Dad's computer so that he could use Launcher. My brother figured out Launcher, but at this point he only uses it as a convenient palette rather than a way of avoiding dealing with file organization. The current system features offer options for streamlining use, but they require a good deal of comprehension on their own and don't really provide alternative methods of use.

There are two steps Apple could take to improve this situation. The first is to integrate new features into the system either as an update or as separate code. The second is to encourage developers to do the same.

My Dad hoped that once he set up his computer all he would have to do is tell it he wanted to word process and up would come his word processor. To check out the World Wide Web, he wanted to click a button or two and start surfing. To save, he wanted to tell the computer what type of file he was working on and let it figure out where it should go.

My brother wants to be able to customize and experiment, but he'd also like to have some guidance. He knows how to use most things, but sometimes he'd prefer not to search around for the right program or he'd like the computer to help him figure out where things go.

My Dad was a little disappointed when he bought his Mac because it wasn't as easy to use as he had expected. Sure, it was all point, click, and drag, but what was he supposed to point at?

What made Apple great once was that in a world of text-based sloths, they produced an inspiring piece of software that was easy to use.

It would not be difficult for Apple or a third party developer to write code that would provide the kind of help described above. My Dad would love a piece of software that would allow him to really do things with one click. At the simplest level, the software could offer him

a palette of choices such as word processing, Internet, games, and graphics. By clicking on a button, he could tell the software to find the appropriate programs and launch them. When saving or printing, the software could provide him with a separate menu that takes care of all the dialog boxes and offers suggestions about where to save documents. Ideally, it should streamline as much as possible, restoring to the Mac the true ease of use that drew so many users in the first place.

This software would have to be able to progress with his learning or accommodate more advanced users like my brother. Perhaps, rather than the buttons launching everything and streamlining as much as possible, they could offer a choice of programs. For saving and printing it could also offer suggestions, without actually dispensing with the dialog box options. Ideally, it would have configurable preferences so that the user could de-automate elements as they learn.

With some cooperation between Apple and developers, this could be even more powerful. If they could agree on standard formats, third party packages could work with the software to ease the user along. Even the programs them-

selves could offer simplifying elements or perhaps a more enjoyable version of AppleGuide.

What made Apple great once was that in a world of text-based sloths, they produced an inspiring piece of software that was easy to use. Over the years the system has grown to something better, but also more complex than it was in 1984. Power users would still agree that Apple is great, but the wealth of new computer users who are swarming the market want that ease of use back. Apple or third party developers can really grab that market by producing software that allows users to tailor to their needs; and they need to restore the idea of "click it, and it's done" without shutting out those of us who want to tinker. 🐉

David Schnider is a BMUG staff member every now and again and spends the rest of his time as a law student at UC Hastings College of Law in San Francisco. He intends to practice intellectual property law litigation if he survives the next two years. He has a Web page at <http://www.cnet.com/~das> and can be reached on Planet BMUG at schnider@bmug.org.

Women Who Run with Nerds

or When Nice Women Do Nerdy Things

by Carol Baumeister

The image of the nerd is clear: a high-water-pants-wearin' guy with nose-bridge-taped coke bottom glasses and a pocket protector, replete with protractor. There really is not a female equivalent. Women are not really nerds as such; but while women may not necessarily be nerds, they can definitely be nerdy. Nerdy women come in many shapes and sizes, ages and lifestyles. They can be scientists or secretaries, work for high tech companies or low tech schools.

Nerdy women set up LANs with Mac Plus servers, get Ethernet networks up and running by day, yet they might also knit socks at night while they download the latest hot HTML editor. They ask ComputerWare if they have a bridal registry when planning their wedding, and void the warranty on their PowerBooks

after two months by installing more memory themselves. The dim glow of Netscape gray is reflected in their eyes as they await the call of the raffle, cheering "yahoo" to the really cool prizes. Copies of *MicroTimes* and *MacWorld* can be found on their kitchen tables. They know how to upgrade RAM in a Power Mac 7100, and they can de-Gauss¹ with a baby in their lap—men, of course, can do this, too.

Hanging around BMUG, people tend to pick up little bits and pieces of technical knowledge and pretty soon they have slipped beyond hope and are well on their way to becoming technogeeks. Once in-the-closet nerdy women start learning the lingo of acronyms in all capital letters such as BMUG, ATM², ROT-FLMAO³. They begin going to computer expos and pass by computer stores drooling over the color printers inside. Their wardrobe grows in hi-tech logo t-shirts which they begin to covet as if it came off the pages of *Vogue*. They are not satisfied with "just a pretty face" but want to know more about what is behind it—though they may not necessarily want to know how to reprogram the damn thing.

Well on their way to becoming WOWs⁴, WHAT girls⁵, *grrrrls*, geek girls in training step gingerly into the enclaves of the real nerds they admire to find friendly help, raffle prizes, and obscure dweeb name dropping. Sometimes women may wonder exactly what the relationship is between the Y-chromosome and cyber-strutting. They learn about flames without a match being lit, how

to cook Spam[®] without pineapple, and cyber-sex.

Getting to Know Nerdy Women

Women aren't nerdy the way men are; they have a different way of expressing their geekdom. They lust after Antonio Banderas, good chocolate, hi-res scanners and zip[™] drives... or even a Canon color copier/scanner/printer.

Nerdy women develop strange fixations to techie toys. If they are flying to Europe they borrow a PowerBook just to take on the long plane ride—what does one do with 12 empty hours and nothing to do? Play on the Macintosh, of course. If they are going away for longer than a couple weeks, they always ship their computer ahead so it'll be there when they arrive. Serious health problems descend upon them like locusts when they are separated from their computer for too long. They *like* being around Macs, and their ears perk up when they hear the fuzzy modem noise.

One cannot always tell that a woman is nerdy by appearance alone. She may seem very nice, yet behind that smile is a seasoned warranty breaker. Underneath her makeup, stockings, and nail polish lies a dweeb at heart. She really likes sitting around and talking about good user interfaces with her friends, picking the brains of their veteran nerd friends—and information-poor systems make her mad. A nerdy woman walks into CompUSA⁶ with a military eye; pity the salesperson

*[Nerdy women] ask
ComputerWare if
they have a bridal
registry when
planning their
wedding.*

Forget diamonds—silicon chips in the form of RAM are a nerdy woman’s best friend. Sending flowers is nice, but sending a Power Mac would really impress her.

who thinks he can schmooze her. Nerdy women secretly wish for an online filter that would announce, “Y-chromosome alert!” whenever they encounter obnoxious mutant males in cyberspace.

Nerdy women can be both easy to date and very difficult, but taking them to a BMUG meeting or a WWW conference is always a good start, especially if she wins that zip⁷ drive at the BMUG meeting in the raffle. Forget diamonds—silicon chips in the form of RAM are a nerdy woman’s best friend. Sending flowers is nice, but sending a Power Mac would really impress her.

Some nerdy women really go for geeky guys. They know that software engineers are often skilled with their hands, have good eye-hand coordination, and can concentrate for long periods of time on one thing. Techie talk turns them on—whisper sweet nothings of the latest chip innovations to her but don’t forget to take her to dinner at a cool restaurant now and then. Don’t worry, they’re not afraid of mice, although they also enjoy alternative input devices to bring them hours of blissful pleasure. Though their lover might be jumpy with Java, nerdy women want a partner with nimble fingers and who knows how to toggle all the right switches. When nerds put their incredible gifts of concentration and creative exploration to use, they can enjoy different kinds of response to their latest Shareware.

What Happens When They Mate

It gets even worse when they find their cyber-Romeo online and get hitched to another geek. They will move in together, and next there’s an Ethernet⁸ network in the house! If the couple move to a larger place they *may* set up their bed first, but the next item will be the computer and modem—*well* before any dishes, books or chairs get placed about. Though mixed marriages can work, with Macs and PCs in the house some nerdy women will only do Windows if they have to. Nerdy women like to garden and cook, as well as edit HTML and burn CDs. Perhaps, like Bill Gates, they may soon be exploring beyond cut-copy-paste as a means of reproduction. 🐣

Acknowledgments

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Check out the Web page for the WHAT girls at what@netcom.com.

¹ Gauss was a Frenchman who thought his screen looked disGausting and came up with a fancy way of saying “screen refresh.”

² ATM stands for Adobe Type Manager or Asynchronous Transfer Mode. The more of these abbreviations one can drop during any discussion with a real nerd, the more quickly one becomes nerdy, even if you don’t really know what they mean.

³ ROTFLMAO stands for Rolling On The Floor Laughing My A** Off.

⁴ WOW stands for Women On the Web, find them at: <http://www.wowwomen.com>.

⁵ WHAT girls, Women who Have Advanced Technology can be found at whatgirls.com

⁶ CompUSA is a computer store that sells a lot of computer stuff.

⁷ zip drives are a hot new sexy backup storage device from Iomega. Has nothing to do with jeans, T-shirts, or sneakers.

⁸ Ethernet, not to be confused with the time spent falling asleep while waiting for images to download, is a set of rules for exchanging information at higher speeds.

EvangeList is More than Hollow Hype

by Steve Semple

Propaganda comes in many forms. While the word might have a negative connotation, some propaganda can be downright entertaining.

One of the more entertaining forms of propaganda available to Mac aficionados today is the subscription email list known as the EvangeList. It provides a perpetual stream of primarily good news about the Mac, its users, and the future of Apple Computer.

The brainchild of longtime Mac evangelist and Apple Fellow Guy Kawasaki, the list was created in the fall of 1995 to “counteract the unbelievable amount of bad news the press was circulating,” according to Kawasaki. The list is a way to reach thousands of Mac users directly with success stories, special offers, and intellectual ammunition needed to battle the increasing proliferation of the Wintel platform and promote the Mac OS.

It’s electronic boosterism, and a fun daily read. But it’s not all hollow hype.

While the obvious mission of the EvangeList is to sell more Apple products, nurture third-party developers, and improve the company’s bottom line, the List can also be very useful to subscribers. Readers often appeal to fellow “EvangeListas” to help with problems.

I was amazed at the response I got in March when I sought the advice of EvangeListas who had experience using Macs in schools. My local school system was in the process of buying a large number of computers for the district, including two new middle schools, and I wanted to make sure Macs were well represented.

So I explained my situation and asked for testimonials I could deliver to school

administrators. Within 24 hours, I had received nearly 100 responses, and the vast majority were precisely what I was looking for. By the next day, the number of responses had nearly doubled. Messages continued to trickle in for weeks.

The content of the testimonials was so good I compiled about half of them into four text files which I posted on my Web site <http://amald.com/ss/news.html> and offered to email to interested parties. By the end of April, I had mailed nearly 200 copies of the document. Requests for the compilation continue to arrive in my mailbox.

It wasn’t so much the number of replies that astounded me. After all, the Mac has a huge presence in the educational market and an estimated 150,000 to 200,000 people read the EvangeList. It was more the obvious passion of the writers that I found so compelling. These were true believers, and they really wanted to help.

Several people gave me their home phone numbers in case I wanted to discuss the matter further, a couple even invited me to visit their Mac labs to see how well they ran. I got email from Canada, Germany, Switzerland, Great Britain and Australia, among other nations. I even got a note from Steve Wozniak, who built the first Apple Computer and now installs Mac labs in schools in his community.

My experience with the List was not unusual. Hundreds of people have been known to respond to special offers for hardware, software or books. A like number will rise to a righteous cause.

For example, the list frequently reports about companies that are developing cool software only for Windows ma-

chines. EvangeListas have been quick to respond, trying to persuade the companies to see the light. The call to arms has been so effective at times that Kawasaki recently began asking EvangeListas not to “spam” the unenlightened developers, but to respond only if they are genuinely interested in buying the particular product, lest a spam fest generate ill will toward the Mac community.

“While I’m not sure that all my calls to action have resulted in positive results, I have few regrets. I don’t necessarily view spams as bad—they’re a form of democracy if you ask me,” Kawasaki said. “Are they any different than the Sierra Club telling people to write a congressman? Frankly, if I could, I’d arrange for a ‘million-person Macintosh March’ on Cupertino.”

By far, most of the messages that pass muster and make the distribution list (it’s a heavily-moderated list—every submission is screened for appropriateness) are Mac success stories. Many are profiles about how Macs are used in various real-world applications. Many point out when Macs are the platform of choice in highly-visible applications, such as tracking runners in the Boston Marathon, developing spacecraft or creating special effects in popular movies.

Another favorite topic is Wintel horror stories. There have been a number in recent weeks describing the trials and tribulations of companies trying to convert to Windows 95.

There are plenty of press releases from Apple and other developers describing jazzy new products, as well as periodic reports on market share, Apple’s fi-

nances and awards won by Mac hardware and software.

But the most fun comes in the form of "action items," in which Kawasaki or an EvangeLista beseeches list members to wield their clout.

Online polls about operating systems are a common target. My favorite example centers around a poll done this year by *HotWired*, the Web spinoff from *Wired* magazine. Tucked in among questions regarding national politics in a February Netizen HotPoll, *HotWired* innocently asked, "Do you prefer Macs or PCs?"

Word of the poll was posted to the EvangeList on Sunday, February 11th when EvangeLista Brent Deverman wrote:

HotWired has a weekly political poll. In this week's poll, the second to the last question is do you prefer Macs or PCs, and the PCs are winning 53.4% to 40.4%. I think the evangelist should change that.

Kawasaki posted a followup the next morning:

You've got to love this! As of Monday morning at 8:30 am (Mountain time), *HotWired's* poll results are:

Do you prefer Macs or PCs?

59.8% Macs

35.6% PCs

04.1% Neither

So far 1,824 responses have been submitted. EvangeListas rule!

Two days later, the results showed Macs leading with 80 percent of the 5,668 votes cast. But the producers of the poll couldn't fathom the sudden turn of events, attributing the incredible surge in Mac support to an "undetermined engineering glitch, or a sophisticated hack."

HotWired subsequently threw out some 2,500 Mac votes and published results showing PCs winning with 48 percent of the votes compared to 44 percent for the Mac. The same question was run in the next week's poll. Again, EvangeListas rose to the occasion and the Mac won convincingly. Many also complained via email that their votes in the original poll had been invalidated.

HotWired staffer Cate C. Corcoran later explained that poll organizers were perplexed at how the Mac versus PC question had shifted so suddenly when questions about political issues had maintained a more-or-less normal balance. It became clear when they learned of the EvangeList factor.

"We should have known that although no candidate's organization yet has the smarts to mobilize significantly on the Net, serious, techie Web-dwellers wouldn't overlook an opportunity to affect the battle for world platform domination," Corcoran wrote.

HotWired honcho John Francini had this to say, "Amazing what an organized and passionate electorate can do!"

There are those who would condemn such tactics, but Kawasaki defends his use of the Internet and Apple's fanatically loyal customers. "I think of Apple as the Israel of computers, and I am in charge of Apple's Mossad," he said. "I don't look at myself as Apple's Minister of Propaganda because what I publish is

"I don't look at myself as Apple's Minister of Propaganda because what I publish is true. I don't know what the suits (at Apple) think of it. I ain't asking."

— Guy Kawasaki

true. I don't know what the suits (at Apple) think of it. I ain't asking."

The EvangeList is currently distributed to about 27,000 subscribers from Chuq Von Rospach's cubicle in Apple's Cupertino headquarters. It is redistributed on numerous electronic bulletin boards including BMUG Boston. Kawasaki estimates as many as 200,000 people might read any given EvangeList message. The list generates from 10 to 30 messages a day, and archives can be found at <http://wais.sensei.com.au/searchform.html>. 📧

To subscribe to the list, send email to evangelist@macway.com.

Online Addiction Continued...

'Course, They Can Quit Any Time They Want

by Deborah Pulliam

I can't say I'm really an online addict (partly because I limit—strenuously—the time I spend online each day), but BMUG Boston is one of the best communities I've ever been involved with, and I'm fascinated with the wide range of people I meet.

So when I read Bruce Linde's *First One's Free ... Stories of Online Addiction* in the Spring 1996 BMUG Newsletter, I was interested (and *amused*) to see how other people relate to their computers and each other. Most, of course, log onto Planet, so I asked Bruce's permission to steal his survey and began circulating it on Boston. It took a few reminders, but I got some interesting replies, which follow.

Name: Roz Ault

Occupation(s): User support technologist (25 points if you can guess what that means!).

Email Account(s): BMUG Boston for personal; company email for work

Online Activities: I spend most of my day online in one way or another. At work we're directly on the Internet, although most of my job has to do with the company's internal business systems. I began volunteering for BMUG's (and before that, BCS) online systems because I enjoy the opportunity to communicate with people who share my interests. It's my primary form of relaxation and entertainment.

Time estimate for email and other online stuff: 2–3 hours a day, average, for personal use; several more hours for work-related things

Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? My son recently posted on our refrigerator an Ann Landers column headed "Mom Goes Online, Lets House Go."

What would you do with the time if your power went out? Curl up with a good book or magazine (I've always got at least four or five books going, and our house is drowning in magazines.)

Name: Beth Carroll

Occupation(s): Software test engineer

Email Account(s):

beth_carroll@bmugbos.org;
carroll@programart.com (except this is really only for business)

Online Activities: Moderator of books conference at BMUG Boston

Time estimate for email and other online stuff: Roughly a half hour a day, maybe more on the weekends

Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? No issues for me!

What would you do with the time if your power went out? Read more.

Name: Tony Finnerty

Occupation(s): Consultant in environmental hydrology before accident; disabled now but not forever

Email Account(s): tfinnerty@earthlink.net

Online Activities: Email; active in mail list for survivors of brain injuries; cruise the Net to help in relearning computer programming

Time estimate for email and other online stuff: 2 hours a day

Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? No guilt whatsoever—my neuroshrink got me back on the Net as part of my cognitive retraining program!

What would you do with the time if your power went out? Rest (I have to do a lot of that these days); do some light reading; study one of my books on C++ or OOP.

Name: Stu Fried
Occupation(s): Technical Support Manager, parent, dog owner
Email Account(s):
 stu_fried@bmugbos.org;
 sfried@aol.com;
 fried@programart.com;
 sfried@sneaker.net (coming soon!)
Online Activities: Reading mail, cruising for good files, schmoozing
Time estimate for email and other online stuff: 2-3 hours a day, but I could quit if I wanted to, y'know.
Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? None, since my wife Jan is also an email junkie. I do feel guilt for lusting after another Mac so we could each have our own machines.
What would you do with the time if your power went out? That means that the lights would be out, huh? Guess Jan and I would find something to do like sleep, most likely.
Name: Robert W. Huntington 3rd, MD
Occupation(s): Pathologist, farmer, Mac nut
Email Account(s):
 rwhuntin@facstaff.wisc.edu;
 rhunting@waun.tdsnet.com
Online Activities: BMUG Boston, email to daughter and friends, weather checks, and goofing off via Netscape
Time estimate for email and other online stuff: At least 90 minutes per day
Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? Occasional gusts of guilt.
What would you do with the time if your power went out? Get some sleep!
Name: Vance R. Koven
Occupation(s): Lawyer, writer, composer
Email Account(s): BMUG (duh), BCS Mac, World, plus two additional business email addresses.
Online Activities: Hangin' out in my BMUG skivvies (being very careful with prepositions); research; professional mailing lists; occasional politico-social fulmination

Time estimate for email and other online stuff: 1.5-3 hours a day
Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? The figure mentioned above is probably some form of denial.
What would you do with the time if your power went out? Sleep, an' stuff. Hang by my thumbs.
Name: Jim McKee
Occupation(s): Clinical Social Worker; Custom Database Designer (Helix Express/FileMaker Pro); Macintosh systems consultation and implementation with small businesses; Software training
Email Account(s): dakota@tiac.net
Online Activities: Information/software access (eight hours); File Manager, BMUG Boston (two hours); Teleconferencing (two hours); IRC Chat (two hours); Email (three hours); Netscape meanderings (three hours)
Time estimate for email and other online stuff: 20 hours a week (see above for breakdown)
Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? I do a lot of work and have a lot of fun online and feel no guilt at all about the amount of time I spend at it. The Net has afforded me the opportunity to meet people from all over the world who have contributed enormously to my life. It is also a treasure trove of information which I need in my professions.
What would you do with the time if your power went out? Get more of the following: sleep, fresh air, exercise, face-to-face people contact.
Name: Deborah Pulliam
Occupation(s): Freelance writer and designer
Email Account(s): BMUG Boston, plus one that came with my Internet account that I never use
Online Activities: Email, some research, moderation of Fiber Arts conference on BMUG, regular checkup on a few other conferences.

Time estimate for email and other online stuff: 45 minutes to an hour a day
Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? Because I used to dial in long distance, I made sure I was never on more than 30 minutes. That's changed with Internet access, but I still try to limit myself.
What would you do with the time if your power went out? Happens a lot up here; I read by candle- or flashlight, spin, or knit.
Name: Nicholas Riley
Occupation(s): Freshman and future chemistry major at Brandeis University; work as UNIX Support Specialist for Brandeis University Computing Services
Email Account(s): TIAC, CompuServe, Netcom, BMUG Boston, two with Brandeis. A lot of others I never check.
Online Activities: IRC channels #macintosh and #riskybus, reading news (comp.sys.mac.*, brandeis.* and tiac.* mostly), email, doing a little Web surfing, maintaining my home page and www.brandeis.edu.
Time estimate for email and other online stuff: 2-3 hours a day
Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? Does this stuff benefit me in my "real" life? Sometimes I wonder that after having spent the last hour answering Mac questions on Usenet or IRC, like, could I put this on my resume? But I can't. So I've decided to start doing some useful, tangible things like writing programs and sticking my name on Web sites so I can point to them and say, "Look! I actually used my expertise for something," instead of "Oh great, I just wasted another hour on IRC."
What would you do with the time if your power went out? Read a book, practice my cello, or with this amount of snow around, go out cross-country skiing.
Name: John Smith
Occupation(s): Program supervisor, teacher of multi-impaired kids

Email Account(s): jsmith@tiac.net;
jjsmith@world.std.com

Online Activities: AccessAble's moderator on BMUG, plus create and cruise on the Web (see my www.greyhound.org), share the technology with those less fortunate.

Time estimate for email and other online stuff: 4 hours per day at least, some at my school, much at home late—very late.

Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? Nah, I've got an MEd. in counseling, by the way. But, we just ordered an additional phone line so our friends can call in and not be mad, and so that my wife can do her consulting stuff more easily.

What would you do with the time if your power went out? Well, it did happen a few weeks ago. We finished cooking and eating dinner via gas stove and with the help of candles. Then we settled in for a nice warm evening in front of our recently installed gas-powered wood-style stove. And then the lights came on.

Name: David Walsh

Occupation(s): Computer consultant.

Email Account(s): dmwalsh@tiac.net;
david_m._walsh@bmugbos.org

Online Activities: Hardware message moderator for BMUG Boston, co-moderator of Sci-Fi & Fantasy on BMUG Boston, a bit of Web surfing.

Time estimate for email and other online stuff: Approximately 15 to 20 hours per week.

Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? No serious guilt since I do computer consulting for a living and use my online time as professional development and some freebie support to BMUG members.

What would you do with the time if your power went out? Simple. Take the PB 520 out of the case and fire it up. Of course that only gives me about 4 hours, but unless we have a multi-day power failure, I should be all set. If the power were still off I'd probably read computer journals or sci-fi/fantasy books (until dark—reading by candlelight is no fun).

Name: David A Zellers

Occupation(s): Carpenter, woodworker.

Email Account(s):
david_a._zellers@bmugbos.org

Online Activities: BMUG Boston, Planet BMUG, Netscape, and online games

Time estimate for email and other online stuff: 3 hours a day.

Guilt, denial, or other conscious or unconscious therapeutic issues that come up for you around how much time you spend online? None. Gave up guilt when I hit 40.

What would you do with the time if your power went out? Probably nothing. Everything I do requires electricity.

Why a BMUG Membership is Worth a Lot More Than \$65

by Michael Patrick Ellard

When I renewed my BMUG membership this week, I also made a donation to BMUG at the same time. This wasn't a case of blind altruism or an inability to find another use for my funds. The fact is that when I considered everything that I get by being a BMUG member, I couldn't justify giving BMUG anything less.

Now there are some obvious benefits to being a BMUG member. It is fairly easy to see the value of The BMUG Newsletter, the Newsletter CD-ROM, the BMUG BBS, known as Planet BMUG or BMUG Boston, and the BMUG Helpline. These things are the reason that most people buy a BMUG membership, and they alone are well worth \$65 per year. However, there are other, less obvious, ways that BMUG benefits its members, and I thought it would be worthwhile to write an article about these hidden benefits of BMUG membership. To take advantage of some of these benefits, you have to live in the San Francisco Bay Area, but there are other hidden benefits that can be enjoyed by BMUG members everywhere.

Vendor Discounts

Many vendors offer discounts to BMUG members or to users group members in general. TechWorks, the RAM vendor, has always offered great discounts to BMUG members. Other vendors offer BMUG members special deals when the vendors present at BMUG meetings. Finally, vendors like Global Village sometimes offer BMUG special group deals, where the vendor will sell products to BMUG at a reduced price if BMUG will collect orders from individuals and send them to the vendor as a single order.

To find out about the special pricing available to BMUG members, read the Choice Products section of this News-

letter, check the BMUG Specials conference on Planet BMUG, and be sure to ask vendors if they offer a BMUG users group discount [Editor's Note: other registered users group members may qualify for the same vendor deals]. If you buy a lot of computer products or services, your BMUG membership can save you a lot of money in very little time.

Raffle Items

Most of the ways that BMUG can benefit you financially will take a little bit of effort on your part. However, if you go to one of BMUG's main meetings on the U.C. Berkeley campus, you can get things just for showing up! Each main meeting ends with a raffle of merchandise provided by BMUG and the vendors who were presenting at the meeting. Raffles are also held at the BMUG West meetings in San Francisco and the BMUG South meeting in Cupertino. All of these raffles are free, and if you go to several meetings, you're almost certain to win something.

It's true, you may become one of those desperate people who clutch their tickets towards the end of the raffle, hoping beyond hope that they will at least win a "Windows 95 = Macintosh '89" button. But you might also walk away with a LaCie 1.2-gig drive, a Power Computing Macintosh clone, a book from Peachpit Press, or an expensive piece of software. All of these items have been prizes at BMUG raffles in the past year or so.

Often you don't even need to win the raffle to get free stuff at a BMUG meeting. Vendors will often bring software, demos, or clothing to BMUG meetings to give away for free to everyone at a BMUG main meeting. In the past year, everyone who came to one BMUG meeting got truffles and denim shirts from Megahertz, makers of the

CruiseCard PC Card modem. Everyone who came to another meeting got a QuickTime 3-D demo CD from Apple. At a third meeting, everyone got a "You Don't Know Jack" demo CD from Berkeley Systems that contained a complete version of the game with a restricted question set. A few years ago, DataViz, the makers of MacLink Plus, gave everyone who came to the BMUG main meeting a free copy of MacLink Plus.

The bottom line is that the average person who attends the BMUG main meeting in Berkeley regularly for a year will probably walk away with more than \$300 worth of raffle winnings and vendor give-aways. At the San Francisco meeting, they say that your chances are even better.

Note: you don't have to be a BMUG member in order to participate in the BMUG raffles. However, I have listed the raffle as a benefit of membership, because if nobody paid his/her membership dues, there would not be any BMUG raffles.

Items for Sale!

Another benefit of BMUG membership is access to the three For Sale conferences on Planet BMUG. Buy/Sell (Hardware) specializes in computer hardware, Buy/Sell (Software) specializes in software, and Buy/Sell (Non Comp) specializes in everything else. I cannot speak to the hardware or software conferences, but I have benefited greatly from using the Buy/Sell (Non Comp) conference.

One of the nice things about Berkeley's Buy/Sell (Non Comp) conference is the relaxed tone that many people take towards buying and selling. Often people will post messages saying: "I need to get this thing out of my house. It's yours for free if you'll just come and take it." Free goods of this sort have ranged from

excess plants and old programming magazines to television sets and ping-pong tables. Even people who do want money for the items that they post can be very mellow. When I went to buy some stereo speakers that I saw advertised last year, I was a little nervous because I wasn't able to test the speakers out before buying them. The gentleman who was selling the speakers understood my dilemma and said, "Don't worry about it. Take them home, try them out, and if they work, then send me a check. If not, bring 'em back. I trust you. You're from BMUG." I wouldn't recommend that people extend this kind of trust to just anyone, but this gentleman felt that after reading my posts on Planet BMUG he knew me and could trust me.

Not everything advertised in the Buy/Sell conferences is a deal, but there are some great deals to be had. In the last year, I have bought some china for less than a third of what it would have cost me at retail. Similarly, I bought a set of records and scores for 60 Bach cantatas and Bach's complete organ works for \$125. Merely buying the scores for these works probably would have cost me twice this much at a music store. Thus, my BMUG membership has allowed me to purchase things of great value that I would not have been able to afford otherwise. This hidden benefit of BMUG membership has saved me hundreds of dollars in the last year alone.

Employment

BMUG has a formal system of job posting which is announced at the main meeting and posted on Planet BMUG. Yet, even aside from these formal opportunities, BMUG also offers considerable employment opportunities to people who are willing to put in volunteer time working on the BMUG Helpline or volunteering for a Helpline Clinic.

Whenever I have Mac-savvy friends who are looking for employment, I suggest that they volunteer for the BMUG Helpline. Volunteering for the Helpline isn't just a public service, it is a great way to build skills that will make you attractive to potential employers. Many BMUG volunteers and staff have moved from working for BMUG to jobs with companies such as Claris, Farallon, Dantz, Microsoft, and Apple. No one who does volunteer work should expect instant em-

"Don't worry about it. Take them home, try them out, and if they work, then send me a check. If not, bring 'em back. I trust you. You're from BMUG."

ployment or financial rewards. However, I do have one friend who went to BMUG, volunteered for a week, and then was promptly hired by a contact he made while working on the Helpline.

As for myself, for several years I volunteered for the BMUG Helpline as an Excel and 4th Dimension guru. If there were questions about those products that nobody else could answer, the Helpline caller was given my number. One day a call came in from someone with some Excel questions. After I had talked with this person for about 30 minutes on the phone, he asked me if it would be possible to hire me for a few hours. Well, a few hours turned into a few days, and a few days turned into a couple of weeks. At the end of that time, my payment was several thousand dollars and a brand new Mac IIci, color monitor, and keyboard. I had never intended to make money by volunteering for the Helpline, but it has turned out that helping people for free is a good way to find new clients.

Community

In the previous sections I have discussed benefits that can be easily measured and understood. It is not hard to calculate the dollar value of the savings that BMUG members get by using vendor discounts, winning raffle prizes, buying items advertised on the BBS, or finding employment through BMUG. Having discussed these tangible benefits, I

would now like to talk about an intangible benefit: the BMUG community.

The people who make up BMUG are some of the smartest, nicest people that you'll ever meet. There are some obvious benefits to participating in such a community. If you have a question about RAM interleaving, database design, or AppleScript compatibility, there will always be someone at BMUG who can help you. But it is the non-computer parts of the BMUG community that I really treasure.

BMUG has introduced me to friends that I would never otherwise have met and given me experiences that I never would otherwise have had. I can't put a value on talking about science fiction at dinner after the BMUG main meeting or attending the art opening of a friend from the LesBiGay SIG. Similarly it is impossible to quantify the benefits of discussing gardening on Planet BMUG or logging onto the Planet BMUG and finding a post from a long-lost high school friend. While I can't put a dollar value on the value of the friendships that have come about through my membership in BMUG, I nevertheless value my participation in the BMUG community more than I value all of the other benefits of BMUG membership combined.

Conclusion

Everyone knows about the obvious benefits provided to BMUG members: The BMUG Newsletter, the Newsletter CD-ROM, the BMUG BBS, and the BMUG Helpline. However, there are other, less obvious, ways that BMUG benefits its members: vendor discounts, raffle prizes, the "Buy/Sell" conferences, employment opportunities, and membership in the BMUG community. If you've been helped by these hidden benefits of BMUG, you might want to consider making an extra donation to BMUG when you renew your membership. If you haven't been using these hidden benefits of BMUG, now is a great time to start. Come and join the fun! 🐘

Michael Patrick Ellard is a computer consultant who specializes in providing simple solutions to complicated information technology problems. His clients include Apple Computer and Southern California Gas. He can be reached at mikeellard@aol.com, or via his Web page at <http://www.mcgi.com/staff/ellard.html>. Mr. Ellard has been a BMUG volunteer since 1986.

A32 is A-Okay

A Great Users Group

by Howard Thorpe

One of the joys of being a BMUG member is that the organization is a full service users group that's well-run, with a dedicated staff and volunteers, a panorama of conferences and files on the BBS, and invigorating meetings. Working in the South Bay and taking mass transit makes it difficult to attend meetings and participate more fully. So I have complemented my BMUG membership by joining The Association of A32 Users in Sunnyvale, CA.

A32, meeting on the second Saturday of each month, offers me the opportunity to attend their programs and learn more about the Mac and its uses, and provides (408) and (415) access to their BBS. The club is one of the oldest Macintosh users groups in the country and has an experienced group of members that answer the most basic questions, such as "how do I turn the thing on?" to details of ISDN connections and Internet providers.

When you enter an A32 meeting, you'll personally be welcomed by a member, while other members are busy setting up tables and chairs in the meeting room. *Computer Currents* and *MicroTimes* journals are available for anyone to pick up and read. The meeting begins at 10:00 am with a brief welcome, general club news and user benefits, and a lively question/answer session. Questions reflect users' experiences, recent industry announcements, or problems seeking solutions. The interaction is uninhibited, with some answers spawning related questions with different solution sets. Before you know it, 30 or 40 minutes have passed, and even the guest software developer or keynote speaker are involved.

The final 75 minutes are allocated to the "guest of the month," usually featuring software demonstrations or a keynote speaker. A32 has attracted some prominent keynote speakers, such as Henry Norr (an A32 member), Bill Atkinson, Bill Campbell, and Guy Kawasaki. And software demos are not limited to the developers or their sales representatives. Some programs even feature A32 members demonstrating how they've applied a commercial program to their specific needs.

The Association of A32 Users (formerly known as The Association of Apple 32 Users) was founded as a Lisa Users Group by Ken Silverman in 1983. The club initially met at the Pacific Fresh restaurant in Santa Clara, moving to Mountain View in 1984 with sponsorship by GTE. A32, as the club became known as, focused on the new 128K Mac and courted Apple Computer developers, shakers and movers, and demos of new software. A32 also attracted many keynote speakers, such as Mac architects Guy Kawasaki and Bill Atkinson. The club started each Saturday meeting with an interactive question and answer session and the newest rumors emanating from Apple. As one of the first users groups in the nation, and with some members and friends original Apple employees, the early years of A32 were earmarked by speculation of the next Apple product and details of each new upcoming Mac.

Today, A32 still remains dedicated to helping people understand the Mac architecture and extensions to the outside world, its applications, and how to improve life through automation. A32 is in business to help people out. If it doesn't work, we help members find answers.

Members typically articulate problems they had and how they solved them. Recently, A32 has become more involved in local education, contacting local Sunnyvale high schools to offer students the opportunity to attend our meetings and ask questions.

A32 meets the second Saturday of each month on the Sunnyvale Community Center in the Arboretum building. They welcome members and non-members alike. The club recently had several well-known keynote speakers including Bob LeVitus and Henry Norr. Heidi Roizen is expected at a meeting this summer. A32 offers a FirstClass Bulletin Board Service with full OneNet conferences.

A32 offers lively conversations and nuggets of information each month. Members span many professions, disciplines, and interests. The monthly program is published in the San Jose Mercury Computing Calendar the Sunday before each Saturday meeting. A32 offers both (408) and (415) exchange lines to their BBS, publishes *The Icon* monthly, and gets free ground shipping on Mac-Connection orders.

By the way, I'm Howard Thorpe, BMUG member and A32 President. If you live in the South Bay or are interested in visiting one of the original Apple Users Groups, stop by the second Saturday of the month and give us a try. 🍌

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BMUG Meets MicroTimes 15

by David Morgenstern

In Duh Beginning

The great medieval philosopher Maimonides (1135 - 1204) said, "A miracle cannot prove that which is impossible; it is useful only as a confirmation of what is possible." BMUGers look forward to seeing this saying in action later this year.

Over the past six months, we BMUGers have felt under siege. It's been very wearing at times. We've had to endure the reports of Apple's financial problems, the constant clamor in the press about Microsoft's Windows 95, and the seemingly endless looping of animated Intel ads on the television.

But the BMUG faithful have not wavered in support for the Macintosh. Their positive vibes have been felt in meetings and online; they know that it's only a matter of time until everything will be back to normal.

Amid all the hullabaloo, we've kept up the spirit of BMUG: helping people with their Macs and educating people about the power of personal computing. It doesn't matter if someone's problem is "simple," or if it's the most convoluted of programming snafus. It's all the same to BMUGers.

Members share information and experiences through participation at meetings, talking to people on the Helpline, and working on our publications. Some of the crew are newbies, just beginning to use their Macs, while others are professional power users. It's a great group effort. What matters is the willingness to get involved. There's an old Rabbinic saying: "Many see, but few understand." BMUG members not only see and understand, but act on their principals.

This is the energy and spirit that has made the weekly Thursday night BMUG meeting the crossroads of the Macintosh world and a knowledge and rumor center par excellence. Thus it was only natural for a computer magazine to look to BMUG for good Mac information.

In 1988, Mary Eisenhart, the editor of MicroTimes, California's Computer Magazine, approached BMUG for a monthly column. MicroTimes is a great 300+ page monthly magazine available for free in newsstands. It covers everything from the Internet to UNIX hacking.

MicroTimes
BAM Media Inc.
3470 Buskirk Avenue
Pleasant Hill, CA 94523
www.microtimes.com. 1
4 Issues
US: 1st Class \$65, and 4th Class \$35
Overseas Surface \$50 (6-10 weeks)

We BMUG activists thought the column would be a good way to keep California members, as well as non-members, up to date on tips and news in between our semi-annual newsletters. Unlike today with the Net-connected Planet BMUG bulletin board system, in those days BMUG had only a single line for the BBS, which made it difficult to reach members outside the San Francisco Bay Area.

I was persuaded that the column would be "a piece of cake" to write and all I would have to do is put down verbatim the Thursday night meeting's question-and-answer session, and explain the problems encountered on the Helpline.

Steve Costa said, "It'll only take a couple of hours to write." This was a key selling point—one that I thought might fly with Inara, my long-suffering BMUG-widow.

As it turned out, the meeting minutes outline format was not editorially acceptable to MicroTimes. I had to sharpen my writing and reporting skills.

Eight years later, BMUG and the column are still going strong. I now work at MacWEEK and couldn't be happier. Unfortunately, I have less time to hang out at BMUG, but usually I can be found online and at the monthly BMUG West meetings. Long live BMUG and the Macintosh!

I've been fortunate to be able to bend your ears and your eyes with these articles. We all know how quickly the Macintosh scene can change. This article consists of the last half year's BMUG columns from MicroTimes, so some of the bytes and pieces will be passé and old hat to you.

I am not the last and latest word: If you have a question, please look in the Newsletter, ask a question at a meeting, or post it on Planet BMUG. There are also some excellent deals for BMUG members from the User Group Connection on new and refurbished equipment.

But Mac wisdom will come to you only if you open yourself to the opportunity. Please join the virtual or physical discussions. BMUG needs the support of members and the developer community to keep up our good work.

It is a great privilege to write under the BMUG banner. The helping and giving that comes from our group embod-

ies the spirit of computing. I thank the many BMUGers that have sent me personal stories and tips for the column—please keep them coming.

My special thanks to: Scott Beamer, Raines Cohen, Lorca Hanns, Ron Hipshman, Stephen Howard, Peter Linde, Robert Lettieri, David Schwartz, and Fred Swan.

David Morgenstern is a longtime BMUGer and News Editor at MacWEEK. He is the self-proclaimed BMUG Cheerleader, and with Lorca, Ron and David S., helps run the monthly BMUG West meeting at the Exploratorium science museum in San Francisco. You can reach him at david_morgenstern@zd.com

January

This month we get members of the BMUG brain trust to pull out their crystal balls and virtual tarot cards to take a peek at the year ahead. Usually found sitting at the back of BMUG meetings, this crew is well-connected to the Mac community as well as trends around the entire computer industry.

Some of the topics may be a byte arcane for some readers, over our heads, or way over the top. When necessary, I will insert some explanations for the ever-present alphabet soup of industry acronyms and buzz words.

But that doesn't mean that you should bank on our prognostications—they're not all solid gold. The Talmud says: Woe to him who makes a door before he has a house, or builds a gate and

*Woe to him who
makes a door before
he has a house, or
builds a gate and
has no yard.*

—The Talmud

has no yard. The prudent reader will use the predictions as a road map, rather than as a guaranteed timeline of the forthcoming years events.

For example, last year it was predicted that Bandai, the Japanese game company, would sell more than 500,000 Power Player game machines. The \$500 product is based on Pippin, Apple's Mac-based game-box clone. Unfortunately, the device has yet to ship and is not expected to hit the shelves for months.

The prediction may yet hold true, but a year late. Apple and Bandai said last month they will reposition the Pippin clones away from games and emphasize its capabilities as a low-cost Internet platform. The "game player" has inputs for a keyboard, hard drive and modem.

Onward!

The Long and Whining Road

- Steve Costa, Macworld online administrator and former BMUG executive director.

Apple will not be bought out this year. But being bought isn't what Apple has been talking to other companies about anyway—there are other possibilities here!. The good news for Apple and the Mac OS is that US market share will reach 15 percent by next summer.

Oracle Corp.'s network box will be a flop. And so will all the others.

- Brian Foster, BMUG's government market expert and consultant.

Apple will incur no fewer than three major reorganizations in 1996, and at the end of the year, Apple's market share will not have risen or fallen much.

IBM will ship PowerPC CHRP boxes in numbers that will be microscopic in comparison with Apple's shipments. [CHRP is the Common Hardware Reference Platform, a standard for computer motherboards that use the PowerPC chip. The boards can run different operating systems, including the Mac OS, OS/2, Windows NT, and Solaris. Apple and others said they will ship the boxes next fall.]

IBM will also discover that its technical support staff will not be capable of handling Mac-specific questions. This will lead to the end of the joint partnership, except at a basic hardware (PowerPC chip) level.

Apple will not die, but it will be swallowed up by Oracle; at which time, Larry Ellison will try to mold the Macintosh into something it is not. The result will make the Mac's future will be even more tenuous. Larry Ellison will declare, "molding the Mac is better than sex!" [Brian believes that the second time will be the charm for Oracle, which admitted recently that they were trying to buy Apple]

Apple will release one and only one hot, cool new technology that no one expected. Unfortunately, it will not sell very well, because it's way too cool.

- Stephen Howard, MacWEEK executive editor and former BMUG Board member.

The year ahead will be the best year for Apple CPU customers since 1993. While waiting for next-generation PowerPC Platform designs and the Copland operating system, Apple will cut prices and increase shipments of Power Macs throughout the year. The company will retain its Number One spot in U.S. market share, despite continuing supply problems.

Apple will begin a selective, semi-public beta program for Copland. The software will be very buggy, will leak everywhere and damage Apple's reputation. Meanwhile, lots of users will complain that they cannot get the software and decry Apple's "elitism."

Microsoft will begin pushing its Microsoft Network as an Internet Service Provider rather than as another proprietary online service. It will become the largest such provider in the country, if you count number of separate customers.

General Magic will fold or be bought by one of its corporate sugar daddies, a la Go. [Go Corp. was the creator of the before-its-time pen-centric operating system PenPoint, which was used by small notebooks from EO Inc.]

Apple will spin-out Taligent, again. Apple will retain rights to the object-oriented technology, but a much smaller group of programmers will develop the operating system portion for PowerPC Platform machines.

Intuit will be the object of persistent takeover rumors, but the company will do the gobbling.

There will be a legitimate high-tech scare when someone reveals organized crime using sophisticated networking and encryption tools.

- David Morgenstern, MacWEEK associate editor and BMUG Cheerleader.

Apple and its licensees will continue their strategy to explore vertical markets for the Newton platform. Instead of pushing the handheld device to anyone and everyone, the company is trying to find specific applications that can use very mobile solutions.

A big winner will be a system that tracks customers of manicure salons. The company will describe the product as a digital personnel personal digital assistant.

Another new market for Newton will be university bathrooms. A ruggedized palmtop will be set into the walls of restroom stalls for "users" to inscribe vital thoughts. The system will then send the recognized text to a large-size whiteboard display for everyone inside and outside the facility to enjoy; the entire days collected thoughts will be posted to the site's Web page.

Taiwanese-based clone vendor UMAX Technologies Inc. will run into a byte of trouble with its Dino line of Mac OS

clones. The estate of Dean Martin will sue the company for violation of personality copyrights. In a further complication, cartoon creator Hanna-Barbera, the creator of Fred Flintstone's Dino Dinosaur, will also allege copyright violations. The Department of State will get into the act and clear up the matter after it's discovered that the word "dino" in Chinese means "computer."

- Jeff Songster, Claris Tester, pseudo-pundit and CIA Psychic Spy.

The new year will usher in CHRP boxes from a bunch of vendors. Somehow everyone will make them cheaper than Apple.

Apple/IBM/Motorola (perhaps called AIM Corp.) will eventually become a software/hardware integration, design-specification company that sells machine designs and receives license fees, but doesn't manufacture anything except software. Oh. Gee. When combined with Claris, that will make Apple look almost like the Microsoft/Intel model.

Sony will abandon its PC clones and switch to CHRP since there's no way they can make their margins selling PC clones. A better strategy would be Super PlayStations, game machines with a faster-clocked processor and more memory.

The bigger models would also have additional ports that could interface with hard drives, printers, modems, and keyboards, yet still play those fantastic new games on my TV. A SCSI interface adapter for the current PlayStation's double-speed CD-ROM drive would be an excellent start in this direction. Hint-hint, Sony.

OpenDoc will spark up a lot of small, previously unheard of developers that will bring cool apps to the world via the Internet. The small companies will become large buyout candidates quickly, and bring

fresh programming blood into some of the bigger monolithic companies.

OpenDoc will surprise people, no thanks to Mr. Gates for his recent water-muddying endorsement of the OpenDoc concept, but not the product. It seems that once again he'll go it on his own and reinvent what the rest of the industry innovates.

Around and about the Super Duper InfoBahn

Here are some predictions of what is up for the Internet in the year ahead. I don't have to go too far out on the limb to say that BMUG members will see bigger and better things from our Web page and also Internet connections to Planet BMUG, our FirstClass bulletin board service.

- Stephen Howard.

Several interactive-TV trials will be officially declared "failures" by the Baby Bells, and they will announce big, new Internet-based strategies.

The \$500 Internet console envisioned by Oracle and Sun Microsystems will never appear. After the breakup, the computer division of AT&T Corp. will take a shot at it. However, someone will write a World-Wide Web browser for Sony's PlayStation, making the whole exercise moot.

Flash-in-the-pan Internet news #1 will be link-ups between famous graphic designers and national magazines to publish much more sophisticated-looking content on the World-Wide Web using Adobe Acrobat or Microsoft Blackbird. [Acrobat and Blackbird are digital document readers. The software lets publishers take pages formatted for printing and turn them into "portable documents" that don't require special fonts or applications for showing images.]

Flash-in-the-pan Internet news #2 will be companies and individuals connecting to the

expanded information infrastructure of imaging and GPS satellites, automated municipal and federal tracking systems (for water, power, traffic), plus government databases and reports.

- Bruce Linde, Mac and Windows consultant and Web site designer, member of BMUG Board of Directors.

This year will see more and more people getting email addresses, and not using them.

Internet access will be offered by cable television providers. Users will have a new choice: whether to purchase televisions that run Windows or the Mac OS.

More people will realize that there is no security in full-time employment, and decide (or be forced) to try consulting. At this point they will discover that they can work at their own pace, and if they want it have something approaching a life.

BMUG will continue to rock!

- Dan R. Meriwether, Internet consultant and author, Moderator of BMUG's Internet SIG.

Unless Apple really pulls off a coup, Macintosh computers will lose Internet market share, currently estimated around 35%. UNIX built the framework, Macintosh made it easy to use, and Windows, with a year or five delay, copied the Mac.

As Microsoft Network users become anesthetized to the intrusion of privacy, you can expect a dramatically increased presence from the evil empire.

Contrary to the vociferous beliefs of many, the Internet will see little, if any, market interest or product realization in cheap Internet terminal boxes that are run primarily by applets across the Net.

Web sites are due for several radical departures from "traditional" development methods. Many larger sites will begin the move towards a dynamic rather than a static structure.

*But least we forget,
Apple has been
declared to have
totally self-
destructed. Kaput.
Finito. Dead in the
water. Or that's what
the mainstream
press know-it-alls
repeated over and
over again.*

Instead of a flat field of pages, each a static document, Web pages will increasingly incorporate on-the-fly page construction, integrated databases, and client-tracking mechanisms into their sites.

Many users will be surprised to find out just how much information the Internet servers they access know about them. What the server knows about those who access it, and when, and how, has a great deal of marketing demographic value. Expect to be categorized this year.

The role of Internet service providers (ISP) as modem bank will diminish at an increasingly significant pace. Cable and wireless modems, inexpensive ISDN and cheaper frame-relay will aid in this process. The main effect of this will be that users will demand more performance from their ISP's servers.

ISP's that are not able or willing to empower their users will see a increasing decline of their margins. Expect the long predicted ISP consolidation to rear its head late in the year.

March

What a hairy time for the Macintosh! Millions of people bought Macintosh models in the past handful of months and more than eighty thousand users flocked to the Macworld Expo in San Francisco—a record number and well up from last year.

But least we forget, Apple has been declared to have totally self-destructed. Kaput. Finito. Dead in the water. Or that's what the mainstream press know-it-alls repeated over and over again.

Fortunately, BMUGers know better. Problems aplenty have cropped up in the past and Apple has weathered them. We believe with perfect faith that whatever happens the Mac will survive.

Forget the doom and gloom from the PC pack and fellow-travelers, who hold fast to the flavors of Intel hardware and Microsoft "windowing environments." We'll stick with the Finder, thank you very much!

This month I'll take a look at a few of the folktales recently floated mainly by popular newspapers and magazines. Some of these rip-jobs were thinly disguised editorials, while others ran roughly-hod over facts that might give lie to a overly-simplistic thesis. I will give you some alternative viewpoints to mention around the water cooler.

In addition, there's the monthly dollop of tips and a few predictions from members of the BMUG brain trust that we couldn't fit into our recent prognostications column.

Onward.

The Blame Game

In January and February, BMUGers gnashed their teeth with the barrage of negative news reports, stock slides and frantic press release over the hullabaloo around the latest biannual Apple struggles. Relatives called in from around the country and wrung their hands over the state of the Macintosh. It was a mess.

The news was bad: a \$69 million loss in the last quarter, a potential \$125 mil-

lion hit in this quarter, layoffs and management flight. A significant bummer.

Apple was in and out of negotiations with Sun Microsystems and a host of other contenders ranging from Japanese powerhouses such as Sony Corp. and Matsushita, to Oracle and IBM. Newspapers portrayed these events as either done deals or the natural course of events, since Apple was obviously as good as dead.

But the actual numbers were interesting. Apple sold 1.3 million Macs in the quarter and 1 million of them were Power Mac models. That's a lot of machines. Although the company sold \$3.15 billion worth of goods, its margins crept down into the cellar and thus came the losses.

Countless reports in the press hammered Apple over the problems, from the nightly news to the front pages of newspapers that had never ever covered Apple or rarely any other computer maker. Many of these news stories were at best simplistic and at worst totally inaccurate. Apple is having problems, but must that cast everything that the company touches into doubt? Not.

Reality Checkbook

During the extended period of Mac bashing, some writers said that it's not wise to buy a Mac. They claimed there's a dearth of software for the Mac, that developers aren't writing for the platform, and it's a "bad investment," as if the purchase of a computer is the equivalent to buying a share of stock.

Here's a short reality check:

- **The Software Thing.** The lack of Mac software is a piece of propaganda that has tagged along with the Mac since its inception more than a decade ago. At that time there were few applications other than the classic MacWrite and MacPaint that were bundled with the machine.

Today there are many thousands of Mac titles. A recent search of the Computer Select database by *PC World* magazine (a somewhat non-biased source) found 6,500 different titles. *The Macintosh Multimedia and Product Registry* lists more than 8,000 products.

These publications overlook the many small applications, and spreadsheet

and database templates aimed at very vertical markets. They often go unnoticed by the computer press, but they exist for almost every type of business or arcane purpose. Where's that goat herding software for the Mac?

A recent post on Planet BMUG framed the quantity issue with the line: the Mac has 10,000 pieces of software you will never use; the PC has 40,000 programs you will never use. We are a long way from the time when a person could have used every program available for the Mac.

There's also seldom mention of software quality when the quantity issue is raised. Mac users expect a higher level of performance and usability for commercial software than PC users; this is similarly reflected in the design of Shareware and small vertical-market programs.

Both Mac and PC computer systems nowadays are sold with fantastic software bundles. Most Apple Performa models, education market and Power Computing Corp.'s clones, come with a range of productivity software such as ClarisWorks. They also usually come standard with a spread of CD-ROM titles.

- **Mac developers are switching to Windows 95.** While Mac developers are looking at moving their 32-bit software over to Windows 95, plenty of new and unique software is being created for the Mac. After wandering around the recent Macworld Expo, I was cheered by all the new products in almost every classification, especially for the Internet, multimedia, graphics and science.

According to many vendors, having both Windows and Mac versions is a plus for the Mac, especially with business applications. This is seldom mentioned by writers eager to give the Mac a black eye.

Since many sites have a mix of Macs and PCs, they feel better choosing an application that plays on both sides of the fence. Unfortunately for developers, the PC software is usually harder to test and support.

Part of the problem are the practices of big computer stores and the ana-

lyst companies that track software sales. Most stores have certain shelves for Mac-only titles and the rest are for Windows titles. But if a title is for both Mac and Windows where do you think that it goes—in the Windows section. Users don't know that both sides of the fence are covered in a single box and the stores don't bother putting up a Windows/Mac section.

- **The Macintosh isn't a "good investment."** This phrase has always puzzled me, since it implies that your computer hardware and software hold value. Unlike a fancy foreign sedan, computers are not good vehicles for investment; they lose their value quickly through obsolescence from the moment of purchase.

A product life cycle in the computer industry is now less than two years, which means that you will be able to buy a similar system for half the cost in about 18 months—or twice the system for the same amount. Mac systems have kept up with this trend, much to Apple's dismay. Users on the other hand have benefited from the low cost of fantastic technology.

Even better for new Mac users are the cost-savings now appearing from the PCI bus and processor daughter card architecture used in the latest Mac models. At the Expo, Diamond Multimedia showed a forthcoming low-cost card that will combine a television tuner and video input. The price will be around \$150!

This is a great time to buy a Mac, whether from Apple or from a Mac OS clone vendor. Period.

The real investments we make in any computer is that of time and the data we then create. The Mac has proven itself to be a high quality machine and one of the easiest computers to use. It's also a computer that can be maintained by ordinary human beings. Mac users have more time to invest in computing and less in kvetching. Or less in computing and more with the family.

Will the Mac be around in a year? In two years or ten? I think so. There's no doubt that Apple's Board of Directors and management need a kick in the pants, or maybe out the door. Get it to-

gether! Hopefully, Gilbert Amelio's new team will make the grade.

But with more than 20 million Mac users in the world, common standards for hardware and software compatibility between different platforms, your hard-won data will be readable and usable in the future. BMUG plans on being there, too, still offering a helping hand to computer users and pointing out how hardware and software can be improved.

Predictions, Round Too

Here are a couple of late-coming predictions for this year. As I warned last month, the prognostications are for entertainment purposes only and not to be used as the basis for financial decisions.

- Bernard Aboba, Systems Integrator at Microsoft and author of *The BMUG Guide to Bulletin Boards and Beyond*.

Okay, here ya go: Given the enormous increase in spamming and junk email over the last year, I predict that 1996 will truly be The Year of the Spam. This will include the first video Spams, and the first universal email spam (where almost everyone on the Internet is a recipient).

The World Wide Web will be conclusively linked to depletion of the ozone layer. Environmentalists will hasten to condemn the Web, albeit from a very chic Web page.

I predict that the passage of the Internet Decency Act will eventually be looked at as the 1990s version of Prohibition. Over the next decade, we'll see Internet speakeasies, backroom gathering places where adults will be able to view now-prohibited newsgroups. The joints will offer other prohibited pleasures, such as smoking.

By this time next year, Video and Voice will be the hot new thing on the Net. Local telephone companies will hasten to accept calls made by people at their "net phones," and the use of video applications like CUSeeMe will explode. However, because of the Internet Decency act, there will be nothing interesting to see or view.

Internet frenzy reach new heights. We will know that things are at their zenith when the entire Nixon Library goes up on the Web, including the unedited Watergate tapes.

In 1996, we will see yet more Internet demographic surveys. The results of the surveys will continue to be completely contradictory. One survey will conclude that 90% of all Internet traffic is generated by the same 493 people, who apparently are connected to the Net day and night. They are generating hits on popular Web pages, in order to receive compensation from the page creators, who get to charge more for their ads.

Internet frenzy reach new heights. We will know that things are at their zenith when the entire Nixon Library goes up on the Web, including the unedited Watergate tapes, done via Progressive Networks Inc.'s RealAudio.

- Fred Swan, BMUG Board Chairperson and senior product marketing manager at FWB Inc.

Apple stock will go up. Buy now.

With the widespread adoption of packet writing and continued price decreases, CD-Recordable drives will become extremely popular and easy-to-

use. The drives will be used not just for data distribution and title development, but for routine desktop backup and archiving. [CD-R drives let people make do-it-yourself CD-ROMs.]

A major contender in the PC clone market will see their market share decline dramatically. The slack will be taken up by Hewlett-Packard, although Apple will also benefit. In addition, IBM will sell personal computers bundled with Apple's Mac OS, perhaps as an option.

The 49ers will return to the Super Bowl (and win), Liz Taylor will return to the altar (where she always loses), and the Democrats will return to the White House (where nobody ever wins).

[As you can see, Fred's first non-computer prediction has already bit the dust. Better luck next time, Fred and 'Niners.]

Tip City

Here are a couple tips off of Planet BMUG, our online service.

- A big hit with the BMUG Personal Digital Assistant SIG (Special Interest Group) is the new Version 2.0 of the Newton operating system. Its performance is like night and day, according to members of the group. A feature of the updated OS is a new handwriting recognizer, which operates quite a bit differently than the older flavor.

The first recognizer learned your handwriting by watching your habits when inputting words. The Newton tries to match the words you're writing with items in its dictionaries; most of them are built-in lists of cities, names, and other commonly used words. You can also add words to a personal list.

In Version 2.0, there are two distinct handwriting codes: one divides input into cursive characters with connected letters, and the other handles printed separated characters.

The cursive recognizer is similar to the older version, but has been beefed up with speedier

code and more capable recognition. By tapping on a word and hitting the Try Letters command, you can invoke the cur- sive recognizer.

The new printing recognizer evaluates each letter of a word, one by one. For the system to work, the letters can't touch each other. In addition, it doesn't try to learn the printing habits for words in the lists. Just as some text search engines create indexes to speed up searching, others check the words in files one by one. When checking a printed word, each search is a novel experience for the recognizer. It's short-term memory is confined to the word at hand. But that isn't bad in this case!

If you want to avoid any the handwriting input hassles, Newton 2.0 will let you attach a key- board to the serial port. The unit is small, only a couple of inches longer than the MessagePad 120, but it's fast and efficient. It will cost about \$69.

- The WindowShade control panel in System 7 is a very convenient way of cleaning up windows on the desk- top. With either one, two or three mouse clicks, you can set it to pull a window up into its title bar, or down again.; it works with or without a modifier key.

You might not know that in the Finder, WindowShade also can operate on inactive windows by holding down the clover-leaf Command key while clicking on the titlebar. Long time Mac users know that an inactive win- dow can be also be moved by holding down the Command key while click-dragging a win- dow's title bar.

April

This month we will take a peek at some coast to coast Macintosh happen- ings, with a BMUG visit to the Seybold Seminars in Boston. The conference high- lights the top of the line in desktop pub- lishing as well as the latest in Internet tools—quite a mix.

The column will also feature the lat- est roundup of tips from the Planet BMUG, the group's electronic bulletin board service.

See Boldly Publishing

The Seybold Seminars has traced the rising use of desktop computers for print publishing. Of course, the Macintosh has been the primary player in replacing the high-performance, high-cost proprietary prepress systems, but over the past few years there's been a growing presence at the show of Windows software and UNIX workstations.

The events are held twice yearly, with little regard for the weather: there's a chilly winter show in Boston and a heat-wave San Francisco show in September. Next year, the East-coast venue will move to New York, city of a thousand advertis- ing agencies. However, the weather this year was beautiful and I didn't have an opportunity to take my galoshes out of the suitcase!

Vendors of digital cameras, image setters, film recorders, printing presses and publishing software look eagerly for leads among the professional audience that hit the show aisles. Unlike a Mac- world Expo, there's no selling on the floor, although there's nothing against a com- pany taking orders.

This situation pushes away bargain hunters and leaves a very rarefied and fo- cused audience for product pitches. Can you say tchotchke heaven? We're not talk- ing pen and pencil sets, either.

Although the weather outside was occasionally rainy and in the 30- to 40- degree range, NetCo Communications Corp. of Minneapolis pushed their WAM!NET wide-area network service by handing free purple Converse All-Star high-top sneakers. There's a growing business for companies like NetCo that can pump huge digital graphics files from a design house and publisher to a print- er across the country over high-speed lines. How does this all add up to purple sneakers? It's still a mystery

Converge This, Baby!

While the Seybold conferences have traditionally been strictly keyed into desk- top print publishing, during the past few years the events have looked more and more toward digital publishing on the Internet. Scattered among the prepress

hardware and software booths are com- panies hawking Web graphics programs, site management tools and Internet server systems.

The explosion of Web publishing this past year has given further evidence of the trend. In addition to finding its way into consumer magazines, newspa- pers and television advertisements, the Web has taken over the hearts and minds of many print industry gurus, including Jonathan Seybold, the founder of the sem- inars and its trade-rag empire.

For years, Seybold and many others have described a "convergence" of me- dia on the Net that may replace much of the print publishing market for newspa- pers, magazines and direct-mail adver- tising. This Internet-centrism has creat- ed factions at the show: one group are the old guard of print users and vendors, and the other, a younger "we-get-it" crowd. The rivalry has given a puffed- up pride to the newcomers and caused the print-centric folks to hang their heads.

But even Seybold admitted recently that the Web has been oversold. At the conference this winter, the print vendors and users once again were able to hold their heads high.

"People say [the Internet] will solve all of our problems," Jonathan Seybold said. "This will transform society and we'll all be healthy, happy and wise. It will fix education, democracy. and commerce. Everything. And of course, that isn't what happens. And it hasn't happened in the past. I see no evidence that the kinds of Panglossian projections for what's going to happen with the Net will be any more true than some of the previous Panglos- sian projections were."

Several attendees also commented on the generally low quality of Web graphical design as well as ironic success of low-resolution Web graphical images after the long and bitter struggle by the desktop publishing industry to increase the resolution of digitally-created print images.

"Just as HTML [HyperText Mark- up Language] brought nothing to the ta- ble for visual literacy, so Java will bring nothing either," said BMUGer Ari Davi- dow, technologist at Addison Wesley Longman publishing company, after a long Java demonstration. HTML is the cross-platform foundation of Web

browsers; it lets applications understand both the structure and content of a document, independent of formatting. It lets authors tell any Web application what's a page a header, subtitle, image or HyperText link, instead of just plain-old text and graphics.

Most current hot Web technologies focus more on overcoming the long-distance transfer of information as efficiently as possible. Unlike the control that print publishers exert on their printers for output quality, it's difficult to mandate various screen resolutions and monitor settings in the homes and offices of millions of people around the world. However, Silicon Graphics Inc. at the Boston conference took the wraps off Cosmo Color, a new Java-based color-management tool that will tell a Web server what kind of monitor you have and let it send images fine-tuned for your display.

It was clear this year that there's a major effort by vendors to boost ties between print prepress and Web publishing. Most users want to find ways to lay out the information and images on a page once, and then accurately and easily publish it many times regardless of format, either digitally on the Web or in different print formats.

Get with the program—and hardware, too.

Here are a few of the highlights from the Boston show:

- Publishing hardware and software company Scitex Corp. Ltd. took the wraps off ClickWorks, a new object-oriented multimedia-authoring program (Figure 1).

Slated to ship this year for under \$1,000, the authoring software will run on a Power Macintosh, while a player will be available for Macs, Windows 95 and NT systems.

One cool feature is the new programs handling of text. You can edit text any time, including in the play—a very good feature for people that need to add last moment changes to a presentations. Scitex said text elements in ClickWorks will be fully editable at all times, even within its runtime player.

- Apple showed off its new Network Server models, its first non-Macintosh computers since it shipped the Apple IIGS (I'm not counting the Newton in this list). Code-named Shiner, the Network Server 500 and 700 run a version of UNIX; the "entry-level" model costs from \$10,000 to \$15,000 and the Network Server 700 is priced from \$12,500 to \$25,000.

If you've ever seen servers from Apple's competitors, the Network Servers really have many nice little touches that mean a lot to busy and overworked network administrators. In addition to hot-swap array storage, the models let you slide out the entire motherboard easily to install RAM and PCI slots. It even has built-in wheels that let you move the heavy unit around the office. This nifty feature drew nods of approval from the crowds checking out the demonstration at the Apple booth.

With all these high-powered features, the servers run an Apple-adapted version of AIX 4.1.3, IBM's UNIX for the PowerPC chip. The units have been optimized for AppleTalk and can even handle Apple Events, letting developers script Mac applets for a variety of Unix tasks.

- MetaTools Inc. unveiled the latest version of Bryce, its three-dimensional world-building program (Figure 2).

The \$299 Bryce 2 has a goofy interface, but it lets users move around water, mountains, forests and other elements easily.

Tip City

Here are some tips that recently floated to the top on Planet BMUG:

- In early March, drive vendor APS Technologies Inc. alerted Mac users to a problem with some hard drive caches, third-party driver software and Power Macs.

Drive caches are special memory chips on hard drives that hold data before writing to disk. The past few generations of drives optimize this process and make drives faster.

APS said that the drivers is sometimes don't clear the cache memory correctly and this can cause file and directory corruption. The data left in the cache is never written to the drive.

The problem can happen at shutdown, from a power failure



Figure 1. As one might imagine from a company so involved in publishing, Scitex's forthcoming ClickWorks editing environment will let you fool around with text elements.

or even when the system goes to sleep if you're running the new Energy Saver control panel.

The driver problem doesn't effect Apple drives formatted with its own utility. In the past, Apple drives came with the cache turned off, but it recently began using drives with the caches enabled in PCI Macs.

Many third-party SCSI-formatting utilities also let users turn drive caches on for both Apple and off-the-shelf drives. So you could introduce this problem yourself and not realize it for a while!

So what can we do about this?

First, make sure you run the latest version of drivers on your hard drive. Most people just format a drive and then let it sit around. When Apple or third-party companies upgrade their utilities, it's important to update everything, including the drivers.

APS, CharisMac Engineering Inc. and FWB Inc. in March provided updated drivers online. Other companies were still looking at the problem.

Another idea is to leave the Mac on all the time. It doesn't hurt a machine to leave it on for the weeks or days or years. Make sure that you run a screen saver, or simply turn off the monitor; newer displays that follow EnergyStar will turn themselves off automatically. Although it's not ecologically-correct, don't employ the system-wide energy-saving routines in the new control-panel.

The third "trick" is to copy data files to an external hard drive, SyQuest, zip or floppy before shutting down. Duh! This is a good idea for everyone, everyday.

- Granite Digital recently released a new version of its SCSI terminators and high-performance cables. Good quality cables can cut down on slow-downs on the SCSI chain, especially with new faster flavors of SCSI



Figure 2. Bryce 2 gives users a 3-D interface to 3-D world building, which makes virtual sense.

such as speedy Fast and Wide SCSI-2 and Ultra SCSI connections.

In addition to the usual 50-pin SCSI "Centronics" and 25-pin Apple plugs, the company has models with the 50-pin MicroD connector now used by many new drives. A 3-foot-long Apple to MicroD cable is \$69; a Centronics to MicroD cable is \$99.

Granite also sells Teflon ribbon cables for internal drives that improve performance for applications such as digital video, the company said. The 6-inch Fast and Wide, and MicroD cables cost \$69; the Centronics flavor is \$39.

- A perennial problem for Mac users are extension conflicts; extensions and programs don't always mix. The BMUG Helpline advises callers on the many secrets to their ordering during startup as well as the dos and don'ts for compatibility.

The MacChat e-newsletter recently gave a pointer to the Complete Conflict Compendium (C3) at <http://www.islandnet.com/~quill/c3data.html>. It's a searchable database of over 350 software conflicts and solutions. Users can search by symptom, application and system version. C3

is a volunteer effort by Quill Services Ltd., a Mac consulting firm in Victoria BC Canada.

- I saw TECHcessories' \$99 Dinokidz keyboard at the Expo—awesome! It's sold by a number of mail order companies

The full-size expanded keyboard is wrapped inside a dark green diplodocus. The bottom, or tummy, acts as a wrist-rest and the keys are several colors. The package comes with a multi-colored mouse and pad. Although aimed at kids, it's a real work of art for anyone's system.

Granite Digital of Union City, CA
Phone (510) 471-6442; Fax (510) 471-6267.
MetaTools Inc. of Carpinteria, CA
Phone (805) 566-6200; Fax (805) 566-6385; <http://www.hsc.com>]

May

In early April, BMUG held its annual MacFest on the U.C. campus. Over 3,000 Bay Area BMUGers got together with a bunch of vendors, Special Interest Group members and BMUG volunteers. It was great fun and educational, as well.

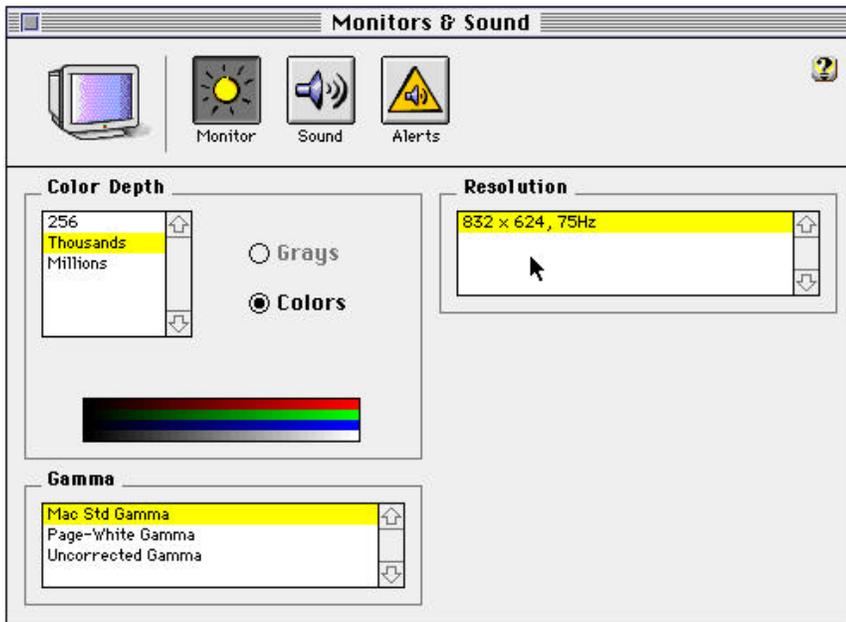


Figure 3.

The event also featured many panel discussions and I got to blather on about hard drives, clones and printers. A packed crowd was very polite to visitors showing off the features of Windows 95—contrary to all expectations and the usual anti-Windows razzing that the BMUG peanut gallery exhibits.

A real treat was a demonstration of the latest version of Copland, the forthcoming next-generation Mac operating system.

Go BMUG!

Moving Up System

Apple recently released a major update to the Mac OS, called the System 7.5 Update 2.0. In reality, it is System 7.5.3 for most Power Macs and older 680x0-based models; it fixes a bunch of bugs, improves performance and adds some features, especially for PCI-based Macs.

The Finder gains some new capabilities, including a long-awaited ability to keep Get Info comments after the invisible Desktop file is rebuilt. When moving files around on Power Macs, the icon gets blurry and see-through instead of shown in an outline.

The update also fixes nasty bugs that cause crashes or memory leaks as well as beefs up serial, networking and print drivers. The new OpenTransport net-

working architecture is installed on PCI-based Macs; it is an option for users of older Macs.

The update installs a new version of the Monitors control panel; you can see it in Figure 3. The update is available from the BMUG office on a CD-ROM or on 14 floppy disks for \$12.99 plus postage and handling.]

However as the 18th Century philosopher Jonathan Eibenschutz said, “All pleasures contain an element of sadness.” There have been some problems with the update, mainly around its installation.

The update comes with a new smarter installer that can change or delete outdated pieces, even if they’ve been turned off in the Extensions Manager. A good thing. But it can have problems if users or applications have renamed system files. A not-so-good thing.

There is a setting in the Extensions Manager called System 7.5 compatibility, which toggles the correct extensions and control panels for the updater; Apple said we should also disable non-standard items.

The safest way to run the update is to first install a “clean” System 7.5 on your Mac. This can be done by launching the installer, press Command-Shift-

K and then press the Install New System Folder button.

After installing the clean system, you can introduce the new update. Finally, add back your old preferences and third-party add-ons. This may be a good opportunity to re-build the parameter RAM settings (hold down Command-Shift-P-R).

In addition, I spoke to a user that had an unfortunate problem with the floppy update. After inserting the set of disks, it asked for the first diskette, but refused to recognize that floppy as the original. Hello!

Make sure that the write-protect tab is clicked up to lock the disk, which should stop this from happening. This is not a problem with the CD-ROM version, of course.

The Doctor’s in

The daily newspapers in late March were filled with articles about an Apple internal memo, describing meetings the new boss, Gilbert Amelio, held with rank-and-file employees.

Most focused on certain statements about quality and Mac marketing that Amelio made in the ad-hoc meetings. Of course, these meetings were not meant to create official policy .

The press little attention was paid to the fact that they were held at all. What fantastic news: the head honcho wants to get the word from the shop floor and not rely totally on reports generated by the usual chain of command. What an idea!

Here’s most of the actual memo for you to check out:

Subject: Meeting with the Doctor.

“I had the good fortune to be randomly selected to meet with our new CEO, Gil Amelio, in the first of what will be a continuing series of monthly ‘Koffee Klatches.’

In what will serve as a model for future meetings, it brought together about a dozen individuals, each randomly selected from within a diverse range of corporate divisions... They are Gil’s attempt to obtain direct feedback from the troops, and to provide us direct access to him and his views on Apple’s direction. This is something Gil routinely prac-

ticed at National Semiconductor and plans to continue here.

I should state at the outset that I was predisposed to like what I heard, because I had just read his book, *Profit from Experience*, as preparation for the meeting, and was quite blown away... If you haven't read this, I **highly** recommend it. We actually have a CEO who has a clue, both technically and as a business manager...

That said, the meeting itself was quite encouraging. Too brief, to be sure, but encouraging. Gil insisted that each person ask at least one question or offer one comment. A couple of people sat quietly through the entire session, until, upon being notified that there were 5 minutes remaining, Gil focused on these individuals and surprisingly gracefully drew them out as well.

First a few of Gil's initial comments: 'It's fixable.' While I don't think he could, in good conscience, face us and say, 'We're doomed,' I believe he means what he says. Without revealing any numbers, he indicated that financials would indeed be poor this quarter...

He holds fast to his '100 days' target (May 15) of determining Apple's full strategic plan, but appears to have a pretty good grasp of some of our greatest strengths and weaknesses already, and I believe he already has at least a few plans taking shape in his mind.

What I felt was a major directional strategy was his statement that Apple would be, essentially, the MagLite of computers. MagLites are those extremely well-made, but pricier flashlights. He said we simply cannot compete dollar for dollar with Compaq, Gateway 2000, or (name your own clone-maker), due to our larger R&D budget. So we must be perceived as a more desirable, more reliable, higher value computer, for which people will be willing to pay a small premium.

To make this point at a recent board meeting, Gil brought in a \$2.98 el-cheapo flashlight and a much more expensive MagLite, and noted that it was interesting that what he had in his home was the MagLite, specifically for its dependability and durability. On the one hand, it's almost impossible to argue with this strategy, unless you propose lopping

Sculley (in my opinion) virtually destroyed the company—trying to market computers, no matter how great they were, at double the going market price for clones.

off R&D and ceasing innovation, in which case you might as well close the doors now. (And Gil definitely feels this way about *not* gutting R&D and thus sacrificing the future of the company, just to make a quarterly report look good; read his book!)

On the other hand, it scares me that an extreme form of this is just exactly how Sculley (in my opinion) virtually destroyed the company—trying to market computers, no matter how great they were, at double the going market price for clones. And I hope that Gil doesn't lack perspective, and occasionally remembers that even though **he** has MagLites at home, not everyone makes millions of dollars a year, and lots of people buy the cheap flashlights for pretty much that reason—the price differential.

But, frankly, given Gil's intelligence and business acumen, I'm willing to give him the benefit of the doubt, and assume that he will seek the appropriately-sized premium that balances our advantages (and we **do** have advantages) with the market's willingness to pay for them. And I think we still have a cost-over-product-life cycle argument to make; I also have a couple of MagLites at home that have far outlasted the clunkers I used to buy.

One participant asked for a better definition, some more specifics on what was meant by the new emphasis on 'Quality,' noting that the concept was a bit broad. Software stability was one key element that was stressed in the ensuing discussion.

I made the point that the kind of stability being sought would never be achieved without true memory protection, and worried that Copland, though making steps in the right direction, does not go far enough in addressing this most fundamental of concerns. (Yes, there are backward compatibility issues, and, as such, may need to be a 'Blue partition,' much as Copland uses, but the part of the System the user sees, the Finder, should not reside in that eminently crashable partition.

New apps should be able to have a user interface yet reside in a protected partition, and there are additional steps that can be taken right now to provide limited memory protection for legacy Blue applications.

Gil's immediate response was that he was very aware of this, agreed wholeheartedly, and had already scheduled meetings with Dave Nagel to work on the problem. Imagine, a CEO with whom you can talk about memory protection, and who is already taking steps to ensure its earliest possible implementation.

Another issue related to stability that Gil specifically raised was the huge number of system software variants that are required to support our various platform configurations.

He said that it had been estimated that for all combinations of form factors, ASICs, and revisions, we must support something like 100,000 unique configurations, with a potentially different OS for each.

He says that *will* change. There will be a standardized interface between the OS and the basic motherboard. Creativity can come into play in the industrial design, user interface, peripherals, boards, or wherever we can improvise on the periphery, but that the OS will no longer be expected to adapt to excessively creative board design with each new platform, and hence will be much easier to support and much more stable...

And further on the subject of responsiveness to suggestions, I noticed Gil make note of action items for himself several times, when ideas emerged that were not already part of his plans. I got the impression that the issues would genuinely receive his attention...

Bottom line. Granted I've been accused of being a perpetual optimist (gad-

fly and troublemaker in equal measure, no doubt), but I genuinely believe that the company is now in the best hands it has ever been in, going all the way back to (and including) Steve & Steve.

Gil Amelio appears to be the real thing, with deep technical knowledge and astonishing business smarts. And when you speak with him, he's really 'all there,' paying attention, communicating back. If, indeed, it is 'fixable,' then we appear to have the right man, a full-fledged Mr. FixIt, at the helm.

Mac April Fool's Gold

I really enjoyed a series of gag press releases Mac developer Delta Tao sent out on April 1. It's also a clever way to slip in a mention of their own games and paint tools.

Here's the best, which deals with a previously undiscovered problem: the tragedy of "sound-burn." How odd that no one had discovered it before?

Delta Tao today released BeepSaver™, a new utility designed to prevent and correct sound-burn of Macintosh speakers.

While most people are familiar with the concept of screen-burn, which can cause an image to become permanently "ghosted" onto their monitor if a single picture is left up too long, they don't realize that the same thing can happen with their speakers.

A computer that makes only one sound, over and over, can eventually have its speakers sound-burned. At first, other sounds will start to resemble the oft-repeated beep noise, but in severe cases that may become the only sound the computer is capable of making. The only remedy is a costly and time-consuming speaker replacement.

"I had my computer hooked up to my \$22,000 stereo system, and my beep sound was James Earl Jones' voice. Now everything sounds like Darth Vader after only six months," explains noted Macintosh enthusiast Guy Vardaman.

DOS computers have suffered from this malady for so long that sound-burn is commonplace. The annoying and repetitive DOS beep typically sound-burns within a few months, making all music sound like Fisher-Price© and making voice synthesis sound like a TI Speak and Spell©.

Ironically, people who play computer games, such as Spaceward Ho! and

Eric's Ultimate Solitaire, are less susceptible to sound-burn because their computers already make a variety of noises. People who shun games altogether are most susceptible.

It has also been reported that in extreme cases sound-burn can happen not only to speakers, but directly to the eardrum.

"I never thought about my beep noise, until one day I noticed that my boss sounded like Simple Beep," complains maverick software developer John Evans. He is now awaiting an ear transplant, as soon as a suitable donor can be found.

While you can reduce the problem by reducing the speaker volume, the only way to completely prevent it is to eliminate repetitive beeps. BeepSaver comes with over 100 different beeps and software to configure how often different beeps occur. Despite its power and usefulness, it takes less than 20k of RAM, less than 1/10 second at boot time, and is completely bulletproof."

June

This month we will take a little tour around Copland, the next-generation Macintosh operating system. A few hundred of the thousands of visitors to BMUG's MacFest show in April got to see it in person.

But the whole caboodle won't be futuristic don't-hold-your-breath stuff; we will also play tourist at Tip City and check out the sights. Onward!

A one and a two and...

The news can break fast and furious in the Mac world. In late April came the word that Apple had revised its schedule for Copland's release. The date slipped—or fell on its tush and slid downhill—until sometime in the middle of 1997.

Some observers dogpiled on Apple and claimed this development was yet another example of the Cupertino company's failures. Others pointed to the long and drawn out release schedules for other operating systems such as OS/2, Windows 95 and Windows NT.

Is this latest delay the end of the world? The answer plain and simple is nope.

Programming is like constructing a virtual bridge or a skyscraper, but instead of steel bolts and concrete, software is made of bits and bytes. In other words: plenty of nothing. It's not like you can

While most people are familiar with the concept of screen-burn, which can cause an image to become permanently "ghosted" onto their monitor if a single picture is left up too long, they don't realize that the same thing can happen with their speakers.

A computer that makes only one sound, over and over, can eventually have its speakers sound-burned.

look outside and see a construction crew at work day after day on a visible edifice.

Operating systems are not small constructions—they are some of the largest and most complicated. Systemware is made of millions of lines of code and are the foundation for third-party software. Even harder, they have to match up correctly with all the hardware. If the pilings and framework are not solid, the architecture above will be weakened.

Reportedly, the Copland effort is not hitting Apple's formerly optimistic goals, which is another way of saying "too many bugs."

So most BMUGers I've talked with are sanguine about the wait. They would like to have Copland on their desktops today, but they'd also want it to work. As we've seen in the past, it's one thing to ship a product and another to shake the loose threads out of the suit. Six of one and half a dozen bugs of the other.

The Internet is another reason why waiting may ease the discomfort of the longer wait. Apple's new commander, Gil Amelio, is making some changes. Some decisions will help put the company's financial house more in order, while other actions hopefully will give Apple a byte more focus with its development projects. Amelio is pushing Apple to refine (or define) its Internet strategy.

In related news, Apple recently said it will integrate Sun's Java language into both Copland and System 7.5.x and even the Newton operating system. Java is a popular, interpreted computer language that is used to jazz up World Wide Web pages on the Internet. Java support for the Mac was a concern to several attendees at MacFest.

I guess we will just have to wait a while longer and crack our knuckles in anticipation of the public beta test for Copland, which is expected next winter. That will warm up my system on a rainy night!

Coping with Copland

The Copland sneak peek at MacFest was of the latest developer release. Apple is sending it out in dribs and drabs to codemeisters around the world.

One of Copland's product marketing managers, Peter Lowe, with the assistance of his young son, showed off the Copland interface to the eager crowd of

Copland will support up to ten users per Mac and users will be able to save their workspace preferences on a floppy and load them in a new machine.

— according to Peter Lowe
Copland Product Marketing Manager

BMUGers. He also ran several third-party applications on the OS, including Claris Impact 2.0 and Microsoft Excel 5.0.

Lowe said compatibility is a high priority for Copland, but that will extend primarily to applications—not with extensions. Some of these modifying functions will be handled via Copland's expanded user interface, called "workspaces."

In addition to offering system customization, workspaces will provide a new multi-user preference capability. Different users of a machine can each see a different Mac desktop.

Copland will let users choose between different styles of window frames, menus and desktop appearances. Some of the desktops were wild, while others were Spartan.

Lowe also ran a utility that played animated sprites in a transparent layer on top of the desktop or covering up everything as a screen saver. Under Copland everything is an application—this perhaps not so very useful one showed small flies buzzing around a bowl of fruit.

According to Lowe, the new systemware will support up to ten users per Mac

and users will be able to save their workspace preferences on a floppy and load them in a new machine.

This flexible architecture caused quite a stir among the consultants and BMUG Helpline volunteers in the audience. They worried about fielding technical support calls with each side of the conversation viewing a totally different Mac. Real-time Rashomon.

Even worse in the eyes of the support personages, was a described new Feature Manager that will let users hide or remove unwanted features of a system, such as folders, files and even menu items. Now where did I put the Save command?

Of course Apple has to field tech support calls as well, so Copland will come with a standard workspace setting that gives a uniform interface.

The new operating system will fill up about 50 megs of hard drive space, however only half of the space will be needed for system files. The rest will be used for virtual memory. Fortunately for Mac users, the cost of hard disk drives keeps falling.

The new operating system will be more "abstract" than older versions. This means that it doesn't rely totally on certain Mac hardware always being in place and it will even run without the famous Mac ROM. This is one of the reasons why it takes up so much room. But according to Lowe, users will be able to run the software on a PowerPC-based Mac with eight megabytes of RAM.

Lowe offered apologies to the audience when he confirmed that older Macs with 680x0 processors will not be able to run Copland; this includes Macs with PowerPC upgrade cards.

Lowe said all Macs with a PowerPC actually stuck on the motherboard will be able to run Copland—this includes the first generation of Power Macs and clones with NuBus.

He also said that although pricing has not been set, the street price of Copland will be similar to System 7.5, or about \$90.

Tip City

Here are a few recent tips that floated into my Planet BMUG mailbox:

- Last month I mentioned the System 7.5 Update 2.0 CD-ROM, which lifts us-

ers of various flavors of System 7.5 up to Version 7.5.3. The update is also available on 14 floppy diskettes.

Since some people packed their System Folders with now-moldy hacks or altered the names of standard items by changing names, I mentioned that it may be a good idea to first install a "clean" System 7.5 on your Mac.

This can be done by launching the installer, hitting down Command-Shift-K and going for the Install New System Folder button. You can then toss in your old Preference files and third-party add-ons.

But I recently discovered a new "feature" of Peripheral Component Interconnect (PCI) Macs and the system installer software that brings a caveat to this advice.

On my Power Computing PowerWave 132, a speedy PCI Mac clone, I created fresh systems on both the internal hard drive and my external drive using the System 7.5.2 installer and the new updater. I wanted the external drive to be usable by any Mac, models with and without the PCI bus or PowerPC-processors. This was a worthy dream that strayed short of reality.

I discovered that the System 7.5.2 installer, which was the version for PCI Macs, doesn't let users make a System folder that can be used by older Mac models. Although I was offered advice about holding down various modifier keys to get the installer to lay down a universal system, I couldn't find a secret trick that actually worked (or that showed me the traditional check boxes in Custom Install dialog that support this setup. I didn't want to keep testing the installation, which takes quite a while to run).

The obvious answer would be to run the original, "pure" System 7.5 installer. However that

version of the system doesn't work on PCI Macs. It requires Version 7.5.2. What to do?

The solution requires connecting the external drive (or internal for that matter) to a non-PCI Mac and then running the original System 7.5 installer and updater. This process will generate a System that can work on any Mac model.

Hopefully, you didn't give your old Mac II to Aunt Minnie and ship it across the country.

- I recently spoke to the folks at Meridrew Enterprises and was clued into a potential problem with the coated screens on some monitors and personal digital assistants.

Some of the recent crop of monitors use special coatings on the screen's surface to cut down reflections. While we ordinarily think of a screen as being a very hard surface like pure glass (since it is glass, duh), the thin coatings are softer and vulnerable to common cleaning products with solvents, such as alcohol and ammonia.

According to Meridrew, several products marketed as lens or monitor cleaners can actually ruin these screens! This reminds me of a class of diseases termed "iatrogenic," which are new problems caused by doctors in the course of treating someone for an illness. In case of the monitors, users think they're doing right by their expensive monitor and they're actually hurting it.

As you might guess, Meridrew sells Klear Screen, a cleaner that doesn't cause any damage. They also have a pack of special lint-free cloths. This stuff is great for your glasses, if you haven't already figured that out.

A pack with several cloths and a 2-ounce spray bottle of cleaner cost \$8.95; a big 8-ounce bottle is \$12.95. A bundle with both small and big bottles, foil-

wrapped travel packs, and a bunch of cloths is \$29.95.

- If you work all day on your Mac you may suffer a bit from wrist fatigue. Even though many users rest their wrists on a pad when they use a keyboard, there's usually nothing for the mouse.

Case Logic recently released Gel-eez branded wrist rests that are very comfortable. The units are made from several tubes filled with gel. I've been using one for while and they are firm, but with a nice give that cushions the wrist.

The rests come in a number of colors, including black, blue and burgundy. The version for a regular keyboard costs \$16.95; the version for the mouse is \$12.95.

Meridrew Enterprises
 P.O. Box 113
 Danville, CA 94526
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 Fax (510) 838-8773

Afterwords

Here are the other two Delta Tao phony press releases from this last April Fool's day. The first is for Writer Effects, which has an artificial intelligence ring of truth about it. The second is a bit too subtle and readers may be hard pressed to find the joke. I will explain at the end and not ruin it.

Writer Effects, a new set of filters for popular word processors, may forever change the way people think about writing, according to developer Delta Tao Software, Inc. of Sunnyvale, CA.

For several years graphic artists have been able to transform scanned images or artwork into a variety of styles and color combinations using products such as Adobe Photoshop or Delta Tao's Apprentice. "What we wanted to do," says Delta Tao president Joe Williams, "is give this kind of power to artists who work with words instead of pictures."

Writer Effects is a set of additional tools and filters which perform an amazing variety of operations on word processing documents. Until now, the only func-

tionality provided by such plug-ins are things like spelling checkers and grammar checkers. Writer Effects does much more.

For example, the Screenplay Filter will search through text, detecting dialogue and converting it into the format preferred by screenwriters, with each speech beside the name of the person saying it. Depending on the settings, the Screenplay Filter can also detect and insert scene changes and act changes, appropriately modifying the text. You can either change the entire document at once, or have Writer Effects step through paragraph by paragraph.

The Vocabulary Filter searches for words or phrases which occur several times in a document and replaces them with synonymous words, keeping the text from being repetitive. This filter can also find words that are too simple or too complex for the intended grade level (which you set) and replace them with more appropriate words or phrases. This can reduce text to the level of "See Jane run," or make it so complex that only a professional linguist with an exceptional vocabulary could comprehend it.

Also included are several Poetry Filters (including Iambic Pentameter), a Word Enlarging Tool (just click on a word and it will change into a longer one that means the same thing), a Word Shrinking Tool, an Antonym Tool, and several filters which make prose take on the style of famous authors, including William Faulkner, James Joyce, Homer, Edgar Allen Poe and 21 others.

Though some might consider the \$50,000 price tag steep, Writer Effects can pay for itself with only a single use. Software Engineer and Rocket Scientist Konstantin Othmer ran his latest book, *Programming With QuickDraw*, through a beta version of the Stephen King Filter and received a \$300,000 advance and a movie contract with the result.

Versions of Writer Effects for most word processors, including ClarisWorks, WordPerfect, and FrameMaker, are in the works, scheduled for release in December. Work will begin on a Word version when Microsoft publicly admits that Macintosh is vastly superior to a PC running Windows.

NaturalPaint Paints Naturally, Naturally

Riding a wave of paint programs which allow the Macintosh to better simulate conventional painting tools, Delta Tao Software is releasing NaturalPaint, an application which faithfully and completely reproduces not only the look of the final artwork, but the whole process of creating the image. It is an enhancement, not a replacement, for Delta Tao's other quality paint software, Color Mac-Cheese 3.0 and Apprentice.

NaturalPaint comes with a number of tools which simulate conventional tools. Charcoal, pastels, oil paints, crayons, and watercolors are just a few of the tools which are initially available with NaturalPaint, and plug-ins for air brushes, colored pencils, and finger paints will be available soon. Not stopping at simulating the tools, Delta Tao also can do different paper textures, with over fifteen different types of paper, and more available soon. Interaction between the tools and the different types of paper is reproduced magnificently, with watercolors bleeding very differently on canvas and cotton paper.

Several paint programs have noted the usefulness of a pressure sensitive tablet for conveying to the artist the feel of working with conventional paint. Unfortunately, rotation of the brush is often as important as the pressure, and most programs have not been able to reasonably reproduce the behavior of tools which can be rotated. "The problem wasn't really in the software," points out Delta Tao president Joe Williams, "It was in the input devices—a mouse or graphics tablet just couldn't do it." That's why NaturalPaint includes in the package a collection of input devices designed especially for the NaturalPaint software. "It's important that the software and the input device really understand each other. I developed NaturalPaint and the input devices side by side, so they work seamlessly together," says author Tim Cotter.

NaturalPaint also uses a unique color selection model. While most paint programs force the artist to select colors from a palette or from abstract representation of color space (like a Color Wheel), NaturalPaint changes its method of choos-

ing colors depending on the tool being used at the time. For example, if you're working with the Oil Paint Tools, you choose colors by mixing different primary colors together and then "dipping" your brush on the color you're looking for. The Oil Paint Brushes are even capable of holding several colors of paint on the brush at one time, so you can do streaked or multicolored brush strokes. On the other hand, if you're working with a Crayon Tool, you choose your color not by mixing colors (which crayons really don't do), but by actually choosing the tool of the correct color from the Tool Palette. This innovative method is completely intuitive and works well on Macs with small screens, or even on black and white Macs.

Perhaps the single most amazing thing about NaturalPaint is the quality of output. Since the input device is directly attached to the output device, no loss of information can come in the middle. NaturalPaint output is virtually indistinguishable from the real thing. NaturalPaint outputs true-to-life color, even on a black and white printer! Or no printer at all, for that matter.

NaturalPaint is compatible with any Macintosh system, from 1 to 7.5 or Copland, as well as the Apple II and the Atari 2600. It works with any operating system not designed by Microsoft. NaturalPaint will be released as soon as a bug with the Undo is worked out.

The Yoke

What the NaturalPaint press release failed to describe fully is the hardware and software interaction. Imagine a real physical brush and paper and paints connected to the Macintosh. The clue is "the input device is directly attached to the output" 🐘

David Morgenstern is a longtime BMUGer and a writer at MacWEEK. He is the self-proclaimed BMUG Cheerleader and helps run the monthly BMUG West meetings at the Exploratorium science museum in San Francisco. You can reach him at david_morgenstern@macweek.ziff.com

Cryptography & Speech

by Jonathan Rosenoer

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- II. Ideas as Munitions
- III. Regulation of Conduct
- IV. Incidental Restriction of Speech
- V. A Misinterpretation?
- VI. First Amendment Violation
- VII. Government Sleight-of-Hand
- VIII. Controlling Speech
- IX. Real Issues

I. Restricting Access

Dr. Daniel Bernstein has some ideas about cryptography, the art and science of keeping messages secure, that he wants to share. In particular, he wants to publish his ideas and research in an Internet discussion group named sci.crypt, as well in print. But the Government has told Bernstein that he cannot “export” a document or source code describing the encryption system he developed, called Snuffle, without registering as an arms dealer and obtaining an arms license from the State Department. The Government says these items are on the U.S. Munitions List and covered by the International Traffic in Arms Regulations. But Bernstein claims the Government’s actions prevent U.S. citizens from engaging in private, electronic communications with foreign persons, and, as a practical matter, will restrict private domestic electronic communications. Bernstein also argues that by “restricting access to the tools which allow anonymity and privacy, the government puts the communications of all of its citizens at risk.” According to Bernstein,

“Without cryptography, what people send via computers is the electronic equivalent of a postcard, open to view by many people while the message is in transit. With cryptography, people can put both messages and money into electronic ‘envelopes,’ secure in the knowledge that what they send is not ac-

cessible to anyone except the intended recipient.

... Continued development of cryptography promises to make it possible for the worldwide computer Internet to offer private, secure and protected communication among billions of people worldwide.”

II. Ideas as Munitions

While a Ph.D. candidate in Mathematics at the University of California at Berkeley, Daniel Bernstein worked in the field of cryptography and developed an “encryption algorithm or recipe which he calls ‘Snuffle.’” He described Snuffle in English and in mathematical equations, as well as in the “C” computer programming language (Snuffle.c and Unsnuffle.c). Bernstein wants to publish his cryptographic ideas and research results “as part of the normal process of academic, scientific and political exchange of ideas and information,” and, in particular, in “text journals as well as in an online discussion group about the science of cryptography, called sci.crypt.

According to Bernstein, “[a]ware of the [Government’s] civil and criminal restrictions on cryptography export, [he] asked the Office of Defense Trade Controls (“OTDC”), an arm of the State Department, to find out whether he could publish his ideas.” He told OTDC that he wanted to export the document “The Snuffle Encryption System,” and the Snuffle.c and Unsnuffle.c source files.

Bernstein filed 5 different commodity jurisdiction requests. OTDC determined that each of the items are on the U.S. Munitions List and covered by the International Traffic in Arms Regulations (ITAR), so he may not “export” them without registering as an arms dealer and obtaining an arms license from the State

Department. Bernstein then filed a lawsuit so he might publish his own scientific ideas without such restriction. *Bernstein v. U.S.*, C95-00582 MHP (N.D. Cal.)

In response, the Government asks the Court to dismiss Bernstein’s complaint. The Government notes the Arms Export Control Act (17 U.S.C. Section 2778(h)) expressly prohibits judicial review of the determination that cryptographic software should be designated a “defense article” on the U.S. Munitions List. Here, Snuffle 5.0 software was designated a defense article under statutory authority, “[i]n furtherance of world peace and the security and foreign policy of the United States.” According to the Government, both the Arms Export Control Act and the Constitution prevent the Court from second-guessing the designation — the question of whether an item should be placed on the Munitions List possessing nearly every trait that would render it “political.” In addition, claims the Government,

“No satisfactory or manageable standards exist for judicial determination of the issue, as [the Government itself] acknowledge[s] the disagreement among experts as to whether [the particular item] belongs on the list. Neither the courts nor the parties are privy to reports of the intelligence services on which this decision, or decisions like it, may have been based. The consequences of uninformed judicial action could be grave. Questions concerning what perils our nation might face at some future time and how best to guard against those perils are delicate, complex, and involve large elements of proph-

ecy. They are and should be undertaken only by those directly responsible to the people whose welfare they advance or imperil....” (Citations omitted.)

Berstein claims the Court of Appeals for the Ninth Circuit has stated that colorable constitutional claims may be reviewed by courts despite the seemingly absolute preclusion of the Arms Export Control Act (AECA). However, he has not raised colorable claims here, asserts the Government, because (1) this case involves not “speech” covered by the First Amendment, “but the conduct of exporting a functioning defense article,” and (2) even if “speech” were incidentally involved in the State Department’s control of the export of cryptographic software, “such an incidental infringement easily passes First Amendment muster”

III. Regulation of Conduct

Berstein claims the State Department seeks to regulate his right to “publish” a “scientific paper” or “to engage in academic inquiry” and “to openly discuss” ideas related to cryptography. But, says the Government, the State Department did “no such thing.” The State Department simply determined Berstein cannot export his cryptographic software without an export license. As explained by Berstein and confirmed by the National Security Agency, Snuffle 5.0 is a functioning cryptographic product — software capable of maintaining the secrecy or confidentiality of data.

The Government observes that “conduct” is protected by the First Amendment only if it is or could be “sufficiently imbued” with elements of communication. The Supreme Court looks for “[a]n intent to convey a particularized message, and [whether] the likelihood was great that the message would be understood by those who viewed it.” Here, export of cryptographic software is not sufficient imbued with communicative elements, says the Government, and does not “convey a particularized message’ to its foreign recipients.” Despite claims this case involves Berstein’s right to publish a paper, the Government argues that Berstein did not submit to the State Department an academic discourse on algorithmic theories — he sub-

mitted “source code for data encryption, along with instructions on how to make it operational on a computer so that users could have an interactive, zero-delay, encrypted conversation.” The dissemination of Snuffle would have a functional — not communicative — purpose, and its designation as a defense article “does not,” therefore, “constitute the regulation of expression upon which a colorable constitutional claim may be based.”

IV. Incidental Restriction of Speech

Even if the First Amendment applied to Berstein’s export of cryptographic software, the Government argues that “[t]he State Department’s commodity jurisdiction determinations do not run afoul of First Amendment principles because any impact on [Berstein’s] ‘speech’ would be incidental to the government’s regulation of the conduct of exporting cryptographic software.”

According to the Supreme Court, an incidental restriction on speech will be supported if,

- “(i) it is within the constitutional power of the government;
- (ii) it furthers an important or substantial governmental interest;
- (iii) the governmental interest is unrelated to the suppression of free expression; and
- (iv) the incidental restriction on alleged First Amendment freedoms is no greater than is essential to the furtherance of that interest.”

Here, says the Government, the first two elements are readily met. Regulation of the export of defense articles is within the power of Congress to provide for the common defense and regulate foreign commerce. And there is a substantial governmental interest in “control[ling] the availability of cryptography from the United States so that critical foreign intelligence gathering functions are not harmed....” Further, “the determination that cryptographic software like [S]nuffle should be considered a ‘defense article’ subject to export control ‘[i]n furtherance of world peace and the security and foreign policy of the United States,’ 22 U.S.C. Section 2788(a) (1), is not one for courts to evaluate.”

[C]ryptographic software like [S]nuffle should be considered a ‘defense article’ subject to export control ‘[i]n furtherance of world peace and the security and foreign policy of the United States

— Government

On the third element, the Government also believes the regulation of the export of defense articles and services under ITAR (22 C.F.R. Subchapter M, Parts 120 - 130) does not suppress free expression. The U.S. Munitions List (USML) and ITAR cover Snuffle software, asserts the Government, because of its function and capability to encrypt information, and is, therefore, “unrelated to the suppression of speech.”

Fourth, the Government claims the inclusion of certain cryptographic software on the USML is an incidental restriction on alleged First Amendment freedoms no greater than is essential “in furtherance of a substantial national security interest to protect the United States’ signals intelligence capabilities that are utilized to provide essential information to national security policymakers and military commanders.” ITAR, in fact, “excludes certain cryptographic software that does not maintain

data confidentiality or secrecy (such as for data authentication and financial functions), as well as mass market software products with limited encryption capabilities.” In so doing, ITAR excludes cryptographic software that does not pose a risk to national security, and “responds precisely to the substantive security problems which legitimately concern the [Government].” Looking to a decision by the Ninth Circuit Court of Appeals, *U.S. v. Elder Industries*, 579 F.2d 516 (9th Cir. 1978), the Government argues that,

“[I]f the government may incidentally restrict the transmission of technical data by making it unlawful to assist a foreign national in the development of a functioning defense article, it may, consistent with the First Amendment, regulate the exportation of the functioning defense article itself, even if such regulation may, in certain cases, incidentally inhibit ‘expression.’”

V. A Misinterpretation?

To the extent Bernstein claims the Government’s actions constitute a “prior restraint” on the “publication of scientific papers,” the Government argues the claim is “the product of his own mis-

interpretation of the facts and the ITAR.” According to the Government,

“[N]owhere do the commodity jurisdiction determinations indicate that [Bernstein] is barred from publishing a scientific paper concerning the theory of [S]nuffle, or expressing ideas about cryptography in general. What [Bernstein] cannot do is export [S]nuffle software without first obtaining a license from the State Department.”

Control of the export of [S]nuffle software does not implicate the First Amendment, says the Government, because the software functions to encrypt data and “control of its export is unrelated to any incidental restriction on expression that such an export may entail.”

Bernstein’s claim the Government restrained publication of explanatory information fails, says the Government, because the State Department’s determination did not assess the explanatory information separately for export control purposes. The Government believes Bernstein only sought a determination for [S]nuffle and certain technical data. The State Department advised Bernstein that it reviewed the explanatory information only to evaluate the software. To the extent technical data was included, the State Department advised that Bernstein would need a license to export the data if his objective were to assist a foreign person or enterprise in obtaining or developing his cryptographic software.

In response to Bernstein’s claim the AECA and ITAR violate the First Amendment on overbreadth grounds, particularly because they prevent him from “discussing or revealing his ideas in any public forum in the United States on the grounds that it might have the effect of disclosing the information contained therein to a foreign person,” the Government urges that the Ninth Circuit Court of Appeals has already ruled that the relevant ITAR provisions are not unconstitutionally overbroad. Bernstein’s overbreadth claim is, therefore, foreclosed. The Government notes that the definition of technical data under ITAR excludes “information concerning general scientific, mathematical or engineering principles commonly taught in schools, colleges, and uni-

versities,” as well as information in the “public domain.”

The Government also rejects Bernstein’s claim the AECA and ITAR are impermissibly vague. In part, the Government observes, “[t]he definition of cryptographic software as that ‘with the capability of maintaining secrecy or confidentiality’ is surely susceptible to common understanding by ‘a person of ordinary intelligence.’”

VI. First Amendment Violation

In opposition to the requested dismissal, Bernstein notes that the definition of “export” under ITAR includes “disclosing (including oral or visual disclosure) or transferring technical data to a foreign person, whether in the United States or abroad.” Under this definition, says Bernstein,

- “1. [He] cannot even teach his ideas to his students in a classroom without government permission, unless he ensures that none of his students is a ‘foreign person.’
2. [He] would export his ideas if he were to disclose them at an academic conference, because said publication would surely disclose his ideas to a ‘foreign person.’
3. [He] would export his ideas if he were to post a message containing them to the sci.crypt newsgroup. Export includes distributing the ideas over the Internet by posting them to internationally available newsgroups, since this might disclose them to a ‘foreign person.’

Bernstein claims “he cannot even stand on a street corner and talk about his ideas, because this might ‘export arms’ if a foreign person was listening.”

Bernstein agrees he cannot challenge the designation of an item on the USML, but notes his challenge is, in fact, to the constitutionality and ultra vires nature of the entire regulatory scheme, on grounds that it restrains his right to communicate without meeting the Constitutional standards for such restraints. Here, says Bernstein, it is not conduct that ITAR restricts, but disclosure and communication. No export license is required under ITAR to actually use encryption.

Bernstein claims “he cannot even stand on a street corner and talk about his ideas, because this might ‘export arms’ if a foreign person was listening.”

VII. Government Sleight-of-Hand

According to Bernstein, the Government is “attempting a bit of sleight-of-hand here, hoping to narrow the scope of this lawsuit.” The Government wrongly construes the State Department’s determinations as referring only to “cryptographic software, deliberately ignoring his other submissions, and then argue that publishing ‘software’ never can be protected expression.” But, says Bernstein, the Government “did extend ... control to both the code and non-code items submitted by [him].”

ITAR controls much more than encryption software. The definition of “software” under ITAR, says Bernstein, “includes but is not limited to the system functional design, logic flow, algorithms, applications programs, operating systems and support software for design, implementation, test, operation, diagnosis and repair.” As non-code items arguably include logic flow and algorithms that are part of Bernstein’s ideas, they could be included within the definition of “software.” And even if non-code items do not constitute defense articles, they still may be controlled as technical data or to the extent they may furnish “assistance” to persons in the use of controlled cryptographic software. In light of the above, Bernstein claims he has presented colorable Constitutional claims the Government’s action “constituted a prior restraint on his right to publish non-software expressions of his ideas, as well as those written in computer code.”

Bernstein notes that in a 1978 memorandum, the Justice Department concluded that “existing provisions of the ITAR are unconstitutional insofar as they establish a system of prior restraint on the disclosure of cryptographic ideas and information developed by scientists and mathematicians in the private sector.”

Bernstein explains he is a scientist and an academic who seeks to publish his ideas for scientific and academic discussion. He seeks discussion by the worldwide community. His communication meets the First Amendment value of the search for truth through the “marketplace of ideas.” His desire for peer review fulfills the First Amendment

value of self-expression. Bernstein’s activities, therefore, fall within First Amendment protections for academic discourse.

Bernstein also seeks to engage in political speech. He observes,

“There has been considerable public debate over the role of cryptography in society and whether the government’s current regulatory scheme is appropriate. Government agencies are major players in this debate. When the agencies which administer laws and regulations which can act as a prior restraint are also involved in policy formulation about the same subject, there is a clear risk that these agencies may interfere with that process of political and social change, and ‘raise[s] the specter that the Government may effectively drive certain ideas or viewpoints from the marketplace.’ Here, [Bernstein’s] speech contributes to the cryptography policy debate by demonstrating that nonrestricted hash functions are in truth as powerful as the most heavily restricted items, and that one may be easily converted to the other. To [Bernstein’s] audience of scientists and cryptography policymakers, his speech argues that the government’s policy is arbitrary and ineffective, rebutting the government’s public assertions to the contrary.”

VIII. Controlling Speech

The Government cannot avoid the traditional tests of prior restraints simply by labeling the publication of computer code as “conduct of export,” says Bernstein. Here it is disclosure that is regulated. Bernstein desires to communicate his ideas, and there must not be a Constitutionally cognizable distinction between communication of ideas in English or mathematical symbols and the communication of those ideas written in the language of computer code. Among other things, Bernstein recalls that “software” is treated as expression under copyright law, and that the Supreme Court holds that the First

Bernstein argues the Government’s scheme has the effect of controlling private speech by controlling the tools necessary for it.

Amendment prohibits the Government from restricting the languages used by its citizens.

Notably, Bernstein argues the Government’s scheme has the effect of controlling private speech by controlling the tools necessary for it. But, “the Supreme Court has long held that the government cannot target the tools of expression in order to improperly restrict expression itself.” Claims Bernstein,

“The First Amendment includes the right to speak confidentially. It prevents ‘compelled speech’, and preserves the autonomy to control one’s own speech. It protects anonymous speech. It prevents compelled disclosure of those with whom one associates and speaks. It requires ... that the government allow people to speak in any language they choose. It extends to a person’s right to communicate with foreigners.

If the government is successful here, it will undermine all of these protections. It will prevent U.S. citizens from engaging in private, electronic communications with foreign persons. As a practical matter, it will also restrict private domestic electronic communications. ... By restricting access to the tools which allow anonymity and privacy, the government puts the communications of all of its citizens at risk.” (Citations omitted.)

IX. Real Issues

Berstein argues that the Government has exceeded its authority in applying ITAR to him, as Congress “never intended that the AECA be applied to the publication academic or scholarly publication of scientific and technical information.” Neither the statutory language nor legislative history reflect an intent to control academic publications, as noted by the Justice Department in its 1978 Memorandum.

In further detail, Bernstein argues that judicial review is not precluded under the political question doctrine, noting the Supreme Court struck an injunction against publication of the Pentagon Papers even though the Vietnam War was still in progress. Bernstein also claims jurisdiction here is proper under the Administrative Procedures Act, 5 U.S.C. Section 704.

Accordingly, Bernstein concludes his claims are sufficient to prove jurisdiction exists. “Real constitutional issues

are at stake; [Bernstein’s] communication, not his conduct was restrained. ... The appropriate test for judging the prior restraint of [Bernstein’s] speech here is laid out in the Pentagon Papers case: whether publication of the items ‘will surely result in direct, immediate and irreparable damage to our Nation or its people.’” ❏

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Language

Introduction to Language Project

by Megan Lynch

Welcome to the first installment of BMUG's Language Review Project! Let me introduce our history and our future. I have studied five languages in my life. I always wanted to be bilingual, multilingual if possible. To this day, I am not yet fluent in any of these second languages. Since graduating from college, I have not had the time nor money to seriously pursue language study. Software programs for language learning are therefore very appealing to me because they allow so much flexibility and are relatively inexpensive.

The main problem I encountered in the search for software programs was the dearth of programs for intermediate students of language as well as the industry focus on Romance languages. At the time that I conceived of this project I was working in Macintosh retail. Because of all the negative press about Apple's problems, I found myself having to combat a number of myths about the platform. One of the reasons I took on this project was to show that there are more applications for the Macintosh than people think.

The goals that I set were to give more in-depth reviews, to make sure that the reviewer was as close in level to the target audience as possible and to review as many different products for as many different languages as possible.

I broadcasted a call for reviewers first on the Planet, then on the Evangelist and other Internet resources. I then began combing the Macintosh Product Registry and other sources for developers of language-learning and language support software. I didn't realize how overweening my ambition was until about one and a half months before the deadline. What was slowing me down was finding the right reviewer to go with the right package. Then I got a new job that I couldn't hang up at the end of the day as I could my retail job. I also had trouble obtaining participation from some developers. Consequently, the selection of reviews in this issue is smaller than I had planned. Rest assured that we will continue this project until we have reviewed everything we can get our hands on.

I would like to thank all of the developers who are participating and all of the reviewers and prospective reviewers for their patience with me.

If you would like to help with the coordination of this project or are a developer with an interesting language product, please contact me at: spidra@sirius.com.

All reviewers have rated their proficiency in the target language prior to using the software. On a scale of 1-5 tongues, 1 tongue is rank beginner level and 5 tongues is native or near-native. 𠄎



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Mandarin Courseware With Character

A Review of HyperChina

by C. R. Clowery

HyperChina is superior Mandarin courseware, the best electronic Chinese language-learning program anywhere. I recommend HyperChina for its intelligence, its effectiveness as a teaching tool and for its vision. I believe this package has created the conditions for someone to actually learn the basics of spoken and written Mandarin. HyperChina introduces a new dimension in language learning; at the same time it showcases the power of the Macintosh environment as a tool for education with plenty of gongs and flutes.

Let's put HyperChina's innovations into context. If you began learning Chinese in 1966, as I did, language study was a boring, colorless process. The textbooks of the late sixties usually had half a dozen illustrations, or none at all, and a bunch of unconnected exercises. The

texts by John DeFrancis, in particular, were political, and designed to prepare students for contemporary (read Socialist) Chinese society: "comrade" was the preferred noun of address, and vocabulary included "collective farm" and "reactionary." The scratchy-sounding reel-to-reel tapes and the three-pound headset were state of the art audio-visual equipment. The droning voice put you to sleep by the third drill.

Berkeley, Harvard and Princeton used Y. R. Chao's *Mandarin Primer*, a witty book that we loved and hated, and a linguistic *tour de force*. But it lacked illustrations, and was stingy with exercises. A workbook and character text were added as afterthoughts by Chao's daughter. Audio lessons were available on a Folkways phonograph record. To hear the exercises again, you lifted the tone

arm, guessed at the right groove and dropped the needle. A non-interactive, user-hostile medium, to be sure.

Learning Chinese on computers took its first steps in 1989 with Hyper-Glot's *Chinese Survival Manual*, *Writing Tutor* and others. The format included sound and animated brush writing; the scope of the materials was limited and the interface was utilitarian. But it was a start, and expanded our horizons.

Enter HyperChina, a brand new interactive learning environment for the Chinese language, designed, programmed and recorded by Dajun Yao and Dr. Zhilian Tsao, two former instructors of Mandarin at the University of California, Berkeley. Yao and Tsao had taught Mandarin to undergraduates in the Dwinelle Hall bull-pit for years before they created Sinologic Software in 1995. They grew tired of academia's "institution-first, students-last" priorities; they decided to create a learning tool that empowered students to customize and control learning, based on students' needs and their interests, not on bureaucratic policy.

Yao Dajun got inspired by the potential of HyperCard as a teaching tool; he improved on the best parts of the Hyperglot concept, while retaining the strengths of the classroom experience. He and his wife, Dr. Tsao, know the problems that beginners, particularly Westerners, face in learning Mandarin. They provide features using the HyperCard format that address those problems. In the process they make possible a satisfying and engaging interaction with the Chinese language and its surrounding culture.



Figure 1.

For example, the section that introduces the Chinese language includes some poetry (Figure 1). The selections are old favorites, memorized by Chinese school children. But the ability to enjoy their subtleties of sound and meaning, on the spot, without dictionary work, has eluded all but educated literati with big vocabularies. HyperChina gives you the poem on a card, and adds three buttons; push one button and you get the romanized pronunciation of each character; push another button and you get the literal English translation, which is left in raw Chinese syntax for the “feel” of the original. Press a third button and notes appear giving accurate explanations and a bite of information about the poem to whet the appetite for more. Where was this program when I was an undergraduate?

Desktop Language Lab

Enrolling in a school’s language class opened the door to the language laboratory, a mixed blessing. If for example, you took Chinese at UC Berkeley, the first challenge was to find the lab in the basement of Dwinelle Hall. There are tales told of hapless freshmen getting lost in Dwinelle on the first day in September and wandering for years between floors until Spring, surviving on candy and coffee from the vending machines. Assuming you found the lab, you had to stand in line for a carrel, sit at a filthy desk wearing greasy headphones, and breathe the stuffy, anxiety-laden air. In your ear, from all sides, you enjoyed the United Nations in stereo: mangled Lakota, Midwestern Italian, and loud Swahili.

HyperChina capitalizes on the functionality of the Macintosh to recreate on your own desktop the advantages of the language lab without the drawbacks. To learn a new language successfully requires repetition of sounds until the physical responses of ear and tongue build new habits. Repetition and drill is limited, even with patient human instructors. The computer environment enhances language learning: you can repeat a word, a sound or a phrase as many times as you need to reinforce a pattern. You can also adjust the pace and the volume to your preference. Aural tapes give you little choice of pace; you also cannot stop the lesson and return later as easily as you can with the computer’s “random access.” And there is the issue of patience. If you want your

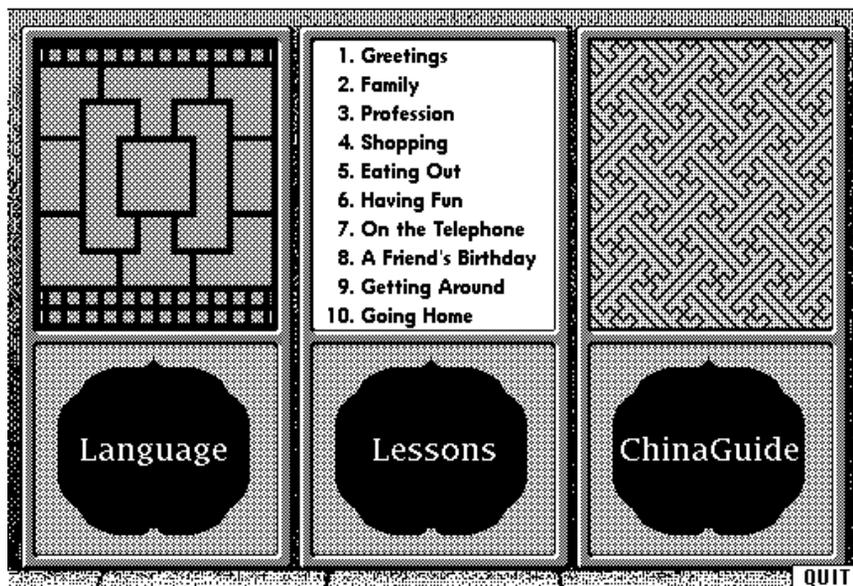


Figure 2.

electronic teacher to say “You mean this isn’t the train to Chengdu?” thirty times in a row in perfect Mandarin tones, it happily repeats without fatigue. If you want to see the stroke order for the character “dragon” until you can visualize it with your eyes closed, just keep clicking your mouse.

Gongs and Flutes

HyperChina employs sounds all around. The main section of each lesson has its opening Chinese musical motif. The stack’s control buttons are clear and accessible, and each one says its name as you click it. For example, the “help” button announces itself by saying, “*zemme ban?*” (What can I do?). The computer’s responses, such as “okay,” (*hao*) “hello,” (*Ni hao?*) “good-bye,” (*zaijian*) speak up when you give the stack a command, open the program, or quit it. When you open the sound control panel in the lessons, it says “*kong zhi ban*” (control panel). A marvelous talking textbook! It’s cute, and also effective. Hearing the sound reinforces the new word. Later in the kitchen when you reach for the dial to turn on the stove-burner, you find the sound “*kong zhi ban*” on your mind’s tongue. The program sparkles with wit that teaches you the language: exit HyperChina and the dialogue box asks you to confirm the action with two radio buttons emblazoned: “*bu*” (cancel) and “*zaijian*” (good-bye).

You are given the opportunity to hear difficult sounds both right and

wrong. Hearing it wrong sensitizes the ear by contrast to the right sound. No textbook I’ve ever used includes this clever idea; the HyperCard format delivers it to your desktop.

Throughout, HyperChina uses eye-filling graphic images selected from Chinese art. The authors are scholars of Chinese art history and Chinese music. Their exquisite taste shows in the choice of illustrations that adorn the screens, the packaging, and the Chinese lute riffs that introduce each section.

HyperChina’s Three Parts: Language, Lessons and ChinaGuide

HyperChina is divided into three parts (Figure 2). The lessons amount to a complete integrated course, not just flash cards and phrases converted to computer format. Part One is an introduction to Chinese, which explains sounds, grammar, and calligraphy. This introduces the writing system, a major stumbling block for beginning Chinese and Japanese students. The writing lessons in HyperChina are animated, to give the right stroke order and a simulated feel of brushing the characters onto electronic paper. Again, this was impossible before Chinese met the Mac, and HyperChina makes the most of it.

Part Two offers ten extended lessons. Topics are standard textbook material: greetings, family, profession, shopping, eating out, having fun, on the phone, a

wise us not to struggle with this endless debate. You need to know both writing styles to be competent, and the situation is not likely to change in our lifetime.

You can practice writing the new words of each lesson. You write the character next to the computer's sample, which appears in animation, stroke by stroke. A button prints a number on every stroke to show the correct order, if you choose. The electronic brush lets you ink up the entire page, desk, or window if you are feeling frustrated or inspired. You can hear the pronunciation of the word at the same time you write it. Volume and speed of the drills can be customized by the user in three modes from soft to loud, from slow to fast.

The authors suggest that if a student does the drills thoroughly, and doesn't skip any steps, the ten lessons could be completed in twelve months, the equivalent of three semesters, or one and a half years of college work.

Suggestions for Improvement

Early releases of HyperChina included misspellings and typos in several of the lessons. The current upgrade (1.0.3) corrects them. Sometimes in multi-word answers to the drills, the recorded voice sounds a bit mechanical, like the numbers spoken by the telephone company's directory assistance robot. This may have been a function of the size limitations: all of the lesson segments are trimmed to fit on 1.4 meg floppies. The up-coming CD-ROM version should allow bigger files and smoother sentences.

Dr. Tsao's Mandarin is crystal-clear and mellow. Even so, it would be nice to have a choice of voices for variety. I would prefer more male voices and perhaps a sampling of the typical local accents of Mandarin that one encounters in the West: Cantonese, Taiwanese, Shanghainese and Manchurian.

When HyperChina was first coded four years ago, HyperCard had no color capability. The addition of color might be nice; still one could make a case for keeping the monochrome format. Color is not necessarily an advantage to language learning. Some people will find fault with HyperChina's small window size. Many students have MacPluses, Classics, LCs or PowerBooks. Prof. Yao designed the window-size for those smaller modular monitors and monochrome screens. It makes

sense to design the program not just for high-end computer users, but for as many future speakers of Chinese as possible. A CD-ROM version of HyperChina is in the works with new features including an automatic Chinese name-maker, an Instant Letter Kit with a dozen templates in Chinese, that students can personalize and send to friends. This version will also include color and bigger screens.

A Bargain, Given the Alternatives

In the promotional material the authors make the point that you would pay a great deal more for one semester's (roughly fifteen weeks) tuition in a college program. You share the typical class with between ten to thirty other students. In a course of fifty-minutes you might get to exchange words directly with the teacher two or three times, and that is often only drill. With HyperChina you increase your contact time exponentially.

The program comes in ten lessons, on eighteen floppies. Version 1.0.3 updates six modules. If you load all the lessons at once it takes 24.2 meg on the hard drive, or you can install one lesson at a time.

Some people may blink at the \$195.00 price tag, but if you look at the choices, you will find that it is a bargain. Right now in the Bay Area, you can enroll in Cal or Stanford or State. This requires a high GPA and lots of money. You had better prepare to match brains five days a week at 8:00 AM with the 18-year olds named Zhang and Chen and Wang.

If you are really serious about it, you can check out summer intensive programs at Monterey or Middlebury or Cal that offer "maximum immersion" learning. Prepare to digest one hundred vocabulary items a day and learn to cope with stress.

Assuming you haven't that much ambition, you can enroll in Cal Extension, or Laney College, and go to evening school. Courses are limited, but you can learn good Chinese this way, depending on your self-discipline. If the classroom environment is not your style, you can hire a private tutor, or take a Berlitz course to learn the basics one-on-one with an instructor. This takes money and motivation.

The do-it-yourself method is to buy a Mandarin textbook and tapes. Check out East Wind bookstore, or Cheng and Tsui in Boston, or the in-flight magazines on

airplanes. You will spend over a hundred dollars and acquire some vocabulary and a pattern or two. Pay attention to the four tones! Without a native speaker's modeling of correct tones, your accent has every chance of sounding like Chinglish. There is no end to the jokes about Americans who learned bad Chinese. The sentence "I have two examples, one is about America, one is about China," when said with the wrong tones, can become, "I have two farts, one is in America, one is in China."

Or you can buy HyperChina and spend a year absorbing its ten lessons. The price is the equivalent of fifteen hours of private tutoring. It is not edutainment or a video game, but an educational tool with a serious purpose. Learning any language you need discipline and hard work. You can make that effort enjoyable. HyperChina turns your Mac into an interactive Chinese learning environment with sounds, animated calligraphy, and even a dictionary that speaks its entries in pure Mandarin. HyperChina's customers include U. Mass, UC Davis, Motorola, and the CIA!

Americans have always pretended that English is the only language that matters. Foreign languages programs in high schools and college reflect our self-centered attitude. Surveys report astounding attrition rates in college language classes: across the board, 65% of those who start learning a foreign language do not make it past the second semester. More programs like HyperChina could teach us to expand our horizons; there has never been a better time to learn from and talk to one quarter of the family of humanity. 天



HyperChina

Computer: Plus or later with System 6.0.7, System 7.0 or later

Memory: 2 megs; 4 megs for System 7

Hard disk space: entire program takes 24 meg (but can be serialized) with at least 3 meg free space

Sinologic Software

P.O. Box 5242

Berkeley, CA 94705

Phone 1-800-869-9654

<http://www.sinologic.com>

Price: \$195.00

C.R. Clowery has been using Chinese on Macintosh computers since 1989 and reviewing Asian language software for BMUG since 1993. He wishes HyperChina and the Mac had existed when he began to study Chinese.

HyperChina

by Anissa Marsa

Although I have been fascinated by the Chinese language for the last five years, I have taken no classes to learn it. I have made several attempts to learn Chinese using various books and cassettes, but HyperChina is the only computerized Chinese language program that I have used. My language skills prior to using HyperChina ranked a beginner's "1."

After using the program, I progressed to at least a level "2." The difficulty I had in learning Chinese before studying with HyperChina was trying to learn to recognize and remember characters in addition to pronunciation. It seemed that when I spent a lot of time working on the characters, I forgot pronunciations, and when I spent more time with the tapes, I forgot characters. With HyperChina, I became much more literate.

I installed HyperChina on a Quadra 610 and a PowerBook 5300. There are eighteen 3.5" disks that must be copied. It would be nice if there were a CD-ROM version. The program is Mac-only, and has a HyperCard-like interface. It is compiled for the 68k, but runs fine on the PowerPC.

HyperChina shows characters as they are pronounced, so it is easier to learn vocabulary words. This program is targeted towards beginning students of Chinese, and teaches basic grammar, pronunciation, calligraphy and culture in addition to vocabulary.

The format of this program is straightforward. There are three basic sections: "Language," "Lessons," and "ChinaGuide." In "Language" there is an introduction that includes study tips and the basics of Chinese Grammar. There is also a "Pronunciation" section that is helpful. It includes a clear presentation of the four tones, and provides drills to improve pronunciation. It also lists com-

Except for a dictionary, and a segment on music, which provides a few tempting fragments of Chinese tunes, the rest of ChinaGuide reads like a talking textbook.

mon mistakes made by Westerners learning Chinese. Finally, there is a description of "The Writing System" which discusses the origin of characters, the meaning of basic radicals, and the importance of stroke order when learning calligraphy. Also included are a few poems, which is a nice cultural touch.

ChinaGuide is a miscellany of information designed to familiarize one with what to expect when visiting China. It includes a map of China, and one can click on the different cities, countries, rivers, etc. to hear the Chinese pronunciation.

There is a numbers drill which allows one to type in any number and hear how it is pronounced. There is also a currency drill, which has dictionary definitions of financial terms and a feature

which allows one to type in the current exchange rates to see how much US \$ are worth. The date and time drills are similar.

Except for a dictionary, and a segment on music, which provides a few tempting fragments of Chinese tunes, the rest of ChinaGuide reads like a talking textbook. There is useful information on small talk, etiquette, how to read a menu in a restaurant, signs, etc. but these are not presented in a way that makes learning them on the computer much better than reading a book or listening to a tape.

The "Lessons" section includes ten lessons. Each one is divided into eight parts. The "Overview" is a short summary of what is to be learned in the lesson. "New Words" follows, and is a long list of words used in the lesson. Both the characters and their pinyin pronunciations are listed, along with an English definition and the option to listen to and record pronunciations. There is also a short explanation available for each word.

"Dialog" is presented in an identical fashion to "New Words," except there are phrases instead of words. "Grammar" provides the same information that one could glean from a textbook, with the occasional character that can be clicked on in order to hear the pronunciation. It is not consistent, however, and discusses many characters/pinyin words that are in bold, but can not be clicked on for sound.

For the most part, "Workshop" consists of "repeat after me" phrases. At the end is a Chinese document for translation, which is fun to do.

Once one drudges through the overview, new words, dialog, grammar and workshop, the fun begins. HyperChina does a nice job of teaching calligraphy by example. Each character is drawn slowly, stroke by stroke, and then numbered in the order it was drawn. There is then

an area on which the student can mimic the exact sequence of strokes used to draw the character. The only annoying aspect is that the drawn character is not automatically erased when one goes on to learn a new character. It is like writing on a page of a book: if one goes back to that page, the writing is still there and must be erased before it can be redrawn. It would also be convenient if there were some way to selectively erase portions of the characters that one had drawn, as opposed to having to erase the whole character and begin again.

The drills are quite helpful and are interactive exercises that provide different ways of learning and playing with the same material. There are listening and reading drills, as well as translation and word order drills. More of this sort of activity would enhance HyperChina greatly.

Finally, there is only one “game” in each lesson, which is less than other non-Chinese language programs I have used. The game is fun and educational, as it encourages instant recognition of Chinese characters and their meaning or pronunciation. However, it doesn’t take long to figure out that the characters on each of the five levels of the game are pronounced in the same order, so no comprehension is required after the first level.

Another problem with the game is that in some chapters it occasionally caused a system error (bad F-line instruction) that crashed the computer.

There were quite a few English typos in the program, and a few Chinese

***HyperChina is useful
as a basic learning
tool, but don’t
expect bells and
whistles.***

typos, that made me wonder how much error was in the Chinese portion that I was not catching due to inexperience. A meticulous editing job would help polish HyperChina.

Although HyperChina accomplishes its basic goals of providing multimedia presentation of the Chinese language, it requires some self-discipline to use. Much of the information is presented in a textbook-like fashion and is not very interactive. Most of the activities revolve around repetition combined with recording and comparing one’s voice to the recorded voices.

The program has a limited amount of Chinese music and is presented in black and white. Overall the software presentation is informative, but not overly exciting or interesting.

Unlike the software, the packaging of this program was very artistic and cre-

ative. It comes in a cardboard cube-shaped box, that is decorated on each face with a creature from Chinese mythology. Inside, the packing consists of a page from a Chinese newspaper, along with some Chinese candy; too bad the same creativity could not have been used across the board in the programming.

HyperChina is useful as a basic learning tool, but don’t expect bells and whistles. Although well-organized and informative, it lacks the sparkle and excitement that make learning a difficult language less painful. 天



HyperChina

Minimum System Requirements

Computer: Mac Plus (with hard drive) or above, System 6.0.5 or above

Memory: 1.6 megs of free RAM

Price: \$195 (add \$4 for Priority Mail shipping; California residents please add sales tax).

SinoLogic Software

P.O. Box 5242

Berkeley, CA 94705

(800) 869-9654; (510) 420-0634

Anissa Marsa has a B.A. in English from Southern College of Seventh-day Adventists. She is currently living in Pittsburgh, Pennsylvania, where she teaches piano lessons and studies Chinese and German. She has been accepted to Loma Linda Medical School in California.

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Apple Chinese Dictation Kit Reviewed

by Fabian T. Fang

With my responsibility for developing international education at a state university, I am always on the lookout for interesting language programs. As a Chinese-American who has lived in the United States for much of my lifetime but is still fluent in Chinese, I have a natural interest in Chinese programs. Back in 1983, shortly after I bought my first personal computer, an Apple II+ clone from Taiwan, I installed a Chinese interface card into one of its slots. I remember paying a lot of money for the card, but I could not do much with it. Two years later I bought my first and only IBM compatible, a Corona transportable with the 8088 processor, sometimes referred to as a "poor man's Compaq." One of my more extravagant software acquisitions for that computer was the original China Star program, with which I could do word processing in simplified or traditional Chinese reasonably well for the time. I still have the Corona, and China Star is still on its hard drive.

For my several Macintosh models over the years I have tried MacChinese Mandarin, MacChinese Cantonese, MacChinese Hanzi, and MacChinese Taiwan (all used in conjunction with Microsoft Word 3.0.1) from Linguist's Software, Inc., Mishu Suzhou, Mishu Tainan, and Mishu Wuhan, all desk accessories from Xanatech, Inc., and XLBR (Xia Li Ba Ren) from Easternwell Tech, Inc. From Apple Computer, Inc. itself I have duly acquired all of the available Chinese system software: ChineseTalk, ChineseTalk II, and of course the current CLK (Chinese Language Kit). I have tried the CLK with ClarisWorks 3.0 and 4.0, WordPerfect 3.1 and 3.5, and lately

*Michael Spindler
(remember him?)
was quoted as
saying that "the
introduction of the
Apple Chinese
Dictation Kit (CDK)
heralds the start of
a revolution for
Chinese computing
on the Macintosh
platform."*

WorldWrite 3.0, as well as several other programs. Some of these combinations work more smoothly than others, but all suffer from the same problem: the cumbersome keyboard input of thousands of different Chinese characters.

On November 28, 1995 I literally jumped up with joy when the press release on "Apple Introduces Ground-

breaking Chinese Dictation System" came through my usual Internet sources. Michael Spindler (remember him?) was quoted as saying that "the introduction of the Apple Chinese Dictation Kit (CDK) heralds the start of a revolution for Chinese computing on the Macintosh platform." The CDK is a speech dictation system that converts Mandarin speech into simplified or traditional Chinese text. It was introduced in Beijing in October 1995, and in Taipei, Hong Kong and Singapore shortly thereafter. At COMDEX Asia, it first received the "Best Software Product" award "based on its ease-of-use, product design and usefulness," and went on to receive the show's highest honor, the "Best of the Best" award.

The CDK was scheduled to become available in North America during the first quarter of 1996. While I anxiously waited for it, I tried to get information about it from all newly arrived Chinese students to our university. The few who had heard of it generally told me: "Ah yes, the Apple CDK! Everybody talks about it, but nobody uses it." When Megan Lynch announced the BMUG project on evaluation of foreign language programs in early February, I immediately volunteered for reviewing Chinese programs. I was pleased when she assigned the CDK to me.

The CDK arrived in early March from the BMUG office. A somewhat flimsy cardboard box contained three high-density disks, a 37-page manual, and a "free" dictation microphone. The dictation system requires:

Any desktop Power Macintosh with 16-bit sound input. Minimum memory unused by system and other applications:

4 meg. Disk space: 27.5 meg (2.5 meg for system, 25 meg for training)

Operating system: one of the following:

- Macintosh System 7.1.2 (or newer) with CLK 1.1 (or newer) or
- Chinese System 7.1.2 or above

Installation of CDK was straightforward. The dictation microphone must be connected to the sound-input port on the back panel of the Macintosh, and not into any port of a multiscan monitor. For the system installation one needs to select among several options: Install on Simp. Chinese System, Install on Trad. Chinese System, or Install on Chinese Language Kit (then with Simplified Chinese, Traditional Chinese, or both, depending on the original CLK installation). For this evaluation I installed the CDK on a Power Macintosh 7200/90 (System 7.5.2, physical RAM 16 megs plus Ram Doubler) over CLK 1.1.1 with both Simplified and Traditional Chinese Systems. Simplified Chinese has been in general use on the Chinese mainland for over four decades, while Traditional Chinese is used in Taiwan and by most overseas Chinese.

For the BMUG language project I wanted to find answers to at least two major questions:

1. How well does the CDK work?
2. Who should use the CDK in terms of background and competency with the Chinese language?

During the relatively short period available for my review, I carefully assembled a small team of evaluators:

- A Chinese-American faculty member with a strong linguistic background (myself)
- An American Professor of Chinese History who spent three years in Taiwan and has maintained a high level of Chinese competency
- A student from Beijing, China, who grew up with Simplified Chinese (the Beijing dialect is the standard of spoken Chinese)
- A student from Taipei, Taiwan, who grew up with Traditional Chinese
- A Chinese-American student, who immigrated to the United State during her early teens

This team represents a reasonably wide spectrum of Chinese language background. Several other Chinese students

at our university have heard about this project, and volunteered for participation. While I am writing this review article to meet the BMUG Newsletter deadline, our evaluation will continue until I have to return the CDK to BMUG.

New users of the CDK must first “train” the system to recognize their voices by reading 33 pages of Chinese text into the microphone. The reading took about two hours. The system then processed the recording for about one hour to produce for each user a voice “model”, which would be used for individual speech recognition. These models made up the “user profiles”, which ranged from about 700K to 800K in size.

The Chinese text for user training covered a wide range of subject matter, including the Apple development of CDK, decency in human behavior, advice for marital relationships, and natural scenery of various regions in China. Any linguistic or phonetic reasons for the selection and compilation of the Chinese words and phrases were not obvious to us. The Apple Dictation Microphone included in CDK, which is worn over the ear, was judged awkward and ineffective by most members of our evaluation team. They preferred to use the microphone which came originally with my Quadra 660AV.

Once we trained the system with our “user profiles” in place, we could not wait to try out the CDK. With considerable anticipation and excitement, we took turns dictating both prepared texts and impromptu expressions into the microphone. The results were immediately surprising and disappointing. The system displayed correct Chinese words from our dictation well below half of the time. One evaluator, the student who speaks perfect Beijing dialect, maintained that the accuracy in her experience was only about ten percent. It generally took her about one hour’s time to obtain 50-60 words of corrected Chinese text. Even though most of us are native Chinese speakers, who can enunciate words and phrases clearly, accurate conversion of our dictation was the exception rather the rule.

We were quite aware of the correction mechanism in CDK. In principle, when a wrong character is displayed, the user only has to click it with the mouse to obtain a pop-up list of available characters with identical pronunciation, and

With considerable anticipation and excitement, we took turns dictating both prepared texts and impromptu expressions into the microphone. The results were immediately surprising and disappointing.

simply select the correct character. Alas, more often than not in our experience, the wrong character would not have identical or even similar pronunciation as the intended character! In such cases, no amount of mouse-clicking would lead to the correct character. Sometimes the pop-up list contained characters with widely divergent pronunciation. We were mindful of the claim in the original Apple press release that:

“The CDK provides a standard vocabulary of over 3,500 single characters and over 12,000 multi-character words. By combining these, the system can recognize approximately 350,000 phrases. This is the largest number of words or phrases recognized by any dictation system for any language, and results in a highly flexible and accurate dictation product.”

However, some of the pop-up lists which we received did not contain even

the most common Chinese characters. Furthermore, the multi-character words and phrases featured in the press release gave us the most unnerving experience. On many occasions, when we barely uttered a single character, or upon hearing a faint extraneous sound in the room, out rolled a multi-character phrase totally unrelated to what we wanted to say, such as the seven-character phrase "The People's Republic of China."

I understand that, during a regular meeting of the International Macintosh Users Group (IMUG) on March 21, 1996 two Chinese-American staff members of Apple Computer, Inc. demonstrated the CDK at the Apple R&D Campus in Cupertino. I was unable to attend the meeting; but at least one member of the BMUG staff was quite impressed by the demonstration. The MacWorld Notebook of April 23, 1996 reported that, at the recent first-ever MacWorld Expo in Taiwan, the Director of the Apple Design Center in Singapore extolled to the "faithful few" the importance and potential of the Apple CDK, which "boasts an accuracy rate of 95 percent for the more than 350,000 Chinese phrases it can recognize." Unless the members of my evaluation team have all done something wrong, in spite of our careful and conscientious efforts, we must not be talking about the same product.

Once the speech-to-text conversion is done, however accurate or not, the output can be copied and pasted in the usual Macintosh manner into any application which is compatible with the Chinese Language Kit or an appropriate Chinese System. Any font available in the Chinese System can be applied to the text.

For many years I have been an admirer of the documentation for Apple's hardware and software products. In my opinion the Installation and User Manual for the Chinese Dictation Kit falls far short of the usual excellent Apple standard. The skimpy 37-page Manual includes 11 pages for three appendices and several pages of mere listings of words and phrases. It has no trouble-shooting suggestions for the kind of problems encountered by my team members. On page 20 in Chapter Five, a reference is made to a figure which cannot be found.

The Manual is written in awkward Simplified Chinese with sentences like:

"The Chinese Dictation System has made Chinese input as easy as flipping over your palm." I did not realize that such archaic Chinese clichés are still used in the late 20th century. If Apple Computer, Inc. is serious about marketing the CDK among the millions of Chinese all over the world who have grown up with Traditional Chinese, it had better prepare an improved Manual in both Simplified and Traditional Chinese versions. Even though the CDK is intended for users who are proficient with the Chinese language, computer terminology can be so awkward in Chinese that, in North America and elsewhere, the availability of a well written Instruction Manual in English would certainly be welcome. If no one else wants to do it, I would be happy to write the Traditional Chinese and English Manuals for Apple.

The Chinese Dictation Kit presumably has other features, such as phrase-adding, bulk-phrase-adding, and voice-macro. However, unless and until it can empower target users to perform basic dictation with reasonable levels of accuracy and comfort, the fancier features are of moot value.

My American faculty colleague wrote: "Unfortunately I cannot give the CDK my enthusiastic approval. It was on occasion marvelously accurate but often, perhaps 50% of the time, it was totally wrong and did not offer the accurate alternative. Sometimes breaking a sentence into smaller segments would result in better accuracy, but not always. As it stands I don't think I would purchase it or recommend it to others."

A student evaluator wrote: "The Chinese vocabulary in CDK is too limited. Most of the time it fails to recognize my dictation, displaying incorrect words, and totally irrelevant phrases. In order to achieve the correct Chinese text, the user has to repeat dictation many times and break up a sentence into smaller and smaller segments. Even then one gets erratic characters and words. It is simply not worth the effort and time."

Another student evaluator wrote: "The CDK has too much imagination. Before I finish saying the first few words in a sentence, it pours out a whole bunch of irrelevant text, forcing me to turn off the audio input for extensive deletions and corrections. The correction procedure could be convenient, if I ever got

the right characters in the pop-up lists. The segmentation apparently required for sentence dictation does not conform to proper ways of speech. It has been a very frustrating experience. I would not use the CDK in its present form."

I have answered my first question for this review: "How well does the CDK work?" Let us assume that the program works accurately and effectively, or can be made to some day, who should use it? On the basis of our intensive evaluation, we feel that the CDK is intended for native or proficient speakers who know written Chinese well. It is not a program, however improved with further development, which can be used easily by people who are just learning Chinese, or have limited vocabularies of hundreds of Chinese characters.

As a long-time Apple loyalist and enthusiast, I have purchased twelve Apple II and Macintosh models over a fourteen-year period, and shared my limited resources with countless Apple software developers. Nothing would have pleased me more than to be able to write a glowing report about the Chinese Dictation Kit for BMUG members. However, my colleagues, students and I owe it to the Macintosh community to present the above candid evaluation.

The Apple Chinese Dictation Kit is available from AsiaSoft. They can be reached at (800) 882-8856 or asiasoft@asiasoft.com Its suggested retail price is \$299. At a demo, Apple made mention of a Chinese Text-to-Speech component, but AsiaSoft said that is not available at this time. ☹



Fabian T. Fang is a Chinese-American Professor at California State University, Bakersfield and Faculty Director of its Center for International Education. He has taught Chinese language and culture courses for the CSUB Extended University. He can be reached at Planet BMUG or FFANG@CSUBAK.EDU.

Apple Chinese Dictation Kit

Minimum System Requirements

Computer: Power Macintosh with 16-bit sound input, Mac System 7.1.2, or better, or with CLK 1.1, or better, Chinese System 7.1.2 or better

Memory: 4 megs

Hard disk space: 27.5 meg (2.5 meg for system, 25 meg for training)

Apple's Chinese Language Kit 1.1.1

A Review for BMUG

by Pinghua Young

Several years ago when I was thinking of buying a personal computer for my home use, I started out looking at PCs. But like many people I soon ended up with a Macintosh, and was quite happy with it because I could do almost anything that I wanted to do with it, and do it better than my friends with PCs. Almost anything, that is, except my native language of Chinese.

Back then in 1992, Apple was finishing their development of the WorldScript technology, and if you wanted to write Chinese with your Mac, you had to use something called ChineseTalk, which was not generally available and also very buggy. So I complained loudly in all Mac and Chinese-related newsgroups about the lack of multilingual support on the Macintosh, until the Chinese Language Kit (CLK) came out. Since then I have been a very happy user of CLK for my Chinese language processing. I still remember the look on my PC friends' faces when they first saw a printout using CLK's TrueType fonts.

The Chinese Language Kit is a package of control panels, extensions and a few utilities that allows your Mac to process double-byte Chinese text when installed on top of your regular MacOS. It is part of Apple's WorldScript technology for multilingual processing, and has both Simplified Chinese (used in People's Republic of China and elsewhere), and Traditional Chinese (used mainly in Taiwan, Hong Kong, and overseas) scripts. For Simplified Chinese, it internally uses an encoding standard called GB (shorthand for Guo Biao, a Chinese

I still remember the look on my PC friends' faces when they first saw a printout using CLK's TrueType fonts.

phrase meaning national standard) widely used in the People's Republic of China. For Traditional Chinese, it uses an internal encoding scheme called Big5 which is very popular in Taiwan. It has five input methods, four TrueType fonts, and one screen font for Simplified Chinese; and five input methods, two TrueType fonts, and one screen font for Traditional Chinese. Both scripts include popular input methods such as PinYin and the Traditional one also has ZhuYin.

Installing CLK

The installation used to be simple and straightforward. Now it's a bit more complicated because Apple has not updated it for the new System 7.5.3. If you have one of the latest Macintosh models, you have to read one of the Readme files that comes with the Mac, and follow the instructions carefully. Essential-

ly, you need to install first the WorldScript Updater 1.0 that comes with your Mac, then install CLK 1.1, and finally install CLK updater 1.1.1 which is available from Apple's FTP server and homepage (insert path here).

After installation, you will notice that next to the Application menu there is a new item with a blue diamond shape on the top Apple menu bar. That is your keyboard menu, and it is the main menu for you to switch back and forth between inputting Chinese and English texts. The Chinese menu items will be grayed out when in Finder (unless the font in your View control panel is set to a Chinese font) or in an application program that does not allow you to change fonts.

Using CLK

In a fully WorldScript-compatible application such as SimpleText, TextEdit Plus 1.7, and NisusWriter 4.1, inputting Chinese characters is quite simple, and only takes a few minutes for you to get familiarized. You select a Chinese script from the keyboard menu, and the font will change automatically to a Chinese one for you to input Chinese characters. You should also notice a new menu item with a pencil icon to the left of your keyboard menu. That is the input method menu for setting preferences and selecting different input methods. From the input method menu, you can then use PinYin or other input methods to type in some Chinese characters. The characters will show up in an input window with their homonyms, and you pick the right one using mouse or the number keys in the top row of your key-

board. In a non-WorldScript-compatible applications such as Microsoft Word, you can still select the Chinese keyboard and a Chinese font to input Chinese text and they will be displayed properly on the screen. However, such applications have problems wrapping your text because they do not recognize double-byte Chinese characters and thus wrap the line in the middle of the two bytes. This is easy to see if you try to edit your text by using the arrow or delete keys or the mouse. More often than not, your cursor will end up in the middle of a Chinese character.

The PinYin input method in the Simplified Chinese script also allows you to use tone to narrow down your selections, and best of all, can do word association, which greatly eases the input of commonly used phrases. (The new input methods in the Traditional Chinese OS 7.5.2 can do this and other things I talk about in the following paragraphs. See below on how to obtain it.)

Features

Although the word association feature is not as complete and powerful as some of its counterparts popularly used on PCs, CLK does have a dictionary tool that allows you to enter your own phrases into a dictionary. You can have several dictionary files for different purposes, and they can all be opened and searched for word association during input. The Dictionary Tool can take a properly formatted text file and put the phrases directly into your specified dictionary. I have downloaded several plain text files from Internet and built a few dictionaries for my own use.

Another feature that I like and use quite often is the Learning Mode. Since we all speak Chinese with an accent, it's hard to know all the PinYin codes. When enabled, CLK's Learning Mode (Xue2 Xi2) will display PinYin along with Chinese characters, which is also great for beginning students of Chinese language to learn proper pronunciation. In addition, CLK also has the ability to look up different input codes. For example, if you don't know the PinYin, you can use other methods to input the character, and CLK will display all information such as PinYin on the screen. If you really don't know any way to input a character, CLK has a character palette from which you

can pick any Chinese character, although its main use is to input punctuation marks and signs.

CLK Compatibility

CLK is a wonderful package that has allowed me to do many exciting things that I could only dream of and wish for before. From simple word processing in NisusWriter 4.1 and WordPerfect 3.5, to page layout in FrameMaker 5.1, to special character graphic effects in Photoshop 3.0.5 and PhotoFix 2.8.8, to 2-D outline manipulation in Canvas 3.0.4, and to 3-D character effects in Infini-D 3.2. Best of all, if your needs and budget are modest, you can use Claris-Works 4.0, which is not only fully WorldScript-compatible in all its word processing, spreadsheet, drawing, and painting components, but also very affordable. Although not all available applications allow you to input and manipulate double-byte Chinese characters, more and more are beginning to take advantage of the technology. For example, both Director 4.0.4 and Live Picture 2.5 allows you to input Chinese characters. Like Canvas 3.0.4, Live Picture allows you full manipulation by giving you their outlines. Together with the 8 beautiful traditional TrueType fonts that are freely available from the Internet (<ftp://ftp.ifcss.org/pub/software>), what you can do with Chinese characters using these applications is only limited by your imagination.

CLK Wishlist

However, as a native speaker of Chinese, there are a few things that I wish future versions of CLK would address and incorporate. First, I wish for the ability to easily incorporate some public domain input methods into CLK, especially the various PinYin methods with amazing word association capability that have been developed for PCs and UNIX, and available on the Internet. If you have used PinYin input on the PC side, then you know that the PinYin input method in CLK is definitely not the greatest. Technologies are constantly changing and improving, so the ability to easily incorporate new and better Chinese input methods (especially the PinYin ones with only a few initial keystrokes for word association) would be a great feature!

Or incorporate Cihui, which is fast but unstable and buggy, into CLK, and make it an official input method.

it would be more convenient and user-friendly if we can customize the key combination shortcuts to avoid conflicts with other applications. For example, Photoshop uses command-space to zoom, while CLK uses it for switching keyboards.

Or even better, make it possible for users of Chinese Dictation Kit to select CDK as an input method in CLK.

Incidentally, a new version of CLK's traditional input methods has come out and can be obtained from one of my webpages at <http://www.jnw.com/ping-hua/ccompute/mac/clk.html>. I believe they are part of the Traditional Chinese OS 7.5.2.

Second, I hope there is an easier and better way to input punctuation marks and signs, and especially the lower case double-byte ASCII characters. Instead of going to the character palette to individually pick those characters, I wish a key combination or a toggle would input them directly.

Third, it would be more convenient and user-friendly if we can customize the key combination shortcuts to avoid conflicts with other applications. For exam-

ple, Photoshop uses command-space to zoom, while CLK uses it for switching keyboards. If I could change CLK's shortcuts it would save me a lot of time in Photoshop. This is a minor complaint, and Adobe probably has to bear some of the blame too.

Fourth, I wish the built-in word association dictionary in the Simplified Chinese script could be accessed and modified by users. It's silly to see names of all the Chinese leaders pop up on your screen when you type in some PinYin. Many of the phrases are outdated and useless for users outside China too. If I could somehow remove them, I would. In addition, the number and size of dictionaries seems to be limited. Last I tried, I could not have more than 10 dictionaries open, and each dictionary cannot exceed a certain number of phrases.

Fifth, a built-in English-Chinese/Chinese-English online dictionary would be nice too, so that users can use one language to not only input, but also learn characters and phrases in the other language.

Last but not least, a built-in ability to do online conversion between Simplified and Traditional Chinese would be really useful. Or even better, provide some sort of API so that third parties or users

can easily incorporate such functions to do conversion among different Chinese encoding schemes such as GB, Big5 and HZ (a 7-bit Chinese encoding scheme widely used for email and USENET news on the Internet).

These are some of the things that I hope for. And if I could wish for only one improvement, it would be the last one, ie, doing online conversion among GB, Big5, and HZ. Even without them, I am pretty happy with all the things I can do with CLK on my Mac. Its simple and consistent interface is much better than Chinese Star, and Twinbridge, etc. on the PC side.

As information revolution continues, the need for multilingual processing is becoming more and more pressing and important not only for big-bucks corporations, but also for small businesses and ordinary folks like you and me. It's comforting to know that with CLK, you can meet the majority of your needs using current mainstream software applications. ㄟ



I would like to thank Ken Krugler, Ker Gibbs, J. Michael Farmer, Fu-an Tsai, Heping Shan and Jianlong Mu etc. for their comments and suggestions.

The Rosetta Stone Demo Disc: Dutch

by Curt Ford

The Rosetta Stone is a series of interactive courses, each containing ninety-two chapters of instruction, for beginners in a variety of languages. The package comes with an illustrated User's Guide, Student Management System, and a Language Book with curriculum text and student exercises. I reviewed the Rosetta Stone demo CD-ROM, which includes about 10 chapters from each available language, but did not include any of the supplementary materials. Still, this was enough to get a feel for the Rosetta Stone approach.

A few years ago my Dutch was at an intermediate level, perhaps 2 on a scale of 1 to 5, but it has become fairly rusty since then. I looked most closely, then, at the Dutch lessons, for a refresher and to compare the Rosetta Stone's approach to the traditional textbook I had used in the Netherlands.

The Rosetta Stone's interface is spare but functional. I had no problems using any of its features on a 7100/66, System 7.5, with the default 4 megs of RAM assigned to the program; the sound quality of the sample phrases was excellent. Recording my own voice (into a Plain-Talk microphone) for comparison with the native speakers was a snap. The only glitch I found was in Lesson 14-1 (for all included languages), when choosing two of the options brought up a dialog box informing me of a "Script Error - Index out of range."

On starting up Lesson 1, the user is presented with four pictures. After hearing a spoken phrase (and seeing it on screen), the user clicks on the picture which matches the phrase, and immediate audio or visual feedback indicates whether the answer was correct. Lesson 1 begins with the simplest of phrases: *een*

kat, een jongen en een hond,—translation, "a cat, a boy and a dog," and progressively adds additional elements. This gradual introduction of new words has been carefully thought out, and provides continual practice of old material as the new is added.

The Rosetta Stone expands on this approach with a number of run modes that stress different skills—listening, reading, speaking and writing. By selecting different modes users can choose whether to see and hear a phrase, or just hear it without text; other modes prompt with a single picture and ask the user to choose which of several spoken or written phrases best describe it. Dictation mode plays a phrase, then asks the user to type it in. Users are free to choose among the run modes, or to select a structured tutorial that guides students through the material using a variety of modes.

Unfortunately, the demo CD-ROM included only 5 lessons from Chapter 1, and 5 more lessons taken from chapters 2, 3, 6, and 8, which made it difficult to

judge the overall sequencing of material. The first lessons, though, did provide an accessible introduction to Dutch, and Chapter 8 brings users to the point of giving and receiving directions such as "How do I get to...?".

The goal of the Rosetta Stone is to teach "the way you learned your native language: without memorization, without studying the rules of grammar and without translation!" Learning any language requires memorization, but I found that with the Rosetta Stone this happened quite naturally and almost unconsciously, through the repetition of old material as new items are added. The direct association of new language with pictures is also nicely done, and a welcome attempt to help students think in the target language without constant mental translation.

The Rosetta Stone does avoid grammar rules as such, though that's not always an advantage, since properly presented rules can also give helpful generalizations on when to use which forms, and why. Small children may be able to learn entirely by osmosis, but they have the luxury of several years of constant exposure; I wouldn't plan to spend that much time with the Rosetta Stone.

A look through some German, Russian, and other lessons on the demo CD-ROM shows that the material presented for each language is identical, which brings up my greatest reservation about the Rosetta Stone: its assumption that the same material, presented in the same sequence, is appropriate for different languages.

One problem in this approach is the lack of culture-specific content. Learning a language shouldn't be separate from learning about its culture, yet students of Dutch see exactly the same pictures,

***The Rosetta Stone
does avoid grammar
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advantage...***

and learn the same vocabulary, as students of Russian. At my courses in the Netherlands we learned to talk about dikes, bicycle paths, Dutch food, and other topics firmly fixed in a Dutch context, and I missed this in the Rosetta Stone's rather generic content.

Even more importantly, what's simple in one language may be complex in another. In Dutch, for example, the forms of the indefinite article (*een*; trans: a, an) don't change according to case; in German, the forms do change (*ein, einen, einem, etc.*); and Russian has no indefinite article at all. The Rosetta Stone method doesn't allow for additional examples or practice on specific topics which may be tricky in a particular language.

Overall, I'm convinced that interactive language materials are most valuable when used with (not instead of) courses taught by humans. The clear sound and pronunciation models do make the Rosetta Stone well worth looking into, especially for those who shy away from grammar-based methods; but for serious students of a foreign language, I'd recommend it either as preparation for, or as a supplement to, a language class. ✈



Curt Ford (*kurtik@aol.com*) studied Dutch in Rotterdam for 10 months. Currently a free-lance Authorware consultant in Chicago, he also holds an MA in Russian from Middlebury College and is beginning work on a Ph.D. in Slavic linguistics.

The Rosetta Stone Demo Disc: Dutch

Fairfield Language Technologies
Phone (800) 788-0822 or
(703) 432-6166
fairfield@applelink.apple.com
Price: \$10

The Rosetta Stone PowerPac
22 lessons in each of 5 languages
Price: \$100

The Rosetta Stone Language Library
92 chapters
Price: \$400 per language

Minimum System Requirements
Computer: System 6.0.x
Monitor: 256 colors
CD-ROM: 2X
Memory: 2 megs for System 6; 4 megs for System 7

Review of Claris Dutch Language Pack

by Jeffrey Joel

Claris has made available specialty language dictionaries in a number of languages, to be used with MacWrite II, MacWrite Pro, and ClarisWorks 2.1 or higher. I do not have MacWrite Pro installed, so I was not able to test with that program. In each case the disk that forms the language pack contains three files: a dictionary, a hyphenation file, and a synonyms file.

I wrote some letters in Dutch, tried some literary material that I had in my office and, finally, downloaded some Web pages to see what would happen with different degrees of formality.

The Dutch pack behaved quite well. The only breakdowns I was able to create in the spell checker were with extremely technical material, some compound words, and some Flemish slang (Flemish is a language very closely related to Dutch) from the book *Chapel Road* by Louis Paul Boon. (This book is notoriously difficult; when I first read it a number of years ago I asked a friend in Amsterdam to send me a Flemish-Dutch dictionary.) ClarisWorks permits use of the synonym (or thesaurus) file. Randomly looking for synonyms of various words in the text files I had created, I was given the message "Can't find this word. Try another." a rather large percentage of the time. This may have been due to the fact that I picked both inflected forms of words and some very simple words. In any case, when I was given some suggestions, they didn't seem very useful.



For a more detailed review of Claris Language Packs, see Pete Weissenstein's review in the Italian section.

System Requirements:

Claris 2.1 or later, MacWrite Pro, or MacWrite II

Claris Dutch Language Pack

Claris Corp
USA (800) 544-8554
Phone (408) 727-8227

Claris Norwegian Language Pack

by Jeffrey Joel

Claris has made available specialty language dictionaries in a number of languages, to be used with MacWrite II, MacWrite Pro, and ClarisWorks 2.1 or higher. I do not have MacWrite Pro installed, so I was not able to test with that program. In each case the disk that forms the language pack contains three files: a dictionary, a hyphenation file, and a synonyms file.

I wrote some letters in Norwegian, tried some literary material that I had in my office and, finally, downloaded some Web pages, to see what would happen with different degrees of formality.

Written Norwegian exists in two forms: Bokmål and Nynorsk. Most of the things I worked with were written in Bokmål, which the spell checker handled quite well. The thesaurus was of moderate utility. However, I had some technical articles written in Nynorsk—the language pack had a lot of trouble with these articles and the orthographic changes required by Nynorsk. Therefore, I have some reservations about the usefulness of this product, unless the user is aware of which version of Norwegian she is using.



For a more detailed review of Claris Language Packs, see Pete Weissenstein's review in the Italian section.

System Requirements:

Claris 2.1 or later
MacWrite Pro or MacWrite II
Suggested Retail Price: \$49

Claris Corp.

USA (800) 544-8554
Phone (408) 727-8227
Suggested Retail Price: \$49

After about 20 years in academia and quasiacademia (teaching math and editing an international journal) Jeffrey Joel "retired" to the mountains of Wyoming where he makes a living translating (most European languages) and doing computer consulting and therapy.

German Computerized Grammar I and II

by Judith Bode

We have all agreed that the best way to learn a language is to live in the target region and have to communicate. This is certainly the best way to contextualize a language and develop, as we say in German, a "fingertip feeling" for it. According to recent studies, it is during our childhood that we are best able to soak up a language and intuit its grammar. As adults, we learn differently from children; we seem to require more structure to support language acquisition and communication.

One of the best programs I have encountered for good, old-fashioned grammar practice in German is the Computerized Grammar, series I and II (1989 version). These workhorse programs are designed to focus on certain grammar topics; they are not tied to any particular textbook nor to specific vocabulary. Level I comes equipped with subject pronouns, *haben* and *sein*; present tense of regular and vowel-changing verbs; accusative pronouns; *der*-words; interrogatives; commands; possessive adjectives (*ein*-words); and present perfect of weak, mixed and strong verbs. Level II contains dative determiners, dative pronouns, dative prepositions, simple past tense, reflexives, two-way prepositions, dependent clauses, genitive, future, adjectives, and comparison of adjectives and adverbs. Both programs can be used for beginning and intermediate students as topics are encountered during the academic year, or students may access them for remedial practice.

No specific prohibition exists against editing this German version; nevertheless one should keep copyright requirements in mind, as well as maintaining

the integrity of the programming. Topics can be added easily to better reflect one's own course requirements. Within each topic are three sections: a good, concise review section; instructions on how to make special German letters and an explanation of the scoring and marking notations; and a practice section. Each practice section is subdivided into a number of lessons, each with ten practice items which cycle randomly. Students are required to type a word, a phrase, or an entire sentence, rather than simply choosing or pointing to a correct response. This encourages the student to concentrate on accurate spelling and careful reading.

After the student attempts an answer, the program shows her where she has gone wrong, and she has the opportunity to try again. After three attempts, she is given the correct answer. At the end of the ten practice items within the selected topic, the student sees her score. There are various reward graphics, depending on the score she has received. Below a certain percentage, the student is invited to try again the sentences she missed.

Both programs are easily used by instructors and students; the pathways through the topics, instructions and review sections are clear and intuitive and the programs are trouble free. The value of the two programs will be greatly enhanced if the instructor takes the time to examine and edit the topics so that the structures and vocabulary used to demonstrate those structures dovetail nicely with the course. During the two years they have been running in our language lab, they have been the most popular and useful, according to students. Because there is no aural/oral component to this series,

it would be best to combine them with a variety of other programs in the language lab. They would also be useful for methodical persons engaged in self-directed study at home. The overall quality and usefulness of this series far outweighs the fact that there are relatively few high-tech, fancy bells and whistles to keep the student amused. I highly recommend German Computerized Grammar I and II; they are a mainstay in our lab. ☞



Judith Bode is a German professor at Grant MacEwan Community College (Edmonton, Alberta, Canada). She earned her B.A. in German and Spanish from Dalhousie University (Nova Scotia), her M.A. from the University of Oregon, and has been teaching since 1974. For the past several years she also directed the multimedia language lab at the college; during this time she created a number of lab programs using various authoring packages. Her particular interest is in computer-assisted language acquisition.

German Computerized Grammar I, II

Minimum System Requirements:

Computer: 68000 or better

Hard drive space: 384k

Lingo Fun, Inc.

PO Box 486

Westerville, Ohio, 43081-0486

Phone (800) 745-8258

Vendor: Tralco

297 Bruce Dale Ave. East

Hamilton, Ontario, L9A 1R2

Phone (800) 637-5943

Price: \$60 US, single use;

\$180 US, site license

In addition to German, the series is produced for French and Spanish. The program is networkable.

German Word Torture

by Judith Bode

We have elsewhere said that the best way to learn a language is to live in the target region and have to communicate; however, this is not always possible. In addition to the work we do in our classes, students frequently need and appreciate language lab tutorials that will focus on specific aspects of language acquisition. We have been using German Word Torture (1988 version, and then modified in our lab) for the past two years and like it very much. Unfortunately this excellent program has now been phased out and replaced by a dual platform (Mac/PC) CD-ROM called German Vocabulary. The CD-ROM is not editable, which eliminates the very feature we specifically require. What follows, then, is a brief review of the old program for those who might inherit or have access to the old one.

Word Torture is a HyperCard program designed to focus on vocabulary acquisition, rather than on grammatical structures. It is possible to practice some grammatical phrases with Word Torture, but any structure, such as dependent clauses, which requires a comma will be rendered invalid, since the comma relates to programming. As well, the data fields are fairly restricted, making it much better suited to individual vocabulary and phrase practice. There is no aural/oral component to this older version of Word Torture, and it would of course be best to combine it with a variety of other programs in a language lab.

One of the chief advantages to Word Torture on Macs is its editability. The pro-

gram comes with three vocabulary sets, but these may not match one's own curriculum requirements. The ease with which the instructor can add sets conforming to individual chapters and can return to those sets and edit them is very desirable, particularly when one changes textbooks.

The program is easily used by both students and instructors. On entering the program, the student should first go to the Preferences screen to select the appropriate vocabulary unit. He may also select whether he wishes to work in a timed flashcard mode (better for review) or normal mode (learning and testing). The student may also drill from English to German or vice-versa and may review the entire vocabulary set in random order or in segments. Having set the tutorial's criteria, the student now goes to the Work Page and clicks on Let the Torture Begin. He may correct typing errors before hitting return. A reward box informs him if the answer is correct; if it is not, another information box shows where the correction begins. At the same time the correct answer will be shown, but unfortunately the student does not have an opportunity to correct his answer. The tutorial is easily restarted or repeated. Caution: some students seem to forget to use the Preferences screen to set the parameters of their tutorial; instead they click on Go to Vocabulary. This takes them to the data fields, which can then result in accidental corruption.

Word Torture can be adapted without difficulty for any level, because the

instructor is encouraged to enter vocabulary sets relevant to his texts. Our students use this program heavily throughout the year; it is particularly suited to those who have difficulty "with the words," as they say, rather than with the structures. Even with a communicative approach to language acquisition, there is still a place in the curriculum for grammar and vocabulary practice. Should anyone have access to this version of Word Torture and is prepared to set up the word sets, I definitely recommend it as a valuable addition to the spectrum of tutorials in a lab. It is less suitable for individual study at home because of the need to customize or contextualize the vocabulary. ☞



Judith Bode, Professor of German and Manager, Multi-Media Language Lab, Grant MacEwan Community College, Edmonton, Alberta, Canada, bodej@admin.gmcc.ab.ca

German Word Torture

Minimum System Requirements:

O/S: System 6

Memory: 1 meg of RAM with System 6; 2 megs with System 7

Hard Disk Space: 350k

Software: HyperCard 2.0.2

HyperGlott

P.O. Box 10746

Knoxville, Tennessee, 37939-0746

Phone (800) 800-8270

German Tense Tutor 3.1

by Judith Bode

In the grand scheme of things, there are all manner of programs, some marvelous, others well-intentioned. I find German Tense Tutor 3.1 to be less useful than other tutorials we are running in our lab. As with certain other programs, its fault resides more in its design than in its informational integrity.

German Tense Tutor is a HyperCard program designed to help students review ten grammatical tenses: present, simple past, future, present and past perfect (including double infinitives), present and past subjunctive I and II, and imperatives. There are explanations of each tense and aspect, translations of each sentence, and extensive conjugations. It is quite easy to toggle to any of the support materials, to skip a sentence, hear it again, or hide it. Each sentence is spoken, thus enabling one to improve one's listening comprehension as well. The blend of verbs tested would not be suitable for beginning students, yet just this sort of practice would be beneficial for them. Certainly, intermediate level students would benefit much more from the practice offered by this program. Fortunately, editing the review stacks is quite easy because in the German version a substantial amount of tidying up and correction of errors was necessary. Furthermore, because sound is incorporated, any modification of the sentences necessarily involves adding sound by using MacRecorder hardware and SoundEdit software by using a Mac with a built-in digitizer and the Audio Palette, or similar programs.

The program opens promisingly; a click on the icon Begin takes the student to the ten tenses; clicking again on one of the tenses directs him to the work page. However, on this initial page are also buttons for conjugations and tense/aspect help. The student should be prevented

from accessing these paths from this screen because they lead to the stacks. Rather, the student should glean the information from inside the Run Tutorial pathway to avoid accidental corruption of the data.

Once the student has selected a tense to practice, he clicks on the icon Test Begin and carries on with his review. Clicking on the Antwort button reveals the answer to the sentence he is tackling. The program calculates a score for the student; it does not include any verbs that were skipped. At any time the student may hear the sentence again, may request that the sound always be turned on or off, may elect to hide the sentence and simply hear it to practice listening skills. He may call up a translation and review the tense and aspect information. At any time he may choose to skip a verb, and clicking on left-sweeping arrows returns him to the initial list of tenses to practice. Unfortunately, clicking on the right-sweeping arrow sends the student again into the stacks.

In general German Tense Tutor can be useful as a review tool, but if an instructor is unable to modify the sentences and add the appropriate sound so that it integrates better with the curriculum, then its use is limited. Further, if the software arrives with inconsistencies and errors in the stacks, the result is frustration and substantial repair time. I would hope that more recent versions have eliminated both the design and data problems. We are running it in the lab, but it sees limited usage. Because we are unable to modify the sound, the program doesn't align well with our courses, and students thus become disillusioned with having to skip so many verbs. Furthermore, because of the program's design, students

may also experience frustration at ending up accidentally in the stacks. The version for French is very helpful for intermediate students, according to the coordinator for that language, even though we are unable to modify the sound. All in all, there appear to be substantial differences in the version for various languages; the quality of programming is inconsistent. Our version has experienced frequent extension conflicts. ☹



German Tense Tutor 3.1

Minimum System Requirements:
System 6.0.7 or higher

Hard drive space: 9 megs

Memory: 1 meg of RAM; 2 megs for System 7

Software: HyperCard 2.0.2.

HyperGlott

PO Box 10746

Knoxville, TN 37939-0746

Phone (800) 800-8270

Discontinued and no upgrade available

This review was provided for those of you who happen across the program remaindered, or have access to a used copy.

Judith Bode is a German professor at Grant MacEwan Community College in Edmonton, Alberta, Canada. She earned her BA in German and Spanish from Dalhousie University in Nova Scotia, her MA from the University of Oregon, and has been teaching since 1974. For the past several years Judith has also directed the multimedia language lab at Grant MacEwan Community College; during this time she has created a number of lab programs using various authoring packages. Her particular interest is in computer-assisted language acquisition.

Transparent Language: Italian Now!

Marjorie Madonne

The best way to learn a language is to live in the country and to have to speak it. When I was eight, after several years of living in the US, my mother and I rejoined my father in Switzerland. He was appalled to discover that I had forgotten most of my French. Particularly shocking to him was the fact that I could no longer pronounce the sacrosanct French *R*. He immediately hired the daughter of a friend of his to come over every day and take me on outings where we spoke nothing but French. At home everybody was under orders to speak only French. This method was so successful that when I started school a few months later, I had few problems keeping up with the mostly French classes. Because it was Switzerland, we also had to study German.

It also helps, of course, to be a kid. I have never been able to learn a language as satisfactorily since I grew up. But if you can't go back to childhood and learn a language in the country where it's spoken, the Transparent Language programs are probably as good as any.

Transparent Language's Italian Now! program appears to be geared to intermediate students, who already have some command of the basics of the language. The program uses a series of texts, which it calls titles, to teach vocabulary, pronunciation, and grammar. There are three titles: a simplified version of a farce by Dario Fo, *Gli Imbianchini Non Hanno Ricordi*; *Viaggio a Roma*, a series of rather stilted dialogues relating the saga of Jim, an American traveling in Italy; and *Il Palio a Siena*, a description of the famous horse race which takes place each summer in Siena and of the other sights

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of Siena, which must have been lifted from a tourist brochure (it even includes hotel and restaurant recommendations). The manufacturer recommends starting with *Imbianchini*, which is described as an "easy" Title. However, none of these texts should be particularly difficult for a student at the intermediate level. Additional titles may be purchased from the Transparent Language catalog.

The titles are presented on a reading screen. On the left is a window, containing the text. On the right are several reference windows: a Word-Meaning window, a Root-Word window, a Phrase-

Meaning window, and a Notes window for the student's notes and comments.

As you read the text, you click to highlight a particular segment. A translation appears at the bottom of the screen. Click on a single word within the segment, and its translation appears on the right, in the Word-Meaning window. If it is a word that derives from a root in another word, the root word will appear in the Root-Word window. This is useful if, for instance, you have clicked on a verb tense, and you don't recognize the verb it comes from—especially helpful for irregular verbs: if you don't know that *esco* is a tense of the verb *uscire*, this feature will tell you.

The Grammar window gives you basic information about the grammar of the highlighted word. Take that pesky *esco* again; the Grammar window will tell you that it is the "first person singular of the present indicative." If the highlighted word is part of a compound verb tense, the program will highlight the entire tense. For instance, in the case of the past tense *sono andato* (*I went*), if you highlight *andato*, the rest of the tense, *sono*, will be highlighted in a different color, and the grammar window will explain how it is formed. If you highlight a word that is part of a phrase, the rest of the phrase will also be highlighted in a different color. For instance, if you click on *fino*, the rest of the phrase in which it is used, *a quando*, will also be highlighted. The Word-Meaning window will tell you that *fino* means *as far as*, and the Phrase-Meaning window will tell you that the whole phrase means *until*. This is a useful feature; if you were reading with the help of a dictionary, and looked up *fino*, you

might or might not find out what *fino a quando* means.

Occasionally, the translations are inadequate or misleading. It is confusing when a word or phrase is translated differently at the bottom of the screen from the translation of the same word or phrase at the right of the screen. For instance, *mi sono spogliato* is translated at the bottom as *I unpacked*, whereas on the right it comes out as *I undressed*. There is no way to tell which is the correct translation, because it occurs in a context where it could be either. Sometimes the translation adds things that aren't there: *è al fianco dalla piccola libreria* comes out as *it's right next to a wonderful little bookstore*. (*wonderful* is not in the text. Actually, if you want to be really picky, *al fianco dalla libreria* should be *next to the little bookstore*, not *a little bookstore*) And occasionally the translation is wrong: *ottomila lire* is translated as *80,000 lire*. In fact, it's eight thousand. 80,000 lire would be *ottantamila*.

As you read, you can use the pronunciation feature to listen to a native speaker reading the text aloud, setting the program to read single words, single segments, or a series of words and segments. In this way you can, to some degree, vary the speed of the reading, although it never does come close to approximating the natural speed of spoken Italian. In the *Fo play*, it is a bit annoying that the same woman's voice reads all the parts, both male and female. The same woman also does all the parts in the *Viaggio a Roma* text, even the obviously masculine ones, except for Jim, the American, whose dialogue is read by an Italian man's voice. The readings are very stilted. For the sake of realism, and to get a sense of how Italian is really spoken, it would be nice to have more variety.

One of the pronunciation features, Listen and Speak, allows you to test your own comprehension and use of the spoken language. In the dictation feature, words are spoken aloud by the reader; you are asked to type in the word you hear, and the program tells you whether your answer is correct. There is a record and playback feature to practice pronouncing words and phrases yourself.

As you read, you can create a personalized vocabulary of words from the text, using a feature called Checkmark. I

found it annoying that Checkmark only allows you to transcribe single words, not the article that precedes it. In a grammar with different genders like Italian, you want your vocabulary lists to include the article; it's no use to learn just *mura*; you need to know it's *le mura*.

A basic grammar reference is included in the program. For an additional \$29.95 you can get GrammarPro. The manufacturer describes this as a more detailed grammar reference that is linked up with each Title; you click and go automatically to an explanation of the grammar context. There are also games which use the text of the readings. I suppose the program designers felt they needed to include these in the name of interactivity. I found them mostly a matter of memorization of the text, and not particularly helpful in learning the use of the language. You have to use the exact phraseology of the text to get points; for instance, in the *Vocabulous* game, if you translate a word differently than the text does, even if your translation is correct, you will not get points.

In conclusion, I would say that this program is useful for a student at the intermediate level. It's pretty expensive; the list price is \$129.00.

Whether it's worth it depends, of course, on your level of interest in the language and dedication to learning it. You could do the same thing on your own with a textbook and a decent dictionary and grammar book, and there are some very good Penguin *Parallel Texts* available—Italian short stories by good modern authors, with Italian on one side and a literal English translation on the other side. The literary quality of these short stories is far superior to anything in *Italian Now!*, and you can get tapes for the pronunciation. However, it's the combination of text, instantaneous translation, grammatical explanations, and pronunciation that is helpful here. It's a good way of focusing your study of the language. You don't have to go away from your text to look up meanings or grammar rules; they're available right there, along with the pronunciation. The availability of additional titles that you can use with the original program when you feel you've exhausted the possibilities of the first three titles is a plus. These additional titles cost from \$24.95 to \$29.95.

I must say that this program, like any language package, would work best in conjunction with a good, live-language course. It is very hard to study on your own, particularly if your main purpose is to learn conversational skills, and to compensate for the presence of a knowledgeable teacher, and for the interactions with the other students. In the case of this particular program it is a bit disconcerting to realize that you cannot always depend on the translations given in the program. Although the discrepancies I noticed were pretty minor, I kept wondering if there were more serious errors that I wasn't picking up because of my relatively limited knowledge of the language. Absent a real live teacher to whom you could bring your questions, you want complete trust in the reliability of the program. That said, even if you don't have access to a live language course, you can learn a lot with this program. I felt that using it during the time I was preparing this review was definitely helping me improve my Italian. I'm currently taking intermediate Italian and I was able to discuss some of my concerns with my teacher. She felt that, on the whole, it seemed to be a useful program.

I had no problems installing and running the program on a Quadra 650. The program was easy to install using Easy Install. However, you might consider using Custom Install. Easy Install installs not only the Italian program but samplers of titles in other languages, as well as pictures that you don't really need. To get the language sound, you need to leave the CD-ROM in the drive. ☹



Transparent Language: Italian Now!

Minimum System Requirements

Computer: Mac II or better with System 7.0 or better

Memory: 4 megs; the manufacturer recommends an allocation of 1500k of unused memory on 68k machines and 2185k on Power Mac machines.

CD-ROM version System Requirements
Memory: approx. 1 meg for each title; 10 megs are recommended for the graphics option

Hard disk space: 5 megs

Hardware: a microphone for the recording feature.

Claris Italian Language Pack

by Peter A. Weissenstein

I always find it interesting when a product doesn't quite recognize itself in one aspect or another. In the case of the Italian Language Pack from Claris, I got a big kick out of some of the words that it did not recognize—words such as Claris, Macintosh, MacWrite Pro and Windows! (All right, a lot of us don't recognize Windows either, so I probably have to forgive that one or at least treat it as artificial intelligence!) However, it did recognize the word ClarisWorks. Go figure.

When I was evaluating word processor programs, I put several of them through hoops, and so I am very familiar with ClarisWorks' U.S. English version. I see where there is room for improvement but I have found that ClarisWorks is a decent combination program. I use it a lot. It is memory efficient, and while it has certain limitations, it does the job well. My problem with the Claris Italian Language Pack is that it, too, seems to have limitations.

When I was asked to review the Italian Language Pack, I figured that I would have some fun with it while I put it through its paces. Like the U.S. English version, the Italian Language Pack has a spelling dictionary, a thesaurus and a hyphenation dictionary. Right away, let me state that the Claris Language packs are NOT for learning a language! But marketing being marketing... buyer beware!

When I purchased my current Performa about two years ago one of the things I did right away was to read all the stuff that came with it. Inside all the paper that would eventually get recycled (Alas! Poor trees...) was an offer to buy the ClarisWorks Language Packs at a re-

duced rate. I called up for more information at that time and was told that these would be great learning aids. At the time a little voice in my ear told me to hold off... (I think it was the voice of my empty wallet.) Now that I've had the chance to use one of these packs, I'm glad I waited. But I took advantage of doing this review to once again call Claris and ask about the language packs. Playing dumb, I got a sales rep who was all too eager to sell me the language packs for "learning purposes." Claris—that's a big strike one.

So that no one can come along and point fingers at me down the road, let me explain exactly what I did and why. First, I do not profess to speak perfect Italian. In fact, I understand it better than I speak it (I speak very little), but if text is put in front of me, I can read it and figure it out. A reading and writing knowledge of Italian is what I am interested in, so this was an ideal product for me to review. In order to make this a truly fair test, I devised two review strategies.

But before I could get started, there were problems. First, an overview of the ClarisWorks Dictionary: Overall, the Claris Dictionary feature is fairly easy to use. From the Edit menu you go to Writing Tools and then choose the feature you want including "Select Dictionaries." From there you can choose your own customized dictionary or Thesaurus, the standard ones that come with the program, or the ones from the Language Pack. The biggest problem is that you can only work with one dictionary at a time; if you are working on a multilingual document, it can get very time consuming since you have to keep switching back

and forth. On the other hand, it is nice that you can leave the Thesaurus in one language and the dictionary in another.

A big complaint that I do have is that when you switch from one language to another, you need to click on the Done button (or hit the enter key) and then go back into the Edit menu in order to utilize the feature you need. Either there should be a direct connection to enable you to utilize the feature right away instead of having to do the extra steps or, as you install the language packs, they should merge with the main language already installed (in this case the U.S. English version).

Another nice feature of the ClarisWorks spell check is the "Check/Skip/Learn" choice that you have along with the "Check Document Spelling" and "Check Selection Spelling." Now with the Italian Language Pack—the first problem is in the installation instruction manual itself. It is not very clear. Under "Installing dictionaries for Macintosh products" it says that to install a new dictionary, you copy the appropriate files to the Claris folder inside the System Folder on the hard disk. This works, and is the correct way to do it. But the same section then has a sub-section that says "To install a dictionary in a Claris product on a Macintosh." It repeats the above copying directions and then tells you to start the Claris application and open a document. Now you are supposed to choose "Writing Tools" (in the case of ClarisWorks 2.1 and up) from the Edit Menu and then choose "Install Dictionaries". But, "Install Dictionaries" doesn't exist in version 4.0! You can "Select" them

if you copied them as the directions originally requested you to.

The next thing was the word Sopotano in the manual or, as the spelling check indicated Sopotano. This is just plain sloppiness on Claris' part as far as proofreading is concerned. Since we are dealing with a language/spelling package here, there really is no excuse. After installing the Pack, the first thing I did was to enter the installation instructions into a ClarisWorks document and then spell check it. In doing so, I put in several typos on purpose, made certain words lead off with lowercase which should have been uppercase, etc. ClarisWorks' U.S. English version is usually able to cope with this.

Right off the bat I noticed that some words just did not exist in the dictionary... which was sort of a shame since Claris used them in the manual. Simple things such as "sottomenu" (as it is written in the manual) show up for clarification with no offer of an alternative while "sotto menu" is accepted. In the U.S. English version you would automatically be offered the "split into two words" version (for example: "spellcheck" gives you "spell check") if there was any question about it at all. Not with the Italian Language Pack. One problem was that it would accept a word without an accent that might need one. So a letter without an accent above it might be accepted as the correct spelling in the middle of a word or the dialog box might show up and ask for a clarification. This is definitely a problem for someone using this to check their non-native language.

Another problem that arises is that some words in languages other than English will appear with upper case letters in the middle of a sentence. Realizing this, Claris should offer an option so that when a word like that appears, the user can double check if the first letter should be upper or lower case or if an a, e or u should have an accent if a version of the word exists with and without. Again, to make this truly useful, this should be an option where one can click a box or radio button to choose it.

So how did Claris' instructions do? Well, the Language Pack found approximately a 7% error rate. This was not including my typos, but just in its own in-

structions! It found most, but not all, of my deliberate typos and did not always offer substitutes.

My second test involved a friend who speaks, reads and writes fluent Italian (probably because he was born and raised in Italy... which helps). I had him write two letters in ClarisWorks, which we then spell checked. The first letter was a simple letter similar to something you might write to a friend. This time it worked much better. Out of 103 words, it found 2 corrections to be made. One we knew about since we had deliberately put it in; the other was a legitimate typo. Good—that's what this program is supposed to do. Then we wrote a business letter. As soon as we got fairly technical the program suffered from non-recognition of words (the same holds true with the U.S. English version). Of course this is where the ability to create your own dictionary is a great feature... as long as you are sure of the word you are spelling.

Next we moved on to the Thesaurus. This was interesting. Once again I utilized the installation manual. I also used words that I knew should appear in Italian as well as my friend's knowledge. Again it was adequate. Comparing it to the English version for certain words was a little disheartening. The word "Universal" gives us "International" in the U.S. English Thesaurus, but "Universale" does not give us "Internazionali" in Italian. On the other hand, I found "Hinterland" which gave me several choices, including "suburbio." I never knew that Hinterland was Italian! Come to think of it, neither did my German print dictionary!

The last test was the hyphenation test. I've never been overly impressed with the auto-hyphenation feature of ClarisWorks. It does an adequate job and then it will stumble by not hyphenating something that it should. The Italian Language Pack does the same. On the positive side, as with the U.S. English dictionary, you can create your own user dictionaries with the product. Just be certain to have that old-fashioned paper (remember that stuff?) dictionary by your side to double-check what you are entering.

Claris USA's marketing department seems to be trying to sell this add-on to people who wish to learn the language. I must be fair and in Claris' defense say

that I don't know if this is company policy or just a few reps trying to drum up a nice commission sale.

Again, as I mentioned earlier, this product is not for learning a language. As a basic spell checking dictionary, I might recommend it. It is a decent add-on to ClarisWorks for an intermediate speaker of the language or for someone who needs something to spell check basic correspondence. But prior to investing the money in this add-on, I would scout about online and see if you could find a Shareware/Freeware version.

However, if you are a beginner, I would not recommend purchasing the Italian Language Pack. Installing this add-on would be akin to renting a movie instead of reading a book and not knowing that the plot had been changed. The shortcomings (such as not being able to tell whether you need a capital "I" in a word or not) will cause you to make mistakes that could be very embarrassing. If you do a lot of bilingual or multilingual work, then you would probably be better off with another program that has a much more powerful dictionary with many more words unless you use the same words over and over again. In that case you would still be better utilizing the U.S. English version's "Learn" feature for those words so that you don't have to switch back and forth between dictionaries. On a rating level of 1-10, I would have to give this product a 4. ☹



Claris Italian Language Pack

Minimum System Requirements

Claris 2.1 or later, MacWrite Pro or MacWrite II

Suggested Retail Price: \$49

Claris USA:

(800) 544-8554 or (408) 727-8227

Peter A. Weissenstein is the newsletter editor and Industry Liaison for AppleCore Berkshire County, an Apple/Macintosh User Group serving Berkshire County MA, Columbia County NY, Southern VT, NW CT and the surrounding Hilltowns in the area. He has used Macs since the D480s and is a firm believer in the Apple ideal. He can be reached at ApplePete@aol.com

Astrid Lindgren's Pippi

by Megan Lynch

As anyone who has tried to study Swedish outside of Sweden knows, it is not easy finding study materials. I have gotten used to combing used bookstores and listening with ears wide open for the telltale cadences of Swedish. Even though my search for Swedish-language learning programs turned up nothing, I believe that beginning and intermediate students of Swedish will find the Pippi CD entertaining and useful.

This CD is definitely aimed at the children's market. In true Scandinavian fashion, it comes in a brightly colored, well-designed package with a 6-inch Pippi doll. I admire and appreciate the fact that Ahead Multimedia used more ecosensitive CD-ROM packaging instead of a jewel box. The CD-ROM has the Pippi story in six languages: Swedish, English, French, German, Spanish, and Japanese. I looked at the English, Swedish, and Spanish sections. (I reviewed version 1.0. Ahead Multimedia now offers version 1.1

which adds Finnish, Norwegian, Danish, Dutch and British English.)

The Pippi CD uses common graphic symbology so children (and adults) who aren't adept at reading can navigate the program. By clicking the proper symbol, one enters the first page of the story. One has the choice of viewing the text as it is read, or simply having it read to him or her. This is a nice feature for the language learner, because it allows one to choose to work on either reading or listening comprehension. Those who purchase this CD to practice Swedish have an advantage over those who study the other five languages: In the Swedish version of the story, the young protagonists' roles are read by children. In the other versions, they are portrayed by adults. I have found it helpful in my studies to listen to as many different speakers of the target language as possible. Children speak in a different way than adults. One of the more difficult-to-understand dialects in Swedish is Skånska. When I visited friends in Skåne, I had a little difficulty understanding them, but their children and I had even more trouble understanding each another.

Even though *Pippi Longstocking* is one of the more popular children's book characters in the world, I had never read her stories or seen the movies about her. Therefore, I had a completely fresh take on the story. I found it entertaining and learned some new Swedish words and phrases. The vocabulary of children's books is different than the academic vocabulary one learns in language textbooks. I find that the vocabulary expected of children is actually far more sophisticated than that taught in most textbooks. That is why I think it is important for people to overcome any prejudices they may have about using children's texts as learning materials.

As is common in the computer industry, there are a few spelling and grammar mistakes that somehow made it past quality assurance (e.g., *dosen't*; *Hay, un caballo en el portal ...*). Those who wish to hear the story in English will hear a very slight Swedish accent. This minutely diminishes the value of the CD as a language-learning tool. I listened to some

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Lest anyone think the United States has a corner on xenophobia, those who translated Pippi into Spanish somehow rendered “my father is king of a South Seas island” to “my father is King of the Cannibals on a South Seas island.”

of the other languages on the CD, but it is harder for me to detect accents in languages which I do not speak fluently.

By comparing the various languages on the CD, one can learn just how influential and difficult the translator's job is. According to the CD's literature, Pippi Longstocking has been translated into

more than 60 languages and is considered a children's classic. As such, I'm sure Ahead Multimedia had to keep true to the various translations that were released in each country. Lest anyone think the United States has a corner on xenophobia, those who translated Pippi into Spanish somehow rendered “my father is king of a South Seas island” to “my father is King of the Cannibals on a South Seas island.” That should show you just how much power a translator has. Those who translated it into English were a little loose with some phrases as well, and I am happy to have access to the charming Swedish original.

There are 3 stories on the CD. As for the children's entertainment portion of the CD, it bears more than a passing resemblance to the excellent Living Books series from Brøderbund. There are many clickable items enabling a child to explore the various rooms of Villa Villekulla, as well as some games. I found them whimsical and good for a smile. Using it on a double-speed CD-ROM drive, there was a slight delay for the animations and narrations to load; I don't think it's slower than the average for this type of product. Like many children's CDs, the application closes access to the menus from within the program. I would also like to be able to toggle the settings back and forth without having to go back to the “foyer” every time; however, it is easy to see why a company would engineer things this way if young children are the target audience.

I liked Pippi's story a lot. She is a role model of a strong girl and a non-conformist, and that never rubs me the wrong way.

I think this is a very nice product for a version 1 release. Although it was made

for the entertainment of children, it has its uses for the beginning and intermediate students of the various languages included on the CD-ROM. It is especially useful for developing listening-comprehension skills. I look forward to seeing what Ahead Multimedia releases next. ☞



Megan Lynch has studied Danish, Swedish, Spanish, French and American Sign Language. She hopes to achieve fluency in most of these someday. Ms. Lynch is a maid of all trades, most notable being vocalist, illustrator, editor, QA tester and teacher. If you would like to discuss Scandinavian issues, please email her at spidra@sirius.com

Pippi CD

Minimum System Requirements

Computer: 256 Color Macintosh with System 7

Memory: 4 megs RAM

Hard Disk Space: 16k for prefs file

Hardware: CD-ROM drive

Miscellaneous: Windows: 386 or higher, SVGA, Windows 3.1, minimum 4 MB of RAM, but 6 MB recommended

Ahead Multimedia AB

P.O. Box 24135, S-104 51,

Stockholm, Sweden

Phone +468 671 09 30,

Fax +468 662 64 67

Web site: http://www.multimedia.se/s_order.html—order form is in Swedish. They do not have a way to order in English online although their site information is available in English at <http://www.multimedia.se/indexe.html>

Street Price: 498SEK, which is approximately \$75US

The Rosetta Stone

Español Level 1A

by Gene Duckart

How do children learn to speak? It seems they do so in a highly methodical way; they break the language down into its simplest parts and develop the rules they need to put the parts together.

— *Breyne Arlene Moskowitz*
The Acquisition of Language

The key is to see words in intelligible contexts. A dictionary is often misunderstood, but an interactive video display can mobilize the natural ability of a child to learn from context.

— *George A. Miller and Patricia M. Gildea*
How Children Learn Words

An attractive feature of The Rosetta Stone Language Library™ (The Rosetta Stone) is the inclusion in its package of a brief description of “the comprehension approach,” the learning theory upon which the program is based, with references to two anthologies of research articles that elaborate the theory. It is reassuring that Harry Winitz, editor of one of the anthologies, acknowledges in his introduction that much investigation remains to be completed, and that the anthology is a statement of the current state of the art of the comprehension approach (Winitz, 1981). The theory appears to have been developed from studies of language acquisition in young children who “within a short span of time and with almost no direct instruction will analyze the language completely” (Moskowitz, 1978) The effectiveness of the comprehension approach in helping students acquire an additional language will eventually be established by evaluating its use with large numbers of students.

Comprehension Approach Theory

The leading question of Winitz’s article, “A Reconsideration of Comprehension and Production in Language Training,” is, “What are the differences between the language teaching practices of today and those conducted prior to the Chomskian and Skinnerian revolutions?” He contrasts linear systems of language acquisition that depend on learning codified grammatical rules and insist on each stage of comprehension being followed by proof of mastery as evidenced by production, with the non-linear techniques of the comprehension approach. The common set of beliefs that defines the comprehension approach is:

- Language rules are most easily and accurately acquired by inference. The basic data are the sentences of a language. The ease with which learning takes place depends upon the programmatic sequencing of the sentences.
- Language acquisition is primarily an implicit process because the acquisition of linguistic knowledge is not, for the most part, under the explicit control of conscious awareness of the student. Furthermore, explicit instruction in (surface) rules may be harmful to the learning process.
- The rules of a language are so complexly interrelated and so sufficiently detailed as to preclude errorless learning without exposure to a large part of the grammar of a language. In this regard language acquisition is viewed as nonlinear because information in later lessons provides

clarification of material presented earlier.

- Comprehension is a teaching routine whereby the student is systematically exposed to the sentences of a target language. Production exercises, grammatical drills, and practice in translation are not generally used as teaching routines, although they may occasionally be used to test comprehension.
- Speaking will develop given sufficient comprehension training, although there is only preliminary research to support this contention.

Valerian A. Postovsky’s contribution to the Winitz anthology, *The Priority of Aural Comprehension in the Language Acquisition Process*, shows that children demonstrate comprehension of many utterances before they develop the ability to produce intelligible speech, and he warns against premature speech production that may overload short term memory instead of developing habitual control and “automaticity” of response. He then moves the theory to the level of computer program development:

“Our experience with oral comprehension programs indicates that mere exposure of the student to the sounds of the target language is not sufficient. A program, to be successful, must satisfy at least three essential conditions:

- The language material presented in the program must be meaningful from the very first hour of instruction.
- The program must provide for a student response that will verify comprehension of each utterance or a

short passage immediately after delivery.

- The program must challenge the student to guess at the meaning of unfamiliar elements on the basis of familiar elements in the linguistic environment.

The Rosetta Stone Program

The Rosetta Stone uses the Macintosh's graphic and sound resources to present both oral and textual language in meaningful contexts through photographs, drawings, text, and CD-ROM recordings of the voices of native Spanish speakers. In its Tutorial and Run modes the student must verify comprehension of words, or a short passage, or text, before the program moves to the next frame of four elements (text or pictures or combinations of these) that constitutes the next challenge, and each challenge requires that students who are operating on the program's level guess at the meaning of unfamiliar elements based on understanding of familiar elements.

Although comprehension approach theory stresses the priority of oral comprehension in language acquisition and learning, The Rosetta Stone program accommodates various learning styles by providing optional textual cues. In The Rosetta Stone's twelve Run modes, as well as in its Tutorial and Browser modes, these audio-visual-textual elements are combined in various permutations to provide contextual meaning to the language. Thus, The Rosetta Stone is an accurate augmented implementation of the theory of the comprehension approach to language acquisition.

The ideal learning environment of the comprehension approach is the social world of infants who, having no language cannot be told what they need to learn, but who by the age of three have mastered the basic structure of their native language. "Students of how children learn language generally agree that the most remarkable aspect of this feat is the rapid acquisition of grammar." (Miller and Gildea, 1987)

Within a short span of time and with almost no direct instruction the child will analyze the language completely. In fact, although many subtle refinements are added between the ages of five and ten, most children have completed the great-

"The comprehension approach," the learning theory upon which the program is based... developed from studies of language acquisition in young children who "within a short span of time and with almost no direct instruction will analyze the language completely."

er part of the basic language acquisition process by the age of five. By that time a child will have dissected the language into its minimal separable units of sound and meaning; she will have discovered the rules for recombining words into meaningful sentences, and she will have internalized the intricate patterns of taking turns in dialogue (Moskowitz, 1978).

The goals of The Rosetta Stone Español Level 1A, by comparison, are appropriately modest. The program introduces approximately 3000 Spanish words in phrases of increasing complexity, and all the words and phrases are indexed and

printed chapter by chapter in a spiral-bound booklet written in Spanish, including 47 pages of Ejercicios Españoles that test comprehension of the words, phrases, and grammar introduced by the program. The only non-Spanish words in the booklet are in the English title page in and the introductory page to the index, which explains the following in Japanese, French, Spanish, German, and English:

This index contains the first 20 occurrences of each word in the text. Each word is followed by the Unit Chapter in which it occurs. The number of times that the word appears in the Unit Chapter is enclosed in parentheses.

The graded sequencing of words and sentences, with numerous rearrangements of words to form new sentences, provides much repetition designed to enhance long-term memory and "automaticity" of the student's ability to use the language. A staple-bound Users Guide explains the many options available to the users of the program. According to the program's Read Me file, students require about 250 hours to master the material, which is intended to serve as a one-year course of study at the university level or two years at high school level.

The Rosetta Stone's interface, the aspect of the program on the computer screen, resembles the Macintosh At Ease program, which is designed for use by children and inexperienced computer users. The program ran very smoothly on a Macintosh Performa 636CD with a 14-inch Apple color monitor and an Apple PlainTalk microphone.

I enjoyed sampling the chapters, occasionally testing myself with the Test Option that can be invoked in any of the twelve Run modes. Here is a test result that I saved for this review:

The Rosetta Stone Test List, Created 3/26/96

Español 08-06: On 3/26/96 at 3:16 PM, you got a score of 89 right and 11 wrong, in play mode 6, with Delay OFF and the Timer OFF, and it took 0:14:21 to complete.

In Chapter 6 of Part 8, I made eleven errors in play mode 6, and wrote myself a

reminder that some errors were due to pictures that were not distinctive enough for me to determine the gender, age, or species of every creature in the picture. In play mode 6 with the Delay off, a picture is presented continuously while one hears the spoken phrase for each of four text boxes below. A correct response is recorded if one chooses the matching text box within the time allotted by the Timer, which is 5 seconds when the Timer is off.

Students can turn the Delay and the Timer on in any of The Rosetta Stone's twelve Run modes. The purpose of the Delay option is to develop retention. With the Delay option on, the student hears a spoken phrase or briefly sees a picture or printed text and must keep it in mind while waiting for the delayed presentation of the four choices offered in the selected Run mode. The Timer optionally limits the amount of time allowed for a response from 1 to 30 seconds.

Each Run mode takes the student sequentially through all 10 screens of the selected chapter of the program using a given set of cues. Besides the twelve Run modes, students can select Tutorials, Dictation, or The Browser.

Tutorials are guided sequences of Run modes that do not stop after ten screens, but continue on and on. The Voice and Text Tutorial presents voice and text for four pictures and quizzes the student in Run modes 1 and 6, occasionally applying the Delay option while repeating the screens on which the student had difficulty. The Voice Only Tutorial combines Run modes 2 and 7 to quiz students using only pictures and spoken phrases, likewise occasionally applying the Delay option and repeating missed screens. Random Tutorial is the program's toughest challenge, presenting screens in random sequence and random Run modes, with and without the Delay option.

Dictation presents four pictures, each with a Speaker button. Clicking on the button initiates a spoken phrase to which the picture adds context. After typing the phrase in a text-entry window and clicking the Check button the student receives yes or no feedback and the correct text

appears in the picture box. Correct use of capital letters, accented letters, and punctuation is required for "yes" feedback.

Dictation and The Browser allow students to "page through" the program material freely without time constraints. The Rosetta Stone's Voice Record/Playback feature is available only in The Browser. Three Browser modes are available: picture, voice, and text; picture and voice only; and text and voice only.

The Browser was for me the most challenging part of the program. Only in the Browser can one use the Voice Record/Playback feature that enables comparison of the user's pronunciation with that of native speakers. The Rosetta Stone's implementation of Voice Record/Playback is better than that of any other program I have used. The student holds down the Mouse button while speaking into a microphone and, upon releasing the button, hears immediate playback. Clicking on a speaker button initiates repetition of the native speaker's pronunciation. Excellent!

While I am pleased and impressed with the quality of The Rosetta Stone, I am surprised at the way it is marketed. Fairfield Language Software offers a CD containing the first 2 of 8 parts of each of its 6 languages (the first 22 of 92 chapters of each language). They have advertised it in Mac Mall's mail order catalog, for example, for \$89 without indicating in the ad that it contains only a partial set of chapters for Level 1A of each language (Spanish, French, German, Russian, Dutch, and English). In April 1996 the complete set of chapters for each language was available separately for \$395, a price more suitable for multiple-user language labs than for individual users. The Rosetta Stone is such an attractive program that I would like to find it priced for individual users. Fairfield Language Technologies might still make an equivalent profit by selling many more copies of the program.

Evaluation

I believe that The Rosetta Stone has been developed very thoughtfully to accommodate the needs of students with

many different styles of learning; most will find it an effective and attractive tool for beginning to acquire an additional language.

For schools that are fortunate enough to have an adequate number of computers with CD-ROM drives, the program would be a valuable supplement to more traditional approaches to teaching Spanish.

For adult self-motivated language students the program will be welcome as an additional tool for self-instruction, useful in advancing his/her acquisition of the total language (hearing, reading, speaking writing).

All motivated students will seek more than any computer program can offer: conversations with Spanish-speaking people, Spanish radio and television, Spanish textbooks, books of Spanish grammar, Spanish literature and periodicals, opportunities to exchange email in Spanish—and Spanish music! But Rosetta Stone Español 1A provides a novel and attractive approach to begin the long journey toward fluency in a new language. ☞



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- William S-Y. Wang, Ed., 1991. *The Emergence of Language, Development and Evolution* (Readings from Scientific American), W. H. Freeman and Company, New York, 1991. Chapter 10: Breyne Arlene Moskowitz, *The Acquisition of Language*, Scientific American, November 1978. Chapter 11: George A. Miller and Patricia M. Gildea, *How Children Learn Words*, Scientific American, September 1987.

See Curt Ford's article on page 128 for minimum system requirements.

Gene Duckart ha sido aficionado de las Mac desde 1990 cuando compró una Macintosh SE. En 1994 se enamoró del idioma español y empezó a estudiarlo con la ayuda de su computadora. Invita a todos a compartir su entusiasmo para el idioma español y para las Mac en el foro Español del Planeta BMUG BBS.

The American Sign Language Dictionary on CD-ROM

by Michael S. Walker

Each sign is demonstrated through video, explained out loud, drawn, and defined. With the many different ways that each sign is presented, it is easy to do the sign correctly. Using the book-only method of learning, it is sometimes difficult to do a sign correctly since you only have a drawing as reference.

The American Sign Language Dictionary on CD-ROM, from HarperCollins Interactive, is a reference tool with 2200 quicktime video clips of signs, learning games, animations, and fingerspelling to aid in the learning of sign language.

I tested the CD on a PowerMac 7200/90 with 4x CD-ROM. Loading the CD and running the program was as easy as one would expect with the Mac. I inserted the disk, double-clicked the icon, and the program ran fine. The main menu gives you five options: dictionary, skills, fingerspelling, ASL overview, and guided tour. Being short on patience, like most people I decided to go straight to the guided tour. It was great! Using video and audio, it explained every section and all the functions in each.

The dictionary section allows you to search for signs alphabetically, by category, or by typing the word in. Each sign is demonstrated though video, explained out loud, drawn, and defined. With the many different ways that each sign is presented, it is easy to do the sign correctly. Using the book-only method of learning, it is sometimes difficult to do a sign correctly since you only have a drawing as reference. There are even "hints" which help you remember the sign. For example, you can remember "cat" as the motion of stroking your whiskers. You can also adjust the speed that the video shows the sign, in case it is shown too fast or slow for you.

The skills section is the "test" section—it displays a sign and then gives you multiple choice answers to choose from. The test can be customized for the number of signs or amount of time. You can even limit it to signs that you have reviewed previously. It also has a

concentration-type game to help sharpen your skills.

The fingerspelling section teaches by letting you press a letter key, which displays the appropriate sign on the screen. This section also has a concentration game. This section seems a bit underdeveloped; since many beginning signers have difficulty reading fingerspelled words, it would have been nice to have some reading practice and tests for fingerspelling.

The ASL Overview section includes ASL history, learning hints, miscellaneous ASL information and resources. One area that I believe should have been covered in more detail is the linguistic structure of ASL. For example, in English you would say "I want to go tomorrow" and in ASL you would sign "Tomorrow go want." I know this is a dictionary, but I believe the differences in structure between ASL and English are important enough to warrant more than a mention.

The American Sign Language Dictionary on CD-ROM is an excellent reference tool for ASL. It would be particularly effective when used in conjunction with a sign language class. Ultimately, interaction is necessary for learning to converse with the deaf. But for outside-class use, this is the best Sign Language reference I have seen. ☞



Minimum System Requirements:

Computer: Mac 25 MHz 68030 processor or better, System 7 or better

Memory: 4 megs, 8 megs or more recommended

Monitor: 13" or larger 256-color monitor

Hardware: double-speed or better CD-ROM drive

Language Explorer

by Judith Bode

What a terrific, entertaining, useful, and educational game! Language Explorer version 1.1.2 focuses on vocabulary acquisition in 42 different contextualized settings representing just over 500 words. The game is multi-lingual; one may elect to play in English, French, German, Spanish, or combine all four languages into one game. There are five levels: Beginning, Intermediate, Advanced, Linguist, and Polyglot. The objective is to correctly match a vocabulary (text) tile to a picture. There are various reward noises, music, and animated graphics; as one advances in level, one plays against a ticking clock. The 42 vocabulary sets include many topics that are typically found in first- and second-year language courses, such as clothing, food, job, various places in the home, body parts, colors, shapes, pets and animals, the family, numbers, months, time, weather, and activities (i.e., verbs).

The beginning level explores basic vocabulary in the selected topic. A buzz informs the player that an error has been made; a whoop confirms a correct match. One may change topics or redo the set at any time. At the intermediate level, no buzz indicates that an error has been made, but there is a confirmation that a tile is placed correctly in a frame. Again, one may change topics or redo the set at any time. Moving to the advanced level means a race against time. The length of the game may be set anywhere between 10 and 99 seconds, but the clock only begins to tick when the first tile is moved,

*A great deal of
vocabulary can be
learned quite
painlessly.*

enabling the player to study the board first. When the time runs out, mistakes will flash and then correct themselves, and a score will be shown.

Again, one may change topics or redo the set at any time. The linguist level cycles through the topics in random order, and one plays against the clock. When the time runs out, mistakes are shown and then corrected. At this level, the score will have two parts: the upper figure shows how well one has done on that particular vocabulary set, and the lower score averages all topics that one has played during the given session. Polyglot is similar to linguist, but combines all four languages into one challenging game.

The CD-ROM version has a voices option in which a native speaker says each word aloud at the appropriate time during the game. One may select male, female, or mixed voices. This addition certainly increases the usefulness of Language Explorer.

The game is suitable for almost anyone, from small children to adults. It is a lot of fun; a great deal of vocabulary can be learned quite painlessly. Students find it a welcome relief from their other language lab work; it would definitely be a nice addition to self-directed study at home. ☺



Judith Bode, German Professor and Manager, Multimedia Language Lab, Grant MacEwan Community College, Edmonton, Alberta, Canada; email: bodej@admin.gmcc.ab.ca.

Language Explorer
Nordic Software, Inc.
Minimum System Requirements
Computer: Color Mac with System 7.0 or later (or System 6.0.8 or later with 32-bit QuickDraw)
Memory: 1 meg

Sources:
Gessler Publishing Co., Inc.
10 E. Church Avenue
Roanoke, Virginia, 24011
Phone (800) 456-5825

Tralco
297 Bruce Dale Ave East
Hamilton, Ontario L9A 1R2
Canada
Phone (800) 637-5943

Prices vary, depending on supplier and whether one is ordering in Canada or the US. Available on disk and CD-ROM.

Shasta 2.0

by Pinghua Young

Shasta is a stand-alone application of an online multilingual dictionary with English thesaurus and spell checker. With Japanese Language Kit or Chinese Language Kit (CLK), it can look up English translation with some usage example when given a Chinese or Japanese character or vice versa. It's fully WorldScript compatible, and is smart enough to detect the language script you are in and look up appropriate dictionaries for meaning and usage.

For example, when you see an English word and you want to know its Japanese or Chinese translation and meaning, you can simply copy it to the clipboard and hit a key-combination to launch Shasta and have the application look up the word. The Japanese or Chinese definition and possibly usage example will be displayed in a window at the bottom of your Mac screen. If you have multiple English words, such as a short sentence in the clipboard, Shasta will look up each of them in turn and display the translation in the window one by one. However, the program cannot look up Chinese idiom phrases nor common English phrases. If any of the words in the Shasta display window is in red (which can be customized to any other color), it means you can also look it up by simply double-clicking on it. This is a very nice and convenient feature because sometimes you may not know all the explanatory words and wish to look them up as well.

Shasta has several built-in dictionaries, including English/Chinese, Chinese/English, Hanzi/PinYin, PinYin/Hanzi, Roget's Thesaurus, and User-Editable English/Chinese and Chinese/English dictionaries, along with a few for spell checking. If you use the Japanese Lan-

guage Kit, then the Japanese dictionaries will become available as well. The English/Chinese and Chinese/English dictionaries seem to be pretty comprehensive, and can meet my needs as an ordinary user. Since a single Chinese character has so many different meanings, depending on different combinations with other characters, the best way to look up Chinese characters is to use a phrase (a meaningful one of course).

In addition, you can put your own entry with meaning and explanation into the editable dictionary. You can do this within Shasta, although you are limited to one entry at a time and you can't see entries already in the dictionary.

if I encounter an unknown English word, I find the American Heritage Dictionary is more complete in terms of meanings, explanations, and usage examples.

You can also use Shasta Editor, which is a stand-alone application in itself. However, if you have Shasta open, the Shasta Editor will not be able to open any dictionary file, so you have to quit Shasta in order to use Shasta Editor. I can't seem to find any way to close any dictionary in Shasta. This is annoying if you use Shasta Editor on a frequent basis. It would have been better if Shasta and Shasta Editor were incorporated into one application instead of two.

Shasta's built-in spell checker can check both text in the clipboard or a file. Although it understands and reads Chinese text, it can't tell if I have misspelled a Chinese character. So it's only an English spell checker.

Shasta is a useful utility for someone who is learning Chinese or English. However, as a native speaker of Chinese with a comfortable grasp of English, I feel that most of the time I still need to consult a Chinese dictionary to get a complete meaning of an unknown Chinese word. And if I encounter an unknown English word, I find the American Heritage Dictionary is more complete in terms of meanings, explanations, and usage examples.

If it is possible to install Shasta as part of the Chinese Language Kit so that its functions can be accessed via CLK (and thus in any WorldScript-compatible applications), then it will be more useful as users can use it not only for looking up words, but also for inputting Chinese by typing some English or vice versa.

I should also mention that you can only install Shasta from the original CD-ROM, which is a bit inconvenient, although I understand the need for copy-protection. 天



日本からのお便り **Japan News**

BMUG Japan 始動！

BMUG Japan Starts!

野口 卓
Takashi Noguchi

「BMUGのニューズレターって、英語ばかりだからなあ・・・」年に二冊送られてくる、このニューズレターを手にとってこんなふうにつぶやき、そのまま本棚にしまい込んでいる人は、私ばかりでなく他にも大勢いるんじゃないかと思えます。

実際、これだけの量の英語を読みこなすということは、私を含む平均的な日本人には容易なことではないですよ。でも、このニューズレターを手にして日本人の会員は大勢いるのです。

もしBMUGにそれだけの日本人会員がいるのなら、日本語によるサービスがあっても不思議じゃありませんよね。世界最大のMacintoshユーザーズグループ、BMUGに入会している、このことを誇りに思いたいのです。

ただしBMUGは非営利のボランティア団体ですので、ただ会費さえ払っていただければ、向こうから何かをしてくれる、というわけではなく、こちらから行動を起こす必要があるのです。

そんな理由から、私がMacWorld Expoにボランティアとして参加するようになってもう四年たちました。

パソコン通信にて

エキスポの時に、サンフランシスコから来ているBMUGのスタッフにこのことを話すと、「まずモデムを買うべきだよ」と言われました。そこで私は

モデムを買い、ニューズレターに載っているような半年も前のものではなく、たった今の情報を受け取ることができるようになり、サンフランシスコには沢山の友達もできるようになりました。そしてまた、モデムを買ったことが単にBMUGとの通信というだけではなく、とんでもなく広い世界に飛び込んだのだ、と気付くのに大して時間はかかりませんでした。

知っている人は少ないとは思いますが、私は東京のあるFirstClassのBBSで、BMUGから受け取った情報を流すことを始めました。「BMUG News」という専用の会議室を設けていただいたのです。この会議室を通じて、とても沢山の友達に出会うことができました。自分にもBMUGについて何かできるのでは、そういった自信がついたわけです。

この仲間は、今もこうして記事を載せることについて、DTPの知識やポリシーに不足する私を、さまざまな面で助けてくれています。そして、日本でわざわざでもBMUGの活動をするには、MacExpoが大きなチャンスになるのでは、と話し合ったのです。

去年の11月に、BMUGの会員専用BBSである「Planet BMUG」にインターネット専用線が接続されました。これによって、プロバイダーに加入している人なら、日本からも気軽にアクセスできるようになったのです。それ以前

は、Planetにアクセスするためには高額な国際電話を使うしか方法がありませんでしたから、はるかに便利になったわけです。

そして私達は、インターネットを経由してPlanet BMUGにアクセスする方法を、日本語の文章にして、図版入りで印刷し、BMUGのブースで配付することにしました（インターネットを経由したPlanet BMUGへアクセスする方法については、下の問い合わせ先にお尋ね下さい）。

数百部作ったパンフレットは、二日目ですでに不足するほど多くの人手に渡りました。むろん最近のインターネット人気がそうさせた面もありましたが、こうして、日本会員が作ったパンフレットが初めてブースで配られたわけです。

Expoのブースで

Expoのブースというのは、他の販売ブースに比べると簡素なものです。参加する者にとっては楽しい交流の場所です。1年ぶりに再会する人や、地方からわざわざこのイベントに参加する為に来る人もいらっしゃいます。

本来このブースはBMUGの会員を募集したり、CD-ROMやTシャツなどのグッズを販売するブースなのですが、息抜きに遊びに来ている人も多かったりします。そしてさまざまな質問、「BMUGってプロバイダーなんです

か?」「ユーザーズグループだそうですが、入会してどんなメリットがあるんですか?」「日本に連絡先はありますか?」

こうした質問にきちんと答えるために、私達ボランティアは、日本人のお客さんとBMUGスタッフの間に立って説明するのが重要な仕事です。むしろ全員がすべての質問に答えられる、というわけではありませんが、きちんと答えられる人は必ずいます。また今年のブースでは、1年ごとに会って、Expoが終わるたびにまた別れていくボランティア同士の繋がりを強めるために、全員のメールアドレスをひとつにまとめ、いつでも連絡出来るようにしました。これから本格的にメーリングリストを作って、エキスポのない時期でも連絡しあおうという予定です。

これを読んでいる人で、来年は幕張に参加してみたい、という方は、どうか連絡して下さい。いつでもお待ちしております。

日本へ向けて

今後BMUGは、日本向けの活動を始めるようになります。今の段階で決まっている日本語サービスの内容についてご紹介しましょう。

Japan-BBS

今年の夏頃をめどに、いよいよ日本に会員専用のBBSが開設されます。GUI (Graphical User Interface) のまま直感的に使うことができる、FirstClassのBBSです。長い間ボランティアとして活動している北村泰一さんが、その準備に当たられています。この記事を書いている時点では、まだ詳しいことは決まっていませんが、ニューズレターがお手元に届く頃には、すでに運用を開始しているかも知れません。開通の時は、主要パソコン通信の掲示板やMac関連雑誌等でもお知らせをする

予定です。ご連絡いただければ、アクセス方法等をお知らせできると思います。

このBBSで今のところ計画しているのは、本家であるPlanet BMUGとの会議室の共有です。また日本独自の会議室などの皆さんからの要望は、BBSが開始した後で、ぼんぼん書き込んで下さい。

開設するにあたって、皆さんからの寄付も受け付けています。連絡先は電子メールか、エアメールにてBMUGへ直接申し込んで下さい、どうかよろしくお願いします。

その他の活動

これまでは、すでに通信をされている方への案内でしたが、ではまだモデムを持っていない方はどうすればいいのか。あるいは、モデムを買ったがうまく繋がらない場合はどうしたらいいのか。BMUGの日本会員の中から、パソコン通信の初歩を手助けできるようなセミナーを開こうという提案があります。興味のある方は、ぜひ郵送でBMUGまでお知らせください。要望が多ければ具体的に開始できると思います。

ニューズレター日本語セクション

今回は、こうして日本語の記事をニューズレターに載せることが実現できたわけですが、次の号からは本格的に日本語のセクションが始動します。私達は会員の皆さんからの投稿をお待ち申し上げております。

Macを使っていて、日本語環境に不満はないだろうか? システムやアプリケーションが発表されるのが英語版よりも遅れるのが常になっているのだが、これでいいのか? パッケージソフトを購入するにあたり、日本にある代理店のサービス内容が信頼できず、わざわざユーザ登録のできない英語版を購入したことはないか? ここ1-

2年の間、日本でもインターネット人気が過熱しているが、あなたの加入しているプロバイダーは価格、速度など満足できているだろうか?

こういったように、日頃あなたがどのようにMacを使っているのかについて、ぜひ「日本からの声」をBMUGのニューズレターに公表していただきたいのです。BMUGのニューズレター編集者は、あなたからの記事を心よりお待ちしております。

記事を送る方法は2種類あります。

パソコン通信でインターネットへメールを送信できる人は、メールで下記アドレスへ送って下さい。

パソコン通信を利用していない方は、フロッピーディスクでBMUGの事務局まで直接郵送して下さい。レイアウトはこちらで組みますので、TEXT形式をお願いします。どちらも、日本語の文章で結構です。

投稿、質問等の宛先は以下のとおりです。

E-mail : bmugi@MAILHOST.NET
 郵送先 :
 BMUG, Inc.
 1442A Walnut Street, No. 62
 Berkeley, CA 94709-1496, USA

最後に

最後になりますが、この記事サンフランシスコにおいて印刷すること、また日本語のパンフレット作成のためにいろいろな人の手助けを戴きました。皆さんへ深く感謝いたします。

Emeline Mann Sanchezさん、伊東かをりさん、北村泰一さん、角尾 弘さん、滝口幸子 (がめちゃん) さん、橋本理央さん、その他の皆さん、いつも本当にありがとう。

まだBMUGの日本セクションは始まったばかりですので、いろいろと不慣れな点もあるかと思いますが、今後もどうかよろしくお願いします。

BMUG Japan Starts!

Takashi Noguchi

Translated by Rio Hashimoto

“Ugh, English again... .” It's not just me—I think many (Japanese) BMUGers sigh and put their copies of the BMUG Newsletter on their bookshelves twice a year. It's not an easy thing to read through hundreds of pages of a book in a foreign language.

There are so many Japanese members who receive the newsletter, but we in Japan don't really feel involved. We would like to be proud of being a member of the world's largest Macintosh users group—BMUG. BMUG is a non-profit organization, known for its strong volunteerism. As a BMUG volunteer, I've come to realize that paying the membership fees not only meant that BMUG would do something for me, but I felt somewhat obligated to do something for BMUG. For this very reason, I started helping BMUG at the MacWorld Tokyo Expo for the past four years.

On BBS

At the Expo, I was talking about my feelings of “I wanna help.” BMUGers from Berkeley told me to buy a modem. So I bought a modem.

Since then, I have been able to get the latest information about BMUG. I made many friends in the San Francisco Bay Area. Just by buying a modem. But more than accessing BMUG, it didn't take me too long to figure out that I had jumped into a whole new other world.

Not too many people know about this—I've sent out information I got from BMUG to one of the FirstClass BBSes in Tokyo; I've set up a conference room called

“BMUG News.” Again, I made many friends; I've gained confidence in myself—“Hey, I can do something for BMUG!”

Last November, one of BMUG's FirstClass BBSes, Planet BMUG, connected to the Internet. That made it easier for Japanese who signed up with ISP to access the BBS. No more worrying about phone bills hitting the ceiling!

We decided to make a Japanese flyer for the MacWorld Tokyo Expo to explain how to access Planet BMUG through the Internet (see the end of the article for contact info). We just about ran out of the flyers within the first two days (we printed hundreds). This was the first time there was a distribution of something—anything—created by a Japanese BMUGer.

At Expo

BMUG's booth at the Expo was pretty simple compared to the others. For BMUGers though, it's another way to meet people. It's a year-after-year reunion. Many people come from far away just to participate at the Tokyo Expo.

The main reason for us to be at Expo is to sell CD-ROMs, T-shirts, and other goodies, as well as finding new members, though some people stop by just to say “hi” or to relax. Some people ask questions. “Is BMUG a (Internet/BBS) provider?” “Is there any profit to my joining?” “Is there any place to contact within Japan?”

Japanese BMUGers are there to answer those questions—standing between Japanese customers and BMUGers from Berkeley. This is the most important job we do. We can't answer

one hundred percent of the questions, but we try our best to give a good response. This year, we gathered email addresses from all of the BMUG booth volunteers for easier contact after Expo. We planned to make a mailing list out of the names.

If any of you are interested in joining us at Tokyo Expo next year, please do not hesitate to contact us! We are waiting to hear from you!

To Japanese members

BMUG is going to start a service for Japan (or rather, service *in* Japanese). Here's introduction what we are planning to do:

Japan-BBS

We are going to start up a BMUG BBS in Japan using FirstClass software which takes advantage of GUI (Graphical User Interface). The goal is the get it running by Summer '96. Yashuichi Kitamura, a longtime BMUG volunteer, is getting ready to set it up. At this moment, we do not yet have detailed information, though probably by the time you read this newsletter, the service may be online. We will make an announcement in major Mac magazines, BBSes, etc., when we get ready to start up, but you are always welcome to contact us for the latest information.

Right now, for a start, we are planning to share some conferences with Planet BMUG. We would like to hear any ideas for new conferences focused on Japanese members.

We also welcome donations. Please send us email or airmail if you are interested.

Other activities

If you are not yet into the world of BBSes, we plan to hold seminars for net-beginners. Please let us know if you are interested. We will start the seminars when the demand is high enough.

Japanese Section in Newsletter

From the next issue on, we will start writing more articles in Japanese. We would like to have you join us to make it more interesting.

Do you feel satisfied with the Japanese environment on the Mac? Isn't it unfair to have every update, bug fix, new application delivery delayed compared to the U.S.? Have you had experience ending up buying the English version of a software because we have some unreliable distributors? Did you sign up with an ISP at a reasonable price, etc.?

We would like to gather "voices from Japan"—how we use the Mac, etc.—and put them into articles. We are looking

forward to receive your opinions and essays.

Here are two ways you can reach us.

If you have an Internet mail account, please email to us at the address below. If you don't, please send us a disk. We will put it in standard format for the newsletter. Please send your files in Text style—of course, in Japanese ;-).

Listed below are our contact addresses;

E-mail : bmugj@MAILHOST.NET

Postal :

BMUG, Inc.
Japan News Section
1442A Walnut Street, No. 62
Berkeley, CA 94709-1496, USA

Postscript—Thanks to those of you who helped me out in this issue, and and for getting this message out. Thanks also, to those who helped me put together the Japanese flyers:

Emeline Mann Sanchez, Kawori Itou, Yasuichi Kitamura, Hiroshi Sumio, Yukiko Takiguchi (Gamme-chan), Rio Hashimoto (Riocat), and all other BMUG members.

Internet で BMUG へ

FirstClass で Internet を経由した BMUG BBS へのアクセス方法

こんにちは。Berkeley Macintosh Users Group - BMUG のブースへようこそ。

現在日本でも Internet が大変なブームになっていますが、BMUG の会員専用 BBS (PlanetBMUG : サーバ所在地 - サンフランシスコ、パークレー) が、昨年 11 月よりインターネット経由での TCP/IP による接続が可能になりました。これによって馴染みのある GUI の環境で、日本から気軽にアクセスできます。

Planet BMUG は FirstClass の BBS で、現在約 4000 人のメンバーがアクセスしています。

BMUG に入会された方は、どなたでもアクセスすることができますようになります。アクセスするには、Newsletter と一緒に受け取ったメンバー用 CD-ROM に入っている、FirstClass クライアントソフト (FirstClass 2.7 Fat 及び PPC、英語版) と専用のセットアップファイルを使います。



FirstClass Client 2.7FJ1.0



Planet BMUG TCP/IP Color

ここでは FirstClass の日本語版使用時の解説をしています。日本語版を入手する方法は、NiftyServe の会員の方は "GO FBBS"、データライブラリ 4 の "通信ソフトと BBS 用マクロ" に入り、「FirstClass Client 2.72FJ1.0 for Macintosh」(Fat Binary) か「FirstClass Client 2.6J1.0」(68K) をダウンロードする方法があります。また Macintosh 関連雑誌の付録 CD-ROM、デモ CD-ROM 等から入手することも可能です。

*FirstClass クライアントはフリーウェアです。FirstClass についてのお問い合わせは、TEL: 0545-55-0137 「有限会社クリエイト」まで。

BMUG の日本会員について

現在 BMUG には世界中に 1 万数千人の会員がおり、そのうち数百人の会員が日本に住んでいます。これからも増えていくことと思います。しかし残念なことに、日本での正式な BMUG 活動というものはまだ存在していません。

私達は、ボランティアとしてこれからも通信、紙面上などで日本の会員に対する補助的な役割を日本語でやっていこうと思っています。BMUG 事務所への問い合わせの代行、BMUG からの重要なニュースや製品の日本語による紹介、BMUG メインミーティング議事録の日本語訳の配付などです。エキスポブースでのボランティアもその活動です。

まだまだ人数が少ないので、できることは限られていますが、もし興味がありましたら巻末の連絡先までお問い合わせ下さい。ボランティアへの参加申し込みも歓迎いたします。

なお BMUG 関連のホームページがあります。「<http://www.bmug.org/>」と「<http://www.xensei.com/users/bmugbos/>」の二つです、こちらもぜひご覧下さい。

アクセスの方法

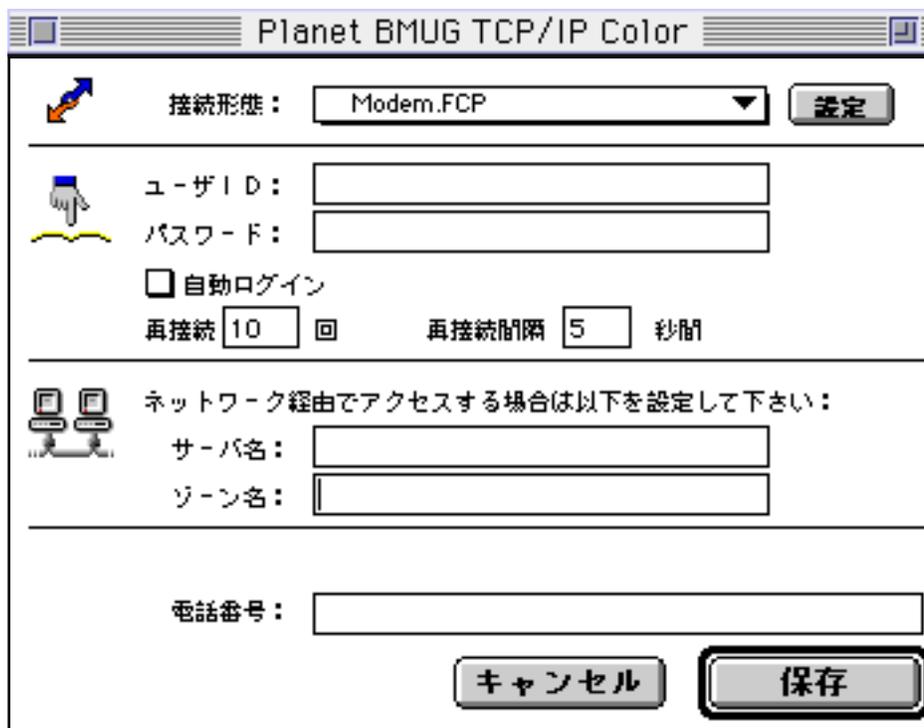
FirstClass を使った Planet BMUG への TCP/IP 接続の方法について説明します。

ダイヤルアップIP接続を行う前に、FirstClassのセットアップファイルをTCP/IPでアクセスするための設定を行ってください。

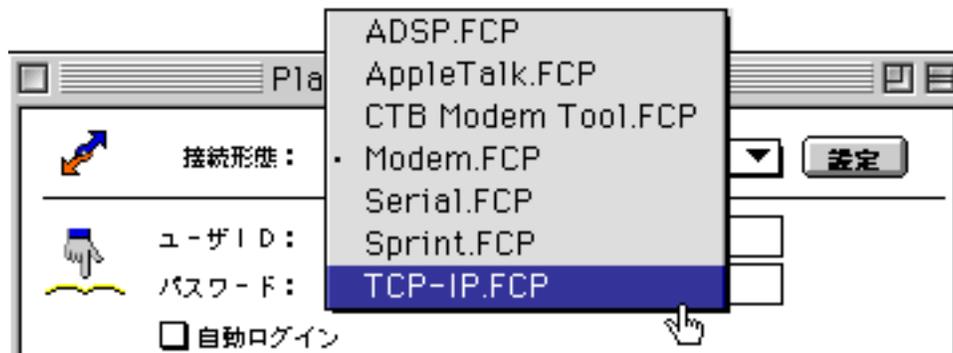
1. セットアップファイル (Planet BMUG TCP/IP) をダブルクリックしFirstClassを起動させると、Login 画面が開きます。



2. Login ウィンドウの“設定” ボタンをクリックすると、設定のウィンドウが開きます。



3. “接続形態” をポップアップメニューで “TCP-IP.FCP” に変更します。



4. ユーザー ID を入力します。すでに Planet に登録されている方は現在ご使用中のもの、新しく入会される方は好きな ID 名を、続いてパスワードを入力します。(半角英数字に限ります。また登録後の ID の変更は不可能ですのでご了承ください)。パスワードは入力したものを自分でも見ることができませんので、必ず覚えておいて下さい。また入会以降は、オンラインでパスワードを変更することができます。

5. サーバー名、ゾーン名を以上の様に入力します。

サーバ名 : 206.80.36.91  ネットワーク経由でアクセスする場合は以下を設定して下さい:

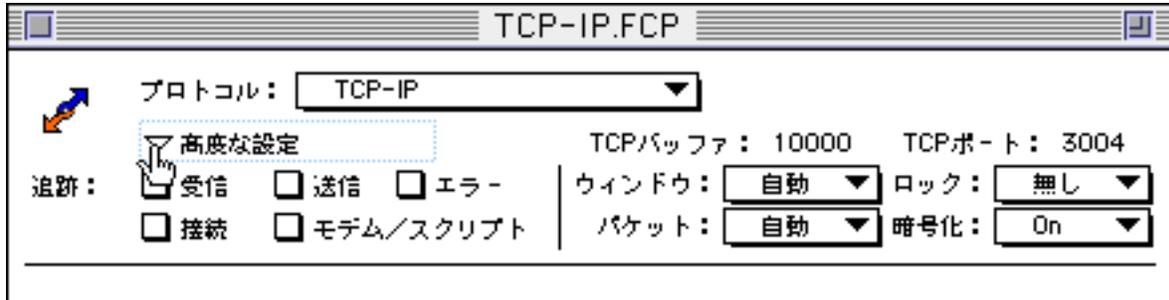
ゾーン名 : *

サーバ名:	206.80.36.91
ゾーン名:	*

6. “接続形態” ボタンの右横の “設定” ボタンをクリックすると、“TCP-IP” 設定のウィンドウが開きます。



「高度な設定」の脇の三角形のボタンをクリックし、TCPポートを3000から3004へ変更します。



7. “保存” ボタンを押すと設定のウィンドウが閉じます。

これでFirstClassの設定はできました。プロバイダーに接続している状態で、Loginウィンドウの“ログイン” ボタンをクリックするとPlanetBMUGに接続できます。

初めてログインされる方へ

Planet BMUGに初めて接続するとユーザー登録画面が現れます。すべての項目をローマ字でご記入ください。日本語での入力は受け付けられません。また、次に説明する会員登録が完了するまでの間、アクセス時間は一日合計30分に制限されます。

接続に成功すると、FirstClassのデスクトップが開きます。あなたのMacがサンフランシスコのBMUGと接続されました。それぞれの会議室はフォルダーになっており、ダブルクリックして開くことができます。



Planetの会員登録

接続直後に現れる最初のウィンドウ、Desktopウィンドウの中のNew User Infoというフォルダを見つけてダブルクリックしてください。その中のRequest Validationを開き、メッセージメニューから新規メッセージを選択します。Subjectの部分に“Request for Validation”、中に住所、氏名、電話番号、もしわかれれば自分の会員権がいつ期限切れになるかを記入します（すべて英語で）。後は送信して2日ほどで、正式メンバーに登録されます。接続時間は会員権によって1日合計1時間、もしくはそれ以上になります。以下に記入例を紹介します。

Name : Takashi Noguchi
 Address : 123 XXXX-machi, XXX-ku, XXX-shi 123-45 Japan
 Phone : +81-XX-XXX-XXXX
 Membership expires : XX/97

BMUG Japan 連絡先

Email Address : <bmugj@MAILHOST.NET>

Reviews



QuickTime: Now and Into the Near Future

A Look at Apple's Evolving Multimedia Architecture

by Dennis R. Dimick

Now there's Copland, Cyberdog, Dylan, GeoPort, Newton, Open Doc, Open Transport, Pippin, PlainTalk, PowerTalk, Publish and Subscribe, QuickDraw GX and 3-D, QuickTime Conferencing and VR, and ScriptX, among others.

Where does just plain QuickTime fit in? Of Apple's abundant technology flavors (other than PowerPC,) QuickTime among all may prove the one that most helps Apple Computer, Inc. and friends generate some cash.

The other cutting-edge Apple tools intrigue and are unusual; and some, like

QuickTime VR, QuickDraw 3-D, and, finally, Newton show potential. But none of Apple's code-named delights other than QuickTime, as far as I know, are in a position now to help Apple and developers move hardware and sell software.

Several of Apple's exotic trial-balloon technologies have been duds, draining increasingly dear funding. For example, have you used QuickDraw GX or PowerTalk lately, or at all, or been free of Open Transport headaches or nightmares? When's the last time you used a GeoPort-based modem at 28.8? OpenDoc's a cool name, but what am I sup-

posed to do with it today? What ever happened to ScriptX?

QuickTime offers usefulness now. This is because QuickTime has become the leading tool for non-linear editing of video with desktop computers. It's called non-linear because video footage is stored on a computer hard drive as opposed to linearly on a video tape. Non-linear appeals because copies of source are digital instead of analog, and it's easier to preserve video and audio quality when working in a digital environment like QuickTime.

We'll examine here what QuickTime has brought Macintosh users—and some features that QuickTime 2.1 offers—as well as the promise of upcoming QuickTime 2.5.

Let There Be Motion and Sound

Apple gave us QuickTime in late 1991 as a way to integrate and coordinate playback of dynamic media such as audio, graphics, animations, moving text, and video. In version 1.0 we were happy to get video windows of 160x120 pixels (1/16th screen) at one-third normal frame rates (10fps). The movie window was tiny, motion was jerky, and audio was tinny.

But it didn't matter, at least there was motion and sound. The original SuperMac VideoSpigot board, used to capture video to disk from tape or broadcast, was an instant hit. So was Adobe Premiere 1.0, Randy Ubillos' program designed to coordinate and edit elements of a digital movie on the Macintosh. Premiere has since become the standard Mac program for editing QuickTime content,



Apple's QuickTime Page: You'll see this image if you visit Apple's QuickTime Home Page on the World Wide Web. Point your Web Browser to <http://quicktime.apple.com> for all the latest information and updates of Apple's multimedia enabling technology.

and another Adobe QuickTime program, (formerly CoSA) After Effects, has allowed the Mac to replace broadcast-quality motion graphics workstation suites costing in the range of \$100,000.

In early years, QuickTime was looked on as an amusing curiosity, a way to play postage-stamp sized movies on your computer screen, much akin to what Microsoft's Video for Windows has become today.

From Postage Stamp to Big Screen

QuickTime, as much as any Macintosh (or Windows) operating system, has been influential in defining what computing is becoming—and Apple's QuickTime for Windows is still the preferred way to play back motion video on computers running Microsoft Windows.

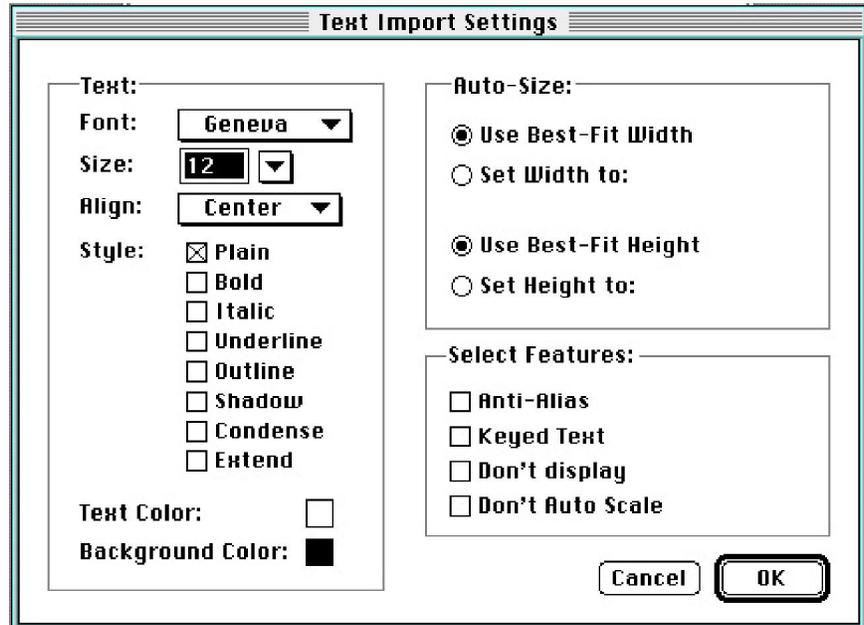
As QuickTime has improved, movie windows have gotten larger, the action has become smoother. Full-screen full-motion video with compact-disc-quality stereo audio is easily attainable via QuickTime on the Macintosh. Macs running QuickTime have been replacing expensive analog tape-based video editing suites.

Despite Microsoft's best efforts to date, QuickTime is one of few areas where Apple still holds ace cards. Apple leads in the commercial desktop publishing market and the Mac is the preferred platform in the desktop video market, at least for now.

But Apple Computer, Inc. needs to keep moving, innovating, and pushing performance forward with QuickTime if it hopes to keep the Mac in place as a leader in digital video. Microsoft has realized financial potential in the digital video market, and has recently announced a direct competitor to QuickTime called ActiveMovie. As we know, once Microsoft gets involved in anything, it wants to completely own everything. Watch your back side, Apple.

QuickTime 2.1: Here and Now

Released in August 1995, QuickTime 2.1 fulfills the promise of QuickTime 2.0 released two years ago. Unless you use Radius (SuperMac) QuickTime capture boards like Spigot PowerAV or Spigot II Tape, (which variously support Quick-



Stylized Text Import: QuickTime 2.1 allows you to create stylized text and import it into your movies. The easiest way to create stylized text is to start with Simple Text and import into Movie Player 2.1 and click on the "Options" box.

Time 2.0 and 1.6x), you should install QuickTime 2.1 on your Mac.

Unlike earlier versions of QuickTime, Apple has made QuickTime 2.1 free and available on its various Internet and online servers. It's also now part of the Mac System 7.5 Update 2.0. Movie Player 2.1, an integral and essential QuickTime authoring and playback utility, is also free on Apple's servers.

Nominally, QuickTime 2.1 allows for 30 frames per second (full-motion) playback at 320x240 pixel (quarter-screen) size on Macs with 25MHz 68040 processors, and 640x480 pixel (full-screen) at 15 frames per second. If you have a faster Mac you'll get proportionally larger screen images, and performance can expand to full-screen, full-motion capture and playback with Motion-JPEG compression boards such as the TruMotion Targa 2000, Data Translations Media 100, or Radius VideoVision Studio.

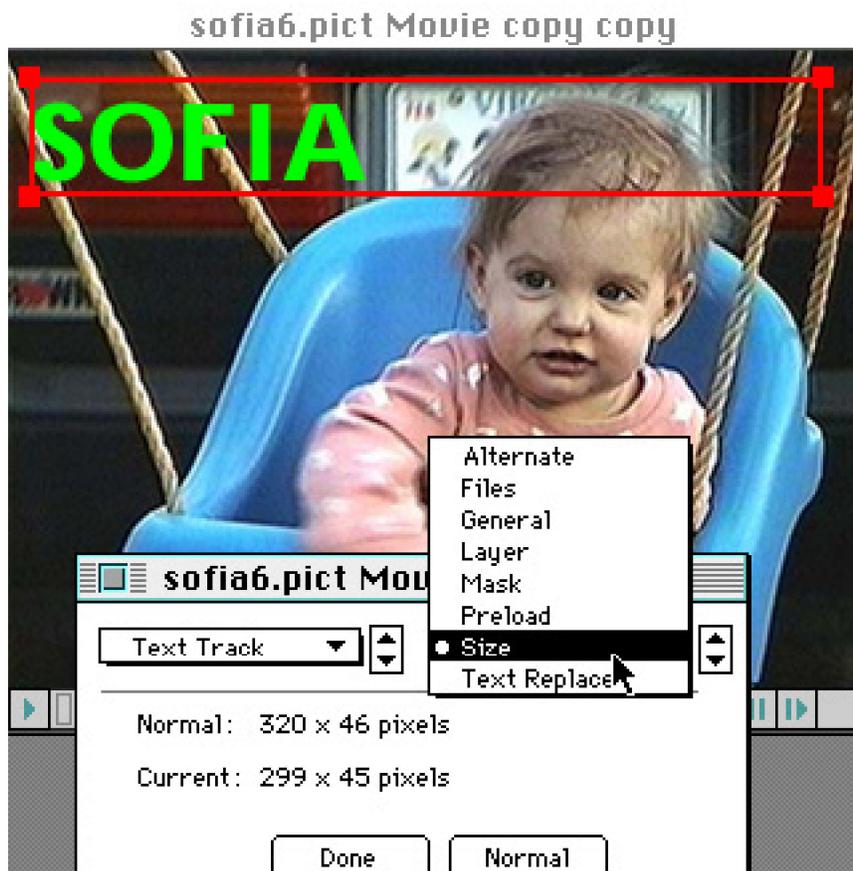
QuickTime 2.1 integrates functions (bug fixes) of the Apple Multimedia Tuner used with QuickTime 2.0 and provides a more stable environment for movie creation and playback. If you've moved to QuickTime 2.1 but still have the Multimedia Tuner in your Extensions folder, get rid of it.

Sprites and animation tracks are new features in QuickTime 2.1. This means you can create small images or "actors" that move and animate and travel in paths across the screen, to appear and disappear.

You can, for example, create a small movie where a sprite of a "person" speaks words as text appears on screen. Text can be any font, size, and color you deem. Because of QuickTime's support for audio compression, this movie can be small enough to place on a Web site as a greeting or "letter," or other downloadable file.

QuickTime 2.1 also enhances support for import and of stylized text tracks in movies. Text can be anti-aliased and keyed over video. Text in movie tracks is searchable because it is also stored as ASCII. QuickTime 2.1 also has improved support for audio compression, especially in combination with the recently released Sound Manager 3.2.

The aspect of QuickTime 2.1's audio compression that will lead to a richer listening experience is the Interactive Multimedia Association's IMA 4:1 standard now supported. This means you can put 16-bit 44kHz sounds (akin to compact disc audio quality) in a file one-quarter the file size it would normally take (what an 8-bit 22kHz sound file ordinarily takes).



Keyed Text Over Video: You can place keyed and stylized text over video using QuickTime 2.1 and Movie Player. As you see in the box around the text, it's also possible to resize and relocate styled text on top of the video.

At the moment not many programs support IMA 4:1, other than Apple's own Movie Player 2.1. Terran Interactive's Movie Cleaner Pro 1.2, a batch-compression program for Cinepak and other low-data-rate movies, supports IMA 4:1 when used with Sound Manager 3.2 (released as part of System 7.5 Update 2). This means you can recompress movies into Cinepak (codec) for CD-ROM that will have higher quality audio at the same file size as before.

QuickTime 2.5: Improved MIDI and Music

Apple has been surprisingly forthcoming on details of QuickTime 2.5, a free upgrade perhaps available by the time you read this. Apple, in a series of press releases from February until early May, and via detailed articles in the Mac press, says QuickTime 2.5 will provide improved support for MIDI music, MPEG and Motion-JPEG video, as well as new support for QuickDraw 3-D objects in movies.

With QuickTime 2.5, a Mac will be able to control external hardware MIDI devices via the audio track of a QuickTime movie. You will be able to create a movie with MIDI audio signals embedded, and during playback let your Mac control in sync with video the audio functions of high-quality external hardware such as keyboards, effects processors, and drum machines.

Furthermore, this enhanced QuickTime Music Architecture, as Apple calls it, will allow developers and users to create their own customized instruments and instrument libraries beyond the limited set Apple already includes with QuickTime 2.1. This will allow you to create distinctive audio personalities in your own movies or interactive projects.

The enhanced audio features of QuickTime 2.5 have already received support from several firms in the professional music field. InVision Interactive will release a product called CyberSound VS, a custom set of instruments and synthe-

sizers that will operate on Power Macs without need for additional hardware. Yamaha says its XG MIDI format, a real-time music synthesizer engine, will be directly supported within QuickTime 2.5. The new version of QuickTime will merge seamlessly with the existing Opcode Music Architecture System (OPS,) and Mark of the Unicorn's Free MIDI standard.

The new QuickTime version, according to a report in MacWEEK, will also support Karaoke MIDI, which provides timed cues for text-based lyrics. QuickTime 2.5 also will support multi-processor Macs such as the Genesis MP now shipping from DayStar, and will provide a sequence grabber for capturing closed-caption text.

More Video Tools: MPEG Playback via QuickTime 2.5

MPEG, a standard of video compression now being widely accepted on minidish satellite broadcast systems, will get direct software editing and playback support in QuickTime 2.5. This, according to MacWEEK, apparently will come from a separate QuickTime MPEG extension that will ship separately and later than QuickTime 2.5. This MPEG extension will allow QuickTime to treat MPEG video like any other QuickTime video: to cut, copy, paste, drag and drop, and to move frame-by-frame through movies.

MPEG builds movies in a way different from other QuickTime video codecs: frames are created from data gathered among neighboring frames. The MPEG extension will allow users to treat MPEG like other QuickTime video codecs such as M-JPEG, Video, Graphics, Animation, Component, and Cinepak. These codecs, unlike MPEG, can more easily be configured to contain all the data for a frame in that frame, much like film.

As to MPEG playback performance in software, with QuickTime 2.5 you will need a Power Mac with 120MHz 604 processor to get 320x240 (quarter-screen) full-motion playback in software MPEG, at least according to one report. Performance will decrease proportionately as your Mac's speed decreases below that. (QuickTime 2.1 supports MPEG, but you need plug-in board hardware assistance on your Mac to get reasonable playback.) Later this year, we'll see a QuickTime plug-in for Netscape's recently announced Navigator 3.0 browser that is

supposed to support streaming video and audio playback via the World Wide Web from within Netscape.

Further technical changes under QuickTime's hood that will come in version 2.5 include improved support for SMPTE timecode, and a standardized file format for interlaced Motion-JPEG. For example, Radius VideoVision M-JPEG format is a bit different from other M-JPEG formats, and QuickTime 2.5 will create standard M-JPEG file compatibility for video moved across systems. These improvements are especially important to professional video environments because QuickTime integrates into diverse broadcasting setups.

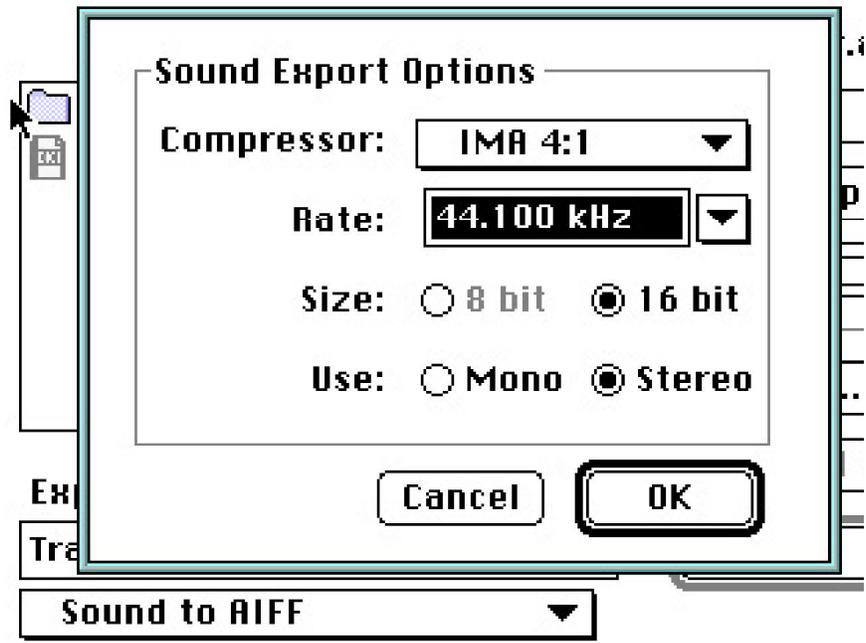
Keep the QuickTime Star Shining

QuickTime has become for me about the most interesting aspect of computing, turning the Mac into a professional-grade machine for creating animated dynamic media that moves and makes noise. As the Mac helped democratize desktop publishing in the 1980s, QuickTime is a vital link to enfranchising individuals as multimedia and video publishers in the 1990s.

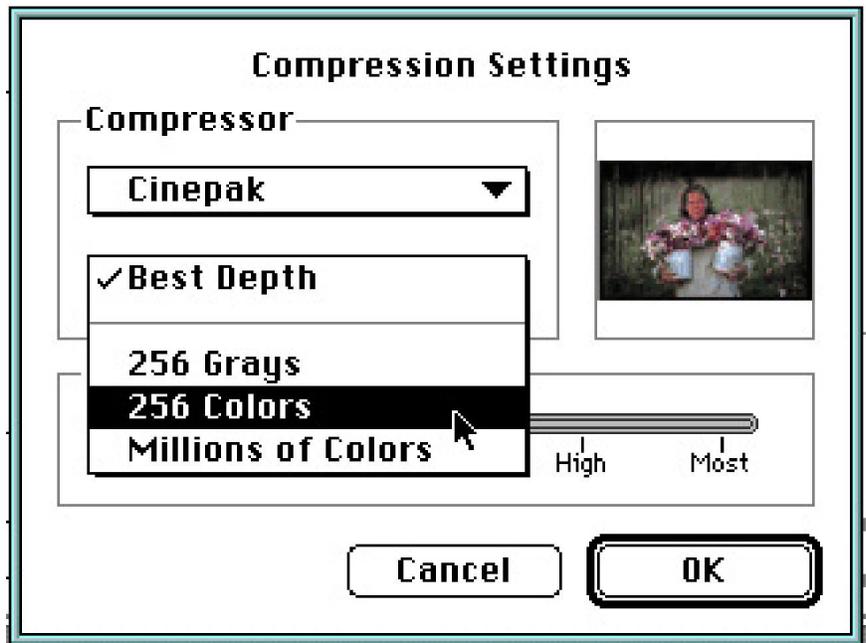
I can only hope that as the year passes and we continue to watch the tenuous nature of Apple's financial situation, that Apple's new leadership sees the value in funding research to focus on and improve successful and useful technologies such as QuickTime. Not only does Apple's future depend on this, but our future as creative, empowered Apple Macintosh users does also. 🐘

To keep up on the evolving nature of QuickTime, be sure to check Apple's QuickTime Web page at <http://quicktime.apple.com>.

Dennis Dimick of Arlington, VA, has been hooked on QuickTime since he saw a QuickTime movie for the Quadra 700 showing a car driving along a hilly California road and into the sky. On land, Dennis edits photography for National Geographic Magazine in Washington, DC, and consults on—and is a pixel-pusher via—Adobe PhotoShop for photographic aspects of the new Web site there. He can be reached on the Internet at ddimick@aol.com.



High-Quality Audio: QuickTime 2.1 in combination with Sound Manager 3.2 supports creation of IMA 4:1 compressed audio tracks. This means you can create 16-bit 44KHz audio that takes the same file size space as 8-bit 22KHz audio.



Smaller Cinepak: It's now possible to create Cinepak movies in 256 colors under QuickTime 2.1. Previously all Cinepak had been created in millions of colors. Now it's possible to create Cinepak movies with smaller file sizes than before.

Movie Cleaner Pro: Essential QuickTime Tool

Compression Program from Terran Interactive
Simplifies Creating Movies with High Quality, Small File
Size, and Smooth Playback.

by Dennis R. Dimick

Perhaps you've been trying your hand at making some QuickTime movies. Maybe you got an editing program like Avid VideoShop in the box with a recently acquired Power Mac, or you've been using Apple's own Movie Player to assemble pictures, graphics, and some music from a compact disc.

Ah, but your movies don't play back so well. They seem jerky, especially when you give them to a friend with an older, slower Mac, or a colleague who has a Windows machine with QuickTime installed.

Or, maybe you're planning to put some downloadable movies on your personal Web page, and you want to make sure they are the smallest file size possible and play back smoothly on 68030 Macs or 80386 Intel computers.

What you need is Movie Cleaner Pro, a recently released QuickTime compression program from Terran Interactive of San Jose. You could call Movie Cleaner a QuickTime movie "optimizer."

Movie Cleaner Pro will rebuild existing movies that don't play smoothly or take too much disk space. It does this by redesigning internal structures and recompressing movies so they play back smoothly on even the slowest of QuickTime-capable computers, and those with single-speed CD-ROM drives.

Compression: QuickTime Holy Grail

At the heart of QuickTime lies data compression—the various "codecs" or



At the Source: When you open a movie into Cleaner Pro, you will first see this window. All the details of movie screen size, frame rate, file size and codec of source movie appear here, along with a movie controller bar.

"compressor-decompressors" that come built into this system extension. Cinepak, Video, Photo-JPEG, Graphics, Animation, and Component are the main software codecs used to make movies with different content or end uses. Typically the popular Cinepak and sometimes Intel's Indeo codec are used to compress movies for CD-ROM and online use.

The three goals of QuickTime compression are to make movies with the highest quality, the smallest space on disk, and the smoothest playback. All three goals aren't easily achieved simultaneously, and success often results from extensive trial and error, great patience, and a bit of luck.

Movie Cleaner Pro does a great job of meeting and balancing these challenges.

Seeking Smooth Playback: The Tricky Part

In technical terms, smooth playback means flattening the data rate. Every movie has a data rate, and it's easy to figure a movie's average rate by dividing file size by length of the movie in seconds.

A movie designed to run smoothly on a double-speed CD-ROM should have an average rate of about no higher than 220k per second. If you have a 10-second movie with file size of 2.2 megs, the average data rate will be 220k per second (in this hypothetical example). That's fine if the data rate always stays below 220k per second, but dropped frames and jerky playback result when you get what's called "data spikes" in an otherwise average data rate.

Data spikes come from any number of things, mostly transitions between movie scenes, frequency of key frames (special reference frames in a movie), changes in content or scene type, changes in audio, any number of things. CD-ROM drives and slow hard drives can't cope with rapid changes in data rate, and jerky playback results.

From MovieShop to Movie Cleaner

How to smooth the data rate? This is where a program like Movie Cleaner Pro shines. For years MovieShop, an unsupported program by George Cossey of



Compression in Detail: Movie Cleaner Pro provides a detailed screen about the progress of a movie compression, how long it will take, and how long each frame takes to compress. One interesting feature is a slider along the lower side of the movie window that will compare image quality of the final compression to source movie.

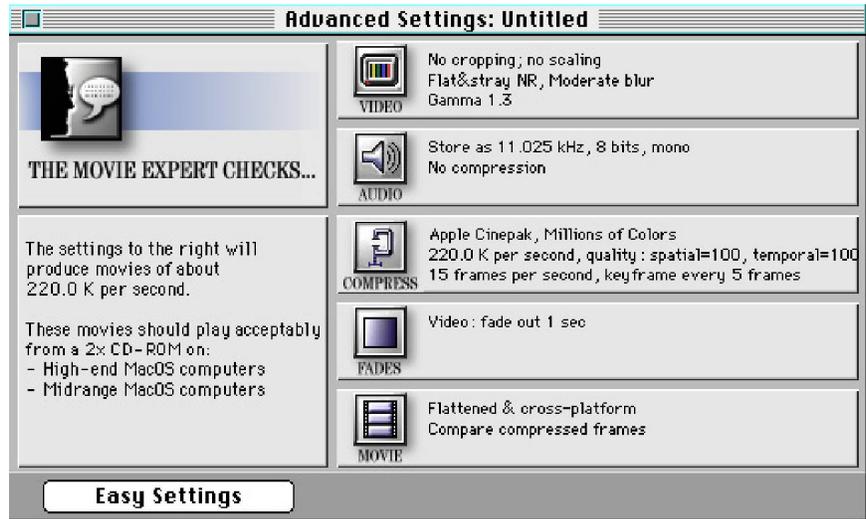
Apple Computer, was the main tool for meeting this challenge. MovieShop, like Cleaner Pro, creates Cinepak movies with constant data rates that play smoothly from CD-ROMs or slow Macs.

But MovieShop is showing its age: Apple doesn't support it and hasn't updated it for a couple of years. MovieShop has a tendency to crash at inopportune times (usually just before finishing a long movie compression), and MovieShop can't make movies with 16-bit audio.

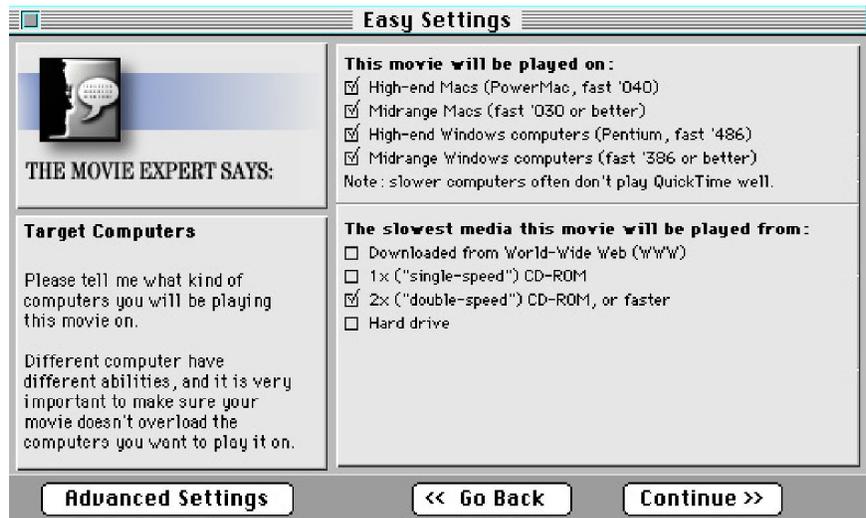
To the rescue came Terran Interactive, which originally produced Movie Cleaner Pro as a MovieShop replacement for internal use on their own Cinepak projects. Lucky for us, Terran released the program. Simply put, Movie Cleaner compresses the cleanest, smoothest playing QuickTime Cinepak movies I've seen.

Editing: From Content to Cinepak

When making movies, one needs to create content first, then assemble vid-



Advanced Options: Movie Cleaner Pro offers a highly customizable set of options for configuring your own movie parameters. This advanced set of options works hand-in-hand with an easy interview procedure for those of us seeking assistance in selecting movie compression options.



Easy Does It: Movie Cleaner Pro offer a series of five interview screens such as this one showing destination computer types and speeds. After you complete the interview, Cleaner Pro will suggest a set of compression options for your QuickTime movies.

eo, audio, pictures, graphics, and animations into a movie. You can do this with one of many editing programs around. Examples include Adobe Premiere, Radius Edit and VideoFusion, and (formerly Avid, now Strata) VideoShop. They all allow you to make a QuickTime Cinepak movie, so why should we need Cleaner Pro?

Any QuickTime editing program lets you limit data rate when creating Cinepak movies, since this is a feature of Quick-

Time itself. In reality, if you later measure actual rates using MovieShop or Apple's Movie Analyzer utility, you may see great upward variation from the limit.

No editing program (other than Adobe's recently released Premiere 4.2 CD-ROM Movie Maker Plug-In.) allows you to "tweak" appearance of video or to apply special compression to audio to get best looking and sounding movies in a "low data rate" environment, like CD-ROM playback.

What's Special About Movie Cleaner?

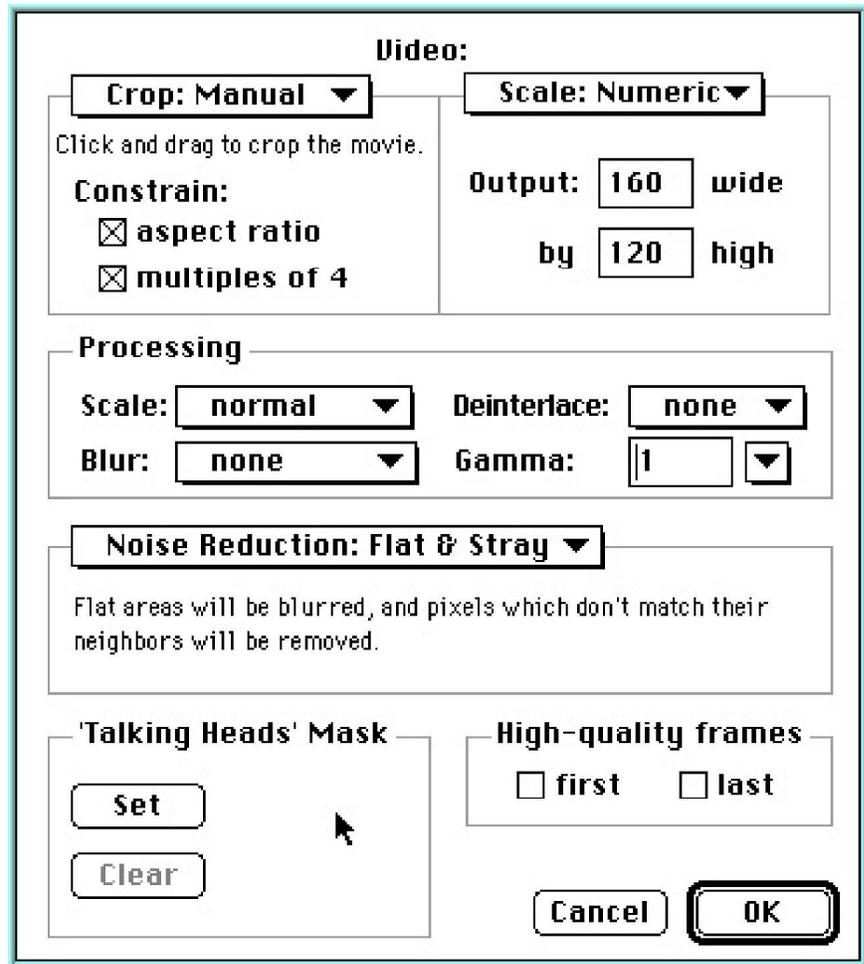
It's easy to configure and use, you can set up to 2,000 movies for automatic batch compression, the program is very stable, technical support is responsive, and the program is being constantly upgraded and improved.

Movie Cleaner offers an interview process to help create optimal movies. For example, you will be asked whether you want the movie to play on both Macs and Windows, whether audio or video quality is more important, if you have lots of pans and zooms in your movie, or whether you plan to post your movie on the World Wide Web. Once you complete the interview, Movie Cleaner will suggest a combination of compression parameters that you can override if you wish.

Movie compression can take a long time, and until now you could lock up a computer for many hours and days making just one Cinepak movie. Movie Cleaner offers an interrupt option, so you can use your Mac for other tasks while compression projects are underway. When you complete your other tasks, Movie Cleaner resumes its work.

Shortly after version 1.1 shipped last fall, I reported a problem with movies in Component codec from Adobe Premiere that had video and audio at different lengths after using Movie Cleaner to re-compress to Cinepak. In a day or so, in my electronic mail box appeared a bug fix version 1.1.1 that solved the problem.

In the spring of 1996, Terran further upgraded the program to 1.2 to add additional features for optimizing video quality and taking advantage of the Interactive Multimedia Association's IMA 4:1 compression for 16-bit audio. For audio buffs, this means that now under Sound Manager 3.2, you can create movies with 16-bit 44.1kHz audio that have the same file size as previously available in 8-bit 22kHz audio. For video buffs, Movie Cleaner now offers a variety of special blurring, deinterlacing, and gamma tools previously available only by using programs such as After Effects, an expensive QuickTime production program from Adobe.



Video Options: This window shows options available in Movie Cleaner Pro 1.2 for customizing video qualities during a movie compression. You reach this window from the advanced options selection window when selecting compression parameters.

Simple Solution to a Compressing Problem

Anyway, enough of the hyperbole. If you need a program to create great looking Cinepak (or Indeo) QuickTime movies that play smoothly on just about any destination platform you require, Terran Interactive's Movie Cleaner Pro is what you need.

If you want to give the program a test drive, Terran has been offering a 680x0 non-batch version of Movie Cleaner on their Web site. Other than being non-Power Mac native, and unable to batch-compress, this \$15 Shareware version is fully capable of producing beau-

tiful Cinepak movies. Give it a try and see, and hear, what you think. 🐉

Movie Cleaner Pro 1.2

Terran Interactive Inc.
 2 North First Street, Suite 215
 San Jose, CA 95113
 Phone (800) 577-3443
 Web: <http://www.terran-int.com/>
 Information: info@terran-int.com
 Current street price (May 1996) approximately \$190

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Digital Chisel

A Fun Multimedia Tool

by Carol Baumeister

Digital Chisel is an excellent, simple tool which is easy to learn and make multimedia projects with. I picked up Digital Chisel in a bundle at Macworld Expo in January. I wanted to start to play with creating multimedia. Soon after starting up Digital Chisel I was making my own interactive multimedia projects. I was cycling colors at the click of a picture of fireworks, playing QuickTime movies and animating PICTs so they danced across the screen. Digital Chisel is great for those who want to have fun in playing around with multimedia and don't want to spend a lot of time learning how to use complicated programs. Digital media is unlimited and stimulating because it is nonlinear and multidimensional. The hard part is in designing a good project.

Digital Chisel is similar HyperCard and SuperCard in that it is object-oriented, yet has the advantage of not needing any scripting. Digital Chisel is designed and marketed for education and is geared towards schools, however it is a great tool that everyone can enjoy, especially if they do not want to spend a great deal of money or time learning how to use a program.

Digital Chisel comes with a demo presentation and two libraries full of QuickTime movies, pictures, and sounds. I worked through the basic and the advanced tutorials in the second chapter of the manual. I found the tutorials clear and instructional without being tedious or silly. By the end I was eager to jump in and make my own project. I found the manual useful, detailed but not clogged. For example, in the section that defines Draw or Vector Objects, the differences in how a computer treats draw objects and paint objects is discussed. The manual also goes into some detail about the

difference between Frame animation and Path animation.

Basic Features

Digital Chisel projects are created in Author Mode, and run by the viewers in User Playback Mode. Projects can be distributed and viewed with the Digital Chisel Player to anyone. There is a companion CD with more libraries. The screen size can be changed according to what size monitor the project will be played back on. If you know that the project will run on 12" monitors, you can set the screen size to fit those and create the project accordingly. Eight templates are built into Digital Chisel, with preset buttons and fields. The templates range from blank to True/False to multiple choice type question screens. New templates can also be added in Advanced Mode. The

templates are in the form of quizzes and questions, but can be adapted to any use. I usually start with a blank screen. Digital Chisel can even record sound or set a Laserdisc or AudioCD event to an object. It is a perfect medium for trial type games or tests.

Building events on a screen in Digital Chisel to create multilayered sequences is effortless, pop-up menus with icons and palettes make building projects easy. Double-click on an object to bring up the Object Information menu and attach a Play Sound event to a picture. Most of Digital Chisel's tools can be used on the main palettes. The Tool palette displays all of the other main tools such as the Browser tool and the Pointer tool, though the Tool palette seemed to work sporadically at times. I used the menu commands to switch between Browse & Pointer reliably. The palettes can be torn off or zipped up like a windowshade when not in use.

Projects

Digital Chisel projects are made up of screens, similar to cards in HyperCard. Screens can contain pictures, sound, text, movies and can have individual or common backgrounds. Projects can be set to run automatically with screen transitions set by the author or controlled via a navigation palette by the user in User Playback Mode. A fully customizable navigation palette is preset with right and left arrows and an exit hand. To combine a QuickTime movie and an imported sound on the same screen is simply a matter of importing them both into a screen and placing them where you like them.

Digital Chisel has two authoring levels, Normal and Advanced, set in the Preferences. A fully featured project can be

Digital Chisel is similar Hypercard and Supercard in that it is object-oriented, yet has the advantage of not needing any scripting.

created in Normal authoring mode, however more sophisticated work can be done with the Advanced Mode. For example, in Advanced Mode, all objects on a screen are available to have an event attached to them. The Screen List keeps track of all the screens in a project and displays all the attributes of each screen in a project. A screen's properties can be set to activate upon opening or a transition effect made into the next screen. Digital Chisel uses two basic tools, the Browse Tool and the Pointer tool. The Browse tool activates the objects and runs any events assigned to the object, and the Pointer tool is the main tool used to put all the elements of a screen together. An author needs to use the Pointer tool in order to move objects on the screen, activate the Object Information Menu, or make any changes to a screen.

The Object Information Menu is where an object is named and all the attributes of an object which could be a picture, button or field, are described and defined. Double clicking on an object brings up the Object Information menu. Up to twenty four actions and attributes can be set for an object, though this would make a project quite bulky and slow. A pop up menu with Play Sound, Animate, Play Movie, Cycle Colors and Navigate and more events comes up. Any object that is cut, copied and pasted takes all its related actions and properties with it. In addition to dragging on pictures, movies or sounds, Digital Chisel contains full regular painting and drawing tools for drawing on a screen.

An object can be set to highlight itself as the correct answer by using the Quiz Template feature in the Object Information Menu. For example, if you have a picture of Ethel Merman and one of J. Edgar Hoover, and the question is: "Which picture is Ethel Merman," Ethel's picture can be set to highlight as the correct answer or both pictures can be set with a correct or incorrect sound that is played depending on which picture is chosen. Answering the interactive quiz can be full of surprises.

School is Cool

Digital Chisel bills itself as the multimedia software for education, and is

If you have a picture of Ethel Merman and one of J. Edgar Hoover, and the question is: "Which picture is Ethel Merman," Ethel's picture can be set to highlight as the correct answer or both pictures can be set with a correct or incorrect sound that is played depending on which picture is chosen.

used in many schools, where teachers create interactive tests, students make projects and to learn about creating multimedia. Kids make multimedia projects just as we made salt dough replicas of Jamestown. The built in templates are set up for testing, and Digital Chisel has a database feature that can record each user's work. Each student is established as a user and their name is assigned to the database. When a student takes the Digital Chisel-based quiz, that student's score is recorded along with other students in the database. Each answer's results can

be viewed and compared with other students. This data can be exported to a File-Maker Pro or another database. It can be site licensed for use over a LAN.

Why Dig Chisel is Fun

Pierian Spring Software has gone beyond the traditional and made use of creative icons with Digital Chisel. The Help icon is a hand reaching out of water, as in "Help I'm drowning." When you quit the program, the menu asks, "Do you want to stop having fun with the Digital Chisel?" with the options are "No way!" or "Gotta Go." Pierian Spring's motto is from Alexander Pope, "a little learning is a dangerous thing; drink deep, or taste not the Pierian Spring."

Bugs

The Tool Palette does not always work, especially when using it to switch between the Select, Browse, and Pointer tool icons. The Select icon in the Tool Palette did not work at all during some sessions. Digital Chisel can be sluggish, especially with any bit-mapped background. In a bitmapped background, an animated object moves slowly, in the wrong place or not at all. On a 68040 machine it was sluggish at times, and so I souped up Digital Chisel memory from the minimum 2200k to 6000k. Hopefully, other picture file formats such as GIFs and JPEGs will be supported in future upgrades.

I found Digital Chisel fit my needs for learning about multimedia without spending a lot of time learning how to use the program. Digital Chisel is a multimedia program in which the tools are quickly learned. It has many powerful features and can be great fun in learning to make interactive multimedia projects. I recommend it highly and intend to keep on making even better and better interactive projects. This bundle was \$99 at the Macworld Expo in a special. 🍷

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Tomes for Touring Desktop Video and Animation

A Review of *Desktop Video Studio* and *Animation and 3D Modeling on the Mac*

by Gretchen Brewer

My wants and needs are both simple and grandiose. Animation fascinates me for its artistic and storytelling possibilities; at the same time, I have fantasies of designing the better mouse(trap); and Macs (not to mention SGIs, Indigos, Amiga Toasters—which are still around!—and so on) are known for their graphic capabilities. Sure, I'd love to have a full commercial quality video lab. But after seeing a few of the QuickTime video fests sponsored in 1994 and before by Sumeria, I knew that a mix of wonderful work was being produced both on high-end machines as well as ones that were relatively low-end even at that time.

CD-ROMs of QuickTime Festival highlights are available from: Sumeria, Inc., 329 Bryant Street, San Francisco, CA, (415) 904-0800.

After taking a traditional animation workshop, I decided it was time to try my hand at computer animation! (The punchline is that I haven't yet, but I'm finally on my way.) When I started asking around in the BMUG CAD and Multimedia folders and in a few Usenet newsgroups, the regulars kindly started coming back with answers that sounded like Farsi to my ears, and referring to prices from a few to tens of thousands of dollars. I quickly realized at that point I didn't even know what questions to ask. When I mentioned that online, a BMUGer referred me to *Desktop Video Studio*, by Andrew Soderberg and Tom Hudson. At the same time, I came into possession of *Animation and 3D Modeling on the Mac*, by Don and Melora Foley. What a great pair of books!

Scope of The Books

The pair dovetail nicely: *Desktop Video Studio* is a primer on the concepts of digital video and techniques, from input sources through production, and finally to output to various media. While *Animation and 3D Modeling on the Mac* touches on hardware requirements and input sources, and has a brief and informative section on output, its main focus is what you can do in between in a 3-D environment.

The books are stylistically very different. *DVS* builds from beginning to end of the production process; *3D Modeling* is arranged as a sampler of techniques. Before getting into content, I'd like to comment on some production features that I found interesting while reading the two side-by-side.

I like the open style of *DVS*, and the authors are reasonable in introducing themselves and their business. But virtually all their examples use either the company logo or promo pieces they've done—the book teeters on being an informal. *3D Modeling* nearly hits the other extreme: one illustration contains gratuitous self-promotion; upon looking to see who the authors are, I finally found a little blurb introducing them and telling about their business way on the back cover in small type!

The *DVS* authors use low resolution digital pictures for *all* their figures. It's fine for the many screen shots, but their pictures of products and people are muddy and dithered: completely counter to their message of always keeping an eye on quality. Partial as we are to the digital revolution, if another method gets neater results, use it. A Note To Book De-

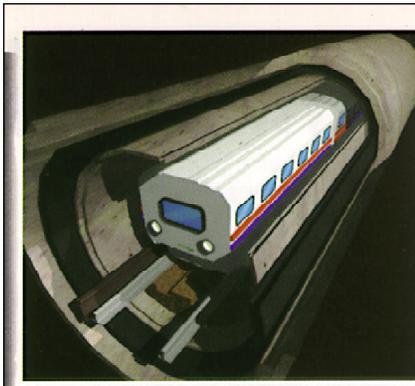
signers: Just Because You Can Do Something, Doesn't Mean You Should!!

Desktop Video Studio

... is a combination book and CD-ROM. The book is divided into three main sections: "Tools and Technology," "Techniques" and "Product Reviews." It systematically introduces you to the tools in a digital videographer's toolbox. You'll learn how frame rate, resolution and screen size relate to choices for hardware and software, input and output. The authors explain video compression, chroma-key, alpha channels, and DVE. They even make sense of the panoply of digital video software and its uses.

The authors write with the expectation that you, the reader, want to accomplish certain overall tasks, that you will start with concrete input—whether the source will be video, computer files, or simply raw ideas and the software you need to implement the ideas—and that you plan to end with something concrete—e.g., output to video, film, a screen-viewable movie, or multimedia (interactive or view-only) for use on one or several platforms. On my first tour through the book, I immediately jumped to "Case Studies" to see what possibilities they were preparing to discuss. The descriptions helped me clarify that my interest is output to tape, as opposed to multimedia or on-screen movies.

Andrew Soderberg and Tom Hudson clearly and accessibly define concepts needed to understand digital video and areas where it overlaps with traditional video. They have a strong appreciation for the reality of budgets and propose al-



MAKING PIPE/TUBE CUTAWAYS

A simple outline that resembles a "C" takes on a dramatic shape when given a good amount of depth and viewed with a wide-angle lens. This technique is useful for creating see-through veins and arteries, tunnels, wires, cables and pipes.

Figure 1. Illustration from *Animation and 3D Modeling on The Mac*
© copyright 1996 by Don and Melora Foley

alternatives for users with various goals and resources, constantly relating their suggestions to real-world working situations.

Throughout, they intersperse multi-page sidebars on various aspects of digital video production. I was impressed that the sidebars, all by experts who are well-versed in their topics, are well-written and understandable to the lay person. Every one clarifies a concept to add to a rounded picture of the field. In the center of the book is a sidebar I especially liked: a long, technical, but very accessible explanation of video compression.

A small number of technical details are off. The book was published over a year ago. A fellow BMUGer reeled off a list of advances since then: the arrival of PCI PowerMacs, the 8500, the Targa 2000, Media 100 and VideoVision Studio for PCI. "Fast and Wide for PCI beats the pants off NuBus for transfer rates," my correspondent notes. And the impending arrival of FireWire, in combination with Sony's high resolution Digital Video Cameras, stand to revolutionize how we deal with source for desktop video. Despite the changes, much of digital video is based on standards, techniques and processes that have built up over many years. I found *DVS* presented these in a way that I could turn into usable knowledge.

The CD-ROM that goes along with the book contains mini-tutorials and a library of sample audio and video clips. It has full, reduced feature (not disabled), or demo versions of most of the software referenced in the book, plus freeware or shareware utilities commonly needed for desktop video production. In addition—and I thought this made a nice illustration of possibilities—interactive hyper-text excerpts of the book itself. I frequently

jumped back and forth between the companion CD-ROM and the book.

Animation and 3D Modeling on The Mac

...is arranged as a gallery of topics that you can dip into and poke about to learn about techniques and effects. In fact, after the introduction, it starts off with a "3D Showcase" to show what different artists have done with various animation and 3-D modeling packages.

In addition to sections on "Tools of the Trade" (hardware and software), "Editing," and "Output," *3D Modeling* includes examples of the major concepts you'll encounter in 3-D modeling and animation. Even if you plan to work in 2-D only, the terms they explain are ones you'll encounter often enough that it will be useful to understand them. The book has a big bold layout and topics are generally set off in one- and two-page sections, so it's easy to locate a concept quickly to get an overview in text and visual images.

The authors, Don and Melora Foley, include graphic illustrations of absolutely everything they discuss, and the graphics are constructed with care (see Figure 1). Some examples: In the hardware-related sections, they show cutaway views of hardware setups. There's a great bar chart showing how the different categories of software fit together. In "Lighting" and "Setting the Stage" you see the effects of different types and placements of lights. Do you want to know how to create complex shapes or sets of objects that fit together? They show how to use Boolean Shapes, adding and subtracting simpler objects to something more complex. Other sections present constructing models; objects that are extruded, lathed, free-form or skinned;

textures, maps and shading; motion theory; time concepts; creating paths in 2- and 3-D; and editing in several of the major animation software packages. The graphics and text in *3D Modeling* work together to give you a ready visual encyclopedia of 3-D and animation techniques.

Both books explain rendering and how that affects the software, hardware and time your computer needs to get particular results.

Ready to Go

There are many ways to learn about computer animation and computer modeling. Online sources and magazines immediately come to mind. Check them out, but prepare to be overwhelmed! They will whet your interest, but generally provide discussion and techniques after you have a working understanding of the basics. They can, however, direct you to the beginner's stuff.

So how do you learn the basic concepts? I recommend starting with these books, take a class (or several, if possible), and by all means, experiment, experiment and experiment! *Desktop Video Studio* and *Animation and 3D Modeling on the Mac* are excellent starting points and will remain useful references while learning more about animation. 🐉

Desktop Video Studio CD-ROM *Minimum System Requirements*

Computer: 68030 Mac or MPC-capable Windows PC (i386) (it's quite satisfying to see a Mac interface displayed on a Windows machine!)

Memory: 8 megs RAM

Hard drive: 5 megs free; allow 40-50 megs if you plan to copy the A/V sample clips to the hard drive

Display: At least 640x480 pixels (i.e., anything bigger than a PowerBook screen)

CD-ROM drive: single speed; double speed or better preferred

Software: QuickTime™, included on the disk.

Gretchen Brewer is a longtime Mac user who digitally dabbles in animation, and in the analog world, studies welding and machining. She thanks BMUGers Ellen Lewis (technical writer) for an early critique, Dennis Dimick (working magazine editor and sometime QuickTime movie-maker) for technical comments, and the folks from the Planet BMUG Multimedia folder for their input.

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Frames, Codecs, and Resolution Soup

Definitions for a Digital Videographer

by Gretchen Brewer

While studying the two books reviewed in my companion article for this Newsletter, and in related discussions, I found the answers to many mysteries of the digital video world. Here are some highlights. You don't need to learn all these to get started, but being familiar with them will keep your head from swimming when discussion of digital video is going around.

Software Soup

In digital video, people pour images and sound back and forth among a dizzying number of software packages. What are they doing and why?

Desktop Video Studio presents a functional breakout of the software in a videographer's toolbox. Their categories will be useful when you come across a new piece of software. *Animation and 3D Modeling on the Mac* has a great 2-page bar chart that shows how the software categories interact. The following are from the *DVS* descriptions:

Capture Applications: Example: Movie Recorder

"... used to record digitized video clips to your hard disk from a digitizer."

Players/Viewers: Example: MoviePlayer

"... designed to view digital video clips from wherever they are stored.... Some players allow simple 'cuts only' editing using the standard Cut, Copy, and Paste features of the Macintosh."

Editors: Examples: Premiere, Videoshop

"... let you review your raw footage, arrange specific clips in sequence,

add backgrounds and special effects, create transitions, ... add and mix audio tracks, and save the finished piece."

Special Effects: Examples: AfterEffects, VideoFusion, Elastic Reality, Morph

"... desktop equivalent to 6-figure digital video editing (DVE) hardware."

Utilities: Examples: MovieShop, MovieAnalyzer, ConvertToMovie, DeBabelizer

"... the little workhorses of the digital video world..." They handle repetitive processing tasks such as rendering all your images while you sleep, applying repetitive filters, converting file formats, etc.

Authoring Tools: Examples: Apple Media Tool, Director, Action!, HyperCard, SuperCard

... these come in script-based or media-based, and are used to design the interface for multimedia projects.

Presentation: Examples: Persuasion, PowerPoint, Harvard Graphics

"... [used to be simply 'business graphics'], these applications now feature basic compatibility for sound, animation, movies, and even branching scripts."

File Formats, or, what's a Codec?

Codec means compression/decompression. (The industrial telecommunications field uses the same term *codec*, but for a different concept.) In digital vid-

eo, it refers to any of several strategies to get, for example, hours of audio and video onto and back from a storage medium that otherwise could store and play back only a few seconds worth of images. Compression is handled by software, but hardware such as compression or video boards help speed the process along.

"Equilibrium DeBabelizer [is] the Swiss army knife of image-conversion utilities. [It] can convert almost any image file format to the format of your choice." (*DVS*)

"Image files (PICT) are mapped to model surfaces; models can be exported (DXF or native) to set up animation sequences or choreographed inside an integrated modeling or animation package. The resulting animation is imported into an editing program (PICS or QuickTime)." (*3D*)

As with text and word processing file formats, there are different methods for storing graphical information. Each was developed with its own strong points. Some of the better known file formats, codecs, and compression schemes are below:

CinePak: Versions by Apple or SuperMac (Radius). Used by many game platforms such as 3DO and Sega.

Intel Indeo: Aka DVI. For video and animation; faster compression than Cinepak; works on several platforms.

None (Raw RGB): Not a compressor; merely a storage format. 8 bits per pixel for each of red, green and blue signals. Aka "raw" codec. Good for still frames or temporary storage, about 1 meg per frame.

MPEG: Motion Pictures Expert Group. For compressing frames of video that

involve moving images. It's the compression scheme used by the DSS satellite broadcasters allowing more than 150 channels to be compressed, broadcasted, and decompressed in real time.

Movie (MooV): QuickTime cross platform format for "video, audio, MIDI, text, or anything time-based." (*DVS*)

Other major codecs that come with QuickTime include Graphics, Animation, Video, and Component.

AVI: Audio Video Interleaved. Microsoft proprietary format for Windows audio and video.

IMA 4:1: Interactive Multimedia Association. A compression algorithm now supported in QuickTime. It allows 4:1 compression of 16-bit audio into AIFF format. Essentially it means you can create movies with 16-bit 44.1 kHz audio that take the same file size as 8-bit 22.05 kHz.

DXF: Format to move 3-D objects between programs.

EPS: Encapsulated PostScript. Widely supported in both the Mac and PC world and was designed for printing text and bitmapped images to a PostScript printer. Drawing programs save in EPS format.

GIF: Graphical Interchange Format. Developed by CompuServe for exchanging graphics between different systems and allows 8 bits per pixel.

JPEG: Joint Photographic Experts Group. Came along when there was a need for compressing huge bitmapped images (i.e., color photographs).

PICS: "A tidy file format that contains all the PICT frames of an animation." (*3D*) Does not allow compression, but keeps images intact. Most animation packages and utilities support PICS format.

PICT: More accurately known as PICT2. Used with bitmapped or object-oriented graphics and is good for transferring images between programs. Texture maps imported into animation software generally use PICT files.

RLE: "One or more run-length encoded images, viewable with an X11 viewing program. Tools for creating con-

sistent color maps and for many other operations are part of the toolkit." (*Anim.FAQ*) Unix and the Animation codec within QuickTime use RLE.

PFX (PageFlipper Plus F/X); MovieSetter (GoldDisk); IFF ANIMs: Amiga computer animation compression formats. Lots of working Amigas are still out there. (*Anim.FAQ*)

TIFF: Great with scanned images and is also widely supported by both Mac and PC. It can represent color and grayscale images in virtually any resolution.

Sound

SND: An industry standard format.

WAV: Audio format used in Intel-based platforms.

AIFF: An industry standard format.

MACE: Macintosh Audio Compression and Expansion. Note that Mac-compatible software supports this as well as other formats.

Color Space

How are colors defined? It used to be just a matter of reflected versus transmitted light, but different ways of generating colored light have evolved. For instance:

YUV: Very roughly, Y (luminance or the quantity of black/white signal), and UV (chrominance, loosely related to red and blue signal); for example, S-Video components operate in YUV. Doesn't lose color information, as compared with composite video; extremely high quality. Several Mac AV models can digitize directly into this format. Excellent intermediate storage format.

RGB: Red, Green, Blue. For example, composite video and a typical Mac monitor.

CMYK: Cyan, Magenta, Yellow, Black. For example, 4-color separation process in ink-on-paper.

What's an Alpha Channel?

DVS Glossary: "The last 8 bits in each 32 bits of data of a 32-bit-per-pixel image ... used in masking or keying."

3D Glossary: "A channel, in addition to the red, green, and blue channels,

that contains masking and transparency information."

Basically, it's a parameter you can set for each frame. When you combine two or more images in a single frame, it allows you, by setting how transparent each image is at every point, to specify what parts of each image will show up in the frame, either as solid or ghost images. You can use it for ghosts or special effects, and it's also used in automated transition features.

Resolutions/Video Settings

A smaller movie area allows the entire image to be displayed more quickly; the larger the area, the more computing power it's going to take to display the images as a movie. Your screen can be any size, but QuickTime strongly prefers that it be scaled in multiples of 4, and that the left edge of the movie begins on a pixel that is a multiple of 4. (*DVS*)

Typical screen resolutions, given in lines per inch (lpi) (see Figure 1 at end of article):

240x180: A standard small QuickTime window, often seen in encyclopedias and informational CDs.

320x240: A standard QuickTime window for digital display. At 50 percent of a full screen size, the images are large enough for displaying information, but not so big it chokes the computer when playing back.

550x395: The "title safe" area. On a full screen, titles beyond this boundary will be visible, but the final product will be more professional if you keep within this range.

595x395: The "graphic safe" area. The viewable area of a video screen.

640x480: NTSC video standard. Although the entire area will not be visible, it is important to consider the entire screen. A halo or black border may be visible if background is not extended to cover this area.

Broadcast Video Formats

NTSC National Television Standards Committee, used in North America and Japan): 525-line scan, 30 fps (frames per second) or 60 fields.

PAL (Phase Alteration Line, used in most of Europe and the rest of the world): 625-line scan, 25 fps or 50 fields.

SECAM (Système Electronique pour Couleur Avec Mémoire, used in France): 625-line scan, 25 fps.

Frame Rates

Below are some standard frame rates for various media. Video rates vary by format. For all media, directors may vary film rates according to the camera or tape format, for their preference, or for special effects.

60 fps: Used in some industrial applications.

30 fps*: SMPTE, NTSC television (North America and Japan), videotape, and computer.

25 fps*: PAL and SECAM television (most of rest of the world).

24 fps: Minimum standard for film after advent of "talkies."

18 fps: Old standard for film. With addition of sound, this became too slow.

15 fps: Motion is choppy, but can seem smooth enough in small windows. Frequently used in small windows in, for example, multimedia or CD-ROM sequences.

12 fps: Animation is often generated at 12 fps, but transferred to other speeds for final output.

**Notes: (1) The NTSC standard is specified as "drop-frame" (29.97 fps); or "non-drop-frame" (30 fps). Premiere and QuickTime support both standards. If one is to make movies for broadcast, 29.97 is the standard. If you are not outputting for broadcast, 29.97 is not an issue and you just use 30 fps (or your preference), especially if you are authoring for ROM or Web.*

(2) Interlacing: Television is "interlaced." In TV, first the odd lines are written to the screen, then the even lines, or 2 "fields" making one full frame. So although NTSC is approximately 30 fps, there are 60 fields per second, giving a smoother effect. Similarly PAL and SECAM are 25 fps and 50 fields.

(3) 15 fps was the standard for computer playback simply because that was as much data as most older CPUs and single-speed CD-ROM drives could handle. In the next few years, expect to see most newer computers able to handle full-frame 30 fps video using inexpensive MPEG compression hardware.

SMPTE: Society of Motion Picture and Television Engineers.

SMPTE Time Code: Time code standard used for locating individual frames on a videotape and displayed as HH:MM:SS:FF (Hours: Minutes:

Seconds: Frames). A single frame equals 1/30 of a second. (DVS)

SMPTE Color Bars: Frames of standardized color pattern, used to calibrate color from input through processing to output. Full-field and split-field are the other two standard color bars. Obtain by computer file, color bar generator, pre-recorded on film, etc.

Key Frame: Periodic frames with all of the video information. Intermediate frames use various strategies to only require information about the differences between them and their adjoining frames. These key frames serve as markers to keep sound and all image information moving together. Generally set at 1 key frame per second.

Data Rates: Of interest if your playback is to be computer-based. A Mac double-speed CD-ROM drive plays back at 240 kps; a Windows double-speed CD-ROM plays back at only 180 kps. Expect to use about 10-40 kps for the audio portion of the movie. (DVS)

Bibliography:

Virtually all of the information for this article is pulled from these sources. Direct quotes or close paraphrasing are as identified in the text.

Video Sources (from DVS)

Source	Resolution (# of lines per inch)
Consumer VHS and Beta (composite video)	240
8mm	260
3/4 U-Matic	260
3/4 SP U-Matic (S-video)	320
SVHS (S-video)	400
**Hi-8 (S-video)	400
LaserDisc (S-video)	420
Professional SVHS (Component video)	420
BetaCam SP (Component video)	440
Sony Digital Video Camera	500
Photographic film	2500
Film Recorders	2500-4000

***More lines per inch (lpi) are better. The authors of the books recommend Hi-8 or better for professional quality results.*

Audio Sampling Rates (from DVS):

Format, sampled at # kHz	Transfer Rate	File size/min of audio	Comment
Stereo, 16-bit, at 48 kHz	187.5 kB/sec	11.25 megs	great sound; DAT quality
Stereo, 16-bit, at 44.1 kHz	176 kB/sec	10.5 megs	great sound; overkill
Stereo, 16-bit at 22 kHz	86 kB/sec	5.25 megs	good sound for most projects
Monaural, 16-bit at 22 kHz	44 kB/sec	2.6 megs	good sound; most often used***
Monaural, 8-bit at 11 kHz	11 kB/sec	660k	good for voice-only***

****These two most often used for final QuickTime movies.*

DVS: Desktop Video Studio, Andrew Soderberg and Tom Hudson, Random House/New Media Series 1995

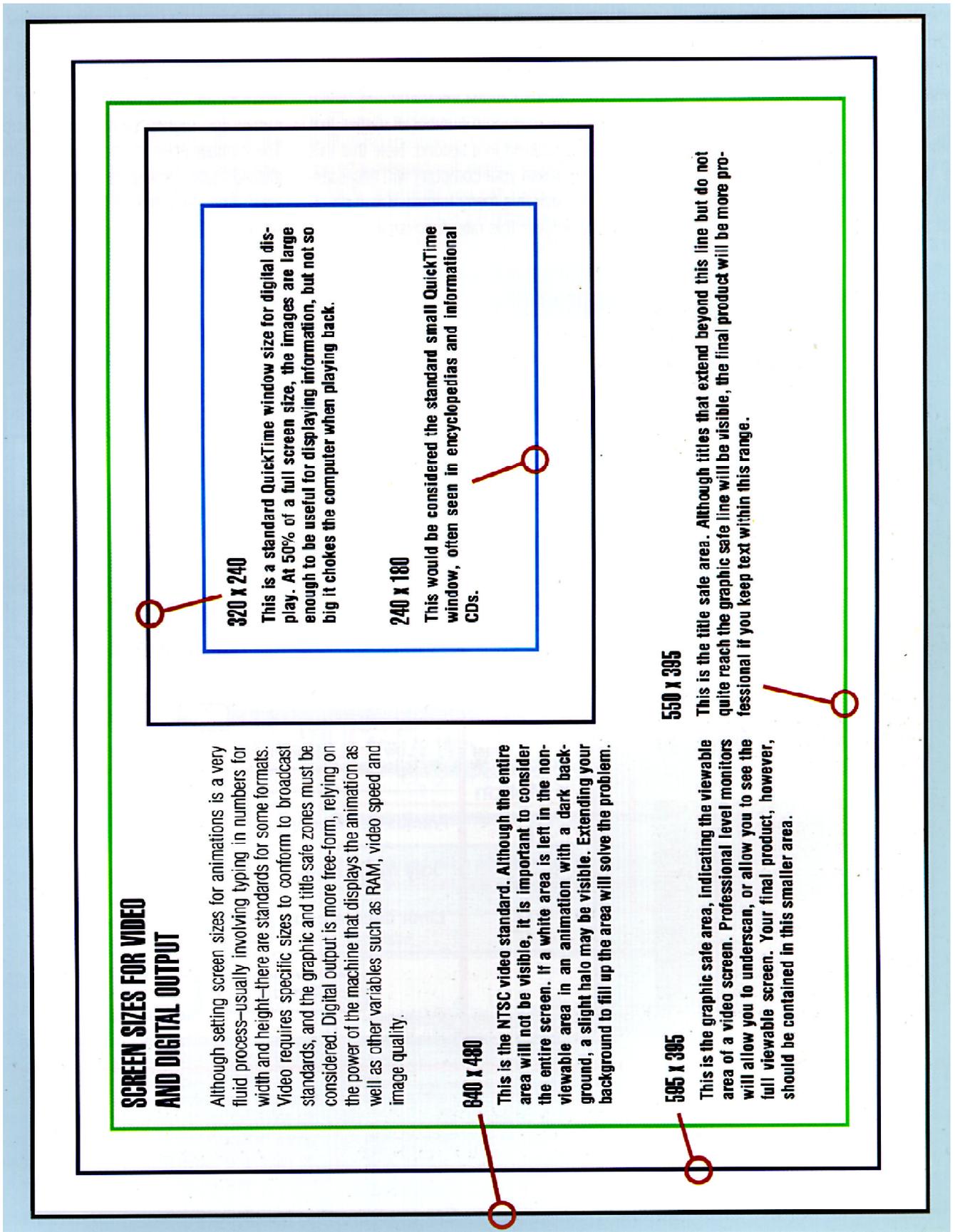
3D: Animation and 3D Modeling on the Mac, Don and Melora Foley, Peachpit Press 1995

Anim.FAQ: Animation.FAQ file maintained by F.X. DeJesus on the Internet. Do a web search on [animation.faq](#).

Gretchen Brewer is a longtime Mac user who digitally dabbles in animation, and in the analog world studies welding and machining. She thanks BMUGer Dennis Dimick (working magazine editor and sometime QuickTime movie-maker) for technical comments on an intermediate draft, and the folks from the Planet BMUG Multimedia folder for their input.

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Figure 1. Standard Window Sizes – Window sizes, whether for analog or digital output, usually are based around a 4:3 ratio. That means that if the window size is 400 points wide, it will be 300 points tall. The guidelines shown below are printed sideways so the window sizes could be shown at full size. A computer screen is drawn in pixels (72 pixel equal one inch). This results in a standard screen size of approximately 8.89" wide by 6.67" deep.



Further Resources for Digital Video

compiled by Gretchen Brewer

Digital Video and Animation:

Desktop Video Studio, Andrew Soderberg and Tom Hudson, Random House/New Media Series 1995, ISBN 0-679-75784-8, \$45.00, CD-ROM included

3-D Animation on the Mac, Don and Melora Foley, Peachpit Press 1995, ISBN 0-201-88420-8, \$34.95

Multimedia:

Multimedia Power Tools, Second Edition, Peter Jerram and Michael Gosney, Random House Electronic Publishing, \$45 CD-ROM included. "Perhaps the best all-around introduction to computer-based multimedia production... [S]ections to help artists create for cross-platform environments." (Dennis Dimick, video-savvy BMUGer)

MultiMedia: Making it Work, Second Edition, Tay Vaughan, Osbourne, McGraw-Hill 1994. Hardware, Software, Building Blocks, Assembly and Delivery; includes a CD-ROM

Demystifying Multimedia, Apple Computer, Inc. and vivid studios, Random House Electronic Publishing 1995

Books for specific software—find some top-notch instructional texts at the following places:

Peachpit Press, (510) 548-4393; <http://www.peachpit.com>.

Adobe's *Classroom in a Book* series, Adobe Press, (800) 833-6687; <http://www.adobe.com>.

Magazines that focus on techniques:

Interactivity Magazine, (415) 358-9500. Digital media of all types, especially for playback from CD-ROM and Web sources.

DV—Digital Video Magazine, (603) 924-0100. As the name says.

How Magazine, (800) 333-1115. Still imagery.

New Media Magazine, (609) 786-4430. New (generally digital) media.

Online: Newsgroups are question and answer format; Web sites are read-only:

FAQs ("frequently asked questions" files): URL: <ftp://rtfm.mit.edu/pub/usenet/news.answers> in Usenet newsgroup "news.answers."

Currently, relevant FAQs are: animation, compression-faq, graphics (and sub-listings), jpeg-faq, mpeg, multimedia, sound-file-format, and sgi.

Usenet newsgroups or the World Wide Web: search on "animation," "video," "film," "QuickTime," or major modeling/animation companies.

Products List:

Macintosh Multimedia & Product Registry. This thick book lists nearly all commercial products for Macs that relate to multimedia.

Some San Francisco area schools that teach digital video and computer animation:

Center for Electronic Art

Computer Arts Institute

San Francisco State University Multimedia Studies

DeAnza College Animation Studies (Cupertino, CA)

Bay Area Video Coalition

BMUG SIGs (special interest groups) Call the BMUG office to verify times:

CAD SIG. Last Tuesday of each month

Macromedia SIG. Second Tuesday of each month

And of course, BMUG members are always encouraged to start up long- or short-term SIGs to learn about topics of interest to them. 🐉

Images Obscured by Clouds

A review of: The Photographer's Digital Studio

by Eric Predoehl

Whenever I attend a computer convention or browse through a bookstore, I am amazed at the proliferation of books written for the computer market. Based on the wide variety of choices available for the computer user, you'd think that the best way to make money in the computer field is to write a book. As more than one person has stated, if you find a need that needs to be filled, and you'll be amply rewarded.

One book that attempts to fill a niche is *The Photographer's Digital Studio*, written by Joe Farace. Designed as an introductory overview for the photographer that is entering this new-fangled digital domain, this book is intended to be an easy read, keeping technical jargon to a minimal level. While this book does provide a substantial amount of information, the end result is quite mixed.

To begin with, it is difficult to recommend any photographic reference book that has such an unappealing layout. Having sampled some very exceptional books that demonstrate photographic technique with some very inspiring examples accompanying the text, this book comes off flat and mundane. It is one thing to read a series of Susan Sontag essays on photographic aesthetics, and it is another thing entirely to read a book about photographic technology with such limited visual accompaniments.

The book is broken up into four sections: Computers for Photography, Image Acquisition, Image Manipulation & Enhancement, and Output. Within each section are chapters and sub-chapters

dealing with the topics at hand more thoroughly. Some of the sections are effective, while others merely skim at the surface. To add to the confusion, some of the sub-chapters have titles that make absolutely no sense at all. A sub-chapter on floppy drives is labeled "Hot and Cold

Storage." A portion dealing with removable media is given the title "Motor Drives." Two pages devoted to Zip Drives are labeled "Digital Film," which seems more appropriate for Photo-CDs or PC-MCIA cards, but that's just the way things are organized in this book.

To the author's credit, he admits to being bilingual with his computer needs, owning both Macintosh and Windows machines. His non-biased approach to computer platforms is refreshing, as I think it's unrealistic for any working professional to ignore the "other format," regardless of personal preferences. For the computer novice that hasn't made up their mind, he recommends going to a store that sells both platforms, and trying out the following procedures on both machines:

1. Insert a floppy disk and search its contents.
2. Show the contents of a hard drive and find a specific file.
3. Launch that file and the application that created it.
4. Ask what hardware and software are needed to install peripheral equipment and what a user must do if he or she decides to install this equipment him or herself.

If that's not an effective endorsement for the Macintosh, I don't know what is.

The greatest strength of this book lies in its analysis of the different digital cameras, photographic software packages, and color printers. If you need a reference guide that describes the state-of-

There are some reasons why you shouldn't buy a digital camera in 1996 if you desire high-end quality with a limited budget, and this book discusses the various options that are available right now.

the-art cameras for early 1996, this book could be a great tool for your needs. If you are seriously considering the purchase of a digital camera, this is the type of information you should be reading. There are some reasons why you shouldn't buy a digital camera in 1996 if you desire high-end quality with a limited budget, and this book discusses the various options that are available right now.

From an organizational point of view, some of the elements of the book seemed a bit scattered. In the "Image Manipulation & Enhancement" section, we start off with a chapter entitled "Editing Images with Adobe Photoshop," followed by "Windows Contenders," "Mac-ing Out," and ending with "Plug in to Creativity," which covers plug-in filters designed primarily for Photoshop. Some of the programs available on both platforms are only mentioned in the Macintosh chapter, which seemed rather odd. It would seem to make better sense

to discuss attributes common to all software programs at the very beginning, followed up with an analysis of all programs, including Photoshop, and the various filters, but again, that's just not the way this book is organized.

When the book attempts to describe the techniques of image manipulation, it falls completely short of target. Bland, uninspired black and white images are used to demonstrate technique, often recycling the same tired images without any real impact. A boring picture of a Porsche at an auto race is used to demonstrate background removal, an acetate plug-in filter, and a motion trail effect. The magic wand tool is described as "Photoshop's most powerful selection tool," yet we see absolutely no samples of how it can be used. When we read the sub-chapter entitled "Changing Color Intensity," we are shown some very bland black and white pictures of a swimming pool, demonstrating the "before" and "after" variations, allowing for an incredible exercise of the imagination.

In the limited eight-page color insert, we get to see a few examples of what these wonderful manipulation tools can do, but rarely do we get to see what the original image looked like. Color Plate 9 has the following caption:

"Compare this colorful dramatic photograph with the original of Autumn Leaves from Corel's Trees & Leaves stock photo CD, and you'll see improvements in contrast, sharpness, and color."

It's too bad the publisher didn't seem fit to include the original image, so we could actually compare it without having to purchase the Photo CD. You'd think they'd at least provide a discount coupon to buy this thing?

The section on Output also falls short of its potential. Within this section, we have chapters on "Imagebases & Screen Savers," "Color Management & Color Output," and "Service Bureaus." The first chapter in this section seems especially awkward, as image databases might be better suited in the Manipulation & Enhancement—"image tools" section—and screen savers are really more of a novelty than anything else. Within the chapter entitled "Color Management & Color

Output," I found some very useful information, but it seemed to fall short where it mattered. I would have expected to see a mention that a CMYK file tends to output more accurately to a color printer than an RGB file would. I also expected to see a suggestion of using TIFF files rather than JPEG files in most desktop applications. This chapter could have been loaded with some solid suggestions about strange little quirks that most experienced service bureaus could tell you about; but I didn't see them in this book, which is really a shame.

What really surprised me about this book was the lack of serious discussion about the techniques of transmitting photographs over the Internet. There was no analysis of the best techniques used to compress photographs for transmission via standard email. There was no evaluation of the binary encoders and decoders used, be it UUlite, Mpack, or anything else like that. There was absolutely no discussion of the merits of using GIF files versus JPEG files for Web page production. In fact, there was no mention of the World Wide Web, or any other aspect of the Internet, other than the negative connotations of using GIF files, commonly used for compression of adult-based images. For a book that came out in 1996, you'd think there would be some type of mention of the Internet?

If you haven't kept track of the latest developments with digital photography, this book might be of use to you. The writing style of the book is fairly straight-forward, and it's obvious that Mr. Farace knows what he's talking about. Unfortunately, the most useful information in this book will become outdated within a few years. On top of that, most of the pictures in this book are really boring to look at. Why bother? Rather than investing in a rather limited over-view of digital photography, I would recommend looking at other books. Unfortunately, there is no single book on the market right now that provides a great over-view of digital photography.

To find out about the best new digital cameras, software enhancements, and new developments in the digital field, your best bet is to read the current trade journals, which there are plenty to choose from. The *Adobe Magazine* is an excellent resource loaded with tons of solid

For the money, some of the best reference guides for learning these techniques are the free catalogs from Image Club, which are loaded with many useful tidbits for Photoshop, Illustrator, and other graphic programs.

information for anyone interested in digital image technology. *Imaging* magazine and the (National Association of) *Desktop Publishing* publication are both loaded with lots of data for the print professional, but tend to be a bit dry in delivery. For my purposes, I prefer to browse through *MacWorld*, *MacUser*, *New Media*, and *Communications Arts* as well which is more of a design showcase, but still filled with some very interesting articles on their ever-changing field.

If you need a good over-view of computer multimedia technology, with a few solid pages on digital photography, *Demystifying Multimedia*, put out by Apple Computer, is a superb addition for any library.

If you'd like to master the techniques of Photoshop, *The Photoshop Wow! Book* from Peachpit Press, still appears to be the best reference book to date. *Design Essentials* and *Imaging Essentials*, both published by Adobe Press, are also superb books demonstrating technique, mixing concise instructions with excellent visual examples. For the money, some of the best reference guides for learning these techniques are the free catalogs from Image Club, which are loaded with many useful tidbits for Photoshop, Illustrator, and other graphic programs. It's one of the few catalogs that I'll actually cut articles from.

Lastly, I recommend that anyone serious about photography find some decent books that deal with basic photographic technique, if they haven't done

so already. If you'd like to buy just one book, *The Photographer's Handbook* by John Hedgecoe is a superb overview. If you have plenty of shelf space, the Time/Life Photography series is also excellent. Of course, the instructional books by Ansel Adams are also a fine addition to any library. 🐉

The Photographer's Digital Studio

by Joe Ferace
366 pages, \$24.95 U.S.,
\$34.00 Canada: Peachpit Press, 1996

Photoshop Wow! Book

Peachpit Press

Design Essentials

Adobe Press/ Hayden

Imaging Essentials,

Adobe Press/ Hayden

Image Club Catalogs (800) 661-9410

Eric Predoehl is a free-lance media professional, specializing in video production. Once upon a time, he used the alias of "Elvis Pretzel" on the Planet BMUG bulletin board and forgot his original password that he used when he was initially signed up with his original name. Assuming the identity of a discarded Harvey Kurtzman character, he renewed his membership, and vowed to never misplace his password again. He is back to using his real name again, and you can send e-mail to his BMUG account, or at: erp@netuser.com. His Web page is at: <http://www.msm.com/~erp/>.

Ray Dream Studio

A Review for People Who Like to Dance in Tight Alleyways That Are Scarcely Wider Than Their Shoulders

by Gunthar A. Hartwig and Paul H. Mathus

Ray Dream Studio is the new, expanded release of the popular Ray Dream Studio 3-D modeling program. The new version incorporates an animation plug-in that includes a variety of high-end movement effects in addition to the strong modeling capabilities of the older illustration version.

Ray Dream Studio is inexpensively priced and powerful. It is the only 3-D animator that we know of that incorporates inverse kinematics (a useful and incredibly powerful tool for creating complex movements involving numerous three-dimensional objects) and sells for under \$600. It does not require an FPU, so it can be used on a wide variety of Macintosh systems. Lower-end users should note that the documentation specifically points out that less RAM will adversely affect performance: at least 12 megs of free application RAM is needed, with 16 or more recommended. 20 megs of disk space for files and 20 megs of scratch space are required. The program is said to operate on any Mac or Power Mac using System 7.

RDS is available for Windows 3.1, 95, and NT machines as well as Macintosh. This cross-platform capability could be handy for swapping files with colleagues working on PCs.

For the purpose of this review, we used our personal machines, a Quadra 840AV with 16 megs of RAM, and an accelerated IIfx running as a 33 mHz '040 with 20 megs of RAM. In both cases System 7.1 was used. Performance, in terms of rendering and highly complex modeling, will likely be greatly improved on a Power Mac running System 7.5. The

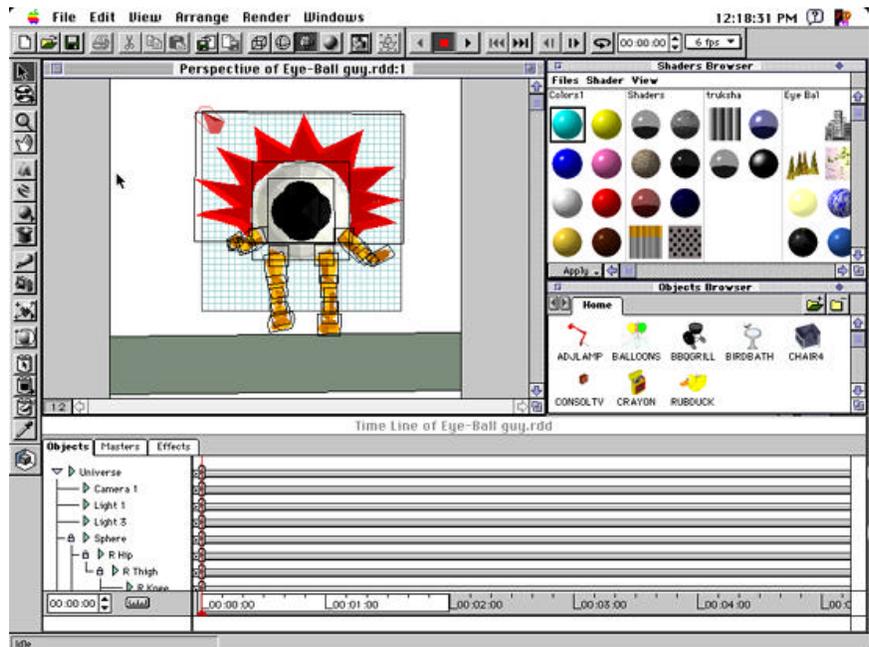


Figure 1.

feature sets of the application, which is what we will focus on in this review, remain the same regardless of processor horsepower.

Working Environment

The Ray Dream working environment is divided into two main sections: the Perspective window and the Modeling window. The Perspective window gives an overview of the "Universe" which incorporates all of the three-dimensional objects within the file. The Modeling window allows manipulation of the form of those objects. In addition to these windows, there are a number of floating browsers, including the Hierarchy window, Shaders Browser, Shader Editor,

Objects Browser, and others. These complement the capabilities of the toolbars and menus of the two main windows.

Perspective Window

3-D scenes are laid out in the Perspective window. A series of toolbars can be arranged along the edges of the Desktop or allowed to float over the workspace (Figure 1).

The default reference camera view shows the working grid: three grid planes in the X, Y, and Z axes. The size and spacing of these grids can be changed in the application preferences to suit file needs and user taste. The grids can be turned off when they are not needed. All objects within the Universe display a boxed sil-

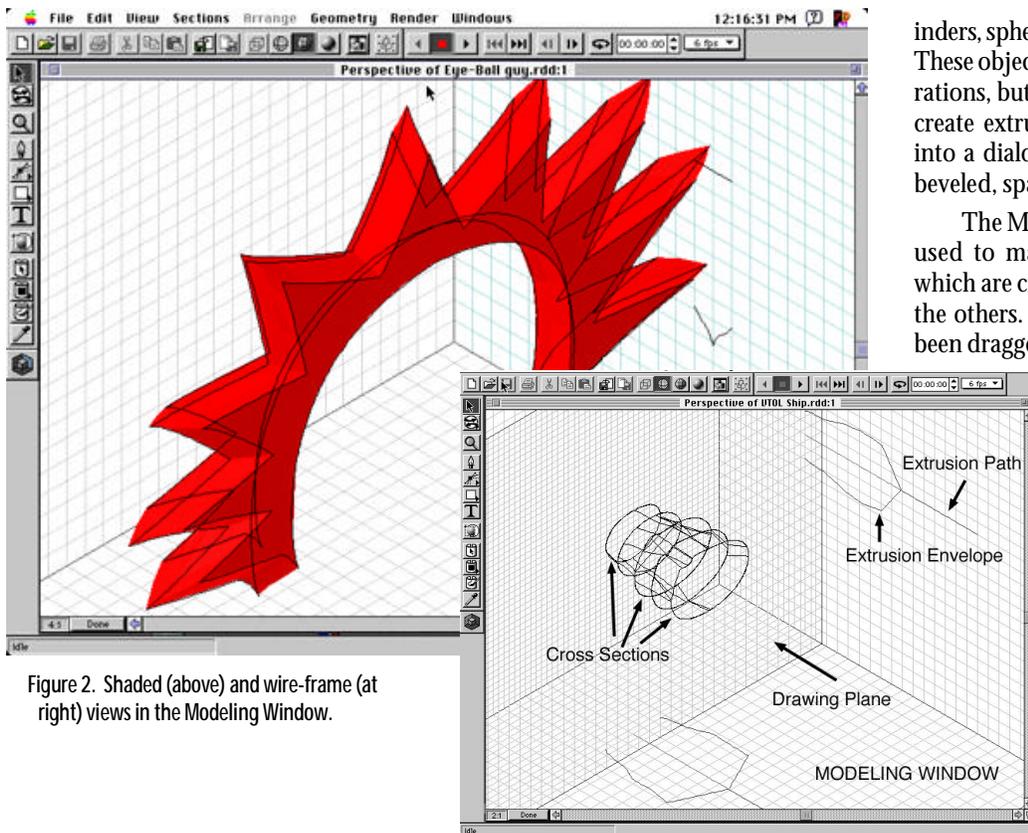


Figure 2. Shaded (above) and wire-frame (at right) views in the Modeling Window.

houette on these planes. The silhouettes are extremely useful in repositioning and resizing objects. Grabbing a silhouette within a plane constrains movement to the pertinent axis.

The screen preview can be set to any of four modes: Bounding Box, Wireframe, Preview (Gouraud), and Better Preview (Phong). Our experience was that screen rendering is quite slow, so much so that it took less time to render a still image than it did to see it using the Better Preview mode. Fortunately, there is a Ray Trace marquee tool with which a fully rendered view of any size section of your Perspective window can be seen.

Viewing the Universe requires cameras, an infinite (or at least unspecified) number of which can be added to the scene. The view in the Perspective window can be switched between cameras under the View menu, which also contains a number of preset view positions (front, right, top, etc.). Toggling between these views is easy using quick-key commands. Cameras can be moved through the Numerical Input floating menu, dragged within the Perspective window using the Dolly, Pan, or Track tools from the toolbar, or moved using the Camera Properties floater which includes a move-

ment pad something akin to a Sega Genesis thumb control button.

Two viewing constraints proved problematic. The first involves object sizing. The maximum XYZ size and position of an object is limited to +/- 3,333.33 feet. Therefore, positioning a camera to view all objects in a large environment is difficult. We compensated for this limitation by scaling everything down. The second is the zoom factor, which is limited to exponential multiples of two (1:1, 1:2, 1:4, 1:8, 1:16, 1:32). Intermediate ratios based upon the size of the marquee selection would be handy in many instances.

The overall feel of the Perspective window is very good. It is easy to get a grip on the 3-D space and the positioning of objects. Tools are plentiful and easy to access. The Ray Dream Universe is an easy space to acclimatize to, allowing the user to get to the business of creating fun in three dimensions.

Modeling Window

A variety of different objects are available with which to populate ones creation. These are added to the scene by selecting the tool and dragging a point within the Perspective window. A Primitives tool allows creation of cubes, cyl-

inders, spheres, cones, and icosahedrons. These objects can be altered in their XYZ ratios, but no further. The text tool will create extruded text based upon input into a dialog box. The text can also be beveled, spaced, and scaled.

The Modeling window (Figure 2) is used to manipulate freeform objects, which are created in the same manner as the others. When a freeform object has been dragged into the Universe, the program automatically switches to freeform editing mode.

A series of grids very similar to that seen in the Perspective window allows manipulation of the Drawing Planes, which can be selected by clicking an axis-grid with the pointer, and then individually viewed. Items may be manipulated freely in the reference view also.

Freeform objects are made up of skinned cross sections, any number of which can be created and then reformed using Bezier curve and 2-D primitive tools similar to those found in Illustrator and Freehand. These cross sections are "skinned" along an extrusion path, which again is manipulated by Bezier curve tools. Use of the Extrusion Envelope, two lines running next to the Drawing Path on the grid, allows scaling of the cross sections along the sweep path. These can be manipulated independently of one another or symmetrically.

The Extrusion can be set to Straight, Spiral, or Torus. Spiraling creates a sweep path over which the user can define number of turns, length, distance to the axis around which the spiral rotates, and scaling. The Torus feature "lathe" the cross section around a central axis. All of these are standard features of many 3-D applications, and are well executed here.

The cross sections themselves provide other shaping strengths. Two separate shapes lying on the same plane can be linked with successive cross sections to create branching objects. Shapes enclosed within other shapes, when Compounded, will create a cutout within the larger shape (thus enabling some cut away modeling capabilities without actual

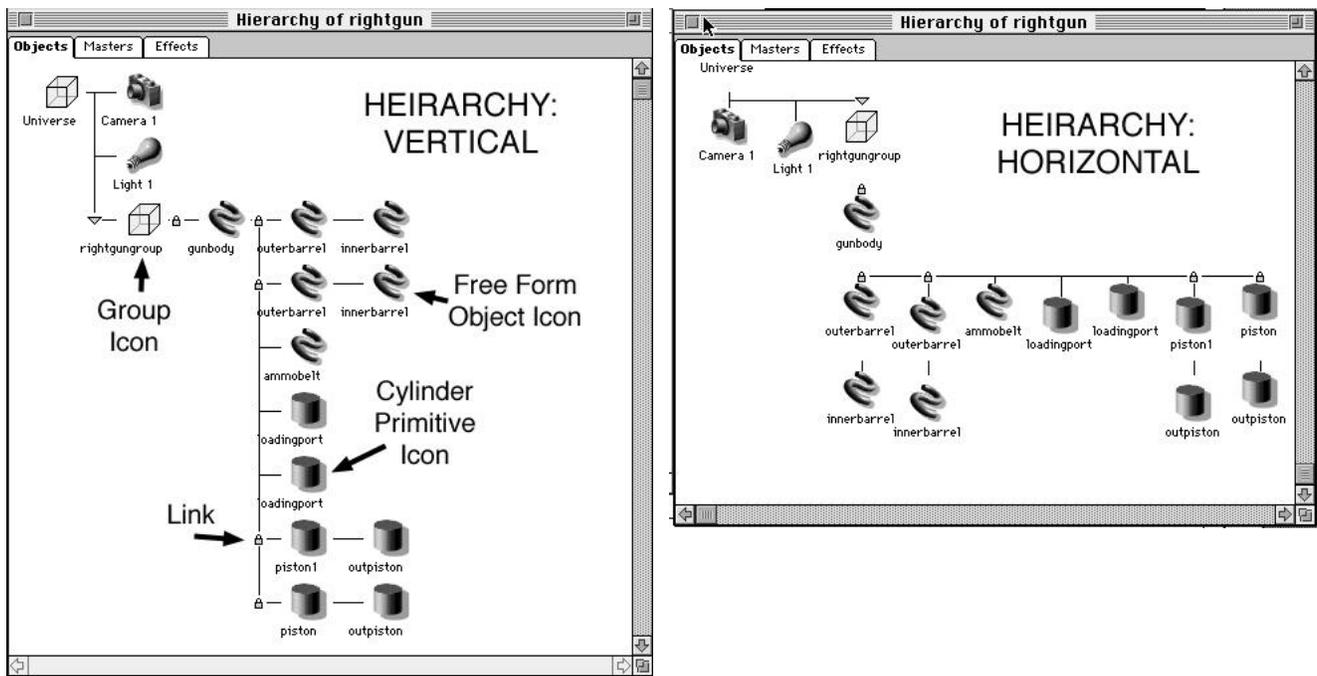


Figure 3.

Boolean modeling). The cross sections can be filled to create a cap or block within the extrusion.

Browsers

Supplementing the two primary windows are a series of floating browsers that allow manipulation of Ray Dream's other functions.

Hierarchy Window

The Hierarchy window displays all of the objects contained within the Universe. Three display modes allow these objects and their links to be viewed horizontally or vertically (Figure 3) with graphic representations of the objects, or in a timeline for animating purposes. Selecting an object in the Hierarchy also selects it in the Perspective window and allows its properties and positioning to be changed. Objects can be dragged within the Hierarchy to establish links. A series of linked objects can be grouped to simplify the window and make organization easier. All objects can be named, of course, to make identification easy.

These varied views offer a great deal of freedom and power. While creating an object, the vertical or horizontal view is a more effective use of space (always an issue for those of us without 20-inch or multiple monitors) and its graphical representations make identifying the ob-

jects easy. When it is time to animate the scene, the timeline view shows the expanded properties of the objects and allows them to be altered over time using event marks at specifically determined time intervals (Figure 4).

Multiple objects can be grabbed for movement within the Hierarchy or within the Universe. Event marks can be cut and pasted or moved by sliding them along the timeline.

Overall, the Hierarchy window is another strong feature of Ray Dream Stu-

dio. It accurately and effectively represents the components of the 3-D Universe and allows for their easy manipulation.

Shaders Browser/Editor

Ray Dream Studio has powerful shading tools. Preset and user-created shaders are stored in the Shaders Browser, which depicts a spherical or flat preview of each shaders appearance. A shader is applied to an object either by dragging the shader from the browser over an object in the Perspective window or by

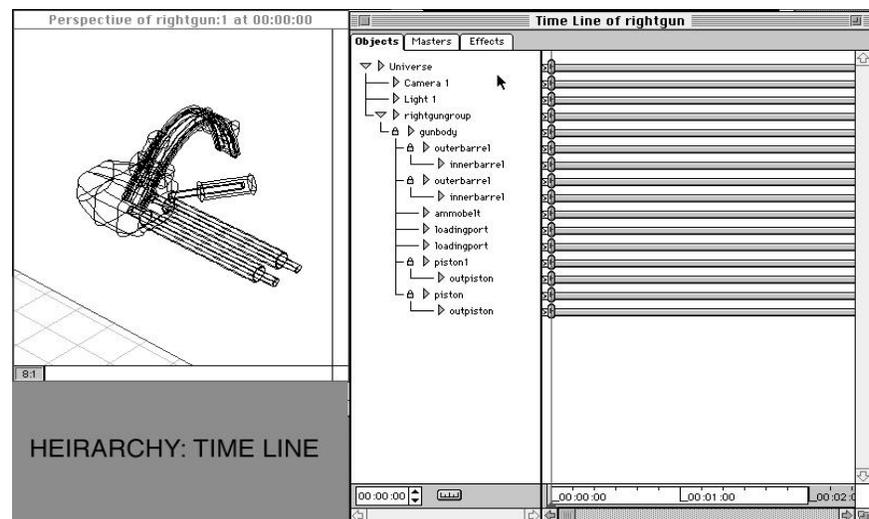


Figure 4.

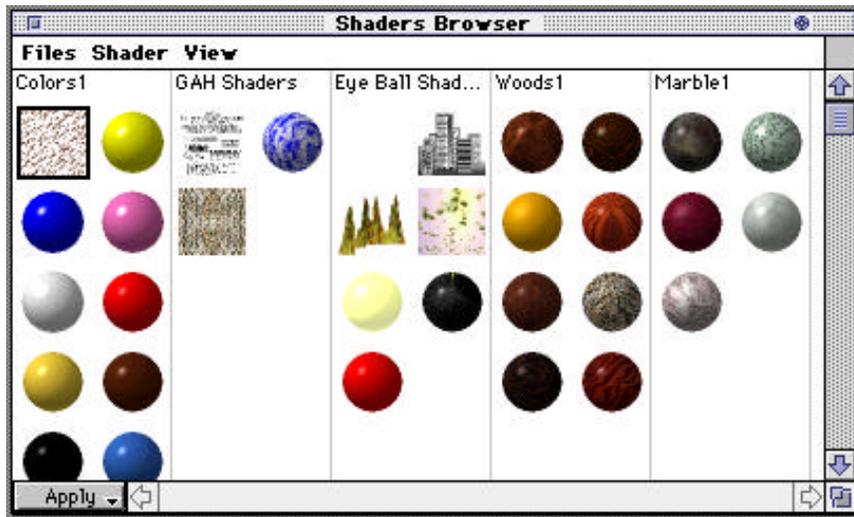


Figure 5.

choosing the item and then using the Apply button in the Shader Browser.

Shaders (Figure 5) can be classified into groups (i.e. Marble, Woods, etc.). These sets can be loaded or removed from the browser when needed to save RAM.

Like the Hierarchy window, the Shaders Browser does not automatically scroll when items are dragged to the edges. Unfortunately, the Option modifier does work to activate automatic scrolling. To move a shader between shader groups it must be dragged as far as possible, the Browser window scrolled, and then the shader moved again.

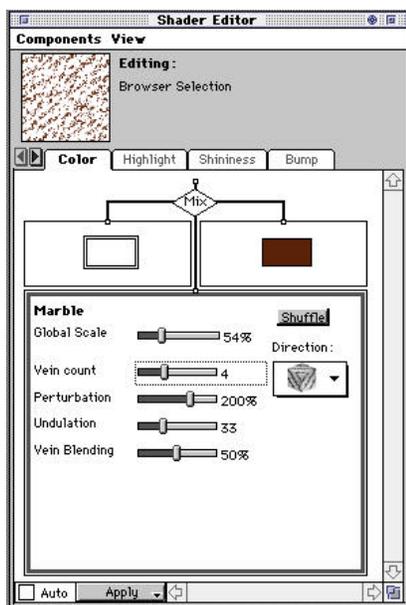


Figure 6.

Ray Dream's shading capabilities are very powerful. Using the Shader Editor (Figure 6), the various characteristics—channels, complex patterns, and textures—can be created. Each channel (highlight, shininess, bump, reflection, transparency, refraction, and glow) can be assigned with specific information for its primary components (color and value) or can utilize the texture map for application of its behaviors. Components can be mixed using Operators (add, subtract, multiply) and Functions (checkers/stripes, wires, spots, wood, or marble).

A wide number of file formats are available to use as image maps, representing almost all of the major types (Photoshop, PICT, TIFF, etc.). Quick-Time movies can also be applied to any surface, opening up many more imaging possibilities. Another excellent capability is the ability to apply Photoshop compatible filters to the texture map from within Ray Dream. For example, a user can open up Kai's Power Tools Gradient Studio or another menu-driven third-party plug-in, and apply an additional level to his/her texture maps. The filter is applied across the entirety of the loaded image, so minute manipulations must still be done in a 2-D graphics application, but the possibilities are still great.

The Shader Editor is one of the most complicated tools to use in Ray Dream. Unfortunately, the Undo function does not work when changing a shader, and it is easy to accidentally change an important characteristic (e.g. accidentally re-

placing your image map with a color). This becomes less of a problem as the user learns the intricacies of the editor and what to do and what *not* to do.

3-D Paint Tools

Once a shader is created, it can be used with one of the best features to be found in the program: the 3-D paint tools. Using the Rectangle, Ellipse, Polygon, or Brush tools, a selected shader can be applied to an object like a sticker or swath of paint. It is a *great* way to apply minor details without dealing with the complexities of making sure that a specific item falls into exactly the right place on a larger texture map. The Brush tool can be changed in size, shape, hardness, flatness, and angle, and can also be used as an eraser. A 2-D image can be imported to serve as the brush shape.

These paint shapes then become elements of the object's properties and can be manipulated from within the Object Properties windows. Thus, an object can be shaded with multitudinous layers, starting with its core shading and however many paint objects a user decides to apply.

The *single* drawback to this capability is that it can only be used in Preview or Better Preview mode, meaning it can sometimes be slow going if an object is complex and takes time to draw.

Other Browsers

A Numerical Properties Browser can also be displayed at all times. This is extremely important for gauging exactly where objects are. Changes can be input via the keyboard and implemented immediately and accurately.

The Camera Properties Browser, as mentioned earlier, enables the viewer to manipulate the characteristics of the cameras. It includes a smaller pulldown menu allowing change of angles to pre- and user-defined points, zoom length, angle, and positioning. The movement pads are especially helpful, as positioning a camera for animation or just to get a different viewpoint can be tricky when only numerical properties are available.

Lighting

An infinite number of lights can be added to a 3-D scene. Lights can be Bulb, Spot, or Distant. Color can be set using

the Color Picker or the RGB slider included in the program. Spotlights can be edited to change focus and length, and all lights can be varied in intensity. Patterns or texture maps can be applied as gels to create special lighting effects (e.g. venetian blinds or what have you). Ray Dream's lighting functions are useful, easily implemented, highly adjustable, and a great strength of the program.

Animation

The change that turned Ray Dream Designer into Ray Dream Studio is the incorporation of animation features. Using the timeline (Figure 7), complicated animations can be created. Objects can move, transform in shape and color, and link to one another in ways that resemble real life.

Changes in the objects' behaviors or attributes are defined using event marks on the timeline. The program then automatically "in-betweens" the intervening frames to create a smooth sequence. Tweeners are time-based transition patterns that can be applied between event marks to smooth or customize an object's motion. For example, using the Bezier Tweener, a model truck can accelerate slowly to its maximum velocity, and then slow back down to a halt. These tweeners can be used on any of an object's properties. The Oscillate Tweener, which creates a wave pattern application of a transition, could be used to change an object's motion path or to fluctuate its color shadings.

Among the most powerful components of the Ray Dream Animator are the behaviors that can be attributed to objects. Bounce and Spin quickly create motion paths. Point At keeps one object directed at another (say a camera following a car), and Track enables one object to follow or shadow another as it moves in 3-D space.

Perhaps the most exciting of these behaviors is Inverse Kinematics. Normally found only in extremely expensive 3-D applications, Inverse Kinematics empowers the user to easily create natural-looking movements and interactions between linked objects. An object imbued with the IK property at the end of a chain of linked objects, will, when moved, drag the other objects along while they remain constrained within their established ro-

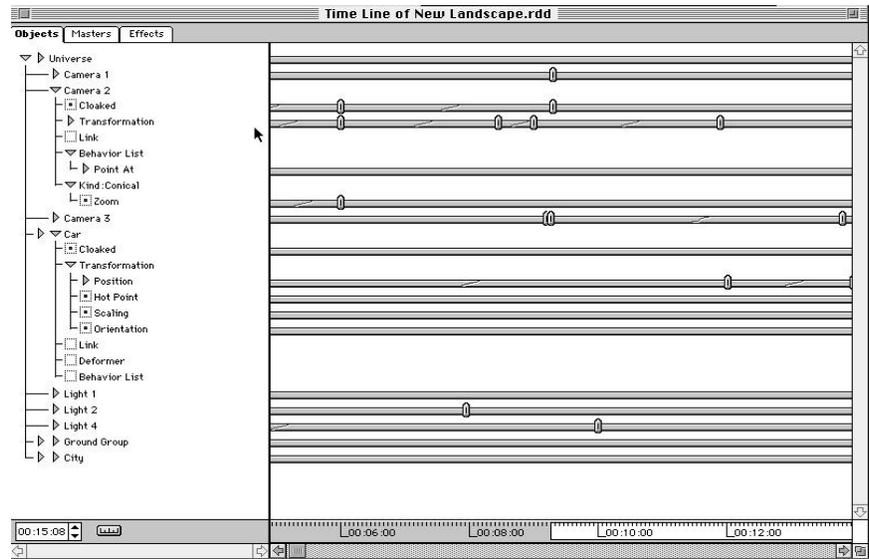


Figure 7.

tation or jointing parameters. Thus by lifting the foot of a figure model straight up off the ground, the shin and thigh will be thrust out and the knee bent accordingly.

The Inverse Kinematics in Ray Dream work well, but the behavior is by nature tricky to set up. Objects must be properly positioned, their rotation "hot spots" oriented, links and joints established and tested, and finally the IK behavior established. Here is where patience and planning are very important for an animator, for when one combines the complexity of a model with many kinematic links, and multiplies it by time and the other objects in the universe, the level of complexity goes way up!

Ray Dream's animation tools are well integrated into the rest of the package. The Timeline is a powerful and usable tool. When combined with Ray Dream's powerful modeling and shading capabilities, exciting and complex animations can be created.

Rendering

When construction of a scene or animation has been completed, Ray Dream offers a number of options for rendering the final copy. Three ray tracers are available ranging from low quality/high speed to high quality/slower speed.

Using the Render Effects, reflected backgrounds, backdrops, atmosphere, and ambient lighting effects can be added before rendering. Adding fog and a texture-mapped sky that reflects from

objects in a scene can add a great deal of realism to a computer-generated image, eliminating the too-shiny and too-sharp quality, characteristic of the medium.

These effects are useful, sometimes more so in still illustration than animation. For example, a backdrop will always display the same image or gradient throughout a scene. This is problematic if the camera is moving and the perspective of the background is required to change. A possible way around this would be to map the desired background onto a very large object whose edges are always off camera, but this would be a little awkward.

A nice feature that doesn't quite live up to its promise is the Render Time Estimator in the image size window of the Render settings. Unfortunately the estimation time for some scenes took nearly as long as the rendering itself! Although the ratio decreased as the size or length of an image/illustration increased, in many cases it didn't save any time to use the estimation function.

Options for the RDI Ray Tracer, the highest quality renderer, include not just the traditional choices concerning oversampling, transparency, and shadows, but also the use of G-Buffers, which enable output of multiple channels in TIFF format. These channels can include 3-D information (distance, position, surface coordinate), masks, and other data that can be extremely useful when doing post-production work in Photoshop or other 2-D graphics programs. The G-Buffer can

only be used for still images, however, and cannot be output as QuickTime files. These are exciting options for high-quality final images, but of course they greatly increase file size and rendering time. The RDI Ray Tracer is powerful and quick enough to make it worthwhile as a preview option (for small image sizes).

One of the beauties of Ray Dream's ability to use Photoshop filters includes not just image manipulation, but output selection also. Default settings include Photoshop 2.0, 2.5, PICT, and several others, but with the addition of other file format plug-ins the list can grow to include TARGA, AMIGA, and other files. The only qualification for plug-in compatibility is that they not require Photoshop to run (therefore the image filters that come with Photoshop do not work). This expanded list makes one's images useful in a variety of media (animation, video, illustration) across a wide range of platforms (Mac, PC, Unix, Amiga).

3-D files can be saved and imported as Ray Dream documents or DXF-formatted files. Additions that would be nice to see added to the file output/export list are VRML and QuickTimeVR export capabilities, both hot areas of 3-D imaging and delivery. Perhaps in a coming update?

Conclusion

Ray Dream Studio is an incredibly powerful application for the price. Particular highlights include the powerful modeler, the 3-D paint functions, Inverse Kinematic behavior settings, useful commands such as the Align function, diverse linking capabilities, filters compatibility, and complex shading possibilities.

There are a few problems. RAM requirements are extremely heavy—running the program on a low RAM setting can disable some functions and even lead to system crashes. Certain quick-key commands (usually those that combine three keys) do not work as they are said to in the manual and the pull-down menus. Screen redraw is slow, the Shaders Browser is a little awkward, and constraints on object size and positioning make creating large scale environments tricky. However, some of these problems might not be manifest on an optimally configured system, say a Power Mac or PowerWave running at 120 MHz and using System 7.5.3.

Since we are artists and computer imaging enthusiasts, not professional testers, this review is, of course, highly subjective in many respects. We were not able to run benchmark tests or gather a wide range of data comparing the speeds

across different system configurations. Our intent has been to focus on the features and capabilities of the program, and most importantly to make neat 3-D stuff!

Examples of some of our efforts and explorations in still images and animation can be found on The BMUG Newsletter CD-ROM.

Files: BMUGanimation.mov,
babybw.eps, babyrgb.pict,
Poster 1.pct

We highly recommend Ray Dream Studio as an addition to a CGI enthusiast's and professional's library. The problems we experienced are small compared to the creative possibilities available for the comparatively small price. It's easy to learn (as far as 3-D applications are concerned) and fun to use, and we can't wait to mess around with the stuff that we only got a quick look at before this review was due. 🍷

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First Look

CorelDRAW for Macintosh

by Scott Beamer

From the start, the Macintosh has been identified with graphics. Pretty much every graphics program of note began on the Mac. CorelDRAW is one of the rare exceptions. For years, Corel has dropped hints that someday it would bring CorelDRAW to the Mac. This spring, I had the opportunity to participate in its beta testing. I was very interested to see what it might bring to the Mac that we didn't already have.

I began to have a suspicion of what I was getting into when I sat facing the Easy Install screen for CorelDRAW for Macintosh. It informed me I did not have enough hard disk space. It wanted 106 megs. Switching to Custom Install, I managed to pare things down to a svelte 60 megs by installing only two of the six applications in the suite and none of the fonts, clip art, or manuals.

Obviously, CorelDRAW for Macintosh is not a graphics program "for the rest of us." It requires a PowerMac and the notes for the prerelease version I am working from advises that if I want to open more than one file at a time, I'd better have 20 megs of RAM available (virtual memory included).

The six applications in the suite are: CorelDRAW, Corel ARTISAN, CorelTRACE, Corel TEXTURE, Corel DREAM 3D and WordPerfect 3.5. It is expected that in the shipping version, the rest of the CD will be filled with up to 1,000 fonts and 1,000 royalty-free clip art images.

CorelDRAW is a draw program on steroids, perhaps best likened to Deneba's Canvas on the Mac. Corel ARTISAN is a paint program, a pared down version of Oasis, the respected Mac paint program. CorelTRACE is an application that converts line art into PostScript files similar to Adobe's Streamline. Corel DREAM 3D is a 3-D modeling and rendering application. Corel TEXTURE is a



Figure 1. CorelDRAW for the Mac is here

utility to create textures for the ARTISAN and DREAM applications. There is no special interactivity among the applications of this suite, no common menu to switch between them.

This is a noticeably different lineup than the shipping Windows version 6 of CorelDRAW, which has PHOTOPAINT for retouching photo quality images, CorelDREAM 3D, Corel MOTION 3D, a 3-D animation package, Corel PRESENTS, a presentation package, and Corel OCR-TRACE, which does both tracing and OCR processing. It is quite possible the Mac lineup will change again before it is released.

A First Look

Many veteran Mac users will be paying close attention as they first open CorelDRAW to see how much of a Mac program Corel has given us. Has Corel followed the human interface guidelines? Mac users are going to be numb with

shock for a while. CorelDRAW uses the standard look and feel of Mac software even less than, say, MS Word 6.0 (where at least there is a Preferences choice to make dialogues look more Mac-like. No such Preferences are available in CorelDRAW).

However, I do not sense the arrogance of Microsoft in the variations from Mac ways of doing things. Rather, I suspect Corel tried to make the Mac version as alike the Windows version as possible. Mac users are unaccustomed to seeing graphics programs that originated from the Windows platform. I suppose we would be equally uncomfortable seeing Adobe Photoshop on Windows with a Windows look to it.

That is not to say this is a crude import of a Windows application. The dialog boxes and palettes are not actually Windows look-alikes. Rather, they are Corel's own invention, something of a hybrid between the Mac and Windows

these file types include most graphic ones for both Mac and Windows, this may be one of the most prized abilities for those with CorelDRAW on their hard disk.

ARTISAN

When I was editing the figures for my articles in this newsletter, I started each time in CorelDRAW, but found I usually changed fairly quickly to Corel ARTISAN. This modestly reworked version of Oasis is a more comfortable product for veteran Mac users. I found myself groping less for the desired tool.

Palettes and dialogues were a mixed bag. Some still have a gray background and unfamiliar fonts and styles, others were standard Mac. It takes up only 1.8 megs on hard disk and prefers a partition of 5.1 megs. It is a first-rate paint program with significant photo retouching abilities though it makes no attempt to be PhotoShop's equal. It does support the pressure sensitive stylus.

There was time for only a hurried look at this pre release CD before the deadline for articles for this Newsletter. Corel was concentrating on CorelDRAW and Corel ARTISAN in this revision, though all the functions in them were not yet working. The other applications were present but undocumented and with less functions working. With so little time, I concentrated on the two leading applications.

Also, there is no guarantee how much what I evaluated will be like what Corel ships. For instance, WordPerfect was not on the CD they sent me. They told me of the decision to include it later.

I sense that Corel has been significantly challenged to bring this product suite out to the Mac. The application lineup is significantly different and I sense the Windows version is more contemporary with its presentation and animation modules.

It might also make sense for them to have included web authoring tools. Canvas has held up the release of Canvas 5.0 to include HTML editing abilities, and will also add a significant photo retouching ability.

What I do not expect Corel to do with the shipping version of CorelDRAW is to make it much more Mac-like. The

warp and weft of the product is from another platform. They have not attempted to create a whole new interface as Informix did with Wingz or Lotus with Lotus 123. I suspect they find the possibility too daunting.

Conclusion

The CorelDRAW for Macintosh CD is certainly a weighty package of graphics tools. It reminds me of the supply closet for my office. I sometimes rummage

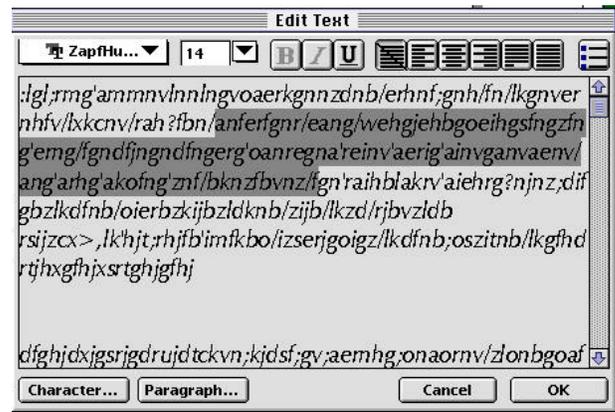


Figure 3. Is this how you edit text on a Mac?

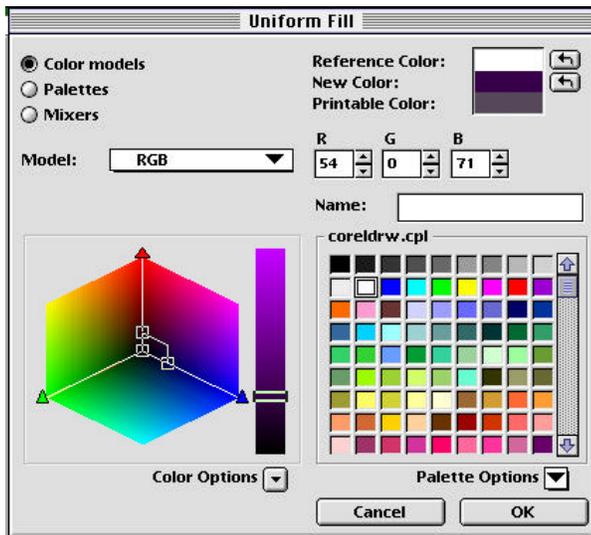


Figure 2. CorelDRAW's elegant color picker indicates how the RGB color selected will print.

interfaces. Furthermore, the entire interface is customizable. Still, veteran Mac users will find the learning curve much more challenging because many operations they are accustomed to using are done differently in CorelDRAW.

While there has been a distinct effort to support the Mac interface, this pre-release version does not yet show how much of new MacOS technology will be supported. AppleGuide, and AppleScript do work in the version I am using, but interapplication Drag and Drop doesn't, nor does QuickDraw GX.

There is considerable variety among the six applications in how they support the Mac OS. WordPerfect is a flagship for modern MacOS technology. Oasis (I mean Corel ARTISAN) is basically a Mac program. Yet, the overall effect of the suite of applications on this CD is nothing like, say, Microsoft Office. It is much more like someone's hard disk full of assorted software.

Layers of the Onion

Getting to know CorelDRAW, one will quickly find the layers of the onion effect in which the standard tool palette is familiar enough to start working immediately, but one quickly finds more layers of sophistication. For instance, one will soon notice that eight of the eleven tools on the default palette have black triangles, albeit non-standard Mac (Figure 1). These "fly outs," offer additional choices for each tool.

The menus are chock full of choices to customize the screen and add tool palettes, which can be grouped and collapsed. The user is expected to have several tools and effects control palettes open at a time. These can be condensed as "rollups," and grouped for easy moving. This effect must be enabled through the WindowShade control panel. One can even add and delete buttons and controls from palettes and dialog boxes and re-assign Command keys.

For instance, the Color Palettes choice offers nine large color palettes to choose from, including Pantone. In addition to the many standard color palettes offered, CorelDRAW has Kodak Precision color to assure accurate color printing. In the elegant color picker (Figure 2), notice when RGB colors are selected—the example window at top shows not only a color swatch, but also a reference color, and a swatch of the closest your printer is likely to come to what you have selected.

It is easy to get lost in the myriad of choices available, and even easier to remain blissfully ignorant of other abilities. Few will ever master this application. An example of the power of tools is the knife, letting you cut out a shape from a polygon or break a bezier curve into pieces. The only documentation available with this prerelease version was an electronic version of the manual with an Envoy reader and Apple Guide.

Paper sizes can be as immense as several square feet (18,000 inches each direction), yet control of objects is measured in microns (up to 254,000 dpi). Actually, most spin controls such as those setting leading or kerning, are sensitive to three or four decimal places.

The myriad controls are both the charm and challenge of CorelDRAW. Some will find themselves examining dialog after dialog of choices with wide ranging controls. Still, such a basic thing to Mac graphics as resizing, was awkward for me at first, as Corel did it in its own way.

Another example is the hand tool. It is hidden in the flyout for the zoom tool. In other graphics packages, I can use this tool to move, for example, a zoomed out view of a page around on the screen in live time. When I try this in CorelDRAW, the page doesn't move but the hand does, drawing a line behind it. As long as I keep the mouse button down, the line changes in length and angle in relation to where it started, but the page doesn't move. Releasing it, the page jumps to the new location. This method works, but I found it much less effective in putting the page where I wanted it.

Deneba's Canvas is the natural competitor for CorelDRAW. These are the heavyweights for those likely to spend dozens of hours or even hundreds on a single file. While they are both basically Draw programs, both take the vegematic approach with exhaustive tools and tricks with some paint and bezier curve abilities included. They both have heavy duty text handling abilities as well.

Text Handling

Text abilities in CorelDRAW are unusually good for a graphics program, but that shouldn't be surprising for a company that now owns WordPerfect and Ventura Publisher. When first choosing the text tool, one can choose artistic (display) text or large blocks of text, each offering separate controls.

The disappointment is that the controls are distinctly unMac-like (Figure 3). Trying to edit text, I found I was clumsier than I could remember in any Mac application. Selected text could be edited in a separate dialog box. I could delete and retype, change the font and size, but I could not cut, copy, paste, or drag and drop in the Edit Text dialog.

Having to relearn how to handle basic text editing and formatting chores for this program is disappointing when Mac programs from SimpleText to PageMaker handle such chores in very much the same way. Text can be bound to a curve, and both kerning and leading can be changed. Though they were not active in the pre-release version, CorelDRAW includes menus for a spelling checker, thesaurus, grammar checker, and a "Type It for Me" tool.

I can think of few, if any, applications that offer to Open and Save in as many different files types as CorelDRAW. As

DeBabelizer

by Herb Dang

I have been given various files from a multitude of platforms. As a result I have used various translating programs. I have used the “Claris graphics translators” and CADmover to translate “Autocad” and “Intergraph” format files. Datavis translators (as part of MacLink) translates data files from DOS and Windows word processors, spreadsheets, and databases. Now I am using a graphics translation program which should be added to any multimedia/graphics artists’ computer. So if you work in a world of graphics files from PCs, SIGs (Silicon Graphics) and Suns, a very helpful program is DeBabelizer. DeBabelizer is a batch cross platform graphic file translator with palette manipulation abilities, and scriptability.

The big difference in DeBabelizer from the built-in translators in Photoshop or some other drawing program is that DeBabelizer is scriptable. It is both internally scriptable and via Applescript, it supports the basic Apple event commands.

Most of the time I get groups of files I have to process together that are similar file types. There is a Watch Me script builder whereby I can process one file and then use the Batch processing capability to process the rest of the files in the same way. The creation of catalog sheets of graphics is great. I was able to print a catalog of the files I got. I was able to optimize the print out to B&W and color printers. The great thing was I could just set up the files I got in one folder and process them via a script and have them converted to PICT and thumbnail catalogs made without lots of effort.

One limitation is the program only translates raster graphics. It will also alter object-PICT files but it will not translate other object graphics formats. The programmer has tried to make the program accessible to people as a simple translator. It has an Advanced and Simple Mode (Simple Mode only does translation not manipulation of graphics files).

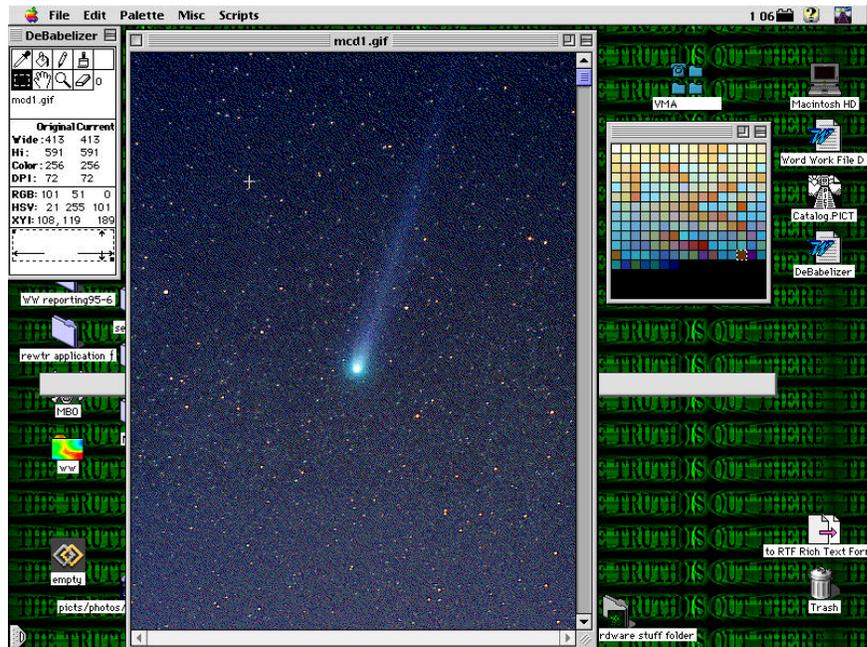


Figure 1.

DeBabelizer can scale down, compress, make thumbnails, and create custom icons. It can run Photoshop plug-ins, but can't use the ones that use PS internals or operate on vector objects as it will most others. So if you want to automate the use of filters on a series of graphics, DeBabelizer can do it.

DeBabelizer at Work

So here is how I usually start with a group of files I receive. First, I open one file and look at it on the screen. DeBabelizer opens a window displaying the graphic along with a tools palette and a color palette from the picture (Figure 1).

From here I can adjust the palette if need to make the palette more Macintosh like. Mac palettes have white as the first element and black as the last. The palette manipulations can be extensive in this program (Figure 2).

Now I can crop, adjust the number of colors (bit depth), and a host of other operations. Next I take the graphic and save it as a PICT. If I have any pro-

cessing on the graphic to do I turn on Watch Me and do the processing. After the processing I turn off the recording and edit the script. I then set up that script to process the rest of the files and use the Batch command to print a catalog of the files. Now I have a catalog of the files and all the files have been converted (Figure 3).

The biggest strength of DeBabelizer is the use of scripts and batch operations. The Macromind users group has several tutorials for DeBabelizer to produce director backgrounds. It is very easy to produce a QuickTime movie from a series of still PICTs by using a batch script and numbering the PICTs in the order you wish them to appear. Save the QT movie and you have a simple movie (see appendix B in the product manual).

It is possible that file size of a GIF could be changed by reducing the number of colors or bit depth. This allows a webmaster to speed up the loading of a page without greatly reducing the quality of the page. With DeBabelizer you can

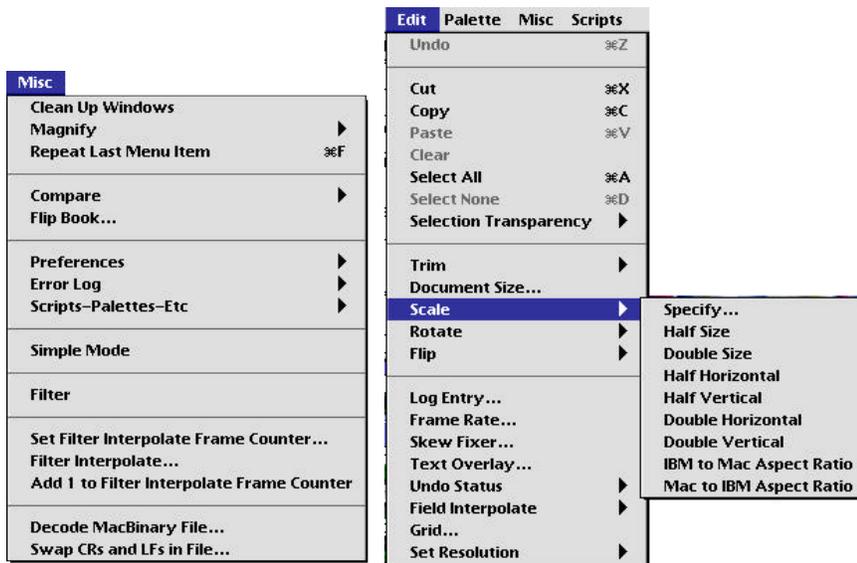


Figure 2.

batch process the GIFs and then tune the individual files for a better appearance.

DeBabelizer converts (reads all and writes most; I did not try out all of them):

Macintosh:

Alias PIX, Clipboard, Electric Image, EPSF, MacPaint, Photoshop, PICS, PICT1, PICT2, PixelPaint, QuickTime movies, QuickTime stills, RIFF, Scrapbook, Startup Screens, System 7 Picture Icons, System 7 Picture Previews, Targa, TIFF, TIFF Group 4 Fax, and Thunderscan.

DOS/Windows:

BMP, DPaint ANM, Dr. Halo CUT, ERSF, FLI, FLC IFF/ LBM & PBM, IMG, Lotus PIC, MSP Type 1, PCP, PCX/PCC, Pictor, TGA, TIFF, and WPG

General:

Abekas, BOB, GIF, Kodak PhotoCD, JPEG, OMF interchange, Pixar, Raw Custom, RLE, and QDV

Apple II & GS:

Paintworks, limited and full color HiRes, SuperHiRes, Double HiRes, Packed HiRes, Packed Double HiRes (these are old apple II formats still in use)

Atari ST:

Degas, NEO, and Spectrum

Commodore 64/Amiga:

C64, IFF/LBM, HAM, and HAM 8

Silicon Graphics:

Image Files, Alias PIX, Softimage PIC, and Wavefront RLA

Sun Microsystems:

Sun Raster

X Windows:

XWD, and XBM

There is a great catalog of file extensions (the letters after the file names in other systems) in the back of the product reference guide in Appendix A. The appendix details the formats it reads and writes, the formats it can only read or write; this is a very important reference.

I have not used the manual in the one year of my using the program. When I started writing this review I decided I should look at the manual. The manual was easy to read and has lots of hints and examples. It would have explained (if I had read it) a lot of the functions I had to play with to get to work for me. I also found the examples in the manual very helpful in explaining the action of the program. I recommend anyone using the program to at least scan through the manual. The reference manual is organized around the menus in Debabelizer. If you work with large files in Debabelizer take a look in the product

manual's Appendix C; it has a table that will help size the ram requirements for working with files.

A unique feature is the ability of DeBabelizer to launch a batch/script when drag and drop is used instead of a Launch or Open. Debabelizer will (on my system) convert to PICT and print a catalog page of the files. It is a quick action conversion method for me. 🐘

DeBabelizer 1.6

Minimum System Requirements

Computer: 030 or better Mac with System 6.07 or greater (7.0 for scripting and drag and drop translation)

Memory: 700k minimum but 2600k is recommended—I run with 8 megs or more since big files take more memory—good rule of thumb is (pixel height) x (pixel width) *5 or more, an example a 480 X 640 pixel picture in color would take at least 1.6 megs of memory to open and minipulate.)

Equilibrium

475 Gate Five Road, Suite 225
Sausalito, Ca 94965
Phone (415) 332-4343
\$399 list price but available on street for \$250+.

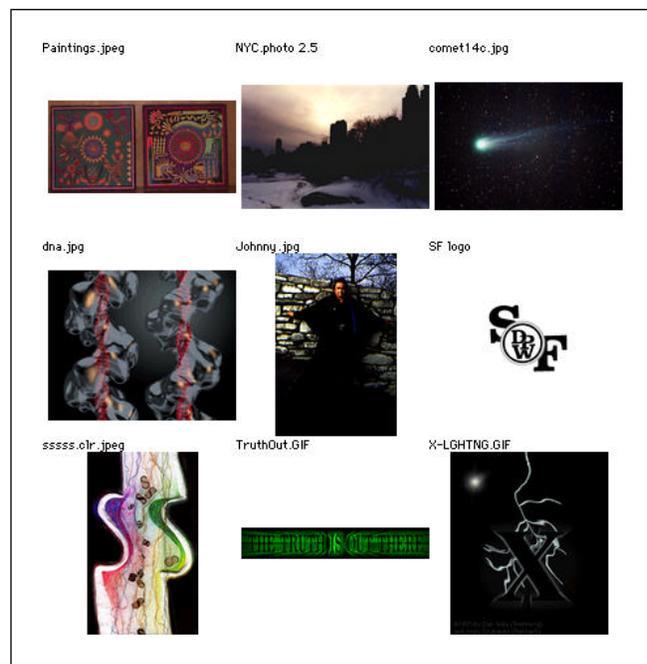


Figure 3.

Painter from Peachpit

Two Books

by Carolyn Hendricks

As I write this review at the end of April 1996, even though Painter 4 has been available since January, these two guides to Painter 3.1, both copyright 1996, are what is available on bookstore shelves.

While I had version 3 of Painter and downloaded the upgrade to 3.1, I never devoted much time to learning to use the program. Since January, I have been attending a class using Painter 4 at City College of San Francisco. Due to the lack of 3rd party books on version 4, we were issued copies of the 4.0 tutorial and could refer to the reference manuals while in class.

The reference manual for Painter 4 is considerably larger than what came with 3, but both it and the tutorial stick to explaining techniques rather than inspiring you with actual art works and explaining how they were created using the software. Inspiration seems to be the domain of third party books.

Since I intend to stick with Painter 3.1 at home until I get a more powerful computer, these two books are just what I need. However, you should know that there are significant changes in the Painter interface from version 3.1 to 4. In fitting in the new features, some menus and palettes were modified. I was trying to do parts of the 4.0 tutorial at home, and while most of the capabilities were there, it required some searching to find them.

I imagine Peachpit has updated versions of these two books in the works.

Painter for Macintosh 3.1

Visual Quickstart Guide

Cheaper and lighter than the other book. Easy to read in the bathtub or tote to work or class. It surely has as much content as the other book since it's printed on thinner paper in black ink. It has sixteen pages of color work. Step-by-step instructions on using the program.

The Painter Wow! Book

Tips, Tricks, and Techniques for Fractal Painter 3.1

Windows instructions, too, for those who need them. Practically all illustrations are in color on heavy stock. How artists achieved a certain effect was detailed so you can learn through imitation. A companion CD contains over 600 megs of supplementary files including over 100 stock photos (235 megs) from different stock houses (use rights granted vary).

Peachpit rated the Visual Quickstart Guide for beginners and intermediates. The Wow! book is unrated, but while not in a step-by-step fashion, it also covers the basics. For the most part, the authors of the two works managed to find different artists to feature. Both books have guides to keyboard shortcuts.

I suppose that if I were shopping for a book on Painter, I would be attracted by the color in the Wow! book and the 600+ megs of stuff on the CD. However, in working with the books for this review, perhaps I have learned more from the Visual Quickstart Guide. 🐼

Painter for Macintosh 3.1 Visual Quickstart Guide

by Elaine Weinmann and
Peter Lourekas
© 1996

Price: US \$19.95, Canada \$27.00

Weight: 14 ounces

Pages: 202

The Painter Wow! Book Tips, Tricks, and Techniques for Fractal Painter 3.1

(comes with CD for Mac and PC)
by Cher Threinen-Pendarvis and
Jim Benson
© 1996

Price: US \$39.95, Canada \$52.00

Weight: 23 ounces

Pages: 211

Peachpit Press

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<http://www.peachpit.com>

Classroom in a Book

Adobe Illustrator

by Lisa Taplin

The pressure's on. I have one month to learn Illustrator for an approaching application deadline for the University of Oregon's Electronic Publishing Program.

While big application manuals tend to be overly simplified or too technical for my taste, I found Adobe's 250-page *Classroom in a Book* the perfect speed, not to mention great training for someone who had absolutely no experience using Illustrator before. To begin with, the book is not actually the program manual, but a large-format, finely designed training manual complete with training and goodies CD-ROM, you must buy separately from the program. At a cover price of \$45, it is well worth every dollar, but still shockingly expensive.

For me, I found the classroom style format (individual lessons, practice work and demonstrative illustrations) down to earth and engaging. When learning a graphics program such as Illustrator, the best way to learn is to *do*, and *The Classroom in a Book* does just that, guiding you through 12 progressively intensive and detailed projects. To top it off, the projects you complete, even your first try at manipulating anchor points or understanding layers, are meaty and *real*. Instead of instructing you to draw random shapes or to play around with each of the tools, each chapter encompasses a real-world graphics project you—as the contract graphics person at the fictitious Navigation's Travel Agency—must design and complete. Within the first 3 hours of opening Illustrator for the first time, I had created a multi-layered color logo and then went on

in subsequent lessons to create business cards, letterhead, and newsletters.

Classroom in a Book incorporates all of the basics to create and design graphic pieces. In Chapter 6 you create an intricate promotional flyer incorporating free-hand and stock shapes and pictures, as well as photographs and text. My favorite lesson was creating a poster, using a map of France and wine bottles to show the wine production of various regions in France. The lesson incorporates filters and charts, so you get to play with the fun stuff while you are learning to manipulate layers and blend objects and colors.

Color separations are also discussed in one of the later chapters, helping you to understand what you are creating on and off the computer screen. I found this well-rounded sense throughout the entire book; you really know what you are doing when creating a piece on your computer, but you also have an understanding of what to do with it afterward, whether it is printing it out, or presenting it to an audience. *Classroom in a Book* also incorporated other Adobe applications into your work, in the last chapter, presenting you with the wealth of options available within the application.

The CD-ROM enclosed with the book is helpful in many ways. It contains all the work files you will use in conjunction with the lessons, as well as a copy of Adobe Acrobat and other goodies such as puzzles to help you practice using Illustrator's tools.

While each individual user's computer knowledge varies, one could get through

this book in two weeks and have a strong grasp of the program. Each chapter has the estimated time suggested to work through that lesson, most being 2 hours.

It took me about a week to get through all 12 of the lessons and have been playing and practicing with the program ever since. The interactive lessons in the book show you how easy it is to create professional quality designs and documents that you feel confident in your knowledge and understanding of the program by the end. I feel as if I gained the same expertise as I would have had I taken a costly Adobe Illustrator class.

All in all, the only downside to *Classroom in a Book* is its price. You would think that a training program like this would come standard with the application! But if you take into consideration the cost of an instructive Illustrator class, the price is superb. With unintimidating, engaging and productive lessons as well as great format, this book is well worth its list price. 🐉

Classroom in a Book ***Adobe Illustrator***

Adobe Press
(800) 428-5331
Price: \$45

Lisa Taplin is a former BMUG employee and Assistant Editor at Manic D Press. She currently lives in Oregon working with a writer and publisher and will hopefully be attending the U of O's Electronic Publishing program in September. You can reach Lisa at ltaplin@ccnet.com.

Resources for PageMaker 6

by David J. Ourisman

Why purchase a book on using PageMaker? Adobe provides an attractive, 445-page manual that comes bundled with the software. Many users may find this documentation all they will ever need. Others may find it lacking. A user completely new to desktop publishing may desire a book for beginners, a book that assumes little if any prior knowledge. An intermediate user will want accessible descriptions of common but non-intuitive tasks. An experienced user may desire a book that is more comprehensive, that discusses the program's features in greater detail than does the manual.

Admittedly, still others may have a pirated copy of PageMaker on their computer and thus not have the printed documentation. A simple point should be made about the use of pirated software: It is illegal. A third-party book about PageMaker may serve as a substitute for the manual. This review, however, will not discuss the suitability of these works for this purpose.

David Browne's *PageMaker for Macintosh: Visual Quickstart Guide* was written with beginning and intermediate users in mind. It is a brief, accessible book that assumes that the reader knows next to nothing. The first chapter begins with one page of instructions on how to find the PageMaker folder in the Finder, how to open the folder, and how to launch PageMaker. Each of these three steps is illustrated.

Sharyn Venit's *Mastering PageMaker 6 for the Mac*, on the other hand, is a massive book that states it is intended for all levels of users. Part One begins with a discussion of the history of desktop publishing, moves to a rather general but technical description of the capabilities of PageMaker, discusses plug-ins, enhancements provided by version 6.0, and even talks about the production process for the preparation of a publication. Venit provides her description of how to launch

the program in the second chapter—a discussion that covers four pages of text! She includes instructions on (1) how to launch from the desktop, (2) how to put an alias of PageMaker in the Apple menu and start the program from this menu, and (3) how to have PageMaker launch automatically by placing an alias in the Startup folder. Thus, although *Mastering PageMaker 6* is four times as thick as *PageMaker for Macintosh*, this does not mean that it has four times the useful material. The new user with Browne's book has launched the program by the end of the second page, while the user working through Venit's text has waded through 35 pages of text. Venit provides the beginner with more information than he or she needs; she provides the expert user with superfluous information.

One criterion for evaluating these works is how well they help users accomplish ordinary tasks that are not intuitive with PageMaker. Does the book provide an index that takes a user quickly to the section of text that addresses a particular concern? How well does the book explain the steps involved in accomplishing that task, once the appropriate section of text is located? Are those steps illustrated graphically? I will evaluate each book's treatment of the steps involved in wrapping text around an irregularly shaped graphic.

Browne's book barely addresses the subject of text wrap. His discussion of the Element menu simply states that "you will control how text wraps around graphics with the Element menu" (page 6). There is no explanation of text wrap beyond this one statement. Text wrap is not found in the book's index, and I was unable to find any discussion of this subject in the book.

Venit's book has five entries under *text wrap* and two additional entries under the topic *Text Wrap dialog box*. The bold typeface next to *text wrap... around graphics* draws the reader's attention to

pages 428–438. The book provides a detailed discussion of options—jumping text over a graphic or around the sides of a graphic (pages 428–430). It then discusses how to reshape the graphic's boundary (pages 431–432). Venit provides screen dumps that illustrate the techniques she is describing.

Adobe's PageMaker manual, by the way, provides a very concise description of this process (page 178). Although the manual's description is written more clearly than Venit's, it lacks an illustration of the steps it describes. (Another criticism of the manual for Macintosh users is that it provides screen dumps of dialog boxes from the Windows version of PageMaker.)

The verdict? I found both of these books wanting. While Browne's text for beginners is an attractive and accessible book, it lacked any information whatsoever on the topic about which I inquired. I found Venit's book to be verbose and tedious in its amount of detail. Its sheer mass may be a marketing tool that suggests to the potential purchaser that the book contains an abundance of useful information. In reality, I was unable to find any content in the book that was not also available in the manual. ❏

PageMaker 6 for Macintosh: Visual Quickstart Guide

by David Browne
Peachpit Press, 1996
Berkeley, CA
220 pages
Price: \$16.95

Mastering PageMaker 6 for the Mac

by Sharyn Venit
Sybex, 1996
San Francisco, CA
852 pages
Price: \$34.99

David J. Ourisman is a Ph.D. candidate at the Graduate Theological Union in Berkeley, California and a BMUG member since 1985.

Bug Smashing

A Review of Main Event's Scriptor

by Derrick Schneider

As soon as anyone gets moderately advanced with AppleScript, they immediately become frustrated editing with Script Editor. The program, sadly enough, lives up to its name and is perfectly adequate for editing scripts. However, it's not much help when it comes to debugging scripts. You can't easily watch what variables are doing in the middle of a script, you can't step through each line of the script to see what's happening when, and there's not even a Find and Replace command!

In all defense of Apple, I know that the AppleScript team had a much richer environment for developing AppleScript scripts in the wings, but product deadlines reared their ugly head, and so Blobbo (as it was named) never shipped. Apple decided, I suppose, that this was an excellent third party opportunity.

Indeed it was, and Main Event took advantage of that opportunity with Scriptor-

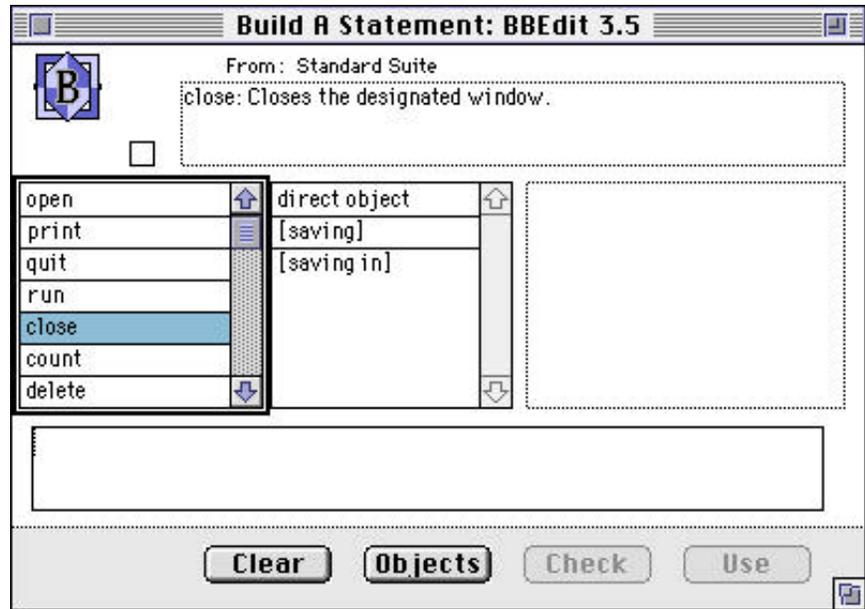


Figure 1. The Builder windows in Scriptor make the process of figuring out how to construct correct commands for an application much easier.

Drag an application from the Application Bar into the script window, and Scriptor types "tell application blah" and "end tell" into the script.

er. It offers a full array of tools, gadgets, and commands that are sure to make your scripting life much happier, particularly if you use Script Editor.

Erector Sets

Scripter has two broad areas of functionality: on the one hand, it makes it easier to write scripts; on the other, it makes it easier to debug the scripts you've written. These are two very different parts of the process of creating a script, but Scriptor integrates the two seamlessly, so that writing a script and debugging it becomes a continuous process, saving you time and effort.

One of the little ways in which Scriptor helps you write scripts is to cut down on some of the annoying typing that one has to do. Drag an application from the Application Bar into the script window,

and Scriptor types "tell application blah" and "end tell" into the script. Click on a button, and all the selected lines get comment marks put in front of them. Another button fills in the "try...on error...end try" text you would otherwise have to type if your script is doing error handling. Another button lets you quickly construct a list of values that gets typed in for you. Drag and drop is fully supported, so you can drag text from within the script, other script windows, or other applications. All of these little features (plus the many more I haven't mentioned) save you substantial amounts of typing time.

Although spending less time on the keyboard is always nice (says a computer programmer!), this is hardly the most time-consuming aspect of writing scripts. I spend most of my time opening appli-

cation dictionaries and trying to figure out the syntax of various commands and objects that a particular application understands. Scripter makes this whole process faster and easier with the Builder window (Figure 1).

The Builder window lists all the commands which a particular application supports. If you want to see what a command does, click once on it, and Scripter will provide you with additional information about the parameters that the command uses, as well as a brief description (written by the programmer) of what the command is used for. Click once on a parameter, and you get a description of what the parameter is for.

Clicking twice on a command puts it into the Build area in the lower half of the window. Clicking twice on one of the parameters automatically inserts that parameter onto the same line, in the appropriate place, and tells you what general type of information the parameter expects (number, string, etc.). You can keep doing this until you're done building the command. Click the "Use" button, and the command you just built will be inserted into the script window. In short, the Builder gives you a point-and-click way of building syntactically correct AppleScript commands in a very short period of time. Of course, if you don't want to use it, you can get to an ordinary dictionary window, though even this is improved from Script Editor's design.

As you're building commands, you'll find that there's also an easy way to build object specifiers that an application will be able to use. Through the same basic Builder interface, you can navigate your way through the application's object and property hierarchy and build an object specifier simply by pointing and clicking. If you've ever spent time trying to figure out which objects in an application are contained by which other objects, and what the properties of any of those objects are, you'll appreciate how time-saving the object Builder can be. The object Builder is accessible from the command Builder, too, which makes it handy to fill in object specifiers in those commands which use them like "get" and "set", for instance.

Scripter also includes a Builder for the scripting additions which you have

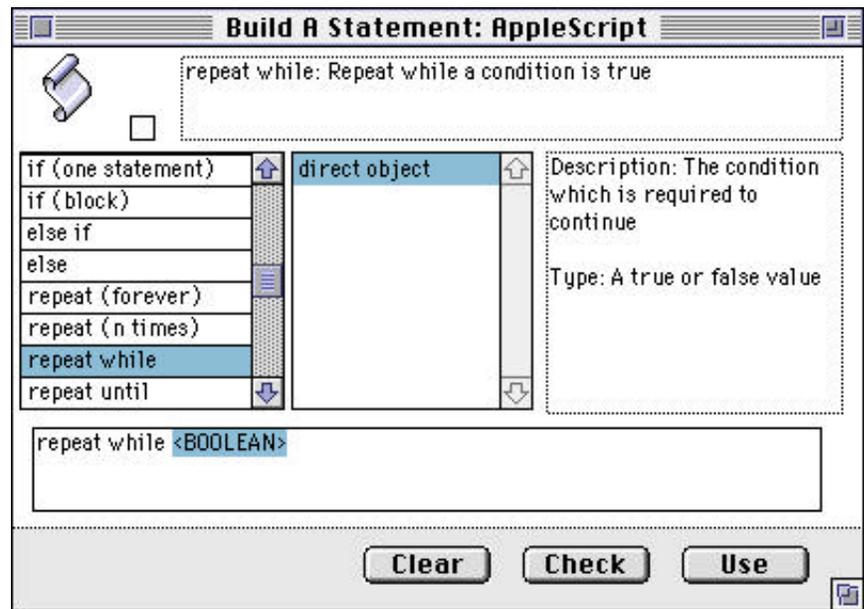


Figure 2. The Commands Builder gives you a point-and-click interface to the AppleScript language itself.

installed. This allows you to look at all the commands in your various scripting additions in one list, rather than opening the dictionary of each and every scripting addition as you try and hunt down a particular command. This Builder has an unexpected side effect: if you've got a particular command defined by more than one scripting addition, you can quickly see this by listing the defined commands in alphabetical order. The duplicates will show up, and you can figure out which scripting addition contains which command. This once saved me several frustrating hours, as I realized that

the reason my command wasn't compiling properly was that AppleScript was getting the command from a different scripting addition. Looking at the names in Scripter helped me realize this, and I removed the scripting addition I didn't want.

Finally, another Builder provides the same easy access to the AppleScript language itself. Can't remember the syntax for a "repeat while" loop? Look it up in the Builder, use the mouse to build the statement in the Build area, and click the "Use" button (Figure 2). The command will be entered into your script, with the syntax already correct. This is very handy for figuring out those AppleScript constructs which you only use infrequently, and saves you from having to thumb through a book.

Another handy feature you can use while you're working on your scripts is the Markers menu. A simple click gives you a marker in your script, which consists of a comment that starts with ">>" and ends with "<<". Fill in some text between these two symbols, and the Markers menu at the top of the script window will include that text. Now, wherever you are in a script, you can get to that marker by choosing it from a menu. This means that you can label portions of your script (this is most useful for long scripts), and quickly move back and forth between them (and the markers are just comments,

*Builder gives you a
point-and-click way
of building
syntactically correct
AppleScript
commands in a very
short period of time.*

which means they can be viewed by any script editor.)

All of these features combine to make building scripts go quickly and smoothly. You'll find that as you get comfortable with the tools Scripter provides, you'll be writing your scripts in substantially less time than when you used Script Editor.

*Scripter provides . . .
the ability to "step,"
line-by-line,
through the script.
With this function,
you can see precisely
what's happening as
you execute each
line of your script.
You'll be able to see
your script go into
"if" statements,
repeat loops, and
even subroutines,
allowing you to
fairly quickly figure
out where
something is
breaking.*

Black Flag

Although it's handy to be able to write scripts faster, another important step is debugging those scripts. With Script Editor, you can spend hours trying to figure out where a bug is happening because, for the most part, the script is opaque. You can't see what's going on with it. Do the variables have the value you expect when they get to a point in the script? Are those if statements being executed properly? How many times is that repeat loop repeating?

Scripter provides a large suite of tools you'll find extremely useful when debugging your scripts. One of the most essential is the ability to "step," line-by-line, through the script. With this function, you can see precisely what's happening as you execute each line of your script. You'll be able to see your script go into "if" statements, repeat loops, and even subroutines, allowing you to fairly quickly figure out where something is breaking. As you step through each line, the result of that command is displayed for you. Hallelujah! Script Editor only shows you the last result which was generated by any command in the entire script, and even this improvement is a boon.

Of course, simply being able to see your script in slow motion and the result of your commands isn't all you need. Scripter provides the ability to keep track of the values of variables being used in the script through the Observe window (Figure 3). You set up the variables you want to watch, and their values are displayed in the window as they change.

This is cool, but it gets better. Anything that AppleScript can evaluate to some result can be put into the Observe window. If you want to watch the value of "x + 3," rather than x alone, you can. If you want to keep track of the last item in a list named myList, set the Observe window to watch "the last item of myList." You're not even limited to variables being used in the script. If you want to set up an expression that shows you how many files are on your startup disk, you can (maybe your script generates a file and you want to see when it's created, for instance).

To further aid you in debugging your script, you can actually use the Observe window to change the values of the variables *as your script is executing!* This means

that if you finally find a bug which shows you that when your script is expecting x to be 100 it's really 10, you can simply change the value of x from 10 to 100 and see how the script runs. Just don't forget to go and fix that bug when the script is done!

But, wait! There's more! If you've got a really long script, you may not want to step through every line of script simply to watch a variable change values after 50 lines. Scripter fixes this by letting you watch a variable for changes. You let Scripter know that you want to step through the script only when the value of a variable changes, and then you let it run. When the variable changes, the script will stop, and drop you into the middle of it, ready to step through each line.

The Observe window also lets you save the list of expressions you have listed, and then load that list back in. This is useful in a lot of ways. The most obvious is that if you always want to watch the same expressions when you're debugging a script, this saves you the effort of re-typing them all when you restart Scripter. A more subtle use is that if your script does a variety of different tasks, you can set up sets of expressions that pertain to each particular task. If you're moving FileMaker data into a PageMaker document, for instance, you might have a section which gets the data from FileMaker, and another section which puts the data into PageMaker. When you're debugging the section dealing with FileMaker, you don't necessarily want to see all the expressions you use in the PageMaker portion of the script. With Scripter, create a set of expressions for each portion, and load them as you work on the relevant section.

These are the kinds of features you would find in most high-end development tools for "real" programmers (in my mind, if you script, you program). Because AppleScript is an interpreted language, Scripter is able to go beyond these "basics."

Make It So!

Scripter's Instant window gives you a tremendous ability: the ability to execute other AppleScript scripts while you're stepping through a script. Not only that, these scripts are tied to the main scripting window, so you can actually change something about the script while it's running!

Why is this handy? Well, let's say you want to change the value in a variable, but you want to change it to something complex. For instance, the value in x is 3, but you want to change it to:

$$(y^2) * (z + q)$$

or something else complicated. You don't want to use the Observe window, since you'll need to look up all the values in all these variables and do the math yourself. Instead, you open the Instant window and type:

$$\text{set } x \text{ to } (y^2) * (z + q)$$

and run the script. The variable x from the script you're stepping through will change to the appropriate result. Of course, because this is AppleScript, the script can use data from other applications if it needs to. Alternately, you could run a subroutine in the script from the Instant window, perhaps to test it out with the current values, or simply to see how it's going to run. And finally, you could use the Instant window to change properties within a script, though you can also do this from the Observe window.

Often when I'm writing a script in Script Editor, I test commands or small subroutines by creating a new script window and using that as a "scratchpad." You can do this in Scriptor, but it also provides a handy Command window which you can use either while you're stepping through the script or when you're writing it.

Another useful window that I use a lot (in fact, I requested it as a feature) is the Collection window. This is a window you can use to store a library of scripts. I have lots of scripts which do specific little things, and when I want to use those functions somewhere else or copy some code out of one of them, I can open the Collection window and open the script with a simple double-click. This saves me the trouble of navigating my way through my organization scheme (which I can never remember) to find a script I'm looking for.

All Is Not Perfect

Scripter has lots of great features, which I've only briefly covered here, but it does have some problems as well. Its

biggest problem is speed, or lack thereof. Compiles take a substantially longer time than they do in Script Editor, and a moderately longer period of time than they do with Script Debugger, a competing product from Late Night Software. What I usually do is write the basic parts of the script in Script Editor, and then bring it into Scriptor to add details and debug. Of course, I'm a fast typist and I know AppleScript well, so the tools Scriptor adds to the process of actually writing a script don't usually buy me a lot. You may find that Scriptor is the place to start to quickly get the script running, and then Script Editor can be used to tweak the script.

Another problem is that the interface, while good, doesn't always do what I'd expect, so the program occasionally causes me frustration. I should say, however, that the good points of the interface far outweigh the bad. Like all things, though, I don't notice when it works the way I expect, only when it doesn't.

All in all, if you're doing anything more than very simple scripts, you should take a serious look at Scriptor. You'll find that it will make the process of getting a script from start to finish go far more quickly than would otherwise be possible with Script Editor alone. 🐉

Scripter 1.0.1

Main Event
 308 Hillwood Ave., Ste 120,
 Falls Church VA 22046
 (800) 616-8320;
 Web site, [http://www.mainevent.com/mainevent/\\$200](http://www.mainevent.com/mainevent/$200)

Editor's note: Scripter 2.0 is scheduled for release at MacWorld-Boston, 1996

If you're interested in learning more about AppleScript, I suggest you look at BMUG's excellent book on the subject, *The Tao of AppleScript*. It's a good book for non-programmers, and will get you up to speed with AppleScript in a reasonably short period of time. I could go on for days about how great it is, but being the author, I'm a bit biased.

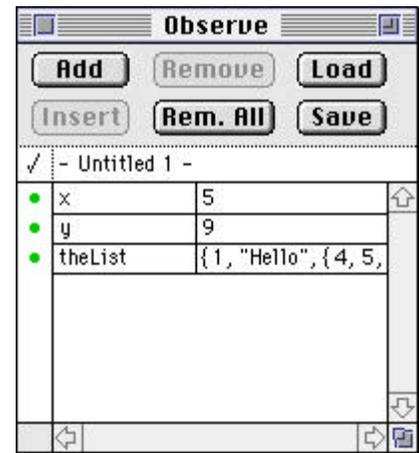


Figure 3. The Observe window lets you watch the values of any of the variables in your script.

FutureBASIC II

The New, The Old, The Good, and The Bad

by Alan Weiss

Summary

FutureBASIC II (FB II) now includes the Program Generator (PG) and an improved debugger. It is a very worthwhile upgrade, especially if you don't already own the Program Generator. It is a very good language/development environment for hobbyists. Online and telephone help are free and responsive. There remain three longstanding issues with the compiler, though, that probably make it unsuitable for professional developers: still no (native) PowerPC support, poor SANE support, and (by its nature) FutureBASIC II is not cross-platform.

Outline of the review:

0. Who Am I to Write a Review?
1. What is FB II?
2. What is PG?
3. What's New?
4. What's Old?
5. What's Good?
6. What's Bad?
7. Conclusion.

0. Who Am I to Write a Review?

It is a daunting task to try to review a development system, especially since I am not a professional developer. The only reason I am at all qualified to do it is that I believe that I am a typical FB (FutureBASIC in general) user: a hobbyist. I have been programming with FutureBASIC for several years. I found it to be a simple way to get real, compiled programs up and running on the Mac. While I mostly use it for writing scientific programs related to my work, I did write and release one game, *Quarto!*, a few months ago on info-mac. This is not to say that com-

mercial quality applications can't be created in FB, because they can and have been. But FB is, in my opinion, primarily a hobbyist's environment.

1. What is FB II?

FutureBASIC II is the BASIC language compiler/development environment, originally published by Zedcor, now published by Staz Software. Andy Garipey, the original and current author of FutureBASIC, left Zedcor for Staz, so the program is in good hands. FB is a structured dialect of BASIC, with local variables in subroutines, Select/Case, Do/Until, While/Wend and other structures. It is strictly a compiler, with all the advantages and the few disadvantages of such systems. It will also run most vanilla BASIC programs unmodified. It includes such niceties as an inline assembler—so you can tweak your code for speed once it's up and running, if you know some assembly language—and a source-level debugger.

FB has a very nice place in the arsenal of Mac programmers. Like HyperCard, it is fairly easy to use to start making your own Mac applications, especially if you've done a little programming before. Like C or Pascal, it is a complete development language, capable of accessing the entire Mac toolbox, and of making high-performance applications, INITs, XCMDs, and other code resources. The FB II/PG combination makes it delightfully easy to develop the interface for your program, while you don't give up performance or flexibility as you would in HyperCard.

The FB II package contains a development environment (I'll describe that shortly), the Program Generator (described in the next section), a few utilities such as ResEdit and MacsBug, tuto-

rials, sample code, and unlimited free help. It comes on 6 800K floppies (a thoughtful gesture to those of us with older machines), requires System 6.07 or later, will run on a 1 meg machine (though it prefers at least 4 megs), and only requires 4 megs on your hard disk, though you will probably be happier with more room for sample code, tutorials, and your own projects. My FB folder is 25 megs, including 17 megs of my own projects and notes.

FB is a fairly mature language. There is a wealth of sample code, for doing everything from basic tasks such as incrementing an integer quickly, to complex tasks such as writing a SimpleText clone (including QuickTime movie player and speech manager routines). Support is good, too. There is an unofficial FB WWW site: <http://www.ids.net/~paumic/FutureBasic/index.html>, an active support area on America Online (AOL) (keyword Ariel, and one of the main reasons I have an AOL account), good telephone support (all you pay is the toll call; there are no extra charges once you buy the program), an active mail list (listserv@geko.net.au, *subscribe futurebasic*), and email support, too (STAZology@aol.com).

FB II comes with 5 manuals. Three are rather substantial: the Handbook, Reference Manual, and PG manual. Two are slim manuals, one aimed at complete beginners to programming, the other at relative novices who know some variant of BASIC. All but the Program Generator manual are updated editions of Zedcor's manuals, which I think are first rate.

2. What is PG?

The Program Generator (PG) is a companion program that enables you to get your program's interface and struc-

ture established very quickly and easily. PG enables you to draw windows and controls and menus, and then it generates resources and FB subroutines that handle these interface items. For example, you can create a window of “Text Editor” type, and standard File/Edit/Font/Size/Style menus, and then PG generates *all* the code necessary for a user to type in this window exactly in the Mac standard fashion. If you want to modify something, feel free: the source code is there for you to examine. All this power comes at a price, though. It takes some time to understand PG, and PG also adds to the size of your finished application. What you get is tested interface code in very short order.

In order to test PG, I decided to try to write a SimpleText clone. It was amazingly easy to get started, even without reading the manual. I simply made a “Text Editing” window, got a set of default menus to handle them, and I was halfway there! After I opened the manual, I saw that one of the tutorials is a “File Viewer” project that displays and prints TEXT and PICT files, which is 90% of what I wanted to do. It’s amazing that you can get one of these things up and running in half an hour (not polished, but up and running and not crashing).

3. What’s New?

The Program Generator, a visual programming tool, now up to version 4, is included with FutureBASIC II. I personally did not have PG before, so I can’t compare this version to the previous one. PG used to sell for over \$150 separately.

FB II also has a completely new debugger, which is being touted as one of the best new features of the program. The debugger lets you step through your program, examine and change local and global variables, and has conditional and unconditional breakpoints. The debugger has been so completely changed that it isn’t really comparable to the old one. It can now be used with precompiled routines (ie Include files). Instead of inflexible “panes,” the debugger has a set of floating windoids. Its only obvious deficiency over the previous one is that it is quite awkward to examine arrays now—you can’t simply look at `x(5)` to see its value, you instead have to look at raw memory contents.

You can create a window of “Text Editor” type, and standard File/Edit/Font/Size/Style menus, and then PG [Program Generator] generates all the code necessary for a user to type in this window exactly in the Mac standard fashion

There’s a utility function for converting MPW Pascal headers into FB II Include files, so if you have a developer CD from Apple, you can add any new Toolbox routines yourself. (I don’t have such a CD, so I couldn’t test this function, but it seems simple enough that it ought to work.)

There is a “project manager” window that shows the names of the labels and functions in your project, and can be used for quick navigation. The whole system has a reasonably polished feel.

Some minor bugs and deficiencies have been reported: Staz screen, aliases on Desktop moved when the debugger was active (but returned on Restart), the WindowClipper utility was inadvertently left off the distribution disks, etc. However, Staz has already issued an updater that corrects some of these problems. I believe that this is more in the nature of good news than bad: it is almost impos-

sible to ship a bug-free product, but it isn’t often that a company is so responsive that it ships an updater within a month. As of this writing, both PG and FB II are up to version xx.07.

4. What’s Old?

FB II will run your FB code unmodified, provided you saved it as text files. The only exceptions to this are that debugger statements (Tron) now act differently, and some Sound statements (particularly those related to the Wave statement) no longer work. The Reference manual, which describes all the built-in functions, is almost exactly the same as the FB I version. I compiled a number of applications with FB II, and saw no difference in the output or the compile speed. While FB II is *not* Power Mac native, the author claims that it compiles much faster on a PowerMac than FB did. I couldn’t check this, since I only have an 68040 machine.

Math is still done in a flexible BCD format. You can choose to have almost any number of decimal digits in floating point. This is very good for some scientific applications. However, it is very bad for many applications, because it is still almost impossible to access an FPU. This means that floating point calculations are always slow using FB II, but accuracy is whatever you like (with a tradeoff of speed and accuracy).

The FB II development environment includes a smart integrated editor (it indents structures such as For/Next loops, highlights keywords, color-codes comments, etc.). The editor has not been substantially changed from FB1.03, except that it now color-codes comments, re-centers its view to wherever you are typing, and will search/replace within Include files. It still has some quirks with extending selections.

5. What’s Good?

The online help in FB has always been, and continues to be, a strength. The entire reference manual is available online, and it’s searchable. Also, it contains code snippets that you can copy and paste into your program. The help window is resizable, although this may cause some of the formatting to be peculiar.

PG is included. The combination of FB II and PG is almost certainly the fast-

est way to get a small application up and running with a good interface and without having to write a lot of event handlers. I had not used PG before, and I'm impressed.

Edit fields now default to TEPIn-Scroll instead of TEScroll. This was a minor interface problem for years, and I'm glad they fixed it (it means that edit fields now stop scrolling when there's no more to show, as in most other applications). A few other long-standing bugs have also been fixed, such as an obscure bug with square roots of certain 12-digit numbers.

6. What's Bad?

The worst aspect of FB II is what didn't change: there is still no good SANE support, it is still not PowerMac native, and it is not cross-platform. The SANE weakness means that it is very difficult to write FB programs that access a floating point coprocessor. Therefore floating point math is slow, so that certain games and scientific calculations and 3-D applications are hard to program efficiently. The second two weaknesses mean that commercial developers will probably not want to use FB II. This should be less of an issue to hobbyists, since our programs are only written in our spare time to run on our own Macs, and the FB II/PG combination is so good at saving time (and bugs) that it probably overcomes all other objections. I don't know if FB II will ever become PowerMac native, though there are persistent rumors that such a version is in the works. If it doesn't, then I expect the language will dwindle away. The lack of cross-platform compiling doesn't bother me in the slightest, but if I were a professional developer it might. (It doesn't seem to bother Visual BASIC developers on the Wintel side.)

I also have some "whiney" complaints. PG does an incredible amount, including some things that I would have thought would be almost impossible to do. Yet there are some things that are obviously missing and easy to do. PG sets up menus very easily, and even handles most common ones completely automatically, such as the entire Edit menu (including Undo!). It automatically makes

named constants so that you can refer to each menu item easily. What's it doesn't do is put the names of these constants where you would like them in your source file, such as the following pseudo-code:

```
CASE _menuItemAction
    SELECT menuItemName
        CASE _menuItemone
        CASE _menuItemtwo
        etc.
```

You have to type or copy the constants (_menuItemone, _menuItemtwo) by yourself.

The Program Generator manual is not quite as good as the rest. Many topics are addressed inadequately, if at all. For example, windows are referred to quite differently when using PG than when using FB; with the former, you refer to windows by class number, whereas with the latter, each window has a separate identifying number. How is one supposed to make sense of this? After a good deal of thought, I decided that PG's method is probably superior, since the action your program takes is almost certainly dependent on window class, not ID number. But how is one to refer to a specific window when two or more share the same class? (Of course there are ways.) The PG manual is silent on this entire subject. Furthermore, there are many functions that are inadequately documented in the manual. In the FB and FB II Reference manuals, each function has a code snippet showing exactly how it is used. The user is left to dig for himself with PG. There is a plethora of sample code, so I am reasonably certain that I will be able to dig out the answers to my questions. But the manual is definitely not up to the standards set by the rest of the package, even if the programming environment is.

PG has a much weaker online help system than FB II. It is not really searchable...there is an outline of topics displayed, and clicking on a topic brings up more information in another pane in the help window. Also, it doesn't work quite right—several topics did not display fully or properly.

I had some pretty severe crashes with FB II, and while they were not the results of bugs within FB II, they were worse than I ever had with FB. One was the result of setting some debugger preferences without knowing what I was doing. One was from running a PG project without doing some obvious steps. Nevertheless, my system got temporarily fried. I think the new power of FB II (especially its debugger) comes at a price for ignoramuses (such as me) who don't read the instructions first. *Caveat emptor.*

7. Conclusion

I must say that I feel my \$75 upgrade fee was a very low price for everything I got. This price was only good until 1/15/95 (1/31/95 for out-of-US&Canada upgraders). The non-upgrade price is \$229 + \$6.65 shipping direct from Staz: (800) 348-2623. I've also seen it in a Mac Zone catalog for around \$150. I don't know if there is a "competitive upgrade" price. The non-upgrade package includes two useful extensions to PG; one makes it almost a 1-liner to include a terminal emulator, the other makes a 1-line "mini MacPaint" application.

Staz Software is absolutely committed to satisfying its customers. Support is prompt, friendly, and knowledgeable. If you have a problem, they'll fix it if they can, and refund your money if they can't. They are such a pleasant company to deal with that it's almost worth getting something from them just to feel that your money is going to good people.

But the bottom line is, FB II is a viable development environment for any solitary Mac developer or hobbyist. If you'd like to see some applications that were developed in FB, look at Greg Neagle's Bulk Rate, any CliffNotes product, or my own contribution to the Shareware universe, "Quarto!" It is probably a good environment in which to learn Mac programming, but it is harder to learn than, say, HyperCard. If you already know some variant of BASIC or FORTRAN, it is certainly the best way to program your Mac. 🐉

Alan Weiss can be reached at apdoo@aol.com.

Macromedia's Digital Audio Bundle

SoundEdit 16 plus Deck II

by Bruce Linde

I was in an editing room at Fantasy Studios (in Berkeley) with some guy named Joe, putting the songs in order for my independent CD release—adjusting the spacing between the songs, cleaning up the beginnings of the songs and playing with the fade-outs, after dumping all of the songs onto Joe's hard drive—when we both heard a noticeable click at the beginning of a particular guitar solo.

To my surprise, Joe said, "let me get that for you," and I watched in awe as he located the precise location of the click with his mouse, and then selected Remove Noise option from a menu, and voilà... the click was gone, with absolutely no trace left of its presence.

Joe explained that he used that particular system to clean up old 78 rpm records, sometimes removing hundreds of clicks and pops from old recordings during the process of re-mastering them for re-release.

The next day I called the company that made the software that Joe had used on my project, and tried to schmooze a copy for BMUG. Unfortunately, the software cost (at that time) \$20,000, and the guy just laughed at me... at least I tried!

And now, something completely similar...

Just as home recording technology has advanced to the point where my not-even-that-up-to-date home recording studio is more powerful than what the Beatles used when they recorded *Sergeant Pepper's Lonely Hearts Club Band*, so has the Power Mac changed the na-

a short time ago you would have needed to buy special hardware to configure your machine for digital recording or signal processing, out-of-the-box Power Macs can take on some pretty impressive digital tasks.

ture of digital signal processing. Whereas a short time ago you would have needed to buy special hardware to configure your machine for digital recording or signal processing, out-of-the-box Power Macs can take on some pretty impressive digital tasks.

Macromedia's SoundEdit 16/Deck II bundle represents a mini-suite of digital studio software aimed at providing the tools needed to process audio for the Web, QuickTime movies, multimedia presentations, or just plain fun.

SoundEdit 16

The latest incarnation of SoundEdit allows you to edit unlimited (hmmm...) audio tracks, and output the results to any of fourteen file formats and compression schemes. In addition, you can add signal processing (reverbs, delays, flanges, etc.), shape sounds (fade-ins and fade-outs), add sound effects and music to QuickTime movies, and perform batch file processing.

The very first thing I tried was converting some existing sound files to different formats for their ultimate destination on the Web—ridiculously effortless. I then played with fleshing out some movie soundtracks, and found the QuickTime audio editing both incredibly easy and accurate.

My problems with SoundEdit can be grouped for the most part under the heading *Real-time Issues*. For example, although the wave forms for a particular audio file can be viewed at different resolutions (including Fit in Window), the cursor only moves across whatever's on the screen. I imagine it must be like going to the Daytona 500—you wait while the cars zip around the course, and then they suddenly whip by, and then you get to wait until they come around again. I would have much preferred to have *at least* the option of using the horsepower

built into my Power Mac 9500 to have the cursor stay in the center of my screen while the audio streamed by in real time. Other problems include the inability to mix in stereo or apply effects in real time—things I take for granted when working in a real (i.e. not virtual) studio.

Other than real-time issues, I was a little frustrated with the limitations of some of the effects as compared with their real-life counterparts, and occasional crashes when switching out of SoundEdit to run other programs (despite plenty of free RAM).

Still, SoundEdit 16 will offer the average user a considerable amount of control and power over his/her audio tracks.

Deck II

Deck II, now bundled with SoundEdit 16, offers (depending of course on your hardware) up to 999 16-bit digital audio tracks. The documentation says that you can play back “as many as 32 tracks in real time,” but the complexity of those tracks will play a major role in determining the real number. Still, Deck II provides wave-form editing, automation features, and more powerful

QuickTime, MIDI, and SMPTE synchronization—without having to purchase anything more than a reasonably spry Power Mac and hard drive.

The on-screen mixer is pretty cool, with intuitive pull-down menus that offer channel and effects options, solo and mute buttons, and familiar-looking faders and pan controls. The Transport Control window is also pretty straight-forward.

Although Deck is ideal for multimedia types, it's not really the same as having a real multi-track studio where you can simultaneously record multiple players/tracks at the same time. And, as mentioned, the more complex the project, the more things tend to slow down.

With a peppy enough machine (and large and fast enough hard disk), and for the right person, Deck does, though, offer a significant set of tools for those needing to create digital soundtracks.

Summary

I feel kind of bad pointing out the limitations of both of these packages, when they both offer considerable feature sets, and live up to their basic promises. I realize that my biases as a record-

ing engineer/producer have been shaped by years of experience with the tools this software is trying to emulate (and improve upon), but I am nevertheless impressed by the features offered by this bundle, and how much power is now in the hands of us users!

Still, there are lots of options out there, and this bundle is not necessarily the perfect (or cheapest) solution across the board. Shoppers should definitely shop around, perhaps checking in with Planet BMUG's Computers & Musicians conference online, for the latest opinions from some of BMUG's more hardcore audioheads. 🎧

SoundEdit 16/Deck II bundle

Macromedia
600 Townsend Street
San Francisco, CA 94103
<http://www.macromedia.com>
Street Price: \$399

bruce linde is currently freelancing as a graphic designer and musician, although he is always prepared should he have to go back to the chevron station. info about his CD (bruce linde: not like other men) can be found at <http://www.songwriter.com/nlom.html>.

PageMill Training on CD

CD-ROM Training for Adobe's Web Page Building Application

by Bob Rosas

General Information

Adobe PageMill 1.0 has garnered praise for the ease it provides users in creating documents for the World Wide Web, though one criticism has been the relative lack of documentation which accompanies the application.

Enter Quay2 Multimedia Ltd. with *PageMill: Training on CD*. This multimedia tutorial contains several hours' worth of voice-over narrative and QuickTime movies demonstrating PageMill's features and several other related topics such as copying your Web pages to a server and writing CGI scripts. Advanced users will find the CGI (Common Gateway Interface) scripting piece is only lightly touched upon because this CD-ROM focuses primarily upon using PageMill itself. Quay2 does offer other training CDs which go into more specific detail on the use of HTML and CGI scripts.

Display's the Thing

PageMill: Training on CD does not display on a monitor in the way we have come to expect from many newer CDs. It opens an 8.25-inch by 6-inch splash screen on the desktop which displays its menu selections while leaving the desktop itself visible in the background. This is somewhat distracting, especially if you happen to have a custom pattern and various other objects littering your desktop (see Figure 1).

The training materials themselves are presented as QuickTime movies recorded on the trainer's desktop as he demonstrates the functions of the PageMill application. These movies are displayed on top of the CD splash screen so you are presented with your desktop in the



Figure 1. *PageMill: Training on CD* splash screen, listing chapters and contents, with the reviewer's desktop peeking out from behind.

background, a portion of the CD splash screen, and the desktop of the trainer, which at times itself has multiple windows and applications open upon it. The cumulative effect can be visually confusing (see Figure 2).

Moving in QuickTime

When I first started going through the training sessions, I thought there might be something wrong with my CD player. Each lesson seemed to move very quickly, and I found myself frequently having to drag the QuickTime player slider back to repeat portions of the lesson I'd missed. Then, I noticed that the trainer's desktop image displayed the time of

day in the menu bar, so I timed one of the lessons. It took just under three minutes to play, but according to the clock on the trainer's desktop, at least six minutes had elapsed (see Figures 3a and 3b). Well, that explained a lot. A lesson that took six minutes to record was being played back in three; no wonder the cursor seemed to skitter across the screen and menus and dialog boxes opened and closed at a pace that made it difficult to completely comprehend what was happening.

Training Is Not Tutoring

The program is accurately titled *Training on CD*; that's exactly what it is. It

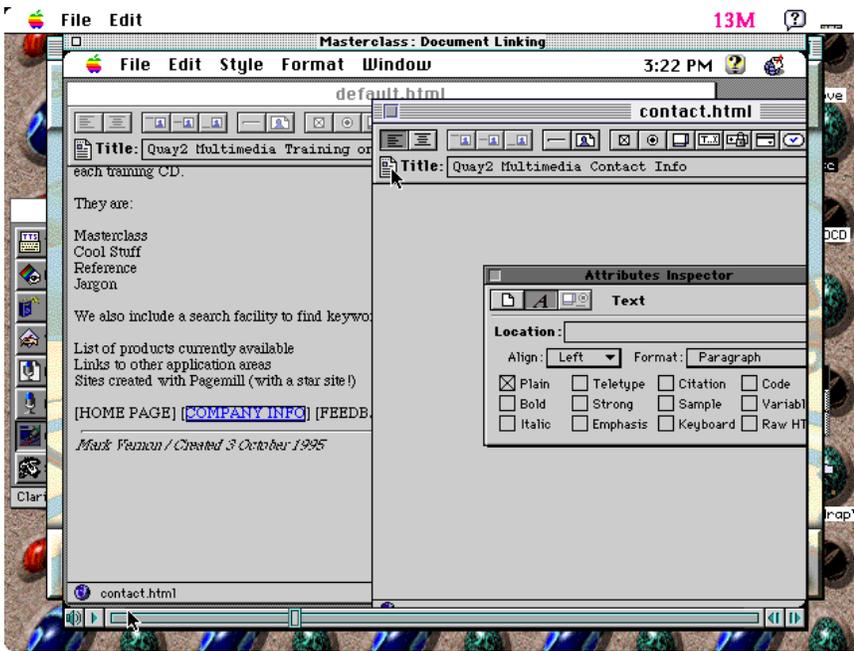


Figure 2: This is how busy PageMill: Training on CD display can get. Windows are opened within windows, on a desktop displayed on top of the TOCD splash screen, on top of the user's desktop.

is not a tutorial, and it is not interactive. You do not have the opportunity to perform the tasks and actions being demonstrated as the program is running—you sit there and watch the CD demonstrate how a thing is done. The packaging states that the program is for beginning and intermediate users, and the CD includes a demonstration copy of PageMill (8 megs of RAM are required to run TOCD and PageMill concurrently).

I think it is unrealistic to expect a beginning user to attempt to run the PageMill program while following the lesson plan of the CD, given the tempo at which the materials are presented. I believe the best way to utilize this training program would be to treat it as a reference guide. Work in PageMill, and as you encounter problems or questions, access the CD and search for the information you need.

On Balance

PageMill: Training on CD contains useful information and guidance in understanding how to work with PageMill. The CD also provides more than 7 megs of GIF files for use in building Web pages of your own.

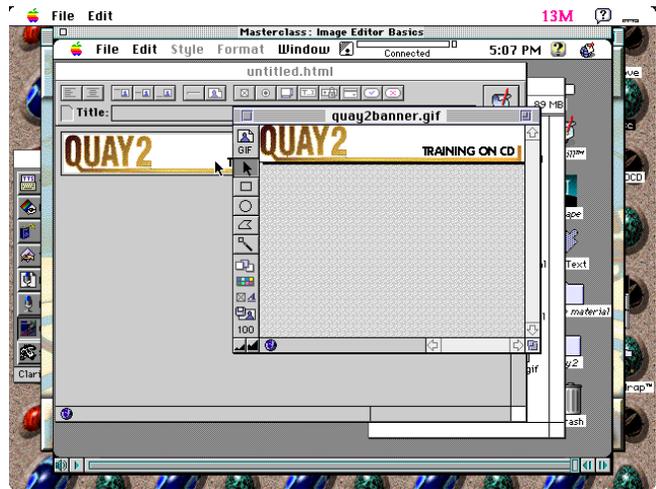
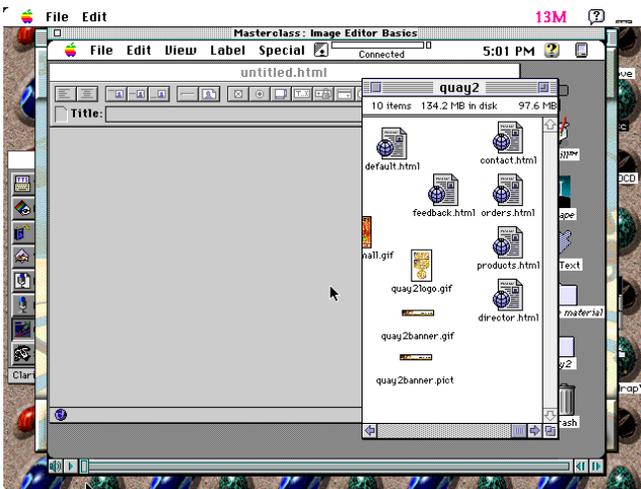
However, the effectiveness of this CD as a teaching tool is hampered by the display and presentation of its material. If you're looking for an interactive tutorial, this CD is not for you. On the other hand, if you seek a body of material to use as a reference while working with PageMill on your own, I would recommend keeping it within reach. 🐘

I wish to express my heartfelt thanks to fellow BMUGer Roxanne Gentile for her graciousness and patience in agreeing to edit this article so I wouldn't make a fool of myself.

Bob Rosas works with the *BMUG Saturday Helpline Clinic*. He can be reached on the *Planet* or at dbobr@dnai.com

PageMill: Training on CD
Minimum System Requirements
Computer: System 7;
 14-inch color monitor
Memory: 4 megs
Vendor: Quay2 Multimedia, Ltd.

Peachpit Press
 2414 Sixth Street, Berkeley, CA 94710
 USA (408) 492-1051;
 UK 171.252.0252; email,
tech@quay2.com;
 Street Price: \$50



Figures 3a and 3b: How time flies. A PageMill: Training on CD lesson starts at 5:01 p.m., according to the clock displayed, and ends at 5:07 p.m. Yet, this CD takes less than three minutes to present the lesson to the user.

Macintosh Bible Guide to Games

Book Review

by Mitch Turitz

The Skinny

According to the introduction, Farkas and Breen have “played more Macintosh games than is considered healthy for any two individuals who hope to sustain a functioning social life,” and the accompanying CD-ROM “is brimming with demos, patches, cheaters, and Shareware games.” That is the summary of this book in one sentence and the main reasons why you should buy it. Now for the details.

The Details

Anyone who has read either *The Macintosh Bible*, or any of the *Macintosh Bible Guide to...* series can tell you that Peachpit Press publications are not only very well organized, detailed, and illustrated with cute graphics in their publications, but that they are even humorous and worth reading even if you don't have any intention of purchasing anything new. Personally, I found myself looking up some of my old favorite games just to see what was said about them and how my own rating system compared against Farkas and Breen's.

The first ten pages of the book cover the history of Macintosh games from the beginning to the present day. The chapters are organized in a detailed breakdown that can be appreciated by the most nit-picky of Macintosh users. Of the 16 chapters, 13 are breakdowns of the various broad categories of games, including classic, traditional, sports, arcade, brain games, Maxis (yes, Maxis gets its own chapter while Microsoft does not), adventure, science fiction, first-person-perspective shoot-'em-ups, conquest, war, flight simulations, and network games. Addition-

ally there are chapters on hardware (game controllers, DOS compatibility card, speakers) and online gaming through commercial services and gaming networks.

The Macintosh Bible Guide to Games uses icons in the margins to emphasize information which the authors feel is important. The icons indicate if the adjacent text contains helpful hints, wonderful or lousy features, potential danger to your hardware, or a “rant” which the authors could not prevent themselves from expressing. These rants are directed to the programmers or publishers of the games and not to the reader. Another icon indicates if there is something on the accompanying CD-ROM (such as a cheat, scenario, updater, demo version, or Shareware version).

The Ratings

There is also a five-point scale for rating: fun factor, look and feel, value, replayability, and overall. The point scale is in half point increments. Relatively few of the games reviewed get 5.0 for all five features. A quick glance can let you know if the game you are considering is worth the retail price or if you would be better off with a Shareware game that has a higher overall value. I thought it was interesting that *Myst* had fun factor, look and feel, and value ratings of 5.0 but a replayability value of 2.0. However, this low score for replayability did not deduct from the overall value of 5.0. This did make me question how exactly the overall value is determined.

The CD-ROM

The CD-ROM includes almost 650 megs of commercial demos, Shareware,

cheaters, updaters, “ezines,” and “goodies.” Similar to the book, the CD-ROM is divided into categories for the Shareware and commercial demos: adventure, arcade, card/board, flight simulations, sports, strategy/war, role-playing, space games, and miscellaneous.

The “ezines” or electronic magazines include *Inside Mac Games*, *XYZZY news*, *MacSense*, *Dilbert*, and *Mystique*. These vary in format from text-only to complete applications with color graphics.

Conclusion

As a professional librarian, I was impressed with the organization of the material in the book and the CD-ROM. It is as easily readable by the novice as by the expert. Books with this type of information will need to be frequently updated to report on the latest games. However that will not make the old editions completely obsolete. There is no mention in the book to any kind of subscription to updates the way that the *Macintosh Bible* has regular updates. However, even without updates, the combination of the book and CD-ROM is a good value. I highly recommend this book. 🐉

The Macintosh Bible Guide to Games
Includes CD-ROM
Farkas, Bart, Breen, and Christopher
Peachpit Press, 1996.
ISBN: 0-201-88381-3.
Illustrated. 507 pages
Price: \$34.95

Mitch Turitz is the Serials Librarian at San Francisco State University. He has been a Mac user for over 10 years and has been a Mac games enthusiast for almost as long.

A Tale of Two CDs

Mission Code: Millennium & Widget Workshop, The Mad Scientist's Laboratory

by Bob Rosas



Figure 1. From Mission Code: Millennium, as street in Modern France (left) and a street in Medieval France (right). Hard to tell which is which.

Introduction

Initially I was asked to provide some comments on a game for users 8 years and older called "Mission Code: Millennium" from Virtual Entertainment. At about the same time, however, I had acquired a copy of "Widget Workshop, The Mad Scientist's Laboratory" from Maxis Inc., also billed as software for ages 8 and above.

These CDs fall into the category of educational software and each is designed to provide the user with information about a particular subject. In the case of Mission Code, it's historical facts, while with Widget Workshop it's not quite so clear, but you could say its intent is to demonstrate certain scientific principles as well as how to use code and logic to have a computer perform various tasks.

I found the vastly different approaches each "game" took to fulfill its intention so striking I thought I'd focus on those differences.

A Mission is a Mission

Mission Code is set up along preconfigured game-playing guidelines. The year is 2008 and the player joins a company called Virtual Travel which has been contracted by the Cyberpol Intelligence Agency to return four objects stolen by a group of time thieves. The objects represent key inspirational milestones for the Arts and Sciences of the second millennium, and must be restored to their proper place in time before great paradoxes in history occur and threaten the world as we now know it.

As I started playing with this game the phrase which kept running through my head was, "The Journeyman Project meets Where in Time is Carmen San Diego."

To fulfill the mission of returning the four objects to their proper places, the player must absorb background information for each object and then use the time travel facilities of Virtual Travel to select the appropriate historical era and geographical location.

The player is then transported to the time and place where the object must be returned, always arriving on a street intersecting four doorways. If the player has selected the correct locale the object can be placed in one of the rooms behind the doors.

Conceptually there's nothing wrong with the idea of the game, but its execution leaves something to be desired. For the most part the players are rather passively involved; they are primarily required to remember or record facts and then engage in some very simple navigation to determine if they've chosen the proper time frame. Also there's little visual distinction between the various times and places, always the same street with four doorways. As you can see from the screen shots the big difference between France of the Middle Ages and modern France is the center stripe on the street in modern France (Figure 1). More effort should have gone to creating visual interest and distinction for each place and time.



Figure 3. The startup screen for Widget Workshop with the Tool tray and it's objects. The large expanse below is for the user to drop, drag and connect the various objects to create a widget.

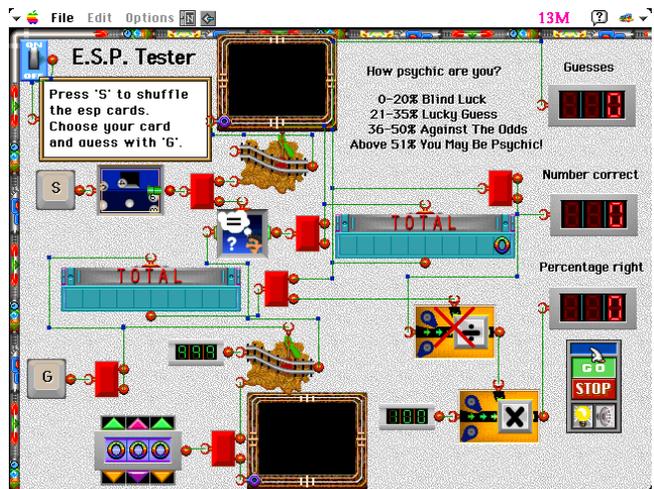


Figure 4. An example of the elaborate widgets which can be created.

The game is framed as a mission which must be successfully completed in order to stave off a temporal crisis. Certain pressures are therefore imposed on the players, to complete their task within a set amount of time before their time pod's energy level is depleted. These constraints are reinforced by characters from Virtual Travel appearing at random times to cajole and warn the player that time is growing short, or the robot in charge of Virtual Travel, Boss 2000, saying, "I don't want to hear that you messed up." Since the intent of Mission Code is to teach children, I find these intrusions, which serve only to put pressure on the player, counterproductive and a questionable design choice on the part of the game's developers.

A Workshop is a Playpen

Widget Workshop takes a much more open ended approach. There is no game involved, there is no set goal towards what the user is striving for in order to achieve success. There's no pressure on a user to do anything. Widget Workshop is a toy rather than a game and users are invited to play with it as they wish.

Upon opening, the player is given the choice of opening an already created widget or making a new one of his own. Choosing the later presents the user with a blank screen with a tool tray across the top. The tool tray contains seven cate-

gories of "parts." There are parts for text, numbers, sounds, switches, displays, and for controlling the timing of certain events. There is also a category called "super parts" which provide things like pumps and gravity chambers to perform highly specialized tasks. Each category has within it a range of objects from which to choose. Objects are pulled from the tool tray and dropped on the desktop area where they can be connected to other parts to create widgets. The player can also double-click on many objects to open a dialog window which explains how the part works and allows for configuring the behavior of the part for use in the widget being built.

With these parts a user may create a vast array of widgets from a simple two part device that turns a light bulb on and off to extremely elaborate constructs which, as an example, can translate binary numbers. The CD also comes with a number of widgets already built allowing the user to study how objects can be combined to produce results.

The documentation provided with Workshop helps a user build any number of creative and elaborate widgets. The documentation is one of the strongest features of this program as some very complicated and sophisticated concepts are explained in language that is at once simple, clear and written for the understanding of a very young user.

On Balance

Mission Code: Millennium and Widget Workshop are diametric opposites in their conceptual approach to the presentation of educational material for younger users. One presents a structured environment where goals to be achieved are set out as tasks and constraints of time while other game elements tend to drive the player to attain the goal. The other lays out a range of tools and choices with no predetermined goals and no limitations on how the users interact with the materials available, and invites users to take their time and experiment.

If I were a kid I know which one I'd prefer. 🐱

Mission Code: Millennium

Minimum System Requirements

Computer: any 030 or higher 256

color Mac with System 6.0.7 or higher

Memory: 5megs (8 recommended)

Hard disk space: at least 5megs

Widget Workshop

Minimum System Requirements

exactly the same.

I wish to express my heartfelt thanks to fellow BMUGer Roxanne Gentile for her graciousness and patience in agreeing to edit this article so I wouldn't make a fool of myself.

Bob Rosas works with the Saturday HelpLine Clinic. He can be reached on the Planet or dbobr@dnai.com.

Connections

The Multimedia Mind Game

by John Christopher

As an avid fan of the TV series *Connections*, I was intrigued by the idea of an adventure game based on the series. A popular show on PBS and The Learning Channel, *Connections* presents historical events through discoveries and inventions, and links them together in a fascinating manner.

Connections is now available in a 2-CD game set from Discovery Channel Multimedia. The object is to repair broken links in history and repair the natural order of time and space.

To advance through the game, you uncover parts of the broken links and solve various puzzles. As you recover parts of the links, QuickTime movies play back some interesting tidbits lifted directly from the TV series.

You start the game in a courtyard facing a castle. First you must discover why the castle's drawbridge refuses to open. To the left is the entrance to two shops, an old apothecary shop and Bob's TV Repair. They are seemingly unrelated, yet their "connection" obviously becomes clearer as you play the game.

Behind you is the entrance to James Burke's office, the compelling host of the television series and virtual "ghost in the machine" for the game. He appears fre-



Professor Burke



Connections – Drawbridge

quently as you uncover links and offers some clues.

Speaking of clues, if you get stumped or frustrated anywhere in the game, you can get help from an optional hints menu. It contains step-by-step hints and even reveals how to solve most of the puzzles. You may also choose to have the hints menu switched off to avoid any temptation to peek.

The first part of the game is somewhat boring. With only four locations to visit, you can feel more like you're in a virtual prison than enjoying an adventure. This is complicated by the fact that you must visit each location numerous times—even after you've solved part of the puzzle. So it's not the challenges or the puzzles that are tedious, but their redundant locations. Still, the setting is

attractive and the art is well-crafted and detailed.

There are also some minor glitches in the game's design. For example, a combination lock built into the front of a safe has a dial movement, difficult to control even with the right combination. It would make more sense as a push-button interface.

Overall I liked the game but it doesn't come too close in content to the TV series. Fans of the series might be a little disappointed, but gamers might enjoy it all the same. On a scale of one to ten, I give *Connections* a seven. 🐉

John Christopher is the editor of the Storage and Basic Peripherals chapters for The Macintosh Bible (Sixth Edition!) from Peachpit Press. He can be reached by email at datadoc@linex.com.

The Journeyman Project 2

Buried in Time

by John Christopher

Gage Blackwood here, also known as Agent 5 of the TSA (Temporal Security Agency). Some of you may remember me from my earlier adventures in *The Journeyman Project* from Presto Studios and Sanctuary Woods. Well, I'm back in an epic three disc CD-ROM sequel called *The Journeyman Project 2—Buried in Time* (BIT).

Earlier today I ran into a some trouble and was placed under house arrest for allegedly causing temporal disturbances (ripples) in time. Luckily I was able to get hold of my Time Displacement Unit (some of my fellow agents call it a Jumpsuit), and jump back in time to warn myself and find out who's trying to frame me. I'll need your help, so you'll have to climb into my Jumpsuit.

Inside you'll find navigation controls that will guide you, and several Biochips that are used for various tasks, like collecting and reviewing evidence, cloaking and jumping from one point in time to another.

You won't be completely alone on your adventure. In fact you can choose either the "Adventure" or "Walk-thru" mode. The latter lets you move through each jump in time with fewer of the complex puzzles you typically need to solve to advance.

You'll make four jumps to different time periods: the Chichén Itzá in 1050 A.D.; the Chateau Galliard in 1204 A.D.; the Studio of Leonardo Da Vinci in 1488 A.D. and the Farnstein Lab in 2247 A.D. With each jump in time you'll meet with new challenges as you collect evidence and uncover clues. Remember any contact with the human forms could mean a temporal disturbance or even your death!

Unfortunately I've got some bad news for those of you with Macs that have only eight megabytes of physical RAM



and a monitor setup for 256 colors. My creators apparently designed BIT to run only on Macs with monitors that support more than 256 colors (thousands or millions). You also cannot use Connectix Speed Doubler or RAMDoubler when running BIT. (Another hiss is heard rising from the crowd.) Of course Virtual Memory will not be tolerated either.

In addition, you'll need to give up about fourteen megabytes of precious hard drive space to accommodate the support files. It is also suggested you disable all System extensions except the absolute minimum, and my creators even include Apple's Extensions Manager to help with that task. So even before you can "jump" into BIT you'll have to take some time to properly configure your Mac for optimal or in some cases minimal play. Such is the price for the intricate graphic images and game performance.

If you long for an adventure/puzzle/mystery game of high caliber, BIT is worth checking out. With its combination of highly detailed images, an ingenious plot and some humorous moments it'll keep you entertained for quite awhile. So jump down your local retailer, or use your primitive telephone and get "buried." 🐱

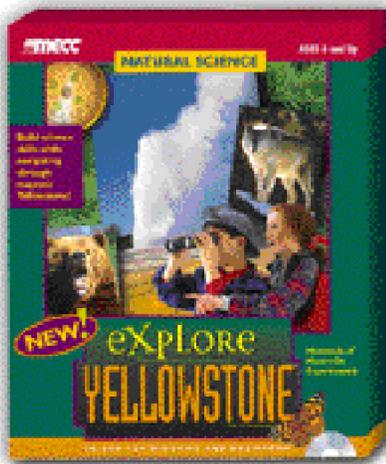
Gage Blackwood (a.k.a. John Christopher) is the Editor of the *Storage and Basic Peripherals* chapters for *The Macintosh Bible* (Sixth Edition!) from Peachpit Press. He occasionally checks his email at: datadoc@linex.com when he isn't jumping from one Mac to another.



Explore Yellowstone

A Hands-On Science Class in the Wild Outdoors

by Ilene Hoffman



Yellowstone National Park in Northwest Wyoming, is the country's first national park, founded in 1872. Yellowstone contains some of the most fascinating landscape found in the country. Its thermal features are among few left in the world, as many have been destroyed due to mineral drilling and other factors. A study of Yellowstone covers geology, geography, western exploration, Indian history, ecology, flora and fauna. The wealth of information available by studying Yellowstone is finally captured in an edutainment product by MECC of Minneapolis, Minnesota.

Explore Yellowstone, a Macintosh/Windows hybrid CD, presents over 100 sites within eight areas of the Yellowstone National Park. Pictures, QuickTime movies, sound, and/or text accompany each site. 3-D aerial maps let you see the topography in a way you could never see in person. This is not a static CD, but an interactive journey, similar to the Oregon Trail or Amazon Trail CDs.

You start by registering as a Ranger in training. Next you patrol areas of the park with your trusty vehicle, visit research sites, visitor centers, and ranger stations. Each stop presents new information through a variety of button choices, including binoculars, radio, map, a searchable guidebook, and other rangers. At field centers you participate in model activities, and answer questions presented in multiple ways. In the visitor centers you answer tourist questions about the features, animals and nature found in the park. Each question answered correctly counts towards a badge. The preferences file saves your progress in becoming a full Ranger. There are three levels of badges in three areas (field and research skills, and park knowledge), in each of the eight areas; a whopping total

of 72 badges. This means that there is plenty to do before you exhaust this CD!

The CD is rated for age 8 (third grade) and up, and the activities presented cover that wide range well. I think the younger kids might find parts of the CD boring, as there is a lot of reading; but with parental or teacher help, keeping a child's interest should be easy. The educational edition comes with a notebook of classroom resources, including ideas for activities, lesson plans, creative writing ideas, discussion groups, vocabulary words, and hands-on activities.

The interface is simple, and most kids won't need any instruction to use this CD. My only disappointment lies with some of the photographs used. Many of them were fuzzy, or did not seem optimized for the medium. It is too bad I didn't know MECC was developing this CD, because I have a whole library of Yellowstone pictures taken by my Dad who used to work with his professional photographer grandfather. I would have been happy to let them have some of the pictures. ... Oh, well.

If you can't run right out and buy Explore Yellowstone, you can take a look at MECC's comprehensive web site on this CD. They include a page of Yellowstone resources on the web, sample sounds, video, photographs, and a sample lesson plan on the site. Just steer your browser to: <http://www.mecc.com/MECCHOME/expyell/yellowstone.html>. 🐾

Explore Yellowstone

Minimum Systems Requirements:

Computer: 68040 (Performa 575 or better), on System 7.1 or later

Memory: 5 MB RAM

Monitor: 13" (640x480, 256 colors)

Hardware: 2-x CD-ROM drive
Hard drive (the installation is small, though)

MECC
6160 Summit Drive North
Minneapolis, MN 55430
Phone (800) 215-0368, ext. 372
<http://www.mecc.com>
Price: \$29.99
Estimated Educational Cost: \$55

Read, Write, and Type!

by Ann Blasius

The curriculum in this program was adapted from the program Talking Fingers, created by Jeannie Heron, Ph.D. in conjunction with California Neuropsychology Services.

If you worked with the wonderful Talking Fingers program, then you are aware that primary school-aged children can learn to write, type, and read as they master a series of simple finger strokes on the keyboard. This is a great way for children to begin with what they already know how to do well: speak and magically transform their speech into written words.

Our first grade students loved Talking Fingers. The upper grade teachers were delighted to have their students be able to sit down at the computer and actually type, rather than hunt and peck.

We are now switching over to Power Macs and will use the new Read, Write, and Type! Read, Write, and Type! helps children:

- learn how to use phonics fluently and automatically
- sound out words to read and write on their own
- use a sequence of finger strokes to put sounds together to make new words
- touch-type instead of developing hunt and peck habits
- be able to put words and ideas on paper

The program's colorful characters guide children through the 40 speech sounds, adding each new sound in a systematic sequence. Children learn to identify sounds in words, associate sounds with letters, and type sounds together to make words and stories. Children's fingers learn to find the letters automatically, as they progress through the different games.

Research shows that beginning readers need systematic phonics instruction, as well as frequent contact with interesting whole words and stories. Read, Write, and Type! has both. When children write,

they are thinking about whole words, sentences, or stories, but they must write them down one sound at a time.

Young children learning how to write often have difficulty remembering which letter makes a particular sound. With Read, Write, and Type!, motor memory tells them which finger to press and the computer takes care of printing and spacing the letters. Early success with the mechanics lets young writers immediately see and feel pride about putting their ideas on paper.

Read, Write, and Type! helps children master phonic and reading skills as they learn to type. This program teaches these skills simultaneously as the children progress through the 40-lesson adventure. It helps children learn to read through listening to the sound and typing it. Once the children connect the 40 sounds with correct keystrokes, they will be able to write whatever they can say.

The introduction of the program has a lot of talking. When presenting this to a class, do a group lesson using a computer TV monitor hookup. Then children may move to the computers. A computer teacher or parent volunteers is necessary to make this program work in a school setting. It is important that the fingers are in the correct position. The ground work is done in the classroom before the children start the computer work. I miss the storyline in the old Talking Fingers Program but am delighted not to have to keep switching disks on the Apple IIe.

The sequence of 40 sounds is carefully designed. The keyboard is divided into two Keyboard Houses. The story-



tellers live in the Keyboard Houses. Children learn the sound of the letter and where it lives on the keyboard. Each story teller is a sound that lives on the keyboard. Cass the Cat lives in the C room in the house on the left. Jack lives in the J room in the house on the right. Two lively Helping Hands Rightway McKay and Lefty LaDee show children where to put their fingers on the keyboard to make each sound. Vexor the Virus pops up to present interesting challenges and silly rhymes. They are soon typing words and sentences by themselves.

This is an excellent program for children to use at home, as well as in school. Parents and children love this program. 🐱

Read, Write, and Type

Minimum System Requirements

Computer: 68030/25 MHz or better with System 7.0.1 or higher

Memory: 4 megs RAM

Hard drive space: 2 megs

CD ROM: Double speed or higher

Monitor: 13-inch or larger with 256 colors and 8-bit display

Learning Company

Phone (800) 852-2255

Mac and Windows CD-ROM

Price: \$60

Appropriate for first and second grade.

The Reading Lesson

by Ann Blasius

The Reading Lesson 2.0 is a step-by-step interactive approach to reading for children ages 4 to 8. There are 20 lessons that can help children learn to read fluently. This worthwhile program is designed for parents who want to help their preschool and kindergarten children read.

The Reading Lesson is a practical structured teaching method, for the first time reader, as well as for children with reading difficulties. Four spiral bound workbooks with short stories and activities accompany the program. The *Word-Book* contains all the important words used in the course. A video reviews the names and sounds of the alphabet in a straightforward way. In each lesson children learn new sounds, letter combinations and words. The *Word Theater* animation and characters—clowns, magicians, and sea creatures—make learning to read fun. The *Interactive Reading Games* builds word recognition skills rapidly.

The Reading Lesson teaches new sounds, sound blending, and how to key sight-words in a step-by-step progression. Children learn to use their visual memory for common words. It incorporates the teaching of basic spelling. The program offers no gimmicks or magic formulas. It is structured, simple, and clear. *Adult supervision is needed because the parent plays a very important part in teaching a child to read.*

The Reading Lesson uses both phonetic and sight-words that are developmentally appropriate. The vocabulary of the program closely corresponds to the 500 most commonly used words.

The Reading Lesson does not follow the alphabet, but instead begins by teaching the most common letters in the English language. This way children can begin reading words and simple stories from the very first lesson. Lower case let-

ters only are used in the first two books. Upper case letters are introduced later in the program.

The Reading Lesson concentrates on teaching children to decode. Decoding is not the same as reading comprehension. The goal in this program is to give children basic reading skills, so they can begin to read independently. There are also writing exercises that will help children develop a feel for the shape of the letters.

I have used this program with some of my students, who were not familiar with the names of the letters, their sounds, or how to blend to make words. These children loved this program. They are now starting to look at words with a new interest. They are beginning to try to sound out words that they don't know. This is a good program for parents who want to introduce reading to their children. One concern I had was that the picture Owl for short "o." The reason given was they needed an "o" picture that the children would recognize. This did not appear to cause a problem with the children. They will learn this sound later. 🦉

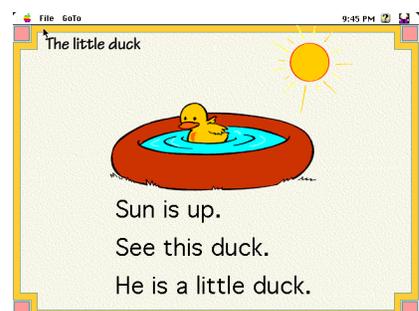
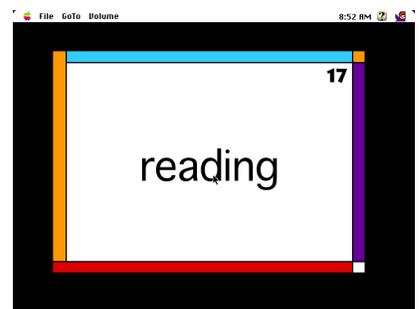
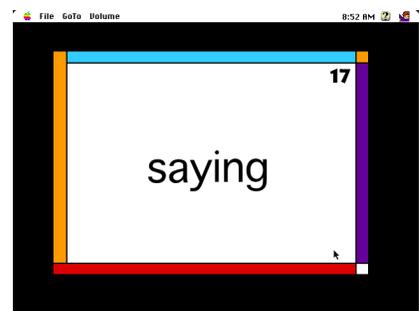
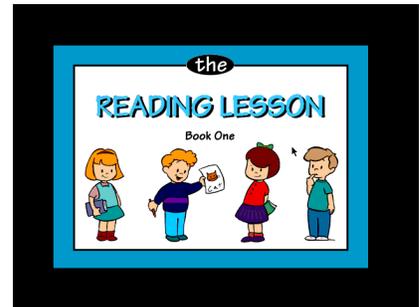
Ann Blasius is a first grade teacher at Beach School, Piedmont Unified School District

The Reading Lesson v2.0

Includes: 2 CDs, video, 5 workbooks
Minimum System Requirements
Computer: LC and up, System 7
 CD-ROM drive

256 colors-sound
OS: Mac and Windows
Memory: 2.5 megs

Mountcastle Company
 Two Annabel Lane, Ste 130,
 San Ramon, CA 94583
 (800) 585-7323
 mntcastle@aol.com
 \$150 home version
 \$230 school version



Encarta 96 and Cinemania 96

by Don Modesto

Mark Twain's Connecticut Yankee reluctantly reported the kindness of a monk helping unfortunates. The Yankee begrudged exception to the rule of scurrilousness he found with the clergy. As a Mac person I'm in a similar situation: both Encarta, an encyclopedia, and Cinemania, a guide to movies, are sumptuous yet accessible references putting volumes of information at your fingertips in a way that's fun to use. Grudgingly I admit it: Microsoft has done a bang up job.

Get Info

Encarta and Cinemania provide sound clips, animations, movies, text, tables/graphs, and still photos. You encounter these reading articles but you can also browse them directly.

To search Encarta for pictures of birds found in Malaysia, for example, you would click on the Category button in the Pinpointer (Find command) selecting Life Sciences: Birds. Then you would click Media: Pictures/Animations/Movies. Finally, you would select Place: Malaysia. Your search returns Bowerbird, Frogmouth, Kookaburra, and the Pitohui (the only known poisonous bird.)

Items are cross-referenced and easily accessible through searching, menu/button navigation, and hypertext links (click on highlighted text and you go to that subject.)

Both programs slip up with regard to interface confusing, for example, menus and buttons. The Back button does what a Back button should do, whisking you to previous windows. The



Shown are the page for Stephen J. Gould, a navigating device showing where we have been so far, and the Features menu.

Features button whisks you nowhere; you get a drop down menu, probably better placed in the menu bar. On the other hand, Encarta's convenient Browse Panel option will take you alphabetically forward or backward through the selected category (pitohui, pipit, pigeon) or through all entries (pitohui; Pitman, Sir Isaac; Pithecanthropus erectus.) Cinemania has buttons taking you to different reviewers' comments.

The interface is eerie. It's graphic, but in a MS way. Many windows lack close boxes, for example, although cmd-w will close them. Also, menus hesitate when clicked on. (Normally I would attribute this to the fact that I'm using a CD ROM—even on a 100MHz Power Mac. Having read so many references to Microsoft Word 6's bloated code, however, I have to wonder if slack programming plays a part here.)

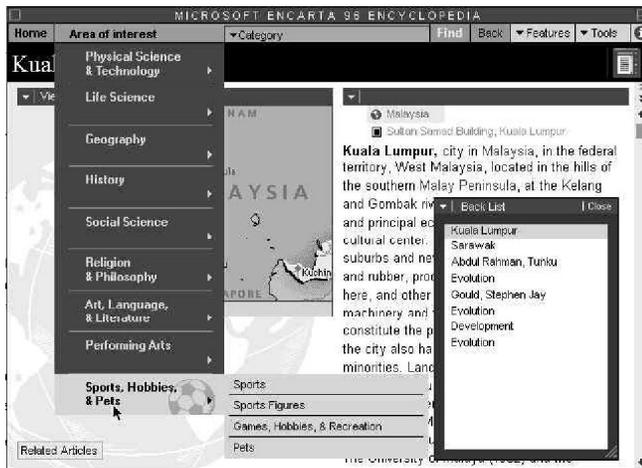
Another strong point of both CDs is the year of monthly updates from the

Web (about 7 megs of HD space each) included in the price. MS declines to tell us how much these will cost after one year but given the modest cost of the products to start with, it will probably be nominal.

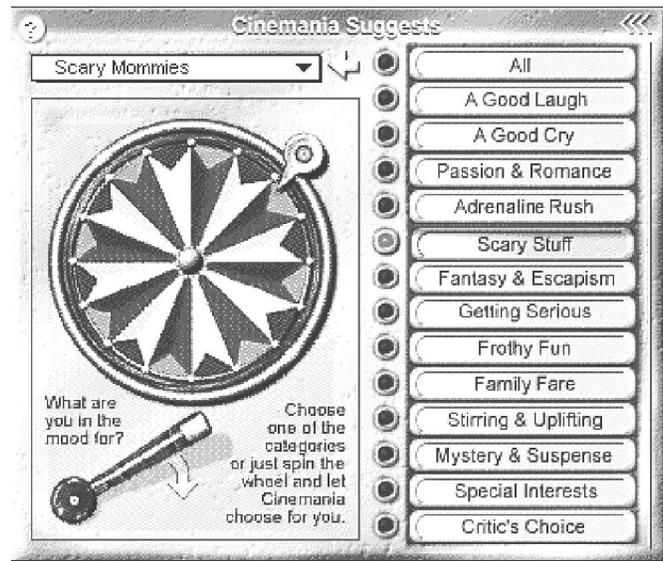
Other than that, as a high school aid, for fun, or for casual reference, Encarta and Cinemania are very handsome packages offered at a modest price.

Encarta 96

A less-than-exhaustive list of Encarta's features includes over 26,000 articles to browse, integrated tours, a nifty scrolling time-line delimitable to a range of times (click on items and you get 100-word summaries of the event or person), and "Interactivities" such as the fun but not very useful phrases in foreign languages and games (rather tame and repetitive) to test your knowledge. Copying text and graphics is a breeze; likewise annotating topics (these notes being ac-



Our find filters pull down to take us somewhere in the sports selection.



Cinemania's game-like find filters. Click a button at right, choose a category from within using the pull down menu, and click the lever for a list of that fare.

cessible through an icon placed near the buttons). Animations are the odd man out—they are amateurishly drawn eyesores that look like those flip-book stacks that got uploaded everywhere when HyperCard was released.

A Features button overlays the current article with maps, tours, and more. Tools lets you add notes, enhance browsing, see a navigation list of where you have been, or switch to a word processor, surprisingly, of your choice. (If MS could release software that destroys the access files of online services competing with Microsoft's own (abortive) online service (Hint: "_____ = Macintosh 89"), you would think that MS Encarta would default to MS Word and give WordPerfect et al. a good chewing on.)

Encarta's searching and filtering is wonderful. And if clicking icons to define a search proves daunting, a "wizard" will walk you through it with dialog boxes. I didn't find this much easier than the icons, but it does cover the choices in one fell swoop rather than trusting the user to remember all the parameters beneath the icons.

Searches I made returned entries for Ronald Reagan and but not Caspar Weinberger. Harvard biologist Stephen J. Gould was there, and punctuated equilibrium, but not his British nemesis Richard Dawkins or selfish genes. Nagoya,

Tallahassee, and Padang, but not Kanto, Denpasar, or Key Largo.

Cinemania 96

Like Encarta, Cinemania offers an embarrassment of riches for movie lovers. The CD has roughly 32,000 movie reviews (from Roger Ebert, Pauline Kael, and Leonard Maltin), cast/credit listings, movie stills, video and dialog clips, a list maker for keeping track of movies you want to see or own, even a roulette wheel with filtering for suggestions.

The Features button takes you to the Media Gallery, a database of movie awards, the List Maker, and the Settings (one obnoxious "feature" of this CD is that a bugle blares announcing new windows. Cute for kids I guess, but I jumped every time the damn things went off.)

A search could go as follows.

- I type in "russia" and a list appears showing From Russia with Love, Russia, Russia House, Song of Russia.

- Double-clicking Russia House takes me to a screen listing the director and cast and, a still of Sean Connery and Michelle Pfeiffer, and the Maltin review. At the top of the window are other items such as Cast List (for the complete cast) and other reviews.

- I click on "Sean Connery" and go to another page with a still of him and a biography.

- I click "Filmography" at the top of this screen and go to a list of all his films, most with hyperlinks to more pages. There's also a list of media options—stills, movie clips, sound.

It's A Wrap

Both packages are filled with solid content presented in easily accessible and enjoyable form at modest prices. You can't go wrong with either. 🐘

Street price: Encarta 96—¥12750; Cinemania 96—¥4250

Don Modesto frequents the Planet via TCP from Tokyo. How a Frisbee-loving beach bum like him ended up in a concrete megalopolis is a mystery to him even after 14 years there.

UESCTerm 802.11 (remote override) 1640 05.11.2337



The S'pht have preserved a myth, throughout their long period of slavery, about a lost clan of their race which abandoned Lh'owon before the Pfhor invaded. The ten clans which stayed were destroyed or disbanded after the S'pht were conquered, the survivors scattered as slaves throughout the Pfhor empire.

If this mythical eleventh clan survived, then it has had a thousand years to grow and learn since leaving Lh'owon. My S'pht believe that there is a way to contact them somewhere on the planet, and that is what we are searching for.

The S'pht rebellion against the tyranny of the Pfhor will certainly fail unless the lost clan is located.

Explore the area and return here.

PgUp/PgDown/Arrows To Scroll

Return/Enter To Acknowledge



Welcome Back

Marathon 2: Durandal

by Derrick Schneider

Bungie Software's Marathon made tremendous strides in the arena of first-person wander-and-shoot games (see "Welcome to the Marathon" in the Fall 1995 BMUG Newsletter). The only real competitor at the time was Doom, and Marathon blew it away. With Marathon 2: Durandal, Bungie has upped the ante yet again.

Not surprisingly, Marathon 2 picks up where the story in Marathon ended. In that game, you were singlehandedly

responsible for liberating the Marathon space station from the extremely destructive Pfhor. Starting out with a single pistol, a situation quickly remedied with better and better weapons, you were guided by Leela (an AI computer) to do various tasks throughout the station, destroying everything in your path en route.

After a while, you were intercepted by Durandal, the main computer on the Marathon. Durandal is also an AI computer, but Leela says that he's gone Ram-

pant. This basically means that he's acting entirely on his own agenda at the moment. His agenda, it turns out, is not dissimilar from Leela's, though it seems like it at first. He uses you to help organize a revolution among one of the Pfhor slave races, the S'pht, floating creatures dressed like the robotized crew in Disney's *The Black Hole*. In the process, he steals the Pfhor ship that's attacking the space station and takes off in it.

As the game ends, you get a nice little paragraph explaining how Durandal explored the galaxy in his stolen Phfor ship for 17 years, until coming at last to the long-abandoned S’Pht homeworld, Lh’owon (everything in this universe seems to have apostrophes in its name).

Well, it turns out that Durandal zapped you out of the Marathon at the end of the game, which is fortunate since the Marathon was destroyed from a massive onslaught of Phfor who all had to go somewhere else when they found out that their ship was no longer a friendly place to be. Now you’re out with him, circling Lh’owon, having spent the last 17 years in hibernation. It will come as no surprise to those familiar with this genre of game that the homeworld of the S’Pht isn’t just sitting around for the taking. No, it seems that it’s heavily guarded by a Phfor garrison, and Durandal wants you to help liberate the planet for the S’Pht, and find a long-lost secret which will enable him to fight the Phfor. And so the game begins.

The World Inside

You can’t help play a Bungie game without feeling totally immersed in your environment, and Marathon 2 is the leader of the pack. With Marathon 2, you will feel like you’ve been ripped out of your Earthside chair and placed on the desolate landscape of Lh’owon to do battle with the evil Phfor (as with many fantasy/science-fiction types of things, “evil” is very clear cut; there’s no ambiguity here). Try playing with all the lights out for an even more surrealistic adventure, perhaps adding a rocking soundtrack for kicks.

One of the biggest contributors to this *in situ* feeling is the intricately designed levels. Stairs lead down several flights, hallways open into unbelievably wide rooms, windows look into places you’ve been and places you’re going, and tunnels go under other parts of the level. It’s as if you’re truly in a city, complete with sewage and streams.

With Marathon 2, those pools and rivers of sludge, water, and lava aren’t just aesthetic; you can actually immerse yourself in them, and even go underwater at times. When you do, your oxygen level goes down, sounds become oddly muffled, and visibility becomes hindered.

And if the “water” you’re immersing yourself in is lava, your health goes down as well. Fast. Also, unfortunately, only one of your weapons besides your fists works underwater (the fusion pistol) and it hurts you as much as the alien coming at you.

Not only are the levels intricately designed, they’re overlaid with high quality graphics that give a very realistic look to the surfaces around you. The cities look like they’re made with polished rocks, the subterranean caves look like they’re carved in stone, and the walls of the alien spaceships are done in bright, pulsating colors that don’t look like anything a human would design. The folks at Bungie know how to use a PowerPC chip to good effect, and the textures you’ll find on the walls and floors will blow you away (they’ll have the same effect on a 680x0 chip, but you’ll have to twiddle some options to keep the action moving quickly).

Another powerful, though subtle, use of the graphics arts of the designers is in the skies above Lh’owon. Remember that (for much of the time) you’re wandering on a planet’s surface. The designers realized that and provided colorful, alien backdrops to the levels. As you look above the walls, you’ll see far off mountains. As you look through windows in various towers, you’ll see the Lh’owon daylight sky. As you look through windows in the spaceships, you’ll see nebula-studded blackness, Lh’owon being close to the galactic core.

These graphics don’t end at the terrain, either. The graphics which Durandal provides to you on computer terminals are extremely well done, a welcome relief from Marathon’s green, black, and red terminals. You’ll get full color pictures on these terminals, and they were obviously done with painstaking effort. There’s still a lot of green text on black screen, but it’s blended so well with the artwork that you don’t really notice it. Also, between each of the major “phases” of the game, you get a highly rendered 3D image of a scene relevant to the area you’re about to play (the one with the Phfor ship you came in on, wrecked and destroyed in the distance, is particularly stunning).

But graphics is only part of the picture (so to speak). Bungie made stereo sound a mainstay of this genre of games,

There’s nothing like playing this game with the lights out, wandering through an empty, alien city, and hearing the rhythmic booming of an unseen attack. And remember, this is all in stereo (assuming you have stereo speakers hooked up to your Mac), so these sounds have direction.

and Marathon 2 adds even more by adding ambient noise to the game. As you wander through subterranean, water-logged passages, you hear the drip-drip of unseen water falling from the ceiling. Alarms sound in the far off hallways of another building. The eeriest example, however, is the heavy thud-thud you occasionally hear; this is Durandal’s orbital bombardment of the planet. There’s nothing like playing this game with the lights out, wandering through an empty, alien city, and hearing the rhythmic booming of an unseen attack. And remember, this is all in stereo (assuming you have stereo speakers hooked up to



Figure 1.

your Mac), so these sounds have direction. That booming is off to your left, until you turn around, when it's off to your right. Again, the feeling is that you've been truly immersed into this world.

Believe it or not, another way that *Marathon 2* draws you in is its storyline. The *Marathon* plot was fairly intricate, but this one is going to make you think that the original was plain and boring. The game starts out simply enough, but you soon find out that another Phfor fleet is coming to Lh'owon to take it back, the original Phfor garrison having been eliminated. Durandal isn't too concerned by this, since as an AI he naturally has faster reactions than most aliens. What he doesn't realize, however, is that Tycho, the *third* AI from *Marathon*, has been pre-empted (quite willingly it turns out) by the Phfor for this fleet, and so is able to respond as quickly as Durandal. Things get pretty anxious for a while, until the Phfor fleet makes its full attack. Durandal has you help out by beaming you to a part of the ship where the fighting is heaviest. Believe me, this is a nasty level! Durandal is destroyed (by you, actually), or so you think, you're held prisoner, freed, and eventually you're sent up to Tycho's ship, where you get to dismantle Tycho. Durandal, it turns out, isn't really destroyed, and so he sets you back on task for finding some secret weapon to use

against the Phfor. You find the secret weapon, reactivate a S'pht AI which decides to side with the Phfor, and then the lost 11th clan of the S'pht shows up to help with the fighting. These guys are impossible to describe, but thank goodness they're on your side!

Those are only the sketchy details, but you wouldn't want me to ruin the whole game, would you? And if you're wondering what became of Leela, the first AI you met onboard the *Marathon*, buy the game and find out! The details are conveyed to you through the ever present computer terminals, sometimes in Durandal's tongue-in-cheek sarcasm (the screen where you find out he's not really dead is one of the most amusing in the game), sometimes in Tycho's insane megalomania, and sometimes in the S'pht computers you find on the planet. The S'pht AI is just gaining consciousness, so its messages are not too clear.

The Fighting

The graphics and sound and plot are all nice, but let's be honest; the real point of this game is to kill aliens. One of my problems with *Marathon* was the lack of basic tactics in the various aliens taking over the space station. To some degree, they've fixed this problem in *Marathon 2*, though they're still not perfect. The aliens are definitely smarter, but they're not as smart as I'd like to see. Maybe when

a high-end PowerPC is available for them to think on!

The main aliens, of course, are the Phfor. If you've played *Marathon*, you know them well: tall, bipedal insectoid things that carry spears which can sometimes throw energy balls. As in the original, they come in a variety of castes with the green Phfor taking fewer shots and never firing their energy balls all the way up to the blue Phfor, which stand in far-off corners and lob energy ball after energy ball.

Also making an unwelcome appearance are the "armored Phfor." These Phfor take lots of shots, and come armed with machine gun/grenade launchers. The red ones are particularly nasty, having far better aim and far more propensity for launching grenades than their green brethren.

Curiously enough, the Phfor also have several different kinds of S'pht working for them. Remember that only the S'pht onboard the Phfor ship attacking the *Marathon* were liberated, and so it stands to reason that there are still lots of S'pht enslaved to the Phfor. According to Durandal, they're fighting against their slave devices and trying to have deliberately bad aim. Maybe so, but the more advanced kind don't need any kind of aim; their energy bolts track you and will go through any number of loops and curves and twists to nail you. You can literally turn around and see the bolt twisting around in an arc as it tries to find you. As in *Marathon*, some of these S'pht are invisible, which makes things a trifle more difficult.

By the way, herein lies my biggest problem with the premise behind this game. Here you are, liberating the S'pht homeworld. Umm, hello, there are a whole bunch of S'pht back on the Phfor ship you were travelling on. Where are they? Some help they're being! Even during the firefights onboard *Boomer* (that's the name Durandal gives his ship), they're nowhere to be seen. Let them liberate their own planet!

You're not totally alone, however. In addition to you, there were lots of other humans onboard *Boomer*. These were the humans that the Phfor had captured and were going to turn into slaves. Durandal basically told them that they could either help out and gain freedom, or go back to

hibernation. So, the Bobs (Figure 1), as they're called by Marathonites, are helping! They're armed with pistols, and they get beamed down to levels at various points. It's sometimes handy to just sit around and let the Bobs kill a bunch of aliens. Kind of relaxing. You can shoot them if you want, but if you do that too much, they start shooting back. At one point in the game, the leader of the Bobs (I think his name is Robert something) actually takes control of the computer terminals where you get your information.

Of course, the other Phfor fleet has picked up the trick of making exploding Bobs just like in the original game, and they're back in full force, though this time they seem to be made based on the helper Bobs that are working with you now. As before, a single shot shows them to have yellow blood instead of red. A couple more shots, and they explode rather violently. This can be good, if your shot flings them into a group of aliens, or bad, if they come too close to you when they explode.

Other denizens abound. The Fl'ickta are sort of big bipedal frogs that fling toxic mud (or energy balls in the more advanced species). They were used by the S'pht to clean out the sewage systems in the cities, and one computer terminal pleads with the reader to treat them kindly. Yeah, right! Maybe if they weren't so intent on burying me in toxic goo (I'm assuming it's mud, the other possibilities not being too pleasant). The nice thing about the Fl'ickta is that if they're in close quarters with each other, they're just as happy to destroy each other or other aliens.

The Hunters are also back, but upgraded after the 17 years you've spent in hibernation. If you didn't play Marathon, or if you simply don't remember these, they are extremely tall, armored aliens that shoot big clusters of energy. The annoying thing about that, of course, is that you can't just conveniently step out of the path of the oncoming missile, since there are a small group of them. In this game, they come in three varieties: the normal brown ones, the slightly tougher green ones, and the really nasty blue ones. The latter are especially gargantuan, and take forever to kill. When you finally do get them, make sure you're standing well

away from them. They explode quite noticeably when they die.

Also in abundance are what I call the Roaming Tank Things. They're never explicitly named, but imagine a somewhat humanoid robot on tank treads. Now picture one rolling grenades towards you on the ground. Now picture one aiming a guided grenade at you, using a flamethrower when it gets close. You get the idea.

As far as I can tell, the Flying Beach Balls (my name again) are harmless. These have spherical bodies, and they fly by flapping four spindly arms with big paddles at the end. If you shoot one, they let out this horrid scream, but all they ever do is make a lot of images appear on your motion detector, so I usually just ignore them (see, I'm not a total barbarian! Besides, I need the ammo for other things).

The Phfor Defense Drones are another annoying little enemy. These robots float around and shoot the ubiquitous energy ball at you. Since they float, they aren't restricted to any particular level, so that makes them a little trickier to wipe out. At one point, Durandal creates a virus which turns them against the Phfor. Of course, it's sometimes difficult to tell which ones are infected until they either shoot at you or not.

And of course, fans of Marathon will remember the little blue aliens that were armed with extremely accurate machine guns. They're not back, but there are newer versions. Tall cloaked things that look like something out of a Dr. Seuss story, but that carry a gun that shoots big rings of fire (that make a really cool sound when you fire them). If you kill one of these with a regular bullet (rockets or grenades causing too much damage), you get to grab their gun. Then you're the one armed with this nasty little alien weapon, though it's not pleasant to hear the aliens scream as they're burned to a crisp. You get over it, though.

To help you against this medley of nasties, Durandal provides you with a wide range of weapons. It seems that the S'pht are working on reproducing the weapons you brought from the Marathon (ah, that's what they're doing!), and so you don't have them available right away. Since Durandal knew you were coming

to this planet, I don't know why he didn't think to have them start work sooner, but that wouldn't have made the game nearly as exciting, I guess.

You start out with the pistol, and Durandal tosses you ammo on a fairly regular basis. When the Bobs are killed, you get to pick up their ammo as well. On the first level, you pick up the machine gun/grenade launcher that will probably be your main weapon throughout the game. If you find the secret area on the first level, you can also get the shotgun (cutely called the WSTE-M model), a particularly effective weapon for those aliens invading your personal space. The fusion pistol also makes a reappearance, with a supercharged mode that releases a big glob of fusion stuff into whatever alien happens to be wandering in front of it. And would it be Marathon without the flame thrower and rocket launcher? I don't think so.

The More the Merrier

As with Marathon, Marathon 2 has the ability to play with other people over a network. You can play in a variety of styles, including (interestingly enough) cooperative mode, where you work towards a common goal. In fact, you can theoretically play the entire game with a team of people, since you can start a cooperative game at the first level or halfway through the game. You can't save your games in this mode, however, so plan a long weekend if you want to finish the entire game with your friends. The simpler course is to play anarchy mode, where you pick up every weapon you can and try to blow your friends to smithereens. The games generally go quicker.

I haven't played the network version very much, but I've seen it a lot, and it looks really cool. I recommend having an Ethernet network handy, and also that each of the network players are on equivalent machines. Otherwise, you'll get sporadic performance at best.

Overall, if you don't mind violent games, you'll find Marathon 2 to be a blast. Everything about it makes you feel like you're really wandering around the planet's surface, and the combination of weapons, aliens, and plot makes for a truly exciting game. 🎮



HAVOC

Twisted Future of Traffic

by Frank Araullo

Imagine rumbling around in a demolition derby where the road feels like a washed out goat path and everyone is armed with rockets and ray guns. That, in a nutshell, is the basic theme of HAVOC. This game is the latest release from Reality Bytes, the same folks who brought us Sensory Overload, and adds a few twists to the usual 3-D shoot-'em-up out on the market.

For you old-timers out there, HAVOC is something of a mix between the road warrior classic Autoduel by Origin Systems and Doom by ID Software.

HAVOC is set in a post-holocaust world where the corporation has become the basic ruling body and the armed road vehicle the basic instrument of hostile take-overs. In this game, a powerful corporation is on the verge of collapse, and the player is one of many who have traveled to the corporate territories in search of fame and conquest.

The player is offered a choice of three vehicles that differ in levels of speed, armor protection, and maneuverability. The terrain is sufficiently varied that each vehicle would be more or less advanta-

geous at different stages of the game, so the focus should be on using what's most comfortable. Landscapes can vary from an Arctic wasteland to a desert wasteland to a moonscape wasteland to a—well, you get the idea.

The player begins in the middle of a target-rich environment with the immediate goal of collecting the three keys which open the portal to the next level. The only thing in the way is a lot of rough terrain and a small army of bad guys. Rampant destruction of everything in sight is usually a good strategy. The player

HAVOC sports one of the best multi-player game options that I've seen in a very long time. The HAVOC package consists of a full-game CD-ROM and a network player CD-ROM

faces a variety of stationary and mobile targets, some land-based and others airborne, many of which are out to blast you into small bits as well. All hostile vehicles act cooperatively; none of the bad guys end up shooting at each other.

As one would expect, there are weapons and armor power ups to be found on the playing field and in the wreckage of the vehicles. Run, shoot, collect good stuff, and move on. That's the basic idea, and Reality Bytes did a very good job of making it very enjoyable.

The combat areas lend a good deal of spice to the scenarios. Each area is unique and provides enough varied areas to make driving challenging without becoming the key challenge of the game. Collisions with canyon walls and pit floors will damage one's craft, so the player must

always be mindful of where to go, and not to go, when trying to out-manuever the opposition.

The opposition does an excellent job of using the terrain to their advantage. There is a small bird's-eye view on the game display which displays local terrain elevations as well as the locations of enemy craft. After a bit of practice, it becomes very useful in reading the best way to approach an area and also how to run away from pursuing tanks and hover craft.

The driver can be armed with one energy weapon and one projectile weapon at any given time. It's a very good idea to switch weapons often because there is no perfect super-weapon in HAVOC. I wish that one could have a wider choice of vehicles, or could be able to customize vehicles, as was possible in Autoduel, but the three vehicles offered in the game will do nicely for most players.

HAVOC sports one of the best multi-player game options that I've seen in a very long time. The HAVOC package consists of a full-game CD-ROM and a network player CD-ROM, both of which carry the Mac OS and Windows 95 versions of the program. Multi-player games are possible using modems, a null-cable serial link, via TCP/IP, LAN only; Reality Bytes advises against using SLIP or PPP for multi-player games—or over AppleTalk for Mac-only multi-player games. HAVOC supports the usual host-and-guest scheme wherein one player's computer is also bogged down with the task of managing the network game for the other players.

HAVOC also provides support for a so-called headless server wherein a computer is dedicated to managing the network game without also dealing with the input of a player. Because this computer need only deal with the network information and none of the graphics and sound effects, players can dedicate a rel-

atively slow machine as the headless server and use faster computers for the more graphics-oriented client. The headless server option also allows more players in a network game (up to 16, versus a limit of 8 players) when a computer is used for managing both the game and a particular player.

HAVOC does have a few hang-ups. One of the biggest is how the programmers implemented game control. Everything is done with keyboard commands: it's not possible to control the craft with the mouse. Although this might not seem like a problem at first, it starts to bog things down when a player realizes that only the four basic directions are supported. Motion control isn't as smooth as in other games that support mouse control, and oftentimes one gets stuck in a situation when the stream of key presses from the keyboard or joystick becomes jammed or buttons start to be misinterpreted.

Also, the graphics are rather rough. The graphics aren't nearly as good as in more traditional 3-D games, such as Marathon II, but they work in the game nonetheless. Other bits, such as the limited number of saved games and no access to the menu bar, remind me of the game's links to Windows. The ported look tends to get in the way of game play.

Kudos to Reality Bytes for providing 68040 support in HAVOC and bucking the recent trend of games such as Descent and Dark Forces which support only Power Macs and compatibles. I have heard a lot of discussion to the effect that a Level-2 cache greatly improves performance on both PowerPCs and 68040 Macintoshes, so don't be surprised if the performance on your particular Mac doesn't match what others experience.

Congratulations to Reality Bytes for producing HAVOC, a game that's well done, well played and well worth getting. 🚀

Driving a Tack with a Sledgehammer

Shanghai: Great Moments CD-ROM

by Paul Attinello

What does the hard-working professional need most on her computer? The perfect game, of course. Something intricate enough to obsess about, and complex enough to help you rationalize that you're actually learning something, but which won't force you to play when you really have to finish working on that page; something easy to jump into, and out of—and perhaps something that's not timed, so that when you pick up the phone to hear your client's voice, you aren't distracted by vengeful graphics destroying your virtual game pieces.

Well, unfortunately, the latest version of the successful mah-jongg program, *Shanghai Great Moments*, isn't like that at all. It's a real shame, because the program's predecessor, *Shanghai II: Dragon's Eye*, succeeds as an elegant example of my ideal game. I first bought *Shanghai: Great Moments* to replace my old version of *Shanghai* (version 2.1, 1989) under the assumption that the latest version of the program would be the best.

You'd think I'd remember Microsoft Word 6.0, wouldn't you? Some of us are slow learners...

If Microsoft Played Mah-Jongg

What could possibly be so wrong with a game, that I would decide within ten minutes of first booting it that I would take it straight back to the store? Well, of course, a large portion of that ten minutes was used just getting the game board



The basic tile set. Not bad, but surprisingly blurry and hard to read.

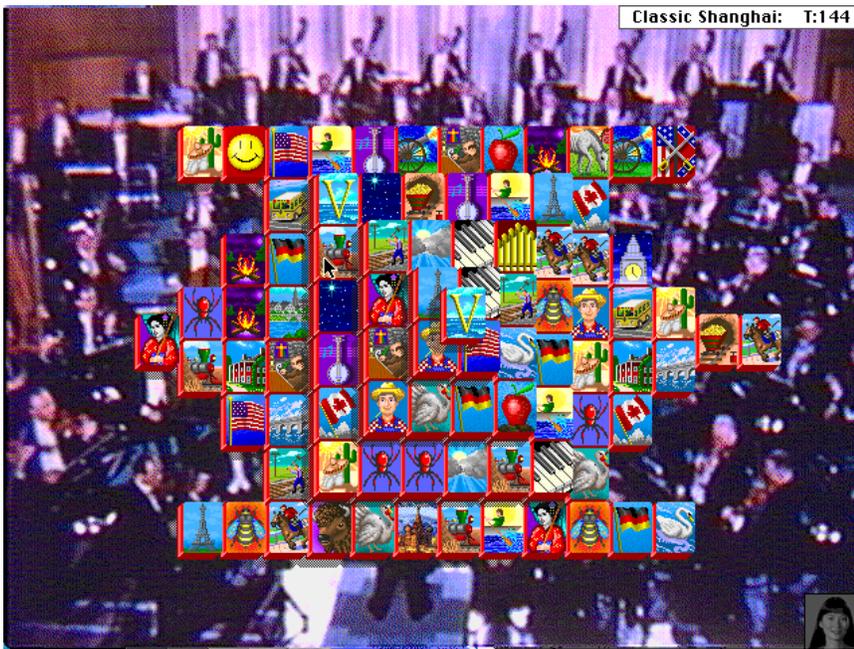
to appear on my monitor—but let's go through the problems one by one, in all the excruciating details.

The game runs only off of the CD-ROM (which has nearly 600 megs of data; I'm surprised there aren't Excel macros in there somewhere). Actually, for a game that creates a dense world (like *Myst*), I don't mind this. But *Myst* involves the player at a number of levels, offering a complex narrative and demanding a great deal of memory and calculation; you can hardly play it between paragraphs of an overdue article. I don't think there is anything you can do to the basic mah-jongg

concept that would make it worth the pause to install a CD-ROM, or could require 600 megs—or would be worth the constant waiting, given the glacial response of CD-ROM drives.

It's a shame that the 9.2 megs of hard disk space eaten up by the game aren't enough to run a simple game—and why does Trump Tower spring to mind?

There's something in that 600 megs, of course—this appears to be Activision's multimedia masterpiece, and every employee must have been generating materials to dump into the project for months. The game is played in front of detailed



The infamous Music Tile Set. Note the happy faces. The music clips are nearly as bad.

photographs of China; unfortunately the pictures themselves aren't very interesting, because too many are distant views of dull cityscapes, and too many have weak color differentiation. Game play brings in various lengthy music clips, all rather cheesy tonal knock-offs of pseudo-Chinese flute and koto (shades of *Flower Drum Song*). The timbres, which I suspect belong to the QuickTime instrument list, are mostly tinny, giving the whole a distinctly tawdry ambiance. (Perhaps the game is intended as a parody of bad chinoiserie!)

Some of that 600 megs actually has something to do with the game. There are alternative ways to play, different from the old standard of clearing elements from an aesthetically designed pattern. The newcomers are Action Shanghai, a mutation that demands quick execution against the computer's deluge of new tiles (what happens if the phone rings?); and Great Wall and Beijing, both of which add a great deal of complexity to the board by sliding tiles in different ways. Unfortunately, all three of these alternatives are designed in large, uninspiring chunks; they're difficult, all right, but much of the grace of classic mah-jongg has vanished from these blockbusters.

Most of the varied tiles in each of nine sets have their own animation and sound clip. This seems imaginative for

about a half a minute; unfortunately, as you might guess, that limping CD-ROM drive must supply each of them as you double-click. It is merely irritating, not amusing, as your hand passes rapidly towards the next pair of matched tiles, then *pauses*—while the star morphs to a dragon, increases in size to a photograph of a dragon sculpture, and drizzles down the page. Clever, yes, but wildly misplaced. And some of the drawings are so, well, cheesy—am I offending the California Cheese Board?

Much of the 600 megs is devoted to video clips of Rosalind Chao (whoever she is) explaining how to play the game. Rosalind seems charming, and I feel rather sorry for her—but why would anyone think that an abstract board game needs a games mistress leaning over your shoulder all the time? Rosalind shows up when the program boots (after no fewer than three corporate logos), and you can only stop her after she has gaily said “Hello!” After about ten of those, I wanted to strangle her. Even worse, quitting the program (which takes about two minutes—fatal at an office workstation) inevitably brings Rosalind back in your face with a hearty invitation to play again soon. This exit tag can't be turned off.

All this multimedia means that, of course, absolutely everything runs very slowly. Shanghai: Great Moments has

Rosalind [Chao] shows up when the program boots (after no fewer than three corporate logos), and you can only stop her after she has gaily said “Hello!” After about ten of those, I wanted to strangle her.

various tile sets, board formats, and, of course, the four different kinds of games. When you change from any of these to another, the screen goes blank for upwards of a minute or two; most exasperating was the time spent in looking through the tile sets, which was about 25 minutes to see nine sets. That alone would kill a game; all this version really has to offer is its expanded variations on the original—but what's the good of that if getting to those variations requires practically geological patience?

The last, and saddest, of the problems is that all this work resulted in a shoddy-looking product. The traditional tile set is designed to be about 30 percent smaller than that for Shanghai II (presumably to show the Great Wall behind it), with the edges blurred to make it look more real. Unfortunately, they don't look real—the resolution isn't high enough, and the colors don't contrast enough; these tiles are clearly two-dimensional, they're just unclear and surprisingly ugly.

The tile sets are on such arcade topics as Space Exploration, Great Moments in Romance, and Famous Inventions; most of these are photographs reduced to unattractive blots, and matching the tiles becomes a challenge because they are so difficult to see. I was most incensed at the Great Moments in Music set, which includes only a handful of identifiable musical images, and includes hideously real, yellow happy faces; this set is linked to a large set of sound clips, most of which are ludicrous (from *The Farmer in the Dell* on downwards).

Go Back, Go Back

So, what was I to do? I was addicted to my old Shanghai program, but not so much as to torture myself with this overblown monster. Shanghai II: Dragon's Eye, deservedly on our Choice Products

list for a long time, is no longer sold. But, glory be—the Used Computer Store (in Berkeley) had a secondhand copy, and I snapped it up. Version 1.0 was buggy, and I had several meltdowns; but Planet BMUG supplied an update to version 1.0.5, apparently the final version. This update has made me entirely happy; the music is admittedly cheesy (and easy to turn off), but the animation and sounds are unobtrusive and pleasant.

Shanghai's best aspect is the variation game, Dragon's Eye, excluded from the Great Moments collection. Dragon's Eye is actually more interesting than classic mah-jongg; its step-by-step struggle to beat the computer involves a few strategies, a lot of intuition, and an endlessly complex set of possibilities. The tile sets include several tasteful variations, including the Japanese tiles (where the face tiles

say *domo arigato* as they vanish). Then there's always the Freeware Simpsons Tile Set, which is just as tasteful (and probably as unlicensed) as it sounds.

It might be worth mentioning a similar game, a Shareware product included on the BMUG Games CD-ROM (version 3, volume 1). It is Shodan (version 3), a classy little product that is more fluid and natural in appearance than Shanghai. It's also more limited, of course; but the music clips in Shodan are actually pleasant, and the graphics soothingly aesthetic. When I introduced this game to a friend who is a decorator, he instantly became addicted and still plays it constantly.

The Agony of Defeat

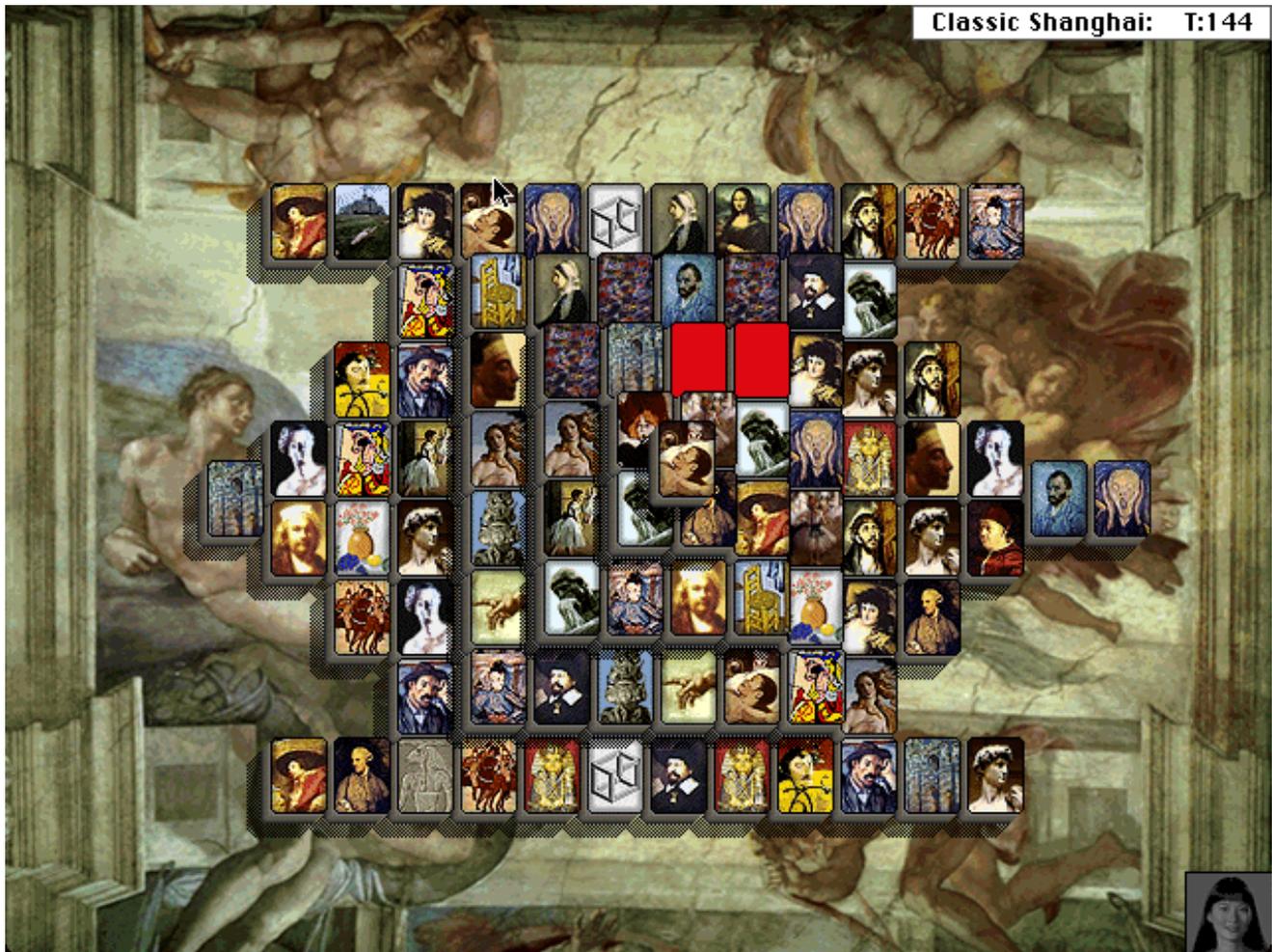
Shanghai: Great Moments was actually one of the worst moments in my twelve years of Macintosh. Not because the program was an important one, or because it caused me any real trouble, but because I had looked forward to it for so long, and then was so surprised and angry at the product's shoddy, tasteless quality. Unfortunately, M.A.C. (in Berkeley) doesn't accept returns of software (although there is no internal sealed packaging at all, and a CD-ROM can't be copied or damaged, and the game can't be run without the CD-ROM); so the only people who have won this round are at the Used Computer Store, who have benefited to the tune of a few dollars.

Fortunately, Shanghai II remains to soothe my working hours. I just hope it runs under Copland. 🐉

Paul Attinello is a writer, musician, and academic, with a number of published stories, poems, and articles on modern music. He has been a passionate (if amateurish) Mac evangelist since 1984, but only attained true happiness last year when he was finally able to purchase something with a color monitor, CD-ROM drive, and decent modem.



Figure 3. Winning at Shanghai: the only moment that was anywhere near being great (image from the original Shanghai).



Shanghai Great Moments

by Arthur Lau

The ultimate Shanghai game? Only if you consider the *size* of the game, which takes up 582.8 megs on a CD-ROM. The application is only 693k but the supporting data folder that holds all the music, sounds, tile animation, high-resolution movies, backgrounds, host hints, cursor effects, what have you, comes in at a whopping 549.9 megs.

The game needs to be loaded onto your hard disk and the supporting files are on the CD which must be used in order to play.

There are other innovations which makes this an excellent game. Each game layout takes about 45 to 50 seconds to

load and for each matching tile, a four-second QuickTime clip is played. If you successfully complete a game, several one-minute QuickTime clips are played.

Comments

- These games are very time consuming, especially with the ever-present four-second video clips. The continuous music in a rondo mode can be annoying, but you can always turn it off while playing.
- To speed up playing time of any game, the tile animation can be turned off, cutting out the time-consuming QuickTime clips you most likely

won't want to endure. This is similar to the original Shanghai. It really does speed up the playing time, but then again, you might like to see these short clips.

- If you find the cursor offensive (in an ethnic-conscious era, the cursor - as-Foo Man Chu might not be your cup of tea) it can be turned off; the cursor then turns into an arrow pointer.
- The tiles could be bigger and be more pronounced. This would be especially helpful when you are playing in the mode of space exploration,

science fiction, romance, art, people, music, inventions, and events. As it is, the tile pictures are too small to really recognize the pictures, especially if you don't know what to look for. These tiles are for young eyes, not old eyes. I would have preferred the tiles be the same size or just slightly smaller than the original Shanghai game.

The game demonstrated great use of multimedia video, audio clips and film clips. Activision did a good job except for the above comments.

Introduction and program ending is hosted by actor Rosalind Chao (from M*A*S*H, and assorted films).

Tile sets include:

Mah-Jongg

Standard Mah Jongg* tiles

- Background photographs: Great Wall of China, Forbidden City, Summer Palace, Hong Kong at Night, Junk and Shanghai City day and night scenes
- QuickTime movies: Xian terra cotta soldiers, Tiananmen Square, Red Square, Chinese opera

* Don't be mistaken. You will not find yourself playing Mah-Jongg online. Classic Shanghai is akin to playing Gunshy.

Space Exploration

Space-related events and people

- Background photographs: Earth, cosmonaut, Saturn
- QuickTime movie : Russian space exploration, US Rocket blastoff, Saturn flyby

Science Fiction

Characters in fictional science fiction

- Background photographs: cartoon moon, robot from "Lost in Space," flying saucer, the flying saucer from the motion picture, "When the Earth Stood Still"
- QuickTime clips : Jules Verne's movie "From the Earth to the Moon," science fiction film clips, motion picture film clip "The Day the Earth Stood Still"

Romance

Couples as we know them

- Background photographs: Duke and Duchess of Windsor, Prince Charles and Princess Diana (so much for romance), and President Bill Clinton and Hillary
- QuickTime clips: Duke of Windsor abdication speech, Charles and Diana showing off their first born, President Clinton and Hillary

Art

Historic and little-known masterpieces

- Background photographs: oil painting, The Last Supper, Sistine Chapel
- ^a QuickTime clips: monkey painter, art gallery

People

Famous people

- Background photographs: Amelia Earhart's aircraft, Martin Luther King, Jr., President John Kennedy's Inauguration
- QuickTime clips: Kennedy inauguration speech, Martin Luther King speech "I Have a Dream," Amelia Earhart's flight

Music

Composers and musical knick-knacks

- Background photographs: Betty Boop, country music star, symphony hall
- QuickTime clips: symphony orchestra, cartoon music, 19th century film clips

Inventions

Inventors and their inventions

- Background photographs: Thomas Edison, atomic laboratory, Wright brothers, cartoon. Great game to test your knowledge of people and their inventions. You can click on the matching tiles or the inventor and his/her invention as a match
- QuickTime clips: crazy invention, atom lab film clips, Wright brothers flight, Edison's inventions

Events

World events

- Background photographs: galloping bridge (Tacoma Bridge), Hindenburg disaster, Iwo Jima, WWII

- QuickTime clips: galloping bridge, Hindenburg crash, World War II film clips

Type of Games

Games can be played as single player or two player Classic Shanghai, Beijing, Contemplation, and Tournament. All these games can be played with countdown timer (time limit) and count-up timer (timed).

Concentration

A basic game of finding matching pairs where the tiles are placed face down.

Classic Shanghai

Your normal Shanghai game with fourteen different layouts. These are Hourglass, Cube, Yin-Yang, Evil Eye, Pyramid, Castle, Tectonics, Bridge, Stacks, Ice Breaker, Scorpion and Four Corners.

Besides the standard Classic Shanghai there are three new action games listed below.

The Great Wall

There are three options of play: five open windows, five open doors and one solid wall.

Only the open windows and doors are set in particular patterns. If a pair of tiles are removed from the top, there is no change in the pattern. But if a pair of matching tiles are removed in the middle or from the bottom of the wall the tiles above will fall and occupy whatever free area is nearby, thus disrupting the pattern. What you once thought were free pairs of tiles for removal are now blocked (Figure 1). The solid wall also played with dropping tiles seem harder to win. There is no hindsight in this game. The success for this game is to think ahead.

Action Shanghai

The game starts with a half-sized layout of seventy-two tiles. The other seventy-two tiles remain in the computer's hand-off screen and are placed on the layout one by one at an increasing pace throughout the game, a game where you try to clear the screen before additional tiles appear. Speed is a factor because stacks of tiles grow higher and block those that were once free.



The infamous Foo Man Chu

This "bak baan" pair can be removed.



After removing the "bak baan" pair, this "hung jung" tile has fallen down one level and is now blocked.

Figure 1. Although several pairs of tiles have been removed from the configuration at left, the resulting configuration of tiles on the right shows how the "hung jung" (the "red central" character. "Jung" is the same character that makes up the characters for China, Jung Gwo, when they thought China believed it was the center of the world) has become blocked, after the "bak baan" ("white board" tile, which is the tile with a frame around the letter "b") tile pair has been removed.

Beijing

This game consists of removing pairs of tiles in two different ways. First, the standard methods. The second way is to slide a tile or a series of tiles horizontally or vertically pushing any tiles in the way in the same direction, in an attempt to place a tile next to its matching tile. If there are no matches the moving tile or tiles will revert to its original position. 🎮

Shanghai Great Moments

Minimum System Requirements

Computer: 68LC040, or better
System 7.1, 7.5 recommended

Memory: 8 megs RAM, 5 megs free

Hard drive space: 16 megs

CD-ROM: 2X, 300k/second
transfer rate

Monitor: 13" color or PowerBook
color LCD display

Software: QuickTime 2.0 (with
QuickTime Musical Instruments and
PowerPlug)

Activision

11601 Wilshire Boulevard, Suite 1000

Los Angeles, CA 90025

Phone (310) 473-9200

Fax (310) 479-4000

Price: \$38

Casady and Greene's

Macworld Games Hall of Fame

by Scott Beamer III, age 10

Casady and Greene has just released a CD-ROM containing five of their classic games, all of them winners of the Macworld Games Hall of Fame. It has Glider 4.0.7, Crystal Quest, Mission Thunderbolt, Sky Shadow and Crystal Crazy.

Mission Thunderbolt and Crystal Crazy work on all models. On non-Power Macintoshes, all five will work. Crystal Quest, Glider 4.0.7 and Sky Shadow require the Monitors control panel be set to 16 colors. Among Power Macs, only the 6100 and 8100 models and the Performa 6100 series still offer this choice.

Installing the games is very simple. When you click on the Installer, a window pops up that lets you chose which drive to install it on, shows you a page or so about what happens during the installation, and lets you choose which games to install. Crystal Crazy was hard for me to install.

Glider 4.0.7 is an old classic. You fly a small paper airplane through rooms and all you can do is to go left and right, shoot rubber bands to get points, and to destroy enemies. When you're not over a vent you're falling, so there are batteries which allow you to fly without falling. It has over 100 rooms to explore. It also comes with Room Editor. It allows you to create your own houses and to edit the ones that it came with. It also comes with a small program called Zero which allows you to save your scores, erase them, and to get them back.

This game worked fine and installed easily on my Quadra 660AV, which has System 7.5.3. I still liked it though I probably haven't played it in five years. It crashed on me once or twice. Most of the time when I start the program, I have to reset the controls. I have tried Zero,

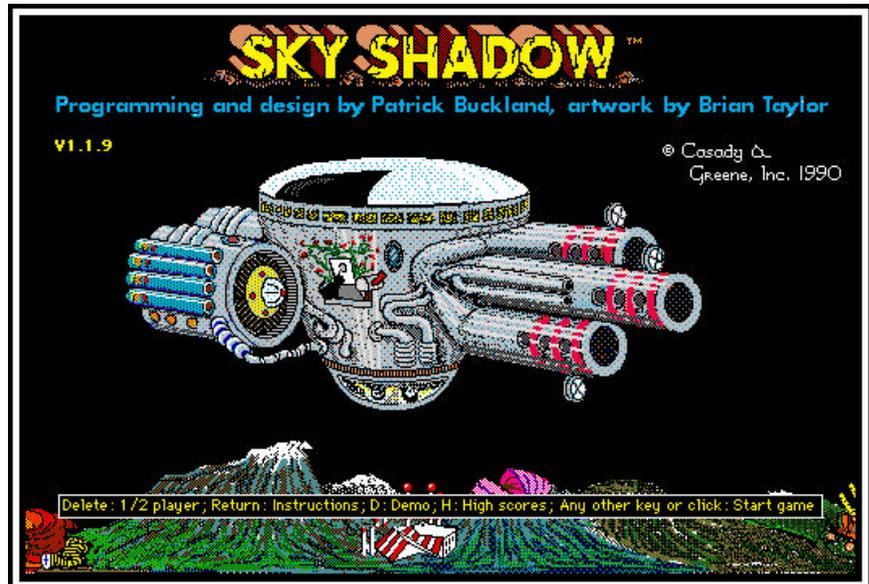


Figure 1. from Crystal Crazy

and I think it works pretty well. It works with some programs besides Glider.

Crystal Quest is a game in which you appear on the screen as a little space ship. You collect crystals as you run for your life. Your only defense is to shoot in the direction you're traveling and to make explosions that destroy everything on the screen. It comes with Critter Editor which allows you to make your own enemies, where they come from, what they shoot, and what their explosions are like.

I liked this game. The Critter Editor is good about letting you design critters, though I have never been able to play them. The scores have disappeared a couple of times. Over all, it is a good game.

Mission Thunderbolt is an adventure game. It's not like Doom or Marathon. Instead you appear as a little smudge in a maze as you hunt for a bomb that is

defended. The game reminds me of a quote from John Calhoun's Web page about one of the games he wrote, "Unfortunately, the splash screen was about the coolest part of the game." It had an incredible introduction, though the actual game was pretty boring. By the way, John Calhoun is a game programmer, and his Web page is among my favorites. You can get to it through Casady & Greene's Web page at <http://www.casadyg.com>.

In Sky Shadow you dodge enemy ships and bomb the enemies cities. There are neat, funny sounds that warn you when you got something good and tell you when you are almost dead. It has three zones though it takes almost fifteen minutes to beat the first one.

Sky Shadow is my favorite. It has fun sounds and good graphics. It shows a sense of humor. I have to go through a

really weird combination of instructions and demos to play more than two games without it hanging. I have been able to play only five games without it hanging. Each game is long enough that it really doesn't matter.

Crystal Crazy is like Crystal Quest but there are more things you have to do besides collecting crystals, such as sinking pool balls in order. This game has 133 waves, 20 nasties, and 16 goodies.

This game is cool, though it runs faster with 16 colors. It took me a long time to install it. It has some neat jokes such as when you type in your scores, it appears on a cow's butt. The new things you have to do makes it more funny, though it becomes a lot harder. If you like Crystal Quest, you will also like Crystal Crazy.

This CD-ROM also comes with electronic manuals and Adobe Acrobat Read-

er. There's also a collection of demos. I enjoyed playing the demo games, too. The demos are Spaceway 2000, Crystal Crazy, Zone Warrior, Amoebarena, and Glider Pro. My favorite is Ameobarena, though I could only play it for one turn before it would quit on me.

I would advise buying this CD-ROM unless you already have two or more of the games that are on the CD-ROM. This CD is fun for all ages. I enjoy it, and so does my Dad. I think it is a good deal because the it is full of stuff to make these games even more enjoyable. 🎮

Game Hall of Fame

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 22734 Portola Drive
 Salinas, CA 93908
 Phone (408) 484-9228
 Fax (408) 484-9218
 www.casadyg.com
 List price: \$59.95
 Street price: \$41.95

Macintosh Chess Software

by Richard Fowell

Introduction

Last year was good for Macintosh chess-playing software. The first Macintosh professional chess program arrived—HIARCS Mac (December), using the HIARCS 4.0 engine. The first native Power Macintosh chess engines appeared—Grandmaster Chess and GNUChess 4.0b5. Finally, a very strong, full-featured Freeware Macintosh chess program was released—MacChess 2.0 (December). This year looks promising for Mac chess software, too. Here I discuss which programs are available, how strong they are, how to get them to play their best, where to obtain them, and what their features are.

This review focuses on Macintosh chess-playing software. A Macintosh Chess FAQ (Frequently Asked Question) is periodically posted to the Internet newsgroup rec.games.chess.computer. It also discusses Macintosh chess databases and utilities. There are three Mac chess databases: Bookup, DejaVu, and SmartChess. For more information send email to the respective developers—Bookup: bookup@bronze.coil.com, DejaVu: dejavu@chessworks.com, and SmartChess: maeser@inf.ethz.ch.

I will upload the Freeware/Shareware/Demoware files mentioned herein on the Berkeley BMUG BBS. With luck, they may also be on the CD-ROM accompanying this Newsletter. GNUChess, MacChess 2.0, and the HIARCS demo are available on the Wide World Web and America Online (AOL). On the Web, go to <http://hyperarchive.lcs.mit.edu/HyperArchive.html> and search for chess and hiarcs. On AOL, go to keyword *chess*, and look in the Chess File Library.

Chess Engine Strength Tests

To test chess engine strength, I ran the One-Hour Computer Chess Reports Test found in Computer Chess Reports (CCR, 5:1) to gauge tactical and posi-

<i>Chess Software</i>	Version Number	One-Hour Points	One-Hour Rating	Maresch Points	Maresch Rating	Average Rating
HIARCS Mac	1.0	63	2510	25	2400	2455
Sargon V	1.0	52	2400	23	2340	2370
MacChess 2	2.0	43	2310	16	2130	2220
Grandmaster Chess	1.0	45	2330	15	2100	2215
Psion Chess	1.6	43	2310	12	2010	2160
Chessmaster 3000	1.1	36	2240	10	1950	2095
MacChess	1.0	28	2160	---	---	---
Checkmate	1.05	14	2020	---	---	---
GNUChess	4.0b5	14	2020	---	---	---

Table 1. Macintosh chess game rating estimates for chess-game engine strength. See text for explanation of tests.

tional strength. I also ran the Maresch test from CCR (5:2) to gauge ending strength. The One-Hour Test used a Power Macintosh 6100/66AV (66 mHz PowerPC 601) with the Connectix Speed Doubler 680x0 emulation software. The Maresch Test used a Quadra 610 (25 mHz 68040), and was only run on the top six programs. When programs offered different playing styles, the software was set to whatever the documentation recommended as strongest.

Besides helping to rank the software, these tests provided insights into how to get the best out of the software, and the effects of the hardware platform, including a data point on how the PowerPC compares to the Pentium as a chess platform. See Table 1 to estimate how the rankings might change if run on a 680x0 Mac, or if Speed Doubler were not present. A factor of two in speed is worth roughly 60 rating points in this range.

Test Results

The test results are presented in Table 2. Keep in mind that these ratings are guesses at what the United States Chess Federation ratings (Swedish Ply ratings + 180 points) might be for these games using tournament time controls. Although the One-Hour Test estimate is pretty good in general, the deviation between the One-Hour Test results print-

ed in CCR (5:2) and Ply + 180, ranged from -69 to +102 points. Also, some programs are relatively strong at Blitz chess and weak at slow chess, and vice versa.

Note that the relative rankings of the two PowerPC-native programs, Grandmaster Chess and GNUChess, will depend heavily on the machine you use. On a Power Mac without Speed Doubler, Grandmaster Chess should be stronger than Sargon V, but not quite as strong as HIARCS. On a non-Power Mac, Grandmaster Chess should be weaker than Chessmaster 3000.

Processor Code	Microprocessor	Normalized Speed
680x0	68040	1.0
680x0	PPC 601, Apple emulator	0.18
680x0	68030	0.47
680x0	PPC 601, Speed Doubler	0.74
Intel	Pentium	1.3 (1.2–1.5)
PowerPC	PPC 601 (native)	2.7 (1.5–4.0)

Table 2. Calculated relative microprocessor speeds; (range).

Speed Effects of Software Configurations

I tried various software configurations to see what slowed down program thinking speed. In descending order they were: another program running in fore-

ground, turning off Speed Doubler, another program running in background, and using color versus B&W. Most chess engines pause completely as long as another program is in front—one even did so when the screen saver came on. Check this before you try running overnight! On the Power Mac, non-native programs ran much more slowly using Apple's default emulator—turning Speed Doubler off slowed them by a factor of 2 to 5. Different programs were affected differently. HIARCS ran one-quarter as fast, and Chessmaster 3000 ran half as fast. I found that simply having a SimpleText document open in the background slowed programs considerably—HIARCS took 32 seconds to solve a problem that took 20 seconds when SimpleText was off. Finally, some Macintoshes slowed down slightly when going from B&W to 256 colors but some didn't. To measure the effect on your machine, time a problem on a bare-bones configuration: e.g., reboot with the shift key held down to prevent extensions from loading, set the monitor to B&W, minimum screen size, and have only the chess program running. Compare this time to that running in your usual configuration to see if the difference is worth worrying about.

Speed Effects of Hardware Configurations

A 50 mHz machine runs twice as fast as a 25 mHz machine, all other things being equal. And the Power Macs run at much faster clock rates than the 680x0 Macs, but how does the type of processor affect thinking speed? We need to know this to predict how machines of different types and processor speeds will do against each other. Table 1 shows how different processors affected HIARCS speed after normalizing to remove the effects of different clock rates. These results were different for different programs—perhaps the type of code and compiler causes the difference.

All but the 68030 and the PowerPC 601 native tests (Table 2) were computed from three test problems run on HIARCS (CCR One-Hour Test problems 1, 9, 11). The Pentium test used HIARCS 4.0 on a Pentium 90 (same chess engine). Only one HIARCS test ran on the 68030. Because there is no HIARCS PowerPC 601 native version, I ran five problems on Grandmaster Chess

on the 6100/66 and the Quadra 610 to see how native PowerPC code compared to 680x0 code. It is interesting to compare the PowerPC native result with the Pentium result. This indicates that the PowerPC 601 may be a better chess platform than the Pentium. When native versions of professional chess programs become available, we'll be able to test that hypothesis!

Chess Game Features

The features of the six Macintosh chess computer games are shown in Table 3. Please note that features common to all programs are listed at the bottom of the table and that some features are not mentioned due to space limitations.

HIARCS 1.0 Mac

HIARCS seems the right choice for the serious analyst, but at \$150 and with no return policy, it's not a lightly made choice. Power Mac owners will want Speed Doubler with this. The HIARCS chess engine is Mark Uniacke's HIARCS 4.0. Not surprisingly, it seems to be the strongest Mac program by a good margin. It is also the only released Mac program that handles PGN and EPD files. It, and Chessmaster 3000, seem to be the only programs that will annotate a whole game for you. It has a next-best feature for exploring alternate lines in a position that is a real help for serious analysis. There's also a Process EPD command that's supposed to process Bookup files. Because I don't have Bookup, I haven't tried it.

HIARCS graphics seem pretty good to me. Because this is largely personal taste, those who are greatly concerned should download the demo mentioned above. HIARCS has only one chess set, but I like it best of all the Mac chess sets. The pieces are the 2-D diagram style I'm used to from decades of chess magazines. There's also only one board choice. Several people have expressed a desire for a different board pattern. I find the pattern perfectly acceptable in the 256-color mode (buff-colored light squares; finely-chequered, green-colored dark squares),

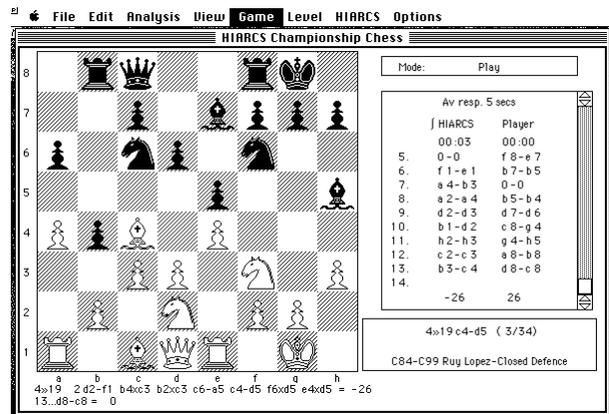


Figure 1. HIARCS

but find the dark squares a little too dark in B&W. Because the board looks distinctly different in 2, 4, 16, and 256 colors, most people should be able to find one they like by experimenting with their monitor color depth setting. For those comfortable with a resource editor such as ResEdit the square patterns (ppats #128 and #129) are easily changed, but this isn't a good option for the inexperienced. I've created a Freeware patcher program that will change the dark square pattern and add more menu command-key equivalents. It is called *HIARCS unofficial patch B*, and includes two versions—one for the demo version of HIARCS and one for the full version. If you use this, by sure to keep locked, unmodified backup chess game copies, and name any patched copy so you won't confuse it with the original. HIARCS is shown in Figure 1 (with the modified dark squares).

HIARCS requires a 68020 processor or better, 2 megs RAM, 1.3 megs hard disk space, and System 7.1 or better. No copy protection. The U.S. distributor is ICD (800-645-4710). The publisher is Applied Computer Concepts Limited, The Latton Bush Business Centre, Southern Way, Harlow, Essex, CM18 &BH, England. Email address: hiarcs@acc-ltd.demon.co.uk.

Sargon V

The right program if you want a strong Mac chess program but don't want to spend \$150 for HIARCS. Sargon V uses an engine from Dan and Kathe Spracklen. It is the second strongest of the Mac chess programs, and much cheaper than HIARCS—I paid less than \$20 for it. It has many features including some tutorials. Although the color pic-

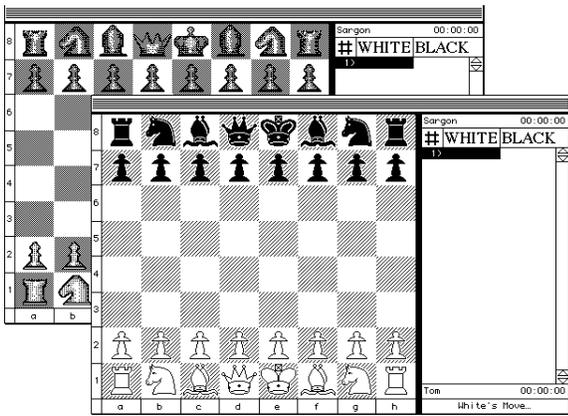


Figure 2. Sargon V Sets

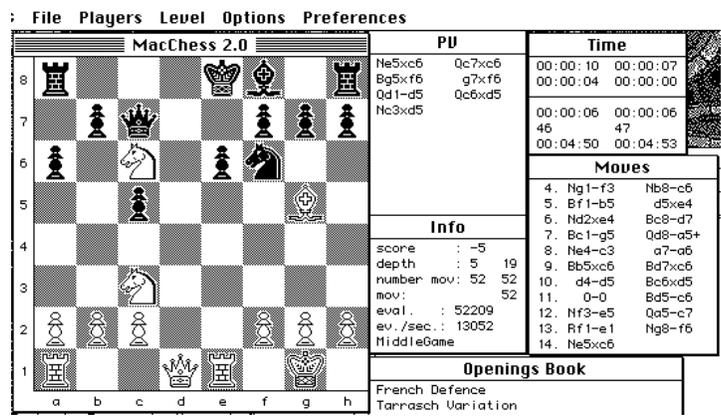


Figure 3. MacChess 2.0



Figure 4. Chessmaster 3000

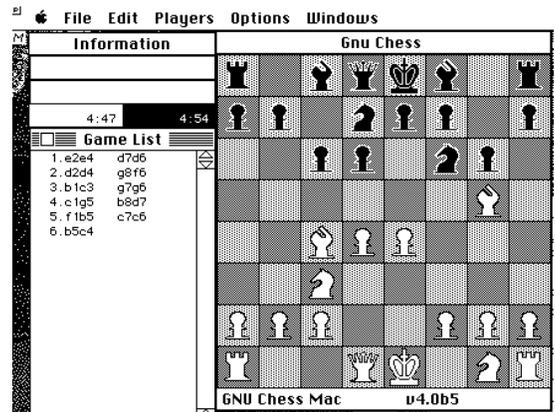


Figure 5. GNU Chess 4.0b5

es are okay, the monochrome pieces are hard to make out, so I created my own Freeware set for Sargon, called *Sargon V 2-D diagram set*. The original, and new sets, are shown in Figure 2.

Sargon requires a Mac Plus or better, 1.2 megs RAM, 2 megs hard disk space, and System 6.0.7 or better. Book copy protection—answer a question to successfully install. The publisher is Activision (310-479-5644). I had trouble finding a distributor—I got my copy from Cyberian Outpost, Inc. on the Web at <http://www.cybout.com> (203-927-2050).

MacChess 2.0

MacChess is strong, full-featured and free—what's not to like? W.A. Beusekom wrote MacChess which evolved from the TOBBER Atari program he entered in the 1989 Dutch Computer Chess Championship. In the 1995 championship, MacChess scored 5 1/2 and 5 1/2. Given its hardware disadvantage, that's good. (It ran on a Centris 610, 25 mHz, 68040; most of its opponents were run on 100+ mHz Pen-

tiums). He hopes to release a native PowerPC version by January 1997.

MacChess 2.0 prints nice graphic diagrams and the text diagrams it exports can be read by Chessmaster 3000. The clock display is the most elaborate I've seen (10 fields). MacChess is also the only program that lists the number of positions evaluated. It has six-piece sets—the default is a classic 2-D style reminiscent of the Hastings chess font (Figure 3).

MacChess requires a 68020 or better, 2 megs RAM, 0.6 megs hard disk space, and System 7 or better. Available on the Internet at: <ftp://mirrors.aol.com/pub/info-mac/game/brd/mac-chess-20.hqx>

Grandmaster Chess

This uses a Mark Lefler chess engine based on his NOW program. It is a *fat* program—both 680x0 and Power Mac code coexist in one file. It is one of the few programs that supports modem and network play. The least attractive feature is that it refuses to launch if the CD-ROM

is not in the drive, so PowerBook owners should look elsewhere.

Grandmaster Chess requires a system with 4 megs RAM, 1 meg hard disk space (optional), System 7 or better, and a CD-ROM drive (2X minimum). CD-ROM protection check at each program launch. The publisher is Capstone (800-468-7226). Most of the big Mac mail-order houses didn't have it. MacZone had it for \$39 (800-248-0800).

Psion 1.6

Psion is an old Richard Lang program (1985). It has been out of print for many years, but is discussed here because it remains one of the strongest Mac chess programs. It is a tribute to Psion's authors and the Apple System programmers that a program, written when the high-end Mac had 512k RAM and a 68000 processor, still runs on Power Macs (albeit with some screen artifacts).

Crafty Mac

This uses a multi-platform chess engine from Bob Hyatt (author of *Cray*

Blitz). The source code and non-Mac binaries of Crafty are freely available on the Internet. The Mac port is being worked on, but has not been released. I've played with a beta just briefly. It should be quite strong based on the performance of the DOS version. The interface is currently keyboard input and text graphics output on the Mac.

It might be out by the time you read this—might not. String search for *crafty* in the usual places. Freeware.

Chessmaster 3000

Best choice for novices, or those wanting to play against varying styles. No credited author for the chess engine. There are many tutorial features: online tutorials for rules, notation, endings, mates, and tactics. Also, it will show legal moves, squares threatened, and run opening practice. Offers detailed position analysis in narrative form. Quite full featured (Figure 4) Offers 17 built-in player personalities and lets you create more by tweaking ten controls. This is how you turn off Permanent Brain and Opening Book, if you wish. Includes Morphy, Marshall, Lasker, Capablanca, and Tal styles.

If only the engine were stronger! It looks like the next Mac update will be Chessmaster 5000 sometime summer 1996.

Chessmaster 3000 requires 68020 or better, 1.5 megs RAM, 1.7 megs hard disk space, System 7.0 or better. Book copy protection—answer a question to successfully install. The publisher is Mindscape (415-883-3000). Seems to be widely available. If you have a CD-ROM, available in MacPack form bundled with other games, e.g., \$50 for 10 games.

Checkmate

Checkmate seems like a good program to get if you want to play other humans over a modem. Checkmate uses a Chris Whittington engine. Its modem feature is also compatible with Battle Chess, which is fairly popular on both Macs and PCs. The manual has a nice tutorial on the rules of chess, but there is no online tutorial. The program has a decent set of features, it just seems weak.

Checkmate requires a Mac Plus or better, 1 meg RAM, 1.5 megs hard disk space. Book copy protection—answer a question to successfully install. The pub-

Features	HIARCS	Sargon	Mac-Chess 2	GrdMstr Chess	ChsMstr3000	Check-Mate
Human Input						
Mouse Click & Drag	Yes	Yes	—	Yes	Yes	—
Click Piece, Square	—	—	Yes	—	—	Yes
Keyboard/Modem	—	Yes/—	—	—/Yes	Yes/—	Yes/Yes
File input						
PGN, EPD, Bookup	Yes	—	—	—	—	—
Forsythe, Listing	—	—	—	—	Yes	—
File Export						
Text move listing	Yes	—	Yes	—	Yes	—
PGW/list + analysis	Yes	—	—	—	—	—
PGN and EPD	Yes	—	—	—	—	—
Forsythe position	—	—	—	—	Yes	—
Text/Graphic Board	—	—	Yes/Yes	—	Yes/—	—
Print						
Move list	—	3 ways	Yes	Yes	5 ways	Yes
Diagram	—	Graphic	Either	Text	Graphic	Graphic
Display						
2-D sets/boards	1	3/3?	7	4/10	3	1
3-D sets/boards	0	3/3	0	4/10	4	1
Blindfold Play	—	Yes	—	Yes	Yes	—
Playing Features						
Playing styles	3	1	1	3	tunable	2
Opening Books	2	1	1	4	tunable	tunable
Time control levels	3	3	2	1	1	odd
Preset time controls	12	—	256	4	—	—
Pause	Yes	—	Yes	—	Yes	—
Analysis Features						
Next Best Move	Yes	—	—	—	—	—
Analyze Game	Yes	—	—	—	Yes	—
Narrative Analysis	—	—	—	—	Yes	—

Table 3. Macintosh chess programs: key features. All programs tested for the following: read own file format, export own format, display: White at top or bottom of screen, time for both sides, move listing, principal variation, principal variation score; allow position setup, "infinite" time mode, can disable opening book and thinking on opponent's time, give hint, have either human or computer play either side, force/retract move.

lisher is MacPlay (714-553-3530, email 71333.1467@compuserve.com). MacWarehouse (800-255-6227) has it for \$15.

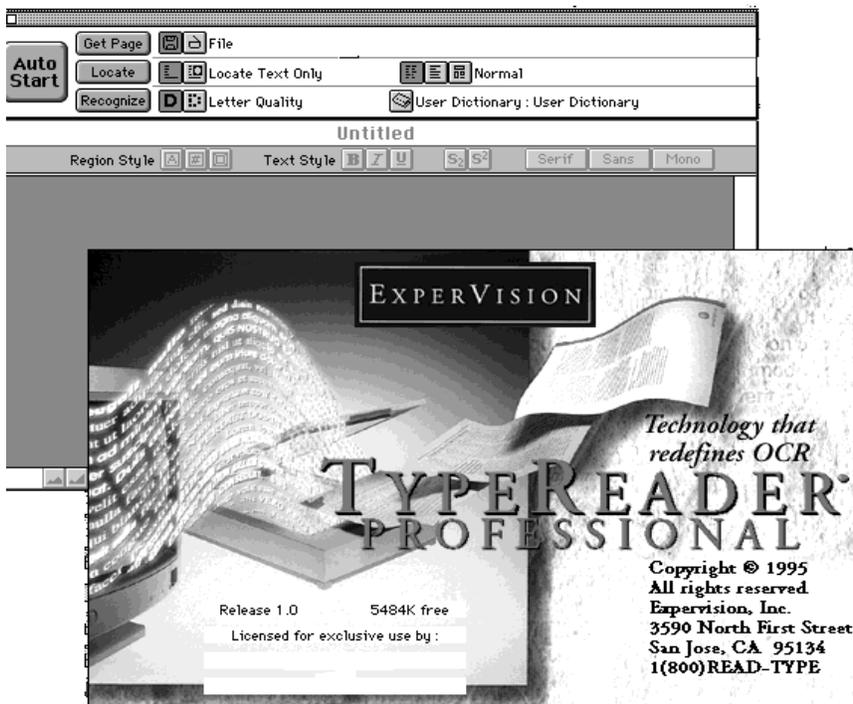
GNUChess 4.0b5

Until I found MacChess, I recommended GNUChess as the Freeware Mac chess game to get. Now its main benefits are: it is an example of a *fat* chess program, and its source code is available (so is Crafty's). Very few features: it doesn't show what the program is thinking—no Hint feature, and has no setup feature (Figure 5). Available on AOL or the Web

The End of Typing as We Know It?

TypeReader Professional 1.0

by C.R. Clowery



TypeReader Professional evolved from a technology developed fifteen years ago at two universities in - China. Its early prototype was designed to recognize Chinese characters. That project was eventually tabled, but was later reincarnated specifically for the optical character recognition (OCR) of the Roman alphabet and the conventions of English language typography.

Since 1991, the University of Nevada at Las Vegas has annually tested OCR software with the financial support of the U.S. Department of Energy. Entries come from all over the world. In 1993 and 1994, Expervision's TypeReader produced the

best overall character accuracy, page composition, and suspect character marking. TypeReader Professional 1.0 is the latest version of this award-winning OCR product. This review will present my experiences as an OCR neophyte with TypeReader Professional.

To fully appreciate the virtues of OCR, imagine that you had to handle the following jobs:

- To save the coast from polluters, your law firm has to computerize boxes of legal transcripts and depositions.
- Your library wants to archive its collection of Buddhist sutras in digital form and then issue a CD-ROM.

- To get a grant, your wife's school needs to process enrollments and grade reports for the last ten years to submit to a national database.

In all of these cases, a method of turning printed pages into electronic form would certainly save hours of effort. Well, if you have a scanner and TypeReader Pro, you are on the way to the solution.

True Story

For the average user, OCR is a typing shortcut. For example, while I was taking a French course in suburban Washington, D.C. in 1992, I needed to edit a thirty-page article and turn it in the next day. The draft was typed on an IBM Selectric typewriter, so I had only one original version and no electronic copy. I was calculating the consequences of another sleepless night re-editing when a graphics designer friend suggested, "Why don't you scan it into a Mac with OCR and save all the work of retyping?"

"Sounds great! What's OCR?"

Innocently, I drove the length of the Rockville Pike looking for a copy shop or computer lab that could scan my article. Only one place offered scanning for hire, and the clerk wanted eight dollars per page. "I'm backed up for a week, and I can't guarantee perfect accuracy," he said. "Depending on the quality of the original, you may wind up with a page of illegible nonsense."

I replied, *Au revoir*, and quit the place. For \$120 and seven days, I could have hired a typist and gotten perfect results. Because my deadline and budget did not permit, I spent the night at the

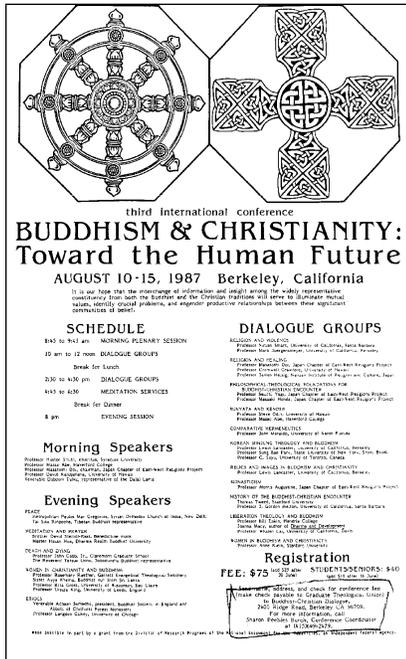


Figure 1.

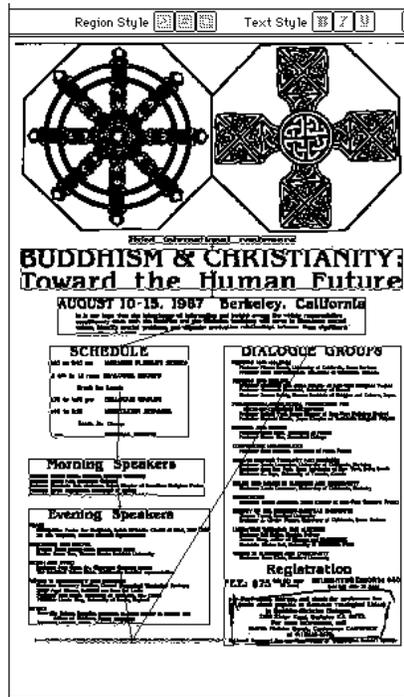


Figure 2.

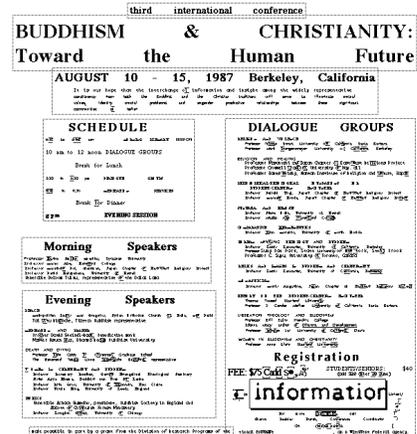


Figure 3.

keyboard. Red-eyed and exhausted, I managed to key-in the document on my Mac Classic by the next morning. The document was riddled with 3 am double-vision typos.

Optical Character Recognition technology has come a long way in three years. Yesterday I installed a copy of TypeReader Pro in my Mac IIsi and hooked up a scanner to the SCSI port. I hand-fed the same thirty-page document sheet by sheet onto the scanner, punching one button each time. The software ran up and down, reading and automatically proofing the type. *Et voilà!*: the document was reborn in electronic form in less than an hour. I felt a bit like John Henry, the steel-drivin' man who was humbled by a steam-hammer. To emphasize the speed and convenience of digital technology, TypeReader Pro caught half a dozen typos and goofs that I had missed while proofing. (Note: The premium model of many scanners comes with an Automatic Document Feeder, which lets one run the process even faster. Take a look at a high-volume copy machine at your local copy shop and watch how an automatic sheet feeder turns a tedious, two-hour single-sheet hand-feeding chore into a one-button, machine-precise, labor saver. You will get the idea.)

What is OCR?

OCR is a technology that works a scanner like a printer in reverse. You scan in an image of groups of dots on white paper; the software's algorithms then recognize the individual characters as letters of the alphabet or other typographic characters and store them on your drive. With the exception of handwritten documents, one can turn correspondence, resumes, contracts, proposals, legal depositions, reports, and forms into editable electronic files. OCR lets you computerize printed material for desktop publishing, archive records of all kinds (including magazine and newspaper stories), and convert tabular data into a spreadsheet file. In short, you save typing time, friends.

How Does It Work?

You turn on your scanner, place the document on the glass and click only one button. The scanner takes a picture of the page. TypeReader Pro takes three steps to process the scanned image. It "gets" the image, "locates" its various regions, including graphics, and then "recognizes" the individual characters. Many parts of these tasks are done invisibly: spell-checking against several dictionaries, straightening a crooked scan, and deciding which characters are suspect and which are legible. Then you can save the

proofed page as a TypeReader Pro document or in a variety of familiar word processor, spreadsheet, or graphics formats. The amazing part: after the Mac reads the page via TypeReader Pro's precise gaze, in most cases the results are more accurate than human typing—and hours faster.

Test Lab and Illustrations

I scanned two old posters with challenging fonts, large graphics, and sections of text circled in pencil. They were also blurred and creased from multiple folding (Figure 1). First TypeReader Pro chose the various areas to locate (Figure 2), then it proofed the complete document and marked the suspicious or unreadable characters (Figure 3). The On-Screen WYSIWYG Verifier has picked up some broken characters from the tiny 6 point Celtic Bookhand font. The penciled circle was interpreted by the software as "background noise" and deleted. Note that the entire document has been read in with formatting intact, and the graphic embedded on the page.

The vegetarian poster demonstrates both complicated zone locating (Figure 4) and the precise way TypeReader Pro reads and verifies even badly broken character shapes (Figures 5). I was impressed with its speed and accuracy.

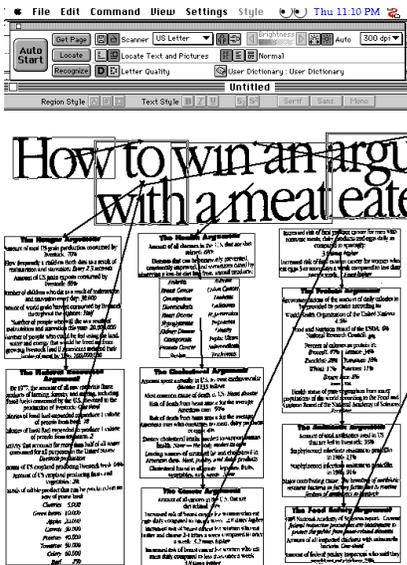


Figure 4.

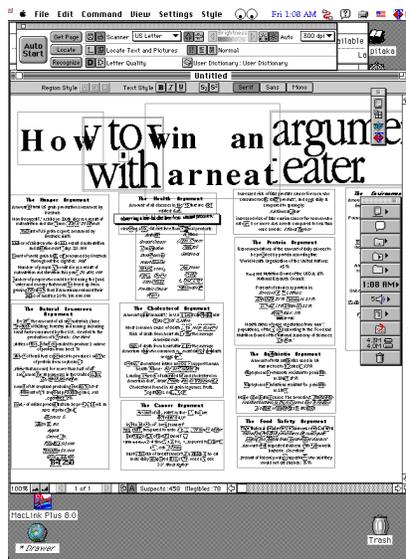


Figure 5.

TypeReader Pro's Features

TypeReader Pro's features solve real-world problems that arise when you need to recognize a variety of documents and images, including multi-generation faxes, skinny portraits, broad landscapes, pages with pictures, type in columns, most typewriter fonts, documents with tables and charts, magazines, newspaper halftones, and graphics. Here are the features grouped under the three steps the software takes:

Get (Scanned Input)

- TypeReader Pro recognizes pages that require different type quality settings or pages that require different scanning resolutions.
- You can read pages that have mixed orientations (portrait or landscape). You can experiment with the best settings for recognizing a complicated page before you commit to a scan.
- You can rotate a page, which is often necessary with newspaper clippings of irregular sizes.
- The program recognizes hand-held scanner input.
- You can get good results with draft-quality pages from dot-matrix printers.
- The On-Screen Verifier is a WYSIWYG editor that lets you confirm recognition without referencing the original document. You proofread on the actual image. There is no need to constantly compare with origi-

nals, which other OCR products force you to do.

Locate (Proofing Throughput)

- The spell checker references extensive dictionaries with specialized vocabularies such as legal, medical, and geographical terms.
- You can tailor the proofing to use brackets or parentheses, asterisks or bullets, etc., to mark corrections, which produces nearly 100 percent accuracy.
- TypeReader Pro automatically removes background color and noise—for instance, marks on creased or wrinkled pages or on edited pages with penciled-in circles or proofreading marks.
- TypeReader Pro automatically straightens skewed images up to 15 degrees. Skews, of course, make normal ABCs look like something else to the logical eye of the computer.

Recognize (Output)

- TypeReader Pro outputs the recognized document to Microsoft Word, Excel, WordPerfect, MacWrite, MacWrite II, RTF, WriteNow, and Lotus 1-2-3, or to TIFF or PICT graphics format.
- You can defer processing, which means you scan the pages now but proof them later, say, when the last chapter of your novel is done.
- After auto-processing a document you can redo a step.

- Power users who want more control of the process can manually choose to “locate” regions, and can vary settings of the “locate” controls; you can define the steps and then create a template for the formats you regularly use, including templates for different pages in the same document.

- TypeReader Pro gracefully lets you keep the typeface and typesetting attributes of the original; the document comes out looking like it went in, only now it's on your hard drive and can be edited.

- Machine-Learned Fragment Analysis (MLFA), drives the engine of TypeReader Pro, according to its developer, Q. R. Wang. ExperVision claims this new generation of OCR technology can read over two thousand fonts. “Feature-extraction” technology, the engine that runs the older generation of OCR products, uses algorithms that identify each feature of a character (i.e., curves, lines, and open and closed loops) and makes “best guesses” as to which character is represented by the particular collection of features. This approach is fast and accurate with a limited number of typefaces, but it fails with degraded images, and stylized or non-standard typefaces. At best, “feature-extraction” technology can recognize approximately 200-300 plain, non-stylized typefaces. MLFA combines sophisticated pattern recognition with multidimensional mathematical modeling, producing a technique that is capable of recognizing a wider range of fonts more quickly. You don't have to train products with this engine to read fonts—TypeReader Pro can automatically recognize over two thousand typefaces without training it on your font collection.

- Complete Page Recognition. ExperVision's other outstanding feature. Instead of simply recognizing characters, TypeReader Pro recognizes complete pages with their layout formatting structure intact. Most OCR software can inspect the scanned page image and attempt to recognize the dots on the page as characters, then transform the image into a plain text file. TypeReader Pro does those jobs, but then gets the entire

page into your word processor or spreadsheet of choice as it is, retaining the shape, form, type, and spacing as well as the content of the input page (Figure 6).

The University of Nevada trials showed that TypeReader Pro, although it still makes errors, makes fewer of them than other programs. TypeReader Pro 3.0XA, now available for the Windows PC platform recently out-performed Caere and Xerox's highly advertised products in tests run by *PC Magazine* (Oct. 10, 1995). TypeReader Pro was faster and more accurate. You can bet it beats your fastest steno-pool typists.

Cons

In his Fall '92 review of OCR technology for the BMUG Newsletter, Scott Beamer mentioned that the earlier incarnation of TypeReader Pro was fast and accurate, but was designed by IBM PC engineers who didn't understand the Macintosh interface. To some extent this remains true in TypeReader Pro. The gallery control panel still rests uncomfortably on top of the open window, and the document default window opens to 9" Mac Classic size. I would prefer a way to automatically retrain the window to a larger default position. Also, as Scott mentioned, some power users would prefer more access to the mechanics of the process. For one thing, you can't turn off the invisible spell checker! It is quite literate, but I'm used to exercising my own decisions, thanks. The interface is functional, not beautiful.

Pros

TypeReader Pro is truly easy to use, giving you just one button to push if you choose the three-step automatic functioning. The manuals are helpful and clearly written, the on-line help and balloon help perform well, and ExperVision has some of the classiest promo and packaging materials in the industry.

A Note on Scanners

I would suggest that you get acquainted with your scanner before you install the OCR software. ExperVision's technical support people are helpful, but many of their calls for help come from folks who don't know how to operate their scanner. TypeReader Pro provides over 40 scanner drivers, and you can chose your brand

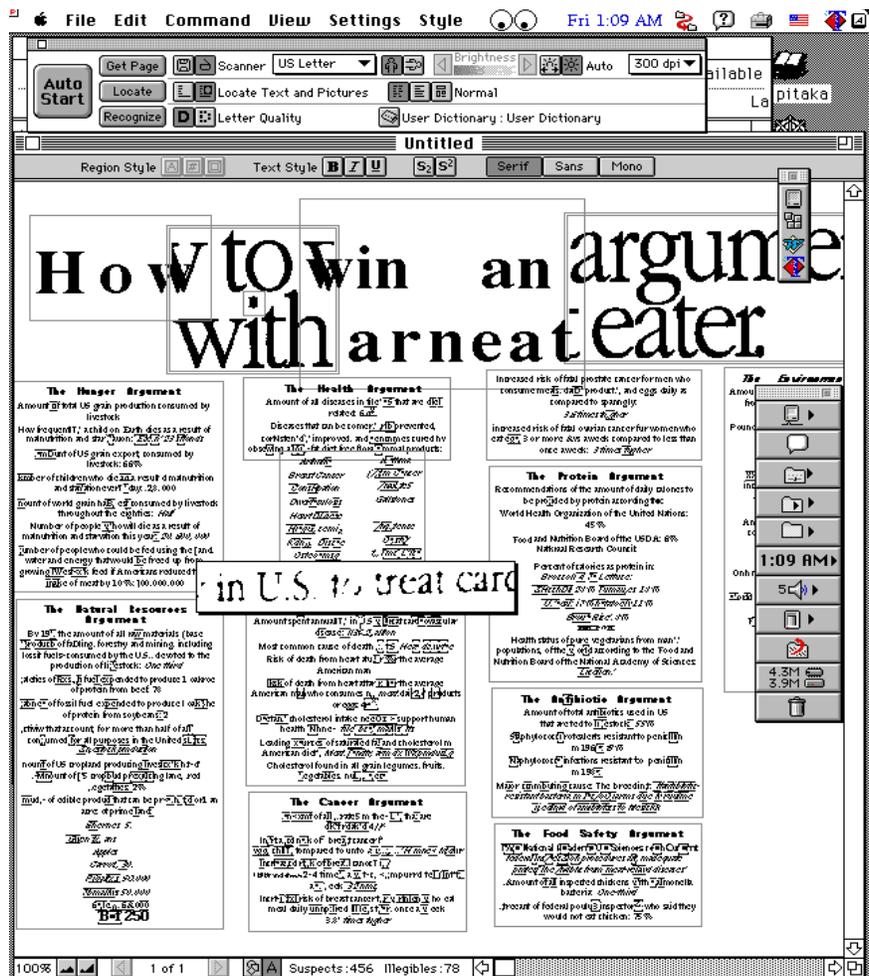


Figure 4.

of scanner via the Chooser in your Apple Menu. TypeReader Pro requires a minimal amount of fussing, because there is only one button to push unless you elect to customize it for a demanding job. Do yourself a favor and reduce the SCSI chain that leads to your scanner. SCSI address manipulation is still a black art, and reducing the number of peripherals increases your chances of success.

OCR, little used or appreciated, is a tool that could revolutionize the way we computerize the world of print media. Giant archiving projects are underway in libraries and government service agencies as well as in industry. OCR promises labor-saving benefits to somebody who adapts tools like TypeReader Pro's recognition engine into an intelligent system. Of course, in this universe, for every advance there will be an equal and corresponding retreat. Each gain in ease and convenience yields a proportionate decay in mind-body motor skills. For instance, will OCR lead us to forget how to type? 🐘

(sung to the tune Camp Town Races)
Got a scanner, switched it on, doo da, doo da.
Clicked the TypeReader icon, oh doo da day.
Mastered OCR,
Forgot my ABCs,
Haven't typed a sentence cuz, my Mac can read with ease.

C.R. Clowery has been a Mac user since 1989.

TypeReader Pro 1.0
Minimum Requirements:
Computer: System 6.05
Memory: 6 megs of RAM, 8 recommended
Hard Disk Space: 8 megs
Hardware: scanner

ExperVision
3590 North First Street
San Jose, CA 95134 U.S.A.
phone (408) 428-9988
fax: (408) 456-0823
Price: \$199 to sidegrade from a competitor OCR product or upgrade from TypeReader, \$495 suggested retail

OCR Takes Off

OmniPage Pro 6.0 vs. TextBridge Pro 3.0

by Scott Beamer

The two dominant companies in Macintosh OCR (Optical Character Recognition) software released new versions of their programs this Spring, OmniPage Pro 6.0 from Caere Corporation, and TextBridge Pro 3.0 from Xerox. The user can choose either product and get better results than ever before. Better news yet is that the price of this software is very reasonable.

Over the years, I have felt it a main part of my duty to warn those new to OCR software that they shouldn't expect too much, in fact, they probably shouldn't be using it at all. Time and again I have talked to frustrated users who have attempted to use OCR technology and have either abandoned the effort or admitted that they spent more time getting the OCR technology to work and getting the project done than it would have taken without it. These frustrated users were not merely novice Mac users trying to do OCR with a hand held scanner, they included Mac wizards and executives at major enterprises. The amount of time needed to process a document, then proofread it was usually more than the time needed to type it into the computer directly. Considering scanner and software costs, projects needed to be a thousand pages or more just to break even.

Two developments cause me to reconsider my message. One is the quality of these two new products. The other is my first evaluation of OCR software on a Power Macintosh. While I am impressed with the results of the tests, I am still nervous about saying OCR technology has finally come of age.

The products promise such automated performance and error-free results that there will still be many frustrated users. Veteran OCR users know that only a

fraction of potential documents benefit from OCR processing. The best projects are those involving hundreds or thousands of homogenous, good quality pages to be saved as plain text. Those users most likely to be frustrated are scanning small batches of highly varied, complex documents of mixed quality, hoping to retain full formatting and layout in the saved files.

With the rapid ramping up speed of desktop computers and the jump in processing quality of this new software, I am sure there will be many more satisfied users of OCR technology. However, I am not ready to indicate clearly who will be satisfied now. My advice is to remain conservative in your expectations.

Let Her Rip

This was my first run of a standard suite of test documents for OCR on a Power Mac, and the results were eye pop-

ping, even though I was using a rather pedestrian Power Mac 7200. OCR is very CPU intensive. I can only imagine the possibilities with one of Power Computing's new Mac clones, or next year's 200 MHz machines. Such speed benefits projects that previously were only marginally eligible for OCR processing. Even today, it should be possible to process five pages a minute of good quality material. This includes both scanning on a high speed scanner and OCR processing, but not proofreading time. Remember, proofreading time can take longer than the combined scanning and OCR processing.

Moreover, the accuracy was the best I've seen. In the past, I never scored for formatting. The results were rarely good enough to be useful. It is usually new users who want formatting retained. Veteran users normally expect to do further processing with the OCR transformed information, such as putting it into a spreadsheet, so retained formatting only slows things down.

I found both packages retained formatting rather well, though the processing time was approximately doubled. TextBridge was clearly superior to OmniPage in this area, having about half the errors when I scored strictly, but both did well.

Continuing the search for effortless OCR, both these packages install an option under the Apple Menu that will open their application and process whatever page is in the scanner (you can indicate a file on the hard disk instead), then pour the results through the Clipboard into the front open application on your desktop. OmniPage has offered this feature in the past, but I found it always worked poorly.

I found both packages retained formatting rather well, though the processing time was approximately doubled.

This time, both packages worked great. The time between calling up the software until I had control of my word processor again was less than a minute. No, I can't type that fast. As this Apple Menu choice calls up the full version of the software, the speed and accuracy is identical to using the application standing alone.

I do not envision many veteran OCR users often using such a feature, as their work pattern is not based on impulsively grabbing the occasional page to quickly process into one's word processor, but rather on batch processing hundreds or thousands of pages as efficiently as possible.

The most efficient way to do this is with deferred processing. One scans as many pages as convenient directly to the hard disk, then sets the software to do the OCR processing unattended when the computer is not needed for other chores, such as overnight.

The reason veterans prefer this method is that they know the biggest drawback to OCR is the amount of their time it takes. They must be there to feed pages into the scanner (an automatic document feeder helps), but they do not need to be present while the OCR software is working on the images from disk. Deferred processing greatly reduces the amount of user time the OCR process takes. Both these applications have good support for this sort of processing.

Both applications are also trainable to increase their accuracy with difficult documents, including ones using special characters. Both can process documents in common European languages. Caere offers spelling checker dictionaries for several. They also both have software controls to work with double sided documents.

Both support a wide range of scanners, including the various versions of the PaperPort (though I do not recommend this scanner for OCR work). Scanners do make a difference. Fujitsu now offers high speed scanners with Mac drivers. They can scan a page in as little as three seconds, while conventional scanners take around twenty seconds a page. A sheet feeder is a good idea when processing thousands of pages.

*For the first time
ever, I was able to
process a phone bill
and get almost
immediately useful
results.*

How to Tell Them Apart

While I would rate these two programs very similar in ease of use and performance, there are some distinct differences. The most notable is how each handles a document after processing. OmniPage displays the document for verification and editing, even spell checking. TextBridge saves the document to disk without ever displaying it on screen. You have to go to your word processor or other software for that.

I must note that I did not have much luck with the spelling checker in OmniPage. While it provides a convenient way to consider and edit each of the words the software suspects may not be correct, it fails to offer the correct spelling to each error suspect. I have no explanation for this. Most of the errors were on conventional words. It would often offer a variation of the correct word, but never the required form. I must assume this is a bug.

Another unique OmniPage feature is that it supports gray scale scanning of difficult pages. Grayscale scanning is slower and creates a much larger image file, so it is not useful on standard pages, but if the pages have a colored background or are of poor quality, this can make the difference between an successful and unsuccessful OCR session.

The other principal difference in the OmniPage package is that it includes a bundled application for editing 24-bit color images (as well as grayscale and monochrome). This application, Image

Assistant, is of pedestrian performance, so Caere does not sell it as a stand-alone product. However, its performance is adequate for those without other image editing software.

While both applications are accelerated for Power Macintosh, allowing installation for either or both versions, they have slightly different System requirements. TextBridge Pro runs on 68030 or better machines, System 7.0 or better, minimum of 10 megs of RAM, minimum of 7 megs of hard disk space, 14 megs for full installation. Using virtual memory, it can run with as little as 5 megs of available RAM. Remember, though, this is the program that has no facility to allow the user to view the results of their OCR efforts, so most will want a word processor or other software open at the same time. TextBridge advises large documents and complex ones do better with more RAM, so 12 to 16 megs of RAM is more reasonable.

OmniPage Pro 6.0 can run on 68020 or better Macs (dirty ROM machines require Mode 32 enabler), System 7.0 or later, at least 5 megs of available RAM (7 megs for Power Macs with virtual memory turned off). About 10 megs of hard disk space is required for full installation including a scanner driver and Image Assistant. An additional 12 megs of hard disk space is required to use the program for temporary files and such.

It Keeps Getting Better

Probably the most impressive improvement in this generation's software is the ability to deal with complex pages that could not be correctly handled before. The two most common types of these are multiple column documents and tables, such as financial reports.

Over the years, OCR software dealt in various ways with problems in multiple column documents. It could recognize the text okay, but it couldn't display the multiple columns accurately. Long ago, converting all the text in a document to a single column was the only option. This was fairly usable, requiring only that the user create a document in their word processor with the correct number of columns, then pour the text into it. Veterans often prefer to work this way.

However, new users wanted to see the columns on screen. To do this, OCR software cheated and only added tabs in the rows of text to imitate columns. While it looked right, any attempt to edit the text caused the column structure to fall apart, making such files practically useless. This new software now does multiple columns correctly for those wanting it.

Columns in a financial report were another common source of failure in OCR software. They never seemed to get the tabs right, thereby requiring considerable massaging to import OCR processed documents into databases or spreadsheets. Again, both OmniPage and TextBridge now do a first-rate job of retaining alignment in multiple column tabular material. For the first time ever, I was able to process a phone bill and get almost immediately useful results.

Other minor attractions to each program abound. OmniPage has a menu choice to send processed text on through PlainTalk email. TextBridge offers free, 800 number tech support. OmniPage offers two phone calls for live tech support

free, then it's \$25 a call. Fax and online support is available.

In spite of the big strides these products have made in their abilities, be careful not to expect too much. Neither of these products did well with my dot matrix printed page (It's probably time to drop it anyway). TextBridge actually did better with normal processing chosen rather than dot matrix. Fax gives lesser quality output, whether from a paper fax or a fax received electronically. The cause of this is that faxes are scanned at 200 dpi or less. OCR works best at 300 dpi. If the font is less than 8 points, 400 dpi is recommended.

Conclusion

So I didn't tell you which of these programs to buy. I like them both. Between the minor factors, you can decide which makes better sense for you. Remember, they both work best on big, fast Macs. A final word of advice, make sure you really have big enough, appropriate projects before going out and buying a scanner and software. 🐉

OmniPage Pro 6.0

List Price \$529
Upgrade/Sidegrade \$149

Caere Corporation

100 Cooper Court
Los Gatos, CA 95030
408/395-7000
800/535-7226
Fax: 408/354-2743
www.caere.com

TextBridge Pro 3.0

List Price \$279.95
Upgrade/Sidegrade \$129

Xerox Imaging Systems, Inc.

9 Centennial Drive
Peabody, MA 01960
Phone (508)977-2000
Fax (508) 977-2435
textbridge_sales@xis.xerox.com

Let's K.I.S.S.

A Spreadsheet for the Numerically Challenged and Microsoft Enemies

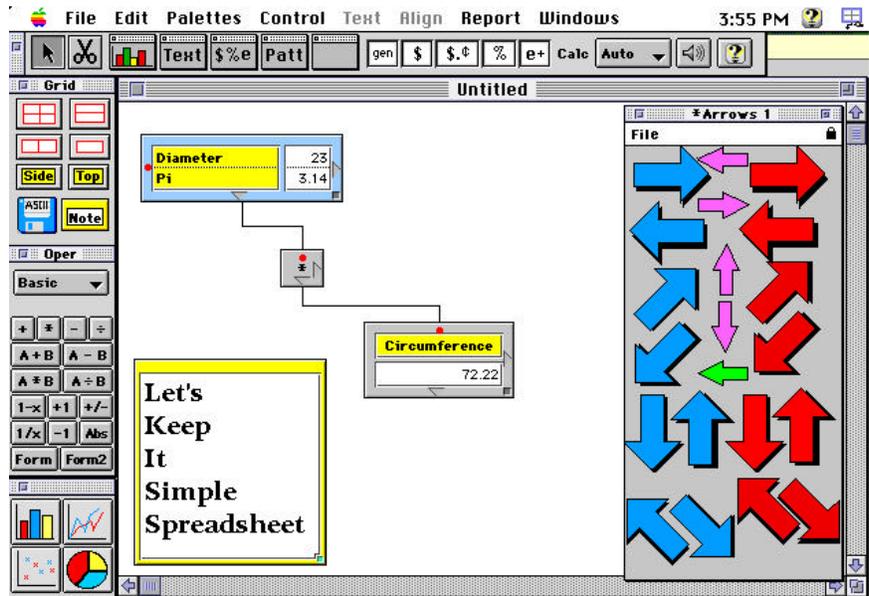
by Scott Beamer

Let's K.I.S.S. is a new spreadsheet just released by Casady and Greene. Its name indicates its principal feature—simplicity. K.I.S.S. stands for Keep It Simple Spreadsheet. The “Let’s” appears to be an awkward afterthought added to the name to deal with some trademark infringement.

Its principal novelty is that it is an object-oriented spreadsheet. Beginning a new file brings up a blank page, similar to that found in a word processor or paint program, instead of the traditional rows and columns grid of a spreadsheet.

The user then drags from a palette to the sheet only the pieces he/she needs for the calculations at hand. For instance, the simplest calculation would consist of a block of cells for data entry, an operator, and a cell for the result. The user only need enter the data, click the cell blocks and operator together, and the result is displayed (See figure 1). This is not the first spreadsheet to use this style of construction, but the other one came out so long ago and disappeared so quickly that its name has faded into the dusty corners of my mind.

The user can also drag icons onto cells to add a place for titles, other icons to format, add notes, or even chart results. All in all, K.I.S.S. has adequate power to do a significant percentage of the problems likely to be done in a conventional spreadsheet. There are several palettes of operators to choose from, including basic calculator, grid, statistical, scientific, logarithmic, trigonometric, loop, and logic. Custom operators are easy to build. Other palettes contain more specific operators and clip art. On-screen complexity can be reduced by condensing several elements into a single on-screen icon.



Caption: Figure 1. A new way of doing things in a spreadsheet

The principal disadvantage of conventional spreadsheets, that it is not always apparent what is going on among the sea of numbers displayed on screen, is largely obviated in K.I.S.S. Its blocks of numbers are connected by lines giving something of a flow chart, illustrating how the information is being transformed. Formulas can be displayed at the same time as data and results. Alternately, the formulas can be hidden for simplicity's sake.

Considerable effort has been made to give K.I.S.S. a non-threatening appearance for the numerically challenged. A cartoon mascot lurks through the program and packaging. Additionally, there is a large collection of K.I.S.S. files provided as tutorials and stationery. These example files can be modified to speed

up the process of creating one's own spreadsheets. I found the templates a bit too simplistic. Few of them seemed ready to use in real life.

Lotus 1, 1 1/2

Visicalc was the first major spreadsheet product. It caused millions of Apple IIs to be purchased for business use, helped popularize desktop computers for business, and helped make Apple Computer a success in its early days. When IBM introduced its desktop computers, one of the early products available for it was also a spreadsheet, one that would become the model copied by practically all spreadsheet products since. That was Lotus 1,2,3. The 123 stands for three modules—spreadsheet, database, and charting. While today Excel is the domi-

nant spreadsheet, it neither added nor left out any of the modules.

There are shortcomings in K.I.S.S. It has no database functions and only rudimentary charting abilities. That makes it a sort of Lotus 1, 1 1/2. This is a more serious problem than you might assume. Looking through my own spreadsheet files for ones to try to build in K.I.S.S., I found mine often used database functions and for this reason, could not be copied in K.I.S.S.

The unusual structure of K.I.S.S. causes additional problems in that it can neither import nor export standard spreadsheet file formats such as SYLK. It can import data as ASCII text and graphics; it can export only as ASCII text.

Over the years, there has developed what might be considered another module in modern spreadsheets. That's the presentation abilities—elegant printing, color formatting, graphics, and in Excel, even QuickTime™ movies. This is another area in which K.I.S.S. is somewhat underpowered.

I found K.I.S.S. harder to set up to print than I would like, but this may be due largely to the fact I am very experienced with conventional spreadsheets and not so much with K.I.S.S.. One necessary extra stage in K.I.S.S. is aligning all the objects on the page. While K.I.S.S. has tools to do this, it is a multi-step process, and I found the results so-so. It also

lacks tools to draw graphic elements to enhance a spreadsheet—for instance to add arrows or circle a number. However, graphics can be imported, and there are some available as palettes of clip art.

How Many Spreadsheet Modules Do You Have on Your Hard Disk?

It will be interesting to see if K.I.S.S. will find an adequate niche to survive in the Mac spreadsheet market. It is the easiest Mac spreadsheet to use; it is probably the cheapest; and it is probably more approachable for number “phobes.” Its chief problem is, will people buy it? On the average hard disk today, one may find several programs with spreadsheet abilities.

Not only do all the Performas come with ClarisWorks™, which includes a spreadsheet module, even MS Word, MS Office, and WordPerfect have significant spreadsheet abilities, including charting and database functions. These alternatives take up most of the slack between problems too complicated for a good desk accessory calculator and having to go out and buy and learn to use Excel.

Still, there may be a niche available due to the lack of competition for Excel. Especially in the Mac market, there is a significant body of users who don't want to buy any Microsoft products. Others love novelty and will buy this product

just to try out something that is different. These combined with those who do poorly with the standard spreadsheet paradigm may be enough of a niche for K.I.S.S. to survive.

Casady & Greene intends to increase the product's chances for survival by releasing another version before the end of the year with some database functions—and a Windows version at the same time. Longer term plans include making it OpenDoc-compliant, then available to other applications through OpenDoc.

Its price is \$189.50, but Casady & Greene say they think the street price will be about \$120—that is after all the rebates and user group specials and side grades expire. For BMUGgers, the current price should be about \$55 (including rebate). Call Casady & Greene direct and say you are a BMUG member, if you can't find such a low price. 🐘

Let's K.I.S.S.

List price \$189.50
Street price \$120
BMUG price \$55

Casady & Greene, Inc.
22734 Portola Drive
Salinas, CA 93908
Phone (408) 484-9228
Fax (408) 484-9218
Orders (800) 359-4920
<http://www.casadyg.com>

Two Books on ClarisWorks 4

by Thomas Benner

At a retail price of \$129 (\$69 upgrade), ClarisWorks 4 lets you do more for less money. In six well-integrated programs, ClarisWorks easily does just about everything a new or intermediate user needs to do every day and with a surprising depth of features. You simply cannot buy more features for the money. It would still be a good bargain at twice the price.

The new power-packed version adds many innovative features such as:

- **Styles** – applies formats automatically to text
- **Libraries** – a collection of clip art libraries
- **ClarisWorks Assistants** - helps solve users' personal finance problems

However, the manual that Claris now provides is much smaller than manuals from previous versions (not to mention their discontinued booklet of exercises that provided a useful hands-on demonstration of the application's features). This is because of the expanded on-line help available within the program. Most users will find they need a good book to get the most out of this excellent program. Both books described below are free of confusing techno-babble. Which book should you buy? That depends on what you are looking for.

ClarisWorks For Macintosh

If concise, no-nonsense explanations combined with plenty of visual assistance appeals to you, check out *ClarisWorks For Macintosh A Visual Quickstart Guide*. This pictorial reference guide uses pictures to guide you through the program

and show you what to do. Helpful illustrations dominate with text playing a supporting role. The explanations are very brief and the commentary is straightforward.

If you are a beginning to intermediate level user, you can use this guide as a fast, simple way to get up and running with your new program. Later, use it as a reference book to quickly look up what you need and then get back to work.

Pros:

- Concise and well-organized information.
- Useful appendices on: (1.) Functions for Formulas and (2.) Assistants & Stationery.
- Some tips and a good index.
- An easy reference to particular features and functions once you are up and running.

Cons:

- May not be thorough enough for your needs (simply because of the nature of these types of Quickstart Guide books).

Ideal Readers:

Novices and people who need to get a project done now.

Rating: **HHH**

Solid and worth considering, but not for everybody.

The Macintosh Bible Guide to ClarisWorks 4

Users at all levels will enjoy *The Macintosh Bible Guide to ClarisWorks 4*. Clear, simple, and thorough explanations

are logically arranged in a complete, well-organized book. The book is also full of tips for working smarter and troubleshooting sections for getting out of jams.

The author, Charles Rubin, contributed to the excellent section on ClarisWorks in *The Macintosh Bible, 5th edition*. He writes from a broad understanding of the scope of the Macintosh computing environment. His other books include best sellers: *the Macintosh Bible "What Do I Do Now?"* and the Macintosh Bible guides to FileMaker Pro and System 7.1.

Pros:

- Logical, clear and simple explanations.
- Useful icons indicating new features, tips, and important notes in the columns.
- Loads of tips, tricks, and shortcuts.
- A troubleshooting section at the end of each chapter.
- An extra advanced techniques section (AppleScript, HTML documents, etc.)
- An important appendix on keyboard shortcuts and an excellent index.
- Objective, covering the disadvantages and limitations as well as the advantages.

Cons:

Missing information on some basic program features (see below).

Ideal Readers:

All levels of users.

Rating: **HHHH**

A very good book that will live up to the high expectations of readers of *The Macintosh Bible*.

When I try to judge a computer book, I like to think of possible questions or problems I would have. Then I check the book's index to see how quickly I can find the answers I need. For example, very little has been written anywhere explaining how to use the four tabs (left, center, right, align on decimal) in the ClarisWorks word processing environment. I was surprised to see that the little *ClarisWorks For Macintosh A Visual Quickstart Guide* briefly handles each of these four tabs. I was disappointed in that *The Macintosh Bible Guide to ClarisWorks 4* only mentions the four tabs without explaining their use. Although I thought *The Macintosh Bible Guide to ClarisWorks 4* was the better book, it still lacks important information. ❏

***ClarisWorks For Macintosh
Visual Quickstart Guide***

by C. Ann Brown
Price: US \$16.95
250 pp. (paperback)
ISBN: 0-201-88407-0
1996

***The Macintosh Bible Guide to Claris-
Works 4***

by Charles Rubin
Price: US \$24.95
494 pp. (paperback)
ISBN: 0-201-88406-2
1995

Both books are published by:
Peachpit Press
Phone (510) 548-4393
Fax (510) 548-5991
<http://www.peachpit.com>

Thomas Benner is the BMUG Claris SIG leader. This special interest group is designed to introduce and guide users through ClarisWorks, and FileMaker Pro, the best-selling database package on the Macintosh platform. Everyone is welcome. Feel free to bring any critical issues or problems and floppy disks for free sample databases, templates, and other helpful software.

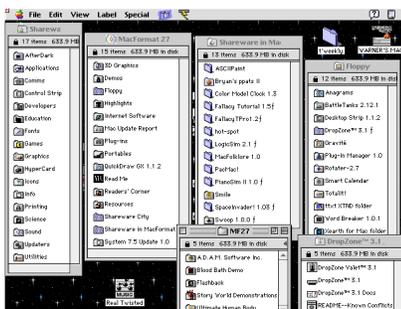
The Claris SIG meets the first and third Friday each month from 7 to 9:30 p.m. at the BMUG office. On the first Friday, the emphasis is on ClarisWorks. On the third Friday, the emphasis is on FileMaker Pro. Questions on either program are handled on both nights. The BMUG office is at 2055 Center Street (under the "Budget Furniture Rentals" sign) 1/2 block west of the downtown Berkeley BART station between Shattuck & Milvia.

Occasional guest speakers demonstrate features and answer questions. If you have any questions, you can email Thomas Benner on Planet BMUG, or at MACinTUTOR@aol.com.

The British Invasion

Magazines, That Is...

by G.D. Warner



Mac Format

Future Publishing Limited
 Monmouth Street
 Bath BA1 2BW
 macformat@cix.compulink.co.uk
<http://www.futurenet.co.uk>

I've been reading (and recommending) *Mac Format* to anybody who'd listen for about a year now. So why haven't I reviewed it before? I have a Master's Degree in Procrastination. I feel it is the best of the British Mac magazines out there.

Each large-sized issue contains news, reviews, Mac Answers (a Tech Help section), a HyperCard column, a color comic strip (until recently, Dilbert, now "The Classic System Crew"...a bad trade, IMO) and a give-away contest (in the August 1995 issue, they gave away a Newton 110; in the September 1995 issue, a Wacom UltraPad graphics pad. See what you missed!?!).

The articles and reviews are informative, for the most part, though I did have to write them a chastising letter when, in an article entitled "Hard Alternatives" (Feb '95 issue), covering the 270-meg 3.5-inch SyQuest drives (one of which I'd just purchased), they wrote the following:

"Note that just as the 88MB drive had problems when first released, so the 270MB drive has some reliability problems. One main retailer has recently stopped selling them for this very reason. It may be wise not to buy one just yet." I asked for a little elaboration on this off-hand remark (my letter was printed in the May '95 issue, and, yes, I used a few more words... *all rated G*). They said "...by 'reliability', we mean whether you can retrieve your data without access problems or corruption. But don't write off the 270-meg removeables entirely...."

Hmmm. Okay...

By far, the premier feature of this magazine is its cover-mounted CD. My entire Internet suite came from the November '94 issue, including MacTCP, Eudora 1.4.2 (and all of the docs), Anarchie 1.21, Fetch 2.12, MacWeb 1.00A2, etc. If you aren't on the Net but plan on doing so Real Soon Now and you want to buy a back issue of *Mac Format*, this is the one to get. Did I mention they even had 43 different Apple Remote Access add-ons on this CD?

Two things you should look for when you read this magazine: The Tiny Zone and the picture of the fellow who puts the cover disk/CD together. The

Tiny Zone is an interesting feature in extremely small print. Sometimes they offer extras in the monthly giveaway contest, other times the article just fills space. As for the picture... well, I'll let you see for yourself!

Bottom line, this is the best of the British Mac magazines. Get it.

Pros: the cover-mounted CD

Cons: costs an arm and a leg to subscribe to here in the US. *But...* there is a saving grace: a company in Pennsylvania will send you the magazine for the price of the issue... and you are billed on a per-issue basis. Their address:

WARNER/MF/2
 British Magazines
 P.O. Box 16
 Sharpsville, PA 16150-9985

If you don't want to wait, you can also find *Mac Format* at Cody's in Berkeley (though they are a month behind) and at the Virgin Music superstore in San Francisco. While you're in the area, stop off at the Warner Brothers store at The Center; tell them I sent you. That and \$20.00 will get you a t-shirt! 🍌

G.D. Warner has been a Mac user for 4 years (thanks to Hurricane Andrew destroying his house and with it, his IBM Klone), owning first a Performa 600 and currently a PowerBook 190cs (and anxiously awaiting the new PowerBook with the internal CD-ROM!). He is also a self-confessed Internet Junkie going through withdrawal, limping along with an e-mail only account. Pray for him.

They Have Landed

British Magazines in Stores Near You

by G.D. Warner



The Mac

Dennis Publishing Ltd.
19 Bolsover Street
London W1P 7HJ

<http://www.themac.co.uk/themac/>

This magazine is, in my opinion, number two behind *Mac Format*.

Both magazines have similar content (news, features, reviews, letters, and head-to-head comparisons between competing products—WordPerfect vs. Microsoft Word 6 in the November issue, PageMaker vs. Quark Express in the December issue). Both magazines also feature cover-mounted CDs or HD floppies.

The Mac's unique features include "A Mac of my Own," wherein Mac owners (famous people—in Britain, anyway) are queried about their experiences using their Macs. Within the past five issues, the interviewees have included William Orbit (famous for remixing Madonna's *Erotica*), Rian Hughes, an in-demand freelance illustrator/typographer (amongst other things, he designed the icons for *The Mac*), Stephen Fry, actor (never heard of anything he's worked in), Stuart Robinson, photographer and...um... "Wag," art editor of the heavy metal magazine *Metal Hammer*.

Two of the interview subjects for "A Mac of my Own" (Orbit and Fry) mentioned that they had their own Web pages, but no URL was given.

An interesting feature is a must-have for you gamers: "The Mac Attack."

"The Mac Attack" contains tips, shortcuts, etc. The past few issues have covered "Star Trek: 25th Anniversary" (a two-part article), "Flashback," and "Dark Forces" (another two-part article).

The "Dark Forces" article contained a few secret codes; for instance, LAPOGO allows you to dispense with the tedium of actually leaping onto a ledge; just walk towards one and you are there. LACDS gives you a fully detailed map showing enemies, goodies, and—most usefully—all the games secret doors. LASKIP is important for those times when you are stuck; it allows you to skip the current level and go on with the next mission.

In addition to the usual troubleshooting column, *The Mac* has "Aspirin or Ambulance." This is a picture-based troubleshooting guide, which is matched by a QuickTime movie on the CD.

The last few "Aspirin or Ambulance" articles were "I Can't Connect to the Internet!," "My Printer Won't Print!," "I've Just Trashed my System!," "I Can't Get my E-mail!" and "My SyQuest Won't Mount!" (something near and dear to me. Good-fer-nuthin' piece of...! but I digress).

I noticed in one of the "Aspirin or Ambulance" articles ("I Can't Connect to the Internet!") that they didn't mention the possible solution of turning the modem off and on when MacPPP gives the error dialog "PPP Timeout! Waiting on: OK."

The magazine isn't bad. The only problem I have is with the cover mounted CD.

What's the problem, you ask? Well, it's that darned Browser.

The Browser is *The Mac's* way of "helping" you move around the CD. It

is a Macromedia Director-based application which, amongst other things, shows a list of the various categories of software on the CD, a description of the software (from which you cannot launch a selected application without AppleScript installed), QuickTime movies ("Aspirin or Ambulance," and pretty much anything else they want to throw at you). All of these QT movies are shown at full size, which, for my minimalist system (a Performa 600-CD 4/160 (plus 3MB virtual RAM) and a 14" monitor) results in jerky QT movies despite my having installed QT 2.1 some months ago.

If you have Extensions Manager or Symbionts installed, I suggest making a minimal QT/CD startup set. Since the Browser uses AppleScript, you might want to have that installed, too. Don't forget that Memory control panel either.

As you probably guessed, I am not a fan of the Browser (nor Director, for that matter). If *The Mac* could get rid of the Browser and any Macromedia Director-based movies, the CD would improve immensely, in my opinion. Also, replacing the four different Browsers with more software/demos/etc. would be good.

Bottom line: if you have a choice between *The Mac* and *Mac Format*...buy *Mac Format*. 🐉

The Mac is available at Virgin Music superstores.

Pros: the cover-mounted CD.

Cons: the cover-mounted CD's Browser.

Cost: \$11.95/issue. You can also get them direct from the distributor, paying the "per issue" price:

British Magazines

P.O. Box 16

Sharpsville, PA 16150-9985

Damn Good Ready-to-Go Resumes

Review of Software and Book

by Deborah Pulliam

Having done plenty of layout and design using PageMaker for newspapers, I've been a little curious about software packages for résumés. It seems so redundant somehow—all you need is a good word processing program, or maybe a layout program if you want to get inventive. Having a chance to review a résumé software-and-book package for BMUG seemed like a good opportunity to see if I was right.

I wasn't right. The price seemed a little high to me for a large-format, 120-page paperback printed on newsprint and three floppy disks (one each: MS Word for Macintosh, MS Word for Windows, and WordPerfect for Windows), especially because you're likely to need only one of the three disks. However, the book is a well-packed 120 pages, and the disks have templates for each of the sample résumés in the book.

If you're not familiar with laying out pages for easy readability with eye-catching heads, it would probably be difficult to see immediately why one kind of résumé is better than another, especially if you get past the basics of even margins, correct spelling, and clear printing or typing.

Yana Parker, who appears to have plenty of experience in creating résumés and writing books about it, leaves nothing to chance. She starts with the basics: a résumé laid out either chronologically or functionally, and then gives templates in various formats such as simple, classic, snappy, and blocked. Also included are actual résumés created by real peo-

ple who, presumably, got a job with the résumé in that format.

Parker then gets into the alternatives to these basics: alternative résumés for when you want to make specific skills stand out, such as when you've been laid off, or you've been working in a different field and want to change careers. There's a variation for new graduates (easily changed for use by students), and résumés to use when you know yours will be scanned electronically for a large company, rather than read by a person. She also gives you a draft résumé if you want to consider a new field.

There's also a chapter on tweaking your résumé once it's complete to make sure you sound as uniquely qualified for any particular job as you clearly are. Parker also answers some basic but very important questions that not enough people ask: how long should it be; should I print on the back of a page; should I staple it together; how many fonts can I use?

Beyond the basic résumé theme, too, Parker includes some very important templates for matching cover and thank-you letters. This being a full-function get-a-job book, there are worksheets and guides for getting good recommendation letters to go with your résumé. So, there is quite a bit more here than simply résumés for someone who's looking for a job.

Given my own background and instincts, I'd be inclined to play around with any of the software templates if I used them, but all are well-designed and attractive just as they are. Somehow, they avoid the canned look that so many templates seem to have. 🐉

Damn Good Ready-to-Go Resumes

by Yana Parker
Ten Speed Press
Berkeley, California, 1995.
Price: \$29.95

System Requirements:

System 6.08 or higher
MS Word 4.0 or later

*It seems so
redundant
somehow—all you
need is a good word
processing program,
or maybe a layout
program if you want
to get inventive.*

Yana is a BMUG member and successful author of "how-to" guides.

RescueTXT and Scorpio

A hit and a miss from the makers of CanOpener

by Gregory Stapp

RescueTXT 1.0 and Scorpio 1.0 are two new programs from Abbott Systems Inc., makers of the renowned CanOpener. RescueTXT attempts to retrieve text that even CanOpener can't locate while Scorpio is described as high quality word processing that's truly affordable. No printed manual accompanies either program but their accompanying electronic documentation files can be printed.

RescueTXT

The task of RescueTXT is simple. It searches disks for any particular text that has been requested. It does this by scanning for ASCII files. Thus it is not dependent upon file names, the disk's directory or the files themselves being uncorrupted. Using a common Find and Find Next interface that can be case sensitive, RescueTXT quickly scans for any text that has been typed into the Search window's text box.

Once the text has been found it is displayed in one of three formats. Plain, which displays all characters, Clean, which eliminates most of the garbage characters and displays only meaningful text (more or less) and Hex, which displays all characters plus their hexadecimal representation. Then one simply selects the text, copies it to the clipboard, and pastes it into the Scrapbook or directly into any program that supports the Clipboard.

Be aware that even in the Clean display mode garbage characters can still occur that will have to be cleaned up later. Formatting will also have to be redone, and because RescueTXT finds text

in their individual disk blocks, it can be necessary to run several searches to find an entire document's text since the Mac OS doesn't always store information in contiguous blocks. Nevertheless, the find and replace abilities found in most programs as well as the Mac's standard ease in applying formatting allows one to quickly restore a document to its original status. Most important, the text itself doesn't have to be recreated from scratch.

While RescueTXT cannot retrieve information from a disk that has been erased, it does claim to be able to find any text on a disk, even if it has been

deleted, as long as it hasn't been compressed or overwritten. Naturally this means that one should avoid any disk writing activity before one has recovered the missing text. So unless RescueTXT is already installed (and operational in the present crisis) one should run it from a floppy to avoid the possibility of writing over the very information that is being sought.

Easy to use, RescueTXT was able to recover text from files that were corrupted and/or deleted as well as from files that were in working order. Thus it can be used as an effective Finder utility if one needs to find some particular information like an address but has forgotten the file's name that incorporates the information. In such a situation RescueTXT would just find the needed text and present it for copying. It runs on any Mac and will search any Mac disk. It's a nice little program that does what it says it can. RescueTXT is available directly from Abbott Systems, Inc. for \$29.00 including shipping, Phone (800) 552-9157.

Scorpio 1.0

Scorpio runs native on Power Macs, can open almost any file as text (the CanOpener team strikes again), offers speak-text capabilities (one must have Apple's PlainTalk installed) and uses color exceptionally well for a word processor. It's advertising fanfare derides big, bloated and expensive word processors while extolling Scorpio as lean, mean and *fast!* But if Microsoft Windows '95 is barely the equivalent of Apple's Macintosh '89, then for the most part Scorpio '96 doesn't begin to compare with WriteNow '84.

RescueTXT can be used as an effective Finder utility if one needs to find some particular information like an address but has forgotten the file's name

Scorpio lets users define the screen display background colors of its document window as well as its toolbar. This enables users to select for themselves the best combination of text vs. background color for their own particular vision needs. This is something that all programs, or even better, the MacOS, should automatically offer.

Scorpio does one thing extremely well. It lets users define the screen display background colors of its document window as well as its toolbar. This enables users to select for themselves the best combination of text vs. background color for their own particular vision needs. This is something that all programs, or even better, the Mac OS, should automatically offer. But in my experience the only word processor that offers a similar ability is WordPerfect. Indeed even color utility programs are unable to change the background color of many application's actual document windows since a lot of programs insist upon painting the document page white.

While I was unable to judge Scorpio's PowerPC abilities and didn't test its text-speaking capacity, I found its general performance on a 68040 PowerBook 550c to be rather anemic. In particular, I was regularly able to outpace the screen display while I typed. While its word count and find/replace features were very quick, its spell checker was seriously hindered by its astonishing lack of recognition of very simple and common words as well as its inability to stop questioning a previously skipped word in the same document without first adding it to the dictionary. Its toolbar is useful despite its tiny icons, but its ruler is a disaster. Most disappointing was Scorpio's glaring lack of the many features that have long been de rigueur in Macintosh word processors.

For example, deleting a double-clicked word doesn't also delete its trailing space, no headers, footers or footnotes are available, margins can only be set for an entire document although they can be adjusted by its indent feature which however doesn't allow true or hanging indents, tabs may only be set at the same regularly spaced intervals for the entire document and none of them are decimal, right or centering tabs—What is this, a typewriter? No, come to think of it even a typewriter can have individually adjusted tab stops!—Finally, there are no style

sheets and too many of its keyboard shortcuts use non-standard key combinations.

Double, triple and quadruple-clicking does select a word, line or paragraph respectively. However Scorpio suffers intermittent deficiencies in its ability to choose a selection by dragging or by using the arrow keys in combination with the shift key. Its attempts to open just about any document as text meet with a high rate of success but for its importing and exporting of formatted documents it relies upon Claris translators (unsupported) and meets with only varying success when it doesn't simply crash or freeze.

Scorpio prides itself on its use of dynamic text (inserting information by clicking on categories rather than repeatedly typing names and addresses, etc.) but in practice this potentially interesting feature turns out to be awkwardly implemented and basically worthless. It saves little, if any time, since it has no keyboard shortcuts for its limited predefined categories, while it inserts a merge-like field (i.e., «My Organization») into the document that violates that most basic of Macintosh tenets, WYSIWIG. I could go on, but why waste any more of your time. Suffice it to say that Scorpio 1.0 should be avoided like a scorpion. It's \$19.95 price doesn't justify the major frustrations that will beset its users. Abbott Systems Inc. has some good ideas with Scorpio but they aren't ready for the market yet. In the meantime, if you need a great, inexpensive word processor, get a copy of WriteNow which remains widely available for around \$40.00 but is often discounted as low as \$15.00. 🐍

Rescue TXT and Scorpio 1.0
Abbott Systems, Inc.
(800) 552-9157

Gregory Stapp is an opera singer who still loves his Macintosh Portable but now totes his PowerBook 550c to his performances here and abroad. He may be reached on Planet BMUG or primobasso@aol.com

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OneClick

The First Super Utility?

by Steve Becker

Over the past couple of years there has been a large selection of new commercial, Shareware, and Free-ware utility programs released for the Mac. Most of these have attempted to enhance a specific area of the Macintosh operating system. Each of these programs carries its own baggage in terms of extensions, memory requirements, and operating procedures—not to mention conflicts—that need to be remembered by the user.

An Overview

Late last year WestCode Software introduced OneClick, its answer to the need for a flexible, highly customizable, easy-to-use, comprehensive utility program. Specifically, OneClick incorporates some of the best features of Control Strips, QuicKeys, PopChar, PopUp Folder, etc., and has integrated them into a single program that has a low memory overhead, is—in its preconfigured state—very easy to use, and is relatively conflict-free. Oh yes, it is also very inexpensive. If this sounds too good to be true, read on—there is more good news, much more!

OneClick accomplishes its magic through some ingenious programming. The basic program consists of a control panel that uses less than 300K of RAM. After installing OneClick and restarting your Mac, you immediately notice some Desktop Control Strips (WestCode calls them palettes). On the first restart after the installation, a brief tutorial also appears, should you want a little hand-holding to help get you started. Essentially, OneClick uses two categories of palettes: Global (always available, regardless of the program or programs you are running) and Application (only visible when the program it is associated with is active). In addition, there is a Task Bar that displays icons for each program that is running

(including Finder) and a Launcher palette. The basic interface of the program is very straightforward, yet powerful.

Nuts and Bolts

On these palettes—except the Launcher, which you can easily configure by dragging to it the icon from the program or folder you want to be able to launch—reside buttons. Clicking once on a button that is on a palette causes a script

to be executed. On each button is an icon, or text, that indicates the function of that button—no key combinations to remember! If you still find the button's function is not self-evident, OneClick provides both balloon help and a less obtrusive, yellow pop-up descriptive text tag. Either of these can easily be turned on or off, and you can also edit the content of the help text—a thoughtful feature.

When installing the program, in addition to the Finder and Global System palettes that come preconfigured with buttons, you also get preconfigured palettes for several popular applications. There is also a nice library of buttons (more about this later) that can easily be added to a palette.

The main interface the user works with in addition to the palettes, is the OneClick Editor (see Figure 1). This can be accessed from any palette, or from a little icon that now resides on your Menu Bar. The Editor presents itself as a small, tabbed window that allows you to gain access to most of the powerful customization features of the program. Listed below is a brief highlight of the features of each of the Editor's windows.

- Library: Maintains an indexed list of buttons that are universal (should work with any program) and application-specific (may only work properly with the designated program). From here you can edit the library's contents, drag a button to a palette to add its function to the palette, etc.
- Palette: You can customize a palette's size, color, background, name, and more, from within this window.
- Button: The size, color, name, help message, button style, and other properties of each button can be controlled from here. Also, a hot key shortcut can be assigned to a button.

If you are thinking all these palettes may result in screen clutter, WestCode has done a very good job of preempting this potential problem. Palettes can be collapsed, "iconified," in OneClick lingo, to a small icon with a single click of the mouse.

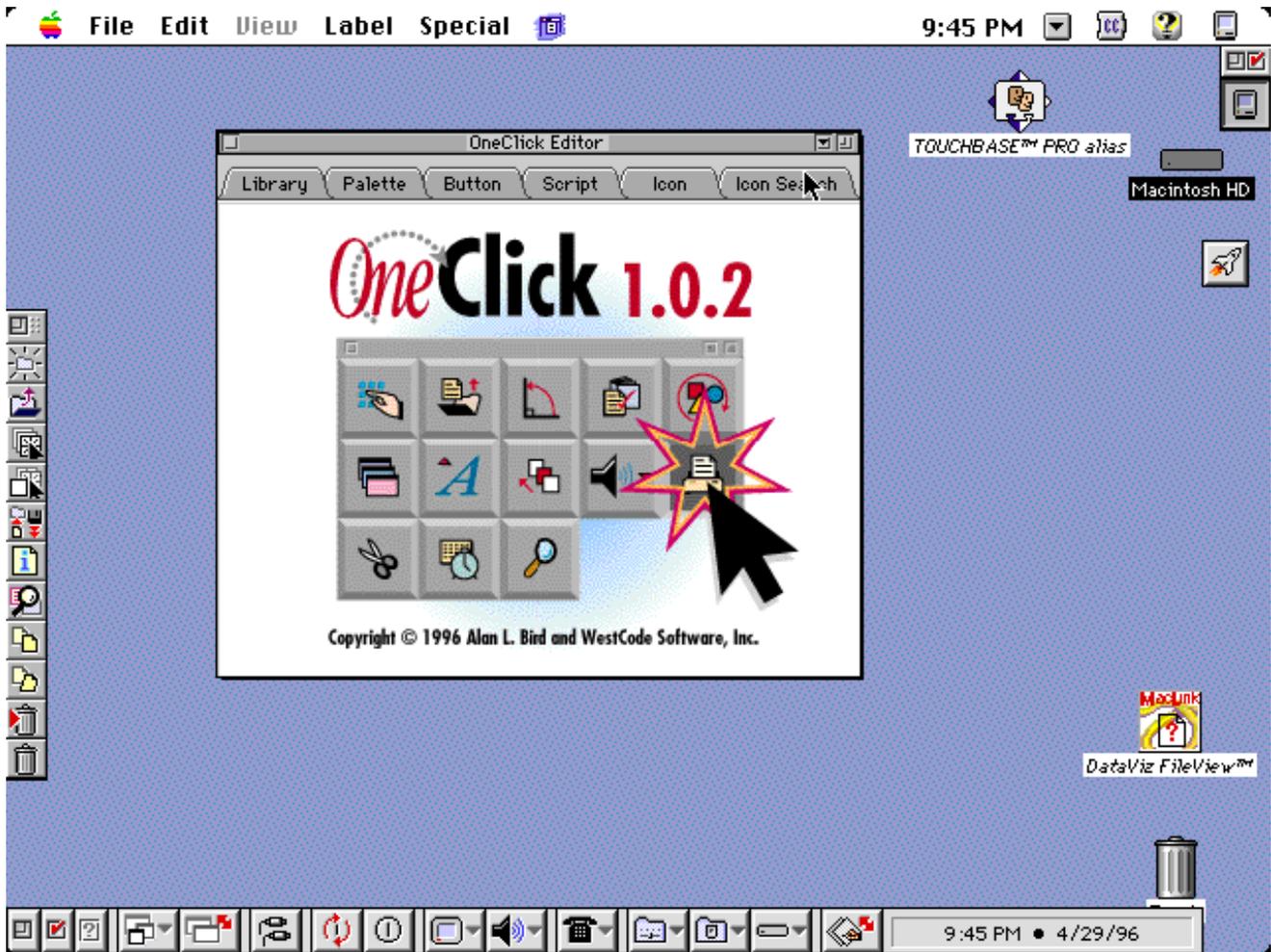


Figure 1. This screen snapshot shows the Finder palette on the left, the System Bar palette on the bottom, and the Task Bar on the upper right. The Launcher has been iconified into a small button with a rocket icon.

- **Scripting:** Yes, OneClick supports scripting—both AppleScript and its own EasyScript language. This is one highly customizable and creative program. More about the scripting features later.
- **Icon:** You can edit existing icons and create new icons from here. This window includes some tools to help accomplish this task.
- **Icon Search:** OneClick allows you to search for icons that are already on your drive and “raid” them. You select the file, and OneClick displays the icons available from that location. Simply drag a selected icon or a button to a palette.

Customizing the Interface

Using the OneClick Editor, you can easily create a new palette for any pro-

gram you want. Buttons can easily be dragged from your OneClick Library to the new palette, or they can be dragged from an existing palette. In practice, the customization options for both the buttons and palettes seem nearly endless.

Buttons can have: multiple icons designated for them; different colors assigned for their background and for their text/icon labels; variable sizes; text labels with custom styles; variable positions on the palette; and more. Palettes have a similar range of customization options including the background patterns, colors, and palette names.

While the organization and layout of the OneClick Editor is commendable, many of its features are not labeled and their functions not intuitive. WestCode is aware of this and plans to address this in a future release. Also, an Undo option

is not available. Again, the responsive folks at WestCode plan to add this feature as soon as possible.

If you are thinking all these palettes may result in screen clutter, WestCode has done a very good job of preempting this potential problem. Palettes can be collapsed (“iconified,” in OneClick lingo) to a small icon with a single click of the mouse. Also, a hot key can be designated to toggle palettes on and off. A pop-up palette menu is always available from the Menu Bar. Palettes may also be configured as to their location on the desktop along with several other parameters. Again, it’s all very customizable and very effective. One possible enhancement in a future release would be an option to have a palette automatically “get out of the way” of a window so as to not obscure any part of the active window.

The Buttons of OneClick

Many of the buttons that come with OneClick perform basic Mac functions like Cut, Copy, Paste, Insert Date, Change Font Size, Change Font, Page Setup, Print, Empty the Trash, Make Alias, Duplicate, Get Info, Put Away, etc. Here is just a sampling of some of the more powerful buttons that come with the program: Insert Character (think PopChar), Glossary (create your own glossary resource), Pop-up Hierarchical File List (shades of PopUp Folder), Open Chooser, Set Monitor Color Depth, Set System Sound Level, Pop-up Phone Book, Pop-Up Hierarchical List of files in the System Folder, Pop-Up List of Control Panels, Auto Save (at specified time intervals), and Tile Windows.

The Task Bar displays an icon for each application that is running, and enables you to switch between them with a single click of the mouse. Though this sounds like a simple concept, I find in practice it is a valued addition to my desktop. As is the case with most of OneClick's interface, even the Task Bar offers several options for customizing its display.

The Launch Strip can be used for opening apps, documents, disks, folders etc.—virtually any item the Finder can open. Of course, the appearance of the Launch Strip can also be modified by the user.

Be Creative

If this were all there was to OneClick, it would be a fine program. In reality though, this is only the beginning of what the program can do!

Just use the “record” feature of OneClick to easily make a button script for most of the large variety of actions that you normally perform with the Mac, and voilà—you have a new button. You can now use an existing icon or be creative and design your own, add it to your button, drag the button to an existing palette—or create a new one. You can now accomplish the recorded task with one click.

If you know AppleScript or want to learn OneClick's own (easier) EasyScript, you can create button scripts from scratch. Between recording scripts and writing scripts, the possibilities for creating new buttons are almost endless.

Warning

This program should have a warning label reading “This program can be-

come addictive.” In addition to all the customization features and productivity boosts that come with the program—and the temptation to fully explore them—there is an active and helpful Mailing List for OneClick. Because the program's potential for new buttons is virtually limitless, members of this list share ideas about creating new buttons and discuss various issues related to getting the most out of OneClick. It is easy to get hooked by all the interesting discussions within the list. You may even find yourself coming up with creative ideas you want to share with the list.

A group of OneClickers has formed the Button Circle:

<<http://rhino.harvard.edu/dan/ButtonCircle.html>>. They regularly upload new Freeware buttons that provide additional (and impressive) new functionality to OneClick.

WestCode also regularly uploads to its own Web Site:

(<http://www.westcodesoft.com>)—free of charge—additional buttons created by the company and by other OneClickers. Owning this program is like owning an “E” ticket to a computer candy store, where most of the candy is free. The dynamic and flexible nature of the program invites users to explore their own imagination in creating new scripts, or to just “record” an operation that can be simplified to one click. If you are not even the slightly adventurous type, you can still look forward to a constant—and free—stream of buttons that others have created. If you do not have a modem, these buttons can easily be obtained and shared by floppy disk. Adding palettes and buttons is accomplished through easy import, or drag-and-drop operations.

Some Final Observations

Clearly, I am very impressed with this product. For a 1.0 release, it is an exceptional piece of software. While most users report no or few problems with OneClick, I have come across numerous bugs in the program. However, none of these have resulted in data loss, and in the perspective of the overall benefits of using the program, they have definitely been worth the trouble.

To WestCode's credit, the company has been very responsive to users' suggestions and complaints; it has already

released two minor updates, with a third one on the way. I expect that the rough edges of the initial release will have disappeared by the time you read this review. I have tried to give an overall feel for the program, as there are far more features and conveniences in OneClick than I have time to describe in this review. OneClick's ability to provide a dynamic and open-ended feature set, along with a highly customizable and unobtrusive interface, give it a combination of power and ease of use that creates a new category of program—Super Utility. I would not be surprised to see this program accumulate a number of major awards before the end of the year.

I have found tech support at WestCode to be exceptionally friendly and helpful. While the call is not toll-free, you are not kept on hold until a support person becomes available. If no one is available to immediately answer your call, you can leave your number, and WestCode will return your call.

WestCode is offering a special competitive upgrade price of about \$50. This price is expected to be honored at least through August. Even at the regular street price of around \$80, the program is a bargain. Also, WestCode offers a 60-day, money-back guarantee (if you don't purchase the program directly from WestCode, be sure to check the vendor's return policy). I hope you decide to give OneClick a try—this is one addiction that is safe, fun and productive. 🐘

OneClick

Minimum System Requirements

Computer: 68020 or later processor, with System 7.0 or higher

Memory: 300k

Hard Drive space: 2 megs

WestCode

15050 Avenue of Science,

San Diego, 92128

(800) 448-4250;

<http://www.westcodesoft.com>

Street Price: \$80

Steve Becker has been a BMUG member since purchasing his first Mac. When he can find the time, he stops by to work with the Helpline staff. He has his own Mac consulting business, MacEase. Steve offers BMUG members a reduced rate. He can be reached at: (510) 843-2775 or online at: maceeze@aol.com and on the Planet.

TechTool Pro

What a Diagnostic Should Be

by Charles Baker

There are a number of very good diagnostics bundled in utility programs. Disk First Aid comes with your system software. It will check your hard drive (diagnostic) and try to repair it (utility). Commercial products, such as Norton Disk Doctor, will do much the same thing. However, most of these diagnostic utilities are special purpose programs (hard disk only). Good overall diagnostic programs are hard to find.

Now, there is a new kid on the block. Well, maybe not all together new. MicroMat Computer Systems has long been known (since 1989) for their quality utilities, with clear instructions and an effective helpline.

MicroMat's TechTool Pro is their new commercial diagnostic program for those who want to check out any portion (or all) of a Macintosh computer. TechTool Pro (TTP) comes with a small 91-page manual and three high density floppies. Testing, Testing, Testing...

A diagnostic should find problems. Two conflicting corollaries are the diagnostic should be thorough, and the diagnostic should be quick.

TTP has over 300 individual tests that check the following aspects of your computer: RAM, ROM, CPU, video, VRAM, PRAM, modems, printers, cache cards, floppy drives, hard drives, CD-ROMs, desktop files, serial ports, input devices, benchmarks/performance, audio input & output, logic board components, system, Finder, and enablers.

TTP allows you to configure the tests so you can run selected tests for selected areas of your Mac. You can run a quick set, or an exhaustive set, or any where in between.

The results should be indicated and explained. Desirable attributes include

probable causes and possible solutions. After the tests have been executed a Short Test Result display will indicate the passage or failure of all tests selected. (See Figure 1.)

If a test fails you can click on the failure icon and an Advice window will pop up with text explaining the failure and the steps you can take to correct the problem. (See Figure 2.)

Read It Before You Weep

Documentation should be easily understood. One mainframe manufacturer specifies that at 2 am, after a long harrowing day (brain dead), with extreme pressure (the frantic DP manager is standing over you shouting the end of the month reports must get out; the union warehouse workers are waiting for their printouts so they can start working; payroll is due in half an hour; etc.) the manuals should be easy to use.

To accomplish this, the best techniques has proven to be simplicity, abundant use of pictures & graphics, and information that's easy to find. TTP successfully utilizes these techniques. The information is kept simple (clear and concise). There are pictures & graphics on almost every page. Everything is presented in a well-ordered fashion. The manual includes Installation, TechTool Basics, and Test and Panel Definitions. For each of the test sections there is a brief discussion of purpose (overall), test function and purpose (for the multitude of individual tests in each section), controls and displays, and often other pertinent information.

When MicroMat sent their TTP Manual out to print, the printer got the pagination confused. In the printer's effort to rectify the error, the *indentations* for the Table of Contents was lost.

Example of no indentations:

Modem Tests	24
Purpose	24
Test & Function Descriptions	25
Controls & Displays	26
Configuring Dial Settings	27
Audio Tests	28
Purpose	28
Test & Function Descriptions	28
Controls & Displays	30
Usage Notes	30
Common Questions	30

An easy solution is to mark the test names with a Highlighter (in this case *Modem Tests* and *Audio Tests*—the other table entries are sub-entries). This is the only nit that I could find.

The Program

The program should be user friendly. Installation is a breeze using the standard (insert disk 1, follow prompts) method. You can chose: Full animation or Still images, 680X0 only, Power Mac only, or Any Mac (fat binary). The information displayed with the options explains pros and cons of each option.

Once installed, everything is intuitive in the best Macintosh tradition. There are graphic panels for every test section. That's the good news. The bad news is, it is so easy that you might get in over your head.

TTP has done several things to help prevent problems. The tests have Skip, Pause, Stop, and Run controls so you can get out of a test if it seems too long, etc. Some tests have other controls to give you options such as Delete Desktop, Save Desktop, and Restore Desktop control buttons for the Desktop tests. Also there are warning boxes that will show up at appropriate times. (See Figure 3.)



Figure 1. The Short Test Result display from Tech Tool Pro.



Figure 2. The Tech Tool Advice Window.

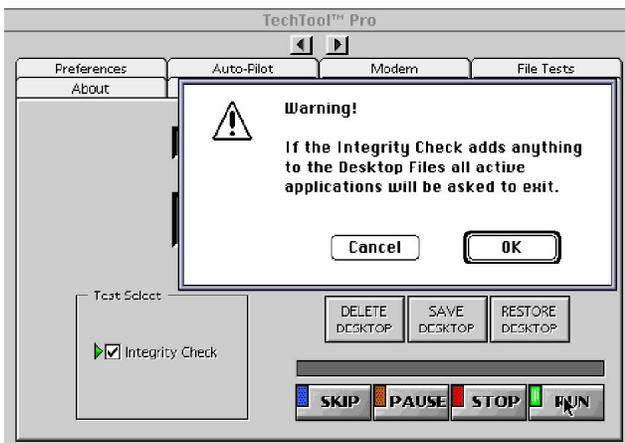


Figure 3. Tech Tool Warning Box.

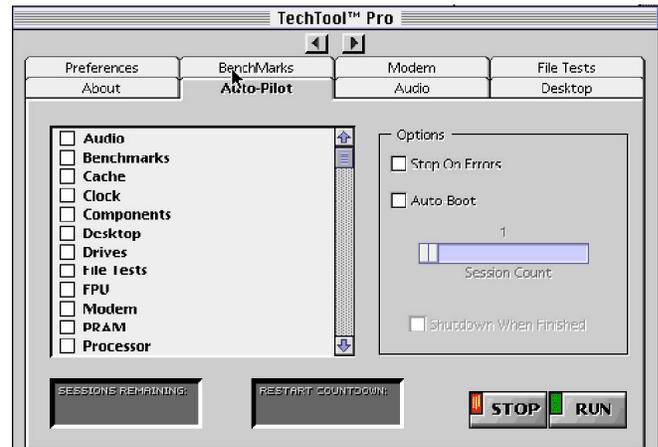


Figure 4. Tech Tool Auto-Pilot Panel.

It is easy to run tests manually, but sometimes the conventional method of running tests (run a test, changing panels, running a test, etc.) can be too time consuming. Enter Auto-Pilot and Auto-Boot. Auto-Pilot Panel contains a checklist field of all non-interactive tests. By selecting the test panels you would like to execute in this list and pressing the Run button, TTP will automatically go to each panel you've selected and run the selected tests. Auto-Boot allows you to perform 1 to 100 repetitions. (See Figure 4.)

TechTool Pro must be the absolute best in-depth diagnostic program available. It has one of the most extensive set of tests outside of Apple. The manual is well written, easy to use and understand (high praise indeed).

TTP is a program for professionals who want the ability to fully test, troubleshoot, consult, and/or maintain Macintoshes—or those who like to check their system thoroughly.

MicroMat makes several products: EKG, a diagnostic program that will notify you when your computer's health is below par. Floppy tests, hardware probes, replacement power supplies are some of the other things by MicroMat. Among their other products, TechTool (not the TechTool Pro we just talked about) deserves special mention. TechTool is a Freeware utility that is widely used to rebuild desktops and zap parameters. You just gotta like the guys for providing such an effective utility, free, to the Mac community. 🐉

MicroMat is offering a special price on their two most popular programs, to BMUG members. The offer is good for 90 days after this News letter is released:

EKG
Retail: \$99.95
Street: \$79.95
BMUG: \$49.95

TechTool Pro
Retail: \$149.95
Street: \$99.95
BMUG: \$77.95

Tech Tools Pro

Minimum system requirements

Computer: Macintosh Plus or above with system software version 7 or higher

Memory: ????

Hard drive space: 4 megs

MicroMat Computer Systems

8934 Lakewood Dr. #273
Windsor CA 95492
Phone (707) 837-8012
Fax (707) 837-0209
E-mail: micromat@nbn.com,
micromat@aol.com, 71333,166 on CompuServe
[www/http://micromat.com/mmc](http://www/micromat.com/mmc)

Suitcase 3.0

Suitcase II, the Neglected Utility, Finally Gets an Upgrade

by Gregory Stapp

Suitcase II was the first utility program that I ever used. I bought it only days after I purchased my first Macintosh, an SE. I found it to be an extremely useful tool. Subsequent versions—complete with a numbering scheme that inexplicably skipped backwards as it changed from roman to Arabic numerals—continued to serve me well, but disturbed me when interface designs and feature sets seemed to be changed capriciously and not necessarily for the better.

System 7 came, saw, but didn't conquer Suitcase as expected. Indeed, I found it as valuable as ever. Unfortunately, as time passed Suitcase was acquired by that super-acquisitive monolith—no, not Microsoft!—Symantec, which neglected it for ages. While Suitcase languished in corporate-merger exile, its users gratefully accepted the little updates that its original author periodically posted out of the kindness of his heart so that new machines and system software changes wouldn't conflict with it.

So, the news that Symantec had finally decided to upgrade Suitcase (version 3.0 this time) was very welcome indeed. However I wasn't as thrilled once I discovered that Suitcase had again dropped as many features as it had added, completely changed its interface, and abandoned any users who weren't running at least System 7.1.

In fact, Symantec's target audience is Macintosh and Power Macintosh users involved in desktop publishing and computer-comfortable users who put their Mac to more graphical uses. Computer-comfortable? Who do they think they're dealing with, DOS users?

Anyway, the good news is that this time the interface changes really work. Everything is easily accessible, attractively displayed, and simple to use. In size-adjustable windows that are similar to the finder's name view, users are able to select information in the normal host of Macintosh ways. Font sets can now be linked to individual applications, and much of one's font management can be automated with AppleScript. Font compression is still available, as is font harmonization, and drag and drop is now supported.

Available for the first time in a Power Macintosh-native version, it is also now compatible with QuickDraw GX fonts. Online assistance is available via AppleGuide, and for the most part, the pre-release version of the manual that accompanied the review copy was clearly written. Perhaps the best news is that early reports have found it to be encouragingly stable.

Running on my Powerbook 550c under System 7.5.1, it behaved admirably, performing well with a wide variety of software in many different configurations. The only conflict I discovered was with screen capture utilities when the Suitcase application itself was actually active. Hardly a common situation, but one that can result in unrecoverable freezes.

Suitcase 3.0 focuses solely upon fonts. Only two passing references are made in the manual toward sounds and F-keys are totally ignored. However, the specifications sheet grudgingly admits to minimal support for them. Desk Accessories (not really used since System 7) aren't referred to at all.

Only Suitcase 2.0 databases can be upgraded, but the instructions must be followed to the letter if one wishes to avoid

rebuilding one's sets all over again. The accompanying Read Me! also includes a list of potential little conflicts with various applications.

Although changing to Suitcase 3.0 is perhaps the perfect excuse to install sets of clean new fonts from original disks, one must never forget the Font-ID gremlins that still lurk with older programs and fonts. Although Suitcase 3.0 confidently predicts that it can now resolve all potential conflicts on the fly, it's still a good idea to keep a copy of one's old font suitcases around for awhile until time has proved it safe to discard them.

The basic premise for using Suitcase remains unchanged. It allows fonts and similar system resources to be individually customized while optimizing use of system memory and storage space. Symantec's apparent disdain to the contrary, most Mac users will still benefit from using Suitcase.

Those who have Power Macs or who are running System 7.5 or later should probably consider upgrading to, or purchasing, Suitcase 3.0. Alternatively, check out Suitcase's perennial rival, MasterJuggler. Users of System 7.1 might feel comfortable either upgrading or staying with Suitcase 2.14p. System 6 and 7 users can't upgrade, so they can either feel out of luck or relieved that they don't have to pay another upgrade fee. Power users wishing a more detailed review can peruse MacWeek's generally favorable review (3/11/96). 🍷

Gregory Stapp is an opera singer who still loves his Macintosh portable, but now totes his Powerbook 550c to his performances here and abroad. He may be reached on Planet BMUG (Gregory Stapp) or via the Internet (primobasso@aol.com).

Suitcase 3.0

Marching to Invisibility

by Joseph Steven Coleman

Suitcase has been a vital item in my Macintosh arsenal since the release of version 1.0. The new 3.0 version proves Symantec has continued to perfect this utility's interface and invisibility, with only a few missteps.

Through the various releases, Suitcase allows a user access to dozens of fonts (also sounds and F-keys) without taking up valuable system memory. With Suitcase the font-hungry user can avoid the slowdown, which is a symptom of loading too many fonts into your system.

Just as I was preparing to examine the new Suitcase 3.0 for BMUG, a column in the April 15th version of *PC Week* cited problems with crashes on the PowerMac. I upgraded to 3.0 on my PowerMac at work and my '030 IIfx at home and have not experienced the predicted crashes. My contact at Symantec informed me the problem had been identified as part of a "poorly worded" tech document and the source of the crashes were not due to Suitcase. The corrected tech documents have been posted to the web and forwarded to *PC Week*.

I avoid a lot of bells and whistles because of previous conflicts that destroyed my btree on more than one occasion. Maybe those lessons prevented Suitcase from destroying my system, fonts or files. Or, maybe the program simply works.

Suitcase's Facelift

The first change you will notice is the new font window. Suitcase no longer opens as a Control Panel, but opens as an application within your Apple menu. The new window is larger, easier to read and follows the basic interface Symantic uses with its other programs.

The System metaphor of files and folders is carried into Suitcase 3.0 as an intuitive, easy to follow system for creat-

ing and opening the font sets you need to use. The little triangles to the left of the folders allow you to open and review the contents, just as you would with the System in "Name" mode.

Suitcase 3.0 offer the ability to view fonts without leaving Suitcase, but it is not as intuitive as the new sets manager. I would prefer to check fonts in the "ADD" phase, but it was a very minor irritation and after a few days, I hardly noticed the limitation.

Built in scripting allows you to link font sets to specific programs. For example, I am almost always in a "design" mode when I open Freehand, so my favorite design fonts are immediately available to me when I open the program.

On the other hand I loathe script fonts, so I keep them in a separate set to open (and close) quickly on an as needed basis.

Building sets has been simplified with a Drag and Drop feature, which allows you to create new sets or application sets by dragging files, folders or groups from their resident windows in Finder, directly into the Sets window of Suitcase. It took less than on minute to load Freehand and the 15 fonts I enjoy the most when working with Freehand.

The new font conflict manager made the problem of opening the same font twice very easy to resolve. Suitcase 3.0 will notify you that it did not open the duplicate font suitcases, and then considerately marks the offending set and individual fonts within the set with the familiar yellow triangle used for many Mac alerts. I found this feature kept everything running and allowed for easy removal of the offending fonts.

Version 3.0 allows Suitcase to work with fonts in their compressed or uncompressed forms, which is good news for

folks with small hard disks, too many fonts and one of the more popular compression programs, like DiskDoublor (which just happens to be a proven companion product, also from Symantec).

Anything Bad to Say?

Gee, it can't be a review if a reviewer can't complain, can it? It took a while, but I found something.

The Remove Selected Items is different from the old Command-X delete feature, but will probably lead to fewer accidentally removed fonts. At first I found it to be an awkward change, but, as with other changes, adapted to the change without further complaint.

Conclusion

I have no complaints about the upgrade. Through the 3.0 upgrade, Suitcase remains a valuable part of my design tool box, and the only changes that annoyed me were because I'm an old curmudgeon who feels anything new is evil. The program remains familiar enough to keep a long-time user like me satisfied, but still offers the first-time Suitcase user a short learning curve, familiar metaphors and immediate benefits. 🐉

Joseph Steven Coleman is a writer, director and designer who lives in the bay area with far too many books. He has been a member of BMUG since 1989. There will be a brief pause while you say "so what?".

Suitcase 3.0

Minimum system requirements

Computer: System 7.1, 7.5.2 and PowerPC native

Memory: 4 megs

Hard Disk Space:

Manufacturer: Symantec

Contacts: (800) 441-7234

Street Price: \$70, \$40 for upgrade

Just the FAX

A Brief Review of FAX^{stf} 3.2.1

by Mark Mason

FAX^{stf} software by STF Technologies offers a bevy of useful fax functions built around a convenient and clean Macintosh interface. Yet, the sophistication, power, and ease-of-use expected of commercial software was found uneven in FAX^{stf}, giving it a quirky and unfinished feel. With the incorporation of a few refinements, FAX^{stf} could claim the top spot over competitive Macintosh/PowerPC fax software.

What's to Cheer About?

Notwithstanding increases in the transmission of documents via the Internet, Desktop faxing will continue to be an important means of transmitting information. I have faxed documents to areas of Mexico, South America, and Mongolia that webheads can only dream about. For the most part, FAX^{stf} integrates several fax-related features into an intuitive, Macintosh interface: incorporating System 7.5.3 functionality such as drag-and-drop faxing, FaxBar (floating palette) and control strip modules. Fax monitoring, scheduling, printing, optical character recognition (OCR), fax-to-text translation, as well as fax creation within FAX^{stf} (QuickNote) itself, are well designed. The gray-scale faxing capability is also welcome; images can be faxed with retention of considerable detail. In addition, the fax viewer has a smoothing (anti-aliasing) feature that significantly enhances high-contrast fax images—turning blobs into recognizable pictures.

Most notable is the complete control of faxing from the Apple Menu or menu bar. FAX^{stf} is accessed directly from the Apple Menu (or menu bar) and eliminates the need to dive into the Chooser to select the fax printer driver or to quit a word processor to enable FAX^{stf}. In addition, ancillary abilities

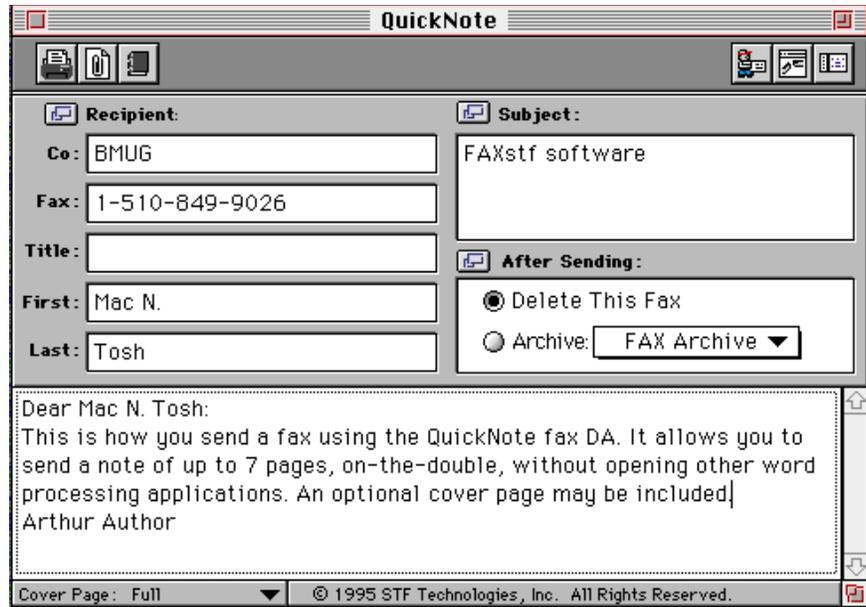


Figure 1. QuickNote DA: used for faxing text-based notes directly from FAX^{stf}.

such as checking the status of a fax in progress in the background and accessing the QuickNote DA make for efficient use. Opening QuickNote from the Apple Menu, one can fax without having to quit other applications. Previewing faxes is complete with cover page images and header information. Much is included that would prove useful for use on a LAN, although a separate network version is also available.

The ability to fax directly from word processing and desktop publishing applications, an excellent fax viewer, gray-scale faxing, fax forwarding, fax translation through OCR, phone books for storing fax telephone numbers, and cover page customization, are well designed and valuable components of FAX^{stf}.

If you bought a one-of-a-kind, hot-deal modem you'll be pleased to note that hundreds of modems are supported.

Technical support by phone, fax, and email is prompt and informative.

Room for Improvement

Indeed, the devil is in the details—and a few crucial details are lacking in FAX^{stf}. Frustration is imminent if you want to fax in a hurry, choose the handy QuickNote DA from the Apple Menu, but forget to select Turn Fax Software On, also in the Apple Menu. I spent hours trying to figure out why this quick-fax feature wasn't working. The principal problem with FAX^{stf} is its failure to provide meaningful error messages.

FAX^{stf} consists of several integrated modules and RAM-resident extensions; most computers will need more than 8 megs to function well. Faxing, OCR and fax cut-and-pasting with the fax viewer need RAM breathing room.



Figure 2. Cryptic and Balloon Help-less buttons on the STF Manager (fax manager) toolbar.



Figure 3. Well-designed user interface of the Fax Status DA.

Ensuring fully functional faxing requires informative dialog boxes for those times when things go awry. Unavoidably, faxing is a complex, multistep process; the more complex the software, the more critical it is to program in helpful messages. Trying to fax a QuickNote without having turned on the fax software first, yields a misleading error message suggesting a problem with the modem or modem configuration. Much the same is true when the fax software is turned on, but the modem power is off, and the fax driver is not selected. Equally disconcerting is the failure of FAX^{stf} to distinguish between a busy signal when dialing a fax number in contrast to other connection problems. FAX^{stf} redials a fax number when a line is busy, but it also redials, inappropriately, when a call is answered by the receiving fax/modem but fails to establish a working connection. Incredibly, the FaxStatus DA is full of bells

and whistles—except that it does not provide any indication of busy signals or connectivity problems. This is a serious oversight, especially so if your fax/modem speaker is turned off or is located away from your computer. A display of redial time-out between attempts to reach a busy fax/modem is also conspicuously absent.

Tiny annoyances abound. When faxing, FAX^{stf} saves all fax numbers in a phone book unless a check box is selected, whereas the default condition should delete fax numbers. Balloon help is not available for the fax manager component (called STF Manager), thereby leaving one groping for the documentation or guessing what the cryptic icons on the button strip mean. In addition, the file for setting defaults (Settings) has errant balloon-help balloons. The documentation is above average, except for the all-important indexing which is inadequate.

Conclusions

Fax software should be robust yet easy to use. FAX^{stf} has the makings of efficient, user-friendly software; it is versatile, full-featured, but only for those who have RAM to spare. Yet, the FAX^{stf} interface begs for improvements in integration of the fax modules and essential fax status information during faxing. Notwithstanding a few shortcomings, FAX^{stf} is suitable for occasional personal home use, as well as for intensive business-related faxing. 🐉

Author's Note: An updated version, FAX^{stf} 3.2.2 (available on Planet BMUG), incorporates several bug fixes and interface improvements. Conflicts and bugs associated with several applications and utilities, such as ClarisWorks, Now Utilities, Excel, FileMaker Pro, Adobe Illustrator, and PopupFolders, have been fixed. In addition, many minor problems with STF Manager, MenuBar, and Fax-Print have been corrected. Modem support continues to be a strong point for FAX^{stf}; new drivers are frequently added.

Mark Mason is a scientific editor and information specialist living in the San Francisco Bay area. He is driven as much by the elegance of the Macintosh, as he is by the winds of the eastern Sierra Nevada mountains.
mark_mason@bmug.org.

FAX^{stf} 3.2.1

Minimum System Requirements:

Computer: 68020; System 7.0; 4 megs. RAM 8 megs recommended; not PowerPC native

Hard Drive Space: 11 megs

Features: Basic OCR translator, Bin-Hex faxing, auto fax sending/processing, gray-scale faxing, anti-aliasing fax viewer; network version 3.3

STF Technologies, Inc.

PO Box 81

Concordia, MO 64020

Phone (800) 700-1299

Fax (816) 463-2179

email 74740,1244 compuserve.com

Price: \$66 (BMUGers check the Planet for special user-group price)

Beyond the Mac is Not a Typewriter

More Great Advice from Robin Williams

by Gregory Stapp

Author of numerous books, Robin Williams' *The Little Mac Book* and *the mac is not a typewriter* have won her an especially grateful and devoted following. Thanks to the tips and rules that she espoused in these concise tomes, many have learned to avoid common typographical and stylistic errors while at the same time joyfully discovering the capabilities of their Macintoshes.

Proving that her love affair with type continues unabated, Ms. Williams' *Beyond the Mac is Not a Typewriter* is another excursion into the fascinating world of typography. Writing with her customary grace and clarity, she explores both the arcane and mundane aspects of her subject with an easy wit, straightforward explanations and a singular passion.

After a brief description of the anatomy of type, she traces the historic development of type design. Then she plunges into individual treatments of the following general categories:

Readability and Legibility

Do you know why these terms should not be interchangeable? How about which term refers to headlines and which refers to body text? Are you aware of how font characteristics like x-height, serif or sans serif can affect both of them?

Punctuation

No, it's not enough just to use the proper symbols for quotation marks and apostrophes. Do you know what a prime symbol is, where to find it and when to use it? How about an opening apostrophe's direction? Is '96 correct or is it '96? What about shifting the baseline so that parentheses and numbers don't appear out

of balance with the rest of the text? Should punctuation that follows an emphasized word be in the same style as the word or as the body text? Should punctuation precede or follow a closing parentheses?

Expert Type

Everything you always wanted to know but were afraid to ask about those fancy specialty fonts that can make a document come to life. Learn lots more about ligatures, small caps, expert sets and display type.

Spacing

Kerning, leading, paragraph spacing, alignment. Which ones solve which problems? How do they interact with each other? Are they equally important? When does it really matter?

Details

Should headlines and subheads be in a different font than body text? When are pull quotes most effective? How should captions align to body text and/or their figures? Why is underlining a lousy way to emphasize type? What kinds of line breaks and hyphenation look amateurish?

Special Effects

Swash characters, initial caps, typographic color, ornaments and dingbats, pi and picture fonts are all available to you. But are you afraid to use them incorrectly or scared you'll look silly? This section will give you the courage to avoid being a wimp with your type.

Typographic Choices

What makes typography evocative? How can multiple masters simplify your

life? Which typeface is the correct one for a particular job? Want to avoid looking like a desktop publisher? Finally are you up on all the funky trends in type? Ms. Williams' cover illustrator, John Tollett, has a chapter with all the latest gossip just for you.

The above gives just the barest hint of all the fun tips and artistic insights that await readers of this book. There are so many example-figures incorporated into the book that almost every page contains at least one of them. There are also well over one hundred different typefaces displayed at various times in the book. Best of all, Ms. Williams genuine desire to share her own enthusiasm and knowledge with others makes her a wonderful advocate for typography.

Like its predecessor, *Beyond the Mac is Not a Typewriter* should be owned by everyone who uses a Mac. Reading it straight through is informative and delightful. As a reference work, it is one of the most useful, valuable and inexpensive investments that one can make. While many of its tips are designed for desktop publishing, following its general guidelines will enhance the content of any document. Not following its guidelines is a recipe for disaster. 🚫

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Gregory Stapp is an opera singer who still loves his Macintosh Portable but now totes his Powerbook 550c to his performances here and abroad. He may be reached on Planet BMUG (Gregory Stapp) or via the Internet (primobasso@aol.com).

The 3M Precise Mousing Surface

Build a Better Mousepad

by Gregory Stapp

Initially derided as a toy, the mouse was eventually adopted by the entire personal computer industry. Trackballs, trackpads, drawing tablets, and joysticks, notwithstanding, the mouse has retained its dominance as the standard pointing device for graphical user interfaces. New designs have increased mouse accuracy and ergonomic comfort but failed to address the performance degradation that can be caused by mousepads.

Although painstaking efforts create the designs and company logos that so artfully adorn them, scant resources have been devoted to improving mousepads. Enter the 3M Precise Mousing Surface, an innovative product based upon 3M's patented microreplication technology that hopes to substantially improve every user's mousing experience.

Microreplication is the creation of microscopic, precisely shaped, three-dimensional structures on surfaces such as plastic film. Overhead projector lenses, reflective tapes, road signs, nonskid surfaces and abrasives are some of the products that microreplication has helped develop. It took a chance occurrence to link its properties with mousing.

According to 3M, a researcher had been applying microreplication in his work on safe surfaces (for ladders, sports equipment, etc.) when he misplaced his foam mousepad during a move into a new building. So he fashioned a temporary substitute by covering a sheet of mailing labels with an ultra-thin microreplicated surface. He immediately discovered to his surprise that this make-shift device was a major

improvement over his regular mousepad. Thus, a new product was born.

The 3M Precise Mousing Surface is a super-thin mousepad with a unique flat surface of microstructured peaks and valleys that takes mouse users to unprecedented heights of control and accuracy. Held in place by a non-skid backing, its enhanced tracking, low-profile and special shape also intend to optimize user comfort while minimizing dirt and oil retention from user's hands. 3M has even coined a new acronym WYPIWYG—where you point is where you go—to describe the whole experience.

The design of its surface actually does seem to keep dirt and oil away from the mouse's innards. I have yet to need to clean my mouse since I began using it. It is so thin (barely thicker than heavy card stock) that things don't tip over when they come in contact with it on the desk. And I don't lose control if I accidentally

move my mouse off the pad while dragging or even drawing. Flexible and weighing less than an ounce, it is also easy to store away or pack and carry.

Using it improved my accuracy and enjoyment of mousing considerably. It is easy to control slow and detailed movements whereas rapid movements quickly traverse screen territory with astonishing accuracy. In fact, I like it enough that I now regularly hook up my low-powered mouse—yes, these came standard with the Macintosh Portable—whenever I have my Powerbook 550c on a flat surface. The 3M Precise Mousing Surface appears to be that rarest of products—something that lives up to its hype.

3M is to be commended for having improved a simple but vital part of the personal computing experience. Kudos are deserved as well for designing a cute advertising campaign. If you use a mouse, you'll want one. 🖱️

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*3M has even coined
a new acronym
WYPIWYG, where
you point is where
you go...*

Gregory Stapp is an opera singer who still loves his Macintosh Portable but now totes his Powerbook 550c to his performances here and abroad. He may be reached on Planet BMUG (Gregory Stapp) or via the Internet at primobasso@aol.com.

The 3M Precise Mousing Surface, available in an abstract, indigo, or black design, can now be found at dealers, superstores, and in mail order catalogs for \$15.

Key Not Found

A Review of Key Finder

by Scott Rothstein

Key Finder by DeskTop Publishing Studios is a simple idea: a mousepad with a clear plastic cover attached to one side of the pad; reference guides showing keystroke shortcuts can be placed under the plastic cover. Key Finder comes with guides for Adobe Illustrator 5.5, Photoshop 3.x, PageMaker 5.x and 6.0, ITC Zapf Dingbats and Symbol fonts, and the complete Standard Character set (guides for additional applications are available). The idea promises to be pretty handy: these applications utilize large numbers of keystroke shortcuts, many of which are not part of the standard Apple user interface. System-wide keystrokes such as Command-S for Save and Command-P for Print are pretty easy to remember; application-specific commands like Command-F (Paste in Front in Illustrator) or Command-4 (Align Objects in PageMaker 6.0) tend to muddy the waters. It would be great to simply glance down and find the shortcut you need; having those additional characters generated by the Option key printed right in front of you would be convenient too: who can remember that you get £ from Option-3?

The product was a nice idea, but it doesn't work out. Key Finder's biggest problem was evident when I first opened it up. "Wait a second," I thought, "these things have two sides!" Picture the problem: you want to call up the Styles palette in PageMaker, but you don't remember the keyboard shortcut. No problem! Just check your trusty guide! All right ... don't see it ... not there ... not there ... not there. Okay, move the mouse off of the pad and onto the desk, lift the pad's cover, flip over the guide, put the cover back down, replace the mouse ... and look again. Now how long did that take? Probably a lot longer than simply pulling down a menu.

Nevertheless, as a sucker for gadgets, I *wanted* to like this product, so I gave it a try. Problem two: there's little or no logic to the layout of most of the shortcuts. For example: on one side of the Illustrator guide, under the category heading *Object Attributes*, are the shortcuts for the Group and Ungroup commands. On the reverse side of the guide, under the *Layout/Design* category heading, are the shortcuts for the Lock and Unlock commands. This reasoning is beyond me; those commands are placed as *close* as possible to each other in Illustrator, but are as *far apart* as possible on Key Finder! But wait: it gets worse—the Group command is put under *Layout/Design* on the PageMaker 6.0 guide! Apparently, DeskTop Publishing Studios is uncertain whether the Group command belongs under the *Layout/Design* heading or not.

To compound the problem, within each category there is no apparent pattern to the placement of many of the shortcuts. They are not alphabetically listed, nor are they listed according to how they appear in the application's menus. The table below compares the order in which the PageMaker 6 guide lists type style shortcuts to the order for PageMaker 6.0's Type Style submenu.

PageMaker Guide	PageMaker application
Bold	Normal
Italic	Bold
Underline	Italic
Shadow	Underline
Outline	Strike Thru
Strike Thru	Outline
Reverse	Shadow
Normal	Reverse

Am I missing something here?

Only a few keys are logically laid out: the Photoshop Toolbox reference, for example, is laid out in the same order that Photoshop displays the Toolbox palette. Otherwise, some odd choices are made: the Zapf Dingbats font guide has categories for *Stars and Numbers*, stuck on the back of the cards are categories labeled *More Stars* and *More Stars*. Was it too much to ask to have a *single* listing for each category? If there wasn't enough space to do so, then blame the design of the pad: not only is Key Finder smaller than the smallest of my assorted mousepads, the top inch and a half of the pad is wasted with the Key Finder logo.

Finally, I found an inherent problem with the concept of a mousepad reference guide: at any time, a significant portion of the pad is obscured by the mouse; although the mouse could be moved, the objective of many of the shortcuts is to allow the user to keep his or her hands on the keyboard and not have to fiddle with the mouse.

As you may guess, I am unable to recommend this product. The plastic cover provides an inferior rolling surface compared to many other pads; the success of the reference guides would have been the only factor in favor of this product. As such, the market for a shortcut to shortcuts is still open. 🚫

Key Finder

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Hardware

Buying Macs

An Essay

by Sam Penrose

Macintosh computers get more wonderful and less expensive every month, as new models are introduced and old ones depreciate. The process of deciding which Mac to buy grows more complicated at the same rate. This essay is a quixotic attempt to make some sense of the whole mess. While it includes a few facts and a lot of numbers; on the whole it embodies a single person's somewhat educated opinion. *Caveat lector.*

The first questions you must ask when buying a Macintosh, concern yourself. Why do you want a computer? What will you use it for? Where? How much technical understanding are you willing to acquire? Will anyone else use it? What are their needs? What is your budget? For what reasons might you spend more? Less?

Keep those questions in mind as you read along. I aim at the mythical average user, who wants a Mac to use at home for writing, organizing financial information, playing games, connecting to the Internet, viewing CD-ROMs, and other like activities. In real life, each and every one of you is above average, and only you can know where your concerns differ from those I posit.

Before You Buy Regarding Systems

The language commonly used to name individual computers is vague. When someone talks about "my Mac," he might mean just the CPU (the box which holds the parts that do the work), or he might mean his entire "system." In turn, *system* usually means the CPU, a monitor or screen (what you look at), a keyboard, and a mouse or mouse equivalent. Some of these may be housed in a

Since extra speed is relatively expensive above \$1,000, most people should spend a larger fraction of that money on other features, like a beautiful monitor, more memory, or even a better chair.

single box; in PowerBooks they all are. It does not include a printer unless specified. It occasionally includes a modem. It often, but not always, includes a CD-ROM drive. Know this definition, but be aware that people will use it loosely. Always get the details. Also, in this article *system* or *Mac* will often function as shorthand for "but-not-PowerBooks-because-they're-different-because-blah-blah-blah," which would otherwise get tedious. Read the PowerBook-specific sections if you are interested in them.

The Four Kinds of Macs (Speed Part I)

The over 100 extant Macintosh models can be divided into four extend-

ed families, differentiated by the speed of their processors. To use technical language, they are:

- Slugs (roughly \$150 for a system)
- Slowpokes (\$350+)
- Quadras (pretty fast, \$500+)
- Power Macs (fast, \$900 to infinity)

What this means: If you spend \$500 instead of \$150 for a Mac system—jumping two levels—you will get a much faster machine. Some people won't care. Most people will. If you spend \$900 instead of \$500—jumping one more level—you will get a pleasant speed increase which will come in handy when you connect to the Internet or push your Mac fairly hard in other ways. But if you spend \$2,500 instead of \$900, your extra \$1,600 will only buy you about as much speed as you gained going from \$500 to \$900! This is very important, and the exact opposite of what clever advertising agencies spend millions of dollars on trying to convince you. Not that you shouldn't spend \$2,500 if you have it, by all means. Your money will buy you great improvements over the \$900 system, including some speed. But since extra speed is relatively expensive above \$1,000, most people should spend a larger fraction of that money on other features, like a beautiful monitor, more memory, or even a better chair.

The Great Divide: Macs and Power Macs

In 1994, Apple began shipping Macintoshes based around a new kind of processor. Power Macs, as they are called, can run the same old software, and they will run it fast. If the software is rewritten to take advantage of the Power Mac potential, it will run much faster than on any old-style Mac. Even better, the in-

herent speed of the new processors means that engineers can do wonderful tricks that weren't possible under the old architecture. Now that Apple ships 98 percent Power Macs, a small but growing fraction of new software won't run at all on the old machines. The oldies are still great computers, but they have little growth potential. They are also a lot cheaper. If you have \$1,500 (enough to get a nice Power Mac system with several useful peripherals), a Power Mac is better than an older Mac. On the other hand, if you only have \$500, the latter is infinitely superior. It's good to keep things in perspective.

Regarding RAM

You may have heard people talk about RAM, which stands for Random Access Memory and is also called just plain *memory*. The four classes of Macs I introduced above are differentiated by their processors. RAM is to processor as muscle is to brain, sort of. The processor makes the decisions and RAM carries them out. Every computer needs both. The analogy breaks down when it comes to their interaction. Where brains and brawn generally define opposite approaches to problem-solving, processor and RAM work together. The faster your computer's brain is, the more RAM you need to take advantage of it. A fast computer without enough RAM is like an absent-minded genius. Her accomplishments, while impressive, are sporadic. She takes forever to formulate her brilliant insights because she can't concentrate. She tends to drop things and walk into stationary objects. So with computers that lack sufficient RAM. They go slow, they can't do two things at once, they ask for more hand holding, and then they crash anyway. RAM is measured in megabytes or *megs* and typically comes in multiples of four. Do not buy a Mac with less than 4 megs of RAM. If you buy a Quadra, you should probably have 8 megs. If you buy a Power Mac you should have 16 megs, no "probably" about it. If you are buying used, look for a machine that has enough memory already instead of buying extra later. You will save money *and* hassle. If you are considering RAMDoublor as a work around, read the mini-essay on it near the end of this article.

The Level-2 Cache in Power Macs

For Macintosh users, a *cache* is any relatively fast form of memory that holds

information normally stored in another, slower form of memory. For example, hard drives are faster than CD-ROMs, so many CD-ROMs cache data on your hard drive. RAM is faster than hard drive space, so every modern Mac sets aside a small amount of its RAM to cache information from the drive that it is likely to need soon—typically, the same information it needed a moment ago. You can see this by opening up the Memory control panel on your Mac. It's called a *disk cache*.

Now, the good part. For technical reasons, the processor in Power Macs works much more efficiently with the help of a secondary or "Level-2" RAM cache. This is a special, super fast kind of RAM that stores data the processor would ordinarily have to get from regular RAM. They come in several sizes, but almost everyone will do fine with the smallest and cheapest size, which is 256k. They

Expensive Macs depreciate quicker than bad real estate investments.

cost about \$100, but they make the \$1,000 and up you have already spent on your Power Mac a much better investment. Only if your budget is truly lean should you not buy a cache. Or, of course, if your Mac already has one.

- Macs that shipped with a level-2 cache installed: 5200, 5215, 6100/66, 6200-6300, 7100/80, 7200/120 (some), 7600, 8100, 8500, 9500.
- Macs that didn't: 5260, PowerBook 5300 (all), 5400, 6100/60, 6110-6118, 7100/66, 7200/75, 7200/90, 7200/120 (some), 7500.

If you are buying used, the seller may have added one, in which case he will usually announce the fact so he can hit you up for a little more cash. Also, watch out for the occa-

sional "7100/80" that is really an accelerated 7100/66 (check the label on the front). It may not have a cache installed. 6100's with clock speeds (the number after the slash) higher than 66 are also wild cards. In any case, accelerated Power Macs are dubious purchases for other reasons.

The Other Great Divide

You can generally buy a new Macintosh system for a cost between \$1,500 and \$2,000. If you don't have that much to spend (and still want a fast machine), your options are used or "refurbished" Macs, which Apple sells with a 90-day warranty.

Regarding Depreciation (Speed Part II)

Expensive Macs depreciate quicker than bad real estate investments. You pay \$3,000 for a CPU that is 25 percent faster than the \$1,800 entry-level and has one or two extra features. (Remember, we are talking the box here, not the whole system.) Within nine months, your erstwhile Ferrari will be no faster than the new, improved \$1,800 machine. Fortunately for most of us, below \$2,000 depreciation isn't as brutal. While the \$3,000 CPU is dropping to \$1,800 and then to \$1,000, the \$1,800 CPU will drop to \$1,200 and then to \$850. A gap that began at \$1,200 (\$3,000 minus \$1,800) has narrowed to \$150 (\$1,000 minus \$850). The two computers are now worth, combined, no more than the cheaper used to be worth all by itself!

There are other ways of saying what I wrote a few paragraphs up: the more of their above-\$1,000 money most people sink into anything but processor speed, the more value they will get. (And not just the day you buy it: the more you use your Mac, the more \$25-\$500 additions you will learn about and decide you want. Keep some cash in reserve!) Far too many people blow their entire budget on the fastest CPU they can get. The result is the equivalent of having a hotrod as your family car. Teenagers will be thrilled, but grownups will tire of the arrangement quickly.

The Cheap Power Mac System...

...costs, as I write this in May of 1996, about \$1,000. The basic compo-

nents are: a used or refurbished 6100 series CPU with an internal CD-ROM drive, a \$50 keyboard, \$100 (8 megs) worth of extra RAM, and a \$150-\$350 monitor. Right now such CPUs with the extra RAM cost about \$700; they will drop \$150-\$300 over the next year. That money is much of what you'll need to get a printer and a modem, so a Power Mac starter budget of \$900 to \$1,500 should make sense for some time to come. You can certainly skimp, but crippling a \$1,000 investment to save \$100 is rarely a good idea. Other CPU possibilities include the slower 5200/6200 series or a good deal on the more capable 7100/66 or 7200/75. The 5200 series combines CPU and monitor in one svelte cube, which some users will really like. The 7200 is significantly nicer than the others.

But I Don't Have \$1,000 for a Computer.

Do not fret. There are millions of wonderful pre-Power Macs out there. Here is a summary of the market for used desktops in Spring 1996. I have bent the prices down a bit to increase their relevance for the time you read this. They may be high; they will not be low—for good deals. Some sellers will ask hundreds more. That's where knowing the market comes in. Get updated information on Planet BMUG or BMUG Boston. Read as many ads as you can.

Do you have \$150? You can hunt for what I called a slug: an SE or Classic dating from the Bush Administration. They have a small black-and-white screen and weensy hard drives; modern software performs terribly if at all; and various components are liable to drop dead on you. But they're still Macs. You can run a business or write a book on one. Try to find one with 4 megs of RAM; try to avoid SE's that have outmoded floppy drives (called *800k*, *DD*, or *Double Density* as opposed to the modern *1.4-meg*, *FDHD*, or *High Density*); and try to pay less than \$150. If you are on a really tight budget, consider asking someone to give you one. On the other hand, if you have \$200, look for an SE/30 or Classic II, which are the same thing but faster (a *slowpoke*), more compatible, and generally more pleasant to use. With all Macs in this category, limited supply can make them more expensive than they really should be.

If you have \$350 or so, you can get color—such a treat. Apple shipped dozens of variations on the slowpoke (68030-based, to be precise) color Mac. Some are all-in-one, most are boxes that plug into a monitor. Some were made in 1989, some as late as 1995. Ask a knowledgeable friend or on Planet BMUG about the specific model you are eyeing, once you get that far. Newer machines are on average better, especially when it comes to the monitor and hard drive. Almost all began with 4 or 5 megs of RAM. You may want 8. Color slowpokes make good second Macs for children to employ/enjoy/destroy. There are a lot of these suckers out there—shop around.

Also available in great numbers is the most ubiquitous and humble of the Quadras, the relatively fast pre-Power

If you are on a really tight budget, consider asking someone to give you a Mac.

Macs. Called the Quadra 605, the Performa, or LC 475 or 476, it looks like a gray plastic box for a large pizza. Compared to the slowpokes it is noticeably and pleasantly snappier and will run some additional software. It wasn't made before 1993 and should hold up better, at least on average. It won't take an internal CD-ROM drive. You can find this model with keyboard and an adequate monitor for \$500 and up as I write this—or about \$150 more than a similarly configured slowpoke. As with the slowpokes, you want to shop aggressively for used Quadras. You, not the seller, are in the driver's seat (and \$500 may be high by the time you read this). If every dollar doesn't bring real value, wait for a better deal. They will be out there.

More capable Quadra systems cost between that figure (\$500 or less as you read this) and the price of a decent used Power Mac. You should get at least 8 megs of RAM for your money, a CD-ROM drive, and perhaps a better-than-average monitor or other goodies. You should also be asking yourself why you are buying an outdated computer. Your investment in a Power Mac will be bigger at first, but with much better growth potential. Some of you will have other ways to spend that extra cash—great. For those who want to explore the wonderful world of computers, Power Macs are the way to go.

PowerBooks

Modern desktop Macs are 20-pound boxes that attach to 25-pound monitors, 2-foot long keyboards, and mice that need a good square foot of rolling room. They are called *desktop* for good reason. PowerBooks are what you get when you cut 85 percent of the weight and reduce the volume by two orders of magnitude.

Not Everything Fits.

It is hard to recommend PowerBooks to those who have never used them. As you can see from the *General Theorem of PowerBook Shopping*:

**Macintosh – weight – volume +
A + B + C + D + E + F + portability
and that ineffable cuteness factor
= a lot more money**

The critical issue is what are A through F? They're the trade-offs made by Apple engineers squeezing fifty pounds of computer into a 7-pound box, and they vary for each PowerBook. Since the needs and preferences of each PowerBook user also vary, shopping becomes a personal guessing game. Which trade-offs will you accept, and for how much money? You won't really know until you use one, but here are some starting points:

- Want a reasonably quick Mac?

PowerBooks cost about twice as much for a given processor speed, but even then their hard drives and video systems are significantly slowed in order to save power and space, so they will be noticeably “dopier” than a nominally equal desktop. This caveat should be kept in mind if you are planning to plug your PowerBook into a normal monitor and keyboard, which many models allow.

Such a setup gives you some but definitely not all the benefits of desktop Macs.

- Want color?

The first two color PowerBook screens had sharply compromised clarity (165c) and size (180c), respectively. An adequate color PowerBook will probably still cost close to a grand when you read this (the 520c), a bright sharp one (540c) half again as much. Also, color screens suck power faster. Care about battery life? Well, you need to learn a lot of tricks, some of which make your machine slower or harder to read.

- Want a Power Mac PowerBook?

No problem—run you around a grand. Want enough memory to actually use the thing? Well, not only is the memory more expensive, but unless you never run on battery, you'll need more of it for complicated reasons. That'll be \$400, please. Want to add a modem? Almost twice as much as desktop modems. Here you go. Oh, you wanted color. No problem. Another \$700, please. (We're up to \$2,400.) Screen's pretty good, isn't it? Doesn't match a \$150 desktop monitor, but I can sell you an improved version...

- Slug PowerBooks (the 100): \$250–\$400.
- Slowpoke PowerBooks (140-180): \$400–\$900.
- Quadra PowerBooks (190-, 500-series): \$700–\$1,800.
- Power Mac PowerBooks (5300): \$1,000 (if you have to ask, \$7,000 in the fall of 1995).

These figures are market in May 1996 less 5 to 20 percent. I may be underestimating depreciation between now and when you read this, but PowerBook prices generally drop more slowly than desktop prices, and they plateau higher. Ask around before you buy. If you plan to tote your machine everywhere, ask about weight. (And whatever you get, never leave it in your car—unless you want it to become someone else's PowerBook.)

As a Second Mac?

For some people it makes more sense to buy a no-frills PowerBook for road use than to pay through the nose for a better model that will always be compromised relative to less expensive desktop Macs. Will you perceive two Macs as twice the fun or twice the hassle? Do you do

most of your computing at home? Besides being better Macs, desktops offer much better ergonomics than PowerBooks with their cramped keyboards jammed below their dim little screens. (Again, you can alleviate this with an external monitor and the right PowerBook.)

I once spent months trying to write a book on a PowerBook Duo with a terrible keyboard and an 8.5-inch, passive matrix greyscale screen—while sitting in front of a big sunny window. In retrospect, I was nuts. Speaking of which,

Duos: Small, Weird, Wonderful PowerBooks

are perfect for one Mac user in a thousand. If you want a Mac you can carry around all day and are willing to learn and manage a lot of technical details, there is a chance you might be that one. You have a lot more to learn than I can summarize here. Log on to Planet or Boston and start asking questions.

Buying

A note on risk: There is no perfectly safe way to buy a complicated piece of electronics in a market where buyers refuse to pay the cost of good service. The most expensive, red-carpet route can stick you with a lemon if Apple's warranty gnomes don't back you up. An overwhelming majority of all transactions—new, used, black market, whatever—turn out fine. A few are disasters, a more numerous few minor or major hassles. As you read my analysis of the different risks involved in different channels, keep in mind that most of the probabilities are on the order of 5% versus 2% versus 10% of a medium-ugly situation, not a 0.001% chance of having to make a painless warranty claim versus a 50% risk of losing every last dime. Where the latter risk does exist, I try to highlight how you can minimize it. There are no guarantees.

Buying New

You will have the most fun going to an actual store. You get to play with the shiny new toys and make the sales rep field your questions. You then have to help pay for the sales rep and the store when the time comes. If you decide to exploit the resources the store offers while knowing in advance that you will buy elsewhere to save that 5 to 15 percent, please be nice about it. Wander around

*Always verify that
your machine is
"factory sealed,"
because some
vendors will swap
parts in and out,
breaking the year
warranty that comes
with all new Macs
and perhaps the
computer as well.*

and look at things (especially monitors), but don't monopolize the attention or demo equipment that they provide for paying customers. On the other hand, if you are planning to give them your business, go whole hog. Ask lots of questions. Make them pull things out of boxes if you have a good reason. My local store is ComputerWare in Berkeley, California. Although I always buy CPUs used, I value the quality help they provide (this is not true of all stores, of course) and turn to them first for peripherals. If I knew less about Macs and could afford to buy new, I would choose them or someone like them.

Major mail order operations, contrary to what you might think, are little or no cheaper than stores like ComputerWare. Their costs—free 800 calls, free overnight shipping, operators who are just sales reps by another name—aren't significantly lower. On average they match the stores for service. They make sense for people who don't have a good local store with competitive prices.

The User Group Connection is a special mail order operation. Started by one of BMUG's founding mem-

bers, UGC arose to sell refurbished Macs to users group members. It has since branched out into new Macs, clones, and peripherals. You have to belong to a users group to buy from them. Their support seems good (as you would expect), plus, every dollar you spend with them gives your users group a little credit towards equipment. This is delightful, as long as they keep their prices tight. So far the potential for conflict of interest has been largely unrealized, and I recommend them. Their occasional really good deals tend to go in a matter of days, however.

The cut-rate mail order places that advertise in the back of Mac magazines are a gamble, and in my opinion a bad one. Some are friendly, most are hard-nosed but fairly honest, some are scoundrels. Always, always, *always* use a credit card. They will charge you an extra 3 percent. Pay it gladly. It is the cheapest insurance you will ever buy. For example, you should always verify that your machine is “factory sealed,” because some vendors will swap parts in and out, breaking the year warranty that comes with all new Macs and perhaps the computer as well. The scary part is that there are vendors who will lie about this, then refuse to return your money when you find out. Without a powerful advocate like your credit card company, you will be helpless. These Mac firms (honest and otherwise) also charge steep “restocking fees” on returns. And the savings aren’t that great. In other words, you should probably just avoid them.

If you are a student or educator at an institution that offers education pricing on Macs you may be able to get a deal. Some of the prices are no better than normal, but others are quite nice. Know the going rate. Also, be aware that Apple gives this channel lowest priority on scarce models. I have heard horrible stories of people waiting for months. This can also happen at normal stores, so it is best to look elsewhere rather than to pay any vendor in advance.

Finally, there are Value Added Resellers (VAR), who can be one-man/spare-bedroom-style operations or more formal. Like the cheap mail order stores they are a gamble (in fact, the two categories overlap), but the odds are better.

Try to get a work number, on the theory that harassing a person’s boss with allegations of felony mail fraud is likely to be a more effective stick than a long distance legal claim.

The way to reach them is online or through word of mouth. These are also the ways to research them. BMUG can help; there’s even a great one who advertises on Planet. VARs offer the best prices, and some of them offer amazing support. Most don’t. Most also expect you to know exactly what you want and to get down to business with a minimum of fussing around. A few are rip-off artists. Pay with a credit card unless you are very confident, and again, try to get a recommendation. Paying that occasional felonious VAR or fly-by-night store in tangible funds is probably the only way you can lose all your money. Deal locally if you can. Good VARs are the best source for new Macs, if you can exploit them. (I would like to thank John Grey for last-minute VAR tips and horror stories.)

Buying Refurbished

Refurbished Macs are sold by Apple with a 90-day warranty. Sometimes they have been returned for repair or used as floor models. Mostly they are just being cleared out. They often come with a keyboard. Performas have been stripped

of their modems and most of their software, although the program they typically leave on, ClarisWorks, is fantastic. They are sold through the User Group Connection, major and minor mail order firms, and VARs. They can be great deals or lousy deals. The best tend to come on Apple’s low-end machines as they are discontinued: \$2,000 systems for \$1,200. For a lot of my friends those figures correspond to the gap between their desires and their budgets, which makes refurbished Macs very popular.

Buying Used

Since every price on the used market is set by an individual, it is there you will find the most spectacular bargains and rip-offs. If you educate yourself and scan a lot of ads, you can make out like a bandit. In other words: to save money, spend time. The best deals are online. If you can, start locally. For me that’s with Planet BMUG and ba.market.computers, an Internet newsgroup for the San Francisco Bay Area. Then move to national newsgroups like comp.sys.mac.wanted, which the BMUG BBSes carry. AOL, Compuserve, and other online services also qualify. If you want to put out a “wanted” ad (which I recommend), don’t mention a price. You may be amazed at how much less people will ask than you would have offered. A few tips: the more you buy (in both dollar and component terms), the better the deals. You may want to buy a package and then resell the parts you don’t want or can’t afford. The best deals are priced low to begin with, not haggled. If you see the right machine at a mediocre price, go ahead and make an offer, but don’t be pushy. Always be polite and leave communication lines open; sellers who took umbrage at your offer will often change their minds if you let them.

Ask the seller questions. How has he used the machine? Has it ever needed repairs? Any warranty left? Why is he selling it? Does it have any little problems? Does he have the original paperwork and packaging? Does the CPU come with a mouse? (Subtract \$50 if it doesn’t.) Does he understand that you expect your money back if it turns out to be broken in the first few days? (He will say, honestly, that you won’t have to worry about that. But you’ve said it,

and he has arguably agreed to abide by it.) You want the answers to these questions for their own sakes, and you want to put the seller on notice that you are not a pushover while simultaneously sizing him up. Who is he? What does he do? Where does he live? Is he forthright? Slippery? (Are you good at telling the difference?) Does he brush you off?

The likely undesirables aren't professional con artists. They're the people who just don't end up doing what they said they would. The immature, the irresponsible, the misanthropic, the greedy. In my experience, good manners are the good morals that keep people from ripping others off. Crooked dealing is a form of solipsism, and the obverse of solipsism is graciousness. You want to glimpse a little grace in a person before you trust him. A more prosaic concern is the occasional gracious human being who has no clue about how to treat valuable electronic equipment. I have never bought a used computer without the seller telling me, usually three or four times, what great shape it's in. If you don't hear this, ask yourself why.

Try to buy locally, so you can check the machine out and so the morally weak know that you know where to find them. You'll also save shipping. Dealing long-distance is riskier, but the risks can be managed. Be less tolerant of sellers who don't seem reliable. Try to get a work number, on the theory that harassing a person's boss with allegations of felony

mail fraud is likely to be a more effective stick than a long distance legal claim. Long distance deals are done COD unless the sums are small. When the UPS carrier arrives, pay her with a cashier's check instead of cash, so that there is a paper trail. Bring a penknife to the door and ask her to wait while you slash the tape and at least verify that your new "computer" is not a box of bricks. I believe UPS also holds the money for a brief period, so check your machine out thoroughly as soon as you get it. The odds that you will be boldly ripped off are fairly low. The odds that you will feel ripped off by an unpleasant surprise are directly related to how many questions you asked before you handed over your money. The more work you put into shopping, the better deal you will get.

Peripherals Monitors

For most people, their monitor is the second most important part of their system. For some it's the most important. I recently went from a Quadra and the standard cheap 14-inch monitor to a Power Mac and a gorgeous 15-inch Sony. I love both of my new toys, but if I could only have one, it would be the monitor. I spend too much time looking at it to accept anything less. The standard cheap (\$125-\$175) 14-inch is the Performa Plus. Apple also sells a sharper 14-inch Multiscan with built-in speakers. I find it quite glary and not worth the extra \$75. Next is their 15-inch Multiscan which is decent and can be found for \$300 or so. (You can also pay \$500 for it if you don't know any better.)

None of these are choice. You want a monitor with a Trinitron tube. Sony makes them, but they are sold by various companies, including Apple. 15-inch models (pleasantly larger than 14-inchers) run \$450-\$550 new. 17-inch models, substantially more fun, run anywhere from \$600 to \$1,100. Shop around. You can find them as low as \$500 used. 17-inch non-Trinitrons, strangely, aren't any cheaper at the low end, though they don't get as high in price. Be patient. Find that Trinitron. It's worth the effort. 20-inch monitors are huge, quite expensive, and even better than 17-inchers if those two factors don't put you off. Make sure your computer has the VRAM to handle them. Make even more sure you are ready to

have a massive, power-hungry hunk of glass, metal, and plastic on your desk.

Do not buy monitors worth more than \$400 sight unseen. At a minimum, buy from a store that accepts returns and inspect a demo model side by side with the other contenders before you pay. Then, if your unit doesn't look great when you get it home, return it. Preferably, *eye before you buy*. Make sure the brightness levels are roughly equal in monitors you are comparing, and take the fluorescent glare that most retail areas assault you with into account. Then check the image for regularity, sharpness, and any weird flaws. Most units will be off out of the box; the question is can you true their distortion with the controls, or is the tube flawed?

Here's a little story: I recently bought the cheaper Sony Trinitron 15-inch sight unseen from a store an hour away. The tube was flawed, so I drove back and asked them to switch it. The sales rep and I opened four more boxes trying to find an undistorted tube. Finally I switched to one of the better Sony 15-inch models for an extra \$75 to get a true image. If I had purchased it mail order, this process would have been much worse. If I had purchased it sight-unseen and used, I would have had no practical recourse.

Keyboards

Nowadays the keyboard market is dominated by something called AppleDesign. It has function and page-navigation keys, and the feel is *okay*. I much prefer any keyboard made by Apple, even if it's old. The keys are lower, broader, and ask my fingers to work less for more accurate results. There are people who will charge you \$170 for an Apple Extended II (with all the keys), but you can find them for half that if you hunt. AppleDesign and the less-inclusive Apple Standard should cost more like \$45-\$70.

Printers

You probably want an inkjet printer. They are cheap, quiet, and produce good-looking text. I like Apple's StyleWriter series because they take up very little space. Used, they run \$75 for the original, \$100+ for the improved "II," and about \$150 for the even nicer 1200. Color inkjets start around \$200 used. Avoid any that use a mix of color inks rather than a true black ink for standard text. Hewlett Packard is Apple's main

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while costing almost
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competitor; their machines are bigger but otherwise as good or better, especially compared to the first StyleWriter. Buy paper designed for use with inkjets.

If you want a laser printer, keep in mind that the cheap ones produce no better text than a 1200 while costing almost twice as much. Laser printers are essentially computers in their own right, making them big, heavy, and power-hungry relative to inkjets. PostScript models, available quite cheap, are better for non-color graphics than inkjets. Modern high-resolution (called *true 600 dpi resolution*) models produce professional-looking output for around \$500 up. Color laser printers cost thousands.

Modems

There are plenty of old, painfully slow, dirt cheap modems out there. Do not spend more than \$25. Most people will want to invest \$75 or so in a 14.4 bps speed. If you plan to use the Internet, I strongly recommend a good 28.8 bps speed. They aren't quite twice as fast in real life, but they come close enough to justify their price: \$200 new or a bit less used. Try any of the major brands, all have their adherents and detractors. If you plan to fax much, get a Global Village, which has the consensus best fax software. They are also a Mac-only company. If we don't support them, who will?

Those are the basic peripherals. There are hundreds more. The last I would encourage most people to consider is a second magnetic drive of some sort, probably an external hard drive or a zip™ drive. Both are cheap (\$100–\$500 for hard drives, \$200 plus \$20 per cartridge for the zip). Besides providing fast backups, they let you run your Mac from a second drive, which comes in really handy for system software problems and experiments. The zip is a removable medium; it uses 100-meg cartridges that pop into a pocket or an envelope. The advantages and disadvantages of the zip and its several competitors versus regular drives I will leave for other authors to discuss. If your budget is much over \$1,000, I do encourage you to get some sort of second drive.

After You Buy

Warranties, Insurance, and Backups

New Macs ship with a one-year warranty. By the time that runs out, almost

all of them are worth less than \$1,500. The most expensive Mac repair is replacing the motherboard. Since all the other parts have to be worth something, this implies that replacement motherboards are likely to cost less than \$1,000, usually much less. In the case of my Power Mac 7100/66, the price at this writing is about \$450. So for me an extended warranty would be worth \$600 (assuming \$150 labor charge) times the chance that my motherboard will blow up in the next year. That chance is quite low, more like 1% or 0.1% than 10%. And no one is going to sell me a year of extended warranty on my 7100 for \$6, or even \$60. \$150 is more like it. Pass.

As for insurance, I got some when I owned a PowerBook because I was wor-

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That is a backup of
all their data.***

ried about theft. This still makes sense to me, since the price was so low (\$50 for a year of coverage at \$2,000 with a \$50 deductible), the potential loss so high (the whole thing, not just the motherboard), the risk not insignificant, and the likelihood of a successful claim so good (assuming I'm armed with a police report). Besides, it covered all my equipment for every risk you can think of except earthquakes and theft from an unattended vehicle. Since then I've sold my PowerBook and bought the 7100, but I renewed the insurance. I may cancel it the next time my premium rolls around, but \$50 is just about worth it for coverage so much broader than a warranty.

There is one form of insurance that only fools lack. That is a backup of all their data. Everything *on* your computer is a fragile pattern of magnetic domains

on your hard drive or similar medium; and every single hard drive, floppy disk, and tape cassette ever made will fail eventually. If you are lucky, your drive won't die until a few years after you have stopped using it, but it could flake out tomorrow. Everyday tasks like updating your system software can do the trick. Making your hard drive permanently unrecoverable is a moderately difficult task, but making it unrecoverable in practical terms is easy. It just takes a software problem severe enough to require professional help. The pros charge hundreds of dollars and make you wait days or weeks. Most people can't afford that. Most people also don't back up their data.

If you own a computer and do not have a current backup of your data, put this article down right now, go back up the important stuff, and then return to finish reading. If the data is moderately important, keep a disk or hard copy off site. Or email one to a friend across the country. Or all three. I know of a woman whose dissertation was almost finished when her apartment burned in the East Bay Hills fire. All the copies were in the same room as her computer. Last I heard she was waiting tables. She will never complete the PhD. If she had left a copy with a friend, she might be up for tenure by now. Don't be a fool. Don't lose hours, days, months, years of work—of your life. *Back up!*

Extensions

(RAM Part II/Speed Part III)

Until you install Copland (an all-new version of the MacOS due in the summer of 1997 or just before hell freezes over), the software that makes your Mac a Mac is a Rube Goldberg device. Created in 1983 to do a tiny fraction of what it does now, it has grown by a factor of 100. It now resembles a motorcycle with attached fairing, luggage rack, luggage, sidecar, custom paint job, decals, toolbox, fuzzy dice, trailer, Lear Jet, apartment building—you get the idea. Many of these additions are useful and well-integrated. Others are more like the fuzzy dice and the Lear Jet. Some of them come in the form of "extensions," little patches of software that interrupt your Mac while it is starting up and say, "Hold it, don't do that, try this!" The great thing about extensions is that you can make them go away.

You cannot use a modern Mac without running some extensions, and even a purist like me has a few favorites. But there are major benefits to using the minimum possible. Extensions (and fonts and control panels, which are particular kinds of extensions) take up memory, slow your Mac, and make it less stable. Everyone wants more memory, speed, and stability. To get them without spending a dime, go through your System Folder and weed out all the extensions, fonts, and control panels you don't need. Be aggressive; you can always re-install them as needed. System 7.5 includes a control panel (of all things) called Extensions Manager that makes this process easier, though fonts you still have to do by hand. Want to know which extensions to disable? Turn on balloon help, get a book, or ask online. If you have an Internet connection, try this URL:

<<http://www.gse.ucla.edu/staff/DEF/pcipurge.html>>

It is (as of April 96) the *PCI Power Mac Pruning Page*, and offers an exhaustive list of Macintosh extensions, what they do, and why you may or may not wish to disable them. I don't know whether it will still exist when you read this article, but it is so useful I suspect it will at worst move to another URL.

RAMDoubler

One particular extension swept the Mac world by storm in 1994, Connectix' RAMDoubler (RD). It claimed it could make your Mac use memory twice as efficiently, as if you had 16 megs instead of 8, and it told the truth—for a while. 1993 (the year RD was written) was a sort of Indian summer for the Macintosh as it had existed since 1984. The programmers at Connectix looked at a mature, stable technology with one critical bottleneck and fashioned an elegant retrofit that made most Macs work much better for a modest \$55 investment. It was a brilliant coup.

Unfortunately, 1993 was the calm before the storm. Since then Apple has released the Power Macs and over half a dozen revisions of the system software,

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one huge. At the same time, odious monopolists like Microsoft and Netscape have shoved their way onto our Macs with contempt for Mac software etiquette, causing endless problems for protocol-sensitive programs like RD. Meanwhile, the price of real RAM has fallen through the floor. Throw in a shift to Internet-based Macintosh usage, and the result is chaos for the Mac world and especially for Connectix. Every two months some important piece of the platform is revamped, released, and rejected by RD, forcing Connectix into a near-constant scramble to catch up and forcing RD's users to track and download endless updates. Connectix did a wonderful thing, but the relatively small savings RD offers no longer justifies the extra hassle and performance costs most people will have.

RAMDoubler only worked well to begin with if you had 8 or more megs of RAM. Most people use it to go from 8 to 16. A copy costs \$30–\$60, as compared to \$100 for another 8 megs of real RAM, which is much faster, causes no conflicts, and never needs updating. Skip RD and buy RAM, unless your Mac is an 8-meg slowpoke or Quadra and you don't change the software often, in which case it will probably work well for you—but not as well as RAM.

Ergonomics

Your computer can be a pain in the neck in many different ways. Ergonomics is the art of preventing it from becoming a literal pain in the neck. Seek advice on how to set up your computer and work space to avoid discomfort and injury. BMUG can help. Since this is a buying guide, I will say that a good chair should be your first purchase. If your budget is above \$1,000, consider setting aside part of it for a chair specifically designed for computer work. A quality monitor and keyboard, as discussed in the Peripherals section, are also no-brainers for all but the tightest budgets.

More Important Than Anything Else in This Essay

Whatever Macintosh you buy, remember to enjoy it!

Sources

While some small fraction of the information within this essay did not come directly from BMUG and its members, it surely would not exist without them. If you find it of use, you can thank that wonderful institution and the people who embody it. I remain responsible for the inevitable errors. ☹

Sam Penrose's literary endeavors are greatly hindered by his delight in all things Macintosh and BMUG. If you would like personal advice on buying Macs, he encourages you to join BMUG, log on to one of the BBSes, and ask in the Mac Price Conference, where he is one of several regulars.

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Portable Computing Power

Making the Choice: PDA or PowerBook

by **Tristan Li Tom**

So you've decided you really need to satisfy your burning desire to take your computing needs with you on the road. Okay, you suppose it's time to fork out a few thousand dollars for that new Macintosh PowerBook. But wait, before you jump on that laptop computing bandwagon, why not consider a Personal Digital Assistant (PDA)?

"But PowerBooks are just so cool, and I really need one!" Sure, I agree that PowerBooks have their place, but the question is, do you really need one? Certainly you do in fact need one if there is a particular specialized computer application that you absolutely must be able to run while away from your desktop computer. But in many cases, data can be easily transferred and shared between your desktop computer and a small pocket-sized PDA. So, you may not really need that brand new PowerBook after all. Read on.

The pitfall of laptop computers is that they are all fairly large and cumbersome to take with you everywhere you go. The batteries are expensive and only last a few hours. And, laptops cost just as much as desktop computers!

Enter the PDA

One of the biggest advantages of PDAs is that they are small and can usually fit into a pocket fairly easily. So, they are always with you, everywhere you go. For me, it's nice to be able to have computing and organizer power any time, any place, wherever I happen to be—whether I'm riding public transit or sitting in a café. It's nice to have access to my address book, with all of my phone numbers and addresses at hand, or to be able to jot down a quick reminder note to myself on a whim. I also use my PDA for Quicken-compatible personal and business finances—it's wondrous to be able

to see precisely the status of my bank and credit card accounts, right there in the store, at the moment I'm contemplating an expensive purchase. By the way, did I mention that the games on my PDA make for fun, fun, fun while waiting in line at the DMV or the post office?

Good Things Come in Small Packages

After trying a number of very well-suited PDAs (such as the Apple Newton, Hewlett Packard, Sharp, and Casio), I decided upon the Psion Series 3A, which is an extremely useful little device. A few BMUG Newsletter issues back (in the Spring 1995 issue), there was an extensive review of the Psion 3A by Bruce Linde so I won't repeat it all here. I will say this though, my Psion 3A (I bought the 2-meg RAM version, there are also 1-meg and 512k versions available) doesn't just sit in a desk drawer at home, I actually carry it with me wherever I go, and I even have it on and open when I'm sitting in front of my home desktop Mac. The Psion is *that* useful! Yes, I tried an Apple Newton and liked it, but it was just too big and cumbersome to be of any use to me. And, I find that I can input much faster on a small keyboard (like what the Psion has) than I can using the funky handwriting recognition on the Newton. Heck, I can't even read my own handwriting, how can I expect a computer to read it!

Briefly, the Psion 3A has all of the basic features and versatility of many desktop computers. It has built-in: a comprehensive address book/database, calendar/agenda, world clock, excel-like spreadsheet, Microsoft-Word-compatible word processing (I'm typing this article using it!), a programming language, plus much more! One of the things I like about Psion is the fact that there are lots

of Shareware and Freeware programs available for it—everything from neat action arcade games to guitar tuners (the Psion even has a built-in small microphone and a digital audio system, so you can record your reminders, in your own voice, for example).

Most importantly, the Psion can connect with my Macintosh very easily. All I need is a separate serial link cable kit and the Psion-link software that comes with it, and I'm all set. Not only can I transfer data (like Word files and Quicken data) back and forth from the Psion to my Mac, but I can also back up the entire Psion on my Mac hard drive. This way, if I ever lose the Psion, all I have to do is get another one and restore the files from my Mac hard drive. There's even a fax modem accessory available so that one can fax directly to and from the Psion!

In all, my Psion Series 3A only takes 2 AA batteries, lasts about 70 hours, is small enough to fit in a pocket to go everywhere I go, and it does everything I want a portable computer to do—all at a price much less than those huge-by-comparison laptop computers. So, if you are looking for portable computing power, please do yourself a *big* favor and consider a *small* PDA!

For those of you interested in learning more about PDAs, visit the PDA Forum on American Online at keyword *PDA*. Also, there is a Psion Internet newsgroup at comp.sys.pSION and a Web page at <http://www.pSIONinc.com>. ☞

Tristan Li Tom is a self-proclaimed gadget freak and electronics buff. He is currently looking for the meaning of life and hopes he can find it somewhere on the Internet. Mr. Tom can be reached at Tristan_Li_Tom@bmug.org or at TristTom@aol.com.

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PowerBook Misadventures

The Saga of Ringo

by Gregory Stapp

Preface

The Spring '96 BMUG Newsletter included an article entitled "The PowerBook 550c" in which I related my acquisition of one of the exquisite Blackbirds that Apple had designed exclusively for Japan. The 550c is based upon the 540c but has a full 68040 chip with an FPU, 10.4-inch active matrix screen, minimum 12 megs of RAM and 750-meg hard drive configuration, Japanese keyboard, KanjiTalk, and is actually black. Otherwise it mirrors the 540c's capabilities, even keeping its two speakers on either side of the screen—unlike the 5300s!

Unfortunately, it is also susceptible to a gremlin that apparently haunts the entire PowerBook 500 product line: serial port failure. This is especially troubling since recent PowerBooks have only one serial port in the first place. Thus, a serial port failure can prevent all printing, telecommunications or file sharing from taking place. Depending upon an individual's network, the 500s' built-in Ethernet might partially alleviate these difficulties, as could an internal modem or PC card. But many peripherals can still only be connected via a serial port.

Around January, rampant reports of serial port problems by 500-series owners became a dominant topic on Usenet's comp.sys.mac.portables newsgroup. Much speculation centered on external modems (especially Supra's) as the likely culprits, but neither Apple's nor third parties' technical support would acknowl-

edge any design flaws or product conflicts. Of particular note were reports that described additional serial port failures after initial repairs had been made. Indeed, there were some claims of machines having been repaired three or four times with no end to the problem in sight.

Regardless of the cause, hardware serial port failures on the 500s can only be remedied by replacing the entire motherboard. For those whose PowerBooks were still under warranty or Apple Care it was a relatively simple, albeit inconvenient matter to have their local dealer

No Internal 28.8 for the 500s

The fact that the 500s don't have an internal 28.8-baud modem available to them represents a bizarre lapse on the part of Apple and third parties which is perhaps even more egregious than the lack of Copland-support for PowerPC-upgraded 500s. Some companies had announced that they were developing internal 28.8 modems for the 500s but now they all have abandoned their plans and the 500 users.

Although 19.2-baud is the advertised speed of 500-series modems, that is rarely achieved because of a disagreement that occurred among manufacturers while speed standards were being finalized. Thus, 14.4-baud is their usual top speed unless you happen to be connecting with another PowerBook 500.

I personally refuse to count the PCMCIA cage adaptor/PC card route as a logical (to say nothing of over-priced!) option for a machine that already has a dedicated modem slot. Besides, according to first reports, even the long-awaited, almost mythological Revision C of the cage adaptor still appears to have compatibility and configuration difficulties. I guess we shouldn't be surprised at having Plug and Play problems now that we're able to use PC technology at last. Oh, joy!

Absurdly, many 500-series users now drag an extra external modem along on their travels so they can access at faster speeds than their internal modem can handle. They may also be forced to shut down, swap cables, and restart every time they want to switch using their modem, printer, or AppleTalk. A serial switch box can help but is also one more thing to carry around. And by the time you've got all your cables attached, your PowerBook will look like it's a Duo hooked up to a dock from hell.

swap out the motherboard. Alternatively, they could turn to Apple's vaunted national PowerBook repair center with its famous 36-hour door-to-door turn-around time.

Those whose machines were no longer covered by a service agreement still had the same choices but faced hefty bills as well. And because the 500-series is still so new, there is no plethora of used machines that individuals or private repair shops can cheaply cannibalize for parts, leaving a lot of very unhappy owners clamoring for the relief of a recall.

I must confess that even though I sympathized when I read these tales of woe, I didn't treat them as a serious personal warning. A general consensus had emerged that the problems were probably being caused by 28.8 baud external modems, especially the so-called express versions that skimp on some of telephony's arcane command structure. True, I had continued to use my old external modem rather than buy an internal modem that offered little more than added convenience. But it ran at 14.4 baud and it wasn't an express model. Furthermore, I never hot-swap peripheral devices (changing cables while the computer is operating), a practice that some of the sufferers had admitted doing habitually in their anonymous confessions of misery. Most reassuring of all, I had the wonderful 550c, so I must be safe—*wrong!* The Saga of Ringo begins:

February 3, 1996

It was a dark and stormy night... All right it was the middle of a sunny day but my mood was about to become dark and stormy—Sorry, Snoopy! As I sat working contentedly with Ringo (my 550c's name means Apple in Japanese) all seemed right in the world. Surely nothing could happen to a machine that was barely four months old. It not only could happen, it did.

One moment everything was fine, the next I couldn't do anything with my serial port. Wanting to deny the obvious conclusion (a hardware problem), for the next few days I tried everything in the book and even invented a few new combinations as I eliminated any possibility that software could be causing the problem. But attempts at troubleshooting that extended far beyond zapping the PRAM,

rebuilding the Desktop, booting from floppies or external drives, resetting the power manager, installing a clean system and even reformatting the internal hard drive, among others, only served to delay the inevitable. Ringo was headed for the repair shop.

February 7, 1996

As nonchalantly as I could, I picked up the phone and dialed (800) SOS-APPL. Within a few minutes of describing the problem, I was informed that I had already tried all the recommended procedures and that Ringo would have to be examined. But as we were scheduling an appointment for Airborne Express to take Ringo to Apple's PowerBook repair center, we suddenly hit a snag. Make that a log, no, a tree. One that appeared to be heralding the beginning of a forest.

It turned out that Apple had neglected to include the 550c in its USA repair database. I guess it never occurred to them that PowerBooks occasionally travel. So the gist of our conversation was that they couldn't schedule a repair for a machine that according to the database didn't exist. And even if it did exist, Apple USA wouldn't have any parts for it because they weren't in the database either.

I explained that it was my understanding that the 550c was basically identical to the 540c and that they might share a common motherboard, as much of the press had reported to be the case upon the 550c's release. Didn't matter, nothing doing. Speaking to supervisors or different departments made no difference. They just couldn't help me.

They did suggest that I investigate a local dealer, because dealers should be able to order any needed parts directly from Japan. I found it unlikely that any dealer would have a better chance at ordering foreign parts than Apple itself. Nonetheless, since I was already planning to be near a ComputerWare store (the largest chain of Mac-only dealers in California) the next day, I decided to make some personal inquiries.

February 8, 1996

ComputerWare's techies were very pleasant as they reconfirmed that it definitely sounded like a hardware problem. However before they could examine Ringo themselves, they needed to look him

up in their database. Uh-oh, nothing there. Surprised and a little nonplussed, they nevertheless promised to immediately contact Apple's Technical and PowerBook support groups and find out how best to proceed.

February 13, 1996

ComputerWare called to tell me that they would be able to examine my 550c and determine if it had the same motherboard as the 540c, in which case it could just be swapped out (while of course transferring the 550c's special daughterboard with its full 68040). But Apple told them that I would have to pay for the repair and then try to get Apple Japan to reimburse me. Even worse, they were hedging about giving me credit for the motherboard swap and wanted me to pay the full price for a new motherboard. Back to the drawing board.

February 16, 1996

I contacted Apple USA Online Technical Support via eWorld's invaluable Ask Apple forum (Apple should reestablish it on AOL at once). I explained Ringo's problems and entreated them to tell me if the 550c had the same motherboard as the 540c.

February 18, 1996

Macworld Expo Tokyo 96 was about to take place. In January I had received an email from Irene Santos who had been interested by my Newsletter article on the 550c and was intrigued by the possibility of acquiring one for herself when she helped out BMUG at the Expo in Japan. Irene has been a BMUG volunteer at many Macworld Expos around the world. She wanted to know some names and locations of Apple dealers in Japan which I was happy to provide for her along with a further glowing recommendation of the 550c.

Since she had later sent word that she was definitely planning on getting a 550c, I felt I should warn her of the difficulties that I was encountering in trying to get Ringo repaired. Irene had already left for Japan, but her email was being monitored by Pierre Deligant, who was kind enough to pass my message on to Irene. She graciously volunteered to make inquiries on my behalf and Pierre soon found himself acting as a conduit for a series of messages as

Irene, BMUG's Database Manager Kelly Pernell, and others at the BMUG booth started investigating.

February 19, 1996

Apple responded to my February 16th query in the Ask Apple forum on eWorld. The following is excerpted from their message.

Date: February 19, 1996 6:59 PM EST

From: Apple USA Online Technical Support

...Your post indicates that you have already done all of the recommended troubleshooting that we normally suggest for your symptoms. The situation will need to be corrected by replacing the motherboard of the PowerBook.

We are checking with the Apple PowerBook repair center to determine if international service parts such as those used with the PowerBook 550c are available for them to order. We will post a follow up response to you when we receive an answer from the PowerBook repair center. We expect to have an answer available within the next two business days. We apologize for the delay.

February 24, 1996

Apple Japan representatives and others at the Expo told Irene, Kelly, et al., that it shouldn't be a problem to repair a 550c in the United States and couldn't believe that Cupertino was being so obtuse. They explained that it wasn't an uncommon problem (this news I could have done without), that the motherboard would need to be replaced, and that they were pretty sure the 550c did share the same motherboard as the 540c. Some kind Japanese BMUG souls even volunteered to arrange for Ringo's repair themselves if I wanted to ship it to Japan. While shipping a computer overseas can be hazardous as well as expensive, at least I now had a credible fall-back position thanks to the list of contacts that Irene and Kelly passed on to me via Pierre. By the way, Irene did purchase a 550c while in Tokyo, and she loves it.

February 27, 1996

Apple followed up its original response on eWorld:

Date: February 27, 1996 7:22 PM EST

From: Apple USA Online Technical Support

We appreciate your patience awaiting a reply from us. It took longer than we estimated to gather all the information to be able to answer your question and verify its accuracy....This PowerBook contains some components that are available only in Japan. As a result, Apple-authorized service providers within the United States do not have access to some service parts for the PowerBook 550c.

PowerBook 550c computers requiring non-international service parts can be serviced by any Apple-authorized service provider. If they require international service parts for repair, they can be sent to Apple's PowerBook Repair Center on a case-by-case basis. The symptoms you describe suggest that some international components may be required to correct the situation. Therefore, we suggest contacting (800) SOS-APPL to arrange for service of your PowerBook 550c. Please reference the case number XXXXX when you speak with a PowerBook representative.

Please be aware that we cannot guarantee our normal service turnaround time of 3-5 business days since the repair of your PowerBook 550c may require Apple to order parts from international service sources.

Thank you for using Ask Apple, and for your patience.

February 29, 1996

Apple had still not informed me whether the 550c and the 540c shared the same motherboard so I asked them about it again:

Date: February 29, 1996 14:07:31 PST

From: Gregory Stapp

Thank you very much for your response on 2/27/96 regarding my PowerBook 550c. I shall contact the SOS line per your instructions.

...I am still interested in learning per my original query whether or not the 540c and the 550c share the same motherboard. If this is true and if as you suggest a motherboard swap is what is required to fix my 550c's

serial port then surely a 540c motherboard replacement would meet the need and the wait for a part to be sent from Japan would be unnecessary and could be avoided.

...Please tell me if it is true that the only differences between the 550c and the 540c are that the 550c has a 10.4-inch screen, a Japanese keyboard, a full 68040 CPU (with FPU), a higher minimum RAM/hard drive shipping configuration (12/750) and that it ships with KanjiTalk 7.5?

Thank you again for all of your efforts upon my behalf.

March 1, 1996

Apple responded again on eWorld:

Date: March 1, 1996 6:47 PM EST

From: Apple USA Online Technical Support

...Thank you for your question. All of the components you mention in your post (display, keyboard, RAM/hard drive configuration, and KanjiTalk) are specific to the PowerBook 550c. In addition, The daughterboard [that contains the full 68040 chip] used in the PowerBook 550c is also different than those installed in domestic 500-series PowerBooks. We have verified that the motherboard used on the PowerBook 540c has a different service part number than the motherboard installed in the PowerBook 550c. Therefore, if the motherboard needs to be replaced, you will need to have this arranged by calling (800) SOS-APPL as outlined in our previous reply to you.

We hope this clarifies things for you. Thank you for using Ask Apple.

March 1, 1996

Now at last I had an answer. A motherboard swap with a 540c part was not possible, after all. I would need to call (800) SOS-APPL and schedule an appointment with Apple's PowerBook repair center. Wait a minute, isn't that what I tried to do in the first place three weeks ago?

The previous day I had taken Ringo to Tom Santos, owner of MACadam (my favorite Macintosh dealer), who had agreed to discover if the motherboard

matched the 540c's, in which case he would just order a 540c board, swap it and treat it as an ordinary warranty repair. Now I had to go back to MACadam, explain that Apple said that the motherboard is indeed different, that MACadam wasn't allowed to order it from Japan themselves, and bring poor Ringo home for the weekend.

March 4–29, 1996

I was on the phone again to (800) SOS-APPL. By happenstance I was connected to the same representative that I had first spoken to weeks earlier. But because I was armed with the magical case number from Apple USA Online Technical Support, this time she was able to go ahead and schedule a repair.

Airborne showed up the next morning and carted Ringo away. The following day I received a call from Apple's PowerBook repair center in Rochester. They said that they had examined Ringo and that he would need a new motherboard—what a surprise!—and that they would need to order the part. Therefore they wouldn't be able to return Ringo the next day. They expected that I would have him back in about five to seven days.

For the next three weeks, periodic and eventually daily calls passed back and forth between the repair center and myself. I quickly realized that the repair center seems to view itself as a hospital for injured PowerBooks with case numbers, examinations, and anticipated get-well dates. I also learned that the repair center had initially believed that they weren't responsible for repairing the 550c. Only when my inquiries at Apple USA Online Technical Support reached someone in authority was a decision made that the repair center should indeed be treating an ailing 550c.

Anticipating the need for future repairs by 550c users who are in America when their PowerBooks get sick, the repair center had ordered a stock of sup-

plies rather than just the individual part that Ringo needed. But their order was delayed because a new revision of the motherboard was just being released and the supply house didn't want to send the older version.

No sooner did it ship at last, than it promptly disappeared from sight. Once the repair center representatives (who were cordial and also upset that Ringo's repair had taken so long) were at last able to track it down, they authorized the shipment to be opened on the spot, and ordered Ringo's needed part to be removed and immediately sent individually by overnight express. But it still took four days before they finally received the part.

They installed it, tested it, and were ready to send Ringo home. Only one problem, I wasn't home. I was in Honolulu singing in Hawaii Opera Theatre's production of *Turandot*. Now, as a matter of course it normally takes Airborne Express two days for overnight deliveries to Hawaii. But in Ringo's case, by the time LAX fog had cancelled flights, shipments had been bumped and misplaced, once again overnight turned out to mean four days.

March 30, 1996

Exactly eight weeks after his serial port died, a healthy Ringo arrived back in my loving possession. The cost of the shipping as well as the repair were all covered by the warranty and there was a note from a repair center technician attached which greeted me by saying, "I hope Ringo feels much better now!" Now I could get on with the fun of restoring files and reinstalling programs. What a great way to spend time in Hawaii! No matter, thanks to the gracious assistance of a lot of people, Ringo and I are able to smile at each other again. :) :)

April 30, 1996

I am happy that the PowerBook repair center is apparently now equipped

to handle 550c repairs in their normal efficient manner. One month without Ringo was difficult, two months without his serial port was excruciating. I have yet to hear an official explanation for the 500's rash of serial port failures. Sporadic reports continue to pepper newsgroups about dead serial ports, but I hope that the new motherboard revisions have addressed and solved the problem.

Despite all the hassle involved with Ringo's repair, I remain convinced that the 550c is the best PowerBook yet released and still count myself very fortunate to have found Ringo. I realize new models from Apple are just around the corner and that some day a clone maker will actually release a notebook Mac. But it will be difficult for them to outshine the 550c, which even jaded computer dealers and staffers enthusiastically admire and covet. Meanwhile Ringo has joined my Mac Portable and Mac SE as an essential and vital part of my computing life.

I would like to thank all of the people who tried to help restore Ringo to health, especially Irene Santos and Pierre Deligant in Canada, BMUG's Kelly Pernel, and all of the others in Tokyo who asked so many questions for me, Tom Santos of MACadam, Kathy et al. at Apple's PowerBook repair center and finally the people at eWorld's Apple USA Online Technical Support. May they soon be available to users again. Without their help I might not have been able to write such a happy ending to this saga. ㄨ

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Gregory Stapp is an opera singer who still loves his Macintosh Portable but now totes his PowerBook 550c to his performances here and abroad. He may be reached on Planet BMUG (Gregory Stapp) or via the internet at primobasso@aol.com.

Mind Your Modems

by Ken Watson

I have seen a slew of 28.8 modems of different brands, models, and features. I'm lucky enough to actually test and sample these modems. What people don't know is that the modems you buy come with a common toolbox built into them. The more money you pay, the more tools the modem has at its disposal. Is it any wonder why cheaper modems fail more often than not? In the case of 28.8 modems, it's a downright necessity to have a full toolbox.

Actually, it has more to do with paying the license use fees to the toolbox developers.

Here is why some modems cost more than others and why those higher-priced modems seem to have less use problems.

The first most important feature to look for in a 28.8 modem today is its reliability and quality. The second most important feature is its ability to upgrade its firmware—its Flash ROM. Most people don't understand that there are actually only four manufacturers that make chipsets for every modem on the market today.

The main chipsets are Rockwell, AT&T, USR, and Motorola. *Most* modems made fall into the Rockwell chipset. Rockwell is known for poor development practices; and the 28.8 chipset was a nightmare for them. Global Village techs actually had to test Rockwell's own chipset for months before these modems started to hit the market. They would send them back and forth for months on end, it was a joke.

The distinction between modem manufacturers are only small "tweaks;" generally they are identical in every way. Rockwell chipset modems have a tendency to heat up and cause sporadic problems, so if your budget is limited, look for a case design with ample breathing room for the modem circuits. My suggestion is not to buy a modem with a Rocwell chipset.

USR makes their own chipset and are generally of excellent quality, but be aware that USR has started making a cheaper Sportster modem that uses the Rockwell chipset and limited toolbox. The AT&T modems are also excellent and as reliable as they come. The Motorola Power Class is a top performer and offers free FirstClass BBS tech support with free upgrades and files at your disposal anytime. This particular modem really caught my eye with its rich features and performance which was sensational. The rest of the manufacturers such as Supra, Global Village, etc., use Rockwell chipsets and I have *always* discovered some fluke problem with them.

This was during a time when modem manufactures were still trying to de-bug their chipsets, etc. As of now, they seem to have their act together and the newer 28.8 modems are much more stable. The firmware upgrade option is not as important as it use to be. Everything else remains as is.

Lastly, I have discovered that these Rockwell modems gradually started to

decay in reliability as time went on. The very cheapest modem (Boca), ended up hardly being able to connect to the same BBS after two months of use with no changes in strings (probably due to continuous overheating). Just remember, you *always* get what you pay for. If a modem is a dire need, I highly recommend the Motorola Power Class 28.8 for its \$254 price tag.

Here's a tip: Many of you know that all modems operate with strings of command sets. By default, most strings have data compression on. That means when you upload or download a file, your modem compresses the file the same way StuffIt or CompactPro does. But wait a minute, if you're already sending a file that is compressed with StuffIt, what happens? The modem actually slows down because it's trying to stuff a file that is already stuffed. Defeats the purpose, doesn't it? My tip for you is to determine which command within the modem string turns data compression on, and in turn, turn it off. You will see a performance gain right away. ☛

Cheers, Ken Watson

I mentioned that since I wrote the article, several changes within the modem industry have changed. The Motorola Power Class modem (\$254) that was listed has been changed to: 28.8 ModemSURFR MAC @ \$189.98 (price from Mac Zone). Same modem, different name. Would be of great benefit for readers not to look for a model that is no longer in production (would save countless email in my box, too)

Zippering Along on My 28.8

by Jason Borovick

Do you feel like you've finally run out of excuses to upgrade to a 28.8 fax modem for your Mac? The Christmas season is over, you're cruising the Web, and the prices seem stable at around \$200 dollars. It seems like now might be a good time to make the upgrade. The three modems that I evaluated for this review are the US Robotics Sportster Voice 28.8, the SupraFax 28.8 and the Teleport Platinum from Global Village. I found that all three of these modems share many of the same features while at the same time each has something unique to offer.

Last Year's Model

In the latest features war, many of last year's bells and whistles have become this year's standard items. That's good news for American consumers like you and me. For example, it's reasonable to expect that your new fax modem will peacefully coexist with your answering machine on one telephone line in your home or office. This means that it should know the difference between a fax call and a voice call, a capability known as call discrimination. It's reasonable to expect that the process of sending and receiving a fax will be as fast as current fax technology allows. In addition to the hardware, the software should make sense and should make it easy to send multiple faxes to the same recipient in one call or to send specific pages from a given document. All of these features and many others have become second nature to people who use fax modems. This year, we have greater speed available and several new features that are in some cases very use-

Many of last year's bells and whistles have become this year's standard items.

ful and in other cases very interesting and promising.

Supra, USR, and Global Village have consistently offered high quality products that always perform well. There are a few significant differences in terms of performance and features among the three, however. In most cases, these differences are related to the software that comes bundled with each modem. The Supra and the Global Village modems both use the same Rockwell chipsets while the USR uses its own proprietary chipset. The Rockwell and the USR chipsets are widely regarded as the top of the line as far as modem hardware is concerned. This means that buying any of the three modems in this review assures you of hassle-free connectivity to any sort of Internet service provider or online service such as Netcom or CompuServe.

Sportster Voice 28.8

USR Robotics is the only vendor currently offering a modem with built-in dig-

ital voice mail. The Sportster Voice 28.8 requires a 68040 or faster processor to record voice messages to disk. I used a Quadra 950 which proved a good match for the USR voice mail software known as MegaPhone. Once messages have been recorded to disk, you can delete them yourself after you have listened to them or you can make MegaPhone delete messages automatically after a set amount of time. Of course there is a great deal of automation available through MegaPhone including the ability to import contacts from other PIMs and/or build up a MegaPhone contact list as you use the product. You select a name from the list of contacts, double-click on it, and the phone starts to ring. You can even talk to people through the speaker phone that's built into the Sportster Voice. I could get used to this. You will need to purchase a separate set of powered speakers to plug into the back of the modem if you want to use it as a speaker phone, however.

I did run into several problems with MegaPhone which deserve some mention. Unfortunately, I was not able to make the MegaPhone voice mail system work at all on a Power Mac 7100. It crashed on startup every time. When I called USR technical support to get some help, the technical support rep told me that MegaPhone would not work on a 7100 because that's a computer that has an LC040-type CPU. I beg your pardon? I tried to explain to him that the 7100 uses a RISC 601 but he wouldn't budge. He put me on hold for a long time and then we mysteriously got disconnected. Oh, well. Then I spoke to a product specialist who felt certain that the 7100 should

in fact be compatible with MegaPhone. He was very helpful in providing some suggestions but we were not able to solve this problem for my machine. Maybe my 7100 is damned.

For faxing as well as file transfer there is a separate application called MacComCenter. In addition, there is another application called FaxController which seems to be responsible for doing the actual sending and receiving of faxes. MacComCenter is not native nor is it optimized for the Power Mac, and I found it to be a bit sluggish on both a Quadra 950 with 40 megs of RAM, and 7100 and 6100 Power Macs. In particular, I noticed the slowdown while a fax was being spooled to disk in the background. MacComCenter's layout is relatively easy to get used to. It features in and out baskets, and when you receive a fax it gets time and date stamped and appears in the in basket. It would be great if MacComCenter provided the ability to rename an incoming fax, which the other two fax modems reviewed here allow you to do. Unfortunately, I found several bugs in the currently shipping version of MacComCenter which USR acknowledged and said would be fixed soon. Also, in the currently shipping Sportster Voice, the modem defaults to maximum volume each time it initializes. It's a loud modem. I had to get used to reaching over and turning down the volume on the unit each time I sent a fax or dialed up a PPP connection. According to USR, the work around for this is to set the modem volume to zero in the init string so that you hear no dial tone whatsoever. Another minor annoyance is that if you have a partitioned drive, you must install MacComCenter on the same partition where your System Folder resides. I

***US Robotics is the
only vendor
currently offering a
modem with built-in
digital voice mail.***

suppose you might be able to move the MacComCenter folder over to another partition after it has been installed.

Global Village Platinum

Global Village is a company that found a niche in the Macintosh market several years ago and has continued to develop that niche ever since. The software that comes with the Platinum shows its Macintosh heritage. Macintosh users will instantly feel right at home using the GlobalFax software which is extremely intuitive. Just about everything you need to do with your Platinum can be done from within the GlobalFax software which appears in the Apple Menu.

Call discrimination is also controlled from GlobalFax. Call discrimination allows you to set up the Platinum so that it listens to incoming phone calls. If it's a fax call, after your answering machine takes the phone off the hook, the Platinum can hear the fax tones and knows that it's supposed to go to work receiving the fax. It takes the call away from your answering machine which then turns itself off. On the other hand, if the Platinum hears no fax tones, it lets the answering machine take the call. It worked the first time I tried it without a hitch and continued to work thereafter. And I've got a tape in my machine that I've probably been using for about two years.

The Platinum does support grayscale which is an important feature for some folks. Also, GlobalFax is the only software which supports optical character recognition or OCR. The idea is that when you get a fax, you can scan the document with GlobalFax and it will then convert it into a text file or a Word or WordPerfect file. The resulting file is much smaller. You also get to give the file a new name, and save it anywhere on your hard drive. GlobalFax is also the only software in this review that can automatically print a received fax. As soon as a fax has been received, Global Village can send it directly to your printer.

GlobalFax is Power Mac native. I noticed no hesitation in performance whatsoever. When you double click on a fax in GlobalFax, it appears instantaneously. This is fast software. Most importantly, I didn't experience any crashes using GlobalFax on several different

***When you double
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This is fast software.***

types of Macs. That's a really nice feature in my book.

SupraFax 28.8

Owners of Supra modems have always been proud of the little alphanumeric displays found on the front of their modems. Some owners may even understand what all those little characters and numbers actually mean. If the SupraFax 28.8 has achieved a v.34 connection the display tells you what your receive and transmit speed is, as well as what type of error correction and data compression is currently being used. If you send a fax, the display simply tells you at what speed the fax is being sent. I've never understood why the competition hasn't picked up on this idea. Everyone knows that you can never have too many cool lights and numbers and things that blink and flash! And this feature has always distinguished the Supra from the rest of pack.

The way you control the SupraFax 28.8 is through FAXciliate which is more a collection of applets than one application. Despite feeling initially a bit disoriented, I found FAXciliate to be easy enough to use. FAXciliate looks a lot like FAX^{stf} and that's because it used to be FAX^{stf} until Supra got hold of it and basically rewrote the code from the ground up. It looks good although it's not native which would be a real plus. According to Supra, the code has been optimized for the Power Mac.

I liked the fact that most of the FAXciliate's functionality is available at all times from one menu that remains accessible in the menu bar. The Fax menu

shows up next to your clock. Anything you need to do with FAXcilitate can be done from this menu, including the ability to turn the virtual fax machine on or off. I liked that feature. And there are plenty of clever touches like some of the animated icons associated with sending and receiving faxes, and a few specific alert sounds which let you know right away if a fax was successful or not. Overall FAXcilitate has a nice layout to it, the icons make sense, the online help works well and you can get a fax sent pretty quickly.

RapidFax is another distinguishing feature of FAXcilitate. This is simply the ability to send a fax right away without having to launch your favorite word processor. The competition offers the same capability but FAXcilitate does it best. RapidFax supports styled text and has a limit of up to 32,000 characters. RapidFax is basically allowing you to send what normally gets included as a cover page. And speaking of cover pages, I really liked FAXcilitate's editor which allows you to import graphics from other applications and paste them into one of the 10 templates included with the product. The latest version of FAXcilitate also supports QuickDraw GX which allows you to drag and drop faxes on your Desktop. FAXcilitate is the only one of the three that supports AppleScript and it also supports the Apple Guide.

I had to tweak the SupraFax to get incoming call discrimination to sort of work. Supra technical support confirmed that this feature, called Silent Answer, can be a bit tricky to set up. Supra offers an additional way to do incoming call discrimination called Distinctive Ring. In some markets, the telephone company offers this service in which they split your home phone line into two virtual lines with separate numbers. Each virtual line has a distinctive ring cadence and the Supra chipset has the ability to recognize the difference. All you do is add some characters to the init string of your SupraFax 28.8 and supposedly it works without hitch. Currently however, PacBell will

not reach out and touch us with this service in the Bay Area although they say that they're thinking about it because of demand.

FAXcilitate crashed twice on my Power Mac 6100 and it was not as fast as GlobalFax when it came to spooling the fax file to disk before making the call to send the fax.

File/Data Transfers: How About If I Just Send You the Disk in the Mail, Okay?

If you've ever tried to connect two Macs to each other over a phone line in order to do a file transfer, you know that it can be problematic. Sometimes it works without a hitch and other times it seems like it just isn't going to happen that day.

All three of the modems in this review attempt to make the chore of file transfer easier by offering a variety of solutions. The SupraFax 28.8 comes bundled with a free copy of MicroPhone Lite which has been a standard on the Mac for file transfer for several years. In the case of the Sportster Voice, file transfer capability is built right into MacComCenter. All you do is make one selection from a menu and you're ready to either initiate or receive a call. Global Village offers a new data transfer application sold sepa-

rately for about thirty dollars, called GlobalTransfer and it makes file transfer a snap. GlobalTransfer does not allow much room for mistakes. True to form, this software is as elegant and easy to use as GlobalFax. There are two buttons in GlobalTransfer: send and receive. That's it, that's all you do, and it works extremely well. Global Village opted to use the ZModem protocol exclusively, which was a wise choice because this protocol includes data compression and error correction built in. What we'd really like to see is Global Village bundle a copy of GlobalTransfer for free with every copy of the Platinum.

Conclusions

As a fully integrated Macintosh send and receive fax and data/file transfer solution, the Global Village Platinum distinguishes itself hands down as the best overall value for Macintosh users. If you want an extremely capable modem that comes with software that was designed with the Mac in mind, you simply can't go wrong with the Platinum. Second runner up has to be the SupraFax 28.8. Stick with SupraFax if you're a fan of these modems and especially if you're a fan of the FAX^{stf}. The interface has been improved a great deal and has some great new features. If you're interested in voice mail, the only modem you can check out right now is the USR Sportster but you can expect to live with some bugs for now until USR gets to the bottom of them.

The Joy of Giving

So what should you do with that 14.4 bps modem that you're giving up for a 28.8? I suggest that you consider donating it to a local school or community organization. The modem itself doesn't have much value on the street but it might be worth a great deal to an organization or school that is attempting to connect to the Internet. ☞

Jason Borovick is a System Administrator at a graduate school in Berkeley. He has been a BMUG member since 1993. You can reach him on The Planet or at jborovick@wrightinst.edu.

FAXcilitate also supports QuickDraw GX which allows you to drag and drop faxes on your desktop.

Quicker QuickDraw

Graphics Acceleration for the PCI Macs

by David Hauer

It's old news now, but the introduction of the Power Mac 9500, 8500, 7500 and 7200 in 1995 marked a new chapter in the history of the Macintosh. With these models, Apple left behind the aging and not-widely-adopted NuBus architecture in favor of the industry-standard Peripheral Component Interconnect (PCI) bus. Since vendors of PCI cards for Intel-standard machines could now adapt their products for Mac use relatively easily (theoretically, all that's required is a rewrite of the driver software), the hope was that Macintosh expansion options would grow dramatically in number and drop significantly in price. This process has been somewhat slow to take off, but recently the pace has accelerated (pun intended). And, it seems that Apple's PCI strategy is working. While not exactly dirt cheap, these boards cost a fraction of what Mac owners would have expected to pay for such features until recently.

I reviewed the 4-meg versions of the Imagine 128 for Power Mac from Number Nine Visual Technology (software version 4.0.2) and the TwinTurbo-128M from Integrated Micro Solutions (IMS) (software version 2.1). The test platform was a Power Mac 7500 with 48 megs of RAM, a 1-gig hard drive with a 512k Level 2 cache, driving a Sony Multiscan 17se at various resolutions and bit-depths.

A Little Background

To be displayed on a standard monitor, data must be in the form of a matrix, or raster, of individual color values. On the Macintosh, images are generally rasterized for the screen by a set of software routines known collectively as QuickDraw, stored in the computer's ROM. Even bitmap programs like Photoshop—though they are dealing

with raster data from the get go—are likely to use QuickDraw routines to write to the screen.

Rasterizing an image takes time, of course, and in the case of large color images, can take a considerable amount of it. Cards like those reviewed here improve performance by transferring QuickDraw tasks from the CPU to specially designed circuits tuned to perform the requisite calculations extremely rapidly. That's all they do, though—they do not provide overall acceleration. (Some cards do combine QuickDraw with other types of acceleration, such as QuickDraw 3D or Photoshop. Neither of these products fall in that category, however—claims on the TwinTurbo's box of video playback acceleration evidently refer to *forthcoming* capabilities which may or may not be implemented by the time you read this.)

You may be surprised how little of your computer's time is spent on this task. Whether running a Photoshop filter, performing an RGB-CMYK conversion or rendering a 3-D scene, QuickDraw activity usually represents only a small fraction of the total wait time. So if you're hoping to speed up tasks like blurring, filtering, or color-space conversion, don't buy a QuickDraw accelerator—you'll be sorely disappointed. Also note that the very models these cards are designed to work with (except the 9500, which has no onboard video) already offer relatively fast video support.

Where QuickDraw calculations most obviously present a bottleneck is in scrolling. Open a 100-page text file or huge spreadsheet and scroll from beginning to end; your mouse finger may cramp up before you finish. Or try moving around in an 80-meg Photoshop image. In these cases, a good graphics card will make a major difference. The ques-

tion is, do you do enough of this kind of work to warrant shelling out hundreds of dollars to speed the process up?

For many, the answer may well be "no." Switching between these cards and unaccelerated video across several months and a variety of tasks, I was struck by how little difference they made in my computing life. True, scrolling through long lists was a breeze, and panning around in a Photoshop image was less draggy than usual; often, though, I forgot whether I was running off a card or onboard video. Of course, this will not be true for everyone. Graphics card vendors would be the first to admit that their products target a high-end, professional market. If you are in this group, then by all means, look into an accelerated card—but if you have limited means, consider whether you wouldn't be better off spending the money on RAM or a processor upgrade.

While the main reason to buy a video card is speed, there are other advantages as well. These include support for multiple monitors and more colors at higher resolutions (8-meg versions of both cards provide 24-bit color at 1600x1200). And for those hypersensitive to screen flicker, the Imagine 128 supports a speedy 100 Hz refresh rate at 1024x768 and 800x600 (90 Hz at 1152x870).

Both the Imagine 128 and the TwinTurbo also offer hardware pan and zoom: hit a customizable hot key, and you zoom in so that the entire screen image is magnified by a factor of two or more; move the cursor and the monitor pans across the enlarged image like a camera panning around a landscape. I never came to love this feature myself, but it's easy to see how it could be useful. Choose a smaller-than-WYSIWYG resolution and

then zoom in, and you will effectively have a WYSIWYG virtual screen with much larger dimensions than that of your monitor. (You'll only see a screen-sized piece at a time, but if you need to get a complete overview, you can simply toggle back to a finer resolution.) While Apple's free CloseView control panel offers similar features, lack of hardware support makes it much slower.

As in most areas, the Imagine 128 pan and zoom was a little more elegantly implemented and worked a little more smoothly than did the TwinTurbo. The latter zooms by resynching the monitor to a different resolution—meaning you have to put up with a momentary blanking of the screen when changing zoom levels, as well as slow-refresh (high flicker) at some resolutions. This approach doesn't work at all on a fixed-frequency monitor.

The Imagine 128 also offers a couple of minor niceties, such as the ability to customize cursor color, a gamma control, and a built-in screen saver. The most interesting of the lot is a feature called Drag Window. With this option selected, windows remain fully drawn while being dragged—an initially disconcerting phenomenon that some people love, though I found it to rate higher in coolness than utility. (Drag Window doesn't work with applications, such as Photoshop, that bypass certain standard Toolbox calls.)

Testing

I couldn't approach the controlled and rigorous methodology of a professional testing facility, but I did use the cards extensively, and passed them through a (small) gauntlet of real-world tests; I also ran MacBench 3.0. My results pretty much agreed with those published in the trade magazines.

If you want more detailed or precise information, look for one of these articles:

MacWorld Magazine, June, 1996
Special Report: *Ultimate Imaging: Maximum Display*
<http://www.macworld.com/pages/june.96/Feature.2114.html>

MacWEEK, April 1, 1996
PCI Cards Provide Fast Acceleration for QuickDraw
Graphics Accelerator Testing Conundrums
http://www.zdnet.com/macweek/mw_1013/rev_pci_cards.html;
http://www.zdnet.com/macweek/mw_1013/rev_condrums.html

In a nutshell, both the TwinTurbo and the Imagine 128 turned in impressive times in MacBench. Individual graphics tasks such as PaintRect and EraseRgn showed improvements of 150 to 1500 percent over the 7500's onboard video, and even the Graphics and Publishing Graphics mixes—designed to simulate real-world functionality across a series of applications—showed a two- to three-fold improvement. Yet, in a classic illustration of the benchmark/real-world dichotomy, I rarely saw this kind of acceleration while actually using the Mac. Comparisons were more along the lines of 7.6 seconds/5 seconds/3.9 seconds, or 13/9/7.8 (7500/TwinTurbo/Imagine 128—both of these involved scrolling in Photoshop). Both boards did allow me to scroll through a 120-page text-only Microsoft Word document in about a minute, (the Imagine 128's font-caching scheme gave it a slight edge, shaving another 5 seconds or so off the TwinTurbo's time), compared with nearly 2.5 minutes for the unaided 7500. (Obviously, if you spend all day at these kinds of tasks, all the seconds' worth of savings will add up.)

In both the mixes, the Imagine 128 came out ahead, with a 54 score on the Graphics Mix to the TwinTurbo's 32, and a less-decisive 35-to-32 win on the Publishing Graphics Mix. As indicated in the above times, though, the actual differences in performance were less dramatic than these figures might suggest. Furthermore, in several of the individual tests included in the mixes (e.g. DrawPicture and PaintRect), the TwinTurbo was actually faster than the Imagine 128. Thus it's conceivable that a given user might find the former better for their particular application. Of course, this cuts both ways. For tasks that invoke other subsets

of graphics calls, the Imagine 128 might offer an even bigger advantage than that indicated by its cumulative score.

Conclusions

The new crop of PCI graphics boards gives Mac users access to very fast video at unprecedented prices. However, prospective buyers would do well to take a hard look at their computing needs to determine whether a QuickDraw accelerator is really the best use of their resources. Many "graphics" tasks—such as RGB-CMYK conversion and 3-D rendering—will not be affected at all by these products.

Within their somewhat limited purview, both the TwinTurbo and the Imagine 128 excelled on benchmark tests, but neither was quite as impressive in the field. As of this writing, the Imagine 128 is the clear overall winner in terms of speed, as well as offering a few more features and a smoother implementation. Given the currently identical price point, there's little to recommend the TwinTurbo 128M over the Imagine 128. (IMS does offer a less expensive 2-meg card, which can be boosted to a full 4 megs by stealing the VRAM from the Mac's motherboard. For those who don't need a dual-monitor option, this would provide an economical path to graphics acceleration. Don't assume that this board will function at the same level as the TwinTurbo 128M, though.)

Note, however, that driver software has a considerable impact on performance. Also, IMS has just begun shipping cards based on a newer version of its processor (the TwinTurbo 128 Plus). It's possible that by the time you read this, the picture may have changed significantly. And if and when IMS releases their video playback acceleration and MPEG support, these features may prove compelling to some. ☞

David Hauer

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The PowerWave Experience:

How Do Mac Clones Compare?

by David J. Ourisman

There once was a time when I reveled in the sheer speed of a Quadra 700. The desktop booted quickly, an early version of Microsoft Word scrolled rapidly, publishing programs drew the page almost instantly—in comparison to an SE/30. This was in 1991 when the Quadra 700 and 900 were the latest and the greatest.

It is axiomatic that computers grow slower with time. It's not that processors slow down or that circuitry becomes gummed up. The reality is that the rest of the world is getting bigger and faster. As successive generations of computers become more powerful, software engineers write programs that can take advantage of faster CPUs. For example, while Word 5 ran satisfactorily on a 68040, Word 6 is designed for a... Cray. You get the point. My Quadra was getting dated. NisusWriter scrolled too slowly, PageMaker redrew like molasses in January on the East Coast, my hard drive was approaching its MTBF point, so it seemed to be the time for a change.

I was very interested in Apple's Power Mac 8500. Unfortunately, so were thousands of other customers. There were no 8500's in stock anywhere. Production was hampered by a scarcity of 604 chips, and wait times of up to six weeks were common. So I decided to investigate the alternative, Power Computing's PowerWave clones.

My initial impression of Power Computing had been extremely positive.

Computers grow slower with time.

I had attended a BMUG meeting that featured a presentation by Bob Levitus, the Director of Evangelism for the company. That presentation displayed more of the original Macintosh spirit than anything Apple has done for years.

When the 604-based PowerWaves were finally announced (models and prices were posted on Planet BMUG before some of Power Computing's own employees knew them), I placed my order through Power Computing's toll free sales number. The sales agent was friendly and informative, and I encountered no problems when I called on two later occasions to revise the order. The advantage of ordering through Power Computing is the ability to customize the computer to one exact specifications; the customer can specify the amount and configuration of RAM and VRAM, the size of the hard drive, and whether or not to include an internal CD-ROM, zip, or jaz drive. The downside of ordering through Power Computing is that the company (with offices in Texas and California) is required to charge sales tax on California shipments. At the time this article is being written, Mac Warehouse is now adver-

tising the PowerWave computers; Mac Warehouse does not need to charge California sales tax. California and Texas customers may want to deal with an out-of-state mail order vendor such as Mac Warehouse or Mac Mall.

Cost is the major advantage offered by PowerWave products. The Apple Power Mac 8500 has a 604 chip running at 120 MHz. It comes with 16 megs of RAM, a 1-gig hard drive, and a 4-speed CD-ROM for a street price of \$3,999 (*at the time this article was written!*). A standard PowerWave 604/120 retails for \$3,199. The PowerWave, however, lacks a 256k Level 2 Cache card (a \$234 option). It lacks the A/V input and output jacks included on the 8500 (probably not a big deal to most users). Finally, the PowerWave lacks a power input jack for the monitor; a product such as PowerKey (\$70) is needed to be able to power down the monitor when shutting down the computer. The PowerWave, unlike the 8500, comes with an extended keyboard (a comparable third-party keyboard is available from Mac Warehouse for \$60). It also includes an excellent bundle of pre-installed software including Quicken, ClarisWorks, Now Utilities, Now Up-to-Date and Contact, NisusWriter, Grolier's Multimedia Encyclopedia, FWB's Hard Disk Toolkit Personal Edition, and 250 Bitstream fonts. The value of the bundle depends on whether a user wants to use any of the software and whether the user already owns the software.

The table at right, compares the prices of comparably equipped 8500's and PowerWave 604/120's and 132's.

As can be seen, the PowerWave clones represent a significant savings. An equivalent 120 mHz PowerWave costs \$556 less. A faster 132 mHz PowerWave (with 9500 speed) costs \$240 less than a 120 mHz 8500. Unless a user needs the A/V features of the 8500, the PowerWave should be considered seriously.

The performance of my PowerWave has been flawless. The major software problems have been with telecommunication problems, but this is due to conflicts with System 7.5.2, PCI, and OpenTransport. One complaint was the thoughtless omission of a power receptacle for the monitor in the back of the CPU. One of the best features of the Macintosh from the Mac II on has been the ability to power up both the CPU and monitor from the keyboard and to shut both down with the Shut Down command.

A second complaint has to do with the "fit and finish" of the serial ports at

	Power Mac 8500 (120 mHz)	PowerWave 604/120	PowerWave 604/132
CPU with 16/1GB/CD	\$3,999	\$3,199	\$3,749
256K Level 2 Cache Card	included	\$234	included
PowerKey	not needed	\$70	\$70
Extended keyboard	\$60	included	included
A/V inputs/outputs	included		
Software bundle	none	included	included
Total	\$4,059	\$3,503	\$3,819

the back of the CPU. The ports are recessed behind a circular opening cut into the case; they are not flush with the surface of the case as with Apple's products.

A final complaint has to do with accessibility to Technical Support. To Power Computing's credit, they have a toll-free technical support number, and they offer support for the lifetime of the product. However, there seems to be a shortage of technicians. Calls to the technical support number seem to be put on hold for interminable periods of time. The

technicians, once reached, are friendly and knowledgeable about the products. Email inquiries can be sent to support@powercc.com or posted via Power Computing's World Wide Web site; they are usually—but not always—answered. (By the way, Bob Levitus answers his email quickly.) ✈

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Nothing is EZ, or, Your Zip Ain't Down

by Nick Kratz

The Setup

Having finally filled up my 1987 Jasmine Direct Drive¹ (an 80-meg hard drive) with essential goods, I decided to crawl out from under my mid-late 1980s rock and see what was up in the world o' mass storage. Since I not only wanted more space, but also wanted to cease backing up the Jasmine to 800k floppies (and feeling like a chump every time), my attention turned toward removable media.

Not much research was required to conclude that all the action was centered around Iomega's zipTM drive². The zip seemed perfect: inexpensive, removable, 100-meg cartridges—just enough to back up the Jasmine—, small, fast random access, and state-of-the-art. Only problem was no one I contacted had any in mid-September 1995.

I'd also been reading favorable remarks about the new SyQuest EZ135 drive, positioned as direct competition for the zip. Not really caring much about the technology nor standardization specifics of my future removable (drive) and needing more storage *now*, I decided to go with whichever I could find first. Local East Bay stores and most national Mac mail order houses had neither. Persistence finally paid off, and J&R Computer World quickly shipped the SyQuest EZ135, 50-50 pin SCSI cable, and extra 135-meg cartridge (one is included with the drive).

Opening Pandora's Box

Kudos to J&R: though I had selected and paid for UPS Ground, they upgraded the shipment to FedEx, and the drive was at my house two days after ordering. All items were present, and in good condition.

Being in the middle of another, non-computer project, it was another day or so before I got around to hooking up the EZ, but this allowed plenty of time to peruse the literature and other inclusions. Judging from the sparse nature of the Quick Installation Guide for Macintosh (a whole three steps less than PC-Compatibles!), this was going to be trivially easy. Oh how wrong one can be!

Speed Limit 0.00005 MPH

Can you say *s-l-o-o-o-w-w-w-w*? The EZ135 can! Keep in mind that I am a Mac Plus user, and I still am generally happy with the speed of my machine, so little things like a few seconds here or there just don't bother me. The 1 minute 47 seconds it typically takes from powerup to usable Desktop is no problem. The 5–7 minutes when the EZ135 was added was a problem, especially the part about the Finder Address Error crash. Being a good, patient Mac techie-type, I pulled the SyQuest and ran Disk First Aid and Public Utilities to ensure things were as clean as I could easily make them. Reconnecting the SyQuest, I tried again, this time with all extensions disabled. No crash now, but it still took seven minutes to get to the Desktop. Opening the EZ drive directory window took another 8+ minutes, doing a Get Info on the Read Me file was 1:05, and launching SimpleText 1.2 to read this file took 3:34 (normally a 30.5-second undertaking on the Plus). This was not good. Yes, I am patient, but this was unacceptably slow even for a diehard Plus user!

None of the paperwork nor the Read Me file contained anything relevant to my dilemma. I gave up for the day.

Take Two

Once a big block of time was available for fiddling, I again tried to install the EZ135. Same deal: as soon as Silverlining Lite v. 5.6.3 (included with the EZ135) hit during startup, all slowed to a crawl—cursor moves normally, no drives accessing, screen still (no menu drops). Hoping this was some side effect of the “temporary” driver bootstrap mounting the SyQuest, I let it do its thing while I roamed around the house taking care of other business.

After the 20 minutes or so to get to the EZ135 directory, I launched SyQuest Install³. The License window appeared 3.25 minutes later. Must've been programmed by a Goth: no text, just a collection of black rectangles. The rest of the install took 45 minutes, most of which was waiting for the system to be able to respond again. Every window and all buttons were black—I was literally installing “blind.”

Amazingly enough, the installation worked! Eventually, Restart became available, and was selected. Nope, things are still slow. Okay, time for a cold restart—nope, still agonizingly slow. This was getting old.

Time for Tech Support

The following day (when I once again had a few hours to kill) I called SyQuest Tech Support and heard, “Due to the phenomenal success of the EZ135 Drive and the introduction of Windows '95 software, our Tech Support lines have been overwhelmed” (not an exact quote, but close), and that I could expect to be holding for 20 minutes or so. This information was appreciated, as it allowed me

to decide whether to stay online, or pursue other support options. I chose to hang on. Only 5 minutes later, a pleasant rep. named Eric connected. We discussed the problem and my setup. After conferring with colleagues, Eric confirmed that the SyQuest EZ135 ran incredibly slow on their Pluses, and that he knew of no workaround or cure. We discussed how I considered this product to be nonfunctional on a Mac Plus and would have to return it for a full refund. He agreed that operation on a Plus was unacceptable.

Although I was disappointed in the results, I was favorably impressed with SyQuest's tech support effort. Having struggled and burned up time just getting the drive in the first place, I was not ready to give up yet, however.

Tech Support, BBS, and Internet

When is a tech support BBS unavailable? When you need it! Quoting the *EZ Drive Quick Installation Guide for Macintosh* back page (Support and Repair), "The Bulletin Boards are available 7 days a week 24 hours per day." Unless of course it's Sunday, September 24th at approximately 1 pm, and one needs tech support! I got no answer at (510) 656-0473 with two tries.

The Internet email address worked much better. At this point, I had spent about 4 days trying to get the EZ135 to mount and run at something approaching reasonable speed, without any luck. SyQuest's Pat Allen quickly and politely responded with the tip I needed and a file (SyQSet) to make it happen. It seems older Macs (including the Plus) do not properly handle SCSI Unit Attention signals⁴, and that this signal must be disabled for the SyQuest to work normally.

Launching SyQSet (and waiting, waiting, waiting for the EZ135 to mount), I endured one of the worst user interfaces encountered in 8 years of Mac-ing⁵ to disable Unit Attention. Restart: still slow. Cold start of everything: still slow. Re-running SyQSet revealed Unit Attention had reset itself to Enabled somewhere, somehow. Repeat disable process, reboots: same result. Sigh.

Perhaps this only works before the permanent drivers are installed—ah, that

The Zip installation was as painless as the EZ had been painful. It was like being in a dream (or an Apple commercial).

must be it! Trashed all things SyQuest, copied SyQuest Install to the hard drive (painfully slow). Cold rebooted, ran SyQSet, disabled Unit Attention. Ran SyQuest Install from the hard drive.

Remember the Goth black text boxes? They're still there! Yup, SyQuest's own Installer does not run properly (at least on a Mac Plus)! It wasn't a side effect of running off a slow drive, it was bogus code. If I cannot get a company's installer to run correctly, how can I trust my precious data to their drive? Enough for this day!

Drivers Take a Break (You've Been on This Mac Too Long)

Not being one to give up easily, lacking alternative storage options, and having lots of time on my hands⁶, experimentation continued. Noting that things slowed down when Silverlining hit, I borrowed a copy of FWB Hard Disk Toolkit Personal Edition to see if a different driver would help.

Unlike the LaCie-branded software provided by SyQuest, FWB HDT ran smoothly⁷. Thanks to good driver software, I witnessed my EZ self-mount and run at normal speed! Yippee!! Only took about two weeks and over \$50 worth of borrowed software—grrr! Around this time, Pat Allen emailed me with the news that tests at SyQuest indicated that FWB HDT did indeed take care of the problem. All I needed to do was send in my mailing address,

and 800k floppies of FWB HDT would wend their way to me when available⁸.

May We Please Get Back to Work Now?

So close, so close, I could taste victory! Now, I just needed to set up one self-starting EZ disk with a system for hard drive-less running. Another day or two of futzing left me with an EZ disk which would mount and run fine off either the hard drive or a floppy system, but could not self-boot off its own system⁹. And somewhere during this exciting process, auto-mounting ceased to function (yes, it was still supposedly active).

The days clocked by. No FWB HDT in the mail. It was October 17th, and my 30 days would be up on October 18th or 19th. Had an official version (with documentation) of FWB Hard Disk Toolkit¹⁰ arrived, and had my 30-day trial not nearly expired, I might have experimented further. But life was passing me by, and I'd had enough.

On the Zip Tip

Ignoring warnings from the Net and official statements from Iomega that they do not support the the zip drive on the Mac Plus, I just had to try one (if I could find one!). Luckily, (human) networking works! A tip from fellow BMUGger Betsy R. led me straight to an Iomega zip drive and second disk, in stock in a local store. With only one day before my 30-day EZ test drive was up, I got busy with the SCSI.

Expecting the worst, I nevertheless plunged ahead. To my amazement, the zip installation was as painless as the EZ had been painful. It was like being in a dream (or an Apple commercial): hook it up, turn it on, insert media (all this in specified order, of course), run installer, and Viola! We be zippin'! Given the previous 30 days of torture, I was stunned that this "unsupported" product which wasn't even supposed to work on my antique machine ran flawlessly the first time! No Unit Attention hijinx nor other band-aids!

That's all well and good, but I still needed to get a self-mounting startup disk. One article had indicated that Mac Plus SCSI Term Power quirks were one of the primary reasons Iomega does not

support the Plus. Seems all can work well when there are other (usually older) drives in the chain which can supply the bus with term power, but the zip could not stand alone and supply the SCSI bus without violating SCSI-2 standards.

With trepidation, I followed Iomega's self-startup disk initialization instructions to the letter. Unplugged the hard drive, started the zip, turned on the Plus, and held my breath. *It booted!!! Wheeeee!!!!* The zip did every single thing it was supposed to do—everything I wanted it to do—straight out of the box, with no delays, hangups, or problems. All on an unsupported CPU!

After having had the zip about a month, I did discover one Plus-related problem: Zip Tools requires an SE or better to run. Plus users will have to get creative when the time comes to reformat/erase disks (Finder initialization fails), or use any of the read/write protection features. Unlike the inelegance of the Gothic text-free SyQuest software, Zip Tools politely puts up a dialog box informing the user of the incompatibility, then smoothly quits.

Showdown: Zip vs. EZ135

Here's a head-to-head comparison of Iomega's zip vs. SyQuest's EZ135 based upon qualitative direct comparison on my Mac Plus, 4-meg, System 7.0/Tune-Up 1.1.1 system:

Sat, Jun 1, 1996 10:40 am	125.9M (Finder)
10:40 am SyQuest EZ135	10:40am 98.3M (FWB)
10:40 am Iomega zip	94.1M (Finder)
10:40 am Media:	10:40 am Qualitative speed on a Mac Plus:
10:40 am Hard ("hard-drive-in-a-box") ¹¹ non-contacting Winchester technology	10:40 am As fast as a hard drive
10:40 am Contacting floppy technology (sl. larger than 3.5-inch floppy)	10:40 am Slower than a hard drive, but much faster than a conventional floppy (≈3/4 hard drive speed)
10:40 am Loading mechanism:	10:40 am Spinup/spindown:
10:40 am Klugy ¹² okay to insert with power off	10:40 am Slow, like hard drive
10:40 am Elegant ¹³	10:40 am Fast. Almost as fast as a floppy.
power must be on to insert/withdraw	10:40 am Warranty:
10:40 am Hardware build quality:	10:40 am 5-year cartridges, 2-year drive
10:40 am Many high-precision solid metal parts	10:40 am "Limited lifetime" cartridges, 1-year drive
10:40 am much plastic, but metal where needed (like CD audio portables)	10:40 am Weight:
10:40 am Vibration:	10:40 am Heavy
10:40 am Moderate	10:40 am Light ¹⁵
10:40 am Moderate	10:40 am Size:
10:40 am Noise:	10:40 am Taller and longer than zip. Easy to put objects on top
10:40 am Spin:	10:40 am Slightly larger than Apple 800k external floppy drive (shorter than EZ). Curvy top precludes surface use.
10:40 am Approx. the same as modern hard drives	10:40 am Operating temperature:
10:40 am approx. the same as modern hard drives	10:40 am Unspecified
10:40 am Seek:	10:40 am 10°C to 30°C
10:40 am	10:40 am Country of origin (drive):
10:40 am Slightly noisier than hard drive or EZ (varies ¹⁴)	10:40 am Singapore
10:40 am Write protect:	10:40 am Phillipines
10:40 am Hardware (cart. tab)	10:40 am Most prevalent Usenet/AOL horror stories ¹⁶ :
10:40 am Software (incl. password & R/W options)	10:40 am Won't work on Pluses software won't work on B&W Macs
10:40 am SCSI:	10:40 am Bad media/bad drives (noisy, total failure)
10:40 am SCSI-2, 50 pin X2	nonexistant/unavailable tech support drives and/or disks unavailalbe
10:40 am SCSI-2, 25 pin X2	
10:40 am Typical actual capacity:	
10:40 am 131.0M (FWB)	

Reading between the lines of the Iomega literature, one could become uncomfortable with Iomega's repeated mentions of head cleaning to cure media errors, and suggestions of backing up zip disks with other zips. The former is a trade-off one must accept for the use of technology where magnetic heads contact the media, and might well be a potential advantage of the SyQuest format. The latter is nothing more than pragmatism and prudence: theoretically, any regularly-used media should be backed up onto something else, either the same or different format.

Driving EZ Back to the Dealer

Let's see, I spent a good 3 to 4 hours on at least 5 consecutive days trying to get my new EZ135 drive to mount and run at normal speed. At least 3 more such days were lost trying to make a startup disk, and the rest of the 30 vaporized waiting for usable software. I have encountered crashes, missing essential information and software (Unit Attention disable), scanty documentation, an unavailable tech support BBS, and some of the worst Mac user interfacing I have ever seen. Not to mention the Installer does not run correctly, SyQSet doesn't work, the standard SyQuest lever insert/eject arrangement is awfully cheesy compared to floppies or the zip, and the cartridges eject with difficulty on my unit (excessive friction).

As I sat staring at the flashing Error indication on the drive¹⁷, I realized my error was purchasing a SyQuest EZ135¹⁸,

a product incompatible (as shipped) with my system. The EZ135 has the aura of a "me too" product rushed to market too soon. If you have a modern Macintosh, are familiar with or actually like the standard SyQuest technology, or prefer the potential enhanced reliability of a beefy metal chassis and non-contacting heads, you may wish to seriously consider adding an EZ135 to your system. By the time you read this, SyQuest may have even worked out the Plus bugs and be shipping useable software, but try before you buy, especially with older machines! I strongly urge you to buy locally (so you can more easily take it back) with exchange privileges. As for myself, the elegant loading operation, widespread format acceptance, silence during extended idle, and perfect operation minutes out of the box are more than enough to counter-balance the contacting heads and potentially flimsy plastic of the zip.

Remember: don't settle for products that don't work! Best of luck on your purchases! 🚀

¹ See the Fall/Winter 1987 BMUG Newsletter, p. 93-97. It still works reliably.

² Reviewed by Hans Hansen in the Fall 1995 BMUG Newsletter, which I wish I had read prior to my SyQuest purchase!

³ No version. Creation date July 26, 1995

⁴ An excellent explanation of this problem is on pp. 288-290 (especially p. 289 bottom left) of the Summer/Fall 1991 BMUG Newsletter (vol. VII #2) in the article "Macintosh SCSI Termination by the Engineering Department of MicroNet Technology, Inc."

⁵ Not to mention the Help section was not in any language I speak—it's almost worth running a copy just to see how bad it is! An empty scrap window, lots of modality, unexpected display responses—try it!

⁶ Being "between jobs."

⁷ After fonebone (yours truly) remembered to disable extensions. It's not nice to have After Dark w/System IQ off interrupt low-level formatting!

⁸ This message of confirmation was October 10th.

⁹ All options I could find in HD Toolkit were tried. The System Folder was "blessed." The Mac Plus does and cannot use the Startup Device control panel.

¹⁰ Or some other appropriate formatting utility

¹¹ The raw EZ cartridge is about the same size as a zip cartridge in its case.

¹² Excessive cartridge friction was evident on my unit.

¹³ But cartridges squeak when inserted.

¹⁴ Mine was initially noisier, then seemed to get quieter with use. Like floppies, this may vary from disk to disk.

¹⁵ Both have heavy wall-mount power supplies. The 5V 2A EZ supply is larger and runs slightly cooler, though neither is unreasonably warm.

¹⁶ Filtered by my selective memory.

¹⁷ Apparently a Unit Attention Disable side effect.

¹⁸ My cousin Mary (the only other person I know who's used both SyQuest and zip) hates the SyQuest (calling it "SuckyQuest") and likes the zip. Unlike my experience, she's experienced poor technical support in the past from SyQuest.

Telecom



was taken) was able to convince one of our three local ISPs to give all of our members a \$5 discount for unlimited access; we pay \$14.95/month (this is something PMUG should look into!).

MacTCP

This is a control panel that comes with System 7.5. If you have one of the new PCI Power Macs, you have something called OpenTransport, which is supposed to replace both MacTCP and MacPPP (see next item). I don't have one of those nifty new Macs so I have no personal experience with OT, but from what I've been reading in the news group comp.sys.mac.comm (probably available to you via OneNet) it is not quite ready for Prime Time.

MacPPP

This is a control panel which works with ConfigPPP (an extension). You use this to dial your ISP. MacTCP then takes over, then you can use whichever Net application you wish. Note that there are many different versions of MacPPP out there, that latest one being FreePPP, which is supposed to work with OpenTransport.

InternetConfig/IceT Extension

This is a new application (Figure 2) from Peter Lewis, the man who wrote Fetch and Anarchie. This allows you to store all of your information about your ISP, like email preferences, news server information, etc. The extension allows you to Command-click on any URL, email address, etc., and have the appropriate

application open—if the application is “InternetConfig-aware”; most of them are, now.

Setting up InternetConfig is really easy. I just wish I had it when I started out using the Net.

Wabbit

This isn't actually an application which requires MacTCP. This is a small DA which you should use to hold all of your email addresses, URLs, ftp sites, etc. (Figure 3). If your ISP charges you by the minute, the handy timer will let you know when it's time to get off (this is how I know I've been online for 59-plus hours). It is also InternetConfig-aware and, best of all, it's Freeware! Make sure you thank the author; tell him I sent you.

I was a beta tester for this (though not mentioned in the new documents, dag nabbit!), so here's an important *Tip*: if you do use it, make sure you don't try to get an address or something while you are downloading email with Eudora; doing this will wipe out your Wabbit Data file — which means all the addresses you stored in it will be gone (keep a backup copy of this file in another folder).

Here Are a couple of Must-Have URLs

<http://hyperarchive.lcs.mit.edu/hyperarchive/abstracts/recent-summary.html>

<http://www.mid.net/info-mac/>

These are search engines for the Info-Mac Archives; this is how you get all the cool files you've been hearing about which

haven't been uploaded to the BBS. You should add these to your Wabbit data file.

Eudora

This is the best free email (email—you've got to have email!) program out there, I think. This application allows you to not only send email around the world, but to send files also. This is how I was able to send this article and the various files I included (everything mentioned in this article—less Fetch, Anarchie, and the various game clients) to Cathy from my home in Bloomington, Indiana.

Tip: Never, never *never* say *email* to a postal employee! (don't ask, just, trust me.)

Note that there is a commercial version, called Eudora Pro; the only difference is they added filtering and uencoding/decoding (see below).

YA NewsWatcher

This is what I use to read usenet newsgroups. Note that there are three flavors of NewsWatcher (originally created by John “Disinfectant” Norstadt): the original NewsWatcher, VA (for “Value Added”) NewsWatcher, and YA (for “Yet Another”) NewsWatcher. The two spin-offs add the capability to download binaries (which, if you didn't know, is a file which has been converted to a text format) from newsgroups like alt.binaries.sounds.mods, or alt.binaries.sounds.midi. They also include the ability to filter newsgroups from annoying subjects (or authors). If you've used OneNet, you've seen a few newsgroups—my ISP allows me access to over

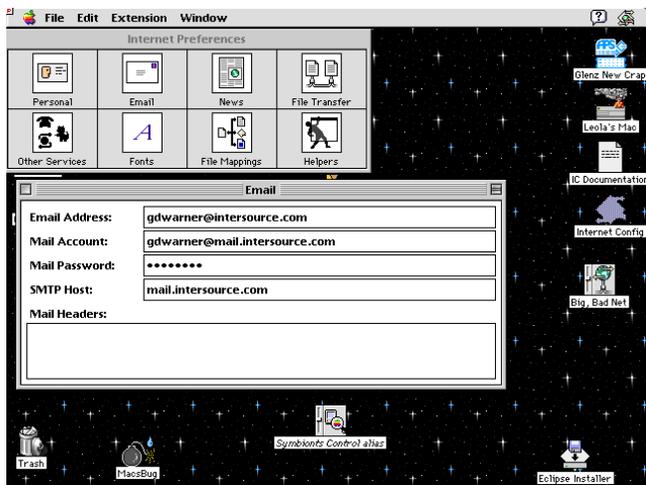


Figure 2.

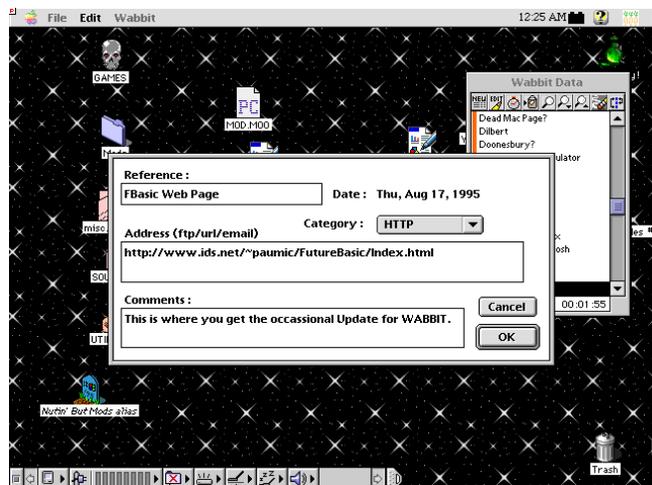


Figure 3.

3,000 of them (though I actually subscribe to about 24).

Did I mention you could also send email from NewsWatcher?

MacWeb

I use this for accessing the World Wide Web. I also use it for ftp'ing (that's File Transfer Protocol, which is how you get your files from remote sites back to your computer).

The ISK (Internet Starter Kit) disk has a program called Fetch which is used for ftp'ing files. I had bad luck using it (it would quit in the middle of the transfer, amongst other things). I use my browser to get files because it doesn't quit as often and it seems faster. (I should mention that I was using an early version of Fetch).

Tip: to access ftp sites with your browser, you have to modify any ftp address you find. Usually, an ftp address looks like this:

ftp.germany.eu.net

The path to the file would be /pub/comp/amiga/mods, which you would enter in a separate window.

To access this same site with your Web browser, you would type it this way:

ftp://ftp.germany.eu.net/pub/comp/amiga/mods

Not many people know this. Also, if you copy an address like the above from Wabbit and paste it into Fetch, the address is automatically distributed across the two windows Fetch uses for ftp address.

I know what you're thinking: "I keep hearing about this Netscape program! How come you didn't recommend it?"

That's easy. I *do* have Netscape 1.0N, but I find it to be buggy and very memory hungry—just slightly better than the version of Mosaic I have (ugh!). While there is a new version out (2.0 or thereabouts), I am sticking with 1.0N. This way, I avoid any of the bugs I've been reading about on comp.sys.mac.com (nasty freezes for no reason—not just in Netscape, but other applications too; error messages from Norton Utilities about damaged bundle bits, etc.).

Rant Mode 'On'

The new version of Netscape attempts to be an all-in-one Internet application suite—sort of a ClarisWorks for

the Net, if you will. Through it you can send email, ftp files, post news, and—oh yes—access the World Wide Web.

I (and a lot of other folks I've corresponded with in comp.sys.mac.com) would rather not have a Web browser do anything more than it does now; Eudora works great, and any flavor of NewsWatcher you get works better than those developed for various Web browsers. Despite a lot of people suggesting a 'lite' version of the various browsers, Netscape and Mosaic (and the new MacWeb, in an effort to keep up with the neighbors) all intend to offer the 'all-in-one' versions of their browsers. I don't plan on upgrading, myself.

Rant Mode 'Off'

Also, I need Netscape to get into the *Wall Street Journal's* page (a password protected page, where I check up on my shares of Apple stock), and to access other pages which require browsers with HTML 3.0 (that's 'HyperText Markup Language' version 3.0, which is the latest version of the language Web browsers understand).

Helper Applications

Accessing the World Wide Web (or WWW for short) sometimes requires other applications to hear the various sound files and see the various graphic formats in use. I have four helper apps:

Jade (Fat)

This I use to view JPEGs. I've tried others (JPEG View, GIF Converter), but I found that this app runs in about 20k or memory—which is very important with memory hungry Netscape.

RealAudio

This application allows you to hear audio signals over the Internet in real time. Version 1.0 works with 14.4 modems, and the sound quality is—well—right up there with AM radio. Version 2.0 is out now, and it should have sound quality equivalent to FM radio (haven't had a chance to download the new version yet).

Tip: Fire up RealAudio at about 10 am (Pacific time) Sundays, check the home page for Progressive Audio (<http://www.realaudio.com/>), and look for a link to Gina Smith's *On Computing* radio show—and listen to it *live*.

Stuffit Expander

This I use to decompress anything I download from the Net.

VA/YA NewsWatcher also requires helper apps: Stuffit Expander, Base64 and uuUndo; these are required to decode the binary files which are posted either in UUencode format or the fairly recently developed Base64 format.

To make these helper apps work, you have to configure your Web browser and your News reader—which is pretty simple to do.

Those were the basic applications you need to use the Internet. Other Internet applications include:

Homer

This is one way to waste a lot of time on the Internet. Homer is an IRC (Internet Relay Chat) client. The latest version (which Sandra Bullock used so well in the movie *The Net*) uses Apple's PlainTalk technology which means anything someone else types will be spoken by your Mac. It is also MacinTalk (version 1.1.1) savvy. While I am impressed with the program itself, I try to avoid using IRC, but, if you must, check out the #Macintosh channel. I was on there Christmas morning, talking a new Mac user through increasing the memory size of one of his applications (the guy had never touched a Mac in his life, and he had an 8500—some guys have all the luck).

I need Netscape to get into the Wall Street Journal's page (a password protected page, where I check up on my shares of Apple stock)...

Good place to be if you need help with something *now*.

Did you know that you could play Chess, Mah Jong, Go, or Backgammon over the Internet in real time?

There are servers dedicated to each of these games. I use SmartChess to play on the chess servers (ics.onenet.net, port 5000)—and I don't play any of the other games. Check their dedicated newsgroups in the rec.games.etc. hierarchy.

"But I don't want my child exposed to all that *pornography* on the Net!"

Ah, yes—the root of a lot of the fears about the Internet.

Yes, it is true there is pornography out there. It's on the newsgroups, it's on the Web, and there are probably a few ftp sites with pornographic material, too.

If you are worried about your child accessing this type of material, buy a copy of SurfWatch. This \$49.95 application blocks access to questionable material in newsgroups, ftp sites, and Web pages.

If you are worried that you will be inundated with pornography over the Net—well, don't worry. You actually have to go looking for this stuff to find it (although postings advertising 900 numbers are starting to show up a lot in the newsgroups I

read and are soundly flamed!). Also the news group alt.binaries.pictures.erotc is fairly easy to access, too; this is where SurfWatch comes in handy.

If SurfWatch doesn't appeal to you, Intnet Watchdog might be what you need.

Internet Watchdog, priced at \$29.95 for both the Mac and Windoze is a control panel which monitors a user's Internet activities, taking screen shots of the pages they view and logging the URLs accessed.

An administrator will later be able to open the log file and view the pages accessed. A grid-like view will show thumbnails of all pages visited; any screen can be brought up to full size for detailed viewing.

Administrators will need a password to access the log file (though I suspect any kid who has spent a few weeks with the Mac will be able to figure out how to delete all those incriminating PICTS).

These programs should take care of the "smut on the Net" fear.

In the following article, I'll show you how to connect to the Internet—with your BBS client software (and MacTCP and MacPPP, of course). 🐉

*Did you know that
you could play
Chess, Mah Jong, Go,
or Backgammon
over the Internet in
real time?*

G.D. Warner has been a Mac user for 4 years (thanks to Hurricane Andrew destroying his house and with it, his IBM Klone), owning first a Performa 600 and currently a PowerBook 190cs (and anxiously awaiting the new PowerBook with the internal CD-ROM!!). He is also a self-confessed Internet Junkie going through withdrawal, limping along with an e-mail only account. Pray for him.

Who's Afraid of the Big Bad Net II

FirstClass' FCP Connection

by G.D. Warner

So you've got your ISP all lined up, you've used InternetConfig and the EZ-SLIP/PPP/TCP package to set up MacPPP (or MacSLIP), MacTCP, and all of your applications. And, you've actually sent and received some email, visited a few Web pages, and read a news-group or two—but still, you feel—uncomfortable. You feel something is missing—you miss the look-and-feel of the PMUG BBS. [Editor's Note: PMUG is another Mac users group just like BMUG.]

"Surely there is a way to access the Internet that looks like the PMUG BBS!" you wail.

Well, there is! And stop calling me Shirley!

SoftArc, the company which designed the FirstClass software the PMUG BBS uses, has implemented with version

2.6 a communications protocol they call FCP. Since the documentation of FCP is rather skimpy (meaning "I don't have any"), you are pretty much left to your own devices when it comes to configuring your FirstClass settings to connect to another FirstClass BBS over the Internet.

"So ... how do I do this!?" you ask.

It's pretty easy, once you've done it a few times.

(I) Pick a BBS from the list at the end of this article. Write down the pertinent info: the BBSes name, domain name, IP address, port number and name/password.

(II) Open your FC client software and create a new settings file (you know—select New from the File menu). Type in the name of the BBS you

picked in the first step and click Save.

(III) Click on the Setup button (Figure 1).

(IV) Enter the following info from the top of the screen down:

(a) Select your connection method (TCP-IP.FCP) via the pulldown menu.

(b) Type in your user id and password (usually 'Guest' and 'Guest'; the list on the next page will tell you otherwise—next to the port numbers).

(c) I leave the Logon Automatically, Retry X times, and Retry delay items alone. If the FC server you are trying to reach is available, you connect instantly. If it isn't, you don't—try another server.

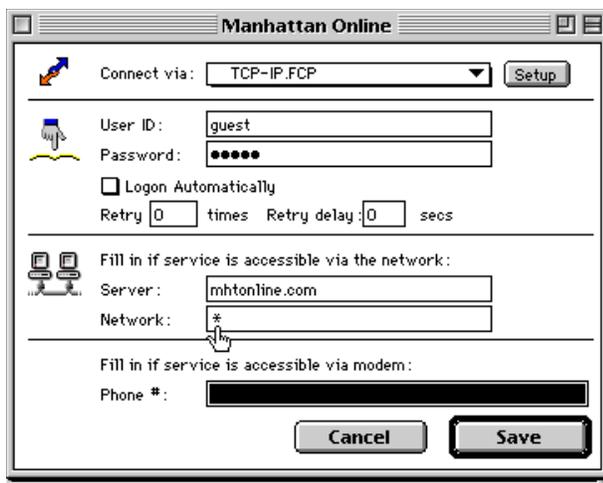


Figure 1.

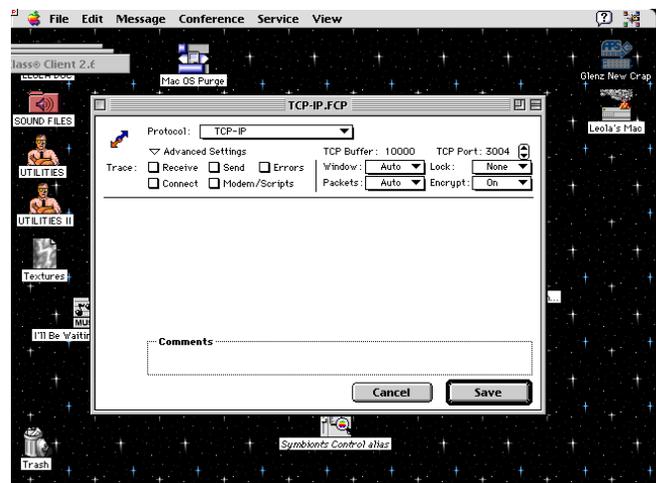


Figure 2.

(d) Fill in the Server field with the name of your chosen FC BBS.

(e) Network: I read somewhere you need an asterisk (*) in here. I've tried connecting both with and without the asterisk. Sometimes it works, sometimes it doesn't. Your mileage may vary.

(f) Leave the phone number blank, unless you actually want to make a long distance call to New York or Australia (\$\$\$)!

(g) Check the information you wrote down. If the port address isn't 3000 (the default setting), then you need to click on the Setup button. Once the new window appears, click on the Advanced Settings triangle (Figure 2) and modify the port to the correct value.

(h) Select Save a couple times, and you are done with the hard part (though you might want to set up a few more settings for other BBSes).

(V) Now, hook up your modem and use MacPPP to log in to your ISP. Once you are connected, start your First-Class Client software (if it isn't running; if it is, use the Application menu and switch to it).

(VI) Pick the settings file for the BBS you just set up and click on the Login button. If the server isn't busy, you should be logged in in no time. (If all the ports are in use, FC gives you the "No FC server at this location" dialog. That's just a busy signal.)

The List

This list came to me from an email message; for a more up-to-date version, use your newsreader and look for alt.bbs.first-class; the list is updated every week. 🐘

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List Current As Of 6/1/96

Name	Domain	IP Address	Port
AMANDA	allinz.uni-linz.ac.at	140.78.5.56	3000
AMUG (Arizona MUG)	fc.amug.org	204.62.193.11	3000[*]
AMUG (Atlanta MUG)	fc.atlmug.org	170.140.57.193	3004
Bitstream Underground	bitstream.mpls.mn.us	204.73.77.17	3004
BlackBoard	bboard.blackbox.or.at	193.170.155.5	3000
BMUG Berkeley	bmug.org	206.80.36.91	3004
BMUG Boston	bmugbos.org	198.69.254.236	3004
California Lip Service	lips.com	204.31.61.42	3000
Calpark	calpark.crai.it	138.41.202.243	3004
Computer Soup	firstclass.loonlink.com	204.246.83.3	3004[*]
Cyberden	cyberden.com	204.182.11.180	3000
designOnline	fcserver.dol.com	204.95.49.2	3000
digitalNation	dn.csqi.com	204.91.31.64	3004
Dimensions Online	fc.nilenet.com	204.227.31.4	3000
Emigre	emigre.com	204.86.239.2	3004
E Street Mail	fc.estreet.com	204.30.121.20	3000
Eureka	fc.eureka.qc.ca	205.151.56.28	3004
The Familiar Spirit	TFS.necronomi.com	199.173.32.230	3000
Finder BBS of Orlando	N/A	132.170.21.101	Either
GameNet	gamenet.com	204.254.224.50	3004
GNJ Spectrum	gnj.gnj.or.jp	202.243.53.3	3004[.]
Great Lakes Free-Net	fc2.glfm.org	198.108.144.81	3004
IIS-Athens	N/A	193.92.13.43	3004[*]
Infinet	shakti.txinfinet.com	204.96.111.93	3000
IST-Linz	istmail.padl.ac.at	193.170.67.250	3000[*]
Livewire	livewire.boulevards.com	204.162.28.80	3004
MacChoice	lt4.lasertone.com	198.70.208.4	3000
MacEAST	fc.maceast.com	198.69.251.9	3000[.]
MacLair	maclair.computize.com	199.1.198.31	3000
Macrocosm	macrocosm.com	205.219.43.3	3004
Magic Online	toronto.magic.ca	199.166.230.66	3000
Magic Online Winnipeg	gandalf.magic.mb.ca	204.112.14.6	3000
MagicVillage	fc.hh.magicvillage.de	194.120.171.64	3004
Magnet	magnet.at	193.80.248.21	3000
Manhattan Online	mhtonline.com	205.160.44.120	3004
Metnet	stevem.opi.mt.gov	161.7.104.96	3000
Macs BBS	macsbs.spk.wa.us	204.212.113.2	3000
Mt. Parnassus	fc.delphic.com	204.30.14.3	3000
N.E.T.	firstclass.northcoast.com	199.4.102.21	3000
NP1.COM	np1.com	204.139.8.2	3000
Online Zone	mail.faludi.com	204.182.40.1	3000
Paradigm Online	paradigmonline.or.jp	202.33.54.66	3000
Paradise	blkbbox.com	198.64.53.173	3000
Red Inter Apple	ria.pue.udlap.mx	140.148.1.9	3004
Rete Civica Milanese	dsi.unimi.it	149.132.120.68	3004
RSD Admin	reynolds.reynolds.k12.or.us	198.236.117.11	3004^
SenseNet	snfc.com	199.33.238.5	3000
Servant Christian	N/A	204.140.218.4	3004
SoftArc Online	N/A	198.133.37.10	3004
Skios BBS	N/A	194.30.20.5	3004
Starship Interface	scsi.org	204.92.231.2	3004
StarNet Online	news.starnetinc.com	204.178.185.2	3000
TiliGraphique LC	utlgic.upc.qc.ca	204.19.34.22	3004
Terminus	terminus.interworks-inc.com	204.57.246.11	3000
TerraX	terrax.spk.wa.us	199.79.239.40	3000
TIETOKONE Online	online.tietokone.fi	194.136.67.2	3004
TogetherNet/TGF Tech	tgntv.together.org	204.97.123.70	3000
TVO Online/ChaiNET	fc.tvn.org	204.41.126.10	3004
Tyrell BBS	tyrellco.com	199.1.22.171	3000
Versacom	shakti.versa.com	204.96.111.93	3000
VVCN	virtualvalley.boulevards.com	204.162.28.81	3004
WCA Academy	marathon.wca95.org	193.45.142.40	3000

[*] use guest/guest for username/password
 [+] use blank/blank for username/password
 [#] use public/public for username/password
 [*] use visitor/guest for username/password
 [.] use guest/<no password> for username/password
 [^] use public/<no password>
 Either = use either 3000 or 3004

This article originally appeared in The PanHandler, newsletter of the Pensacola, Florida-based MUG, reprinted with permission by G.D. Warner

Objects Objects Objects

Java and the Web

by Aaron Vinson

You may have heard a lot about a language called Java. You're probably wondering, what's the big deal with Java? What sets it apart from other languages? How does it relate to me? I think you'll find that Java is a major step forward in the realm of the World Wide Web.

Java is a tool with which you can create *applets*, little programs executable directly via a home page. Here's how it works. You create and compile a Java applet (yes, Java is a compiled language for various security purposes) and refer to that applet in your HTML Web pages. Then, you stick your HTML code and your applet on a Web server. Finally, when someone using a Java-aware browser comes across your page, the browser downloads the applet and executes it locally. You can then interact with it just as any other program.

Java was developed at Sun Microsystems in 1991 as part of a research project to develop software for consumer electronics devices. Java is a full-fledged language modeled after C++. This basically means that a Java applet can do just about anything, from playing Doom to word processing. This kind of thinking is what is responsible for the advent of those \$500 Internet terminals we've all heard about recently. You give the terminals a way of interpreting Java, a minimal OS, and access to the Internet and *Shazam!*—they can run all the software needed directly from the World Wide Web.

So, you ask, why else is Java so cool? I'm glad you asked... Java is platform independent. Java binaries run on a Java 'virtual system.' A Java browser emulates this system and the code runs under emulation. This also makes Java more secure. The Java code only runs under this limited virtual system making it impos-

Java is a full-fledged language modeled after C++.

This basically means that a Java applet can do just about anything, from playing Doom to word processing.

sible to give your Mac a virus simply by cruising around the Web.

You may have another question. What about the objects mentioned in the title of the article? I was getting to that. Java is object-oriented. Object oriented languages essentially represent a discipline of coding style. It makes it possible to easily write flexible, modular programs and re-use code. Say you needed to write a spreadsheet program. You'd divide this program into various elements or objects. You make an object that is responsible for storing the elements of the spreadsheet, another object for calculating the math, and another for the interface, etc. Then, your boss decides that you're going to be on a development team coding a database. You can then use your object

that you used to store information from your spreadsheet in your database program. This cuts development time down by quite a bit, saving companies thousands of dollars. OpenDoc works in this way. This also ties in with Steve Jobs' idea about objects and the Web; hence the title of the article.

Despite the glitzy graphics, the Web is still a fairly primitive technology. It treats today's powerful computers as if they were the rudimentary machines of the 1970s. The Web server is basically a dumb one, simply sending out HTML code to any request it receives; the Web client, a modal, is a dumb terminal that simply displays documents. This is about to change, at least if NeXT, Steve Jobs, and almost every major player in the computer industry has anything to say about it. Jobs outlines three distinct phases that the Web will go through, aided by Java and object-oriented programming. The first stage involves making the client and server smarter. The server would store local databases and spreadsheets and link access to Web pages. On the client side, it requires making every application you use able to access the Web and not just a specialized browser (Apple's Cyberdog is a collection of OpenDoc parts that makes any document World Wide Web aware).

In the second stage, things really start to get groovy. The client and server will begin to exchange not just data, but programs. These applets will allow for powerful interaction. The client, for instance, could send an applet to a server which performs a database search on a select group of stock quotes the user is interested in. Or, you may wish to preview a new home over the Web before purchasing it. The server could send you a 3-D walk-through of the building. You

wouldn't have to worry about capability to support these kinds of graphics either; the support is in the file itself.

In the final stage the role of client and server will begin to blur. Code and data will be sent both ways. Applets will begin to resemble agents, intelligent programs sent to gather and filter information. The Web will become fully animated, powered by the intelligence of computers.

Java is a major step in the right direction. It allows for many things mentioned above. It also allows easy reuse of code. I'm sure by now you've realized how cool Java and objects are. You're thinking how can I find out more? Sadly enough, there aren't any really good Java books out there. The best one I've come across is Laura Lemay's, *Teach Yourself Java in 21 Days*, but this book has been criticized for massive amounts of typos. Don't despair, Java is building steam and there will soon be a slew of Java books on the market and maybe one from my

favorite publisher O'Reilly and Associates, Inc. (*Editor's Note:* O'Reilly & Associates just released *Java in a Nutshell*.) As far as development tools go, Sun released the Java Development Kit recently for Solaris, Windows, and the Mac. And Natural Intelligence, Inc. makes a product called Roaster for the Mac. Roaster is a neat piece of software, almost as fully featured as Metrowerks' Code Warrior (a C++ development suite). If you aren't that interested in coding Java and are more interested in checking it out, you can grab a copy of Netscape 2.0 or later for the Mac that runs Java applets—from <ftp://ftp2.netscape.com>. 🐼

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Editor's Note: Check out www.gamelan.com on the Web for a collection of the Java applets. Also check out the recently released Sun Java series, a collection of four books on Java for different levels of skill.

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AppleSearch and ASACGI



Making Your Corner of the World Wide Web a Bit More Friendly

by Dan Meriwether

Lets say you've archived every utterance of every contributor of alt.cesium and feel the burning need to make this mass of information, all 297 megs, available to the general Web surfing public, in a usable form.

AppleSearch is, by far, the easiest way to do this.



BARONESS MARYSTOWN
Wife of Thomas Butler Esq., and
only daughter of Richard Fitzmaurice
and Margaret Douglas, she came to
Ireland in 1514. See page 100-101.

Or you feel that making your entire family history available in a searchable format would be of great service for the future generations of your line.

The only problem though, is that your surname belongs to a full and prolific line of descent, all the way back to the Barons of Runnymede, with tens of thousands of relatives! And wouldn't it be cool if the future generations could easily add themselves and siblings, making the database self-generate?

AppleSearch is, by far, the easiest way to do this.

Or say you wish to archive, in one searchable directory, each and every one of Steven Jesse Bernstein's poems, and every BMUG Newsletter article, and a database of every precious script of every episode of *H. R. Puffinstuff* and make it all cross-searchable.

AppleSearch is still the easiest way to do this.

I do mean easy, as in, select an item in a menu and press Index.

Before we get into what AppleSearch is, and how to use it, a framework for understanding the background and context of where AppleSearch fits into the picture would be helpful. I'll try and be quick about it.



The World Wide Web, or just the Web, has gone through several redefinitions, restructurings, and rebuilds since its inception just four years ago. As opposed to the command-line-fixed font environment, the Web began it's life as a styled text (but still text only) environment designed for dissemination of information, primarily for use by research scientists.

Then a system called MIME (Multipurpose Internet Multimedia Extension, not like that's a particularly meaningful acronym) was introduced that allowed multimedia such as graphics, sound, movies, and styled text to be available over the Web.

A system for interactivity with those who visited the pages was made possible by the introduc-

tion of the CGI, or Common Gateway Interface. As creative individuals worked with CGIs, they began developing ways to use the Interface for more than just providing forms for the users to fill out. Further extensions such as bit-streamed† media and dynamically loaded ap-

plications such as RealAudio and Java have dramatically increased the dynamic interaction of the Web, often allowing "live" presentations. Technologies such as these have made it possible to run a vast variety of tools over the Web, such as centralized applications, groupware, and collaborative tools. Still, the heart of the Web, even with these new wiz-bang frills, is still dissemination of information. That is where AppleSearch enters the picture.

So what is this AppleSearch thingy, anyway?



AppleSearch Server

You can think of AppleSearch as an advanced and improved implementation of WAIS for the Mac.

Oh, that's great. What's WAIS?

WAIS stands for Wide Area Information Search. The guts of the WAIS



Photograph by Arthur S. Aubry

system is an indexer and retrieval engine. The indexer reads a bunch of individual files into a source database, sorts the information held within the files, and stores information about where to find the original files. The retrieval engine is responsible for both the query reception and request fulfillment aspects of the interaction.

A neat thing about the engine is that it's not monogamous. That is to say, it doesn't care which WAIS source it is asked to search, so long as it's accessible. AppleSearch and some WAIS engines, can even concurrently query groups of sources (as WAIS index files are called).



The language used to query WAIS databases deserves a note here. As opposed to classic database technology, WAIS indexers speak NLQ, or Natural Language Queries, which are often English. See the terminology section along the border of this article for a further expansion on NLQ and other terms involved with indexers and search engines.

WAIS was developed by Thinking Machines, Apple, and a few others to prove the viability of a natural language query system (and to show off the speed of the Thinking Machine's computer).

Three query/search languages defined:

Natural Language Query: NLQ is pretty close to what it sounds like, a query built using human language. Functional NLQ could sound like this, "Search for documents about East African maturation rituals." Then, depending on how the NLQ server is set up, the phrase is dissected, pulling out common words, such as "Search, for, and about," and ranked in order of their proximity, capitalization, and repetition in the phrase. Once ranked, the query is sent and documents are returned ranked by their relevance.

Natural Language Queries like, "Who was the 16th president of the United States of America" would search the database for a person within the subgroup, *United States of America*, and pick who has 16 and president associated with his name.

Structured Query Language (SQL): This is the language that the "big" databi

(plural for database, at least in my mind) are built to serve. It is defined more as a manner to pass a query between processes than the human interface query constructs.

```
SQL Queries look like:
SELECT *
FROM Emplys
WHERE Lst_Nm like "J[a-z][a-z][a-z]s"
```

This lists all employee information in the employees table, whose last name starts with a *J* and is exactly five lower-case characters long, ending in an *S*, eg, "Jones," "Jules," and "Jakes."

The part between the quotes is a regular expression, see below. For more information about SQL and databases see the article on Butler and Web hygiene in this Newsletter.

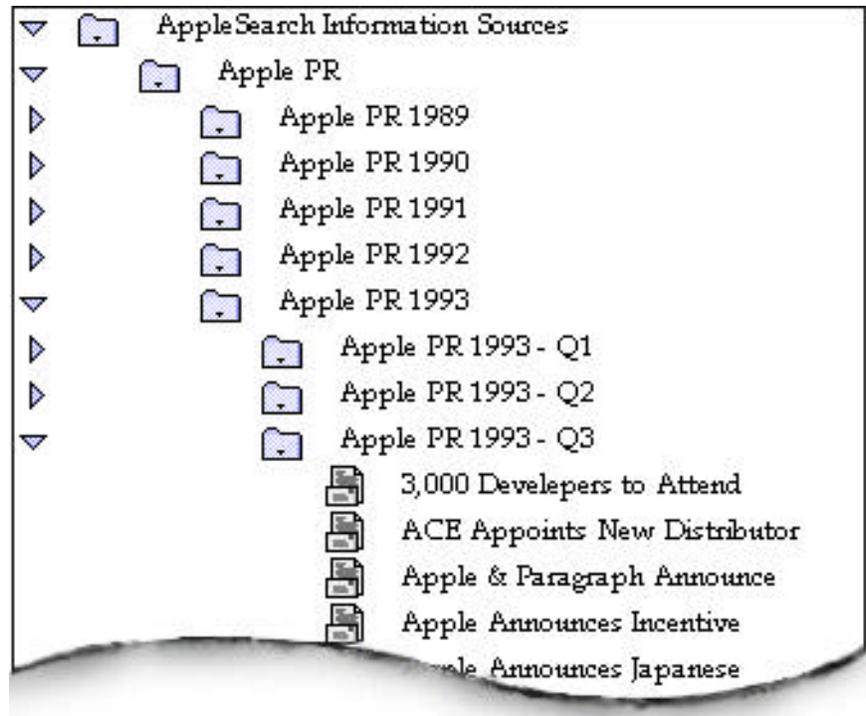
Regular Expressions: Although often likened to chicken scratch, and almost always included in obfuscated code submissions, regular expressions are an extremely powerful language for defining search criteria. They are capable of matching strings and characters using logical operators, such as "any number of occurrences of this, but not that, so long as this other thing occurs more than twice." Regular Expressions are so powerful in fact that they have found their way into an increasingly large number

of popular Macintosh applications, such as BBEdit, Nisus Writer, and Anarchy. Another very far out thing about Regular Expressions is their ability to remember the patterns that are matched.

```
Regular Expressions look like:
<([^\>"]+\"[^\>"]+)>
```

This matches and remembers any text in between angle brackets that only have one quotation mark, i.e. an HTML reference tag where the author forgot to end the quotation, placing whatever found into the variable \1.

AppleSearch has improved upon WAIS in its ability to serve up multimedia, or BLOBs in database, and in its reporter function—agents that gather the results of your query, in the background, or while you sleep. One thing that AppleSearch has over a database solution is that AppleSearch enables the information manager to maintain a very flexible file-based data structure, just like on your hard drive, rather than putting everything into the database where it is often difficult to access or manage (or at least not as intuitive or natural as a regular file system sitting on your hard drive). Further improvements are that, of course, it runs on a Mac, takes about 5 minutes to set up, and is almost completely automatic once configured.



AppleSearch can access, not just other AppleSearch sources, but WAIS sources as well. This would leave the user to believe that a WAIS server would be able to access an AppleSearch source. With this capability, a Web site developer could index his/her site on a local Macintosh, then upload the pre-built, searchable Web site to any type of server—and with unprecedented ease. Although WAIS indexes and AppleSearch indexes have a very similar structure, AppleSearch indexes are neither exportable, nor compatible with WAIS. (I suppose you can tell, this is my biggest grievance with an otherwise very cool tool.)

The ubiquitous scripting language, PERL has a WAIS module, called WAISPERL.pm that makes writing powerful CGIs that call WAIS simple—well, okay, considerably less difficult—but only if you have the source already built. WAISPERL goes so far as to supplant the WAIS engine altogether, so you don't have to get on the system administrator's good side to have a searchable site. However, building a WAIS source on the UNIX box is a major pain, usually involving C compilers and makefiles.

If you wish to use the information developed by AppleSearch indexing, you'll need to have one of these:

- The AppleSearch Client, which, although it comes in both Mac and Windows flavors, is not publicly distributable (though it should be, duh, Apple, hello!?!). In this case you also need a network, Apple Remote Access or Timbukto connection directly to the AppleSearch server.
- A WebStar Web server and the AppleSearch



ACGI (ASACGI) by Apple and Robin Martherus.

Since we are all Web developers (aren't we?), then the ACGI (Apple Common Gateway Interface, if that means anything to you) is the way to go. The AppleSearch ACGI, or ASACGI, is—just like the indexer it is designed to access—simplicity itself to set up. There is only one thing you must do, choose the AppleSearch application (server) that you wish to use. The interface for doing that couldn't be simpler, either. (Hey, you Butler SQL guys at Everyware, take notes.) It's taken straight out of Apple's standard interface for choosing program linking.

Adding search functions to your Web pages is pretty simple, too, especially if you're familiar with HTML forms and basic resource editing. You can modify ASACGI, to a remarkable degree, just by tweaking the Text resources in ResEdit or Resourcerer. Don't worry, it's very clear once you've opened up the editor. You'll see human-readable things like; "Results Header" which, if double-clicked, brings forth the default return header text:

```
<HTML>
<HEAD>
<title>search results</title>
</HEAD>
<BODY>
<h2>search results</h2>
<ul>
```

Understanding this, and modifying it to suit your site is not what I'd call rocket science. As far as I know, there are few limitations to your customization. Don't go overboard though, there's probably some kind of 32k size limitation lurking

in there. Of, course, work on a backup copy.

There is a booklet called *TCP/IP Connection User's Guide* that comes with AppleSearch. It covers the finer points of setting up and configuring MacTCP and MacSNMP. In researching my book on how to get a Macintosh connected to the World Wide Web, I searched for every technote, every archive, every possible source of documentation I could find for information regarding setting up MacTCP only to find an incomplete and arcane *MacTCP Administrators Guide*. Why Apple has not made this booklet available to all their customers, I'll never know. Unfortunately, when it comes to setting up a Mac that is not gatewayed through a local network, in other words, the average home computer, the booklet falls short of complete in the DNR section.

Apple's marketing department hasn't exactly pulled out all the stops to educate the world of the finer points of AppleSearch. This I find to be remarkable, as I see great promise in the utility of this program. The product retails for around \$1,400. Apple must have assumed that there will be very few unit sales and priced accordingly. Most of the mail order houses that I contacted no longer stock it. With the addition of WAIS exporting, which should not require very many resources to implement, a reasonably priced AppleSearch would be a necessary addition to any Web developer's toolkit whether or not the server is going to be on a Mac or UNIX box. 🐛

†Rather than sending a whole application, image, or event to your hard drive, then allowing it to be accessed using a native media specific reader, or helper application, the data is streamed to your machine and interpreted, on-the-fly.

Butler SQL, Tango, and Web Hygiene

by Dan Meriwether

Reader beware: though many of the issues within might be of common interest, this article is intended for those who have or are considering providing a Macintosh-based World Wide Web service. I assume the reader knows what the Internet, World Wide Web, and HTML are and more or less how to work them. There are literally thousands of means with which to gain this understanding. These means are either costly (i.e., seminars), cheap (i.e., any of the hundreds of books available on the topic, including yours truly's *Macintosh Web Browser Kit* from John Wiley & Sons, NY), or free if you're in Berkeley, in the form of the BMUG Internet SIG† and Mac Telecom Essentials week††.

Take the Web Freshness Test!

If your Web pages haven't been updated within the week, they can be considered unsightly cobweb pages! Three out of four content developers recommend dynamic page generation for relief of painful cobweb syndrome. You may ask yourself, "Self, how do I go about getting a dynamic Web presence?" The answer you're looking for just might be with Butler SQL and Tango.

From the Headlines

Bad News

Butler SQL is a Structured Query Language (SQL) relational Database Management System (DBMS) that uses Apple's Data Access Language (DAL) and Microsoft's Open DataBase Connectivity (ODBC) to build, maintain, and interact with information.

Good News

The preceding bad news pretty much sums up all of the TLAs (Three Letter

Acronyms) and techno catch phrases you'll need to learn to use this database.

Bad News

The inner machinations, incantations, and invocations of Butler (i.e., the arcane and somewhat cryptic workings of DAL and ODBC and Butler's extensions to them) are most definitely of interest to technophiliacs and information engineers. However, as an average Internet developer already struggling to learn PERL, C/C++, and Java, SQL seems to be just another language you are being encouraged to learn...yesterday!

Good News

One can create thoroughly functional database interactivity without having to learn most of the deep, and sometimes ugly, SQL. The secret to this is through the application interface, commonly called "hooks." Butler contains well-designed hooks into the FirstClass online conferencing system (like Planet BMUG); Apple Event capable languages such as

AppleScript, Frontier and MacPerl, and XCMD (external commands), such as those used with HyperCard and SuperCard.

Bad News

Although these hooks are fairly elegantly implemented, mostly through the built-in System 7 DAM system (Database Access Management), there is still a considerable amount of scripting, programming, and application interfacing to be worked through to arrive at the desired data access tools.

Good News

For Web developers, Butler comes bundled with the Tango editor, a somewhat intuitive semi-graphical interface development kit which is also from EveryWare. Tango, though not as smoothly refined and matured as Claris' Filemaker Pro user interface, helps build functional Web-specific CGIs and HTML forms generation using either Butler or any ODBC compliant database, such as Oracle, Sybase, or Informix. The next generation of Tango will even build front-ends for FileMaker Pro.

Once More into the Breach

The gritty details: Butler is an SQL (officially pronounced "ess-queue-ell," but often called "sequel") relational database. Tango is both an interface development environment and gateway for communication between the back-end database and WebStar servers. Let's review some of the terminology involved in these two obtuse statements.

Relational data storage and retrieval systems were developed by Dr. E.F. Codd at IBM Research Laboratory around 1970. The majority of databases

If your Web pages haven't been updated within the week, they can be considered unsightly cobweb pages!

currently in use are relational. Even the old Mac standard, Claris' FileMaker, has become somewhat relational in its third version. There is a twelve-point test that determines if the database system in question is truly relational, starting with.... Oh, never mind. Let's just sum up the most important parts. Basically, information held within relational databases is stored in a collection of tables, which, if taken individually, look a lot like a standard spreadsheet—with values referenced by columns and rows. Information held within these tables can reference information held within other tables as the need arises, which is called joining.

SQL (Structured Query Language) was developed alongside relational databases as a relational-specific information request, or querying language. There have been many attempts to standardize SQL, mostly resulting in rough frameworks and twelve-point tests from which disparate vendors could qualify their proprietary query language to be the one true SQL. However, SQL is a moving target of a standard (albeit an oxymoron of a phrase). For example, Butler has extended (that is to say, derived) from the standard a version of the Apple "standard" SQL called DAL (Data Access Language), which itself is a derivation from the ANSI SQL definition, which is not to be confused with Microsoft's version of SQL, ODBC. Anyway, SQL queries have the look of having been built out of several different language syntaxes, none of which are human. In fact, SQL is enough like most other computer languages to either allow rapid adoption or confuse the heck out of most non-SQL-native programmers. With all its strictly enforced syntax and structure, SQL is not what I'd call an elegant query language. (For an example of a powerful yet elegantly implemented querying system, check out Nisus Writer's find/replace function. It does regular expressions graphically! It can even translate between graphical and textural regular expressions.)

Butler: 1) the one who did it, 2) a domestic servant often named Jeeves, 3) an SQL database product by EveryWare Development Corporation, 7145 West Credit Avenue, Bldg. 1, Suite 2, Mississauga, Ontario, Canada L5N 6J7, Phone (905) 819-1173, Fax (905) 819-1172, Internet: info@everyware.com, WWW: http://www.everyware.com/, FirstClass: (905) 819-9891.

For an example of a powerful yet elegantly implemented querying system, check out Nisus Writer's find/replace function. It does regular expressions graphically!

Tango: also from EveryWare Development Corp; a two-part go-between (aka, gateway, interface, API). The first part, Tango Editor, is a go-between for the user/developer and the SQL database. It assists in the creation of query applications and their front-end design. Once the Tango Editor is linked to a database, it is capable of viewing the various tables within that database, assisting in determination of query methods and outputting HTML documents. These documents have an HTML forms interface and can, using the intermediary Tango acgi, submit queries for anyone with access to the WebStar server. The second part of the pair is the Tango acgi. Tango acgi acts as a go-between for SQL database and the WebStar server. Simply put, it is how WebStar communicates with the data in the database. Humans don't have to interact with the Tango acgi.

You Can't Get There from Here...

Unlike most other applications that you have on your hard drive, you very rarely interact with the actual purchased database "product." The information within most SQL relational databases, including Butler, is accessed through de-

velopment of custom SQL applications. These applications are auxiliary and independent of the database engine.

It may help in visualization of these custom applications to consider them to be clients of the SQL server. Every aspect of the Internet, including the World Wide Web, UseNet news, and email, is delivered through some kind of server. If you provide a service to the Internet, you are intimately familiar with servers and would not be surprised by the lack of administrative interaction. The total responsibilities of running Butler proper can be summed up as defining who can access it and how.

Building a Better Mouse Trap

Each SQL client is built to address at least these three aspects;

- *The information that it is designed to access.* The client must be designed to best retrieve and display the specific type of information available to it. For example, it is necessary to build a completely different interface for a music store catalog than would be appropriate for a medicinal drug contraindication database.
- *The database that information is held on.* Each SQL client must understand and work within the restraints and extensions of the database system it accesses. An all-in-one approach would most likely be inoperable, or cater to the lowest common denominator to such a degree as to render itself nearly unusable.
- *And lastly, the method of operation.* The client must address how it will be accessed. The interface for a Web document, with its elements defined and supplied by HTML, differs significantly from that of a stand-alone application which would require its own independent interface.

What Tangoed Webs We Weave

Development of custom SQL query applications was, in the past, often a job for a professional programmer. Wrappers (i.e., the language that acts as a human or machine interpreter or interface to the basic SQL) were historically written in such high-level languages as C and FORTRAN (eek!). Here, at least for the Macintosh Web developer, is where Tango comes into

the picture. Tango is a suite of applications that assist the Web developer in the design and construction of World Wide Web-based custom SQL applications, known as CGIs and HTML forms.

In Just 77 Simple Steps

Assuming that you've already read the Butler and Tango users guides, getting-started-withs, ReadMe's, documentation, additional documentation, etc.; worked through all of the interdatabase connectivity issues, including correctly configuring the ports and database application; placed all the parts into the correct places or built the necessary exceptions into the system; have your SQL database, Tango.acgi, and WebStar up and running and the data types, query methods and inter-process communication mechanisms correctly configured; and made sure your network connection was up, you are now ready to build your first query example CGI.

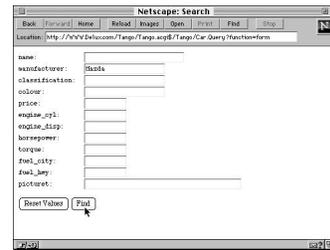
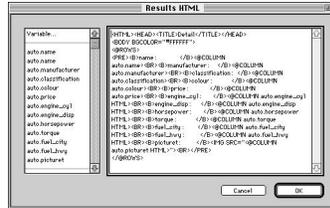
In just 77 simple steps the documentation paces you through one aspect of the first of seven or so demos. The steps themselves are fairly easy to follow, especially if you were technically adept enough to get through the whole configuration mess—a rite of passage in itself. The demos included with Tango are there as much to give the user an understanding of how to use the product as to provide a starting point for building your own customized CGIs. These demos, of course, use pre-built databases. Building a database of your own requires quite a few more steps—and an advanced degree in database management systems wouldn't hurt either.

Tango, and, in fact, all of the auxiliary applications included in the Butler package, feel like quick MacApp hacks. Hacks, at least in the classical sense, are quickly chunked together pieces of code—only minimally designed, worked, and tested—that do a very limited number of things. The reason for this, and one thing you've got to give EveryWare, is that they move fast. Sometimes too fast.

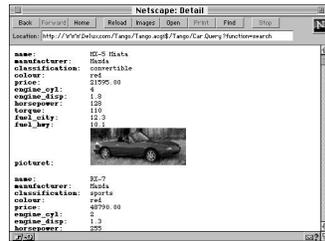
Sensing that there was a good deal of interest in the ODBC version of Tango, maybe even more than in Butler, the company quickly shifted primary products. A little packaging, a CR-ROM burn, and Bang! We're now a Web Applications Development Company.

The product is very much a product of this environment. This is appropriate, as this is the speed at which the Web itself travels.

Being a typical Mac user, I didn't follow the instructions. After about a half hour of frustration, cursing and pronouncing Tango unusable (typical learning pattern for me), I came up with a painfully simple query form:

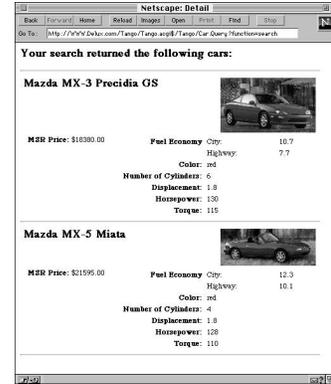


This would bring up a result like this:



Nifty! But it is my firm belief that the presentation is paramount. Good and pretty HTML sells the service. The CGI or query system should not inhibit good

design. With that in mind I set out to make the pages pretty.



One hour later, and I'm satisfied with the result page. Once you grasp the basics of Tango's method of pseudo-HTML tag demarcation, the code begins to look like reasonable HTML.

I wrote the majority of the HTML first using BBEdit, then copying and pasting it into the result editor. A tip for EveryWare: use AppleEvents and the BBEdit plug-in architecture to give the user an option of using BBEdit as the result editor, rather than the pales-in-comparison, way-limited built-in editor. Believe me, anyone who is using your product consistently will eventually work using this method. There's a lot of really cool added functionality, such as conditional statement blocks (if-then-else etc.) and include mechanisms (bringing in HTML code or libraries). But I believe that most queries will only rarely use these, whereas every author will want to modify the query and results HTML code.

Who Do You Love?

When I started this article, EveryWare's main product was Butler SQL. Tango was an auxiliary application to help sell more Butler products. The paper documentation that comes with Butler seems

to be designed for experienced database professionals and those with extraordinarily complex information to manage. The main interest I had in the product was its application as a dynamic Web page builder, simple query back end, or an indexing system, each requiring a fraction of the capability and complexity of Butler. Using Butler for this application seems akin to using a high-pressure hydraulic pump to water one's yard. Two weeks later, EveryWare has all but officially switched emphasis to the DAL/ODBC Tango Application Development Environment. Welcome to the Information Age.

The Butler Didn't Do It.

It is possible to make something that is very powerful easy to use—that's what a Mac is all about, right? Even if Tango were magical, development time for a Butler database is still considerably greater than that for a FileMaker database. EveryWare would do well to develop a more functional, easy-to-use, intuitive database development application as well as a query application environment.

In EveryWare's defense, Butler is an SQL server; FileMaker is not. This implies three things:

First, that Butler can handle more data. I would suspect that to be true. I remember the painfully slow BMUG members database before it was switched from Filemaker to 4D. The members database was defiantly pushing the boundaries of what Filemaker 2.x could do. However, this was FileMaker 2.x and not the relational FileMaker 3.

Second, that Butler is faster. There has been a bit of noise recently from various Mac Web masters who benchmarked FileMaker and Butler. Seems the tests show FileMaker coming out on top of Butler in a number of Web applications, and by significant numbers. This could be attributed to a number of factors, not the least of which might be that the FileMaker CGI in question was handwritten in Frontier, a fast, Power Mac-native scripting language, and the Butler acgi was the all-in-one supplied with Tango. Verifying this was, unfortunately, beyond the scope of this article.

Finally, that it is more compatible and therefore scaleable. As an SQL server, Butler provides a smoother upgrade path to

larger, uglier, mainframe databases, should your database surpass the design capability of a Mac. The time, brain cells, and effort spent learning the intricacies of Butler's system apply well to an understanding of the larger databases. FileMaker's only upgrade path is to get additional servers and round-robin the DNS.

Tango

About a week *after* this article was initially finished, EveryWare released an ODBC version of Tango. Besides having the ability to work with most databases, including a not-yet-released FileMaker version, the new, Power Mac-native Tango is a significant improvement. However, there are still problems. For example, Tango acgi doesn't check first to see that the data source is ready. If the source isn't, Tango brings down the whole server in a rather ugly way. One could write a script to check to see that the database is up, but that's yet another script, and if you have a WebStar server another script is not all that welcome.

Tango tries to shield the users from the HTML, especially in query page development. This is not logical, as this level of understanding of HTML is trivial when compared to the complexities of setting up a database, server etc. I only felt comfortable when I had a "real" page in front of me. I didn't like all the pop-ups and dialog boxes forcing me to hand-enter each value, rather than pasting them in. Normally, when I make an HTML form from scratch, I'll build a mock-up using PageMill's elegant form generation functions, then correct all the HTML in BBedit. It would not be difficult to paste in Tango pseudo-HTML calls at that point.

In the End

There are those of us who have managed to grasp the intricacies of providing a World Wide Web presence with its constant reinvention, redefinition and continuous stream of new-cool-must-haves. Then there are those of us who have been able to grasp the intricacies of SQL database management, with its own underlying language, multiple wrapper languages, APIs, hooks, and a million nuances. Rarely, though, do the two skill sets meet. Butler SQL, even with Tango, fails to be fully comprehensible to someone with only one of either skill sets. To a database manager, Tango is difficult. To a Webmaster,

Butler is difficult. To a novice of both, well, it's all nearly incomprehensible.

If you have a sneaking suspicion that your data will, once the proof of concept is complete, explode into tens of thousands of interrelated data parts, or if you're familiar with one of the two aspects—database management or Web-mastery—and you want to get pretty deeply involved with the other, Butler SQL with Tango is currently a very good choice. If you already have a database and must create query tools for a Mac Web server, either Intra or Internet, ODBC Tango is a somewhat frustrating but practically necessary tool. Hopefully, though, these programs will become less daunting or better implemented with further refinements in the auxiliary applications.

By the time you read this, EveryWare should have released a Net statistics package called Bolero. This would sweeten the Butler package considerably. One of the best uses for a the power of a relational database is its log analysis capabilities. It is getting more and more critical to maintain accurate, meaningful, and functional web reporting, but that's a whole topic in itself.

Butler, Tango and Bolero are products of EveryWare Development Corporation, 7145 West Credit Ave., Bldg 1, Unit 2, Mississauga, Ontario, Canada L5N 6J7, Phone (905) 819-1173, Fax (905) 819-1172, Internet: info@everyware.com 🐉

† The BMUG Internet SIG meets every other Wednesday evening at 7:00 PM at the BMUG offices, 2055 Center Ave., Berkeley CA.

†† The BMUG Mac Essentials: Telecom week, is part of an 8 part from-the-ground-up beginners training seminar held free of charge for BMUG members. Mac Essentials meets every Tuesday evening at 7:00 pm at the BMUG offices, 2055 Center Ave., Berkeley CA.

††† Opinions expressed here are not those of BMUG, nor any of it's legally defined associates, the author, nor any of his associates, nor are they of any legally defined entity. If fact, the whole thing was typed in by a spider while I slept. In the morning, I accidentally killed the spider, and the responsibility for the entire article died with her. Of course, reincarnation becomes an issue here, but I don't want to get into that.

Getting to the Beach

by Leroy Sprinz

Two years ago, I beta-tested American Online (AOL) software, mostly by Gofer-ing in the Internet area. I stumbled into reference and research libraries that had tolerable sometime-availability and frequently snail-paced interaction.

Eventually I downloaded the beta version of AOL's Web browser. It didn't acknowledge my SE's 030 accelerator. Each time I tried to open the browser, a gremlin slapped a transparent dialogue box on my Titus' face.

"System Error... System Error... System Error...", jived to a buzz-beat similar in effect to fingernailing a blackboard. Apparently the browser sired AOL 2.6; Titus stumbled, screeched, and quivered just trying to check for mail.

I trashed AOL. CompuServe did not support Macs. Prodigy handlebarred advertisements across Titus' face. I thought a Mac friend was using Netcom to access the Internet from San Francisco. But the nearest Netcom to me, local to San Jose, pontificated: "Net-com-does-not-support-Mac-in-tosh."

Meanwhile, I tried each version of Netscape as it appeared in BMUG's library. Each installed successfully, then announced that it would not work on a Plus, SE, or Classic. "Rats" in place of the "OK" button tickled my frustration. So, I kept looking for a way to the beach.

Another acquaintance suggested Beckemeyer. A friendly voice answered my phone call and gave me a logon procedure and a list of files to download. His directions seemed to work. Files named Eudora, Anarchie, and NewsWatcher appeared on Titus' hard drive. When opened, however, each displayed lines of machine language.

Beckemeyer's answering machine nullified my efforts to reconnect with

human support. One automated response found its way to me. "Welcome to Beckemeyer" advised that new subscribers were not being accepted. Automated Beckemeyer yielded corrupted files and suggested I go elsewhere.

CCnet's special offer of Internet access to BMUG members gave me an elsewhere. I emailed for details, then choked on "domain... SLIP... shell... PPP." But the rates seemed reasonable. I asked for explanations. I also mentioned that my SE used an accelerator board and that AOL and Netscape software unhinged Titus. CCnet never replied.

This December, a Virtual Valley discussion of Internet providers renewed my search. None of the discussions mentioned hardware similar to mine, but service and rate comparisons accumulated daily. Several providers appeared promising, but my Fremont/Newark/Union City phone book didn't list them.

Mid-December, NetGate became the subject of a thread. One message described NetGate's services as reliable and reasonably priced. Subsequent responses didn't object. And the complimentary message had included an email address and Pac Bell number. The Christmas season and hope go hand-in-hand; I phoned NetGate.

Kevin Brooks answered. He listened to my description of Titus and of my Internet experiences. I expected him to stop me when I identified Titus' SE genes. He didn't. I expected "Sorry, NetGate can't help you" when I told him that Netscape didn't work on my machine. His silence invited me to continue. When I'd exhausted my stockpile of known incompatibilities, Kevin spoke magic.

"No problem."

"You're kidding."

"No problem, but first..."

Kevin described NetGate's service plans. The Basic 100 Service—\$20 per month for 100 hours (\$0.50 per hour for additional use)—sounded good. We agreed that having my own page—with 5 megs of memory for an additional \$5 per month—was a waste of money until I had Web experience. And he volunteered a can't-go-wrong offer.

"I'll set you up as a trial user until we're both convinced there's no problem."

"Fine."

Then he set out to determine what software I needed to connect.

"Do you have MacTCP?"

"Huh?"

"Config PPP?"

"Con- what?"

"Get yourself a copy of Adam Engst's *Internet Starter Kit for Macintosh* (ISKM). Once you have that, do what configuring you can. Then let me know, and I'll talk you through NetGate setup."

MacConnection didn't list ISKM. It did list and describe *Apple Internet Connection Kit* (AICK). Wary of ISKM because it was half the price of AICK, I yielded to MacConnection's advice to phone anyway.

MacConnection did stock ISKM. The customer service representative checked with her tech department for assurance that ISKM included all the software in AICK. It did. We puzzled for some moments over AICK's cost (\$50), twice that of ISKM (\$20), even though ISKM included a book. Then the CSR discovered ISKM was backordered. Its apparent popularity decided me.

"Do you want to wait till we can ship?"

"Yes. *I won't touch anything 'til after Christmas anyway.* I'll wait."

Adam Engst's package of goodies arrived the first week in January. Loading the software and following the configuration directions up to the point of filling in NetGate specific information was easy. I emailed Kevin that I was ready. He emailed instructions and repeated his offer of talking me through setup.

ISKM had prepared me for culling the NetGate information for the MacTCP and Config PPP fill-ins. Everything seemed so clear that I ignored Kevin's offer. Then I began entering Domain Name Server (DNS) information into MacTCP.

Entering «netgate.net» and 204.145.147.12 for the Default option was easy. But the second and third entries generated questions for which I had no sure answers.

"How exact must the spacing be?... Using Monaco or Courier may be the answer.... Why don't the instructions tell me what to use?..."

```
netgate.net 204.145.147.12
204.145.147.12
204.145.147.16
```

"What about all that space under «netgate.net»?... Should I use ditto marks?..."

Lots of space-barring and much here-deleting and there-deleting duplicated the list to my satisfaction. The remainder of the setup went so easily that I forced myself to check everything once, twice, ...

"Did I check that already?... Can't remember; better check... a third time... again. All right!"

MacWeb and MacTCP waltzed some moments to my entries, then chorused: "Error 500." They couldn't find the domain server.

"I better phone Kevin."

An answering machine responded: "We're not available... Please leave... We'll... ASAP."

"Oh, oh! So much for live bodies. Here I go 'round the Beckemeyer experience, the Beckemeyer experience, the Beckemeyer experience...."

Still, I left a message, about 7:30 am. Post-Christmas glow, you know, and the Forty-Niners had yet to play the Packers. When 9:00 am passed, I began to work at waiting.

"Don't assume NetGate's only interested in credit card numbers. Give 'em a chance.... Don't assume... Give 'em... Don't assume... Give 'em... Give 'em... Give 'em...."

Just before noon, NetGate phoned.

The support person listened. I mentioned that Titus connected to a separate Pac Bell line.

"Great! Let's reconfigure MacTCP."

Quickly I came to the DNS fill-ins.

"Fill in the first row just as you see it on your instructions. Check Default... Tab... Now enter a period (.)...."

"No spaces?"

"No spaces. Tab. Hit your period key. Tab to enter the number string."

"Okay. Now, the same for the third line?"

"Right. Now try connecting."

Pac Bell benefited from the midday rate schedule, and NetGate's home page brightly displayed on Titus' screen. Finally. Not only was I at the beach, I was bobbing just beyond the surf.

My next visit had me bobbing without difficulty. Movement from site to site was eye-blinking fast. AOL had conditioned me to enjoy a bowl of cereal while waiting for an instruction to execute.

I decided to try Eudora and found myself in the foam. Eudora couldn't find my POP server. Again, early morning phone call. Then the prospect of waiting a few hours—opportunity to wonder about NetGate's priorities.

NetGate rang back before 10:00 am. Different tech support person, but loaded with patience.

"You scrambled the POP and SMTP server addresses...."

"And seasoned with POP account stuff...."

He talked me through reconfiguring Eudora. That completed, I emailed him. Back to bobbing.

Two other difficulties presented themselves. Again, my messages, fielded by NetGate's answering machine, connected me with a knowledgeable and patient support person within two hours. In both instances, an unhurried talk through setup procedures corrected my mistake(s). Before leaving my message concerning the second problem, I paid

attention to the complete recorded greeting. What I heard reassured me about the support I could continue to expect.

"If this is an emergency, ..." concluded with directions for paging support.

So, NetGate deserves endorsement. For all the times I used it, all problems but one were my fault, and NetGate support quickly solved them by coaching me through the correction procedure. But NetGate doesn't provide local access to Fremont. My Pac Bell bill for January confirmed that I had to hope that NetGate would expand northward, soon. If not, I had to continue my search.

During December and January, I'd exchanged email with an Infolane user. Infolane? Email from Silicon Valley residents had acquainted me with providers that were new to me but out of the 510 area code area. Infolane served this person only, and he lived in Fremont. I asked him to explain.

"It's a small company serving the TriCity area. Sorry, I hadn't thought to mention it."

Meanwhile, using NetGate, I'd discovered the home pages for the cities of Fremont and Newark. Continued browsing led me to acknowledgments of the provider: Infolane. Infolane, underscored in HTML fashion, invited me to explore. I emailed a request for details, then decided I couldn't wait. I phoned.

"The Occasional Package is \$7.50 per month for six hours of usage; additional hours are \$2.00 per hour.... We charge for use between 9:00 am and midnight. Use from midnight to 9:00 am is free.... We will be offering our users personal Web pages for free."

"So, this is how the cat feels when she finds the canary home and his cage door open."

Since connecting to the Web with NetGate, I'd limited myself, each day, to a few minutes of paddling about near the beach. The Pac Bell clock ticked away, even on weekends. Infolane would cancel Pac Bell's interest in my connect time. Also, it would give me unlimited usage at the time I go online—between 6:30 am and 8:00 am weekdays. And when my unlimited browsing allowed me to formulate some ideas about what and what not to attempt with my own page,

Infolane promised to publish my effort for no additional charge.

“Sign me up as an occasional user.”

Not only did Karen Aurelio do so, she also grabbed my ears and directed my fingers to configure MacTCP and Config PPP before our conversation ended. Because Infolane requires MacTCP to obtain the server’s address manually, I instantly appreciated her insistence. Infolane’s number strings were similar to NetGate’s, but they went in different places. When Karen had me open the Connect Script window in Config PPP, my appreciation increased. I was not ready to accept “ogin” for “login” and other anomalies she compelled me to use. When we finished, she promised that I could logon once my account information entered the system.

“Try in fifteen minutes.”

I waited till the next morning. I watched MacTCP do its thing, then Config PPP...

“Line dead.”

Dead line? Everything seemed NetGate normal. Dead? So, at 8:30 am, I phoned, expecting an answering machine. At 8:30 am, a live receptionist responded. She listened.

“Just a moment, I’ll connect you to someone who can help.”

Andy MacRae did. Infolane’s resident wizard directed me to logon manually once he knew that I had two phone lines. From the messages I read out during the logon, Andy recognized that I was entering the wrong password. We compared and discovered that he had altered the one I’d used with Karen.

I thought Karen had accepted my five character password even though she’d said something about “six characters or more.” Andy had been entering my account information as Karen took it from me. He assumed Karen had confirmed the additional character he’d suggested.

So, my password established and entered into the Connect Script, Infolane has offered me the Internet and Web every time I’ve accessed it before 9:00 am. No crashes; no quirky behavior; no AOL behavior. Not before 9 am. But access during the charging hours depends on traffic. Infolane’s access number does not always answer midday dials. Small com-

pany, limited resources. Or quality service in demand.

AOL’s myriad areas provided amusement, for a while. Beckemeyer and CCnet invited my interest, then appeared to give me their backside. NetGate and Infolane transported Titus to the beach and didn’t vaporize when I asked for help. Infolane was providing immediate help and local access. Could International Discount Telecommunications (IDT) do better?

I decided to juggle NetGate, Infolane, and IDT, all during the same session. And I managed to confuse MacTCP, just as Adam Engst warns can happen.

I settled on the tedious and error prone strategy of reconfiguring MacTCP each time I changed providers. In one session of such scrambling, «infolane.com» became «infolane.net», and «netgate.net» changed to «netgate.com». NetGate disappeared. For several days, whenever I tried to switch from Infolane to NetGate, MacWeb and MacTCP advised that «www.netgate.com» wasn’t out there.

Again, NetGate’s support kicked in within a couple of hours of my voice mail. Again, the support person stepped me through configuration. But when he asked me what I’d entered as DNS information, I must have said «netgate.net» while reading «netgate.com». Perhaps, I said «netgate.com», but he heard «netgate.net». Whatever the cause, the effect maintained the problem. He visited several sites to make sure they were available. After each, he instructed me to access them. Each effort met with failure. So, he talked me through configuration one more time.

He spoke slowly enough to spell the information.

“N-e-t-g-a-t-e-dot-n-e-t.”

“I found it.”

“It?”

“The problem.”

“What?”

“I have «.com» for «.net».”

“«.com» for «.net» will do it every time.”

NetGate’s home page appeared when he insisted I go for it. Then I tried his patience with another question—for me, The Question.

“Does NetGate have plans to expand to Fremont?”

“Not in the near future.”

“NetGate responds when I logon properly. NetGate has extended Titus’ life. But Pac Bell’s going to get rich.”

“I understand.”

IDT’s founder discovered that he could make money automatically reversing Europe-to-US telephone calls to US-to-Europe ones. Europe-to-the-US rates are significantly more than those for the same call made from the US to Europe. Since establishing this lucrative switching service, IDT has added the Internet to its menu.

Nearly \$30 permonth for 24-hour unlimited access. Paid by the year, the monthly cost averages to \$20 per month. These rates also include 8 megs of space, presumably for a page. I never found out.

I agreed to sign up for a trial. I decided to brave the storm Adam Engst promised, and my juggling of three configurations of MacTCP produced. I waited a week to receive an HD disk—containing IDT’s Graphical startup kit for Macintosh—and information about account, username, password, and local access. I’d almost forgotten that the kit was coming by the time it arrived.

The startup kit proved useless. It included Netscape, which Get Info described as a very old version.

“Might as well give it a try.”

Wasted time. When I tried to open it, “Rats” greeted me.

No problem. I had software that worked. So I proceeded to configure Titus. I scanned the configuration stuff. Then I carefully read and compared the two sets of instructions I’d discovered. I consulted Engst, reviewed the differences between NetGate and Infolane configurations, then made some choices.

No matter. When I dialed, the local access number just rang and rang and rang and... I retried the number several times during a period of 48 hours. Then I reconfigured for Infolane and emailed IDT’s help address.

“Please cancel. I’m unable to connect.”

Then I tried the customer service phone number, several times in a 48-hour period. 20-minute periods of music—

music I'd never listen to by choice—decided me to wait for an email response.

Four days of waiting later, email arrived.

“For security reasons, we cannot accept cancellation requests by email. Please phone for further assistance.”

So I phoned and waited, phoned and waited. I tried the 800 number that had enabled me to sign up.

“We only sign up new customers. We don't offer customer service. You must phone IDT direct.”

“Can you give me an 800 number?”

“No.”

So I phoned and waited and waited and... Finally, a living person.

She was pleasant enough to make me forget about the wait, and her working conditions—a room full of people all talking at once—distracted me from my resolve.

“You get used to it.”

She accepted my cancellation, but “Do you mind telling me why?”

“I can't connect.”

“That's a good reason. What is your local access number?”

The number I gave surprised her. I double checked my information. I repeated the same number, reading it carefully from the hard copy.

“I don't understand; you should be using... Would you be willing to give IDT one more try?”

I was. Then she said that she was flagging my account.

“So any customer service representative can tell your account is a trial.”

New access number entered, Config PPP dialed «liberty.com». Connection!

My interest in timely help sent me to the Help pages. They only provided directions for changing my password. No file explained the conflicting information that had come in the welcome/connection kit. Nothing explained all the references to the SLIP account I didn't think I had or whether these references affected the PPP account I thought I did have.

Enough! Listening to unanswered rings during a span of several hours con-

vinced me that IDT didn't mean better as well as big. Infolane was for me, at least until NetGate expanded.

I emailed a second cancel request and asked for a snail mail address if IDT insisted on a more security proof cancellation. No response. But a month later, charges to my credit card forced me to queue up on the phone line for half an hour. Again, the customer service representative was pleasant. She assured me that she would credit my account for the amount of the charges.

Infolane continues to provide my access. NetGate's people seem to understand my appreciation of the help they've been to me and of my concern for phone bills. I imagine that AOL and IDT will survive without me; so, too, Beckemeyer and CCnet. Meanwhile, I access VVCN and BMUG through Infolane. Also, fresh from visiting Phil Shapiro's page «<http://users.aol.com/pshapiro>», I can envision the nebula from which my own Web page may form. 🐉

Beckemeyer: (510) 530-9637

CCnet: (510) 988-0680

IDT Telecommunications: (800) 245-8000

Infolane: (510) 797-8086

NetGate: (408) 565-9601

The Browser Wars

by Kevin M. Savetz

If you are one of the millions of people surfing the Internet, chances are good that the program you're using to do it is Netscape Navigator. If it is, you are in good company: An estimated 81 percent of users on the World Wide Web, the graphical portion of the Internet, use Navigator. And it's no wonder—Netscape Navigator does for the Web what peanut butter does for celery: It takes something that's good on its own, and adds a new level of excitement and purpose.

Until recently, there were no other browsers to speak of. Sure, others existed, but thanks to clever programmers and an aggressive marketing strategy, no other browser came close to the features available with Netscape.

The program that started the Web phenomenon is called National Center for Supercomputing Applications (NCSA) Mosaic. This was the first Web browser available to Internet users. Using it, they could for the first time gain access to the Internet using a sleek, graphics-laden, point-and-click interface. Mosaic was an incredible improvement over the Internet's then-standard, text-only interface. Created at NCSA, located at the University of Illinois at Urbana-Champaign, Mosaic single-handedly changed the face of the Internet. For many months it reigned supreme.

Internet users loved Mosaic for its unprecedented ease of use. Individuals and organizations that wanted to publish information online loved the power of the Web. But after the initial shock and wonder wore off, everyone wanted more features. What about color text instead of ubiquitous, dreary black? How about better graphics support, and the ability to tile a

logo in the background of a Web page?

"Fine," said the pleased makers of Mosaic. "We'll throw around some ideas, write a proposal, and submit it to the Internet standards board. After all, there are certain ways you should go about these things. Changes must be considered carefully."

"But we want it now!" cried the ever-growing Web-using community.

Netscape Delivers... by the Back Door

Enter Netscape Communications, a startup company based in Mountain View, California. The folks at Netscape also saw the power of the Web, and they knew they could build a better browser. So they created Netscape Navigator, and they gave users the added tools that they wanted. Without consulting anyone else, they added fea-

tures to the Web, including many of the goodies requested by users. Navigator was an instant hit—users immediately began using the features unique to Navigator. Mosaic was left in the dust by Netscape's unprecedented use of unofficial additions to the language of the Web.

It may have been easy to trounce on the work of a bunch of graduate students at NCSA, but today Netscape has bigger problems. The company is now locked in a battle with software behemoth Microsoft. Bill Gates has deemed the Internet a central component of Microsoft's strategy, and he has taken it upon himself to take the wind out of Netscape's sails. Now Netscape is fighting the fight of its short life. The stake is the lead position in a market that may be the key to a new generation of communications technology.

Microsoft's browser, Internet Explorer, is, like Navigator, an impressive piece of software. It builds on the features of Mosaic and Navigator—and offers its own features unavailable elsewhere. Microsoft gives its browser away for free; Navigator is also available online for free, but a version with a manual and technical support is also available in computer stores for about \$50.

Microsoft also gives away its Web server software—a program for publishing information on the Web—much to the dismay of Netscape, which had been selling its own server software for as much as \$5,000. Netscape has since dropped the prices of its servers (the low-end version was reduced from \$1,295 to \$295, and the high-

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end version was slashed from \$4,995 to \$990), although it has not resolved to give its product away. Netscape knows it can't beat Bill Gates at his own game, so it intends to fight back by providing what it believes are better products—browser/server software that is worth actually paying for.

About 50 percent of Netscape's revenue in the last quarter came from server software, 30 percent came from browsers, and 20 percent from services. In other words, Microsoft is directly threatening 80 percent of Netscape's income. Netscape turned its first quarterly profit in July-September 1995, earning \$1.4 million, increasing that to \$2.4 million from October-December 1995.

Adding insult to Netscape's injury, Microsoft began making deals with commercial online services (through which most Internet users get their access) to supply Explorer to their users, undercutting Netscape's efforts to do the same. Just one day after Netscape announced an agreement to provide its software to America Online (AOL), the country's largest online service, Microsoft announced a coup: In an even better deal with AOL, Microsoft's browser would become the default for AOL users.

Netscape's would be an option for users who ask for it. As payment, Microsoft will give AOL built-in access from the Windows 95 operating system, a potential audience of 20 million people.

Who Else but Microsoft

AOL and Microsoft make strange bedfellows, because Microsoft runs its own online service, the Microsoft Network, which, with 1 million members, is malignant competition for America Online. AOL's attitude seems nonchalant: "In our view, everybody is a potential partner—until they shoot at us," AOL CEO Steve Case said.

Online service CompuServe has also licensed both browsers. Prodigy, the third-largest online service,

Just one day after Netscape announced an agreement to provide its software to America Online (AOL), the country's largest online service, Microsoft announced a coup: In an even better deal with AOL, Microsoft's browser would become the default for AOL users.

uses its own custom Web browser and has managed—so far—to steer clear of the melee.

In the end, "strategic alliance" is the name of the game. It doesn't necessarily matter which browser is better. Most Internet users will use the browser that is handed to them. Netscape has forged alliances with Internet providers PSI, AT&T, and Netcom, which should increase Navigator's user base by 10 million to 20 million people. Despite Microsoft's advances, Netscape still holds a firm lead in the browser market. About 15 million people use Navigator, as opposed to an estimated 1.3 million who use Explorer.

Microsoft denies it is trying to oust Netscape from the browser

market, but the company has made it clear that it doesn't like to play second fiddle, either. As Bill Gates said, "Majority browser share is certainly our goal."

When it suits the company, Microsoft even works in reluctant cooperation with Netscape. Netscape has been working for many months with Sun Microsystems to develop Java, a programming language that is bringing more interactivity to Web pages. Microsoft considered creating its own language as competition for Java, but apparently decided it wasn't worth the trouble. So Microsoft bought a license to utilize Java in Explorer.

End users both win and lose due to the browser wars. Internet users can choose between two excellent browsers, and Net publishers have more options for inexpensive Web servers. Web pages look more interesting and dramatic than ever before, replete with tables of data, on-screen "frames" for organizing information, and other multimedia delights. The Web has never been so interesting to use—nor has it ever been so difficult to create Web pages.

In the mad rush to add features to the Web, with both companies releasing new versions of their browsers often, Explorer and Navigator are never quite compatible. Web sites that use special features of one browser don't necessarily work perfectly with the other. Each company must struggle to add new features to stay on top while catching up with the competition's latest additions. As both companies add features, the programming language of the Web, once simple and straightforward, is becoming increasingly ungainly and awkward. Without centralized agreement about how the Web should work (the sort of careful strategy that NCSA tried to provide), it is becoming more difficult to use the Web. The same strategy that Netscape used to trounce Mosaic, Microsoft is using against Netscape.

What Next?

The online industry is composed of three facets: content, software, and Internet access. Netscape, Microsoft, America Online, CompuServe, and every other company in the field must focus on the areas they know best. Netscape has clearly sided itself in the software category, virtually ignoring the other two areas. This single-mindedness could make the company stronger. On the other hand, Microsoft is working in all three areas: It provides Internet access and content through the Microsoft Network as well as Web browser and server software. Microsoft's sheer size may give it the ability to work in those three areas simultaneously, but it can be difficult even for a firm of Microsoft's size to remain focused on so many lofty goals at once.

Microsoft's long-term strategy is to incorporate the Internet into almost all the software the company releases. It wants information to flow seamlessly between its products and the Internet. Already, its CD-ROM encyclopedia product (among others) allows users to download updates from the Internet. Microsoft Word includes tools to help users build their own Web pages. This summer the company is planning to sell a \$50 add-on package for Windows 95 that will

Microsoft considered creating its own language as competition for Java, but apparently decided it wasn't worth the trouble. So Microsoft bought a license to utilize Java in Explorer.

extend its Internet capabilities and add new multimedia tools. Microsoft has demonstrated the next version of its Explorer browser, which it says will seamlessly combine its Windows 95 operating system with the Web. Its Word and Excel software will include features to allow users to collaborate and share information over the network.

Whether the plan will work remains to be seen. It depends heavily on the validity of its hypothesis—its leap of faith—that users want to see a merging of the best features of the Internet and of the offline world, rather than the current system, which clearly defines the purpose of the offline and online realms. These features could make it easier to work with our computers, or they may just end up as annoying gimmicks. This time, the Internet community doesn't seem to be crying "We want it now!" but Microsoft has been known to give people what they want before they knew they wanted it.

Keeping with its penchant for steadfast single-mindedness, Netscape is plugging along in its software realm. In the end, it's anyone's game. Microsoft may take the Internet by storm from all sides—or Netscape's freight train approach could ultimately roll over Microsoft's relatively unfocused Internet strategy. One thing is certain: the Web will never be the same. 🐘

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The Mystery of misc.misc

by Kevin Savetz

In the backwaters of cyberspace, there are some pretty weird places. Usenet, one of the Internet's oldest communication channels, is particularly prone to weirdness. Although most of the conversations on Usenet are fairly mundane—with people talking about modern dance or Microsoft Windows or college football or whatever—certain newsgroups are palpably bizarre.

For example, there's alt.angst, a newsgroup where all forms of cheeriness are expressly disallowed. There's alt.fan.warlord, a sort of clearinghouse for super-obnoxious .signature files. There's alt.destroy.the.internet, alt.destroy.the.earth and alt.elvis.sighting. Yes friends, Usenet is home to some pretty odd stuff.

Some newsgroups are just as weird, but that weirdness is less obvious. Take, for example, misc.misc. The title alone reveals very little, and the newsgroup's official description, "Various discussions not fitting in any other group" gives little indication of what the newsgroup is really *for*. In fact, people use misc.misc for just about everything.

Browsing the group reveals a mind-bending assortment of messages: ads for cheap long-distance service, a query from a man looking for pictures of Buddha, another from someone who wants info about 1920s automobiles. The next message is from a guy who wants to find a Russian wife, and the next is from a company offering to pay you \$180 a week to clip coupons at home. To top it off, I found a message from an individual who wanted to know why children in Minnesota play "Duck, Duck, Gray Duck", while the rest of the country calls the game "Duck, Duck, Goose."

"Various discussions not fitting in any other group," indeed.

*I found a message
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Perhaps this all begs the true question: with more than 9,000 newsgroups covering every imaginable topic from Warner Bros. animation to Appalachian literature, what topics could possibly not fit elsewhere?

They say Usenet is an anarchy, but it isn't. The Usenet community is self-policing. If you post a message about Rush Limbaugh on, say, comp.sys.ibm-pc.games, you'll hear about the horrors of your misdeed from dozens of disgruntled Netizens (whom, offended that your out-of-place missive which wasted twenty seconds of their time, will each spend ten minutes flaming you.) Despite its size and the lack of official authority, there's very

little you can "get away with" on Usenet. If your message is out of place, you'll be flamed or Cancel-Moosed or denied access or otherwise made miserable.

But misc.misc (the newsgroup so nice they named it twice) is different—it really is anarchy. With no FAQ, no moderator and no purpose other than to house messages on topics that don't fit elsewhere, there's little you can't do on misc.misc. There, blatant commercial advertising thrives. Misc.misc is home to messages that, if sent to most other newsgroups, would win the uncouth slob who posted them an e-mailbox full of flames. On misc.misc such vetanda goes on without so much as a grumble from the peanut gallery.

But misc.misc isn't simply a haven for ads for flags of the world, water filtration systems and authentic gemstones at wholesale prices. It's also home to serious research: for example one reader asks, "Can someone with a prior felony become a CPA?" and another posts a serious-looking review of a book prophesying the end of the world. Sharing useful information—isn't that what the Internet is all about?

You can't help but wonder who reads this newsgroup. Because it's a sort of pot luck affair, your chances of finding the gem of knowledge that will get you a promotion or an "A" on your homework are slim. I suppose the readers of misc.misc are the same folks who watch infomercials at 2 a.m., the same ones who read "Apartment 3G" in the Sunday paper. They don't read it because it's good, they read because it's there. 🐾

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EMail Hoarding

How to Tame Your Email Address Shrews

by Andy Brooks

The Story So Far

For someone who's been exchanging email with people worldwide for many years now, it's a wonderful and amazing thing to see people at parties exchanging email addresses instead of telephone numbers. This practice has even been immortalized in television commercials where a young woman gives a man she meets her "number," which is actually, of course, her email address at a popular online service.

Email is great. It's fast, it's easy, and there are many different ways to get an account. For starters, you can join BMUG (if you're reading this article, you probably already have!) and send email over the Internet via Planet BMUG or BMUG Boston's FirstClass BBS. You can sign up with any number of commercial online service providers like AOL or CompuServe, just to name two. You can subscribe to an ISP (Internet Service Provider) and get an email address through them. You can even fall back on the old standbys: you can be a student at a university and have an account there, or you can have an account at your place of employment if they have an Internet connection. Whichever way you slice it, getting a mailable email address is as fast and as easy as using email itself. Now here comes the dilemma.

Imagine you are a new user to the Internet. You have just purchased your very own Mac and you did the right thing by joining BMUG. You signed onto the Planet and you've been validated. You're happily sending email to all those friends of yours who have told you for years to get an email address so they don't have to call you all the time. Of course, they want you to have an email address so they can send you mail, and then call you to

make sure you've received it. Great start! And "Oh, my!" you just got offered the career move of your lifetime, and you suddenly are employed at the fastest-growing corporation in the world (good story so far, eh?! This huge corporation, Bigbux, Inc., has assigned you an inter-office email address which just also happens to be a mailable Internet address (you@bigbux.com, let's say). Fantastic! Now you can keep in contact with all those friends of yours without getting annoyed by confirmation calls; you're working—you don't have time to take calls! But Bigbux's connection is too slow and bogged down for all that Java and Shockwave and RealAudio you and your fellow employees have discovered on the Web now that you have Netscape running, so you decide to go with an ISP. You pay your service fee and suddenly you're known as you@realcool.isp.com. Of course, you only let those people you don't know but talk to a lot on Newsgroups know this address, so you're not bugged by those annoying friends. Sud-

denly your daughter comes home one day for school, complaining that Susie (one of her best pals) has an email address and *she* doesn't. Can daddy do something? Sure! Working at Bigbux, you're making the big bucks, so getting an account for your daughter with a commercial service like AOL is *no problem*. Only you have to foot the bill, so you're the primary user on the account. Just as suddenly as your daughter's complaint, you're you@aol.com. But wait, there's more! You've foolishly followed AOL's advice and filled out your online profile, so all those annoying friends of yours with AOL discover that you have an account there now. You're now bombarded with mail. You respond by saying that you *don't* answer mail from that account, and to please mail to you@Bigbux.com instead. Unfortunately for you, you're not too well organized, and you accidentally include some of your Usenet buddies in this flaming email, who respond by flaming you for having an account on AOL. You also happened to include some of your daughter's friends, and *now* you're getting phone calls from her friends' parents that make the telephone's handset melt.

Yikes! Life isn't so wonderful in cyberspace anymore. After all this, you're still you@bmug.org, you@Bigbux.com, you@realcool.isp.com, and you@aol.com. Each one of these accounts exists for different reasonable purposes but now your annoying friends are even more annoyed, people you don't even *know* are annoyed, your daughter is yelling at you to stop using the computer so much and share just a little bit, and your significant other hasn't been seen in weeks! Aside from getting new friends, running away to the Far East to tend a yak herd, locking yourself in a closet with a baseball bat and praying, or

It's a wonderful and amazing thing to see people at parties exchanging email addresses instead of telephone numbers.

chucking that nice new Mac out the window, what are you going to do?

Of course, real life is usually never as dramatic as the example above (except, perhaps, for the annoying friends), but having multiple accounts that are all Internet-mailable can be harrowing, frustrating, and time-consuming. Thankfully, however, there are a number of things you can do to wallow through this mess de la address and bring some order and peace back into your life. This first thing you must do is determine to which account you want everybody to start emailing you. Let's say that you've chosen AOL, because mail there is pretty easy to get at and you don't have the time to check your mail online (you can set AOL up to do this automatically) all the time. So let's get started, from most complicated to

least complicated. You're about to tame your online email shrew.

.forwarding and Going On .vacation

It has been mentioned many times how archaic Unix command-line shells are, and how complicated it can be to type arcane commands to get Unix to do anything at all. However, one thing that has not been mentioned at length is how wonderfully powerful and versatile Unix can be for those who know even just a little bit about it. Unix as an operating system was designed with networked computers in mind. The Mac OS, DOS, and Windows were not; they were designed to be stand-alone systems that spoke to printers, peripherals, and the possible modem.

Because of this innate versatility, taking care of your mail problems from a Unix telnet or rlogin shell is a piece of cake and is easy as pie—cake and pie. To use the example above, we're going to assume that Bigbux, Inc. gave you a shell account on their Sun system running the Solaris implementation of Unix. No one at your office ever sends you intra-office email, and you're not a system administrator, so you don't need to worry about pertinent system messages. All you receive in your mailbox are messages from your friends (complaining that you don't call anymore) and a few mailing lists. All you need to do is launch your favorite text editor (examples are vi, pico, and emacs) and create a .forward file; yes, that is a dot or period "." in front of the word *forward*. In this text file, which you will save to your home directory, you will type two lines. For the first line you will type your commercial service account (you@aol.com) and on the second line you will type your account at Bigbux with a backslash "\" in front of it (\you@Bigbux.com). This tells Unix two things: first, it tells Unix that you want all your incoming mail re-routed to you@aol.com, and second, it lets Unix know, "Yes, save a copy of the mail here, please." Great! Now all your mail is being sent to your AOL account, and you get a nice neat copy of it at Bigbux, just in case something goes wrong. Now, how do you let all those people mailing you know that you're using a new email address? Why, you simply go on .vacation!

.vacation is a great little program in Unix that allows you to autoreply to any mail sent to you with a pre-written form letter. Simply launch your text editor again, create a file called .vacation, and type some text. Any text. It could be "Thank you for writing me at Bigbux.com. Your mail has been forwarded to my new account at you@aol.com. Please update your address book." or "Hey, bozo, I said I'd call ya when I get the time! Geez!" Really, whatever you want to type will be sent back to the sender of the message. When they get it, they will then either know now to send new mail to you@aol.com or that you really need to cut back on those double-lattés.

If your ISP (you know—realcool.isp.com) allows you to have a dial-up shell or a telnet shell, then all you need to do is repeat the steps you went through to re-route your Bigbux, Inc. mail. Create the necessary .forward and .vacation files, and you're set to go. If you don't have telnet ability to your own home directory, you can try calling their customer support and asking them to do it for you. If they won't, you've entered our next topic (as well as a whole new world of frustration): the problems with commercial service providers.

The Problem with Commercial Providers

Commercial service providers like AOL, CompuServe, Prodigy, and Delphi are funny things. For the most part, these services are designed to be easy to use. They are designed with the novice in mind, and allow for very little "tweaking" options for the expert user. This is a justifiable course because a novice might just accidentally "tweak" their account beyond recognition, and tech support would be spending hours upon hours correcting these innocent mistakes. Because of this ease-of-use, however, these commercial providers sacrifice versatility in their accounts. For the most part, once you have an account there, that's it. You've got it until you stop paying them and cancel the service. You can do simple email, like send, reply, carbon copy, forward, and very simple mailing lists, but you might as well forget about blind carbon copy, complex mailing lists, listserv, and features in Unix like .forwarding and .vacationing your mail.

It has been mentioned many times how archaic Unix command-line shells are... one thing that has not been mentioned at length is how wonderfully powerful and versatile Unix can be for those who know even just a little bit about it.

One of the reasons I chose your AOL account (you@aol.com) as your end target account is because of the sheer frustration you will encounter trying to let everybody who has your AOL address know that you're no longer accepting mail there. The process is very similar to pulling out that old Christmas card mailing list and sending a note to every single individual telling them your new address. Once you've done this, the transition between accounts can be equally frustrating. Questions will race through your mind. Did they get my email? Did they bother to read it? What if *her* email crossed *my* email on the Net? Should I log back in and check my mail again? What about all those mailing lists I subscribe to? Did I remember to mail everybody or are there a few people I forgot about? The questions can be endless, and emailing everybody you know your new address is really the only solution.

Eventually, as you acquire email addresses (and if you really get involved in the Net you *will* acquire addresses!) you will run into this problem, and organization is key. Later we will discuss organizational tools that you can use to manage your email addresses, your friends' email addresses, and your own sanity in general.

Consolidation and Solutions

A good way to organize your email addresses is to organize them the same way you've been organizing your Christmas list all these years. Put them down on paper. I use a 99¢ address book that I bought at a local drug store. I use this address book as my "master copy" of email addresses; both mine and my friends'. Considering that we're talking about the Internet here, you might be saying to yourself, "A paper address book? That's a little antiquated, don't you think?" Yes and no. Although it's pretty well-accepted that "technological problems require technological solutions," by having my master address list in a cheap,

disposable address book, the only thing I need to worry about is if I happen to run out of ink. The same can't be said for the individual who keeps her master file on disk and doesn't make paper copies. One day she may wake up to find that her hard disk has irrecoverably crashed and her backups aren't as current as she thought they were.

Things are complicated enough, so I follow the KISS Principle (Keep It Simple, Stupid) as far as I can follow it. Of course, I do digitize my email address master list and organize it within the computer; that's what it's there for. I have my groups and my batches and my categories and my individual addresses all nicely lined up in proper order, but should I ever have a fatal disk crash such things are fairly easy to replace from my master list, and my backups are current enough to keep my software going. If you really can't abide by a paper copy of your email addresses, be sure to keep a regularly updated text copy on a floppy disk, and make sure that disk is kept in a very safe place.

There are also a variety of Shareware, Freeware, and commercial software packages available for you to handle and organize your email addresses. Some of them are traditional datebook programs that can easily be used to store and organize your email addresses. One innovative fellow even compiled a FileMaker Pro document of his email addresses. It is custom-tailored to fit his expansive email needs, and he regularly updates and prints his document on paper and keeps that copy in a safe place. I would recommend against using an email program to organize and store your addresses for the long term. AOL's mail manager and Eudora Lite are great for sending and receiving messages, and they're great for setting up mailing lists and organizing your mail distribution, but they are a bad idea for permanent storage of your addresses. Ideally, you should keep your master files as far away as possible from the programs

A good way to organize your email addresses is to organize them the same way you've been organizing your Christmas list all these years. Put them down on paper.

you use the files with. That way, if something happens to the program, you can always reload the files after a reinstall. 🐛

As a quick reference list, you should:

- Separate your master files from your programs.
- Keep a paper copy of your addresses handy.
- Keep a floppy copy of your master files in a safe place.
- Update and back up your master files regularly.
- Don't rely on an email program or mail manager to be fully responsible for archiving your email addresses.

Andy Brooks frequently emails himself to make sure he's still there and can be reached at andy_brooks@bmug.org for comment.

Tribelink2 Reviewed

by chris r. harris

Tribelink2 is a multi-protocol, 2-port Internet router and remote access server, that combines routing and remote access in a single device. Either of the Tribelink2's ports may be attached to standard phone lines via modems or to ISDN lines via terminal adapters. Tribelink2 can be configured as an IP router for connecting to the Internet or for connecting remote office networks together. It can be configured to schedule connections automatically only when there is information to be sent to a remote link and terminated when the transfer of information has been completed. The Tribelink2 uses the standard Point-to-Point Protocol (PPP), which allows it to connect to other sites that have existing products from other major router vendors and Internet Service Providers.

Tribelink2 includes WebManager, Tribe's GUI management software. It is their World Wide Web-based method for remotely configuring and monitoring the Tribelink2 and can be used on Macs, PCs, and UNIX workstations. Macintosh users may also use LinkTracker management software. WebManager and LinkTracker provide an easy way to define and manage users, set levels of network access, examine routing information, configure ports, and send configuration files to Tribelink2.

BMUG uses Tribelink2 for its IP addressing routing which enables our membership to login to Planet BMUG over the internet via TCP/IP. Tribe has an excellent technical support department lead by Paolo Broggi. 🐉

Editor's note: In a coming BMUG Newsletter issue, look for a comparative review between Tribelink2 and Netopia.

Getting Online with BMUG Boston

A Guide to Connecting to BMUG's Boston BBS, via the Internet

by Roz Ault, BMUG Boston co-administrator

To connect to BMUG Boston via the Internet, you need two pieces of software:

1. **FirstClass Client** (version 2.7 is recommended; nothing earlier than 2.6 will work).
2. The **BMUG Boston settings** file. Make sure you have the file whose splash screen shows Botticelli's Venus with the tag line "a virtual harbor in cyberspace." (You can copy and modify another settings file, but it will be easier to start with the correct one.)

Double-click on the settings file to open it, and follow these steps:

1. **Login screen.** Don't type anything on this screen. Click on the **Setup** button (Figure 1).
2. **Setup screen:** Select **TCP-IP.FCP** from the "Connect via" popup list. (Note: If you are dialing in directly, you would select Modem.FCP here. You can switch back and forth between modem and TCP settings if you wish, simply by changing this popup selection.)

Type your User ID and password (you make these up yourself, but please remember exactly how you type them) in the appropriate boxes.

Make sure the IP number is entered as shown. Or, in place of the number, you could enter the server name: **bmugbos.org**

Click the **Save** button. Then, click on the **Setup** button at the top of the screen (Figure 2).

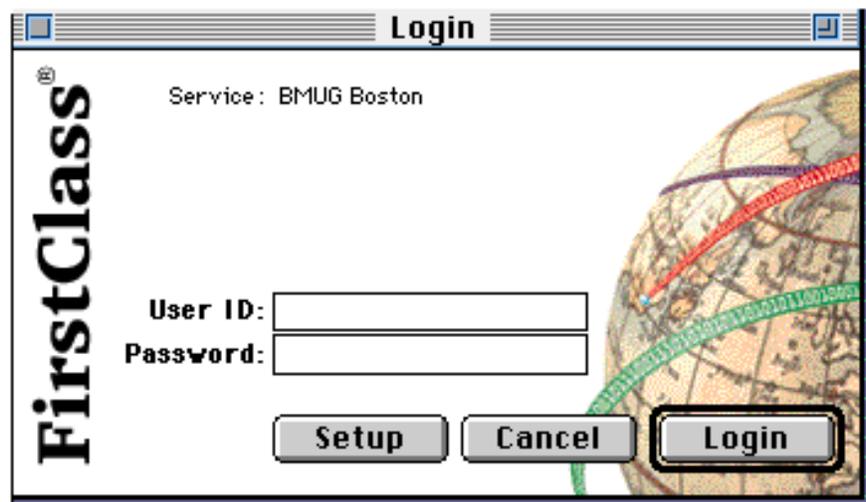


Figure 1. BMUG Boston login screen.

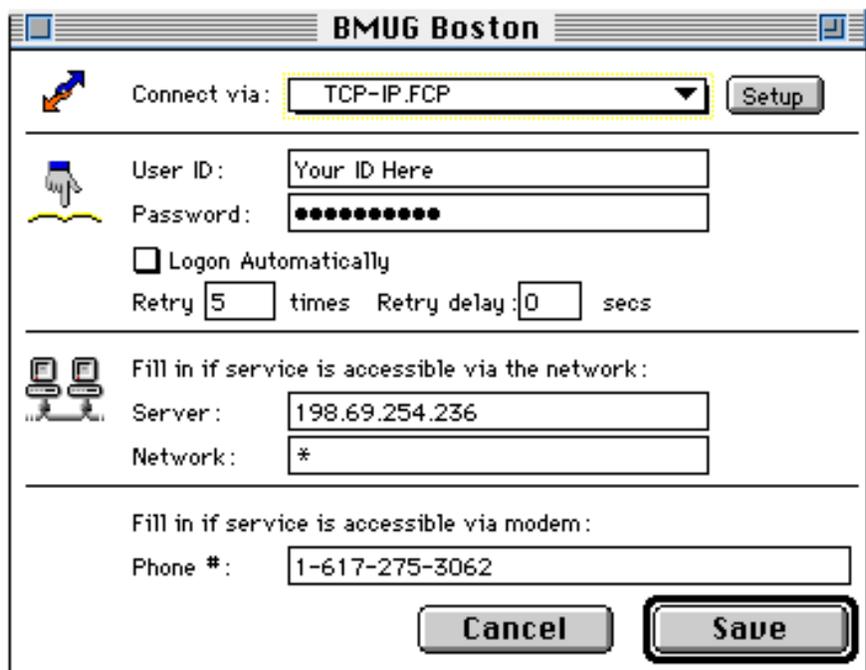


Figure 2. Connection setup screen.

How to Get Online with BMUG

An Updated Guide to Connecting to BMUG's BBSes via Your Modem

by Jeffrey Rotblatt, et al

Planet BMUG and BMUG Boston are BMUG's electronic Bulletin Board Systems (BBSes). Each uses FirstClass software from SoftArc.

This article will introduce new members to this software, and tell how to get online with BMUG.

What's Available in This Article

We'll tell you about the software used to run and access the BBSes, how to get started, and how to decide which BBS you'd like to call home.

We'll show you how to configure your settings to work with your modem and how to set your UserID and password.

Also provided is a section on how to troubleshoot the most common telecom problems.

What's Different about Each BMUG BBS?

Planet BMUG is located in Berkeley, California and BMUG Boston in Bedford, Massachusetts. BMUG Boston has a smaller population than Planet BMUG with 11 phone lines and about 1,800 registered users. Planet BMUG currently has 17 phone lines and about 4,000 registered users.

Most of the conferences on the BMUG BBSes are gatewayed, or mirrored, to both sites, so each member should choose which BBS to use based on their location and which will cost less to call on a regular basis.

FirstClass Software Unveiled

FirstClass Client is graphical user interface (GUI) software that is required to connect to any Bulletin Board System running the FirstClass host software.

For Those Who Don't Read Manuals

Here are the abbreviated instructions for connecting to Planet BMUG or the BMUG Boston BBS for the first time. Don't forget you can read the rest of this article for more details.

0. Turn on your Mac and modem.

1. Launch the FirstClass Client application. When it asks you to choose a settings file, select a BMUG Boston or Planet BMUG BBS file. (If you're not sure which one to use, see *What's the Difference?* on the left side of this page).

2. Customize your settings.

- Adjust for your brand/make of modem (see *Configuring Your Settings*).

- Enter your User ID and password (see *User IDs & Passwords*).

- If you are logging in via modem, make sure the phone number is correct and that you have included the area code (and a 1 for long distance) only if required. If you are logging in via TCP/IP, make sure the server name is correct—*bmug.org* or *bmugbos.org*—and the port is set to 3004.

- Save your changes.

3. Connect by pressing the Login button.

4. Fill out the Auto-Registration form that greets all new users (see *Connecting for the First Time*).

5. Request validation (this is an important step, please see *Validation* in the main article below). The validation process involves having a Validation Volunteer check your request against BMUG's membership database. Please allow approximately one week for this procedure.

6. Please be patient—BMUG BBSes can be very busy.

Please note:

BMUG's No Pseudonyms Policy

One of BMUG's few guidelines for etiquette (following closely on the heels of "be nice" and "it's a PG-rated experience") is no pseudonyms. This means that everybody on the Planet uses his/her real name—no initials, no nicknames, no handles, no "but that's what I use on AOL," etc.

There are exceptions, but they are resolved on a case-by-case basis by the Planet Administrator and BMUG's Executive Director. We made an exception for someone who was being stalked, for example, but rejected several requests for online gender concealment.

In the meantime, be nice, keep it relatively PG, and help us keep the Planet one of the coolest online resources there is!

Oh, and have fun!

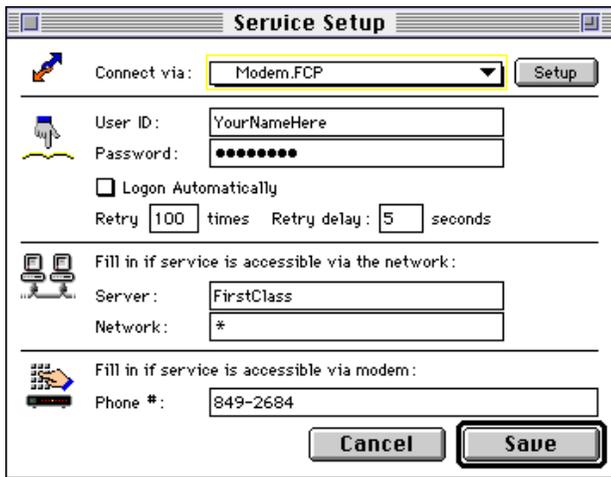


Figure 5: Configuring your settings file.



Figure 5A: If you see this message, make sure you are using the right UserID and Password. If you are connecting for the first time it means you need to choose a different UserID.

UserIDs and Passwords

Unlike some BBSes, rather than using “handles,” users here go by their real names—which you’ll enter on the system when you log in. The UserID and password here are not seen by others and are only used to identify you to the server. BMUG does not supply you with a UserID and password; you may create any UserID and password you wish, with the following restrictions:

- Once you connect and actually create your account, you are stuck with that UserID. You can, however, change your password whenever you like (and you should, about once a month, for security purposes).
- UserIDs must be 15 characters or less.
- UserIDs cannot include special characters (i.e. *, &, %, :, etc.); you must use standard numbers and letters only.
- UserIDs must be unique; only one person can use a specific UserID. If you connect with a UserID that has already been taken you will get a message indicating there is no such user (Figure 5A).

Password Security

BMUG’s BBSes are reasonably secure, but here are some ways to make your password harder to guess and your account more secure:

- Choose a password of at least six characters.
- Choose a password that can’t be found in a dictionary; no real words, mix numbers and letters.
- Choose a password that someone cannot guess. Don’t use names, initials, dates, or phone numbers.
- Be sure to memorize your password as well as keep it secret. Write your password and UserID on a piece of paper and store it in a secure location, not with your computer.

If you type and save the UserID and password in the “second page” of the settings file the software will store this information when you close the window. Keep a backup copy of this file on a floppy disk (in a secure location) in case you lose the data on your hard drive.

Phone Numbers

Enter the phone number of the BBS you wish to connect to in the Phone number field.

Check to see that your modem will dial exactly as you would. Inserting a comma will make your modem pause.

BBS Phone Numbers

- If your phone number is inside the (510) area code: 849-2684
- If your phone number is outside the (510) area code: 1 (510) 849-2684
- To turn off Call Waiting for the duration of the call: *70, 1 (510) 849-2684
- If you need to dial a number for an outside line: dial-out #, 1 (510) 849-2684
- BMUG Boston: 1 (617) 275-3062

Because the BMUG BBSes are so busy you may wish to set your modem to retry 100 times before it gives up. This, hopefully, will enable your modem to get onto a line which another user has just left before someone else gets it.

Step IV. Modem/Network Window

Click the Setup button (Figure 5) to configure the settings to address your modem (Figure 6).

Make sure protocol is set to serial, the port is set to whichever port your modem is connected to (if you have an internal modem it is connected to the Modem port), and set dialing to whatever your phone company supports; most modern systems use Tone dialing.

Set the baud rate to the highest rate your modem supports (the maximum speed of the BMUG BBSes is 28.8 kbps as of this writing), and turn H/W Handshake on if you have a 9600 baud or faster modem.



Figure 7: Modem selection menu.

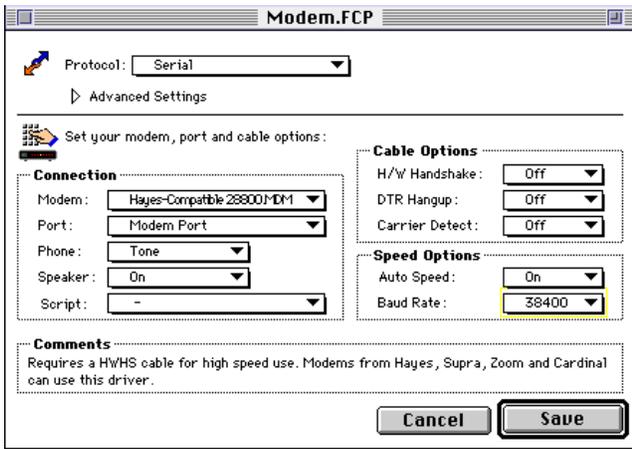


Figure 6: Make sure to select the correct modem, turn H/W Handshaking on if appropriate, and select Tone dialing if you have that service.

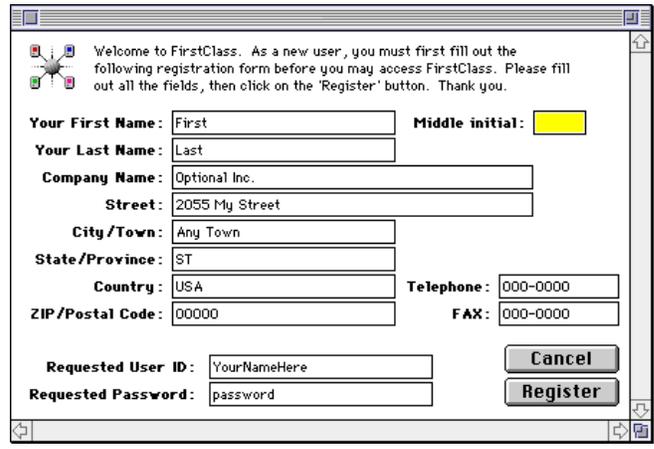


Figure 8: The Auto-Registration window. Take a few minutes to look it over, as there isn't much time to fill it in once you are online.



Figure 9: You made it!



Figure 10: The FirstClass "DeskTop." This is where you find yourself when you connect to the Berkeley-based Planet BMUG. As long as the New User Info folder appears in the upper right corner, you are not yet validated.

The Pop-up Modem Selection Menu

If your modem is not listed in the pop-up Modem selection menu (Figure 7) pick a generic modem such as Basic AT.mdm or Standard 2400. These generic settings may work to get you connected at which point you can ask for help from BMUG members online. Press the Save button when finished or your changes will not be saved.

Step V. Saving Your Changes

Press the Save button to return to the "second page" of your settings file. Click Save and you'll be returned to the Splash Screen. You should now be looking at the Login window (Figure 4). If all is well you will see your UserID and, for security purposes, a bullet for each character of your password.

Make sure your modem is turned on, and click the Login button. Your settings file will now initialize your modem and attempt to connect with a BMUG BBS. Be prepared to wait while it tries to connect

many times, redialing each time it hears a busy signal, until it finally connects.

Connecting for the First Time Auto-Registration

Look over the Auto-Registration form in Figure 8 carefully. FirstClass allows only a few minutes to fill out this information, so be prepared when connecting for the first time. The name you enter here will be the name other users will see on the BBS, and is not associated with your UserID. BMUG does not allow the use of "handles" or pseudonyms, so be sure you enter your real name.

You may wish to omit your middle initial, as it can make things less convenient. For instance, with it your Internet address on the BMUG BBSes would be: `firstname_middleinitial_lastname@bmgug.org`. for Planet BMUG, and BMUG Boston's:

`firstname_middleinitial_lastname@bmgugbos.org`. This makes it a bit of a pain for others to address Internet mail being sent to you, and seems overly formal on the BMUG BBSes.

You may also want to use your common name, in place of your legal first name. For example, some prefer to be called Bob, rather than Robert. *If you choose to eschew your legal first name, you must make a note in your Validation Request message.*

Once you've filled out the Auto-Registration screen, click the Register button. If everything is kosher, you'll get a "Registration Confirmed" message (Figure 9). If not, retry the steps. If it still won't work for you, you may want to call the BMUG Helpline at (510) 540-1742.

Once you get online (Figure 10) go to the New User Info folder and read the

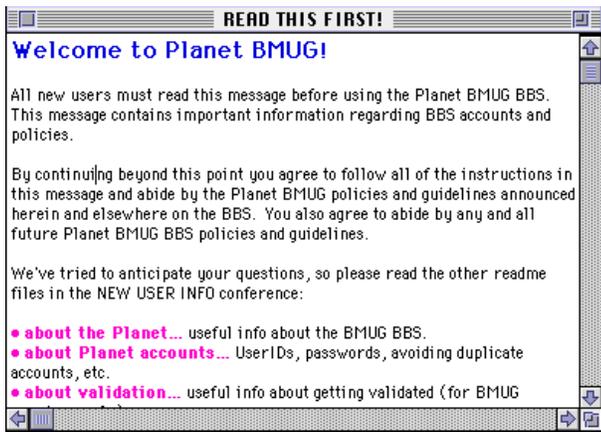


Figure 11: Please read this! Aside from the required legal mumbo-jumbo, you'll find many worthwhile tips.

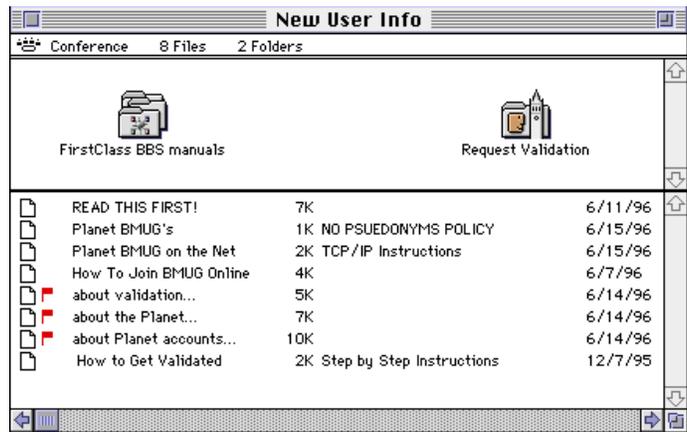


Figure 12: Validation must be requested from within the Request Validation folder only.



Figure 13: You can select New Message... from the Message menus. Choose Send to get your message to where it's going. With version 2.5 you can even unsend a message!

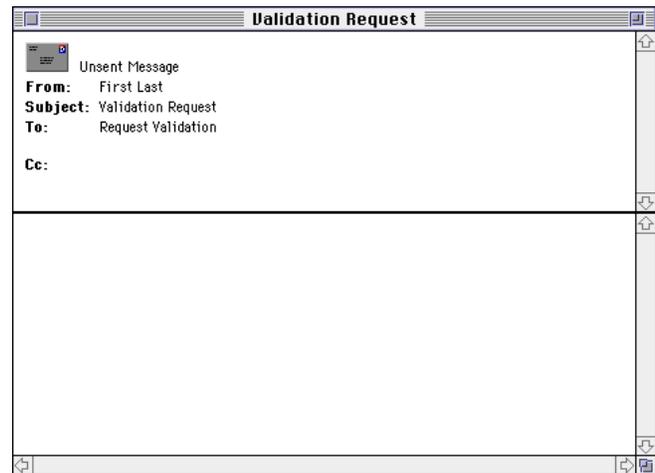


Figure 14: Requesting validation is this easy! 'VV' refers to our fantastic Validation Volunteers; they work many hours to keep up with the hundreds of validations requested each week.

BMUG Read-This-First file (Figure 11). It's informative as well as required.

To Request Validation

On Planet BMUG, open the New User Info folder, and follow the instructions therein. Open the Request Validation folder (Figure 12) in the New User Info folder and create a new message by typing Command-N, or by choosing New Message from the Message menu (Figure 13).

Type "Requesting validation" in the subject field. In the body of the message (below the heavy black bar - Figure 14), please type your name, the primary name of the membership (for family or business memberships) your membership expiration date, daytime phone number(s), membership type (eg, family, hero, business), and "Please validate

me" in the body of the message (Figure 14). Send the message by typing Command-E, or by selecting Send from the Message menu.

On BMUG Boston, open the New User folder, read the document named To New Callers, and follow the instructions therein.

Please allow at least 5-7 working days for the Validation Volunteers to process your validation request. (We always encourage members to volunteer at the office and help move things along!)

Until your account has been validated, you will not be able to send messages to individuals, upload files, or download the majority of our Shareware collection.

Once your accounts been validated by the Administrator you'll receive a val-

idation confirmation letter from a Validation Volunteer in your mailbox.

Trouble Connecting?

Busy Signals?

Planet BMUG currently has about 4,000 validated users, and BMUG Boston another 1,800. Everybody shares the same 17 and 11 phone lines 24 hours a day, so busy signals are commonplace.

On Planet BMUG the estimated average delay between first connect attempt and actually achieving the connection is 5 minutes during non-peak hours, and as much as an hour during heavy traffic.

The busiest hours are from 5 pm until midnight Pacific time, with morning (7 am-10 am Pacific), and lunch hours

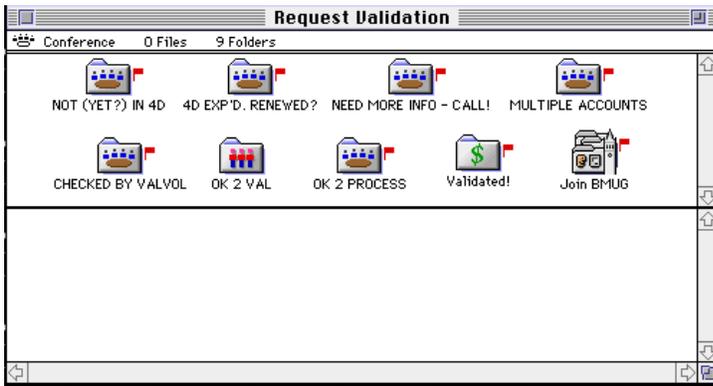


Figure 14A: Inside the Request Validation folder.

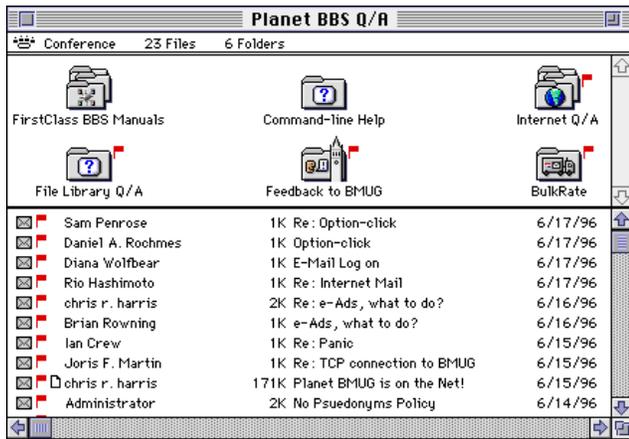


Figure 17: The Planet BBS Q/A conference.

(11 am–1 pm Pacific) being almost as busy. Creative patience is recommended.

No Such Registered User?

If you have picked a UserID already chosen by another member a dialog box will appear alerting you to this fact. (Figure 15). In this case go back and choose a new UserID and connect again. If you are quick enough, you may remain connected during this time and will not have to re-dial.

When It Just Rings

If the line just rings over a weekend, then it is likely that the BBS is simply down for maintenance. At other times it may be that the BBS has crashed. Call back in a few hours if you would like, though you may wish to simply call back the next day.

Downtime Hours

All our BBSes are down for maintenance for approximately six to eight hours each weekend (usually Saturday, sometimes Sunday). They are also unavailable from 3 am–4 am (Pacific time for Planet, Eastern time for BMUG Boston) every day

for mail exchange with the Internet, each other, and other services.

Common Problems and Solutions

How Do I Find Out My UserID And Password?

You chose your own UserID and password when you create your BBS account, and it's up to you to remember them. The UserID may still be stored in the "second page" of FirstClass' Setup windows. Hopefully, you wrote down that information somewhere. If you can't find it, contact the Helpline at (510) 540-1742 and let us know. It may take a few days to remedy the situation, so please be patient.

I've Entered My UserID and Password, But I Must Re-enter It Each Time I Connect.

Make sure you've entered your UserID and password in the second window of the Planet BMUG (or BMUG Boston) settings file Setup window, and then press

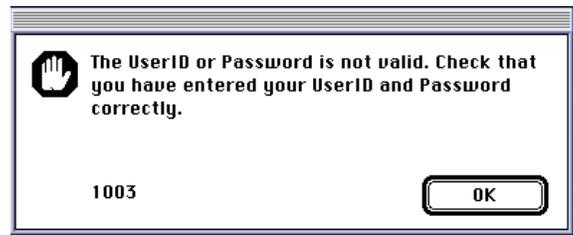


Figure 15: If you see this message, make sure you are using the right UserID and Password. If you are connecting for the first time it means you need to choose a different UserID.

Save. Any codes entered in the opening Login window will not be remembered when you quit the application.

My Modem Is Not in the Pop-up List. What Should I Do?

Select Basic AT.mdm. This should work for all modems. When you become validated, send a message to the Planet BBS Q/A conference or the Modems conference asking for help (Figure 17).

My Modem Isn't Dialing. What Did I Do Wrong?

First, make sure that your modem is connected, by turning the modem's power off and then back on. If nothing happens when you click the Login button, double-check to see if you have plugged your modem into the modem port on your Mac, and that the modem is securely connected to a phone line, and the phone line is plugged in to a wall jack.

Make sure your modem settings are correct, paying particular attention to which port you have chosen. Make sure to set dial to Pulse if you do not have Tone service on your phone from your local phone service provider.

If you have tried all of the above and are still floundering you may want to call the BMUG Helpline.

I Get Cut Off When I Try to Fill Out The Registration Form.

FirstClass allows only two minutes to fill out the Auto-Registration form. If you ran out of time, call again and try to fill out the form within that time limit.

I Connected Successfully But Can't Tell If I'm Validated.

Select Résumé from the Edit menu. If you are able to type in a description of yourself (which you should do) then you have been validated!



Figure 18. The Planetary Atlas and File Archive Atlas.

I Sent My Validation Request But Have Yet To Be Validated.

Our Validation Volunteers take approximately a week to process each request. If it has been more than a week and you are getting impatient, you may send a second validation request with the subject "Second request." Politeness helps. If, after another week, you still have yet to be validated, there may have been a problem and you should call the BMUG Helpline at (510) 540-1742.

Things that may hold up your validation include expired memberships, not using your real name when you logged in, or accidentally creating multiple accounts with similar, but different UserIDs. A multiple account is created by filling out the Registration screen more than once.

Help! I'm Sooooo Confused!

You've read the instructions a thousand times, your software is configured correctly, your modem is plugged in and turned on, all cables are connected securely to the modem port and phone lines, and you're still having trouble.

When all else fails, the BMUG Volunteers are available to help you. The BMUG Helpline, at (510) 540-1742, is staffed by volunteers, and only at certain times during the week, so there are times when no one is available to take your call. When leaving a message, please leave a detailed explanation of the problem, and we will try to return your call as soon as we can. Your calls are important to us, so please do leave us both a day and evening phone number. Please say the numbers slowly and clearly.

A Brief Tour of Planet BMUG

Explore BMUG Boston and Planet BMUG at your leisure. Here are a couple of tips to help:

Conferences on BMUG Boston and Planet BMUG are just like folders on the Macintosh. You can open them by double-clicking. If you find a message that looks interesting, you can double-click on the message to read it. The messages with red flags are unread by you. Once you open a message the flag will disappear.

You can create a new message by typing Command-N, and you can easily reply to a message by typing Command-R.

To send a message to someone on the same BBS, type the first few letters of their name while the cursor is in the To: field, and press Enter, Return, or Tab. FirstClass will attempt to figure out the rest of the name. If it cannot narrow it down to a single name, you will be presented with a list of possible choices; simply double-click the correct name and it will be placed in the To: field for you.

Friendly Landmarks

Planet BBS Q/A

This conference is the best place to ask questions about logging on, modem troubles, other BBSes, Planet BMUG, BMUG Boston, or the FirstClass software (Figure 17).

The most frequently asked Questions (FAQ) posted to this conference to date and their answers are in the article following this one, "Frequently Asked Questions from The Planet BBS Q/A Conference." You should read over them before you ask your question.

Planetary Atlas

This is a great place to look for that conference (or folder) that you know is somewhere on the BBS but can't seem to find (Figure 18). The entire BBS is listed in alphabetical order (Figure 18). There's also a list of all the various folders that contain the mountains of Freeware and Shareware that's available for download-

ing from the BMUG BBSes. Just double-click on the conference you want to check out—within the Planetary Atlas—and FirstClass will take you right to it.

System Bulletins

This conference contains important information about the status of Planet BMUG, BMUG's ISDN line and BMUG's Internet gateway.

FirstClass BBS Manuals

Loacted within BMUG Central, inside of "Planet BBS Q/A" conference (Figure 17) also within the "New User Info" conference (Figure 12), these manuals provide many useful explanations of the FirstClass system.

DeskTop

This is your home base. You can get to BMUG Central, Conferences, File Libraries, System Bulletins and all the other fun areas from here. If you see the New User Info conference, you have not been validated yet. 🐘

Additional Resources Online:

- The Planet BBS Q/A Conference
- FirstClass BBS Manuals, (located within Planet BBS Q/A)
- This includes help from SoftArc about the FirstClass software.
- Planet FAQs (located within File Libraries)
- BMUG Online Reference (located within File Libraries)
- Command-line Help (located within Planet BBS Q/A) This contains helpful information on connecting to a First Class system from a command line system.
- BMUG Helpline Clinics

You can call the BMUG Helpline for tips on connecting or to ask a question about your modem or software at (510) 540-1742. Clinics are Mondays 5 pm–9 pm, Wednesdays, Thursdays, and Saturdays from 1 pm–5 pm Pacific time at the BMUG office: 2055 Center Street (half a block west of the Berkeley BART station, between Shattuck & Milvia).

How to Get Online with BMUG via TCP/IP

by chris r. harris, et al.

Configuring Your Settings And Connecting For The First Time

Step I. Starting FirstClass

Launch the FirstClass Client application by double-clicking on its icon. When you see the Settings open dialog box (Figure 2), choose the BBS you want to connect to. For this article, choose the Planet BMUG TCP/IP FirstClass settings file. You might want to use the black and white BBS settings file if you want to save hard drive space or have a Macintosh capable of black and white only.

Step II. Splash Screens and the Login Window

The Splash Screen (Figure 3) and the Login window welcome you to BMUG's BBSes and let you know which BBS you will connect to (Figure 4).

The Login window also lets you know how many times your ISP (Internet Service Provider) has attempted to access Planet BMUG. We'll leave the fields for your UserID and password for later.

For now, click on the Setup button.

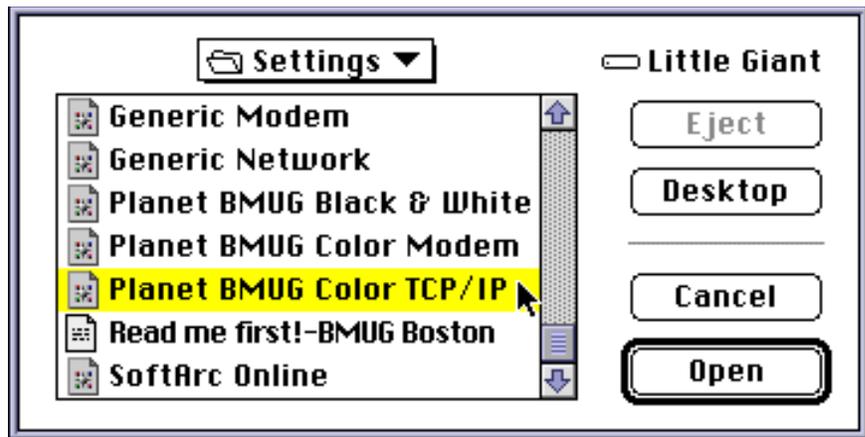


Figure 2. The Settings open dialog box. This is where you choose whether to connect to Planet BMUG or BMUG Boston, in color or black & white.



Figure 3. The Splash Screens.

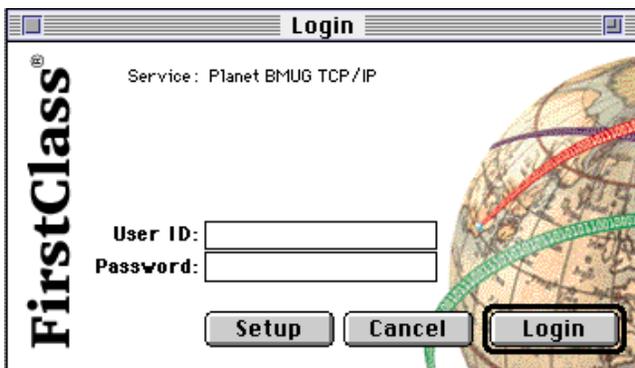


Figure 4. The infamous Login window. You'll get to know this window well!

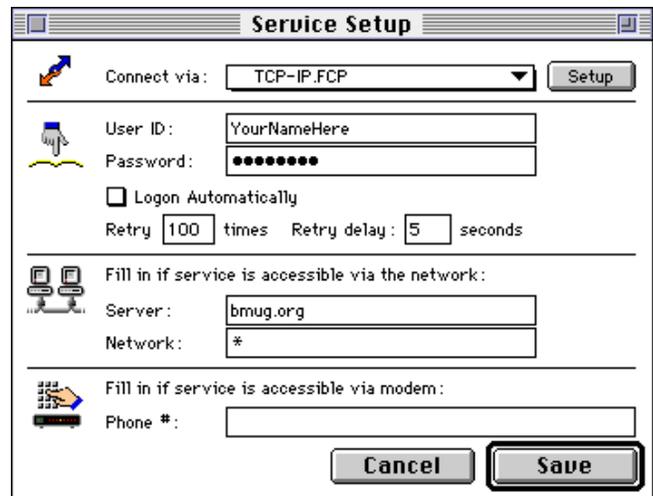


Figure 5: Configuring your settings file.

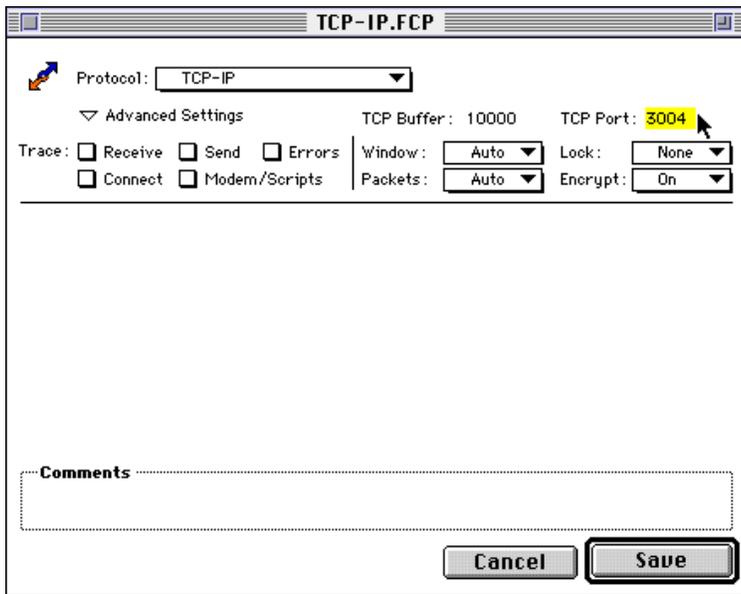


Figure 6: Configuring your port.

Step III. The Connection Setup Window

After you click the Setup button you'll get to the "second page" of the settings file (Figure 5).

BMUG does not supply you with a UserID and password; you create these when you first connect to the Planet.

UserIDs & Passwords

Unlike some BBSes, rather than using "handles," users here go by their real names—which you'll enter on the system when you login. The UserID and password here are only used to identify you to the system. BMUG does not supply you with a UserID and password; you may create any UserID and password you wish, with the following restrictions:

- Once you connect and actually create your account, you are stuck with that UserID. You can, however, change your password whenever you like (and you should, about once a month, for security purposes).
- UserIDs must be 15 characters or less.
- UserIDs can not include special characters (i.e. *, &, %, :, etc.); you must use standard numbers and letters only.
- UserIDs must be unique; only one person can use a specific UserID. If you connect with a UserID that has already been taken you will get a message indicating there is no such user.

Password Security

BMUG's BBSes are reasonably secure, but here are some ways to make your password harder to guess and your account more secure:

- Choose a password of at least 6 characters.
- Choose a password that can't be found in a dictionary; no real words, mix numbers and letters.
- Choose a password that someone cannot guess. Don't use names, initials, dates, or phone numbers.
- Be sure to memorize your password as well as keep it secret. Write your password and UserID on a piece of paper and store it in a secure location, not with your computer.

If you type and save the UserID and password in the "second page" of the settings file the software will store this information when you close the window. Keep a back-up copy of this file on a floppy disk (in a secure location) in case you lose the data on your hard drive.

Configuring Your Settings and Connecting to Planet BMUG via the Internet

Planet BMUG is accessible either via the Internet, or by direct modem dial-in. These instructions explain how to initiate an Internet connection. See the previous article for dialup via modem instructions.

1. Make certain you are using FirstClass Client 2.6 or higher. Version 3.1 is recommended.
2. Make certain your connection to the Internet is a PPP, SLIP or better connection from a service provider with full-time Internet access. "Internet access" offered by online services such as America Online will not work.
3. Use the Planet BMUG TCP/IP First-Class settings file.

If you can't get this settings file, you can make copy of another FirstClass settings file, and set it up as follows:

- From the first (Login) screen (Figure 1), click on the Setup button
- On the setup window (Figure 2), choose TCP-IP.FCP as your connection method from the pop up list at the top of the screen.
- Type your User ID and password in the appropriate fields.
- Make sure the Planet BMUG's IP address is in the Server field of the connection setup window. You may use either the IP number—206.80.36.91—or the domain name: bmug.org.
- Click on the Save button.

(Please note that clicking the setup button next to "Connect via TCP/IP.FCP" will take you to the TCP-IP.FCP setup screen. You should not change any settings in this window, with the exception of the port number. Make sure this is set to port 3004, or you will not be allowed to log on!) (Figure 6)

4. Initiate your local Internet connection (e.g., connect via PPP.)
5. Once connected to the "Internet" open Planet BMUG BBS file or First Class Client software and press the Login button on the FirstClass Login screen. You will be connected to Planet BMUG if there are ports available. The performance you experience will depend on the bandwidth of your Internet connection, and network traffic conditions.
6. If you are a new user on Planet BMUG, you must fill out the registration screen with your complete name and address as they appear in the BMUG records. 🐘

A: A1: Open up your Planet settings file and click on the settings button. In the window that appears, next to where it says Connect via TCP-IP.FCP, click on the setup button. Click on a little tringle next to Advanced settings, set the TCP-Port (which is in right upper corner) to 3004.

A2 : The Planet might be down for maintenance if your trying to login on Saturday or Sunday.

A3 : It's possible BMUG's router or ISDN line might be down.

Q: I just purchased a 28.8 modem. Is there a different number I can call to get connected at 28.8 as opposed to 14.4?

A: No. While the Planet does have a few 28.8 modems, they are hooked up to the (510) 849-2684 phone number just like the regular 14.4 modems. Unfortunately this means that the only way to get a 28.8 connection is by luck.

Q: I tried logging in on Saturday, and the Planet never responded. Why is this?

A: The Planet is shut down on Saturdays for backups and maintenance. The reason that it is down most of the day is that the Planet is currently running on many hard drive partitions which encompass over 2 gigabytes of disk space and over 60,000 files. It takes a long time to perform the necessary maintenance, as each file must be run through Disk First Aid , Disinfectant, Norton Utilities, and then finally backed up with Retrospect. (To give you an idea of how long this all takes, the Retrospect backup alone takes 6 to 8 hours.)

Q: I'm trying to use BulkRate to connect to the Planet, and I'm having trouble. What should I do?

A: Check out the BulkRate conference, which is contained within the Planet BBS Q/A conference.

Q: I'm need advice about/help with/information on _____ piece of hardware or software. Is this the right place to ask? **A:** While the people who hang out here in the Planet BBS Q/A conference might be able to answer your question, you will probably get better results if you post your question inside the appropriate topic-specific conference. Most conferences are contained within the Conferences folder which is on your desktop. You can also find an alphabetical listing of all the conferences inside the Planetary Atlas, which can be found within the BMUG Central folder, which can also be found on your desktop. If you can't seem to find the conference that fits your question, post a message here—The Planet BBS Q/A Conference—someone will point you in the right direction.

Q: I'm still confused. Where do I go for more help?

A:There are several resources that might help you to answer your question:

- 1) There is a section in each newsletter about Planet BMUG. It is really quite useful—check it out!
- 2) There is a folder called "First Class Manuals" contained within Planet BBS Q/A. It contains the documentation that SoftArc(the makers of FirstClass) have written for the client software.
- 3) Check out the BMUG Central and System Bulletins folders which are on your desktop. System Bulletins contains many important announcements about the operation of Planet BMUG. BMUG Central contains announcements about BMUG in general.
- 4) Read the past messages here in Planet BBS Q/A—they very likely will contain the answers you are looking for.
- 5) Post a message here in Planet BBS Q/A. We're here to help! 🐼

BMUG Resources

BMUG Choice Products

Fall 1996 Awards

The BMUG Choice Products list offers Macintosh OS users an unbeatable tool to sift through the thousands of products available to them and keep their Mac experience both fun and productive.

BMUG experts review Mac OS products, including Freeware and Shareware, as well as the latest commercial offerings, and flavor their impressions with the opinions and experiences of members like you.

The result is a selection of products that stand out from the crowd. To be designated a “BMUG Choice Product” BMUG considers a product’s elegance and ease of use, its ability to do what it claims as invisibly and Mac-intuitively as possible, the way the product is put together, its cost and value, and the kind of support you can count on when you spend money on a Mac OS product.

Of course, there are no “perfect” Choice Products, and BMUG notes some limitations in the reviews. Nevertheless, these selections represent products BMUGers would choose for themselves as the best effective choices.

The BMUG Choice Product list is regularly updated to reflect the then current state of the Mac and the new options that regularly offer themselves to Mac OS users. The then-current list is printed in each semi-annual BMUG Newsletter, with more frequent updates to be found on the BMUG Web page at <http://www.bmug.org>.

Don’t forget to give BMUG your feedback on Choice Products either on Planet BMUG in the Choice Products folder (BMUG Central: BMUG Community Center: Newsletter Articles: Choice Products) or by mail to BMUG, 1442A Walnut Street #62, Berkeley, CA 94709-1496; Attention: Choice Products.

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COMPUTERS

DESKTOP



Performa 5400 series

\$2250

Presently available only to the education market, this new Performa is what an all-in-one, clutter-free, Power Macintosh should be. It sports a PowerPC 603e processor running at 120 MHz on an Alchamy based motherboard, and a wealth of excellent features including 16 megs of RAM, a 1.6 gig hard disk, an internal 28.8 modem with digital answering machine, and a quad speed Apple 600i CD-ROM drive. The built-in monitor is a 15-inch, .28 dot pitch color display offering 16-bit color. Expansion options are available with a PCI slot. Many audio enhancements including a pair of speakers and a microphone are incorporated into the unit. To top it off, Performas come packed with quality software and room to grow, all at a very reasonable price. This Mac is perfect for the dorm or the family room. Be sure to add 256K of cache memory for optimum performance. Check out the 5420. It's graphite black!

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Dealer Locations (800) 538-9696



Power Macintosh 7200/75 Power Macintosh 7200/120

\$999

\$1750

Well designed, stable and expandable with 3 PCI slots, this 601 chip-based PowerMac is a great choice for home or business. With 8 megs of RAM (you should upgrade to a minimum of 16 Megs), a quad speed Apple 600i Plus CD-ROM drive, and AAUI and 10BaseT Ethernet ports, this model packs a lot of punch for a base model. One meg of Video RAM upgradeable to 4 megs is standard. At 4 Megs, the video possibilities are dazzling, up to one million colors on a 21-inch monitor for instance. Also included are GeoPort telephony/fax software and Cypress MegaPhone software. Be sure to add 256K of cache memory for optimum performance. Although discontinued and not designed for processor upgrades, the price/performance ratio for the 7200/75 can't be beat. Buy before they disappear.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Dealer Locations (800) 538-9696



Power Macintosh 7600/120

\$2700

The speed-boosted successor to the 7500 now comes standard with 256k of Level 2 cache, 16 megs of RAM and 2 megs of VRAM. The processor is a fast 120-MHz 604 PowerPC chip which resides on a daughterboard making future upgrades a snap. With an elegant case design, this model offers the business user all the speed and power needed for any standard business application as well as networking and video conferencing. Features include internal SCSI-2 Fast, AV ports, and 24-bit video input (no output) all combining to provide excellent video capture rates, plus stereo line-audio input and output ports, Apple media conferencing software and a PlainTalk microphone. Standard equipment includes a 1.2 gig hard drive, a quad speed Apple 600i Plus CD-ROM drive and AAUI and 10BaseT Ethernet ports. Superior construction and support, ease of upgrading and cheaper memory upgrade options give this Apple product the edge over the fast-improving and sometimes faster clones. Although discontinued, the 7500's are great machines: worth considering, especially at clearance prices.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Dealer Locations (800) 538-9696



Power Macintosh 8500/132 Power Macintosh 8500/150

\$ 3475

\$4100

For corporate multimedia managers, graphics professionals and engineers, the 8500 with its host of AV features is a superb tool. From full motion video capture to near-broadcast quality 24-bit color, this is one powerful Mac. The 604 processor mounted on a daughterboard making future upgrades easy. You might want to consider an accelerated video display adapter to avoid a motherboard bottleneck. In addition to the 7600's features, the 8500 has 24-bit video output and also comes equipped with 256K of cache memory. The 8500 is configured with 16 megs of RAM (DIMMs) as well as 2 megs of VRAM, a 2 Gig. hard drive, a quad speed Apple 600i Plus CD-ROM drive and AAUI and 10BaseT Ethernet ports. Three PCI slots are available for expansion. If you need more slots consider a Power Macintosh 9500/150 for about the same price.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Dealer Locations (800) 538-9696

PORTABLES

**Performa 5400 series****\$2250**

Presently available only to the education market, this new Performa is what an all-in-one, clutter-free, Power Macintosh should be. It sports a PowerPC 603e processor running at 120 MHz on an Alchamy based motherboard, and a wealth of excellent features including 16 megs of RAM, a 1.6 gig hard disk, an internal 28.8 modem with digital answering machine, and a quad speed Apple 600i CD-ROM drive. The built-in monitor is a 15-inch, .28 dot pitch color display offering 16-bit color. Expansion options are available with a PCI slot. Many audio enhancements including a pair of speakers and a microphone are incorporated into the unit. To top it off, Performas come packed with quality software and room to grow, all at a very reasonable price. This Mac is perfect for the dorm or the family room. Be sure to add 256K of cache memory for optimum performance. Check out the 5420. It's graphite black!

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696

**PowerBook Duo 2300c****\$3000 to \$4000**

The newest (and only) Duo from Apple features the 603e Power PC processor chip running at 100 mHz. It is still a lightweight at 4.8 pounds, still sports a 9.5 inch active-matrix color display, and now has a trackpad instead of a trackball. Otherwise it's the same as the now-discontinued 280c. It comes with either 8 megs of memory and a 750 meg hard drive, or with 20 megs of memory and a whopping 1 GB hard drive and a less-than-impressive Apple Express Modem II. If a Duo fits your needs, this is an excellent, albeit pricey, choice. If a regular PowerBook is what you want, consider waiting for the next series due out later this year.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696

HARDWARE

PERFORMANCE ENHANCERS

**Alacrity Acceleration Kits****\$70**

If you are adventurous and like poking around inside your Mac, and your older PowerPC or Quadra is feeling just a bit pokey, consider a clock chip accelerator. KS Labs has a number of them available to boost your processor speed by up to 33%. Although using the kit violates the Apple warranty, it can be deinstalled easily without anyone knowing it was ever there. There is a kit for the Power Macintosh 6100, 7100 and 8100 models, Quadra 605, 650, 660AV and 800, and similar Centrises and Performas.

KS Labs, Route 10 Box 41a, Marietta, OH, 45750, (614) 374-5665, (800) 450-0353

**Power Macintosh 256k Cache Card****\$125**

An absolute must for every Power Mac. Many brands of 256k cache card will work, and provide about a 15 to 20% speed boost depending on the application, but some models don't work well with the 7500, so check compatibility before you buy. Don't waste extra money on a 1-meg cache card. The extra boost it provides is minimal.

**TechWorks**

With all the new memory intensive applications out there, an average Mac user needs 16 megs or more of RAM. TechWorks has memory for all current Apple products, plus a long line of specialty and 72-pin SIMMs and DIMMs. You get clear instructions on how to install your RAM, along with tools for opening your Mac or PowerBook—not usually included when you order from other companies. A lifetime warranty, 30-day money-back guarantee, and toll-free support all make TechWorks a Mac peripherals company to emulate. The people on the phone taking orders are among the nicest people that BMUG has dealt with. Be sure to tell them that you're a BMUG member, and ask for the BMUG discount. For older machines, consider checking Planet BMUG for used SIMMs at bargain prices.

Technology Works, 4030 Braker Ln. W, #350, Austin, TX, 78759, (512) 794-8533, (800) 688-7466

HARDWARE PROTECTION



Panamax Surge Protectors

\$45 to \$120

Perhaps the best surge suppressors made. The new models allow you to buy modules to attach to the main unit, to expand the number of plugs, phone outlets, etc. A very cost-saving feature. They can protect everything from your computer and home entertainment system to copiers and fax machines. If your system is damaged by a surge while connected to one of its protectors, Panamax will repair or replace it. They cost a bit more than the competition, but they're well worth the difference in cost.

Panamax, 150 Mitchell Blvd., San Rafael, CA, 94903-2057, (415) 499-3900, (800) 472-5555



**PowerKey Pro
PowerKey Remote**

**\$100
\$40**

The PowerKey products provide a cheap and easy way to power up your Mac and run applications remotely. The PowerKey Remote allows you to start up any Mac with a keyboard start-up capability from anywhere. PowerKey Pro adds surge protection, the power to start peripherals, restart your Mac, launch programs and run AppleScripts from any remote location with a telephone. Very handy power management device.

Sophisticated Circuits, Inc., 19017 120th Avenue. NE, Suite 106, Bothell, WA, 98011, (206) (485) 7979, (800) 827-4669



**Safeware \$0 to \$2000
Safeware \$5000 to \$10,000**

**\$50
\$120**

Did you know that most renter's insurance excludes computers? You have to ask for it specifically, and even then it is usually quite limited. Safeware has inexpensive computer insurance that covers theft and just about anything else that might damage your computer (except leaving a PowerBook unattended).

Safeware The Insurance Agency Inc., 2929 N. High St., PO Box 02211, Columbus, OH, 43202-2211, (800) 848-3469

INKJET PRINTERS



Apple Color StyleWriter 2200

\$380

Need to take a color inkjet on the road? This is the printer to take. At only 3 pounds inside a 12-inch wide black case, the 2200 can run off a standard circuit or from an optional battery pack. It produces great text and well saturated colors at the same 720 x 360 dpi (text) or 360 x 360 dpi (color) resolution as its desktop cousin, the Color StyleWriter 2400. It even matches the 2400's speed. The only drawback is that its single ink cartridge (which includes black) must be tossed once one of the ink colors you want is used up. Nevertheless, it makes a great partner to a PowerBook or Duo. Investing in an optional battery attachment is probably a good idea.

Apple Computer, Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Apple Color StyleWriter 2500

\$380

The 2500 is a superb choice for home or business. This successor to the 2400 is much faster and boasts a greater resolution (720x360) than its predecessor. Uses either a 4-ink cartridge (with two tanks; one for CYM inks and one for black) or black only cartridge. It can even be used on a network with a LocalTalk interface (\$100) or EtherTalk Adapter (\$200). Bundled software includes the Adobe/GDT Personal Publishing Toolkit which includes a PostScript interpreter. All-in-all, an excellent package at a bargain price. If you can't afford this printer, consider the Color StyleWriter 1500 at \$280, but the extra money for the 2500 is definitely worth it.

Apple Computer, Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696

INPUT DEVICES



Apple Extended Keyboard II

\$155

Apple's full keyboard, with FKeys, number pad, Power On key, and a few keys you'll probably never need! Once you've used one of these puppies, you'll never go back. It is well constructed with an excellent feel. Its quality makes it worth the higher price it commands. Try it. The only drawback is the larger footprint.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, 408-996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Color QuickCam

\$200

The new color version of the famous ball-shaped QuickCam adds a lot more than just color. Focus options and 24-bit color images at up to 640x480 pixels add versatility to the product. Although you are tethered to a Mac serial port, not free to roam as with a digital camera, you can make great use of your live pictures placing them on anything from a web page to a video conference screen using optional VideoPhone software (\$60). It's not photographic quality, but it can be a lot of fun. Accept its limitations and enjoy.

Connectix Corp., 2600 Campus Drive, San Mateo, CA, 94403, (415) 571-5100, (800) 950-5880



**Kensington Mouse
Kensington Thinking Mouse**

\$60

\$85

If you want a well-designed mouse that offers more than a single button, you can't beat the Kensington Mouse. As with the TurboMouse, software allows you to program the buttons, and simplify a variety of mouse tasks. Like other Kensington products, it comes with an excellent 5-year warranty and superb product support. For even greater versatility consider the 4-button Thinking mouse. Kensington also sells a solid, standard one-button, "Mouse-in-a-Box" for only \$40.

Kensington Microware Ltd., 2855 Campus Dr., San Mateo, CA, 94403, (415) 572-2700, (800) 535-4242



Kensington Turbo Mouse 5.0

\$95

We have tried various types of trackballs, but the ease with which you can move the Kensington, the smooth feel and light pressure it takes to click the buttons, and the location of the locking button make it the easiest and most comfortable trackball. You just don't have to work as hard with the Kensington. It even fits snugly up against the old Apple keyboard and takes up very little desk space. As a bonus, the TurboMouse software allows you to program the buttons (all 4 of them!), adjust the rate of cursor acceleration, and even make the cursor jump to a predefined spot on your monitor. Well done. The TurboMouse also has an excellent warranty and superb product support.

Kensington Microware Ltd., 2855 Campus Dr., San Mateo, CA, 94403, (415) 572-2700, (800) 535-4242



Mac GamePad

\$30

Admit it. You like to play games on your Mac. But a mouse just doesn't cut it as a joy-stick. Get something designed for games. The Mac GamePad from Advanced Gravis does double duty. It combines a joy-stick, a Nintendo-style controller for multi-directional operation, and 4 programmable buttons. It is suitable for either right or left-handers. You can even get it bundled with the new version of Doom. Advanced Gravis also makes a line of dedicated joysticks for in-flight games.

Advanced Gravis Computer Technology, Ltd., #101-3750 North Fraser Way, Burnaby, BC, Canada, (604) 431-5020, Tech Support (604) 431-1807, (800) 663-8558



**MacAdios II
MacAdios II Jr**

\$800

\$550

MacAdios and MacAdios II Jr are NuBus data acquisition boards. Plug 'em in, and you can connect your Mac to the real world of laboratory testing and measurements. Check out Cliff Stoll's "Speed Bumps, Radar, and Your Mac" article in the Fall '94 BMUG Newsletter for ideas on how to use cards like these. The "Jr" lacks the control board features of the MacAdios II. Higher end digital and analog boards are also available.

GW Instruments, 35 Medford St., Somerville, MA, 02143, (617) 625-4096



WACOM Art-Z II Tablet
WACOM ArtPad II

\$300
\$150

For many years these affordable pads have been the best pressure-sensitive devices for the Mac. The latest pads come with a new "Ultra Erasing Pen" that has a second sensor tip that looks and acts just like an eraser on a pencil. This is one cool feature! These new pads also have the ability to sense the tilt of the pen to create even more realistic and detailed pen strokes. The pads connect via the ADB port and are a must for painting programs like Painter or Dabbler. They add a worthwhile dimension to any painting or graphics activity and are also great mouse replacements. Most graphics programs support the tablets, but it's wise to check first. While the Art-Z II and ArtPad are big enough for most users, WACOM makes also tablets as large as 12x18 inches. All WACOM tablets are worth considering. They're as close as you'll get to using a paintbrush on your Mac, and are great for playing Shanghai too.

WACOM, Inc., 501 SE Columbia Shores Blvd., Ste. #300, Vancouver, WA, 98661, (206) 750-8882, (800) 922-6613

LASER PRINTERS



Apple Color LaserWriter 12/600PS

\$6400

Considering a color laser printer? As prices drop and the technology improves, such printers are becoming a viable choice for high-end business use. With the Color LaserWriter 12/600PS, Apple is leading the way. It is fast and remarkably easy to set up and use. It is rated at 12 ppm for monochrome, and 3 ppm for two or more colors. Resolution is limited to an excellent 600 x 600 dpi with Apple's Color PhotoGrade resolution providing the equivalent of a 200-lpi halftone screen and 122 possible gray levels for each color. The printer comes with 12 megs of RAM upgradeable to 40 megs using 72-pin SIMMs. The printer can be hooked into LocalTalk, parallel or Ethernet lines with support for a wide variety of protocols.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Apple LaserWriter 4/600 PS

\$880

For home, school, or small business, you can't beat the LaserWriter 4/600 PS. Text quality is very good with FinePrint-enhanced 600-dpi output and Adobe PostScript Level 2 support. It's not fast at 4-ppm, but with a RAM upgrade (a good idea in any event) it can support Apple's excellent PhotoGrade image enhancement technology. The 4/600 PS is Energy Star compliant. It can also be hooked up to a LocalTalk, EtherNet and Token Ring networks.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Apple LaserWriter Select 360

\$1190

This PostScript Level 2, 600-dpi printer from Apple is an excellent value. It produces superb text and grayscale, has a rated speed of 10 ppm, and comes with a hefty 7 megs of RAM—yet it costs only a few dollars more than HP's 4-ppm LaserJet 4MP. It can even send, receive, and print plain-paper faxes at 600 dpi with the optional internal fax card (\$500). But be warned, the fax software needs improvement. The LaserWriter Select 360 is Energy Star compliant, switches emulations automatically, and can be used with Windows machines as well. This top quality printer has been discontinued so look for some great close-out pricing.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Hewlett-Packard LaserJet 5M

\$2000

This new HP printer is the clear choice for office environments. It boasts top quality text, superb grayscale graphics, and good speed, although a bit slower than the Apple LaserWriter 16/600PS on text only files. It comes standard with 6 megs of RAM, upgradeable to 52 Megs, has Ethernet 10BaseT and LocalTalk network connectors, and a SCSI port for downloading fonts. The printer incorporates PostScript Level 2 and PCL6 (the latest version). Legal size paper is accommodated. There is no straight through paper path for heavy stock however. To save toner, there is an EconoMode for drafts, and the printer is Energy Star compliant. This printer should fit the bill for most business needs. If you need to print on tabloid-size paper, consider the Hewlett-Packard LaserJet 4MV at about \$1000 more.

Hewlett-Packard Co., 19310 Pruneridge Ave., Cupertino, CA, 95014, (408) 246-4300, (800) 752-0900

MODEMS



3Com Impact ISDN External Digital Modem \$400

The 3Com Impact ISDN digital modem offers access to the Internet at speeds of up to 128 Kbps (with both channels in use), yet is as easy to install and configure as an analog modem. The 3Com requires entry of the following information: the phone number of your Internet service provider, SPIDS (service profile identifier) numbers, and telephone company switch type, which can be obtained from your phone company. At BMUG, 16 members can login to the Planet via TCP/IP over the internet through BMUG's single ISDN line using our 3Com ISDN digital modem, compared to the 16 individual analog lines. For more information about ISDN see "The Internet with ISDN" by Kevin M. Savetz in the Spring 1996 Newsletter on pg 205.

3Com, 5400 Bayfront Plaza, P.O. Box 58145, Santa Clara, CA 95052-8145, (408) 764-5000, (800) 638-3266, (800) Net-3Com



Celestin High-Speed Modem Cables \$14

Although the cable that comes with your new modem will probably work fine, a funky cable can cripple your telecommunications. If you're having problems or need a replacement cable, get a Celestin cable. They work well with any speed modem, and that's unique.

Celestin Co., 1152 Hastings Ave., Port Townsend, WA, 98368, (206) 385-3767, (800) 835-5514



Global Village PowerPort Platinum PC Card \$320
Global Village PowerPort Platinum Pro PC Card \$475

PowerBooks have become PC-Card capable (the 190's and 5300's) and PowerPort modems offer the best combination of performance, convenience and quality Mac-like software of any PC-Card modems out there. The "Pro" version features simultaneous 10Base-T Ethernet. These cards come with Global Village fax software which is solid and easy to use. Unfortunately, software upgrades are not free and customer support could use some improvement. The modem is 28.8 Kbps (v.34). Global Village also markets an equally high quality Gold PC Card at about \$180. While it's much more affordable it is limited to 14.4 Kbps (v.32).

Global Village Communications, Inc., 1144 E. Arques Avenue, Sunnyvale, CA, 94086, (408) 523-1000, (800) 736-4821



Global Village TelePort Platinum \$200

Today, no modem buyer should purchase anything less than a 28.8 Kbps modem. The Platinum offers 28.8 v.34 speed, but what sets it apart is the superb Global Fax software. If you want to use your computer modem as a fax, this is the modem to buy. The hardware is average, but the GlobalFax software can't be beat. The modem is Flash ROM upgradable.

Global Village Communications, Inc., 1144 E. Arques Avenue, Sunnyvale, CA, 94086, (408) 523-1000, (800) 736-4821



Konexx Konconnector 111 \$130
Konexx Kit \$150

Have you ever wanted to use your modem only to find that your phone line is digital, not analog? Many hotels and office phone systems are digital these days making the standard computer modem useless. There is one way around this problem: the Konexx Konconnector 111. Plug in the Konexx Konconnector between the handset and base unit of a digital phone and you'll be able to use your regular or PowerBook modem. Works off an external adapter or internal batteries. The Konexx Kit contains almost everything you'll need to connect to a phone system anywhere, including an acoustic coupler.

APS Technologies, 6131 Deramus, PO Box 4987, Kansas City, MO, 64120-0087, (816) 483-1600, (800) 926-0390



TeleDaptors \$30 and up

These folks can get you phone line adapters for just about every country in the world. In addition, they offer mini-kits for specific areas, a connector that will let you hook up to a digital phone system, as well as software utilities. They also have special "Road Warrior" packs, complete with an acoustic coupler.

TeleAdapt, 51 East Campbell Av., Campbell, CA, 95008, (408) 370-5105



USR Courier v.Everything

\$365

This is the modem that BMUG prefers for use on its BBSes. We've used USRs 24 hours a day for years, and buy as many as we can afford. It may be overkill for the home buyer, but they are great for heavy-duty use. It is also upgradable via Flash ROM. USR's software allows it to adjust speeds to match changing line conditions. What's more, US Robotics has special prices for sysops. These features and solid construction distinguish the v.Everything from cheaper, less reliable USR modems.

U.S. Robotics, Inc., 8100 N. McCormick Blvd., Skokie, IL, 60076, (708) 982-5001, (800) 342-5877

MONITORS



KlearScreen (8 oz.)

\$10

Klear Kloth (pack of 6 - 11" x 12" cloths)

\$6

An environmentally-friendly computer cleaning spray and polishing cloth. A small bottle contains enough fluid to clean a two-page display 300 times; it's also great for your glasses. You shouldn't use ammonia- or alcohol-based cleaners on screens, since they may react with the plastics. As an added bonus, it is the only screen-cleaning product endorsed by Apple Computer for use with its displays.

Meridrew Enterprises, P.O. Box 113, Danville, CA, 94526-0113, (510) 838-8774, (800) 505-5327



Sony Multiscan 15sfl

\$480

The best small multiscan monitor on the market is the new Sony. It can display multiple resolutions and sports a series of digital controls with on-screen display for complete image adjustment flexibility. Maximum resolution is 1024 x 768. The monitor is inexpensive and meets MRP II/NUTEK/EPA standards. But if you can afford it, consider the extra screen space a larger monitor can provide.

Sony Electronics, Inc., Computer Peripheral Products Co., 3300 Zanker Rd., San Jose, CA, 95134, (800) 352-7669



Sony Multiscan 17sfl

\$880

The best choice for most users. This next-generation Sony give you a large enough screen for most uses without breaking your wallet or overcrowding your desktop. It can display multiple resolutions and sports a series of digital controls with on-screen display for complete image adjustment flexibility. Maximum resolution is 1024 x 768. The monitor meets MRP II/NUTEK/EPA standards. A great choice for home or small business.

Sony Electronics, Inc., Computer Peripheral Products Co., 3300 Zanker Rd., San Jose, CA, 95134, (800) 352-7669



Sony Multiscan 20sfl

\$1780

If you do a lot of graphics or page layout work you'll need the extra screen real estate this 20" Sony can provide. Sharp text and good color clarity are the hallmarks of the new generation Trinitrons. Controls are digital with on-screen display. Maximum resolution is 1024 x 768. Although many other makers sport Sony CRT's, Sony usually has the best quality tubes in its own displays. The monitor meets MRP II/NUTEK/EPA standards.

Sony Electronics, Inc., Computer Peripheral Products Co., 3300 Zanker Rd., San Jose, CA, 95134, (800) 352-7669

POWERBOOK ACCESSORIES**Lind Electronic Design, Inc.****Price varies**

In addition to a range of batteries (from the regular internal ones to several external models), they also make a device that conditions a battery while it is still inside the PowerBook. It drains the battery down to the 1-volt-per-cell level, and then lets it recharge normally—makes lots of sense for those of us with only one battery and no external conditioner! Lind offers extraordinary customer support. If you have a problem with one of its products, Lind will bend over backwards to make it right.

Lind Electronic Design, Inc., 6414 Cambridge St., Minneapolis, MN, 55426, (800) 659-5956

**The Madsen Line PowerBook Bags****\$65 to \$250**

The best constructed PowerBook luggage you can find. The quality of everything from the nylon or leather outsides to the padded insides is first rate. They last. Yet they are light weight, compact, and convenient. If you have a PowerBook, this is what to carry it in. A wide variety of looks and colors is available.

The Madsen Line, PO Box 338, Corte Madera, CA, 94976-0338, (415) 927-3600, (800) 851-1551

PRINTING ACCESSORIES**American Ink Products****Price varies**

These guys have been making printer ink products for a decade. They offer do-it-yourself refill kits, colored inks, etc., and are our local source for inkjet refills.

American Ink Products Company, 630 E. 10th St., Oakland, CA, 94606, (510) 268-0825, (800) 414-6546

**Cables to Go****\$10 to \$25**

The Cables to Go catalog is an amazing collection of printer cables, modular cables, bulk cables, high-resolution video cables, optical cables, switch boxes, and general computer accessories. They're reasonably priced, bordering on downright cheap. The only drawback is a \$6 surcharge for orders under \$50, but if you've got the catalog in hand, this won't be an issue—you'll easily find \$50 worth of cables you always needed but could never find.

Cables to Go, 1501 Webster St., Dayton, OH, 45404, (800) 826-7904

**Jet Paper Products****call for prices**

These people have an absolute passion for paper. They offer many different high-quality papers especially suited for inkjet and laser printers, including 100 percent recycled and rag flavors. They offer a sample pack for only \$4.95, including postage.

Jet Paper Company, PO Box 860, Everett, MA, 02149-0860, (800) 235-4538

**Jet-Master—Refill for DeskWriter cartridges****\$15-\$25**

Computer Friends sells refill kits for all inkjet printers. What sets them apart from most of the competition is that they also sell ink by the bottle—as much as a gallon! Most other companies who sell ink only offer throw-away refill kits—definitely not sensitive to the environment. You can easily refill your DeskWriter cartridges with a syringe (included in the kits) for an economical price.

Computer Friends, Inc., 14250 NW Science Park Dr., Portland, OR, 97229, (503) 626-2291

**Paper Direct****call for prices**

This company has many unusual papers and paper products. If you want prefabricated graduated color brochures for your laser printer, or stock with “engraved” certificate borders, check out Paper Direct's catalog. It's free, impressive and practical.

Paper Direct, 205 Chubb Ave., Lyndhurst, NJ, 07071, (800) 272-7377



TonerTuner 1.0.7

\$20

If you ever wanted to conserve toner and be able to print in “draft” mode on a laser printer, TonerTuner is for you. An extension, it adds a control to the standard Print dialog of Mac applications that lets you set how dark to make your output. Why use more toner than you need?

Working Software, Inc., PO Box 1844, Santa Cruz, CA, 95061-1844, (408) 423-5696, (800) 229-9675

SCANNERS



HP ScanJet 4c

\$950

The latest HP color scanner quickly handles black & white, grayscale, and one-pass 30-bit color scanning at 600 dpi (software dithered to 2400 dpi). It's among the fastest and most accurate scanners for the Mac and is able to detect details even in deeply shadowed areas. Yet it's easy to use and fairly bulletproof. The scanning area is 8.5" by 14", so it takes up a lot of desk space. It doesn't use Photoshop plug-ins but is TWAIN compliant. It is bundled with Caere OCR software and Photoshop 2.5 (called “LE”), and it can be used to make color and black-and-white copies with its DeskScan software. But perhaps the biggest change in this new model is the Visioneer PaperPort software that allows this scanner to annotate, organize and link documents. It is a very versatile package. Transparency and sheet feed options are available.

Hewlett-Packard Co., 19310 Pruneridge Ave., Cupertino, CA, 95014, (800) 752-0900



UmaxVista-S6E

\$400

Umax has long been a leading maker of Mac and PC scanners. The new Vista-S6E is an exceptional scanner at a bargain price. It is fast and a well designed software making image tweaking relatively easy. You have a choice: AutoSetup which does the tweaking automatically, or adjusting things manually. The scanner is 300 dpi compared to the HP's 600 dpi and is only 24-bit, not 30-bit like high end scanners, but most users won't notice these differences. Bundled software includes ColorIt and WordLinx OCR. An additional \$100 gets you Photoshop LE, and for a grand total of \$625, you receive full versions of Photoshop, WordLinx, Kai's Power Tools SE and Typestry. A transparency adapter and sheet feeder are available options.

Umax Technologies, 3353 Gateway Blvd., Fremont, CA, 94538, (510) 651-4000, (800) 562-0311



Visioneer PaperPort Vx

\$300

This little 12.5 inch wide beauty has revolutionized scanning. Its convenient size means you can keep it next to your Mac at all times. Just insert the document you want to copy—from business card to ledger size and larger—and the PaperPort automatically turns on. When its done, it turn off. Meanwhile, the OCR software and SharpPage technology allow you to manipulate text and make use of it as you wish. The Vx includes Corex CardScan, OmniPage LITE OCR and PictureWorks Copier software.

Visioneer, 2860 Bayshore Road, Palo Alto, CA, 94303, 415-812-6400, 800-787-7007

SCSI ACCESSORIES AND ENHANCEMENTS



APS SCSI DOC

\$30

Have you ever tried to connect your PowerBook with its square SCSI socket to a standard SCSI cable? You can't do it, unless you have SCSI DOC. It's a heavily shielded SCSI connector with a male HDI-30 at one end and a female DB-25 SCSI connector at the other. Includes a switch for putting dockable PowerBooks into docking mode and saves you the trouble of carrying around a PowerBook-specific SCSI cable.

APS Technologies, 6131 Deramus, PO Box 4987, Kansas City, MO, 64120-0087, (816) 483-1600, (800) 926-0390



APS SCSI Sentry

\$40

Few things can be more frustrating than an uncooperative SCSI chain. This digital active terminator monitors the chain and provides the appropriate termination where needed. Great headache reducer.

APS Technologies, 6131 Deramus, PO Box 4987, Kansas City, MO, 64120-0087, (816) 483-1600, (800) 926-0390



Berkeley Data Access

\$28 and up

If you've just spent thousands of dollars for a hard drive bigger than the Grand Canyon, you don't want just any old cable to bus your data. SCSI cables are usually the weakest link in the chain. Steve at B.D.A. can talk SCSI cables all day, and his are the best! This is a small, wholesale kind of operation, so you have to order a couple of cables at a time; four at a time will get you the best price break. These cables are top quality, but cost little more than generic cheapos.

Berkeley Data Access, 2560 Bancroft Way #3, Berkeley, CA, 94704, (510) 644-9999, (510) 644-2396



DriveSavers

These guys get data out of flaky hard drives that disk recovery software like MacTools Pro and Norton Utilities can't touch. They'll also do PC, Novell, and UNIX recoveries. They aren't cheap, but if you really need your data back, nothing is too expensive.

DriveSavers, 400 Bel Marin Keys, Novato, CA, 94949, (415) 883-4232, (800) 440-1904



FWB SCSI JackHammer (PCI)

\$375

FWB SCSI JackHammer (NuBus)

\$460

The JackHammer can make it seem like you have a brand new hard drive. These RISC-based boards bypass the Mac's slow SCSI chip and can accelerate transfer rates to 20 megs per second. Much of the speed comes from a sophisticated built-in 128k buffer. It even works on the Mac IIfx and with tape drives. It supports all SCSI configurations through Fast & Wide SCSI-2. FlashROM allows for software upgrades.

FWB, Inc., 1555 Adams Drive, Menlo Park, CA, 94025, (415) 325-4392



Hurdler SCSI Serial Expansion

450 (4) / \$350 (2)

Hurdler Serial Boards

350 (4) / \$150 (2)

If you find yourself with more serial devices than can connect to your Mac at any one time, consider the Hurdlers. As a stand alone unit, or as a NuBus board, the Hurdler provides 2 or 4 fast serial ports (57,600 baud per port) and the software necessary to insure that your Mac can use all of them. A good solution to a not uncommon problem.

Creative Solutions, Inc., 7509 Connelley Drive, #D, Hanover, MD, 21076, (410) 766-4080, (800) 367-8465



SCSIProbe 4.3

Freeware

SCSIProbe displays a list of SCSI devices connected to your Mac. For each device it lists the ID, type, manufacturer, product number and version of the driver. It can reset the SCSI bus and mount unmounted devices. It also works with the multiple SCSI buses on newer Macs. It is important to update to assure compatibility with the latest version of the Mac OS.

Robert Polic



Xpanse N-series NuBus to NuBus Expansion Boxes

\$600 to \$1800

Xpanse PN-series PCI to NuBus Expansion Boxes

\$800 to \$1900

Are you a high-end desktop publisher and need a few more NuBus slots? Whether you have a NuBus Mac or a new PCI PowerMac, this is the way to go. Second Wave has 2, 4, and 8-slot expansion boxes. The box uses either one NuBus slot or a PCI slot to connect to your Mac.

Second Wave Inc., 2525 Wallingwood Dr., Bldg. 13, Austin, TX, 78746-6932, (512) 329-9283

SCSI DRIVES



Apple CD600i Plus
Apple CD600e Plus

\$200
\$280

Fast, PhotoCD-capable, and the most reliable quad-speed CD-ROM drive out there (the “i” is the internal; the “e” is the external). It can even put sound from an audio CD into QuickTime movies. The drive uses a tray so no caddy is required. The free software is excellent and is updated frequently (version 5.1.7 as we go to press). No third party drivers are needed. While there are faster drives out there, there are few products that take advantage of any extra speed. If you purchase the internal version, don’t forget to order the appropriate mounting kit and front panel for your particular Mac.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



APS CD-R Drive

\$700

While the prices of many computer peripherals have dropped, few have dropped so fast or have larger implications than the drop in recording CD-ROM drives. The prices are approaching the point where an average business or individual can afford one, and produce their own products, databases, and archives in-house. Many resellers are producing high-quality recording CD-ROM drives. What sets the 2x speed APS apart is its very low price and excellent CD writing software, Astarte’s Toast CD-ROM Pro. (Be sure to confirm that your drive includes it as prices and packages change periodically.) If you produce CD-ROMs or want to, this is a great tool to start with. Just be careful. Finicky SCSI connections take on a new meaning when a CD-R drive is in your SCSI-chain. If you are also looking to purchase Macromedia’s Director, consider the similar Smart and Friendly CD-R 1002 which at only \$1100 includes Director, Toast Pro and Authorware Working Model.

APS Technologies, 6131 Deramus, PO Box 4987, Kansas City, MO, 64120-0087, (816) 483-1600, (800) 926-0390



APS DAT2
APS HyperDAT

650 int / \$700 ext
850 int / \$900 ext

If your business needs to backup a lot of material reliably, consider a DAT drive. The tape media is inexpensive, and the newer DAT drives are fast. The DAT2 can backup up to 4 GB of data with a 120M tape cartridge, and the HyperDat can handle up to 8 GB on a single 120M tape and support transfer rates of up to 28MB per minute. With Retrospect backup software, backups can be easy. Despite growing competition, DAT remains the archivers a choice of media for massive backups.

APS Technologies, 6131 Deramus, PO Box 4987, Kansas City, MO, 64120-0087, (816) 483-1600, (800) 926-0390



APS Hard Drives

Prices Vary

1.2 gig drives for under \$275, and drive prices continue to drop! For many years APS has provided quality hard drives at very good prices. Each drive comes with Power Tools formatting software, a special APS version of CharisMac Engineering’s well-regarded Anubis software. Unlike CharisMac or other drive developers like FWB, APS provides upgrades free of charge over its web site. This is a substantial savings as drivers need to be regularly updated with every adjustment to the Mac OS and product line. At \$25 or more a pop, those updates can get very costly. The free PowerTools updates make APS drives an even bigger bargain. The main problem with APS has been its customer support. Fast sales growth has spread tech folks thin and it showed. These problems seem to be resolved for now.

APS Technologies, 6131 Deramus, PO Box 4987, Kansas City, MO, 64120-0087, (816) 483-1600, (800) 926-0390



Zip100 Drive
100-meg cartridge

\$200
\$15 to \$20

This amazing floppy drive from Iomega, the masters of the floppy media, is cheap and very cool. Its elegance of design and ease of use puts it above the competition. If you need quick and easy removable media storage for archiving or transportation, we highly recommend this product.

Iomega, 1812 W. 4000 South, Roy, UT, 84067, (801) 778-1000, (800) 777-6654

SPEAKERS



Sound Works

\$200

For richer sound and deeper bass consider this ultra compact 3-piece system. The package is self powered, with the amp and control panel in the larger subwoofer cabinet. There is no separate input for an external CD-ROM player however. It's a good value equaling speaker sets at twice the price. An excellent instruction manual helps you with everything, including placement of the subwoofer. Cambridge Soundworks has retail stores in much of the US. But don't forget. If you already have stereo speakers in your computer room, all you may need is a simple adapter to plug you Mac into the best, and cheapest sound option of all.

Cambridge SoundWorks, 311 Needham Street, Newton, MA, 02164, (617) 332-5936, (800) 367-4434



Yamaha YST-M10 Powered Monitor Speakers

\$80

Today's CD-ROMs offer superb sound capabilities. Unfortunately, a single speaker in you Mac is unlikely to do it justice, whether you are listening to an audio CD or playing Marathon. A solution is a set of external stereo speakers. The Yamaha YST-M10 pair offers clean, accurate and relatively distortion free sound, even at higher volumes. A set of controls on the right speaker allow you to adjust the volume and higher frequencies, or just turn the speakers on and off. Set up is easy and they look good next to your Mac. The system will sound fantastic and you can't beat the low price. If you later want to improve the bass you can purchase a subwoofer (YST-MSW 10) for about \$130. The M10's have been replaced by the M15 for about the same price (not reviewed) so look for bargains as resellers clear their inventories.

Yamaha Corporation of America, 6600 Orangethorpe Avenue, Buena Park, CA, 90620, (714) 522-9011, (800) 823-6414 ext. 99

SOFTWARE

BACKUP



DiskFit Pro 1.1

\$75

DiskFit Direct

\$30

It is amazing how easy backing up can be if you have a well designed backup program, such as DiskFit Pro. The point of DiskFit is that it's inexpensive, not all-inclusive. For even less money, you can get DiskFit Direct, for very simple backups. This program is perfect for the individual home user. It will encourage you to do the task we all avoid-backup!

Dantz Development Corp., 4 Orinda Way, Bldg. C, Orinda, CA, 94563, (510) 253-3000



Retrospect 3.0A

\$145

Retrospect Remote 3.0A with Remote 10 pack, 260, Retrospect is easy to use, attractive, and, above all, extremely reliable. Head and shoulders above the competition, it offers compression, error-checking, scheduling, and compatibility with more drives than anything else on the market. The latest version has EasyScript to automate the process. Retrospect is a complete product with every feature you'll need.

Dantz Development Corp., 4 Orinda Way, Bldg. C, Orinda, CA, 94563, (510) 253-3000

DATABASE



4th Dimension 3.5 **\$680**
4th Dimension Server Version 1.5 (2 users) **\$990**

4th Dimension is the premier database package for the Macintosh when you are dealing with massive numbers of records. Its interface is relatively easy to use, considering its power. This fully relational database is the program BMUG uses to keep track of members and purchases. It includes support for multiple active windows, background processes, and the ability to make developmental changes on the fly. The pared-down version, 4D First is a less powerful version which is not multi-user capable nor much simpler. We can't recommend it.

ACI US, 20883 Stevens Creek Blvd., Sunnyvale, CA, 95014, (408) 252-4444, (800) 384-0010



FileMaker Pro 3.0v3 **\$200**
FileMaker Pro Server **\$990**

It's been a while coming, but with version 3, FileMaker Pro is now a fully relational database. And it's faster now that it supports the PowerPC. Scripting and calculating are improved, and with an excellent Windows version, this is the best cross-platform database out there. Even usable file size has been upped. Combine all this power with a low price and relative ease-of-use, even for beginners, is it any wonder that when someone comes into the BMUG office and asks about database programs, 90% are referred to FileMaker? The Server version speeds things up considerably on a network. Upgrades are readily available for only \$100.

Claris Corp., 5201 Patrick Henry Dr., PO Box 58168, Santa Clara, CA, 95052-8168, Customer Relations (408) 727-8227, US Upgrades (800) 544-8554, US Dealers (800) 334-3535



GeoQuery 5.0 **\$200**

For complete business mapping needs including the location of every 5-digit ZIP code and over 26,000 places, plus 225,000 miles of highways, GeoQuery is an excellent choice. It easily imports and incorporates information from your own data bases and from programs such as FileMaker, Excel and many others. It even has links to NOW Contact and TouchBase Pro. Create and redefine regions and territories with excellent detail quickly on a PowerMac or 680x0 Macintosh as the speed of map drawing promises to be much quicker in this latest version.

GeoQuery Corp., 387 Shuman Blvd., Suite 385E, Naperville, IL, 60563, (708) 357-0535



Informed Manager **\$100**

Shana has recently upgraded and integrated its programs that allow you to design "intelligent" forms that are ready to be filled out on screen. Tab delimited fields and popup choices make completing the forms easy. It will even do the math for you. The forms can be emailed to others via ccMail, Eudora, PowerTalk, MSMail, and QuickMail. Various add-ons are ready when you want to grow onto a network. The Informed Designer CD-ROM is included. (This CD-ROM has been distributed free over the past year and is a great introduction to this product.)

Shana Corp., 9650 20th Ave. #105, Edmonton, Alberta, Canada, T6N 1G1, (403) 463-3330



Panorama 3.02 **\$220**

Panorama takes a different approach to database software. The program is entirely RAM based making it blazing fast. Its extensive macro system aids direct text import making merges easy and almost instantaneous. Various forms are included that would make users of other database programs jealous. SuperObjects let you create your own forms just by dragging buttons, boxes or text boxes into a window. Links are easy to create. Although it is best suited to smaller business and database needs, its performance is hard to top.

ProVue Development Corp., 18411 Gothard Street, Huntington Beach, CA, 92648, (714) 841-7779



Street Atlas USA 3.0 (CD-ROM)

\$70

Incredible as it may seem you can locate virtually any street in the US with Street Atlas USA. Search by street name, ZIP code or telephone exchange and zoom in and out with the click of a mouse. The new version provides links to certain phone search databases and allows you to customize the maps. There are a few errors here and there, as with any atlas, but where else can you find this level of detail in such a compact and easy to use form?

DeLorme Mapping, Lower Main Street, P.O. Box 298, Freeport, ME, 04032, (207) 865-1234, BBS (207) 865-3545

DIGITAL VIDEO



Adobe Premiere 4.2.1

\$490

Powerful digital video software with intuitive user interface displays. Tracks in “filmstrip” style, allowing users to see all the details in clips. Animated icons simplify selection of digital effects including wipes, fades, dissolves, zooms, and page turns. Adobe Photoshop-compatible filters can be applied across video segments to achieve special effects and image control. You can superimpose titles, graphics, and even other video images to create dramatic effects. Comes standard with a CD-ROM containing tutorials, clip media, and documentation.

Adobe Systems, Inc. 3, 1585 Charleston Rd., Mountain View, CA, 94039, (415) 961-4400, (800) 833-6687



After Effects 3.1

\$650

Superb digital post-production tool for multimedia, even broadcast video. You can engage in precise motion control, time remapping and batch rendering, plus multiple effects per layer. The result is smooth motion graphics, eye-catching special effects and superior composites. As an Adobe product it works well with Photoshop, Premier and Illustrator. Very powerful.

Adobe Systems, Inc. 3, 1585 Charleston Rd., Mountain View, CA, 94039, (415) 961-4400, (800) 833-6687



Peter's Player 1.1

\$20 (Shareware)

A replacement for Apple's Simple Player, this program does a number of tricks to make playing QuickTime movies as fast and smooth as possible. It automatically sets the pixel depth to the best setting, hides the scroll bar on the bottom, and does other nifty things. Optimized for either the 680x0 Macs or the PowerPC, this is a major improvement over most other players, especially on the older Macs.

Peter Lee, 39 Canton Ave., Amherst, MA, 01002-1803



QuickTime 2.1, Appleware

(Free)

This amazing version of QuickTime has set the standard for digital video across the Mac-Windows barrier. Capable of playing back movies, doubled to fill a 13-inch screen at 30 frames per second, this technology has gone from amazing to astounding. With the addition of the optional “Instruments” file, QuickTime 2.1 also supports MIDI, allowing a mere 10k file to play for minutes with incredible quality. Lastly, the “Power Plug” optional file adds Power Mac support, creating even more incredible performance.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



M.Y.O.B. Small Business Accounting 6.01

\$80

M.Y.O.B. Small Business Accounting 6.01 with Payroll

\$135

This is a very innovative package, great for those who want to computerize the books for their small business, but who don't know much about accounting. First-rate manuals, navigation screens, CD-ROM help and a video all help you get started. It's a big help as some of the MYOB interface isn't very Mac-like. Screens can be customized to look like their paper equivalents (e.g. invoices, purchase orders, or checks). It is a full featured accounting program with general ledger, check writing, inventory management and more. You can track the progress of any job and generate fully customizable reports. It can even dial the phone, and link notes to a calendar and to do list. It's perfect for a sole proprietor or small business owner. The new version adds a Quicken import feature.

Best!Ware, 300 Roundhill Dr., Rockaway, NJ, 07866, (201) 586-2200, (800) 322-6962



MacInTax

\$40

Nobody likes to do taxes, even on a Mac. But tax software can make the process a bit less painful. If you itemize deductions or use schedules C, D, or E, it's a lot easier to do your taxes with a computer program than to fill out the forms by hand. The trouble is, there are such time pressures to get tax programs to market that bugs and problems always pop up. MacInTax is one of the easier tax programs to use, and it includes the option of electronic filing for those who want a fast refund (the IRS charges a premium for this). There are additional packages for state returns and a professional series, but bugs extend to these as well. It is essential that if you use one of these programs, you must keep yourself informed of bug fixes and problems, by calling Intuit regularly during tax season if necessary. The guided tour of your taxes is well laid out and helpful, but preparing taxes, even with MacInTax, is not for the novice. If you have any doubts, contact a professional.

Intuit Inc., 2650 East Elvira Rd. #100, Tucson, AR, 85706-7123, (415) 322-0573, (415) 858-6010, (800) 624-8742



MultiLedger 4.0

\$120

CheckMark Payroll 5.5

\$100

Every accountant who has seen this package likes it for its simplicity and direct approach. Modules include accounts payable, accounts receivable, general ledger, and inventory. It has full import and export capabilities and you have great flexibility in preparing and formatting reports. It is also multi-user supporting up to 10 users. It is PowerPC native and the payroll module have everything you are likely to need to calculate everything from payroll deductions to 401(k) accounts. Great program for the small- and medium-sized business owners for whom accounting terms are not a foreign language.

CheckMark Software Inc., 724 Whalers Way, Bldg. H, Fort Collins, CO, 80525, (303) 225-0522, (800) 444-9922



Quicken 6.0 R7

\$35

For personal financial record keeping that you can't quite get yourself to do on paper, the "regular" version of Quicken offers an option. It is fast and offers beautiful color graphics, improved tax stuff, loan amortization, and more. It can auto-enter repeating and automatic payments. You can zoom in to detail reports and actual transactions. The latest version adds online banking and investment tracking capabilities. If you get a Quicken VISA Gold card (14% APR, no annual fee) and pay \$3-\$5 a month, you can get statements on disk or by modem with pre-entered categories for transactions and one-step importing. Quicken has driven the competition from the field. Although Quicken Deluxe CD-ROM has made it to the Mac at last, and does have a few new features like a home inventory module and a mutual fund finder, it is a pale imitation of the Windows version and worth the extra \$15 only if you need its few additional new bells and whistles.

Intuit Inc., 2650 East Elvira Rd. #100, Tucson, AR, 85706-7123, (415) 322-0573, (415) 858-6010, (800) 624-8742

FONTS



Adobe Type Manager 3.9

free

ATM renders PostScript fonts for any QuickDraw device (the screen, StyleWriters, etc.). It is a requirement for any sort of page layout, newsletter creation, or sign-making—just about anything that requires text at uncommon sizes. It takes a bit of RAM, but is worth it for the beautiful way it displays fonts. Version 3.8.3 is available free as part of Adobe Acrobat Reader 2.1, which is downloadable from the BMUG BBSes; it is also available on the new BMUG Font ROM. ATM is now Power Mac native and can even render KanjiTalk PostScript fonts.

Adobe Systems, Inc. 2, PO Box 6458, Salinas, CA, 93912, (800) 685-3526



Adobe Typeface Library

Prices vary

From the creators of PostScript, Adobe's fonts are the most professionally hinted and exact to the designer's specifications. Whether your output is created on a StyleWriter using ATM or on a high-end Linotronic, Adobe fonts will always look their best. Adobe's MultipleMaster font technology with flexible weights and widths is the wave of the future, and used throughout all BMUG publications.

Adobe Systems, Inc. 2, PO Box 6458, Salinas, CA, 93912, (800) 685-3526



Foreign Language Laser Fonts

Prices vary

The best foreign-language LaserWriter fonts around. They have PostScript Type 1 and TrueType fonts for most alphabets, including the hard ones like Hebrew and those from East Asia.

Ecological Linguistics, PO Box 15156, Washington, DC, 20003-5156, (202) 546-5862



MasterJuggler Pro 2.0

\$50

If you deal with lots of fonts, you need a font manager. Many thought System 7.1's Fonts folder would do it in, but if you have more than a couple dozen fonts, you will quickly reach System 7's practical limits. When you do, check out MasterJuggler Pro. Like the competition, MasterJuggler supports drag-and-drop. But it does more, like checking for resource conflicts on the fly, checking for corruption on the fly, saving copies of fonts used just in your document for taking them to a service bureau. Its compression algorithm for fonts and sounds is better. It tells you when you're missing printer fonts before you print. In short, it takes care of all the hidden details and then keeps you from making mistakes. That's a great utility. Unlike the competition, MasterJuggler has been regularly improved and refined to support the evolving Mac OS.

Alsoft, Inc., 22557 Aldine Westfield, Spring, TX, 77373, (713) 353-4090



Now WYSIWIG Menus (Part of NOW Utilities 6.0.1)

\$90

Far and away the most conflict-free Font menu modifier for showing you what your fonts look like when you need to know—when your choosing them from the Fonts menu. Unifies font families and works in most programs. Customizable to prevent problems with programs that don't like it.

Now Software, Inc., 921 SW Washington St. #500, Portland, OR, 97205, (503) 274-2800, (800) 237-3611



PopChar Lite 2.7.2, Postcardware

(Free)

PopChar is a control panel that with the touch of a menu bar icon generates a window displaying every possible character (or set of characters) available in the current font. Insert the character into your document by simply clicking on the character in the PopChar window. It even displays the keyboard combination used to generate that character, if you want to memorize it. One of the best Mac font utilities, and it's free! Available on BMUG's Text C1 disk for \$4, or on the BMUG Font Collection and Desktop Publisher's Toolkit CD-ROM. But as you might guess from the "lite" in the name of the newest version, PopChar is going commercial. Thank you Günther Blaschek for the many years of wonderful Freeware.

Günther Blaschek, Petzoldstr.31, A-4020 Linz, Austria



The BMUG Font Collection & Desktop Publisher's Toolkit

\$25

BMUG has collected over 1,700 PostScript and TrueType fonts all in one place. This collection includes the contents of the entire BMUG Font Library! Many are as good as the fonts from Adobe. This CD-ROM also includes tons of Shareware publishing tools every Mac user shouldn't be without. There is no better product for exploring font options on a Mac while keeping your pocketbook intact.

BMUG, Inc., 1442A Walnut St., #62, Berkeley, CA, 94709-1496, (510) 549-2684, (800) 776-2684

GAMES



A-10 Attack 1.1

\$50

From the original creator of Hellcats comes a more versatile aircraft simulator that promises to be more enjoyable for longer games. While it doesn't have the graphic detail of F/A-18 Hornet the "Wart Hog" is a more maneuverable aircraft. The missions in the game are more detailed and include a strategic aspect as you defend territory and plan campaigns. Additional aircraft and campaign modules are available and A-10 Cuba shifts the scene to Guantanamo Bay. Runs well on lower processor-based Macs.

ParSoft, 101 West Runner Road, Suite 430, Richardson, TX, 75082, (214) 479-1340



Apeiron 1.0.2

\$15 (Shareware)

If you like Maelstrom you are going to love Apeiron. This is the latest contribution from Ambrosia's resident Mac wizard, Andrew Welch, to Ambrosia's growing entertainment collection. Apeiron is Ambrosia's interpretation of Atari's Centipede, cranked up a notch for the nineties. The game revolves around battling a horde of insects in a mushroom patch. A really great game for the young and the young at heart. As with many Ambrosia products, the game is a bit jittery on 603e PowerMacs that don't have a Level-2 cache card installed.

Ambrosia Software, PO Box 23140, Rochester, NY, 14692-3140, (716) 427-2577, (800) 231-1816



Bolo

\$25 (Shareware)

Bolo is the best network strategy tank game. It supports up to 16 network players at once! There's a map editor for creating or changing the landscapes in Bolo-land, and it even looks good in black & white. Check out the BMUG PD-ROM for a bunch of Bolo modules to add even more variety.

Stuart Cheshire, PO Box 8323, Stanford, CA, 94309-8323



Crystal Caliburn

\$35

Another super pinball game from StarPlay, this time with a King Arthur theme. If you like these games, consider getting Crystal Caliburn and Loony Labyrinth as part of a \$50 bundle and save.

StarPlay Productions, Inc. (by LittleWing Co.), PO Box 217, Greeley, CO, 80632-0217, (800) 203-2503



Dark Castle 3.03

\$28

It's back, and it's in full color. Delta Tao has traded its high-end paint program Zeus to Silicon Beach (Aldus, Adobe, whoever...) for the rights to this classic Mac game. Was it worth it? You bet. This glorious color version will run on all current (color) Macs, and you won't be able to wait for the sequels. It's surprising how well this game still stands up against the modern Mac action games.

Delta Tao Software, Inc., 760 Harvard Ave., Sunnyvale, CA, 94087, (408) 730-9336, (800) 827-9316



Dark Forces (CD) 1.2

\$50

This brand new release from LucasArts raises the bar another notch on the first-person shooting games. With less emphasis on the shooting and more care taken on the creation of very large and complex levels, this game is like a whole world in itself. The levels are richly textured and the realtime-rendered environment is very realistic with flowing water and laser blasts that reflect off walls. We have also been very impressed by the Mac port—while this game obviously started in the PC world of low-res, the Mac version is sharp and Power Mac native. Dark forces is sure to keep you completely entertained for many days or weeks.

LucasArts Entertainment, PO Box 10307, San Rafael, CA, 94912, (415) 721-3300, (800) 782-7927



Descent

\$50

Enter the world of mine shafts and never ending tunnels. The visual effect can be pretty realistic, and unnerving. Menacing robots are all around, above and below you. Sound effects and music are great atmosphere enhancers. Super 3D game. There is a Descent Levels of the World CD and Descent II is scheduled for release shortly. How low can you go?? Don't forget one thing. You need a fast PowerPC Mac to enjoy the speed and thrills of Descent.

MacPlay, 17922 Fitch Ave., Irvine, CA, 92714-6038, (800) 428-8200



Eric's Ultimate Solitaire

\$30

From the author of the popular Shareware Klondike and Forty Thieves comes this truly "ultimate" set of solitaire card games. Full color, clean sounds, and great card-shuffling and card-throwing animation make for a new kind of addiction. Includes features for PowerBook users and is light on your hard drive and RAM.

Delta Tao Software, Inc., 760 Harvard Ave., Sunnyvale, CA, 94087, (408) 730-9336, (800) 827-9316



F/A-18 Hornet 2.01

\$49

Incredible flight simulator. Modern-day jet fighter with advanced missiles, radar, and electro-optical weapons. There are even joystick/throttle sets available for more realistic flight control, and it's fully networkable for group combat missions. Version 2.0 is Power Mac native with more detail and silky-smooth animation.

Graphic Simulations, 1200 East Collins #214, Richardson, TX, 75081, (214) 699-7400



HellCats 1.04

\$39

HellCats: Missions at Leyte Gulf 1.02

\$21

Hellcats' six different missions and impressive graphics will keep you entertained. Some think the sequel is even better. These WWII simulators are beautifully smooth on any size screen, and easy to control.

Graphic Simulations, 1200 East Collins #214, Richardson, TX, 75081, (214) 699-7400



Loony Labyrinth 1.02

\$35

The authors of Tristan and Eight Ball Deluxe keep outdoing themselves! They have, once again, created the ultimate in computer pinball. Multi-level and multi-ball play based on a "loony" theme. Cool sounds and totally addicting. You have to see it to believe it.

StarPlay Productions, Inc. (by LittleWing Co.), PO Box 217, Greeley, CO, 80632-0217, (800) 203-2503



Maelstrom 1.4.3

\$15 (Shareware)

Highly addictive and a whole lot of fun, this is one of those rare, really amazing hit Shareware games. Requires 256 colors. It's a cross between Asteroids and a half-dozen other games, including largely Lunatic Fringe (from the More After Dark module set). Very entertaining sound effects. As with many Ambrosia products, the game is a bit jittery on 603e PowerMacs that don't have a Level-2 cache card installed.

Ambrosia, PO Box 23140, Rochester, NY, 14692-3140, (716) 427-2577, (800) 231-1816



Marathon 2: Durandal

\$45

This first-person 3-D perspective game from the people that brought us Pathways into Darkness is a sophisticated shoot 'em up with strategies, puzzles, and incredible realtime rendered graphics. It's VR-compatible (if you have a virtual reality headset) and comes in Fat binary for Power Macs and 68K Macs. Great over a network with (or more like against) other humans. Be warned, it's pretty violent, but it has enough plot and strategy to win over the timid. The sequel begins where you left off in the original, as you are enslaved by a rogue computer, Durandal, and must comb the ruins on an ancient city while struggling to escape. If you are new to Marathon, consider buying the two programs as part of a \$60 bundle.

Bungie Software Products, 1935 So. Halsted St. Suite 204, Chicago, IL, 60608, (312) 563-6200



Myst (CD)

\$45

First there was SpaceShip Warlock—fun to look at, but not much of a game. Then came the JourneyMan Project—better to look at, and good because you did a lot of looking and not much doing. Now there's Myst. Glorious to behold, fast enough to actually play, and, to top it all off, a great game. It's mysterious, intriguing, puzzling, haunting, and creative. Highly recommended.

Broderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA, 94948-6121, (415) 382-4400, (800) 521-6263



PegLeg

\$35

An outstanding full-color mixture of a shoot 'em up and Asteroids, with all kinds of surprising animated obstacles. Lots of levels and cool graphics. It's great for anyone with a color monitor. Fat binary for Power Macs and 680x0 processors, and will fill even the largest of screens. If you like shoot 'em ups, don't miss this one!

Changeling Software, 596 Elm St., Windsor Locks, CT, 06096-1603, (203) 292-5087, (800) 769-2768



Power Poker

\$40

A computer program for poker players and a lot more. The computer-generated players learn from their mistakes and sooner or later play a very good game of poker. The program can also generate great QuickTime movies of the computer-generated players. Up to ten people (humans) can also play when connected via AppleTalk or Ethernet.

Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA, 94404, (415) 571-7171, (800) 245-4525



Prince of Persia CD Collection

\$18

The Shadow and the Flame is much more elaborate than the first highly-acclaimed Prince of Persia, the stunning full-color graphics, a more involved story line, and lots of new tricks to learn, make this a fabulous sequel. The smooth animation with hair-raising sword fighting make this action-adventure a Mac classic. Incredibly the Collection includes both the original and the sequel on CD for less than either on disk.

Broderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA, 94948-6121, (415) 382-4400, (800) 521-6263



Realmz 3.0.2

\$30 (Shareware)

Inspired by Dungeons and Dragons, this loosely structured game allows the player to explore various scenarios with your customized fellow adventurers. You have the freedom to go wherever and whenever you want giving the game great variety and individuality. Even your fellow computer adventurers change as the game advances from one level to another. Regularly updated with new scenarios, this nifty shareware game is worth checking out. It does require a fast Mac.

Fantasoft, Inc., PO Box 14261, Madison, WI, 53714-0261, (608) 249-5418



Reelect JFK

\$35

A clever bit of "what if?" history lets you sit in the oval office and plan through the events of 1963 and 1964 as if JFK never went to Texas. How would you deal with the civil rights movement, the Communist menace, Barry Goldwater or Chet Huntley and David Brinkley? It's a fun way to see if you do know Jack.

Quadra Interactive, 701 Palomar Airport Road, 3d Floor, Carlsbad, CA, 92009, (619) 931-4755



Shanghai II 1.05

\$20

A long-time favorite of BMUGers near and far. Played with digital Mah Jong tiles, it's a very soothing game. Shanghai II is a full-color update to the original. The game offers a variety of tile faces, different layouts to solve, and an editor to create your own layouts. Avoid Shanghai: Great Moments which actually offers less for more. A missed opportunity.

Activision, 11601 Wilshire Blvd. #10, Los Angeles, CA, 90025, (310) 473-9200, Customer Service (310) 479-5644



SimCity 2000 CD Collection 1.2

\$57

SimCity 2000 (Disk) 1.2

\$40

Get the entire collection of scenarios and the urban renewal kit on a single CD-ROM. You can design your own buildings and print out your custom landscapes, or choose from among the over 100 new structures. It's still 3-D and in color, plus it's accelerated for the PowerMac.

Maxis, 2 Theatre Square, Orinda, CA, 94563, (510) 254-9700



Super Tetris

\$35

Like the original Tetris game for the Mac, Super Tetris adds new twists to its addictive predecessor. You'll need to rethink your strategies to deal with a new goal, as well as bombs, bubble blocks, and lots more. Guaranteed to give you a whole new case of Carpal Tunnel Syndrome.

Spectrum Holobyte, 2490 Mariner Sq. Loop, Alameda, CA, 94501, (510) 522-3584, (800) 695-4263



Swoop 1.0.2

\$15 (Shareware)

Developed by David Wareing, of Adelaide, Australia, Swoop is an arcade classic combining pulse-quickenning game play with state of the art computer animation and audio effects. Swoop strikes close to Space Invaders in terms of game play. Smooth flowing action, detailed full color graphics, and custom sound effects all provide for an exciting game. The only thing missing is the cash box in which to pump your coins. As with many Ambrosia products, the game is a bit jittery on 603e Power Macs that don't have a Level-2 cache card installed.

Ambrosia Software, PO Box 23140, Rochester, NY, 14692-3140, (716) 427-2577, (800) 231-1816



Triazzle Living Puzzle (CD or Disk)

\$20

Berkeley Systems has applied its wacky graphics expertise to an electronic puzzle and has come up successful. Triazzle is cool. It is packed with the sights and sounds of the rain forest. Fitting puzzle pieces together to form an animal causes the animal to come to life with authentic movement and sound. More than just a game, Triazzle also provides information on the animals found in the rain forest game. What's more, Berkeley Systems donates a small percentage of the profits from Triazzle to the Rain forest Alliance, an organization that seeks creative ways to protect this important natural resource. This lets you buy a fantastic game while doing something nice for the environment.

Berkeley Systems, Inc., 2095 Rose St., Berkeley, CA, 94709, (510) 540-5535, (800) 877-5535



William's Digital Arcade: Joust

\$27

William's Digital Arcade is an emulator that translates the original game code from Williams Entertainment's classic arcade game Joust—which means that what you get on your Mac screen is exactly what you used to get for a quarter at the local video arcade. Fun!

Digital Eclipse, 5515 Doyle St., #1, Emeryville, CA, 94608, (510) 450-1740



You Don't Know Jack

\$35

Irreverent, bizarre, sarcastic: It's a quiz show on CD-ROM. Challenging classic trivia mixed with pop culture, sound effects and an irreverent host. Great for parties if you don't all mind pressing around a single screen. If you exhaust the questions or want more, check out the separate "X-tra Large" and "Question Pack" so you can play "Don't Be a Wimp" and "Screw Your Neighbor" to your little heart's content. It may even become a TV show!

Berkeley Systems, 2095 Rose Street, Berkeley, CA, 94709, (510) 540-5535, (800) 877-5535

GENERAL UTILITIES



CanOpener 3.0

\$65

CanOpener is an excellent utility for opening any corrupted text, sound, or picture file. Sometimes it is the only thing that can help. You can open any file, even if it's corrupted, and cut and paste items directly out of the viewing window, unlike most of the recovery products out there. Version 3.0 is native on Power Macs.

Abbott Systems, Inc., 62 Mountain Rd., Pleasantville, NY, 10570, (914) 747-4171, (800) 552-9157



Conflict Catcher 3.0.4

\$65

An excellent program for managing your extensions and control panels and pinpointing incompatibilities. With features and ease of use, this new version blows away the rest of the extensions manager market. It still automatically tests for problems; it also lets you define specific, easy-to-select customized sets and lets you control the order in which they load. Now Utilities' Startup Manager also performs well, but is just not as versatile or powerful as Conflict Catcher.

Casady & Greene, Inc., 22734 Portola Dr., Salinas, CA, 93908-1119, (408) 484-9228, 800-359-4920



Disinfectant 3.6

Freeware

The best virus detection and eradication utility you can get (and that includes commercial software!). Installs an extension that protects you from infection and works against all known viruses. Excellent online help and a new color icon. It works over networks, too! It does everything the commercial stuff does, and better—you won't even know it's there! Available on BMUG Utilities V1 disk, for \$4, on the BMUG PD-ROM, and online everywhere. Thank you, John Norstad!



DragThing 1.6

Freeware

Tidy up those pesky desktop icons. Just drag an app, file, folder, disk, etc., onto an empty square in the DragThing dock. A double-click launches or opens the docked item, or drag a document onto a docked app to open it. What could be simpler?, James Thomson



EMMpathy 2.0

Freeware

Everything you need to aid in battery management of 500-series PowerBooks, excluding those with PowerPC upgrades. Best of all, it's free.

VST Power Systems, 1620 Sudbury Rd #3, Concord, MA, 01742, (508) 287-4600



FindPro III v1.1.1, ZiffWare

(Free)

If you haven't upgraded to System 7.5, this utility, written by Bill Monk and available only from Ziff-Davis, is the best find/search utility available. This control panel intercepts Command-F, bypasses the Finder's Find command, and provides you with a robust file finder that can search by multiple criteria. This may be reason enough to subscribe to ZiffNet Mac. A simplified version of FindPro comes with System 7.5. It has fewer features but also has a much less cluttered interface.

Ziff-Davis Publishing Co. (Bill Monk), 950 Tower Lane 18th Floor, Foster City, CA, 94404, (415) 378-5600



FontFaker71 1.0, 4

(Shareware)

The System 7.1 Fonts folder was a nice advance for the Mac OS. Font resources are readily available to any app you are using. But ever want sounds, PICTs or FKeys just as easily usable? FontFaker does it. Just drag the resource onto FontFaker and its file type is changed to allow its access just like a font. Undo the change just as easily.

Lawrence Harris, 29-J Laurel Ridge Apts., Chapel Hill, NC, 27516



Invisible Clock 2.1

Freeware

Tired of that clock in your Menu Bar? How about a calm soothing voice that tells you the time instead? This may be even more annoying, but with such a clean implementation as this, you will have to admit that this is one cool bit of software. You can set it to announce the time whenever you specify, even dependent on the day of the week. Available in female and male voices. It's even AppleScriptable!

Chris Holmes



Now Menu (part of NOW Utilities 6.0.1)

\$70

This latest version really makes the idea of customizing your menus a dazzling concept. Not only can you customize the Apple menu and change the font used in all your menus as in previous versions, but now you can create an unlimited array of menus for whatever you can imagine—in whatever programs you want them—and with whatever you want in them. You can even put icons in the menu bar and attach SuperBoomerang lists to it. Surprisingly compatible with just about everything, you won't be able to live without this once you start using it. Part of the Now Utilities 6.0.1 package.

Now Software, Inc., 921 SW Washington St. #500, Portland, OR, 97205, (503) 274-2800, (800) 237-3611



Now SuperBoomerang (part of NOW Utilities 6.0.1)

\$70

Get menus of recently opened folders and files with SuperBoomerang. This latest version integrates well with another NowUtilities module (NowMenus) to provide extensive flexibility in accessing the contents of your disks. It can be a bit finicky, so keep it updated as conflicts can arise. Regrettably the module, like much of Now Utilities, is looking a bit less Mac-like. Part of the Now Utilities 6.0 package.

Now Software, Inc., 921 SW Washington St. #500, Portland, OR, 97205, (503) 274-2800, (800) 237-3611



PB Tools 2.0

\$60

Light on Features but very stable, this is the best utility for battery management with older PowerBooks, but does not work on upgraded 500-series PowerBooks.

VST Power Systems, 1620 Sudbury Rd #3, Concord, MA, 01742, (508) 287-4600



RAMDoubler 1.6.2A

\$55

This product came out of the blue at the January '94 San Francisco Macworld Expo to help millions of Mac owners get by with the RAM on hand. If you own an older, non-PowerPC Mac, it does pretty much what it says it does and is one of the few products that actually lives up to its hype by making your Mac think you have twice as much RAM installed as you really do (using compression and virtual memory tricks). It works with most programs and only slows your Mac down a bit. It works best if you use a number of smaller applications. If you need extra RAM for memory-hungry programs like Photoshop, RAM Doubler won't help. There really is no such thing as a free lunch, but this is the next best thing. Be sure to get the most recent version as changes in the MacOS can cause problems.

Connectix Corp., 2600 Campus Dr., San Mateo, CA, 94403, (415) 571-5100, (800) 950-5880



ShrinkWrap 1.4.2 ShrinkWrap 2.0.1

Freeware

ShrinkWrap is a Freeware utility made to manage disk images. It incorporates the functionality of DiskCopy and MountImage into one easy-to-use application, then improves on these products by adding on-the-fly compression/decompression with the StuffIt Engine, implementing drag and drop and AppleScript support, and supporting almost all known image file formats. Using ShrinkWrap is a breeze, making it an all around great utility. Version 2 is free only for non-commercial use and is intended for large volumes, shared libraries, etc.

Chad Magendanz, 15220-263rd Avenue SE, Issaquah, WA



Stuffit Deluxe 4

\$75

Lets face it, Stuffit is the most stable of the current compression programs and the standard on most BBSes and Macs. It easily decompresses a wide variety of compressed file types, including those from PCs. The latest version supports drag and drop segmenting for easier archiving and boasts speed improvements. But use the new finder integration feature with caution, it takes 1 meg of RAM! If you order direct from Aladdin ask about a users group discount. Check out various vendor bundles for big discounts.

Aladdin Systems, Inc., 165 Westridge Dr., Watsonville, CA, 95076, (408) 761-6200, (800) 732-8881



Stuffit Expander 4.0.1 DropStuff 4, 30

Freeware
(Shareware)

Stuffit Expander is a “must have” utility. Expander gives you drag-and-drop expansion of compressed Stuffit files, Compact Pro files, and a number of others. State-of-the-art Shareware and another excellent product from Aladdin. Essential for anyone getting new files from other places. The counterpart is DropStuff, for drag and drop compression albeit with fewer options than the full Stuffit Deluxe package.

Aladdin Systems, Inc., 165 Westridge Dr., Watsonville, CA, 95076, (408) 761-6200, (800) 732-8881



SuperClock! 4.0.4

Freeware

A very nice program that installs a clock in your Menu Bar. It leaves room for the Application menu and Balloon Help icons, hides when a screen saver activates, toggles (when clicked) between time and date, and has an optional PB battery indicator and a 12- or 24-hour display format. While SuperClock is Freeware, Steve Christensen asks that you give a donation to the Lucile Salter Packard Children’s Hospital at Stanford (725 Welch Rd., Palo Alto, CA 94304). SuperClock is integrated into the Date & Time control panel of System 7.5. The control panel is available on BMUG’s Utilities G3 disk for \$4.

Steve Christensen

GRAPHICS AND DRAWING



Adobe Illustrator 6.0

\$390

This version of Adobe’s PostScript illustration program continues to improve. It gives you the ability to edit and create objects “in-preview,” organize objects into layers, and change paint attributes modelessly. Illustrator has always been precise at generating clean PostScript but in the past has had the least automated features, requiring users to create blends of objects to add simple gradient fills. With Version 6, Illustrator has added seamless integration with Photoshop and PageMaker (drag and drop), support for Photoshop filters, built-in color separation, path patterns for borders, frames, and other unique shapes, plus a rasterizing feature that converts any Illustrator image into pixel-based artwork which can be resized at any resolution. But in the area of image import, blends, traces, and text speed, it is still a bit inefficient.

Adobe Systems, Inc. 2, PO Box 6458, Salinas, CA, 93912, (800) 685-3526



ClarisDraw 1.0v3

\$200

ClarisDraw is the next generation of the MacDraw Pro drawing standard, incorporating more than 75 new features. New tools include regular color fills, gradients, beziers and shadows, full 24-bit color painting, image editing effects, presentation special effects, QuickTime video support and enhanced text handling with linked frames, text wrap and style, and built-in intelligence. SmartSymbol libraries and 3,400 pieces of clip art provide new drag-and-drop graphics creation and editing capabilities. Compatible with MacDraw II and MacDraw Pro files and data, as well as other industry-standard file formats (EPSF, TIFF, PICT, PICT2, CGM, MacPaint, and QuickTime). Seamless cross-platform (Mac and Windows) transparency across applications and platforms. Targeted for the business environment.

Claris Corp., 5201 Patrick Henry Dr., PO Box 58168, Santa Clara, CA, 95052-8168, Customer Relations (408) 727-8227, US Upgrades (800) 544-8554, US Dealers (800) 334-3535



FreeHand 5.5

\$390

Long missing from Choice Products, FreeHand has undergone major improvements since being acquired by Macromedia. It has become a very flexible program that can be configured to fit your particular needs. Styles apply to graphic elements as well as text. Text handling is speedy and well implemented. Xtras (plug-ins) can filter or manipulate. Third party and Illustrator plug-ins are supported. So are Photoshop Plug-ins, although those supplied by Adobe may take a bit more effort. The latest revision improved object export and support for in-line graphics. The biggest problem is very poor documentation.

Macromedia, 600 Townsend Street, San Francisco, CA, 94103, (415) 252-2000, (800) 326-2128



SmartSketch 1.0

\$50

This innovative drawing program from the creators of Silicon Beaches' SuperPaint takes object-oriented drawing to a new level. Great features include Shape recognition which allows you to smooth lines and correct misshapened objects to produce smooth precision drawings. There's no dealing with complex bezier handles; you can simply reshape images by dragging any line segment. It features 500+ drag and drop EasyArt images and includes eight interactive on-screen tutorials. SmartSketch also supports pressure sensitivity, so you can use it with your drawing tablet. A great product for creating high-resolution EPS drawings.

FutureWave, Inc., 8305 Vickers Street, Suite 200, San Diego, CA, 92111-2111, (619) 637-6190

HARDWARE UTILITIES



Disk First Aid 7.2, Appleware

(free)

With version 7.2, Apple has performed a major overhaul of this tireless and free utility. It now gives you some idea of what it's actually doing while it hums along. An excellent alternative to any of the larger utilities for daily maintenance of your storage media. We consistently use it as the "last word" on the health of a drive's directory (don't forget to run it repeatedly until your drive gets a clean bill of health). If you don't have it with your system software, get the latest Hardware System Update from your Apple dealer.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



FWB Hard Disk Toolkit 2.0

\$120

For most people, the drive software that comes with your drive is all you'll need. Apple and APS regularly update their drivers so that your hard disk will continue to run smoothly, and those updates are free. But if you are a Mac technical wiz and want or need to tweak the innards of your device driver, consider the full version (not PE version) of FWB's HardDisk Toolkit. It is a good formatter for fixed, removable, or optical drive (check the list on the box or ask FWB to make sure the drive you'll be using with HDT is supported). It speeds up operations as well or better than any other third party driver software. The latest version is SCSI Manager 4.3-savvy. But remember: this product is not for the amateur. The Personal Edition offers little more than Freeware drivers, and you face expensive upgrades every time Apple tweaks the system software.

FWB, Inc., 2040 Polk St., #215, San Francisco, CA, 94109, (415) 474-8055



MacTools Pro 4.0.4

\$95

All the major hardware utilities have been absorbed by Symantec, and apparently, the advertising bucks are going into other Symantec products. Symantec chose not to provide any space for MacTools at the 1996 SF Macworld Expo. Nevertheless, some differences between products remain. MacTools Pro has a clean interface and a strong selection of tools that seem to give it the upper hand in problem-fixing accuracy and disk recovery success. When we need to pull out the big guns on the Helpline, we reach for MacTools. Version 4.0 is accelerated for the Power Macintosh. Owners of previous versions should be able to upgrade for about \$50. But be warned, if you need technical support, it will cost you \$25 and up for help from Symantec. As Symantec also produces Norton Utilities, the days of MacTools may be numbered.

Symantec Corp., 10201 Torre Ave., Cupertino, CA, 95014, (800) 441-7234



Adobe Photoshop 3.0.5

\$560

Photoshop 3.0—a complete rewrite of the best image manipulation software on the market—is faster, more powerful, and more expandable than ever. Supports hardware add-ons, and its plug-in modules allow many scanners and compression packages to be directly accessed from within the application. There are new palettes for channel control, path creation, and on-the-fly color selection. New features layering, new color correction tools and a few dozen new filters. It's RAM-hungry but the only serious tool for image tweekers. Full version includes Adobe Gallery Effects. Upgrade from prior versions for only \$179.

Adobe Systems, Inc. 2, PO Box 6458, Salinas, CA, 93912, (800) 685-3526



Color It! 3.0.5

\$100

A poor-folks' Photoshop, Color It! offers a lot of power for a very low price. You can do all the standard imaging editing stuff, work with plug-ins, and apply special effects. It is customizable and flexible, and yet sophisticated as it provides complete pressure control and an excellent Unsharp Mask filter, for example. Convolutions functions are powerful, presets are accessible. It doesn't have the power of Photoshop, but for beginners and even intermediate users, this cheap paint program fits the bill, and doesn't require mountains of memory or endless expanses of disk space.

MicroFrontier, Inc., PO Box 71190, Des Moines, IA, 50325, (515) 270-8109



DeBabelizer Toolbox 1.6.5

\$260

DeBabelizer Lite 1.1

\$70

The Toolbox offers image processing and translation for dozens of graphic and animation formats and platforms. Images can be automatically processed using internal scripting. In addition to editing and manipulation palettes the Toolbox supports a variety of plug-ins. The Lite version offers robust translation for bit-mapped, scanned and paint files but without the scripting, palette manipulation and image processing features. Both versions handle 24-bit and 8-bit color reduction.

Equilibrium Technologies, 475 Gate Five Road, Suite 225, Sausalito, CA, 94965, (415) 332-4343



GifBuilder 0.3.1

Freeware

Don't stop with a static GIF image. With GIF Builder you can create animated GIF files, scripting the process if you like. Input anything from existing animated GIF's, a series of PICT's, TIFF files, QuickTime movies and more to create your images. You can control a number of image factors including pixel depth, color, interlacing, dithering, etc. Very nice.

Yves Piquet, Ave de la Chablère 35, 1004 Lausanne, Switzerland



GraphicConverter 2.4.3, 35

(Shareware)

GraphicConverter is a Shareware application that can open and read most common Mac, ATARI, Amiga and IBM formats to Mac formats and convert them from one format and back again as desired. It supports printing on almost any Macintosh printer. You can use GraphicConverter to convert files you find online for use in other programs, to view files, or to print them out. A versatile utility for viewing graphics from almost any source.

Lemke Software, Insterburger Str. 6, 31228, Peine



JPEGView 3.3.1

Postcardware

Useful and stable, this well designed image viewer is not only good for JPEG-compressed images but for a variety of formats. Nice interface and extensive online help make this a good viewer choice on any Mac.

Aaron Giles, 182 E. 95th Street 11E, New York, NY, 10128

INTEGRATED



ClarisWorks 4.0v4

\$120

Version 4.0 of this great “works” program adds a bunch and puts it even further in front of the rest of the pack. While most integrated software packages have many separate modules interacting at minimal levels, ClarisWorks allows you to have a fully functional spreadsheet in your graphics document or word processor, or whatever. The word processing and spreadsheet modules are great for everyday use and will easily meet the needs of the basic and intermediate user. Amazingly, with all this power, ClarisWorks works just fine with less than 1 meg of RAM, making it perfect for PowerBooks. With the (included) Claris translators, you can also access documents made by most of the popular applications on the market.

Claris Corp., 5201 Patrick Henry Dr., PO Box 58168, Santa Clara, CA, 95052-8168, Customer Relations (408) 727-8227, US Upgrades (800) 544-8554, US Dealers (800) 334-3535

LEARNING AND EXPLORATION FOR KIDS



**Amazon Trail (CD or Disk)
African Trail (CD)**

**\$50 (CD); \$40 (Disk)
\$50**

Based on the successful simulation The Oregon Trail, adventurers travel through a time warp to explore the Amazon River and learn about the rain forest while searching for an elusive medicinal plant. An Inca king has sent a jaguar in a dream to bring him the cure for his people; to find the plant and accomplish the mission, adventurers must talk with travelers from different eras. In African Trail, you relive a record-setting bicycle expedition across the continent. The other “Trail” titles are worth considering as well, including Oregon Trail II, the Yukon Trail, and MayaQuest: The Mystery Trail. Most are available on CD-ROM or Diskette and are for ages 10 and up.

MECC, 6160 Summit Dr. N, Minneapolis, MN, 55430, (612) 569-1500, (800) 685-6322



**Arthur’s Teacher Trouble CD-ROM
The New Kid on the Block**

**\$36
\$36**

Arthur’s Teacher Trouble and The New Kid on the Block have snappy animation and a great story that will have the kids from ages 6 to 10 (and some adults) enthralled for hours. Bilingual (Spanish and English), so it can help kids get started in learning a second language. They’re just some of the superb titles in the Living Books series from Brøderbund. Check out Just Grandma and Me and Harry & the Haunted House for starters.

Brøderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA, 94948-6121, (415) 382-4400, (800) 521-6263



**Carmen Sandiego Deluxe
Carmen Sandiego Junior Detective (CD)**

**\$47
\$40**

It’s a really great game for kids (and adults). Historically and geographically educational, while staying fun. With graphics, color, and sound effects. The Junior Detective game is designed for younger kids (ages 5 to 8). Other recommended titles include Where in the World is Carmen Sandiego, Where in the USA is Carmen Sandiego and Where in Space is Carmen Sandiego.

Brøderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA, 94948-6121, (415) 382-4400, (800) 521-6263



Creative Writer & Fine Artist Bundle

\$50

An exhausting amount of possibilities. Puts you in “Imaginopolis,” where you create banners, newsletters, greeting cards, and stories. Combines fonts, pictures, story starters, and a lot of the traditional writing program approaches. For ages 8 and up.

Microsoft Corp., One Microsoft Way, Redmond, WA, 98052-6399, (206) 882-8080



Headline Harry and the Great Paper Race

\$40

Search for clues needed to write headlines for major events in U.S. history.

Davidson & Associates, 19840 Pioneer Ave., Torrance, CA, (310) 793-0600, (800) 545-7677



Jump Start series

\$35 each

A great new series (5 so far) of early-learning software covering toddlers and preschooler to second graders. Each is filled with activities, games and progress reports. Each should entertain and teach for quite some time.

Knowledge Adventure, 1311 Grand Central, Glendale, CA, (818) 542-4200, (800) 542-4240



Kid Pix Studio

\$45

One of the few programs likely to attract youngsters away from video games. The tools have sound effects; the alphabet is in both English and Spanish; and there's even a "small kids" mode. This is a must-have if your kids are under 10, and you have a color Mac. Kid Pix Studio gives you lots more rubber stamps, hidden pictures, sounds, Color Me pictures, and Wacky TV (QuickTime). Oh, and it does kid-style presentations with a storyboard that makes truck sounds when you rearrange tiles! Great for kids of all ages.

Brøderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA, 94948-6121, (415) 382-4400, (800) 521-6263



KidDesk

\$30

Designed by early childhood experts, KidDesk gives kids creative control over their computing environment without putting parents' or teachers' data at risk. Adults select the programs that will appear on KidDesk from those installed on the hard drive. Through simple mouse clicks, even young children can launch their own software programs and learn real-life skills playing with KidDesk accessories. Accessories include a working calculator, a phone message machine, a talking clock, and a printable calendar. Children can choose any of six theme desktops such as Dinosaur, Executive, and Circus Desks. No reading or computer skills are required.

Edmark Corp., 6727 185th Ave. NE, PO Box 3218, Redmond, WA, 98073, (206) 556-8484



KidsTime Deluxe

\$50

Five different games for young children ages three to eight. They'll learn about music, typing, drawing, and more.

Great Wave Software, 5353 Scotts Valley Dr., Scotts Valley, CA, 95066, (408) 438-1990



Mavis Beacon Teaches Typing 4.0

\$35

Mavis Beacon Teaches Typing for Kids

\$20

Ok, who really wants to learn to type?? But it's a critical skill these days. Make it as painless as possible with Mavis Beacon. The main program features good lessons and games, plus effective feedback on monitoring. The "kids" version does not require reading skills.

Mindscape, 60 Leveroni Court, Novato, CA, 94949, (415) 883-3000, (800) 234-3088



Millie's Math House

\$35 (Disk); \$40 (CD)

Designed and developed by Berkeley Learning Technologies around the preschool math curriculum of California for ages 3-6, Millie has won several awards. Six activities teach numbers, patterning, sorting, and shape and size recognition—each activity allows for playing and learning, too. Color, black & white, sound input, a parent mode that gives info about the goals of each activity, and a special mode for disabled kids lacking hand/eye coordination. It never, ever tells you that you blew it—very cool!

Edmark Corp., 6727 - 185th Avenue, NE, Redmond, WA, 98073, (206) 556-8484



My Own Stories

\$50

Provides the tools kids need to write stories about what matters most to them—their experiences, family, friends, and themselves. Kids can write about their favorite memory, day, sport, and more. Gives kids everything they need to create—including the inspiration.

MECC, 6160 Summit Dr. N, Minneapolis, MN, 55430, (612) 569-1500, (800) 685-6322



Peter and the Wolf

\$25

Serge Prokofiev's story and music, the narration of Jack Lemmon and many captivating, original illustrations are combined to offer children a truly unforgettable storybook experience. Featuring original music performed by the Prague Festival Orchestra, Peter and the Wolf is a multimedia storybook children will want to listen to, read, and enjoy over and over again.

Ebook, Inc., 32970 Alvarado-Niles Rd. #704, Union City, CA, 94587, (510) 429-1331



Putt Putt Joins the Parade

\$40

Putt Putt Saves the Zoo

\$40

Preschoolers enjoy being a part of Putt Putt's adventures, whether getting into a parade or helping save the zoo animals.

Humongous Entertainment, 16932 Woodinville-Redmond Rd. #104, Woodinville, WA, 98072, (206) 486-9258



Scooter's Magic Castle

\$50

Kids explore a castle full of games and activities. For ages 5 years and up. Increasing levels of difficulty, amusing animations, and color. About exploring, not winning.

Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA, 94404, (415) 571-7171, (800) 245-4525



Swamp Gas Series

\$50

Good graphics and sounds distinguish these floppy-based U.S. geography games. Variable skill levels. For eight-year olds and up. Silly arcade games and slapstick maneuvers are the payoff.

Inline Software, 800 W. Cummings Park, Woburn, MA, 01801, (617) 935-1515, (800) 453-7671



The Cruncher

\$60

The Cruncher is a talking, animated spreadsheet targeted at ages 10 and up. The Cruncher teaches spreadsheet skills using real-world examples such as party planning, family budgeting, and calendar making. Features include a "talking feature" that reads aloud; animated clip art with sound effects for use with spreadsheets; charts and graphs; and a "notebook" associated with each spreadsheet to keep detailed information relevant to that spreadsheet.

Davidson & Associates, Inc., 19840 Pioneer Ave., Torrance, CA, (310) 793-0600, (800) 545-7677



The Playroom (CD-ROM)

\$40 (CD); \$35 (Disk)

Designed for 3- to 6-year olds, The Playroom teaches counting, letter recognition, telling time, spelling, reading and math readiness, creativity, and more. Point and click on just about anything in The Playroom, and something fun will happen.

Brøderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA, 94948-6121, (415) 382-4400, (800) 521-6263



Thinkin' Things 2

\$40

Thinkin' Things 3

\$40

A witty and entertaining collection of sophisticated and brain-building activities to improve observation, analysis, spatial awareness and reasoning for children ages 6 to 13.

Edmark Corp., 6727 185th Ave. NE, PO Box 3218, Redmond, WA, 98073, (206) 556-8484



World Discovery Deluxe

\$40

A great way to learn geography with this well designed series of map-based games. Even the sound is good quality.

Great Wave Software, 5353 Scotts Valley Drive, Scotts Valley, CA, (408) 438-1990, (800) 423-1144

MULTIMEDIA AUTHORIZING



Adobe Fetch 1.2

\$100

The ultimate in multimedia clip-storage. Lets you organize sounds, pictures, and QuickTime movies for easy retrieval and display. Automatically imports all compatible files available on multiple storage devices.

Adobe Systems, Inc. 1, PO Box 6458, Salinas, CA, 93912, (800) 628-2320



HyperCard 2.3.5

\$100

The basic engine behind most current CD-ROMs. The newer version 2.3 adds Power Mac native code and enhanced color support and scripting commands. While not exactly high-level, it does many jobs that other development engines just can't compare with as far as simplicity and accessibility. Offers stand-alone application capability and inexpensive distribution.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Macromedia Director 5

\$800

A powerful animation and authoring tool for creating high-quality multimedia presentations, animations, and interactive applications. Its interface makes use of Lingo commands. The latest version allows Mac users to create productions for other platforms, and with Shockwave (included) add multimedia effects to Web pages. Currently Director supports Netscape 2.0 Plus and plans support for other browsers.

Macromedia, 600 Townsend St., San Francisco, CA, 94103, (415) 252-2000



American Visions (CD-ROM)

\$60

Presents over 210 works of art in 24-bit color, representing 140 American artists. Videos, photographs, and narrative about the artists and their work, with narration by the collector.

Eden Interactive, 1022 Natoma St. #2, SF, CA, 94103, (415) 241-1450, (800) 743-3360



Cinemaniania '96

\$29

Despite annoying interface problems (hey, it's Microsoft), Cinemaniania is the CD-ROM movie guide. It contains over 24,000 listings, including movies, stills, sounds, clips, cast lists, filmographies, biographies, Leonard Matlin reviews, Pauline Kael reviews, Roger Ebert reviews, Baseline (a film encyclopedia) reviews, and more—and it's pretty zippy. It's the best movie guide out on the market. Very very cool.

Microsoft Corp., One Microsoft Way, Redmond, WA, 98052-6399, (206) 882-8080



From Alice to Ocean: Alone Across the Outback

\$45

A photo journalistic essay of Robyn Davidson's seven-month-long trek across the Australian outback. Appeals to both adults and children by offering insights into Australian geography and culture, along with an inspirational story about a journey against all odds. It's an interactive multimedia CD-ROM with a coffee table-style book of photographs by internationally recognized photographer Rick Smolan.

Claris Corp., 5201 Patrick Henry Dr., PO Box 58168, Santa Clara, CA, 95052-8168, Customer Relations (408) 727-8227, US Upgrades (800) 544-8554, US Dealers (800) 334-3535



Macbeth

\$35

A beautiful version of Shakespeare's Macbeth, with annotated text; QuickTime clips of the Roman Polanski, Orson Welles, and Akira Kurosawa film version; maps of Shakespeare's England (and Scotland); and more. Makes a wonderful gift, although by the time you get home, you'll probably decide to give it to yourself!

The Voyager Company, 578 Broadway #406, New York, NY, 10012, (212) 431-5199, (800) 446-2001



Mayo Clinic Family Health Book

\$80

Filled with information and advice about everything from preventive medicine to drug side effects this is a great resource for any family, especially since kids seem to create emergency situations on a regular basis. It now includes links with health related web sites via Netscape.

IVI Publishing, 7500 Flying Cloud Drive, Minneapolis, MN, 55344, (612) 996-6000, (800) 754-1484



Oceans Below

\$28

Oceans Below is a CD-ROM edutainment title that explores the world of scuba diving. Users can select from dive sites around the world and experience the exotic undersea world of manta rays, angel fish, coral walls, and shipwrecks. Includes more than 200 video clips—more than one hour's worth—and features marine life, plant life, and undersea sites.

Software Toolworks, 60 Leveroni Ct., Novato, CA, 94949, (415) 883-3000, (800) 234-3088



Passage to Vietnam (Book and CD-ROM)

\$70 (\$36 CD only)

Rick Smolan, the man who brought us From Alice to Ocean a few years ago, was part of the first officially sanctioned tour of Vietnam in 20 years. This book and CD-ROM combo shows photos by many of the world's top photojournalists, along with notes about daily life in Vietnam and lessons on photography. Combined with an excellent multimedia control, it makes the most out of QuickTime on a CD-ROM. This is where the future of these discs is headed, folks. Watch out, though, since many of the books are being sold without the disc. The disk can be purchased separately for around \$40.

Against All Odds, PO Box 1189, Sausalito, CA, 94966, (415) 331-6300



Real World Picture Atlas

\$40

The Cities Below, 40, Great satellite images of the world overlaid or underlaid with maps of the areas viewed. Disks include useful information about the world your exploring. The interface is especially well designed.

Now What Software, 2303 Sacramento Street, San Francisco, CA, 94115, (415) 885-1689, (800) 322-1954



Seven Days in August

\$14

An interactive documentary that recalls the week of August 13th to 19th, 1961 and the construction of the Berlin Wall. Features slide shows, four hours of audio, two hours of narrated photomontage, and two interactive games—all recapturing what life was like for both Americans and Berliners during that historic week.

Time Warner Interactive, 2210 W. Olive Ave., Burbank, CA, 91506, (818) 955-9999, (800) 593-6334



Star Trek the Next Generation: Interactive Technical Manual

\$50

The "Official Starfleet Virtual Tour," this CD-ROM is an absolute must-have for any Next Generation fan. It includes the first full implementation of QuickTime VR, which means that you can get a 360-degree view of your surroundings from any of multiple locations on the Enterprise. An incredible amount of information and detail. Brilliant.

Simon & Schuster Interactive, 1230 Avenue of the Americas, New York, NY, 10020



The Residents' Freak Show

\$28

Discover fetishes, fantasies, rituals, and tragic secrets through photos, comics, music, music videos, and animation. Featuring spectacular animation design by Jim Ludtke, Freak Show is a new audio-visual experience encompassing the future of interactive stories, music videos, and digital art. You'll need a lot of computing power to fully enjoy this fascinating but resource-demanding interactive CD-ROM.

The Voyager Company, 578 Broadway #406, New York, NY, 10012, (212) 431-5199, (800) 446-2001



Think for Yourself (CD)

\$149

A collection of statistics from the United Nations, World Health Organization, and other American governmental sources, with an easy-to-use Discovery data analysis program. The information includes data on AIDS, the environment, health, and American demographics. The Discovery application "understands" the information contained in the data sets, and lets even young kids analyze and solve problems.

PEMD Education Group, 35000 Highway 128, Cloverdale, CA, 95425-0039, (707) 894-3668



Voyager II v2.0

\$100

You can view the stars as the Egyptian pyramid builders saw them thousands of years ago or see the pattern the sun makes in the sky during its annual migration. Stand on a nearby star, watch the orbits of the planets, and see Halley's Comet pass by. The tools and precision in this program are good enough for professionals. A truly amazing product developed by zealots, with love. Entertaining enough to keep in your games folder, the new version has color, sky pictures, and a bigger astral database. The CD-ROM version adds the 19-million-star Hubble Guide Star Catalog and a collection of almost 800 astronomical pictures. Available on disk or CD-ROM.

Carina Software, 830 Williams St., San Leandro, CA, 94577, (510) 352-7328



Xplora 1: Peter Gabriel's Secret World

\$45

A stunning CD-ROM from Peter Gabriel with over 100 minutes of video, 30 minutes of audio, 100 still images, tons of text, videos of the songs (and conversations with the directors), a sampling of the WOMAD music festival (and 40 different world music albums), behind the scenes at the Grammys, and more. You can even create your own mix of "Digging in the Dirt."

MacPlay, 17922 Fitch Ave., Irvine, CA, 92714-6038, (800) 428-8200

SPREADSHEETS



ClarisWorks 4.0v4

\$120

For those with modest spreadsheet needs, or limited memory and disk space, ClarisWorks is an excellent choice. Though an integrated package, its spreadsheet module is robust, yet compact. For more information see "Integrated Packages."

Claris Corp., 5201 Patrick Henry Dr., PO Box 58168, Santa Clara, CA, 95052-8168, Customer Relations (408) 727-8227, US

Upgrades (800) 544-8554, US Dealers (800) 334-3535



DeltaGraph 4.0.1

\$135

As statistical packages become more versatile and business presentations by computer more common, the demand for sophisticated graphing programs is stronger than ever. Spreadsheets like Microsoft Excel have impressive graphing modules, but no program offers a wider range of charts than DeltaGraph. It has dozens of chart types (some unique), PostScript, import/export, slide show effects, warm links with Excel, and free tech support. It's the best value for presentation and general charting. This latest version sports a revamped interface, better speed, hot links to Excel 5.0 files, broken axis support and about 70 chart types, 200 chart styles, and support for AppleScript. It is System 7.5-savvy, and Power Mac native. Save by checking competitive upgrade pricing before you buy.

DeltaPoint Inc., 2 Harris Ct., Ste. B-1, Monterey, CA, 93940, (408) 648-4000, (800) 446-6955



Microsoft Excel 5.0

\$295

Excel is universally acknowledged as the best spreadsheet for the Mac and/or Windows. Both versions share a single manual, but that's less of a bother than it would seem. This product is easier to learn and use, and more feature-packed for the power user than the competition. But watch out, Excel is a major resource hog, requiring tons of RAM and loads of hard drive space. If you are not a power spreadsheet user, take a look at ClarisWorks. If you already own an earlier version of Excel, you may also want to forego the upgrade to 5.0.

Microsoft Corp., One Microsoft Way, Redmond, WA, 98052-6399, (206) 882-8080

OCR



OmniPage Professional 6.0

\$490

OmniPage has always been among the fastest and most accurate of the OCR packages. Currently, its expert tools make it the clear choice for power users. The Preview window allows you to zoom in and check the brightness settings. Multiple zones per page can be selected and specified for different content. AccuPage can process tinted or shaded pages. There is a training mode for non-standard characters. The after-processing view is actually a full-featured word processor with a spell checker, and there is a separate module for editing grayscale images. 3-D OCR permits viewing the depth of character pixels and multiple zones allowing zone templates to be saved and reused. The latest version boasts better accuracy, and it's accessible from any program. It's expensive, but it does everything you are likely to want. If you already own a competitor's product, you may be able to purchase this program for as little as \$150.

Caere Corp., 100 Cooper Ct., Los Gatos, CA, 95030, (408) 395-7000, (800) 736-5735



TextBridge 3.0

\$80

In the past, if you wanted to do OCR your only choice was to spend \$500 on a program like OmniPage, or pay less for software that was either feature-poor or error-prone. Now, with TextBridge Mac, anyone can afford high-quality OCR. TextBridge Mac is among the most accurate OCR programs and even does a good job with faxes—the bane of any OCR program. It can even handle graphics with features like a TIFF Queue that can process multiple images into a single document. It supports the TWAIN standard and is PowerPC native. Unless you are into heavy-duty OCR, TextBridge Mac can't be beat for price and performance.

Xerox Imaging Systems, Inc., 9 Centennial Dr., Peabody, MA, 01960, (508) 977-2000, (800) 248-6550

ONLINE



Anarchie 1.6.0

\$10 (Shareware)

Internet browsers also do not do a great job of searching for and retrieving files off the net. This is where a program like Anarchie shines. Browse FTP sites, upload or download files, or find them using Anarchie. It requires System 7 and MacTCP 1.1 or later. System 7.5 and MacTCP 2.0.6 or later are both highly recommended. This version is Open Transport compatible, has fixed support for non-standard FTP ports and displays more progress information. It also has a great list of anonymous FTP sites.

Peter N. Lewis, Stairways Software



Apple Remote Access 2.1 Apple Remote Access 2.1 Client

\$189

\$59

This utility has changed the way people do business. It's an enabling bit of software that's easy to use. If you need remote access to your computer or network (for file sharing, email, or running your database remotely), this is the product. Attempts have been made to do this, using hardware and software combinations, but they were cumbersome and slow. ARA installs easily, works simply, and features security and speed. After connecting, your remote volumes and printers become available on your local machine. The latest upgrade offers support for ISDN and high speed modems (28.8 kbps/V.34), an expanded set of scripts and are Open Transport compatible.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Eudora Light 1.5.4
Eudora Pro

Freeware
\$60

Getting email of the net is relatively painless with Eudora. The Freeware version is fine for most folks. Pro will help manage the larger email bags with its keywords and search abilities.

Qualcomm, eudora-info@qualcomm.com



Internet Config 1.1

Freeware

Make your internet life easier. With Internet Config you only have to enter your email address once and your information gets placed in the preferences of most of your internet applications automatically by reducing the number of times which you need to enter your Internet preferences into the various preferences dialogs of all your Internet applications. Common preferences can just as easily be edited. Some programs must be modified to take advantage of the program however.

Late Night Silly Software, internet-config@share.com



Newswatcher 2.13

Freeware

It is easy to let your web browser do all the work when you log onto the internet. Alas, they just don't do all things well. If you want to check or post online news, this is a great tool. Another gift to the community from John Norstad (developer of Disinfectant). It does not support reading the news offline however.

John Norstad, Northwestern University



Nok Nok 2.0
Nok Nok A/S AppleShare Server

\$50
\$159

System 7's file sharing abilities are really nice, but security could stand a lot of improvement. Nok Nok fills this gap by telling you who's logging in, and from where. You can limit how long they can share, and it allows you to keep a log of who's been on and when. Features include file sharing performance adjustment, PlainTalk support (it'll announce the name of the person accessing your machine), and LookOut! (a utility that reveals server access privileges in the Chooser).

The AG Group, Inc., 2540 Camino Diablo #202, Walnut Creek, CA, 94596, (510) 937-7900, (800) 466-2447



ShareDevil, ZiffWare

Freeware

This utility is "ZiffWare" by the late Robert Hess used to be called "Shaman." It's an easy way to control file sharing. A must for people who are worried about who's logged into their computer over the local network. It is available on ZiffNet and services which carry it. If you really appreciate Mr. Hess' efforts, his family asked that donations be sent to DQ (Digital Queers) in San Francisco.

Ziff-Davis Publishing Co., 950 Tower Lane 18th Floor, Foster City, CA, 94404, (415) 378-5600



Transparency 1.0

Freeware

If you want to use transparent GIF images on your Web page, this simple utility is just what you need. It sets the transparency index. Just drag a GIF onto the Transparency icon and the image opens up against a grey background ready for you color and customize.

Aaron Giles, giles@med.cornell.edu



ZTerm 1.0.1

\$30 (Shareware)

ZTerm is a versatile telecom program that features XModem, YModem, and ZModem file transfers; VT100 terminal emulation; ANSI screen control; and a scrollback buffer. This version also allows some simple scripting. Comprehensive docs are included in a separate file. Even though it's Shareware, it outshines many commercial offerings, and the price can't be beat. Despite its non-GUI appearance, it remains the good choice for connecting with a remote site. Available on BMUG's Telecom A1 disk for \$4, and on Planet BMUG.

David P. Alverson, 5635 Cross Creek Ct., Mason, OH, 45040

OPERATING SYSTEM



LaserWriter 8.3.4, Appleware

(Free)

This latest version of Apple's PostScript printer driver adds QuickDraw GX's Desktop Printer function allowing you to select and organize or background printing in the Finder. All without the overhead of QuickDraw GX! If you print to a PostScript printer, you'll want this cool driver. PPD selection makes sure of compatibilities with custom features of any printer.

Apple Computer, 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Macintosh System 7.5.3 Rev 2

\$35

System 7.5 is more than just a maintenance release of the Macintosh OS. It improves the previous system in many invisible ways and adds some very visible and integrated new features, like an improved Find command, more cleanly-organized control panels, and AppleGuide, the best online help system available on any personal computer. For the power user, Apple has added QuickDraw GX and PowerTalk. With a number of bug fixes and many useful applications and control panels, we can recommend this upgrade to anyone whose Mac can handle System 7. But be sure to update to version 7.5.3 with the Hardware System Update 2.0, then update further with Revision 2 (yea, these versions and revisions are confusing). Revision 2 helps only with certain machines, so check the Read Me first before installing. Earlier versions of 7.5 had a number of problems, especially with 5300-series PowerBooks. Installing this update will make your life much easier regardless of which Mac you own. If you don't yet own 7.5, consider waiting for "Unity" the next release of 7.5 that will included all these updates and revisions, ready for a one-click install.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



SimpleText 1.3.1, Appleware

(Free)

SimpleText replaces Apple's venerable, but basic text program, TeachText. Its features are limited; there are no formatting options and no Undo function, but you can select fonts and add styling to your text. It supports drag-and-drop and Speech Manager making it pretty impressive for such a compact and versatile program. But our favorite enhancement is that you can have two text files open at one time, something TeachText never allowed. This alone makes it worth upgrading. SimpleText works fine with earlier versions of System 7. Version 1.3 supports PICT file, QuickTime movie, QuickDraw GX PDDs, and QuickDraw 3-D model viewing.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, 408-996-1010, 800-767-2775 Product Info, 800-538-9696 Dealer Locations



SimpleText Color Menu 2.1

Freeware

This handy little SimpleText enhancement installs a color menu, adds find and replace capabilities, word count and more, making Apple's little word processor much more useful. Requires SimpleText version 1.1 or later.

Alessandro Levi Montalcini, C.so Re Umberto 10, 10121 Torino, Italy, Product Info (408) 996-1010, (800) 767-2775, Dealer Locations (800) 538-9696



Dabblers 2.04

\$45

This inexpensive product from the programming masters that brought us Painter and Sketcher has exceptional features. Designed for basic Mac users, it offers ease of use and compatibility with many types of Macs. Users can have fun creating natural-looking art—from finger painting to impressionistic oil painting in 16-bit color. The "tracing paper" option helps assure accurate animation. For best results, use a pressure-sensitive tablet like the WACOM; do not use a mouse.

Fractal Design Corp., 335 Spreckels Dr., Ste. F, Aptos, CA, 95003, (408) 688-8800, (800) 647-7443



Painter 4

\$380

The best textural painting software there is for the Mac. This powerful program handles multiple floating selections, a gradient composer to create color ramps and gradients, a wealth of painting tools and effects, and multimedia tools. A new mosaic feature allows cloning or painting with tiles. You can even apply Painter's tools to QuickTime movies frame by frame. If you've got a pressure-sensitive tablet, this is the way to go, hands down (or is that pens down?).

Fractal Design Corp., 335 Spreckels Dr., Ste. F, Aptos, CA, 95003, (408) 688-8800, (800) 647-7443

PERSONAL INFORMATION MANAGEMENT



AreaCodeFinder 4.2

\$15 (Shareware)

With the number of area codes soaring it's hard to keep track of what prefixes you need to punch. AreaCodeFinder helps by identifying locations within an area code and area codes for specific locations. Plus it's updatable. But what will happen if some areas are assigned two area codes?

John J. Calande III, 1438 South 8th Street, Philadelphia, PA, 19147, (215) 551-0918



Gene 4.1

\$15 (Shareware)

For the person just starting out with their family tree, try Gene. Its information fields are pretty basic, but it creates nice charts and keeps everyone connected. The data can also be exported into Reunion if you ever want to move up.

Diana Eppstein, 8 Owen Court, Irvine, CA, 92715



InfoGenie

\$55

A fast and easy way to store any personal information you may have. InfoGenie is an unstructured free form database. You can define fields or not as you choose. You can keep track of your data in your own way. It also prints envelopes and labels, and dials the phone. You might call it the 7.5 successor to SuperQuickDex.

Casady & Greene, 22734 Portola Drive, Salinas, CA, 93908, (408) 484-9228, (800) 359-4920



Now Up-to-Date & Contact 3.6

\$70

Together at last, the latest version formally bundles these two well integrated products. They are the best way to organize information about your friends, clients and associates. They are both fast and the Reminder and QuickContact menus are unusually clever and well implemented. The consistent look and feel is a real bonus. A free form comments area adds flexibility and QuickPad lets you instantly enter a note or message into the program. Another nice feature is the ability to access phone numbers or events from the menu bar without starting the application. Now Up-to-Date is richly customizable, with more features than any other time manager on the market, and fully networkable, too! The new version supports drag and drop from Web pages, improves printing support and is PowerPC native.

Now Software, Inc., 921 SW Washington St. #500, Portland, OR, 97205, (503) 274-2800, (800) 237-3611



Reunion 4.0

\$110

For personal record keeping that takes you back to your roots, there is no genealogy software that beats Reunion. It is powerful, easy to use, and you can't beat the charts. You can even put in a picture of Aunt Minnie or Uncle Ned. Information is easily added, and you can customize fields. It's much faster now that the latest version is no longer HyperCard-based; reason alone for users of older versions to upgrade. As with all genealogy programs there are limitations; non-traditional Western European relationships don't easily fit. So if you have ancestors in San Francisco or Utah...

Leister Productions, PO Box 289, Mechanicsburg, PA, 17055, (717) 697-1378



Kai's Power Tools 3.02

\$125

A set of over 30 powerful generators and filter plug-ins for Adobe Photoshop, Fractal Design Painter, and other programs that use plug-in technology. The interface alone makes this program an essential part of any self-respecting artist's software

toolbox. New features include KPT Lens F/X for exploring filter enhancements in real time, a spheroid designer, and an Interform to mix textures precisely. Be sure to get your version updated with the latest maintenance patch.

MetaTools, 6303 Carpenteria Av, Carpenteria, CA, 93013, (805) 566-6200, (800) 472-9025



KPT Vector Effects

\$120

KPT Vector Effects is a powerful set of plug-in extensions for Adobe Illustrator and Macromedia FreeHand that enable you to create special effects like distortion, warping, 3D extrusion, bevel embossing, perspective distortion and shadowing that manually would have taken hours to create or simply would not have been possible. Similar to Kai's Photoshop filters, Vector Effects' interface is intuitive and easy to use.

MetaTools, 6303 Carpenteria Av, Carpenteria, CA, 93013, (805) 566-6200, (800) 472-9025



Persuasion 3.0.2

\$280

Persuasion is the product of choice for slide and screen business and educational presentations. A new set of palettes was added with version 3, permitting improved control over text and color. Its impressive library of templates and chart styles was also enhanced. Persuasion supports importing of data from a variety of other programs. The interface is much friendlier, yet the program is more powerful—a nice combination. The choice of the pros for its ability to create graphs and manipulate images, it has a steep learning curve.

Adobe Systems, Inc. 1, PO Box 6458, Salinas, CA, 93912, (800) 628-2320



Metrowerks CodeWarrior Gold 9

\$400

Metrowerks CodeWarrior Bronze 9

\$150

CodeWarrior is becoming the programming environment of choice for development on the Macintosh. Compiles for both the 680x0 and Apple's new Power Macs (in native mode). It comes in two versions: Bronze for 680x0 development and Gold for development on either 680x0 or PowerPC processors. Gold 9 supports development for the Mac, MagicCap and Windows, and adds Java and BeOS support as well.

Metrowerks, Inc., The Trimex Bldg., Rte. 11, Mooers, NY, 12958, (514) 747-5999, (800) 247-6553



Symantec C++ 8.5

\$400

It took quite a while but Symantec finally upgraded C++ and made it PowerPC native. The foundation for Mac applications in the past, CodeWarrior has stolen much of its thunder as a development tool for the fastest Macs. The latest version boasts support for Java and Pascal.

Symantec Corp., 10201 Torre Ave., Cupertino, CA, 95014, (800) 441-7234

PUBLISHING



Acrobat 2.1/Acrobat Pro 2.1

\$140 / \$420

Acrobat Reader 3.0b1

Freeware

The vision of Adobe to produce an electronic document-exchange file format, free of platform and font limitations, while carrying all the detail and complexities of PostScript sounded too grand to become real—and with version 1.0 of Acrobat it certainly was bleak. Now comes the truly amazing version 2.0—smaller, faster, and completely seamless. The Acrobat Portable Document Format (PDF) lets you transport documents to and from any Mac, DOS, Windows, or UNIX application—and environment! Electronic documents are easy to produce and edit with any program that outputs PostScript. The Acrobat Distiller that comes in the Acrobat Pro package can take raw PostScript code and compile Acrobat PDF files, embedding fonts and EPS graphics for perfect translation to any screen. Fully Power Mac native. The Acrobat Reader 3.0b1, is freely distributable and fits on one HD disk (and now includes a complete and Power Mac version of ATM!). This latest version (in beta but available online) integrates with Netscape and does full dithering of text.

Adobe Systems, Inc. 3, 1585 Charleston Rd., Mountain View, CA, 94039, (415) 961-4400, (800) 833-6687



PageMaker 6.0.1

\$550

Our choice for the premier page-layout application. Many would argue for QuarkXPress, but Quark's tech support, interface quirks, corporate policies, and code-stability leave too much to be desired. PageMaker has long been the follower in the feature race, but Aldus/Adobe's implementation far exceeds the rest of the market in ease of use, technical support, and customer service. Version 6.0 is a fairly quick Adobe style revision and is well worth the update. PM 6.0 now supports multiple master pages, fast object grouping, masking, Photoshop plug-ins, auto-trapping, auto Acrobat PDF file creation, and complete HTML exporting. While these are major advancements we are still looking forward to a complete Adobe-style "Quark-killer" next year in PageMaker 7.0. Just about everything BMUG produces goes through PageMaker, including this Newsletter. We have found it much easier to get novice DTP volunteers up and running with our PM layouts than to get them to easily use XPress. Overall PageMaker makes it easier to manage such a large publication. The Power Mac native version of it no longer costs extra; the whole thing ships on either floppies or a CD-ROM.

Adobe Systems, Inc. 1, PO Box 6458, Salinas, CA, 93912, (800) 628-2320



Adobe Dimensions 2.0

\$128

The easy way to take your PostScript drawings from 2-D to 3-D. Lets you revolve paths around an axis, extrude, map 2-D or 3-D objects onto any curved surface, and combine shapes to make more complex objects. Another excellent Adobe product.

Adobe Systems, Inc. 3, 1585 Charleston Rd., Mountain View, CA, 94039, (415) 961-4400, (800) 833-6687



Alias Sketch! 2.02

\$560

A free-form 3-D illustration and design application that provides all the benefits of working in 3-D: shape creation and manipulation; the ability to view objects from any perspective; and automatic calculation of real-world lighting, shadows, reflections, and textures. Very cool.

Alias Research, Inc., 110 Richmond St. E, Toronto, Ontario, M5C 1P1, Canada, (416) 362-9181, (800) 447-2542



KPT Bryce 2.0

\$170

The landscape rendering program used to create the Fall 1994 Newsletter cover. Spectacular landscapes, dozens of preset skies, grounds, and terrains which can be combined in countless ways. It took forever to render (until we got the Power Mac native version!), but the results were worth it. Another incredible package from Kai and HSC.

MetaTools, 6303 Carpenteria Av, Carpenteria, CA, 93013, (805) 566-6200, (800) 472-9025



Poser 1.03

\$100

This amazing and inexpensive new product renders human figures making it easy to incorporate photo quality models in infinite variety. The figures are easy to manipulate into realistic positions and to render using custom color and bump maps. Check out the cover of the Fall 1995 Newsletter to get an idea of what we mean.

Fractal Design, 335 Spreckels Dr., Ste. F, Aptos, CA, 95003, (408) 688-8800, (800) 647-7443



StudioPro Blitz 1.75+

\$900

While the ranks of three-dimensional players have swelled since Strata Vision 3D first come on the scene, Strata is still one of the few to offer a complete modeling, rendering, and animation environment. A new more-intuitive interface expands the studio-quality Animation System with extensions that include Shatter, Atomize, and Explode. Native Power Mac acceleration speeds up the photo-realistic rendering algorithms. A PowerMac is required and QuickDraw 3D is supported.

Strata Inc., 2 W. Saint George Blvd., Ste 2100, St. George, UT, 84770, (801) 628-5218, (800) 869-6855

SCRIPTING

**AppleScript 1.1, Appaware****(Free)**

With the invention of Apple Events way back with System 7 everyone waited years for Apple to make a simple scripting engine to drive them for the non-programmer. Well Apple finally did complete this overdue project, and now you can magically create automated tasks like taking this very writing from the database that it is created and organized in to laying it out in PageMaker—without lifting a finger. For more information on what you can do with AppleScript and to get AppleScript itself check out BMUG's own publication, *The Tao of AppleScript*, published by Hayden Books.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696

**QuicKeys 3.0.1 AppleScript 1.1100**

QuicKeys is a great macro creator that lets you automate how you use your computer—and it works with applications that don't support AppleScript. Why should you type the same things over and over again, when QuicKeys can do it for you? A new version (3.5) is due out this summer.

CE Software, Inc., PO Box 65580, West Des Moines, IA, 50265, (515) 221-1801

**The Tao of AppleScript, 2nd Edition AppleScript 1.125****\$12**

Straight from the depths of BMUG, the best AppleScript book on the market for learning how to script. Does that sound biased? It probably is, but that doesn't mean it isn't true. This book is designed to introduce programming to the intermediate computer user and anyone interested in AppleScript. Comes with AppleScript 1.1.

BMUG, Inc., 1442A Walnut St., #62, Berkeley, CA, 94709-1496, (510) 549-2684, (800) 776-2684

**Typelt4Me 4.5.1****\$30 (Shareware)**

Super tool for converting your abbreviations to text while you type. You can even tell it to correct your common typos like "hte" to "the". But keep your eyes open, there are a few bugs to look out for.

Riccardo Ettore

WORD PROCESSING

**American Heritage Talking Dictionary 4.0 (CD-ROM)****\$40**

The American Heritage Dictionary is fast, has 200,000 referenced words (including usage notes, geographical names, and famous people), a thesaurus with over 500,000 words, and a Dictionary of Cultural Literacy with tens of thousands of listings. The definitions are word-for-word identical to the paper edition, minus the illustrations. It has great search capabilities, including anagrams, alternate spellings (chiefly British), wild cards, and WordHunter, which can do Boolean searches. The new version offers better compatibility, access to definitions without leaving your word processing program and wild card searches. But it is big, 14 megs on your Hard Disk without the talking part.

SoftKey International, One Athenaeum Street, Cambridge, MA, 02142, (617) 494-1200, (800) 227-5609

**Bar Code Pro 2.0****\$200**

A clean and simple-to-use bar code creation tool that kicks out PICT or EPS graphics files. UPCE, Postnet/FIM, Code 39 (a personal favorite!), Pharmacode, etc. The images can be placed directly into page layout programs like QuarkXPress and PageMaker or your Word Processor. Over 40 symbologies and variations are included.

Synex, 692 10th St., Brooklyn, NY, 11215, (718) 499-6293, (800) 447-9639



BBEdit 4.0
BBEdit Lite 3.5.1

\$79
Freeware

BBEdit was originally a Freeware text editor, but by “popular demand” it has gone commercial. Anyone looking for a great text editor for web pages programming, or anything else, should get BBEdit. It supports project files of the THINK languages and CodeWarrior; works with ToolServer; and has a built-in browser, and lots of other neat things. Best of all, with the latest version BBEdit has become a premier tool for creating and revising Web pages with excellent HTML editing features!

Bare Bones Software, P.O. Box 108, Bedford, MA, 01730-0108



ClarisWorks 4.0v4

\$120

This latest version adds a major new capability putting it in league with the big guys—paragraph styles. Incorporating the outline function into the paragraph styles you can now create very large and complex documents easily and powerfully. Though an integrated package, it boasts a very impressive word processing module. It has the additional advantage of being very compact, making it ideal for PowerBooks. For a more complete description, see “Integrated Packages.” It is a wonder that MacWrite Pro came from the same company.

Claris Corp., 5201 Patrick Henry Dr., PO Box 58168, Santa Clara, CA, 95052-8168, Customer Relations (408) 727-8227, US Upgrades (800) 544-8554, US Dealers (800) 334-3535



EndNote Plus 2.1.3
EndLink 2.0

\$180
\$60

Keeping track of your references is always a problem, whether you are preparing a book, professional article, or term paper for school. EndNote Plus, a powerful database that knows all about bibliographic references and styles, almost makes writing term papers fun. It automatically generates a correctly formatted bibliography and footnotes for your paper. There is a slick plug-in module that works in Word, and a new Japanese localized version. EndLink enables you to transfer bibliographic references from online and academic services directly into your personal bibliographic database. A major time-saver for online researchers.

Niles and Associates, 800 Jones St., Berkeley, CA, 94710, (510) 559-8592



MacEnvelopes Pro
MacEnvelopes 5.2

\$179
\$60

Printing envelopes is usually an awful chore. MacEnvelopes 5.2 makes it much easier. It works with any printer, massive amounts of records, and any customized layout a user wants; it will even print graphics and postal bar codes. If you want to integrate professional list management, envelope and label graphic design, and printing in one fast package, check out MacEnvelopes Pro. Synex has released a Shareware version of this product, MacEnvelope Lite v 1.0. The Shareware fee is \$25.

Synex, 692 10th St., Brooklyn, NY, 11215, (718) 499-6293, (800) 447-9639



Nisus Writer 4.16 (Disk or CD-ROM)

\$100

After a period of invisibility in the Mac world, Nisus has surfaced with an excellent upgrade to its powerful Nisus Writer word processor. It sports an incredible number of features, including multiple clipboards; support for multiple languages within the same document; windows that can be tiled or stacked and split horizontally and vertically; synchronized scrolling; line numbers; and invisible characters. Search and Replace includes a pattern-matching facility that allows users to specify a literal or more general search pattern. Text will wrap around graphics, and graphics can be pasted into text as characters. It has a steeper learning curve than many other programs, but its power and speed make it worth the effort. Some versions require hardware copy protection.

Nisus Software, Inc., PO Box 1300, Solana Beach, CA, 92075, (619) 481-1477, (800) 922-2993



WordPerfect 3.5 (Disks or CD-ROM)

\$100

Version 3.5 is about as good as it gets in Mac word processing with a highly customizable interface, button bars and tool ribbons galore. The macro language has power similar to that found in MS Excel. Text boxes allow you to do WYSIWYG page layout. Don't forget the HTML editing capabilities, if you want to use a word processor for that. All this for about the lowest

price in the market. The principal drawback is that the great WordPerfect development team has been dissolved during the three way passoff that took the product from WordPerfect to Novell to Corel. Corel has announced version 4.0 should be out before the end of the year. We'll know more when we've seen it. In the meantime, keep an eye on the Corel web site (www.corel.com).

Corel Corp., 1600 Carling Avenue, Ottawa, Ontario, K1Z8R7, (613) 728-8200, (800) 772-6735



Working Watermarker v 1.0.10

\$36

This extension lets you place a “watermark” on any document you print. Design your own pattern or watermark. Add “Draft,” “For Your Eyes Only,” a logo, “Do Not Copy,” or whatever you please. Control the process from your normal Print dialog box, where you can control which pages get watermarked, what message to print (you paste in a graphic), and how dark to print the watermark. Simple, yet impressive.

Working Software, Inc., PO Box 1844, Santa Cruz, CA, 95061-1844, (408) 423-5696, (800) 229-9675

MISCELLANEOUS

BOOKS

Design and Style Guides



Adobe Classroom in a Book Series

\$29 to \$35

Who better but Adobe to produce the definitive book on using Illustrator, Photoshop, Advanced Photoshop, Premiere and PageMaker. Each book includes a CD-ROM with projects to provide hands on training experiences.

Hayden Books, 201 W. 103rd St., Indianapolis, IN, 46290, (800) 428-5331



Design Essentials, Second Edition Imaging Essentials

\$40

\$40

These two books from Adobe Press describe a variety of production techniques to help the budding graphic artist combine the capabilities of separate software to create effects that cannot be achieved with a single application. The first book, Design Essentials, has an emphasis on PostScript-based illustrations incorporating digital photographs. The second book, Imaging Essentials, spins digital photo manipulation to expert levels and includes a section updating the first book's projects for newer software. Although Adobe software is featured in these books any digital artist can find ideas for solving those “how can I do this” blues.

Hayden Books, 201 W. 103rd St., Indianapolis, IN, 46290, (317) 581-3718



The Mac is not a typewriter

\$10

If you use a Mac and ever go anywhere near a printer, you should buy this book. It sets forth common-sense guidelines for typesetting, and explains them well. Robin Williams has done a wonderful job of lending insight to the printed page and to Mac users everywhere. It should help anyone make pages that are just a little easier on the eye.

Peachpit Press, 2414 Sixth St., Berkeley, CA, 94710, (510) 548-4393, (800) 283-9444



The Non-Designer's Design Book

\$15

Another excellent book from Robin Williams. A slim, concise distillation that will guide you around the most common pitfalls of document design. You don't need to be a desktop publishing artist to product eye-grabbing output.

Peachpit Press, 2414 Sixth St., Berkeley, CA, 94710, (510) 548-4393, (800) 283-9444

Exploring the Mac



Power Macintosh Programming Starter Kit

\$30

The complete guide to Power Macintosh concepts, run-time architecture, and sample code. Includes a CD-ROM with a demo version of Metrowerks CodeWarrior. It's a great introduction for anyone looking to get her feet wet in programming.

Hayden Books, 201 W. 103rd St., Indianapolis, IN, 46290, (317) 581-3718

Problem Solving



Sad Macs, Bombs, and Other Disasters, Second Edition

\$25

The best book for finding out what's wrong with your Mac. Edited by Lauren Antonoff and Betsy Brahm, two long-time BMUGers, this book explains things in terms you can understand. Author Ted Landau, a writer for MacUser, did a good job of making this book accessible to just about everyone. This second edition adds information covering all the latest Macintosh models.

Addison-Wesley Publishing Co., 1 Jacob Way, Reading, MA, 01867, (617) 944-3700, (800) 358-4566

Using the Mac



Creating a Healthy Work Environment

Free

After spending thousands on your software and hardware, don't overlook your most important piece of equipment: your body. This little 12-page pamphlet addresses basic health concerns from basic repetitive-stress, eye fatigue to hardware setup health issues. It even mentions laser printer ozone pollution. You can even use it to help educate your boss.

Apple Computer Inc., 1 Infinite Loop, Cupertino, CA, 95014, (408) 996-1010, Product Info (800) 767-2775, Dealer Locations (800) 538-9696



Dead Mac Scrolls

\$12

Superb guide to troubleshooting and repairing older Macs from technical guru, Larry Pina. Problems are clearly set identified, and if you have a little bit of courage and aren't afraid of a soldering iron, you can save a lot of money and keep your Mac running like a dream.

Peachpit Press, 2414 Sixth St., Berkeley, CA, 94710, (510) 548-4393, (800) 283-9444



Internet Starter Kit, 3d Edition

\$22

Adam Engst, creator of TidBITS (the weekly online news publication), has created a readable, entertaining, and thoroughly enjoyable book for those just starting out on the Internet—and that's no easy task. It comes bundled with Apple's MacTCP (a \$60 value) and many other nifty Internet utilities.

Hayden Books, 201 W. 103rd St., Indianapolis, IN, 46290, (317) 581-3718



Macworld Complete Mac Handbook, 4th Ed.

\$35

Jim Heid brings together sound advice, reviews, and insights into the latest technologies in as good an encyclopedia of Mac-info as you are likely to find. A bundled CD-ROM contains an interactive version of the book filled with technical diagrams, industry profiles (including a very flattering overview of BMUG), new technology explorations (with QuickTime 2.0 and System 7.5) plus 60 megs of the Best of BMUG Shareware.

IDG Books, 155 Bovet Rd. #310, San Mateo, CA, 94402, (415) 312-0650, (800) 434-3422



The Little System 7.1/7.5 Book

\$10

Highly acclaimed guide to System 7 and 7.5, packed with helpful information and tips. Both beginners and advanced users will find clear and concise answers to many System questions.

Peachpit Press, 2414 Sixth St., Berkeley, CA, 94710, (510) 548-4393, (800) 283-9444

**Zen and The Art of Resource Editing****\$15**

A long-time favorite at BMUG, the ResEdit book is in its fourth edition. Although we are a bit biased about it, all the major Mac magazines agree that it's the best book for beginning and intermediate ResEdit users. The December '92 MacUser ranked it in the top 100 Mac products. A CD-ROM is loaded with cool stuff, including the latest edition of ResEdit.

BMUG, Inc., 1442A Walnut St., #62, Berkeley, CA, 94709-1496, (510) 549-2684, (800) 776-2684

MAGAZINES AND JOURNALS**BYTE****\$30 per year**

BYTE is the oldest computer magazine around. It came into the Mac world somewhat late, but has made up for it with timely and well-researched Mac articles. They print the kind of articles that the mainstream Mac magazines won't: articles full of technical jargon about how the Mac really works, and good articles about those other machines. They even have an 800 number for subscriptions, an idea the other Mac magazines might want to "borrow." Great in-flight reading material.

BYTE Subscription Dept., PO Box 555, Hightstown, NJ, 08520-0555, (800) 257-9402

**Macintosh Product Registry****\$40 per year, \$15 each**

If you have ever wanted a comprehensive list of Mac programs and products complete with descriptions, company names, addresses, and phone numbers—except for games—this is the magazine to get. They also publish this information on a CD-ROM (with a mediocre HyperCard interface) for \$99. We refer to this book daily in the BMUG business office and at our Helpline clinics. (We also used it extensively to gather information for the Choice Products listings!) Quite an indispensable publication.

Redgate Communications Corp., 660 Beachland Blvd., Vero Beach, FL, 32963, (407) 231-6904, (800) 333-8760

**MacUser****\$27 per year**

MacUser Magazine is almost a shadow of its former self, having slimmed substantially in the past year. Nevertheless, they continue to produce relatively hard-hitting reviews, and they get points for taking risks and being crankier than Macworld. MacUser Labs can do great things, but they are occasionally inexplicably contradictory or inconsistent.

MacUser, PO Box 56986, Boulder, CO, 80322-6986, 303-447-9330, 800-627-2247

**MacWEEK****\$120 per year**

With generally good reviews, some serious investigative reporting, and the best gossip column this side of the checkout stand, MacWEEK is still the only Mac magazine worth lying for. The writing is lively, the ads in the back have the lowest prices available, and the MacInTouch column reminds us of what the Mac world was like a decade ago. Unfortunately, it is available only by subscription, at \$125 per year, unless you have 20 to 5000 computers on hand and control a million-dollar budget, in which case it's free. Better still, log on to the MacWeek Web site. The articles go online on the Friday before the printed edition hits the mailboxes!

MacWEEK, Customer Service Dept., c/o JCI, PO Box 1766, Riverton, NJ, 08077-7366, (609) 461-2100

**MacWorld****\$25 per year**

In this age of shrinking magazines, Macworld Magazine continues to print close to the same number of editorial and review pages, even though it now has fewer ads. The articles, columns, and charts continue to improve, with many more individual products being reviewed in each issue than were in years past.

MacWorld Subscription Services, PO Box 54529, Boulder, CO, 80322-4529, (415) 267-1743, (800) 234-1038

**MicroTimes Magazine****\$Free in CA!**

In addition to David Morgenstern's BMUG column, this monthly magazine has news, articles and reviews covering many different flavors of CPU—and ads, ads, ads. MicroTimes also has superior coverage of computer-related legal and social issues.

BAM Publications, Inc., 3470 Buskirk Ave., Pleasant Hill, CA, 94523, (510) 934-3700, (213) 851-8600



Seybold Report on Desktop Publishing

\$245 per year

If you are really into desktop publishing and have the bucks to burn, this is the publication for you. As you can imagine, it covers every facet of print publishing hardware and software. It also covers color pre-press systems and some non-print publishing technologies like CD-ROM and networked document systems.

Seybold Publications, PO Box 644, Media, PA, 19063-0644, (800) 325-3830



Ric Ford's Macintosh Web Page

<http://www.macintosh.com>

Want the latest info on products, updates, and press releases? Check out Ric Ford's excellent Macintosh Web page. It even has links to the specific companies in the news. It's simply the best source for the latest info.



TidBITS

Free

This online mailing from Adam Engst is one of the best sources for up-to-the-minute rumors, news, and tidbits. He gets them out on the Internet fairly regularly and is almost always on top of all the latest gossip; he often has the nitty-gritty details that companies don't really want us to know. There are product reviews, as well.

Adam Engst, 1106 North 31st Street, Renton, WA, 98056

PURCHASING MAC PRODUCTS



Aisle 17/Apple Disability Solutions

Apple has included a few pages of software and hardware aimed at people with disabilities in its Apple Catalog for years. Now it has created a separate catalog for the same market called Aisle 17. Prices seem a bit high, but all the best stuff seems to be here.

Aisle 17/Apple Disability Solutions, PO Box 898, Lakewood, NJ, 08701-9930, (800) 600-7808



ComputerWare

One of the first Mac-only store chains in the country, ComputerWare is still providing reasonable deals on hardware and software, and some good information and tips, if you corral one of the better salespeople. They also offer GE Consumer Service as a lower-cost replacement for AppleCare, Apple's very expensive program to extend Apple warranties (BMUG doesn't recommend AppleCare, due to the high cost). Definitely a store to visit when looking for Mac accessories., ComputerWare (check your local phone book for locations).

COFFEE



Café Firenze

\$1.80/Large Double Mocha

Join Team Caffeine! This Newsletter certainly wouldn't be in your hands right now if Firenze didn't make such a damn good cup of coffee—their mochas are to die for. We just wish they would stay open twenty-four hours a day, so we wouldn't ever have to go to sleep.

Café Firenze, Shattuck & Center, Berkeley, CA, 94704

Glossary

The BMUG Glossary

A Guide to Computer Terms

This glossary has an amazing history—from its humble 6-page debut in the Spring 1987 Newsletter to its present incarnation, there have been many contributions and editions along the way. Originally created by Stephen Howard and Raines Cohen, it grew significantly when volunteers compiled various existing sources into a larger version edited for clarity and conciseness.

The present version was compiled by John Chapot, incorporating information and inspiration from various sources—most notably, The Macintosh Dictionary by Andy Baird, and Robin Williams' Jargon, an Informal Dictionary of Computer Terms. The work was facilitated in part by using John's word-wrangling product "Boswell's Companion", a nifty HyperCard stack available (free) from many online services and the BMUG disk library.

The final filter and full-circle edit was accomplished over a holiday weekend by one of this glossary's originators, Raines Cohen, currently Online Communications Manager for User Group Connection..

1k-XModem communications: A protocol that terminal programs use to send files over connections in 1-Kbyte chunks (as opposed to Xmodem's 256-byte-sized chunks). If used by both terminal programs, it can increase file transfer speed.

1k-XModem/G communications: This version of 1k-XModem assumes that hardware error-correction (such as MNP level 5) in use by the modems at both ends provides a reliable connection, so it does away with the block-by-block checking. The result is a very fast single-file transfer protocol for use if you have a reliable connection and YModem/G is not readily available.

10BaseT networking: A type of wiring often used on Ethernet networks. Why the weird name? Well, it stands for 10 megabytes per second (the data transmission rate) base-band (just data, no carrier) and twisted-pair wire (as opposed to coaxial cable). It's a medium-performance relatively inexpensive wiring system that's rapidly becoming the most popular way to do Ethernet.

2.5 inch drive storage: A hard drive with a platter 2.5 inches across, small enough to fit most Macintosh PowerBooks.

3.5 inch drive storage: A hard drive with a disk platter 3.5 inches across. The standard diameter for half-height and third-height drives. Capacities up to 4 gigabytes are available.

32-bit addressing system software: (see also 32-bit clean) Before System 7, Macs used 24 bits to enumerate RAM addresses (locations), which yielded an absolute upper limit of 8 megabytes. System 7 and above can use 32

bits for each address, expanding the potential total memory limit to over 240 megabytes. Macs that were built with System 7 in mind have software in ROM that can use 32-bit addressing (some don't even let you turn it off on the Memory control panel), but the Mac II, Mac IIX, Mac IICX and SE/30 need special software - either Mode32 by Connectix or 32-bit Enabler from Apple. The plain Mac II also needs a PMMU chip installed. Older versions of some software are called "not 32-bit clean" because they crash when 32-bit addressing is turned on.

32-bit color display: Color system in which every pixel has a 32-bit number attached to it describing exactly what color it should display. Most Macs need special software from Apple and special color video cards and monitors from other companies to display that much color. In those 32 bits, 24 are used for color information and 8 are an alpha channel for transparency or other information. 24 bits can describe just over 16.7 million different colors.

5.25 inch drive storage: A hard drive whose disk platter is 5.25 inches across. The standard diameter for full-height drives. These only fit comfortably in larger-chassis Macs.

680x0 hardware: The family of Motorola processor chips that ran all Macs until 1994. They use CISC (complex instruction set computing) architecture.

68000 - The original Mac chip, running at 8 MHz, it lives at the center of the Mac 128, 512, 512ke, Plus, SE, Portable, Classic, and PowerBook 100.

68020 - The chip that sits at the heart of the Mac II, LC, Classic II and Performa 200. It is five times faster than the 68000 in most operations.

68030 - The chip that runs the Mac IIX, SE/30, LC II, IICX, IICI, IIFX, IISI, PowerBook 140, 145,160, 170, 180, PowerBook Duo 210, 230, IIVX, IIVI, and the Performa 400 and 600. It is five or six times faster than the 68000 in most operations, and has a PMMU built-in.

68040 - Combines the 68030 and 68882 into one chip with a 4k memory cache and is about five times faster than the 68030/68882. This chip operates the Quadra 700, 900 and 950 and the new PowerBook 500 series. Some use the 68LC040, which lacks the math functions but costs less and requires less power.

68881: The special floating-point mathematics chip designed by Motorola inside the Mac II along with the 68020. Together they are about 100 times faster than the 68000 in floating point mathematics.

68882: The special decimal mathematics chip designed by Motorola inside the Mac IIX, IICX, IICI, SE/30, IIVX, and the Powerbook 170 and 180 along with the 68030. Together they are about 100 times faster than the 68000 in floating point mathematics.

8-bit color display: The most common setting for color Macs. Eight bits lets you display 256 colors onscreen at once.

A/UX system software: (Apple/UNIX) Apple's version of the UNIX operating system developed by AT&T and found on big computers and some personal computers. The Apple version is based on Xerox System V with Berkeley 4.2 extensions.

accelerator hardware: A card with a second, more powerful processor which you can insert into a Mac and make the computer operate faster. Some simply speed up the Mac's existing processor; others have their own CPU and even their own RAM and card slots.

access privilege system software: The ability to open, see, and make changes to files and folders on a file server. Different users can have different privileges for different folders.

acoustic coupler communications: A modem connector that physically links to a telephone handset, unlike the more common direct-connect modems that plug into the phone line. Useful if you're traveling or at a location (such as an unfamiliar country or office) with nonstandard phone service. While

early versions were less reliable and slower than today's modems, within the last few years a wide variety of acoustic couplers have become available.

active matrix display: A type of liquid crystal display (LCD) that has a transistor for each pixel - used in the Mac Portable and many high-end PowerBook models, including the 170, 180C, 270C, 280C, and 540 and 540C. These displays have a higher contrast and wider viewing angle than passive-matrix screens (even "superfast" or "dual-scan" models), but they're more expensive and more difficult to manufacture.

active window interface: The frontmost window on the desktop; the window where the next action will take place. An active window's title bar is highlighted.

ADB hardware: (Apple Desktop Bus) A port used by most Macs to communicate with peripheral devices: mice, keyboards, and such.

AFP networking: (AppleTalk File Protocol) A protocol for sharing documents /applications on an AppleTalk network. Users can log into "AFP-compatible" file servers through the AppleShare icon in the Chooser.

Apple File Exchange system software: An application that can translate some document formats between a wide variety of applications and operating systems.

alert box interface: A message box that appears when the Mac needs to tell you something important. It usually brings bad news and a beep.

algorithm programming: Any specific procedure for solving a problem in a finite number of steps. Named after al-Khuwarizmi, a ninth-century Arab mathematician. Programmers use this term to refer to pieces of code.

alias system software: A stand-in for an item on the desktop (their names appear in italics). Opening an alias actually opens the item it stands for. You can put aliases of applications, documents, whatever you like, into any folder for quick access. Put aliases into the Apple Menu Items folder to make them appear when you pull down the Apple menu. A feature of System 7.

aliasing interface: 1. The stairstepping appearance of diagonal lines and curves on a low resolution display. 2. A metallic distortion heard when digitized sounds are sampled at too low a rate, forcing the computer to fill in the gaps. In both cases, anti-aliasing resolves the problem by smoothing things out, sacrificing some detail in order to look or sound better.

alpha channel display: When you create 24-bit images in a 32-bit graphics world, you have eight extra bits to play with. Software developers use these bits in a variety of ways; to carry transparency information, to create masks, and the like.

analog interface: A flow of information where things change smoothly and have an infinite number of values and imitate (are analogous to) the real-life source. For example, on an analog phonograph record, the wiggles in the groove get bigger as the music gets louder. Contrasted (and often converted to) digital, which divides up differences into pieces for storage on a computer.

ANSI industry: (American National Standards Institute) A group that publishes many computing standards, which are usually upheld by the industry. The US representative in the ISO (International Standards Organization). Often used as shorthand for a particular standard, as in "It's ANSI-compliant!"

anti-aliasing interface: Software techniques used to smooth out jagged-appearing edges of curved lines or sounds, such as the blur tool in Photoshop. See aliasing.

APDA programming: (formerly Apple Programmer's and Developer's Association) The organization within Apple that provides low-cost technical information and materials to programmers.

Apple menu interface: The menu on the left end of the menu bar designated by an Apple symbol. It gives access to miniature applications called Desk Accessories, such as the Calculator and Scrapbook. Under System 7, you can put aliases of applications and documents into the Apple Menu Items folder (in the System folder), and they will appear under the Apple Menu. You can get really fancy by putting one or more spaces in front of your aliases' names to move them to the top of the list, and by getting one of the third-party utilities that turns the Apple menu into a hierarchical menu.

Apple events programming: A set of standards used for interapplication communication under System 7 and higher. The Apple events registry defines suites: Required (Open, Save, Print, Quit), Core (set and get data, deal with individual pieces of information), and category-specific events (like Word Services). OpenDoc and Open Scripting Architecture languages such as AppleScript rely on Apple events.

AppleShare networking: Apple's file server software that allows Macs and other computers which are connected together (forming a network) to share applications, files and printers. An AFP-compliant server is AppleShare-compatible.

AppleTalk networking: Apple's set of rules governing how Macs communicate between themselves and other computers and peripherals. Often inaccurately used in reference to the cables which Apple sells to connect Macs together; these are actually called LocalTalk.

AppleTalk connector networking: The physical box you need to connect a Mac to an AppleTalk network. It has a serial cable on one end and a connection for a network cable on the other.

AppleTalk Phase 2 networking: The name for a version of Apple's network protocol that allows for 16.7 million network addresses and has improved data handling, all of which is invisible to users but good for network software and hardware. Comes with System 7 and higher; required for many complex networks.

application interface: A collection of tools that programmed to perform a specific set of tasks; also known as a program. Contrasts with a document, a piece of software that is acted upon by an application. OpenDoc part editors are mini-applications.

application font system software: The font an application will use unless you specify another. Usually this is Geneva.

ARA networking: (Apple Remote Access) Apple software that allows a Mac to connect to an AppleTalk network over a phone line.

ARPA industry: (Advanced Research Project Agency) An arm of the US Department of Defense that funds technology research. Funded the ARPANET, which became part of the Internet.

ARQ communications: (Automatic Repeat request) A general term for error control protocols featuring hardware detection and retransmission of defective data. This term is used primarily by US Robotics.

arrow interface: The default shape of the cursor used for selecting objects and commands..

ASCII industry: (American Standard Code for Information Interchange) This particular mapping of the letters of the Roman alphabet and Arabic number system to number codes is understood by nearly all computers (except IBM mainframes, which use EBCDIC). Documents containing only text and numbers are sometimes called ASCII files (or text files). ASCII is the US adaptation of an international standard. A 7-bit binary code is used. ASCII is universally supported in computer data transfer.

assembly language programming: Specific and detailed instructions for manipulating pieces of information in a computer. These instructions are "low level", that is, very close to machine language. Assembly language programming is difficult but produces very speedy and compact programs (or portions of programs). Unlike compiled languages, assembly language programs are written for a specific processor, which makes moving them to another platform with a different processor very difficult.

asynchronous communications: Literally, an event not happening at the same time as another event. Usually refers to computers exchanging information over phone lines, when they do not know precisely how long it will take to send each piece of information. Data is preceded by a start bit and followed by a stop bit since the time between transmitted characters varies. Lately heard often as part of the name of a high-speed wide-area communications protocol: Asynchronous Transfer Mode (ATM).

ATM: 1. Adobe Type Manager, A program from Adobe Systems, Inc., that smooths out the edges of PostScript fonts you see on your screen. Since QuickDraw printers (ImageWriters, HP DeskWriters, Apple StyleWriters, fax modems, etc.) print what they see on the screen, if PostScript type looks good on the screen it will look good in print. Under System 6, you needed ATM to interpret PostScript fonts for the screen. TrueType GX incorporated a version of this function. 2. Asynchronous Transfer Mode (see above). 3. Automatic Teller Machine (cash-dispensing box hooked to a bank).

attack dialing communications: Dialing a number or set of numbers repeatedly until you get connected. Used by impatient telecomunicators trying to call busy bulletin board services (recommended when calling Planet BMUG, for example). The Federal Communications Commission (FCC) and other nations have set limits on how many times you can repeat without a break. Always make sure

you have the correct phone number before attack dialing!

authoring system programming: A programming language for the rest of us. Authoring systems, such as HyperCard, MacroMedia Director and AuthorWare are collections of tools that make it easier for casual programmers to create applications. Often used in multimedia to create a user interface.

auto answer communications: The ability of a modem to answer a phone call. You tell the modem to do this by typing "ATA" and hitting the Return key (to answer right away, "ATS0=1" to answer the next call on the first ring, with Hayes-compatible modems) in most terminal programs. The modem detects a ring and answers the phone without assistance from a program. This is a standard feature of any decent direct-connect modem.

autodial communications: The ability of a modem to dial any number you tell it without using a phone device to dial. AKA direct-dial; not available on acoustic couplers.

autograph programming: The term for version information from an application that appears in the Get Info... box in the Finder. See signature.

background system software: When an application runs in the background it is operating behind the scenes while you use another application. Most often you must be running MultiFinder or System 7 or higher to perform tasks in the background.

backup storage: 1. (verb) Actually spelled "back up". The very necessary process of copying important software and documents onto some other medium (floppy disks, magnetic tape, et al.) to guard against their loss should anything happen to the original. 2. (noun) The media containing copies of important software and documents.

Balloon Help system software: Those cute little comic strip balloons that pop up wherever your cursor is. They contain helpful, if somewhat limited, information about whichever item on the screen your cursor is pointing at. You turn balloon help on and off by choosing "Show Balloons" or "Hide Balloons" from the Help Menu, which is shown by a balloon containing a question mark. A part of System 7; System 7.5 supplements it with Apple Guide, which provides more in-depth "how do I do this?" kind of help..

bandwidth communications: The amount of information that can be handled by a device or system. For example, a telephone can carry audio signals (analog) in a band between 20 Hertz (cycles per second) and 4,000 Hz - just enough for intelligible speech, but not wide enough for music. This is a low-bandwidth system. On the other hand, a cable-TV system may use signals up to 400,000,000 Hz - it takes that much bandwidth to carry dozens of TV channels. In a digital system, such as the bus in your computer, bandwidth is measured in bps (bits per second). In general, the broader the bandwidth of a system, the more information it can carry, and the more expensive it is.

baseline interface: The imaginary line upon which characters in a line of text rest.

baud communications: When transmitting data, the number of times the medium's "state" changes per second. A 2400 baud modem

changes the signal it sends on the phone line 2400 times per second. Since each change in state can correspond to multiple bits of data, the actual bit rate of data transfer may exceed the baud rate. Modems typically communicate at 1200, 2400, 9600 or 14,400 baud. Higher is better, but often a doubling of baud will not result in a doubling of overall performance because of limiting factors.

BBS communications: (Bulletin Board System) A service usually set up by hobbyists, organizations or clubs to facilitate the exchange of information about some particular topic. You access a BBS through a modem which calls up the number for the BBS. On your screen you see the computer equivalent of a bulletin board. You can post messages, ask and answer questions, and make new friends. Larger, usually commercial, BBSes are called information services or online services.

beach ball interface: The cursor as a ball divided into dark and light quarters, usually spinning when an application is busy completing a task of unknown duration.

Bell 212A communications: The set of rules for transferring information with modems at a rate of 1200 baud followed by most modems in the US.

beta industry: The testing stage of a piece of software or hardware in which problems or bugs are discovered and (we hope) corrected. Usually, beta versions of a product are given to people called beta-testers who report problems to the designers. After the internal alpha-test, before a paying-customer's gamma-test.

Bézier curve graphics: (pronounced "BEZ ee yay") A curve described by mathematical equations. The computer presents these curves as being composed of anchor points (where the curve starts, stops or changes direction) and control points, which you use to alter the deflection of the curve. PostScript objects and some scalable fonts are based upon Bézier curves.

binary system programming: A number system composed entirely of zeroes and ones. This is the base-2 system, where the equation $10 + 10 = 100$ is the equivalent of our (base-10) $2 + 2 = 4$.

BinHex communications: A standard way of converting the information in Macintosh files into a form that can be stored on other computers, created by Yves Lempereur of MainStay. There have been several versions of BinHex, but the only one that most Mac users ever hear about is BinHex 5.0, which converts files into eight-bit format for storing on personal computers. BinHex 5.0 conversions happen automatically when you transmit a file using MacBinary. There is also a BinHex 4.0 in use for converting Mac files in a seven-bit format for storing on older UNIX computers and mainframes. On the computer storing the BinHex-ed files, they appear as documents, no matter what they were on the Mac.

bit programming: Short for "binary digit". A very small piece of information equal to a value of 0 or 1, off or on. Lots and lots of these together instruct your computer on how to work and compose all your data. 8 bits equals a byte.

bit depth display: A characteristic/setting of a display card or Mac that determines how many

colors you can show at once on a screen. 8-bit color allows 256 colors at once.

bitmap interface: An image or font built out of pixels on screen.

bitmapped font interface: Fonts on the Mac come in two varieties: bitmapped and outline fonts (TrueType and PostScript). Bitmapped fonts are stored in suitcase files and copied into the System file to use them. They are built out of the pixels on the screen. When you print a bitmapped font on any printer, regardless of resolution, the letters are still jagged. They come in particular sizes, unlike outline fonts, which can adjust to any size without losing quality.

bitmapped graphics interface: A type of graphic composed of lots of pixels. Bitmapped graphics can be edited dot by dot, at low resolution (screen resolution, 72 dots per inch or dpi) in MacPaint or at incredibly high resolution in Photoshop. Each dot can contain a lot of information (up to 32 bits worth) - color, grayness, transparency, etc. - but it's still a dot. Contrasted to object graphics, made up of lines and components. Because video screens are made of dots called pixels, the Mac's QuickDraw software deals exclusively in bitmaps and rasterizes (converts) object graphics into bitmaps for display. A bitmapped image has a fixed resolution which is determined when it is created, so it can only print at whichever resolution is lower, its own or the printer's.

Boolean algebra programming: A branch of mathematics that concerns itself with binary logic where every answer is either true or false. Boolean operators include "and", "or", "not" and combinations such as "and not". Computers love this stuff. You probably have encountered it when searching a database. Named for its inventor, George Boole, a nineteenth-century English mathematician.

boot interface: To start up your computer; that is, turn on the power and, if you don't have a hard drive, insert a floppy with a System Folder on it. This odd-sounding bit of jargon dates back to the very early days of computing. Early computers had no ROM (permanent memory). When you first turned on the power, the machine was truly a blank slate. To start up one of those old machines, you had to first enter a short "loader" program (in binary) by flipping switches; this program was just sufficient to let the machine use its paper tape or punched card reader to load in a longer, full-fledged loader program, which in turn could be used to load the program you wanted to run! Loading a loader in order to load the loader that would load your program reminded operators of the old phrase "Pulling yourself up by your own bootstraps"; hence the short loader came to be known as the bootstrap loader, and the whole process "booting up". - Andy Baird.

bps communications: (bits per second) The speed at which bits are transmitted over a communications medium. This speed may exceed the baud rate.

bridge networking: A combination of hardware and software connecting different types of network cabling. If the bridge connects network cabling to phone lines, it is a half-bridge, although most people don't make that distinction.

broadcast networking: When a device on an AppleTalk network sends out a piece of information so that all other devices receive it.

buffer programming: A generic term for an area of memory used to store information while it is being collected and before it gets passed on to its final destination.

bug programming: Unexpected behavior usually caused by a mistake in programming but sometimes by a hardware malfunction. According to the late computer pioneer Grace Murray Hopper, the first computer bug was just that - a moth that became stuck in one of the relays of the Mark II, a very early (1940's vintage) electro-mechanical computer at Harvard, causing it to malfunction.

bundle bit system software: A piece of information attached to an application that tells the Mac how the application can create documents. If a document loses track of its creator's bundle bit, it will not open properly. File editors will let you set or unset the bundle bit manually, and there is a nifty utility called BundAid that will set all bundle bits correctly.

bus hardware: Circuitry that transfers information between the parts of a computer. Bus also refers to connections between computers on a network or allowing you to plug in other peripherals, such as a SCSI bus, Nubus, PCI bus or IDE bus.

bus error system software: One of the most commonly occurring error codes to appear on your Mac, designated "Error Code ID 1" or "Type 1 error". You can often eliminate these errors by allocating more memory to the application in question. Under System 7, this error can indicate that the application is not 32-bit clean, and you will need to either get an upgrade or turn off 32-bit addressing on the Memory control panel.

button interface: An area of the screen which sends a command to an application when you click on it. Also called push button. A button with a double-thick border is the default button and hitting the return or enter key on the keyboard activates it.

byte programming: Eight bits forming a meaningful unit. It may have a readable ASCII value or some other coded meaning to the computer.

CAD industry: (Computer Aided Design) Using computers to perform many of the engineering and architectural tasks traditionally done by draftsmen. Oddly, this term does not apply to graphic arts.

CAE industry: (Computer Aided Engineering) Vertical-market software to solve engineering questions, such as stress on beams and seismic strengthening.

CAM industry: (Computer Aided Manufacturing) Using computers to control machinery such as lathes, assembly lines, motion-controlled cameras and robotic arms.

capture hardware: Obtaining video or sound from the outside world and digitizing it for further processing on the Mac. Performed by hardware built in to the AV Macs or available on third-party cards. Frame Capture is digitizing a still frame from a video source. By the way, uncompressed video capture

uses up about 1 megabyte of hard drive space per second.

card hardware: A fiberglass board composed of circuitry and chips which do something specific when placed inside a computer. You can get video cards, accelerator cards, clock cards, printer cards or whole computers on a card. Cards plug into slots inside most Macs. There are PDS slots, PCI and NuBus slots.

caret interface: 1. Generic name for any symbol indicating the place in a block of text where new text will be inserted. Called the "insertion point" on the Mac II. The little wedge symbol, ^, by typing Shift-6, used by many programs during find-and-replace operations. For example, in WriteNow you specify a tab character by entering ^T in the Find window. In many programming languages the caret is used to indicate exponents of numbers, for example, 2^8 means 2 raised to the eight power, which equals 256.

carpal tunnel syndrome interface: An occupational disease caused by doing the same movements with your hands over and over. The symptoms include shooting pains, tingling, or numbness in the wrist, hand or finger joints. Prevention is the best way to deal with this: keep your wrists straight while you type and/or use wrist rests, lower the keyboard, vary your tasks, take breaks, sit up straight. CTS can be permanently disabling, so if you suspect anything, see your doctor now. In extreme cases, surgery may be necessary, in lesser ones, the lifelong wearing of a wrist brace.

carrier communications: Some path along which computer information can travel. In telecommunications, carrier refers to a continuous frequency capable of being either modulated or impressed with another information-carrying signal. Carrier signals are generated and maintained by modems via the transmission lines of the phone companies.

cartridge hard drive storage: A hard drive with a removable platter. Among the advantages of this system are lower cost for increased storage, the ability to switch to a different operating system painlessly, portability and secure backup. Disadvantages are slightly decreased reliability and the initial high cost of the mechanism.

CASE programming: (Computer Aided Software Engineering) Using computers themselves to help manage the complex task of writing software, especially large multi-part programs.

case interface: Whether a letter is capitalized (upper case) or not (lower case). Many word processors have commands that let you change the case of a word or group of words. Some searching and sorting functions may be made "case sensitive", that is, capital letters sort before small letters and a small letter does not equal its capitalized self. Most search functions are case-insensitive unless told to be otherwise.

CCITT industry: (International Consultative Committee on Telegraphy and Telephony — French) An international standards organization for telecommunications sponsored by the United Nations.

CD-I multimedia: (Compact Disc Interactive) Standards addressing the addition of high-quality sound, computer pictures, and some video to a CD-ROM in the hopes of making

the total package more fun or informative to use. A compact disc standard waiting for a cool product to justify its existence.

CD-ROM multimedia: (Compact Disc - Read Only Memory) Optical media which can store between 500 and 750 megabytes of computer data, or about 70 minutes of Eric Johnson (audio). The information on the disk cannot be changed, although it can be copied and read. There are disks with the complete works of Shakespeare, dictionaries, BMUG's library, collections of photos, history, images of the works in the Louvre, etc.

cell interface: A single block in a spreadsheet capable of holding data or a formula. Each cell is identified by its row and column numbers. In many ways analogous to a field in a database.

CERN: CERN is one of the world's largest scientific laboratories and an outstanding example of international collaboration of its many member states including Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, The Netherlands, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland and the United Kingdom. (The acronym CERN comes from the earlier French title: "Conseil Europeen pour la Recherche Nucleaire"; it is known also as the European Laboratory for Particle Physics.) What the the World Wide Web has come to be, is due in large part, to research and work that came out of CERN.

checkbox interface: A special button that adds or removes an option.

checksum programming: A simple kind of error-checking that adds up the bits in a piece of information, divides by some number, and checks the remainder.

chip hardware: That truly amazing and remarkably tiny piece of silicon that has an entire electronic circuit embedded in its surface.

Chooser networking: A desk accessory that allows you to designate a network device you want to communicate with. Mostly used to select a printer, the Chooser can also select file servers, networks, fax modems, other output devices, and the like.

cicero publishing: A French typesetting measurement, slightly larger than 1/6th inch.

CISC hardware: (Complex Instruction Set Computer) - Processor architecture that is capable of handling lengthy, complex instructions (code) which often require more than one clock cycle to complete. Program file length is kept to a minimum; the trade-off is that this type of processing runs slower than comparable RISC (reduced) processing. Motorola's 680x0 chips, and Intel's -86 chips are popular CISC devices. Until the introduction of the PowerPC, all desktop computers used CISC architecture.

click interface: The action of moving the mouse cursor (usually a little arrow on the screen) on top of something on the screen and pressing and releasing the mouse button. Clicking will do one of three things 1) it will select the item clicked on, if that item is selectable (like an icon on the desktop); 2) it will perform some action if the item clicked on was a button; 3) it will do nothing or deselect anything previously selected if the item clicked on was neither a button nor selectable. Some items that do nothing when clicked on will do something if you click and move or drag

the mouse without releasing the mouse button. On a Newton, tap.

client networking: One-half of a two-part software system. The other half is the server software. Your computer is the client and you log into the server and communicate with it. This relationship is used on BBS's such as Planet BMUG, and on the Internet.

Clipboard system software: The place in memory where the things you Cut or Copy are stored. The Clipboard usually can contain only one selection at a time. This information is erased whenever you turn the computer off. The kinds of information you can transfer between applications using the Clipboard includes plain text and pictures from the Mac screen. Inside an application, however, the Clipboard can hold almost anything type of information and can even hold multiple items.

close box interface: A small square in the upper left corner of a window which, when clicked, closes the window. Inside an application, closing the window removes one view of a document, and is not the same as Quitting, though some applications will inappropriately quit upon this action.

Close View system software: A Control Panel that comes with Apple System 7 intended for visually-impaired users. It magnifies the screen image. It can also reverse the screen to white characters on a black background. A commercial product called InLarge from Berkeley Systems does this and much more.

CLUT display: (Color Look-Up Table) A table containing all the colors that a specific image uses, mapping color codes to particular color values. CLUTs usually contain 256 colors (8 bits) but can hold many, many more if the video card can handle it. Often the CLUT (called a palette by some applications) can be customized for the needs of the particular image on display. In graphics programs, the currently active window uses its CLUT for the whole screen, which can make the images in other windows look temporarily discolored (with 8-bit or less color).

CMYK display: (Cyan, Magenta, Yellow, Black) A color system used in printing for creating almost any color overlaying certain amounts of these four colors.

code programming: The programming content of any application. The ROM chip in your Mac contains bite-sized segments of code which applications may call upon. A HyperCard script is code. Programming languages, such as C or Pascal, have to be boiled down by a compiler program into a binary code called machine language in order to be run on the computer. Others, such as HyperTalk or BASIC, are interpreted and the binary instructions are sent to the machine by the interpreter.

codec communications: (compressor/decompressor) Hardware or software that compresses and expands data.

ColorSync system software: Apple's color management system that provides device-independent color consistency.

Command key interface: A combination of keys pressed while holding down the Command key, such as Command-S to save a file. Command keys most often perform the same function as menu commands, such as Command-N for "New". Actually the term is

"Command-key equivalent", but most people say "Command key" for brevity.

command-line user interface: The way in which users controlled most computers until the Mac came along. A command-driven operating system, such as DOS or UNIX, is strictly text based. It prompts you for input with something like ? or C: or > and you type something like DIR, which means "give me the directory of things on this hard drive". Amazingly, this user-hostile interface is still the predominant one on the planet on millions of DOS machines. It is also the basic interface for telecommunications, where a terminal is the lowest common denominator. It's called "clooey" (CLU) as opposed to "goeey" which stands for graphical user interface (GUI).

compiler programming: A program for creating programs, which takes a series of commands (written in a computer language like C or Pascal) and converts it into the binary numbers (called object code) that a processor can understand. Why is a translation necessary? Well, if you had to write 1101 0011 0001 0011 1110 every time you wanted to add two numbers together, you'd be pretty unhappy. A compiler lets you write "add 1 to 2"; then it does the hard part.

compression communications: 1. Software that reduces the number of bytes in a file by means of clever algorithms which (among other things) detect patterns and substitute special symbols for oft-repeated groups of characters. At first they were used for packing info for transmission to others via phone lines or floppy disks. With faster processors, the new trend is to compress files each time they are saved to your hard drive and decompress them "on the fly" when they are called for. Examples of the former are Stuffit, CompactPro and DiskDoublers; examples of the latter are Stacker and AutoDoublers. 2. Image compression software that may employ shortcuts which result in a loss of some of the data but which enable immensely large files such as sound and video to be handled. 3. Data compression by modem hardware that allows more information transfer in a shorter time frame.

computer paper output: 11 by 17 inch paper that accountants use, often featuring alternating green and white stripes (to make it easier to follow lines across the page). Not to be confused with continuous-feed paper that has a removable edge with guide holes.

computer science programming: A collective term for the mathematical and theoretical underpinnings of computers and computing.

concatenate programming: To tie text strings together. If you concatenated "1600" with a space and then with "Pennsylvania Ave." the result would be "1600 Pennsylvania Ave.". Concatenation is used in macros, HyperTalk and some applications' search windows.

concurrent application networking: An application that is written so that it can run on a file server at the same time as AppleShare. Such applications usually provide some service to the network such as print spooling or electronic mail.

conference communications: An area of public messages on a BBS, usually with a particular topic and, often, a host or modera-

tor to guide the discussion. Sometimes called folder, SIG (special interest group) or Echo.

connector networking: The physical device that electronically joins two pieces of hardware and exchanges information.

Control key communications: A modifier key used in conjunction with a letter key to trigger a command on many online services and BBS's. Some terminal emulators let you substitute the command or option key on old Mac keyboards lacking one.

Control Panel system software: Utilities that control various aspects of the Macintosh. They range from simple controls, like the volume of the Mac speaker, to complex ones, like an entire macro program. You access these devices through the Control Panel (System 6) or Control Panels (System 7) on the Apple menu. Originally called cdev's (for their file type), Control Panels are similar to INITs (System 6) or Extensions (System 7) in that you just stick them into the System Folder (System 6) or Control Panels Folder (System 7) and restart the computer to use them.

coprocessor hardware: A separate microprocessor, sometimes on its own board, that works alongside your regular processor to do a particular task. There are numeric coprocessors such as the 6881 and 6882 which speed up calculations (especially when rendering three-dimensional images), video coprocessors which take over the screen display duties, and cards which let you run DOS programs inside Macs.

Copy interface: 1. To place what has been selected into the Clipboard. The selection can be text, pictures or almost anything. 2. To duplicate a file, esp. between volumes.

copy protection storage: Security added to software so users cannot simply or easily make copies. Designed to prevent illegal distribution of software, it also inhibits easy use of hard drives and thwarts backups.

CP/M system software: (Command Program for Microcomputers) An older operating system, commonly used on microcomputers in the 1970's. An ancestor of DOS. Written by Gary Kildall of Digital Research.

cps communications: (characters per second) An information transfer rate estimated from the bit rate and length of each character. If each character is 8 bits and includes a start and stop bit for asynchronous transmission each character needs 10 bits to be sent. At 2400 baud data is transferred at approximately 240 cps.

CPU hardware: (Central Processing Unit) The chip that does all the work. Also commonly refers to the computer component, such as the circuit board or box, in which it is housed: We have 23 monitors but just 22 CPU's here in the lab.

CRC communications: (Cyclical Redundancy Check) An error-checking technique consisting of a cyclic algorithm performed on each block of data at the sending and receiving end of the transmission. As each block is received, the calculated CRC value is checked against the CRC value sent along with the block. Many protocols will request a resend until the block is received correctly. Many terminal programs let you choose either CRC or checksum methods of error detection in file transfers.

creator system software: A four-letter code hidden in a document's file that indicates which application made it. You can read it with ResEdit. Also known as the signature. Common ones include WDBN for Microsoft Word; WILD for HyperCard; and SIT! for StuffIt.

cross-platform system software: Software written to be able to run on multiple platforms, for instance Macs and IBM-type computers, without changes.

CTB system software: (Communications Toolbox) A system extension that uses modules so programmers can easily add communications to their applications and so users can add file-transfer, connection and terminal-emulation protocols without upgrades. Built into System 7 and higher.

cursor interface: A part of the screen that moves when you move the mouse. The shape of the cursor varies depending on what application you are using or what the computer is doing. A wristwatch cursor or spinning beach ball means you must wait while the computer does its thing. In programs that allow text-editing, the flashing bar that indicates you place in the text is not called the cursor, it is the "insertion point" or "I-Beam cursor".

Cut interface: To remove a selection from its current location and place it into the Clipboard. The selection can be text, pictures or almost anything.

DA system software: (Desk Accessory) One of those nifty little programs that appears as a choice under the Apple menu (System 7 allows anything under the Apple menu).

daisy-chain networking: To connect together several devices in a line with a single cable path that runs through each device.

DAL system software: (Data Access Language) Extension used by applications to communicate with remote databases, simplifying the task of getting data from hosts.

DAT drive storage: (Digital Audio Tape) A cassette tape recording system originally developed for music that has been adapted for backup on computer systems. Somewhat faster than conventional tape drive units, but too slow to substitute for a hard drive.

data fork system software: The part of a document where user-generated data is stored (as opposed to the resource fork, where the application's own information is stored).

database applications: A document designed to store lots of information in predefined categories, and which allows this information to be arranged and manipulated easily. The term "database" can refer to the application which creates and manipulates these documents or to the document itself. A database contains records, and each record is made up of fields.

daughterboard hardware: A circuit board that attaches to the motherboard (aka logic board) and gets its power from same. Less sexist term: subassembly.

DB-25 communications: A large 25-pin connector for serial ports used by some printers and many other brands of computers.

DB-9 communications: Trapezoidal connector for printer and modem ports on ancient Macs pre-1986. Technically a DE-9.

debug programming: The process of fixing errors in programming, removing the bugs. Developers spend a large amount of time and

resources testing their products (some more than others!). Special programs called debuggers are employed to track down gross errors, and people called beta-testers put the software through its paces.

decimal tab interface: A tab character used to make columns of numbers (like dollars-and-cents values) line up vertically on their decimal points at the tab's location.

default interface: The parameters your program uses in the absence of instructions to do otherwise. For example, when you open a new document in your word processor, the typeface is usually Geneva 12 and the tab stops are whatever the program's designers decided. You may reset some or all of the defaults in good applications by choosing "Preferences" from one of the menus.

delete key interface: The key located in the upper right hand corner of the keyboard that erases what's selected. Older Mac keyboards (the Plus and earlier) have a Backspace key instead. Some terminal programs and services treat them differently.

delimiter interface: A character used to separate items of information. Tabs, commas, and returns are the most popular delimiters, but some applications allow you to specify whatever you want. Delimiters are most important when importing and exporting data from one application to another. For example, if you save an Excel spreadsheet as a text-only file and import it into a word processor, the data from each cell will have a tab character after it, and each row's data will be followed by a carriage return. Tab-and-return delimiters are also commonly used in database import/export. One thing to remember: a delimiter character should not appear elsewhere in the data.

DES communications: (Data Encryption Standard) A way of intentionally scrambling your data so that it can not be understood by snoops but can be unscrambled by anyone with the right password. DES was developed by the Federal government, and is in common use in the U.S. but cannot yet be legally exported to foreign countries.

desktop interface: 1. The area of your screen behind all your windows. 2. The adjective added to certain types of computing work (desktop publishing, etc.) which can be accomplished by a personal computer.

Desktop file system software: A file on every Mac disk which contains a catalog of the different items on (or once on) that disk and other important information for the Finder. Rebuilding this file (by holding down the Command and Option keys while starting up) purges it of all information not currently needed, liberating space on the disk, and may speed up operations minutely. It also erases all comments you've added to the Get Info... text boxes.

Desktop Manager system software: A technique used by AppleShare and System 7 and above that divides the Desktop file's information into two files, resulting in much faster access to that information.

dialog box interface: A message box that appears on your screen when the Mac needs you to give it further instructions or information. Dialog boxes usually have one or more buttons that allow you to respond to the message displayed.

DIF applications: (Data Interchange Format) An older file format (developed for use with VisiCalc) used to exchange spreadsheet-type data between applications. Its modern equivalent is SYLK.

digital industry: Information represented as discrete numeric values, such as 0 and 1. The opposite of analog. In digitization, which is what a scanner does, the flow of information is sampled at regular intervals and converted into numeric values.

dimmed interface: When a button, menu item, or icon is unavailable, it appears gray rather than black. On the desktop, a dimmed icon represents a disk, document, folder or application on a disk that has been ejected but not dismounted (by moving its icon into the trash can). You can select and open dimmed disk and folder icons, but you can't open the documents and applications in them.

DIN-8 communications: The small, round connector for printer and modem cables which fits into the small, round printer and modem ports on Macs made since the Plus. DIN stands for "Deutsche Industrie Norm".

dingbat output: A traditional printer's term for ornamental characters like stars, bullets, little boxes, hearts, diamonds, tiny flowers and snowflakes. The Zapf Dingbats font (designed by famous German typographer Hermann Zapf) is built into most PostScript LaserWriters.

DIP hardware: (Dual Inline Package) A kind of chip that has two rows of connectors. DIP SIMMs are RAM SIMMs using DIP chips, which are taller than normal SIMMs and may not fit under larger hard drives.

directory interface: 1. The list of the contents of a folder or disk, ordered by name or icon or date, etc. 2. The first few sectors on every disk, containing information about what files are on the disk and the size, location, and type of these files. The list of where the parts of all files are located on a disk is called a file allocation table. When a disk is damaged the problem is often due to a garbled directory.

directory dialog box interface: The dialog box the Mac puts up when you want to Open or Save an application or document. You use it to navigate to the correct folder, then select the desired file.

disc storage: The correct spelling of "disk" when referring to compact discs.

disk storage: A round piece of plastic with magnetic stuff in it where you store information you want to keep around after you turn the computer off. Comes in hard and floppy varieties.

Disk Tools system software: This disk comes with your system disks and has several items that can be somewhat useful when you encounter disk trouble.

dismount storage: Causing the computer to give up all claim to a volume (a floppy, hard drive, cartridge, etc.) and remove it from the desktop. You dismount a volume by dragging its icon to the trash can or choosing Put Away from the File menu. A cartridge drive must be dismounted before its cartridge can be removed.

Display PostScript output: Extensions to normal PostScript that adapt it to drawing graphics on a computer screen.

dithering display: Mixing colors you do have to provide the illusion of more colors than are available by sacrificing resolution. A process commonly used in printing to reduce the number of colors needed for a particular print job. Also used with black and white images to give the illusion of gray when seen from a distance.

document system software: A file on the computer containing information to be acted upon (as contrasted with an application which does the acting).

Dogcow interface: The mythical mascot of Apple's Developer Technical Services, whose name is Clarus. He says Moof! When flipped horizontally he says lfooM. Go to Page Setup under the File menu to see Clarus (you may have to click on the Option button). If you still have an Imagewriter, you won't see the dogcow.

DOI interface: (Document-oriented interface) An approach to computing that eliminates large applications that do everything their own way, and replaces them with small universal tools (such as text editing or numeric tabulating) that each do a particular operation on any document from any computer. Used in the Newton and OpenDoc.

DOS system software: (Disk Operating System) The software instructions that tell a computer how to act like an IBM PC; the System and Finder for those machines. The most common flavor is MS-DOS (made by Microsoft) although there are others.

dot matrix printer output: A printer that uses dots to create the text and image on the page. This term is most commonly used to refer to impact dot matrix printers which use small metal pins striking the ribbon and paper to create text and images.

double-click interface: To click the mouse twice quickly in succession without moving it. This usually tells the Mac to open or launch whatever was double-clicked. It also enacts the default option in dialog boxes.

download communications: Transferring a file from a remote computer to your computer, using a terminal program and a transfer protocol.

downloadable font output: Descriptions of fonts that are not built into a printer but are kept on a hard disk (connected to either the printer or the Mac) and sent to the printer as needed. This process takes time and makes printing slower. Virtually all downloadable fonts in the Mac world are written in the PostScript language.

dpi output: (dots per inch) A measure of resolution on a printer or scanner. The more dots per inch the device is capable of producing or reading, the more detailed and smooth the resulting output. The StyleWriter prints at 360 dpi; the LaserWriter family of printers print at 300 dpi, the ImageWriter IIs print at about 150 dpi; the standard Mac screen is 72 dpi, and typeset-quality print is around 1000 dpi.

drag interface: With the cursor over an object, press and hold the mouse button pressed. Then move the mouse and watch as the object moves with the cursor.

drag-and-drop interface: Mac users have been dragging and dropping files and folders into the trash can for years. System 7 enlarged upon the idea. For example, you may drag

and drop a document's icon onto the icon (or alias) of an application, and if the application is able to, it will launch and open the document. More recently, some applications have implemented drag-and-drop as a shortcut for cutting and pasting.

DRAM interface: (Dynamic Random Access Memory) The most common kind of RAM, the one people mean when they just say "RAM," except some PowerBooks and the Mac Portable that use Static or pseudo-Static RAM.

drive storage: A device that moves a storage medium and reads it or writes to it. Drives either spin disks or transport tapes. There are floppy drives into which you insert a floppy disk; there are hard drives that are sealed inside the computer or the external box they come in. There are also removable media drives, including those that have a large slot into which you insert a hard disk cartridge, tape drives, DAT drives, CD-ROM drives and optical drives.

driver system software: A piece of software which controls communication between your Mac and some peripheral device. Drivers usually need to be in the same folder as the System in order to be used; under System 7 they live in the Extensions Folder inside the System Folder. The most common drivers are those needed for printing. Scanners, CD-ROM drives and removable media drives also require drivers.

DVORAK interface: An alternative arrangement of the keys on a keyboard. DVORAK (named after the guy who invented it) is nonstandard, but allows more rapid typing than the standard QWERTY layout, some say.

email networking: (electronic mail) Text messages sent from computer to computer over a network or over phone lines.

Easy Open system software: Short for Macintosh Easy Open, system software that helps applications convert documents and indicate what types of documents they can open.

echo communications: Local echo is when the computer you're using displays what you're typing. Conversely, remote echo is the action of having the receiving computer send what it has received back before showing it on screen. A simple, but useful way to confirm that communication is happening correctly.

Echomail communications: Public message conferences on a BBS which are shared and distributed among other BBS's as part of an Fidonet network.

edition system software: A special file whose data can be shared by other documents (called subscribers) under System 7's Publish and Subscribe function.

eject interface: Causing the computer to push a floppy disk out of the disk slot. This action may or may not dismount the disk, which is what happens when the computer forgets all about it. You'll know if a disk is dismounted because its icon disappears from the desktop; otherwise it is only dimmed. Choosing Eject Disk from the Special Menu ejects a floppy but doesn't dismount it; do this when copying from one floppy to another. Dragging the icon to the trash can is the preferred way to dismount and eject a disk. If the disk won't pop out, press command-shift-1. If all else fails, straighten out a paper clip and poke it into the little hole beside the slot.

ELF display: (Extremely Low Frequency) A type of radiation given off by almost any electric device, but potentially dangerous amounts come from power lines, heavy machinery and some video monitors. The best prevention is to sit at arm's length from your monitor and stay away from the back or sides of one—that's where the radiation is highest. Shop for low-ELF displays.

em dash output: A dash (—) as wide as the character "m" in a given font. You get this special dash by holding down the Shift and Option keys while typing a hyphen.

em space output: A space as wide as the letter "m" in a given font, achieved by holding down the Option key while hitting the Space bar.

emulation mode system software: Software running on hardware for which it is not primarily written, such as DOS software running on Macs or 680x0 software running on a Power Mac. Not all features may work properly, and speed is degraded.

en dash output: A dash (–) as wide as the character "n" in a given font. You get this special dash by holding down the Option key while typing a hyphen.

enter key interface: Performs functions similar to the Return key.

EPS output: (Encapsulated PostScript File) A graphic file format composed of two parts: a simple bitmapped image (a 72-dpi PICT file) that the computer reads and displays on the screen and a complex PostScript code that a PostScript printer reads. EPS files are called "device-independent" or "resolution independent". This means they will print at whatever resolution the printer happens to be. The same graphic will print at 75 dpi on the ImageWriter II, at 300 dpi on the LaserWriter, at 1240 or 2400 on a Linotronic.

error control communications: Modem-based techniques which check the reliability of characters or blocks of data at hardware level.

Ethernet networking: A set of rules (protocol) for exchanging information which can accommodate high speeds (10 megabits per second, about five times as fast as LocalTalk).

EtherTalk networking: Apple's implementation of Ethernet.

event programming: Some action made by a user or by software that the software wants to know about. Like a bored dilettante, Mac software sits around waiting for events to happen. When you click on something, or hit a key, that sends an event to the Mac and it's off and running.

eWorld communications: Apple's very own online information service, debuted in June, 1994. It replaces AppleLink, which was used to communicate with software developers, BBS's, and vendors. Apple is using a revamped version of America Online's software and bundles the eWorld software with new Macs.

Extension system software: A file that modifies the behavior of the Mac Operating System. Extensions are sometimes small programs that can make your Mac do strange and wonderful things. They also take up RAM. They live in the Extensions folder inside your System Folder and load right after the OS when you start your Mac—you see a parade of icons at the bottom of the screen. Occasionally Extensions can cause misbehavior. You can troubleshoot by moving them out of the Extension

sions folder one by one and restarting, until the problem goes away. Even better, install only one at a time and give it a few days to reveal any antidigital tendencies. This System 7 term replaces the terms INIT and StartUp document from System 6.

FatBits interface: An eight-power blowup of a screen bitmap. The term was coined by Bill Atkinson, to describe the magnification feature in the original 1984 MacPaint, which was activated by holding down the Command key while choosing the pencil tool. Almost all bit-mapped graphics programs written since then include the same shortcut—it's a Mac tradition.

fax communications: (short for facsimile) Hardware that sends a digital image of a document over communication lines to a similar device. Originally a fax scanned a printed document and a paper copy was recreated at the other end. With fax modems documents may remain in digital form.

fax modem communications: A modem capable of exchanging images with a fax machine. Typically, such modems are at least Group III-compatible and come with software that makes sending faxes as easy as printing.

fiber optics networking: Transmitting information encoded upon light beams that pass through thin strands of glass or plastic. Because light has a very high frequency it has an enormous bandwidth upon which to impress signals, hence it can carry much more than copper wires with much higher efficiency and speed. Light has the added advantage of being immune to magnetic interference. Right now your cable-TV may be carried to your home (or at least your street) on fiber optic cabling.

field interface: A discreet piece of information in a database, such as the Zip Code in an address book. A database contains records, and each record is made up of fields. In a program such as FileMaker, you can format the display of each field's information and specify the type of data, for example to make sure there are the right number of digits and no letters in a phone number. Very similar to a cell in a spreadsheet.

file system software: A self-contained single set of digital information on disk or in memory. A file is either an application or a document, anything from a brief letter to a QuickTime movie to a gargantuan application like Excel.

file editor utility: A software utility that allows you to open and change the resource and data forks of a document or application. Not for the faint of heart.

file format system software: The particular structure that a document (spreadsheet, graphics, text, etc.) is saved in. Text is a standard file format for words and numbers, and many applications can read text documents. Text file formats include ASCII (text only) and RTF (Rich Text Format), in addition to the particular format for your word processor. MacPaint and TIFF are standard file formats for bitmapped graphics, and EPS is a nearly standard file format for object-oriented graphics. Different applications use different formats and many can read and translate each others'. A document's file type is a four-letter code indicating its file format.

file server networking: A computer that saves and retrieves files on a network. Often, one Mac and its hard drive are dedicated to the job of being a file server. File server software controls who gets to read and use what, and how many people get to do it at the same time. Examples: AppleShare, System 7's file sharing.

file sharing networking: Using files on another Mac via a network. It can be as simple as two Macs sharing a printer, or as complex a network as you can create.

filename system software: The name of an application or document. It can be up to 31 characters long, but can't contain any colons (:) because those are reserved for pathnames.

filter system software: A small piece of code (module) used by an application to convert a document created by another application into a file format that it can read or modify the content of an image. Common use: Photoshop filters.

Finder system software: Always-running application that organizes the contents of and keeps track of changes to all files on a disk. It creates the desktop; in fact the desktop and Finder are almost synonymous. You use the Finder to find files, to copy and delete them and move them around, and to launch applications.

firmware hardware: Software that lives in chips, such as your Mac's ROM, and can't be changed. As the Mac has evolved, System files are instructed to ignore some portions of the firmware and substitute replacement code. The next generation of ROM chips contain the new code. Thus a great deal of compatibility is maintained.

Fkey system software: A miniature program, similar to a desk accessory, which is run by holding down the Command and Shift keys and hitting a number. An Fkey can be installed semi-permanently as a resource in your System or added temporarily with utility programs. Your Mac comes with one, Command-Shift-3, which takes a picture of the screen and saves it to disk.

flame communications: An online expression of opinion that is strongly worded and often quite unpleasant. Real-time chats have relatively few flames, but discussion groups (where people post messages to be read later) can degenerate into vicious "flame wars" which can go on for some time. A thoughtful article by John Seabrook about being flamed appeared in the June 13, 1994 New Yorker magazine.

flat-file database application: A simple database that is essentially one table that can't be linked to another. Example: FileMaker.

floating point programming: Mathematics in which an essentially unlimited number of digits after the decimal may be used. Mathematically speaking these are "real" numbers (as opposed to integers); you will want to have a coprocessor if you need to do a lot of floating point calculations for applications such as 3-D modeling.

floppy disk storage: A round piece of plastic with magnetic stuff in it where you store information you want to keep around after you turn the computer off. Standard Mac floppy disks have a hard plastic cover with a

sliding metal door (for use by the computer—not you), these are also called 3.5" floppies to distinguish them from 5.25" floppies used by the old Apple II series and IBM-type computers. Regular Mac floppies can hold 800 kilobytes (the original standard was 400 kilobytes). The FDHD, or SuperDrive, floppy drive in Macs made since the later SE's can handle the older Mac disks and newer ones that hold 1.44 megabytes and can even read 3.5" DOS disks.

floppy drive storage: The mechanism that reads and writes floppy disks.

flow control communications: A mechanism that compensates for differences in the flow of data to and output from a modem or computer. Generally two choices are available: software flow control (sends control-key signals to tell the other system to start and stop) and hardware flow control (uses special signal wires).

folder interface: A place to hold documents, applications, aliases and other folders on a Mac disk. Folders have icons on the desktop and hold virtually unlimited number of files. You move items into a folder by dragging the item's icon onto the folder. The easiest way to open a folder is by double-clicking on its icon. To put a file back into its folder, select it and choose Put Away from the File menu.

font output: A digitized set of characters in a single typeface design. A digital font can be any size unlike old-fashioned typography where each size is considered a font. Plain (or Roman), Bold, Italic, and Bold/Italic are the traditional styles within a font family. Fonts are either bitmapped fonts or scalable. Scalable fonts come in two varieties, PostScript and TrueType.

font id output: Each font has a name and an id number to identify it to the computer. Unfortunately, given the thousands of available fonts, a time will come when you have two fonts with the same id and/or name on your system and your printouts won't look at all right. Worse, some programs renumber fonts when they encounter conflicts, which can really mess things up when you take your documents to another computer to print them. Modern programs refer to fonts by name only, which helps clarify things, and programs like Suitcase can help resolve conflicts.

format storage: (verb) The process of erasing everything on the disk and checking the medium for physical errors. This must be done to new disks before they can be used by the computer. Sometimes called a "low-level" format.

fragmentation storage: The scattering of information on a disk into lots of little pieces. This can become a problem on hard drives. A seriously fragmented disk appears slower because the computer has to search many places for information. Eventually a disk can become so fragmented it will lose data. Utilities can be used to defragment a disk and, although this may take some time with a hard drive, it is a good idea if you use your Mac a lot. A similar condition can occur in the computer's RAM (weird things will begin to happen), in which case it is best to quit the applications and restart them.

Freeware industry: Software that some nice person creates for themselves and then puts out

into the world at no cost to others. Often available on BBS's, through user groups and from friends.

front end communications: Software (and rarely hardware) that communicates with other software and sometimes hardware. The purpose of a front end is to either limit access to the actual system being used or to improve the interface. A common example is a client/server setup on a BBS or the Internet; we know a guy who uses a PowerBook as a front end to a Cray!

FTP communications: (File Transfer Protocol) The Internet's protocol for moving files from one computer to another. Also the name of the application which moves files using file transfer protocol.

full-duplex communications: Simultaneous, two-way exchange of information on a network or phone line. It is sometimes used to refer to the suppression of online local echo and allowing the remote system to provide remote echo.

full-height storage: A hard drive mechanism that is over three inches tall is full-height. Disk drives with the largest capacities usually come in full-height sizes only. Full-height drives do not fit inside Mac SE family or Mac IIcx family computers, and they fit in Mac II family computers only if the hard drive mounting bracket is replaced with a bigger one. Even still full-height drives may not fit on top of DIP SIMMs in a Mac II.

function key interface: A key at the top of an Apple Extended or Adjustable keyboard that carries out some operation when pressed. Most function keys are application-specific. Big in the blue world, but discouraged in Mac software where the graphical interface is supposed to make them unnecessary. See FKEY.

gateway networking: A connection between computer networks that translates the information from one network's format to the other's. A gateway allows messages from one information service or BBS to be carried by another.

genlock display: The ability to synchronize two video signals—for example, a video image with a computer-generated title—on the same screen.

GeoPort communications: Serial port capable of high-speed communications, with the assistance of a communications module. Found on the AV and Power Macs.

Get Info system software: A function of the Finder (in the File menu) that displays useful information about any file on the Mac, such as its size and creation date.

GIF communications: A CompuServe graphic format with 1 to 8 bits per pixel. It is compressed and works on different computers, but few applications can read it.

gigabyte storage: A unit of measure, technically 1024 megabytes, which is roughly one billion bytes - 1,073,741,824 to be precise. Impress your friends with this useful knowledge.

glossary self-reference: 1. A list of terms used in a particular discipline and their meanings. The better ones are cross-referenced. 2. A very useful feature of word-processors where you list frequently typed words or phrases and key strokes that will cause the computer to substitute the glossary entry as you type.

Gopher communications: A menu-based system for exploring Internet resources.

grabber interface: The little hand icon with which you can move your document around in its window. First seen in the original MacPaint, the grabber has become a standard tool in most Mac graphics programs.

graphical user interface interface: The interface we all know and love, developed at Xerox PARC and more recently copied by Windows. This type of interface uses pictorial representations of real-world things on the screen and gives you a mouse or other pointing device to interact with them. Nickname: "goeey" (GUI).

graphics tablet interface: A flat panel used with a special pen (called a stylus) to move the cursor around the Mac screen, especially in graphics programs. More advanced models are sensitive to the amount of pressure you're applying and alter the line weight accordingly.

grayscale display: Some Mac screens are really grayscale rather than plain old' black and white. On a black and white screen or on printed material, gray tones are simulated by black dots that give the illusion of gray when an image is seen from a slight distance. On a grayscale monitor, however, the same image will display in actual shades of gray. The number of bits per pixel determines the number of values of gray that can be differentiated; for example, 8 bits permits 256 shades of gray. A TIFF file can be saved as a grayscale document, albeit a much bigger file.

greek output: Nonsense text used to simulate the finished appearance of a document without distracting you with its content. This term also means the gray lines that stand in for text when a document has been reduced on the monitor.

Group III communications: The standard for facsimile transmissions (fax machines). Group III-compatible fax machines or fax modems send data at 9600 baud, at a resolution of 200 dots per inch, and can send some gray-scale information at their option. Group III is the overwhelming fax standard in the US, but less so in Europe.

half-bridge networking: A combination of hardware and software connecting a network to telephone lines to send data beyond the physical limits of the network.

half-duplex communications: In telecommunications, signal flow in both directions, but only one way at a time. This term sometimes refers to the activation of local echo which causes a copy of sent data to be shown on the sender's display.

half-height storage: A hard drive that is about one and a half inches tall. This size drive fits inside all Macs.

halftone output: An image that is composed of solid black dots of various sizes at equal spacing, which creates an illusion of various shades of gray. This is how continuous-tone images, such as photographs, have traditionally been reproduced by printing presses, which are not capable of generating true grays.

handshake communications: The exchange of information between to devices (usually modems or printers) to determine whether conditions are right for further communication.

A printer may send a handshake to tell the computer to pause while it digests the information it has just received.

hard copy output: The printed version of what you have in the computer.

hard drive storage: The machinery that permanently encloses a disk together with the disk itself. The disk is a round piece of hard plastic coated with a magnetically sensitive surface. Most hard drives have more than one disk inside, stacked on a single shaft, with a read/write head for each surface. The machinery spins the disk and reads its contents very quickly. Hard drives come in 2.5", 3.5" and 5.25" diameters, and can hold from 20 megabytes up to gigabytes.

hard return output: A carriage return that will always end the current line regardless of where it is on the page. In a word processor, a hard return starts a new paragraph.

hard space output: A space that looks like a space to you but not to the computer. The sentence will not be broken by word wrapping at a hard space. Type Option-Space.

hardware hardware: The parts of the computer or any peripherals that you can bang on. The monitor, keyboard, modem, scanner... all the things you can touch are hardware. As opposed to software.

Hayes command set communications: A set of instructions for controlling modems developed by Hayes Microcomputer Products and informally standardized in its 1200 baud modem. Virtually all telecommunications software and hardware support this set of commands to some degree. Also called the "AT commands set" because each command is preceded by the letters "AT."

head crash storage: What happens when the read/write head of a hard drive contacts the disk surface, or even when a piece of dirt gets in between them. Very bad. You can't replace your divots on a hard disk.

heap programming: The free memory that is allocated to the different applications you are running at any one time. The heap is governed by the Memory Manager, a vital part of the Macintosh Toolbox. Sometimes when the computer seems to pause, the Memory Manager is moving blocks of data around to compact the heap and open up large contiguous empty blocks.

hexadecimal system programming: A number system consisting of sixteen integers from 0 to 9 and A through F. This system, aka base-16, dovetails beautifully with the binary system since a pair of hexadecimal numbers can represent discreet values from 0 to 255 in base-10, the same as two bytes can. Hence 01 hex equals 00000001 binary and 1 in base 10, while 61 hex equals 01100001 in base-2 and 97 in base 10, and is used to represent the letter a. Hex is much easier for us humans to read than a mosaic of zeroes and ones. You may have seen these strange little numbers if your ImageWriter ever hiccupped and printed codes.

HFS system software: (Hierarchical File System) The way the Macs (starting with the 512E) keep track of the contents of folders.

hierarchical menu interface: A sub-menu that pops up when you select a specific menu item. Hierarchical menus are used to provide many choices within a category without bringing

up a dialog box. Menu items that lead to sub-menus are designated by a black triangle, on either side of the menu, pointing sideways.

high-level language programming: Programming languages that are closer to natural speech such as HyperTalk and BASIC. They are easier to program but often result in bulky, slower programs.

highlightinterface : To make something visually distinct from its background by changing or inverting its colors. Objects that are selected or chosen are highlighted.

hint output: Techniques developed along with outline fonts that let any printer accurately render serifs, stems and any other character components at any type size or orientation.

hot spot interface: The one pixel in the cursor that actually shows the mouse's location on screen, and the part of the cursor that must be aimed accurately. On the arrow cursor, the hot spot is the tip of the arrow.

HyperCard system software: An application for creating databases, utilities, presentations, and other kinds of applications. If you have a Mac, you probably have it (or at least its sibling, the HyperCard Player) so stop reading this glossary entry and go play with it for a while. Documents created with HyperCard are called "stacks" (of cards, get it?).

hypermedia industry: Simply the extension of the hypertext idea to cover non-textual information, like pictures and sound (not much of an intellectual leap).

hypertext industry: A concept articulated by Ted Nelson in the 1960's, in which any piece of textual information on a computer can be connected to any other. Users can jump from one piece of information to other related pieces quickly and thereby learn things in a non-linear, semi-random sequence. Users should also be able to create these links between pieces of information. Parts of the hypertext ideal are present in some Mac applications, notably HyperCard.

I-beam interface: The cursor shape that looks like the edge-view of an I-beam. When you want to enter text, position the I-beam cursor and click. The insertion point (a flashing vertical bar) appears where you clicked, and you're ready to go.

IAC programming: (InterApplication Communications) The process of exchanging information and instructions between applications. A whole suite of IAC capabilities is a part of System 7, including Publish and Subscribe (automatic updating of information shared between different kinds of documents) and Apple events, which is the sending of commands from one application to another.

icon interface: A small picture representing something. On the Macintosh, icons represent documents, applications, devices and sometimes processes. For example, a disk icon represents a physical disk but the Trash Can represents the action of throwing something away.

IGES applications: An older file format for CAD documents, standardized on mainframes and minicomputers. Most CAD programs can

read IGES files, although DXF is more often used in the Mac world.

image backup storage: Full or global backup where everything is copied.

image processor output: An application that takes images—often scanned or captured photographs or video—and edits them. You can edit your sister's ex-boyfriend out of a family snapshot, or add yourself to Rick's Bar in Casablanca. As this technology becomes undetectable, photographs are becoming inadmissible evidence in court and advertisements are more enticing than ever. It lends a new twist to Groucho's joke, "Who are you gonna believe, me or your own eyes?"

Imagesetter output: A very high resolution laser-based printer that prints on photographic paper and is so costly you go to a service bureau to use one. These machines can create output at up to 3,600 dpi!

ImageWriter output: Apple's original Mac printer. ImageWriters, now out of production, were impact dot matrix printers and came in three varieties: the original ImageWriter, slow and problematic; it was replaced by the bestselling ImageWriter II which was a real beauty in its day, capable of 144 dpi resolution; and the Edsel-like ImageWriter LQ wide-carriage printer.

import applications: Bringing a file created by one application into a document created by another. To successfully import something you need to know if the application doing the import is capable of handling the file format of the incoming document. Many programs use special filters to convert formats, and there are file conversion programs such as DeBabelizer. You can almost always import a plain-text file, and tab-and-return delimited databases go to and fro quite easily. It gets more complicated with graphics.

incremental backup storage: A type of backup where only those things which have been added or changed since the last backup are copied.

indent output: White space between the margins on a page and a body of text. Normally used only as a first-line indent, either inside the margins like you learned in typing class or outside as a hanging indent. Most indentation is accomplished with margin settings since word processors give each paragraph its own ruler. Not really a character (no ASCII value), but it's almost one.

INIT system software: Small chunks of code that load right after the Operating System and add features to it. INIT is the pre-System 7 name for Extension.

initialize storage: The process of erasing a disk's directory so that new data can be written over the old. Since initialization doesn't remove the data, it can be recovered with a disk utility if the disk is initialized by mistake.

inkjet printer output: A type of printer whose print head squirts droplets of ink through tiny nozzles onto plain paper. This amazing technology made the ImageWriter nearly obsolete, and made very low cost 300 dpi printing available to most users. One problem: the ink can smear, even after it's dry (if it gets wet).

input device input: Any device through which you get information into or control the computer. This term includes keyboards, mice,

data sensors, etc., but usually excludes things like disks and modems.

insertion point interface: The place where what you type will next appear on screen, identified by a flashing vertical bar. You can move the insertion point by clicking somewhere else in the text; you can get rid of it by clicking outside the text area.

Inside Macintosh programming: A series of technical manuals by Apple (published by Addison-Wesley) that describe in great detail the inner workings of the Mac Toolbox (the immense collection of code routines that most programs call upon to do things), the operating system and other basic elements of Mac hardware and software. Its examples are written in the Pascal language, since that's what the Toolbox is written in. The complete series runs in a number of books (recently revised) totaling over 2,000 pages and costing hundreds of dollars. It's hard to read, but it can be done!

installer system software: Software that automates the process of putting an application or even a new operating system onto your hard drive. It's still OK to drag simple programs onto your desktop like always, but with huge, complicated applications the files may be split between floppies or the installer may know where some special files or resources need to go.

interface interface: Broadly, the way any two things communicate with each other. In this glossary interface is short for "user interface", which is the way a computer appears to the user, and the rules by which they communicate. The Mac (and Windows on a DOS machine) has a graphical user interface, nicknamed "gooey" (GUI) because it makes use of pictures and images to convey meaning. Most other computers use a command-line user interface, called "clooey" (CLUI) which uses specific typed commands to convey instructions.

interlace display: A kludgy trick to work around the limitations of the NTSC video system, which is the standard in the United States. NTSC consists of 30 frames per second at 525 lines per screen resolution. That is low resolution compared to Europe or Japan which use up to 1,000 lines of resolution in the video signal. In order to "fill out" the image and minimize flicker, one-half of the image is drawn every 1/60 second, first the 262.5 odd numbered lines, then the evens. Couch potatoes are digging in until HDTV comes along. Computer displays are non-interlaced—a major reason why they cost more—and the Mac display runs at 66 frames per second.

interleave storage: A way of optimizing the efficiency of a hard drive by spreading out chunks of data so that as it spins (very fast, you know) the computer can absorb (or dispense) the information in a continuous stream. Remember that disks are divided into tracks, and each track is divided into sectors. With a slower machine like the Mac Plus, the data is interleaved at a 3:1 ratio, that is, written to every third sector on the disk. If it were written to contiguous sectors, the hard disk would have to go around an extra complete revolution after each sector was accessed because the machine wouldn't be ready for the next sector. There is just enough time

if the drive lets two sectors go by, so the 3:1 interleave is set by the driver software. Older SE's need a 2:1 interleave. Newer Macs are fast enough to use a 1:1 interleave, which is really no interleave at all!

Internet communications: "The Internet" - The international telecommunications network formed by thousands of networks connecting a half-million academic, industrial, and government computers that exchange messages constantly. The Internet uses the UNIX operating system which is powerful but very user-unfriendly. Software is becoming more available to make it less painful to Mac users. You can get onto the Internet via an institution you work for or belong to, or you can sign on to a service like UseNet, or you can gain access through an online service like Delphi or America Online.

internetwork networking: Aka internet; A group of networks joined together with bridges, routers, gateways, etc. that are capable of communication with each other.

interpreter programming: A program like HyperCard or BASIC that takes a program written in a high-level language and translates it "on the fly" to machine code that the processor can carry out. Interpreters are very convenient to work with since you can interrupt the process at any point to make changes or debug. However, since the translation takes substantial time, your program runs much more slowly under an interpreter.

interrupt switch programming: The button on the programmers switch without the triangle. When you press it, it interrupts whatever is going on and puts you into a mini-debugger window, where if you know what you're doing you can look directly at the contents of memory and do other programmer things.

invisible file system software: A document or application which is on a disk but whose icon is not shown. It is not counted as an item, and cannot be selected in any standard way. Such files can still be accessed by applications and will be seen by utilities. The desktop file is invisible. Any file can be made invisible.

IPX networking. Novell NetWare protocol.

ISDN communications: (Integrated Service Digital Network) A worldwide standard for digital telecommunications. ISDN features two channels running at 64 kilobytes per second plus a third low-bandwidth channel..

ISO industry: (International Standards Organization) The really big organization that slowly works out standards for telecommunications for the whole world.

ISO/OSI communications: (International Standards Organization/Open Systems Interconnect) A set of rules, still under development by the ISO, to standardize communication between different types of computers. Universal conformity to these rules promises easy exchange of data between any two machines.

IWM storage: (Integrated Woz Machine) The chip that controls the disk drive in your Mac. You probably don't need to know this, but it's a fun name for a chip.

JPEG output: (Joint Photographic Experts Group) A graphic file format used for compressing large bitmapped graphic images. QuickTime uses JPEG to compress images to as little as 1/20 their original size. However,

there is trade-off: JPEG is called "lossy" because when you decompress an image, you don't get back the exact original. Repeated cycles of compression and decompression can significantly degrade an image, and should be used with care.

Kermit communications: A telecommunications protocol developed at Columbia University and widely used on UNIX machines. It can be used on a wide variety of computers from mainframes to micros. Kermit's big claim to fame is that it works across eight-bit and seven-bit machines and it can transfer batches of files at a time. While not terribly efficient, it is sometimes a necessity for transfer involving different systems. Not recommended for PC to PC transfers.

kern output: To adjust the spacing between two characters. Typefaces are designed with specific space around each letter, but some combinations, such as WA look awkward unless brought closer together. Kerning can be done in any amount, but small amounts are best.

kerning table output: Special instructions for adjusting the spacing between specific pairs of letters in a typeface. This table, if it exists for a given font, is stored in that font's FONDR resource.

Key Caps system software: A handy DA that shows the layout of the keyboard and how each letter looks in any one of the installed fonts. You can see the capitals by holding down the Shift or Shift/Lock keys and the other characters that are available when holding down the Option key and the Option-Shift combination.

keyboard interface: The input device that reminds your grandma of her old Smith-Corona typewriter. After the Mac Plus, all Macintosh keyboards have a numeric keypad. An enhanced, or extended keyboard has a row of function keys across the top in deference to fugitives from the blue planet. The time-honored key layout is called QWERTY, but some pioneering types use the more efficient DVORAK layout. Other developments include the curved Maltron keyboard, and a keyboard which separates into two parts so you can hold your hands more naturally. Advocates claim these last two help avoid the dreaded carpal tunnel syndrome.

kilobyte storage: 1024 bytes, exactly 2 to the 10th power. Kilo- is Latin for thousand.

kludge programming: 1. Awkward, makeshift and non-intuitive. Used to describe applications or methods of getting things done. 2. A work-around that effectively solves a problem, usually in an innovative way.

LAN networking: (Local Area Network) A bunch of computers connected via cables and software, allowing hard drives and other devices to be shared. LANs typically have 50 or fewer computers hooked together in the same building, but variations do exist.

laser printer output: A great leap forward in printing technology that allows us civilians to produce high-quality graphics that look like they were done by professional printers. The output of a laser printer is a page whose image is composed of extremely small, evenly spaced dots of ink at resolution of 300 dpi (600 dpi is now available). It may have come from the marriage of a dot-matrix printer and a photocopier, but really it's a thing unto itself. The laser beam electrically "etches" the

image upon a statically charged drum which then picks up charged powdered ink. The ink is then handed off to the paper and made permanent by a hot roller. Amazing.

launch interface: To run, or start, an application.

layer interface: A system built in to object graphics programs in which each object behaves as if it were drawn on a piece of transparent film. Objects do not obliterate others that they overlay, and any object can be put in front of or in back of any other. Draw programs go a step further, providing layers with their own names and characteristics, each of which can hold individually-layered objects. You can then hide or show these super layers as you work on the drawing. Some advanced bitmapped graphics applications such as Photoshop have their own layering features.

LCD display: (Liquid Crystal Display) A screen whose circuitry can cause individual pixels to be transparent or opaque. The screen itself is transparent and requires some sort of backlight for adequate visibility. They're also impossible to repair, so if more than a few pixels are bad the factory has to dispose of the screen. The most common type of LCD display is called "passive matrix". This type is easier to manufacture, hence cheaper. It's also slower and harder to read due to lower contrast. The better type of LCD is called "active matrix" and has a transistor for each pixel. These displays have a higher contrast and wider viewing angle, but they're more expensive and harder to make.

leader output: A small character such as a period, hyphen or underline that leads your eyes from one column of information to another, such as in a table of contents. Many applications let you attach leaders to tab stops.

leading output: (Pronounced "leding") The space between two lines of text, usually measured in points (72nds of an inch). The name comes from the strips of lead that printers used to put between lines of type. On the Mac, leading is usually measured from the top of one capital letter to the top of another on the next line.

LF communications: (Line Feed) An invisible character that instructs the printer to move down to the next line. On character-based computer displays, the line feed is used for the same purpose. On the Macintosh it is not used and often has to be removed from word-processing files transferred from other computers.

ligature output: A typographic nicety: one character that is actually two characters combined together. For instance, when you type the letter f next to the letter i, the hook of the f bumps into the dot of the i. The ligature for f and i is one character. Every PostScript font on the Mac includes the common ligatures such as those for fi and fl. Certain other fonts, like the Adobe Expert collections, contain many more ligatures.

line spacing output: The distance from the baseline of one line of text to the baseline of the next, measured in points (1/72nd of an inch). This term is a more computer-like replacement for the printer's term "leading".

Lisa industry: Macintosh's grandmother, also later called the Mac XL. A Mac precursor.

list box interface: A window or dialog box that contains a list of things (or even a series of icons or pictures) that you can select from.

localization programming: Adapting software to another country, culture, or language by rewriting the menu names and menu items, default settings, and anything else necessary to make the application understandable and appropriate.

LocalTalk networking: Actual name for the cables which Apple sells to connect Macs together, commonly called AppleTalk. It has been largely superseded by hardware that uses standard telephone connectors.

lock storage: To protect a file or disk (or other storage medium) from being changed, written to or erased. Protection can be achieved physically, by sliding the write-protect tab on a floppy disk to where you can see through the hole, or in software, by clicking the checkbox named "Locked" in the file's Get Info window.

log off communications: To quit a multi-user computer, BBS or online service.

log on communications: To get access to a multi-user computer, a BBS or online service, generally by identifying yourself with a name and password.

lpi output: The number of lines in a halftone image. Halftone images are composed of solid dots of various sizes at equal spacing, which creates an illusion of various shades between black and white (gray tones). This is how continuous-tone images, such as photographs, have traditionally been reproduced by printing presses, which are not capable of generating true grays. Resolution when defined by the number of lines (of dots) per inch, does not readily translate into dots per inch on an electronic output device such as a LaserWriter, because these are digital devices with dots all the same size. In fact, sophisticated algorithms are required to translate from lines per inch (halftone) to dots per inch (electronic). PostScript is an example of such an algorithm.

lossless storage: Compression without data loss
Example: Stuffit

lossy storage: An adjective to describe a compression scheme, typically for a bitmapped image like a captured frame or photograph or a video sequence, that loses a little bit of data every time a file is compressed. Lossy compression algorithms like JPEG squeeze files up to ten times tighter than lossless compression like Compactor.

MacBinary communications: A special format for storing Mac programs on other computers. The Mac document or application is converted into a highly specialized form of text for storage on other machines, and then converted from text back into a Macintosh file when transferred back to a Mac. Most telecommunications programs do all this automatically.

machine language programming: Computer instructions at the lowest level - the language of the processor itself. Serious 0's and 1's. This code is almost always the end result of a program written in a mid or high-level language, then turned into machine language by an interpreter, or the duet of a compiler or assembler and then a linker.

MacinTalk system software: System extension converts text to speech. Incompatible with many Macs these days, largely replaced by PlainTalk.

MacPaint applications: The original painting program for the Mac 128, developed by Bill Atkinson. Also a black-and-white graphics file format.

macro interface: A series of commands, mouse movements, and keystrokes that are recorded and played back (actually, reenacted). Macros are used to automate complex or repetitive tasks. They are created typically by having the computer record a series of actions as you go through them (this is called a "watch me" macro) or by writing out instructions in a special programming language. The languages used for making macros are usually not as powerful as traditional programming languages, and so they are often called "scripting" languages, and the macros are called "scripts."

magneto-optical drive storage: A combination of optical and magnetic storage technology. The disk itself is magnetic, but a laser beam is used to encode the surface. These drives have much greater capacity because the light beam can be focused much tighter than a magnetic field.

mail merge output: A document combined with a database, usually for the purpose of making form letters. For example, a letter would have "holders" in place of name, address and title, and a database containing that information could be merged with that letter to create a series of "customized" letters.

mainframe communications: Big computer you log into remotely.

marquee interface: A selection area indicated by a rectangle of dashed lines that move around the boundary, featured in the Finder and lots of graphics programs. The result looks kind of like marching ants, or like the chaser lights on a theatre marquee. Hence the name.

mask output: The act of covering up a portion of an image either to avoid seeing it or to protect it from some process you intend to perform on the unmasked portion. This term is also used as a noun for the thing itself.

megabyte storage: 1024 kilobytes or, precisely, 1,048,576 bytes or 2 raised to the 20th power. Roughly a million bytes or about 600 double-spaced pages of text.

memory hardware: Where information is stored. It comes in two varieties, volatile and nonvolatile. Volatile memory lives in chips and is dependent on a continuous electronic current and can be easily lost (RAM is volatile memory). Nonvolatile memory does not depend upon current (e.g. a floppy disk). Memory is measured in groups of bytes (kilobytes, megabytes, gigabytes, etc.).

menu interface: A list of commands which appears on screen so you can select commands from your mouse. The Mac uses pull-down menus which are accessible at the top of the screen, as well as pop-up menus in some dialog boxes. Choosing a menu item results in immediate action unless the item ends with three dots in which case a dialog box listing more options will appear.

menu bar interface: The horizontal strip usually visible at the top of the screen which

contains the titles of menus. If the menu bar is not visible, press command-space.

microcode hardware: Machine-language instructions that tell the CPU how to handle complex instructions such as those that take more than one clock cycle and/or use a lot of different parts of the chip. A high-overhead feature of CISC architecture, virtually eliminated by RISC chips.

MIDI output: (Musical Instrument Digital Interface) A hardware standard and a protocol for exchanging information between computers and electronic musical instruments.

minicomputer hardware: Bigger than a microcomputer, smaller than a mainframe.

MIPS hardware: (Millions of Instructions Per Second) A common, if somewhat misleading, measure of a computer's processing power. A Mac IIx can process about 8-10 MIPS, a Quadra 700 does 16 MIPS. Macs don't usually get rated in MIPS.

MNP communications: (Microcom Networking Protocol) A set of hardware error protection protocols (MNP Levels 1-4) and data compression techniques (MNP Level 5) developed by Microcom. It makes use of CRC and retransmission of defective blocks by checks performed within the modem. It is strictly an American standard and is considered inferior to v.32 and v.42.

mode interface: A state in which your choices are limited. In general, Mac software tries to avoid modes and let you choose any command at any time. Dialog boxes are a willful intrusion of modality because they occur when specific information is needed before the program can continue.

model programming: A graphic or mathematical representation of an idea, whether a scientific problem or a three-dimensional object. The earliest kinds of modeling were used for weather forecasting (and bomb blasts). In fact, these studies fostered the emergence of chaos theory. Graphic modeling is used to create architectural views and fantastic visual effects for Hollywood movies.

modem communications: (short for modulator/demodulator) A piece of hardware used for communication between distant computers. It translates digital computer information (bits and bytes) into analog noises (hisses and chirps) and sends these noises over standard telephone lines to another modem, which does the reverse.

modifier key interface: Any key that has not character associated with it, but which changes the behavior of the keys. The modifier keys on the Mac are Caps Lock, Command (Apple on some keyboards), Control, Option, and Shift. When using modifier keys, you hold those keys down and then tap the character key that it modifies. For instance, the keyboard shortcut for Paste is Command-V. A few applications also recognize the Num Lock key as a modifier.

Moof! output: Moof! is what the Dogcow says.

motherboard hardware: A piece of fiberglass onto which the most important chips fit, including the CPU which runs your computer. Also called a "logic board".

mount storage: In the old days, "mounting" meant taking a reel of computer tape and mounting it on the tape drive's spindle so the computer could use it. Nowadays it means

making any volume (a floppy disk, SyQuest cartridge, hard drive or even a disk partition) available to the computer. Usually this happens without your having to do anything—when you insert a floppy it's mounted automatically—but sometimes it's necessary to use a software utility such as SCSI Probe. With a cartridge drive it is necessary to insert the cartridge before you can mount the drive.

mouse interface: A little hand-held rolling device that moves a cursor around a computer screen and comes with one or more buttons. Moving the mouse cursor and clicking the button is one way of controlling a computer.

MultiFinder system software: An advanced version of the Finder under System 6 that supports having more than one application open simultaneously. You can then bounce back and forth between applications and the desktop. MultiFinder really only works on computers with more than 1 megabyte of RAM. You can also switch back to the regular Finder if you need to. With System 7 the Mac is always in a multi-application mode.

multimedia multimedia: Any combination of graphics, video, animations, text and sound. A leftover word from the 1960's (you might enjoy reading "The Electric Kool-Aid Acid Test") that's all the rage in the '90s. Some of it is pretty good, I hear.

multi-tasking programming: The ability of a sophisticated computer to calculate separate problems at the same time. Multi-tasking is used on large computers to handle multiple users and is being introduced into small computers to allow a single user to continue working even when the computer has to spend time on something else. On a non-multi-tasking computer, when the computer has to figure something out the user has to wait.

munge programming: 1. To destroy, break, waste, corrupt or render incomprehensible. When this happens to one of your files, it's munged. Some say the term means "mashed until no good", but I can't account for the final "e". Hey, this is a serious lexicographic issue. 2. (Munger) The name of a TextEdit routine in the Mac Toolbox that replaces a block of text with another.

nanosecond hardware: One billionth of a second, or the time it takes light (or an electronic signal) to travel one foot. In this realm, the distance between chips on a circuit board becomes an issue. The speed that RAM chips are able to accept read and write operations is measured in nanoseconds. With speedier processors you need faster RAM chips to keep everything flowing. A 68030 (a relative slouch in these days of 120 MHz PowerPCs) needs RAM chips that run at 80 ns or faster, but older Macs can't take advantage of the speed and can use slower (cheaper) chips.

native mode system software: Software specifically written for the hardware it is running on, thereby taking full advantage of the capabilities of that hardware and running at maximum speed. PowerMacs run native mode applications faster than they can older programs which run in (680x0) emulation mode.

navigate interface: Getting around on and inside the desktop of your Mac. Most often you'll use the directory dialog box to navigate through folders to find the file you want, and it can be somewhat confusing. In a di-

rectory dialog box clicking and holding the mouse button on the name of the folder (above the list box), gets you a path menu showing all the folders that the current one is nested in. Third-party utilities such as Super Boomerang can aid your navigation. In the Finder (System 7), Command-clicking on a window title also gets you a path menu. Navigation is also an important concept in Hypertext.

nested interface: When folders are stored inside other folders they are said to be nested.

netmail communications: Ostensibly private e-mail which is transmitted by a user calling one BBS to another user calling a different BBS. Main usage in FidoNet BBS's.

network networking: Computers connected together in order to exchange information. Usually this is accomplished with cables but sometimes with modems and telephone lines. Really, when you connect a printer to your Mac you have created a very local network.

NiCad power: (short for nickel/cadmium) The most common type of rechargeable battery. There is a lot of talk about the "memory effect" of a NiCad battery (where the battery begins to refuse more than a shallow charge and eventually goes bad), and you'll hear about completely draining them after every few uses. The latest poop is that it is unnecessary to drain NiCads beyond the point at which their charge affects the machine that's using them (the normal recharge point), and that with batteries made up of more than one NiCad cell (a multiple of 1.5 volts), when you completely drain them—with a light or a resistor—you run the risk of having one cell go below zero volts, get a reverse charge and die, rendering the whole package useless. By the way, they are also an environmental problem, so look for a battery recycler in your neighborhood.

node networking: A device that is attached to and is capable of communicating with a network.

noise communications: Any unwanted data mixed in with the good stuff you're after. In telecommunications it is static in the phone line or satellite link. In graphics it can be odd bits of dirt on your image.

Note Pad system software: An Apple desk accessory. You can write notes in it and they will be retained when the computer is turned off.

NSA industry: (National Security Agency) You are probably expecting some left-wing, Berkeleyesque snipes at this federal agency, but the NSA is in this glossary only because they possess the largest concentration of computing power in the US, and quite possibly in the world. Just thought you might want to know.

NTSC display: (National Television System Committee) This name is most commonly used as an adjective for a kind of video format, notably the standard for broadcast video in the US. NTSC IV video has two interlaced fields per frame and 30 frames per second. Wags say that it stands for "Never Twice the Same Color". Other standards are PAL (Britain) and SECAM (France). Some day HDTV will replace this fifty-year-old standard, but the programs will probably still be low-grade!

NuBus hardware: A set of rules developed by Apple for expansion cards that plug into slots inside the computer. NuBus cards are generally more intelligent and speedier than earlier expansion cards. They are used by most Macs with slots, but second-generation PowerMacs will substitute the PCI bus standard.

NuBus card hardware: An expansion board that adds hardware functionality to your computer. You can get video cards, accelerator cards, clock cards, cards that automate industrial processes or interface with scientific measuring tools, or whole computers on a card. They plug into NuBus slots inside most Macs; some.

null-modem cable communications: A cable for connecting two devices through their serial ports in which the wires carrying information (two and three) are crossed, so the information coming out of one device goes into the other. This type of cable is used to connect a Mac to an ImageWriter and can be used to connect two Macs directly without modems.

num lock key interface: A special key, usually at the upper-left corner of the numeric keypad, that switches the function of the number keys from cursor movement to numbers.

nuPrometheus League industry: A bunch of crazy guys — most likely disaffected Apple employees — who decided to give away some of Apple's ROM source code in the Summer of 1989. As of this writing they remain anonymous and apparently unrepentant, though an investigation was conducted by the FBI.

object graphics output: Graphics in which you create discreet elements and then arrange them rather than creating the entire image as one complete thing (analogous to the difference between a collage and a painting). Each object is defined by mathematical formulae and lives on a separate, transparent layer. Contrast to bitmapped graphics. Because the resolution of object graphics is "device independent", they print at the resolution of the printer. Thus a drawing may look jagged on the Mac screen but print perfectly on an LaserWriter. MacDraw was the original object graphics program and programs were considered to be either "draw" or "paint" type, but modern applications include features of both.

object-oriented programming programming: A development technique where code is divided into small pieces and can be reused by other code for efficiency.

OCR input: (Optical Character Recognition) A process whereby hardware and software look at printed or typed words and interpret them as words rather than as pictures. OCR technology has become remarkable better and soon may be actually convenient. OCR's methods require high-powered personal computers (or larger), and that is not likely to change.

OEM industry: (Original Equipment Manufacturer) The company that actually makes the hardware that other companies buy and resell under their own labels. You need to know the OEM usually only when purchasing hard drives but then it is important. SyQuest is a big OEM.

off hook communications: The modem's way of picking up a telephone receiver. "Off hook" produces a busy signal on the phone line.

offline communications: The state of not being connected to another computer. Used to describe your computer when it is performing actions that do not depend upon being connected to another machine. A printer can be offline if it's turned off but still connected.

on hook communications: The modem's way of replacing a telephone receiver after it has lifted it "off hook". The phone can ring when it's "on hook".

online communications: Connected to another computer, usually a network, a BBS or an online service. Any device that is connected and ready to be used is online.

online service communications: A company offering a service for a regular fee. Some of the popular ones are CompuServe, America Online, Delphi, GENie and eWorld. You can read the latest news, download software, engage in real-time conversations, post messages, opinions and classified ads, send and receive e-mail, do research, meet people, it's really too wonderful. To get connected online you need an account with the provider, a modem and communications software (some services provide the latter).

operating system system software: Software which provides the means by which your computer runs applications, copies disks, runs hard drives, prints documents, and so on. On a network, the operating system allocates the computer to each user in an equitable manner. The Macintosh's OS is the System and Finder and other stuff in the System Folder, and the programming in the ROM chips, called the Toolbox.

optical disc storage: A disc (not disk ... tsK) that is read and written to using light instead of magnetism. Their great advantage is that since the light beam is smaller than the magnetic flux path, they can hold much more data—as in a hundred times more! CD-ROMs are the most popular kind. Optical discs that behave just like floppies are not yet a reality, but two types come close: the WORM (write once, read many), used for archiving, and the magneto-optical disc, which is a combination of technologies as the name implies.

outline font output: Fonts that uses mathematical descriptions of each character rather than bitmapped images. Outline fonts can be viewed and printed at any size and at any resolution. The two types of outline fonts in the Mac world are PostScript and TrueType, although the math is different. When an outline font is printed, the equations are interpreted and a bitmap is created (rasterized) at the resolution of the printer.

owner networking: The user who created a folder on a file server. In AppleShare and System 7's Publish and Subscribe, only the owner can open folders she creates unless she gives access privileges to others.

packet networking: A series of bytes sent as a group over a network. A packet includes data plus a source and destination address and possibly notes about rejoining the data with other segments sent in separate packets. Networks break data into packets so that lots of computers can share the lines nearly simultaneously.

parallel processing industry: More than one processor working on the same problem at the same time or working on separate parts of a

problem at the same time. A more powerful alternative than a single processor (which most computers use), regardless of how fast that single chip may be. Surprisingly, it uses cheaper hardware. Some schemes, called massively parallel processing, use thousands of processors. Programming for this environment is very difficult.

PARC industry: (Palo Alto Research Center) A research lab run by Xerox where the basic ground rules of the graphical interface were developed almost twenty years ago. These first rules were then implemented in Xerox's Star computer, developed by their Office Products Division. The Star was one of the inspirations for the original Mac when Steve Jobs toured the center and became enamored with the interface. PARC also developed laser printers, Ethernet, PostScript and object-oriented programming.

parity communications: Error checking at a basic level, where every byte has some self-checking number attached to it. Parity checking can be used in hardware for maintaining information in RAM chips. Telecommunications programs make use of more efficient "block" checking (or more advanced algorithms) although parity must still be matched in a session for transfer to take place correctly. Host communication in the BBS world omits parity checking (no parity). If you are using 8-bit data, use "no parity" or "ignore parity".

partition storage: A subdivision in memory or on a hard drive. Partitions are areas that are treated separately even though they are on the same drive physically. They are technically called "volumes." You'll even get a separate icon on the desktop for each partition. In RAM, partitions are simply amount of memory reserved for use by particular applications. You can change the size of an application's memory partition in its Get Info box, accessible from the desktop.

Pascal programming: A language created by a Swiss computer scientist named Niklaus Wirth and developed at UC San Diego that was popular at the time the Mac was being created. It's much harder than HyperTalk, but yields faster programs. The Mac's operating system and Toolbox were written in Pascal, but lately Apple has begun using the language C instead.

Paste interface: Taking whatever is in the Clipboard and transferring it into the current selection. The contents of the Clipboard can be text, pictures or anything.

patch programming: A term for a minor modification to existing software.

pathname programming: A list of names that tells you where an application or document is. The first part of the pathname is the name of the volume (disk or other device), followed by the sequence of nested folders which lead to the file itself. The parts of a pathname are separated by colons (:), which is why you can't use a colon in the name of a folder. The entire pathname can be up to 255 characters long. As you navigate your way to the file, you move along the path.

PCI hardware: (Peripheral Component Interconnect) A new type of expansion slot and protocol which will replace NuBus starting with the second-generation Power Macs.

PCL output: (Printer Control Language) A set of commands by Hewlett-Packard used to control its LaserJet and DeskJet printers. PCL has evolved over time; to the current Level 5. While not a PostScript replacement, it is becoming very sophisticated.

PDS hardware: (Processor Direct Slot) A slot that accepts expansion cards and connects them directly to the processor chip. These cards can enhance CPU performance or provide video signal access among other functions. PDS cards from different Mac models may not be compatible.

peripheral hardware: Any hardware that attaches to the computer. Modems, scanners, CD-ROM drives and printers are all peripherals.

pica output: A typesetting measurement. 1 pica equals 12 points, 1/6th inch or about .167 inch. Type size and line spacing is measured in points, line length in picas.

PICS multimedia: An old standard for compiling Mac-created animation files (as a series of PICT images), superseded by QuickTime.

PICT output: A file format for storing pictures. PICT files can contain either bitmapped or object graphics. PICT files can be read by many applications. Screen shots created by Command-Shift-3 use PICT images, as does the Scrapbook. PICT2 is an extension of the PICT format that can handle more colors at higher resolution although files are usually labeled PICT. Unfortunately, PICT files are of limited precision and reliability. PostScript is far better for most printed graphics.

PIM applications: (Personal Information Manager). Software that converts your Mac into a very expensive name-and-address manager, calendar, or the like. See also Newton.

Pink system software: Code name for the operating system of the future (1995), being jointly created by Apple and IBM through their Taligent joint-venture. Theoretically it will work on many different platforms.

pixel display: The smallest dot that can be displayed on the screen or a printed page. On the 9" Classic screen, each pixel is 1/72nd of an inch on a side. On a LaserWriter, one pixel is 1/300th of an inch on a side. Pixels on color monitors are composed of three spots, red, blue and green.

platform hardware: A buzzword for a computer and its peripheral devices (like a printer or disk drive) which together can run software.

PMMU hardware: (Paged Memory Management Unit) A circuit that controls sections of RAM, necessary for multi-tasking and 32-bit addressing under System 7. The 68551 is a PMMU chip that you can install into a 68020 Mac that has a socket for it, such as a Mac II. This circuit is part of the 68030, 68040 and PowerPC processors.

point output: The unit of measure that typesetters have used for many years to measure the size of type and space between the lines. There are 72 points in one inch, and 72 dots per inch on the original 9" Mac screen. That was not an accident.

pop-up menu interface: A menu that doesn't pull down from the menu bar but which otherwise acts like a menu. Pop-up menus sometimes show up in surprising and unconventional places.

port: 1. *communications* (noun) A small plug on the back of the computer into which you connect cables. The Mac makes this easy by giving you a picture above the port as a clue to what should go into the socket. Types include serial, parallel, SCSI, ADB, MIDI and many more. Each port has its particular protocol for information transfer. 2. *programming* (verb) Rewriting an application so it runs on a computer system for which it was not originally written. A good port adapts the application to the new computer; a bad port makes your computer look like another brand.

PostScript output: A popular programming language for defining complex graphics at any resolution, developed by Adobe Systems. This is the page-description language the LaserWriter printers use to print high resolution graphics and text. It has become an industry standard. If you are using 37-point outline type and it looks crummy on the screen, it will still print nice and smooth on a PostScript printer. This type of printer has a built-in PostScript processor that does the work of scaling and rasterizing the font. By contrast, with TrueType the Mac's processor does all the work of scaling the font for both the printer and screen. PostScript has been updated to PostScript Level 2, but the original version is installed on millions of machines so don't worry about compatibility. PostScript clones (compatible systems) also exist.

PostScript Fax output: Adobe's fax protocol produces superior output on plain paper from compatible printers. Supports CCITT Group III protocol and LZW compression.

PostScript Level 2 output: Adobe's second generation of its page-description language released in 1994. It features better handling of color, wider selection of fonts, faxing, higher-resolution output and compression and decompression.

PostScript printer output: A printer that can interpret the graphics and fonts that are written in the PostScript language. Not all laser printers can read PostScript. Just because a printer has high resolution doesn't mean it is PostScript (for example, the Apple StyleWriter). Usually if a printer is not a PostScript printer, it is a QuickDraw printer.

Power Mac hardware: Generic model name for Macs using the PowerPC processors.

power supply hardware: The box in the computer (outside, for PowerBooks) that converts line voltage (AC power) to low-voltage DC needed by the computer's components.

power user programming: Once you start using keyboard commands, install a few extensions, create a macro or two, and start throwing around words like SCSI and PostScript, you can consider yourself a power user. Say words like bandwidth, Apple events, and 32-bit clean in mixed company and you will really get respect.

PowerPC hardware: Processor chips developed jointly by Apple, IBM and Intel for the next generation of Macs and others. The PowerPC family is a RISC chip which should run much faster and use less power (and cost less) than the Motorola 680x0 family used in Macs from the beginning. Initial models include the 600, 601, 602 and 603. The 603 is expected to be used in low-end desktop Macs and portable Power Macs.

PRAM hardware: (Parameter Random Access Memory) pronounced "PEE-ram". A small amount of memory maintained by a battery

or two that remembers the date and other Control Panel settings. If this information gets messed up, it can really confuse the Mac. You can rebuild the PRAM by "zapping" it. Under System 6 you zap it by holding down Command-Option-Shift while selecting the Control Panel from the Apple menu. Under System 7, hold down Command-Option-P-R at startup and wait til you hear it ping and reboot. The batteries in the Mac 128 through the Mac SE/30 are removable, but many of the ones in later Macs are soldered in.

preferences system software: Files that are created by most software applications (and the Finder) to store default settings for the options you may choose as you customize the program's environment. Under System 6, they are stored in a variety of places, but System 7 gives them all a home in the Preferences folder inside the System Folder. If your program starts acting strangely, one remedy is to throw the preferences file into the trash, forcing the program to create a fresh one.

printer output: Hardware that prints the information in the computer onto paper.

printer driver output: A small file that allows your Mac to talk to a printer. Several come with your operating system disks, but others are also available which work with specific programs or printers. Sometimes on a network where a printer is shared, different users will have different versions of the printer driver. This can cause a "laser war" as the printer resets itself differently after each job.

processor hardware: A "computer-on-a-chip" that calculates things—as opposed to memory chips which store things. Processors are made up of incredibly vast and small electronic circuits containing thousands of transistors and other components. Two types of processor architecture are CISC and RISC.

programmers switch programming: The little piece of plastic with two tabs that came with your computer if you have an older Mac. It mounts on the case and can bail you out when the computer freezes. Apple told you not to install it unless you were a serious programmer, but they lied. The button with the triangle is the reset switch; the other one is the interrupt switch.

protocol industry: Any set of rules for exchanging information.

public domain industry: Any created work, including software, that the public has every right to copy and use in any way they see fit. The authors retain no rights or liabilities, either because they've relinquished them or because they've been dead for a while. Often used incorrectly to describe copyrighted, Publicly Distributable software for your computer.

Publish and Subscribe system software: A new technology by Apple, built into System 7, that allows an application that supports it to make a document's data available for use by other documents - including those by other applications. The way it works is that you "publish" special files called "editions" (really, you just save them) that contain data you expect to update from time to time. You then cause other documents to "subscribe" to the editions and when a new edition comes out, you may choose to have

the subscribers incorporate the new data. This system is useful on networks where more than one person is using data from a single document.

QuickDraw system software: A set of software routines built into the Mac's ROM (read-only memory) for drawing graphics either onto screen or onto a printed page. 32-bit QuickDraw is a full-color extension to QuickDraw.

QuickDraw printer output: Not really a type of printer, rather any printer that cannot read PostScript. A "QuickDraw printer" relies on its printer driver to use the QuickDraw routines in the Mac's operating system to recreate what it sees on the screen. That's the *raison d'être* for Adobe Type Manager. ATM makes Type 1 PostScript typefaces clear and relatively smooth on the screen; thus, when they print to a non-PostScript printer, they look good on the page. Apple solved the problem another way with the creation of TrueType fonts, which print beautifully on an ordinary printer. The trick is that the Mac does the work of scaling and rasterizing the image.

QuickDraw GX system software: An updated, more powerful set of routines for typesetting and 3-D graphics due out in late 1994 (as part of System 7.5) that will take the form of a System Extension. Under QuickDraw GX, PostScript Type 1 fonts will be treated as equals with TrueType. It promises to be a major improvement in the way the Mac handles all kinds of graphics in any and all applications.

QuickTime multimedia: An extension from Apple that enables third-party applications to record and playback sounds and movies. QuickTime cleverly adjusts the playback speed according to the capabilities of the hardware in your Mac. It has the JPEG compression and decompression code built-in and makes it available for graphics applications as well. The QuickTime extension is part of System 7 (drop it into the System Folder to install it), and runs only on Macs with at least a 68020 processor.

QWERTY interface: The standard arrangement of the keys on a keyboard. QWERTY (named after the first six characters on the top row of keys) is awkward and makes typing difficult. Typewriter keys were laid out this way to purposely slow down typing so the keys wouldn't jam.

radio button interface: A button allowing you to select one option from among many. Named for the push buttons on your car radio.

RAM hardware: (Random Access Memory) The temporary memory in which a computer stores information while it's running. Ordinary RAM is volatile—it loses its content when the power goes off. RAM is also extremely fast. Under System 7 you can get a good idea of how your Mac's RAM is allocated at any one time by choosing "About This Macintosh" from the Apple Menu when you're on the desktop (aka the Finder). You can change the amount of RAM reserved for each program in the Get Info window, also available from the desktop.

RAM cache system software: A special area of RAM which can be used to store informa-

tion which your Mac's processor needs frequently. The info most recently used gets stored in the cache; the computer looks there to see if still has the info you are requesting or has to go get it more slowly from the main RAM or the hard drive.

read-only storage: A file or a disk is read-only when you can look at and print its contents, but cannot save changes to it. Often you may think you can, because the file lets you select and edit text, but you won't be allowed to Save. Locking a disk or file will make it read-only. CD-ROMs are read-only. Certain parts of the Mac's inner workings are read-only, such as the ROM chip.

ReadMe applications: A small file on most new software disks which describe what's on the disk, how to install it, and give details of any last minute changes. Apple's ReadMe documents are in Teach Text format, others often use text-only format. A variant on the term is Read Me First.

record applications: One set of related information in a database. In an address book, all the information about each person (name, address, phone and so on) comprises one record. The individual components of a record are held in fields; every record in one database has the same fields (filled or empty). A record is analogous to a row in a spreadsheet.

redraw display: When you move an object across the screen, scroll, or change windows, all or part of the screen has to be redrawn. The Mac has to figure out where everything has moved to and redraw them in their new places. This can take a lot of time with complex text or color images (hello Photoshop). Some applications allow you to delay redraw. You can also force a redraw in various ways. Other applications let you work in a lower-resolution mode to speed redraw. As processors become faster and stronger this issue will diminish.

refresh rate display: The speed at which the video screen is redrawn. Faster is better. The original 9" Mac screens refresh at 66 Hz (66 cycles per second), which is much faster than most TVs. Most good monitors refresh at 70-75 Hz. Of course, a fast video redraw still has to wait for software to come up with a new picture for it to draw, which is where processor speed matters most.

region programming: Any arbitrary set of pixels treated as one object. You don't need to know this, but Bill Atkinson's patented method of handling regions is one of the most important pieces of QuickDraw.

relational database applications: A database application where more than one file can be linked together, such as a customer list and an order list linked by a customer number. You can program all kinds of fancy functions; for example, as you type in the customer name the address and other info automatically pop into the right fields on the order form. Relational databases are made of files and produce output called reports. They are a must for serious business work. These applications, such as 4th Dimension, are harder to use and cost more than flat-file databases, but they are very powerful.

render display: The creation of a simulated three-dimensional object by taking a model and

adding surface textures and lighting effects such as reflections and shadows. Needless to say, this takes a lot of computer muscle and time. The dinosaurs in Jurassic Park were rendered on monster workstations from Silicon-Graphics, although they were modeled on Macs.

ResEdit programming: (Short for resource editor) A program from Apple which allows you to modify resources graphically. You can edit icons, menus, dialog boxes or get deep into the hexadecimal world of software. The current version is ResEdit 2.1.1, which handles resources in System 7. Not for beginners or the faint of heart. BMUG publishes "Zen and the Art of Resource Editing", an excellent primer. Always always always work on a copy of the resource.

reset switch programming: The button with the triangle on it that is part of the programmers switch. Use it as a last resort if the Mac freezes. It's better than turning off the computer. But if you're using System 7 try a force-quit first by typing Command-Option-Escape to get back to the Finder, where you should then restart the computer.

resident font output: Fonts that come built into the ROMs in a printer. With resident PostScript fonts you also get a disk with the bitmapped screen versions to put on your computer.

resolution output: A measurement of the clarity and sharpness of a screen or printed document. Resolution is measured in dpi (dots per inch). The greater the dpi the higher the resolution and the smoother the graphics and text will be. A Classic Mac screen has a resolution of 72 dpi, which is the standard upon which software is written. Some monitors deviate from 72 dpi, so documents may look larger or smaller than they will print out. Check the application's ruler. A LaserWriter has a resolution of 300 dpi while a Linotronic can go up to 2540 dpi. Resolution in halftones is measured in lines (of dots) per inch, which must be converted to dpi by a sophisticated algorithm such as PostScript.

resource programming: One of Mac's greatest innovations when it came out in 1984. Resources are small chunks of program code that can be used over and over by applications. Every element of the Mac interface which we have come to know and love is a resource. Menus, icons, cursors, keyboard layouts, and many other things are resources. System software is largely composed of resources. Programs written for the Mac usually "borrow" system resources in order to generate their own interface. Any file or program running on the Mac has the potential to contain its own resources, in a section of the file known as the "resource fork". There is a parallel portion of the file called the "data fork" where the actual numeric and textual data lives.

resource fork programming: A part of an application where the programming instructions specific to that application are stored. The resource fork is composed of separate resource packages, like volumes in an encyclopedia. A document can also have a resource fork, if it really wants one.

restart system software: A command in the Finder's Special menu that performs the shutdown that you normally do at the end of the day,

then immediately reloads the operating system and Finder like it was the next morning. You should restart the computer after you've installed a new extension or Control Panel since those things are activated as the computer boots up. You should also restart if the computer is acting funny or if you've had a freeze or other system crash from which you've been able to get back to the desktop (by pressing Command-Option-Escape). Restarting is much easier on the machine than turning the power off and back on.

return key interface: Just like on a typewriter, the Mac's Return key ends one line and starts another. Weirdly called "carriage return" by some people who seem to not realize that computers don't have paper carriages. In dialog boxes, typing Return will often perform the default action, such as opening the selected file in an Open... dialog. In telecommunications, you sometime must type Return at the end of every command in order to send it, and often insert a return character after every 80 (or fewer) characters. A return character is often used as a delimiter (separator) of whole records in a database or lines in a spreadsheet when exporting.

RGB display: (Red, Green, Blue) A type of monitor that accepts separate signals for red, blue, green and black. Your VCR combines its video information into a composite signal, which reduces the quality of the image due to its limited bandwidth and the need to combine and separate the color information. An RGB monitor, relieved of those burdens, is capable of higher sharpness and purer colors.

RIP output: (Raster Image Processor) The computer inside PostScript laser printers that convert the graphics instructions into high-resolution bit maps before the printing engine places those bitmaps on the page. When a non-PostScript printer has to print a Type 1 PostScript font, ATM software rasterizes the font inside the Mac. With TrueType (System 7), the Mac's processor and software accomplish similar RIP chores.

RISC hardware: (Reduced instruction set computing) - Processor architecture that runs much faster by relying on a reduced set of simplified instructions. The goal is that one CPU instruction can be performed every clock cycle. Although more instructions (therefore longer programs) are necessary to carry out complex processor tasks, RISC still is faster because the bulk of all computing is simple instructions. Apple's new PowerPCs are RISC processors, and it is the prospect of greatly increased speed (as well as lower cost) that drove the decision to change from the CISC Motorola 680x0 line.

ROM system software: (Read Only Memory) The instructions and data built into the chips of your computer that cannot be changed. This data differentiates your machine from other computers (which have different instructions and data). The Macintosh ROMs have grown with each generation - the original Mac has 64 kilobytes, the Mac Plus has 128K, the Mac SE and Mac II each have 256K (the ROMs are different in these two - the Mac II truly has 256K of instructions and data, the Mac SE has only about 170K —the rest are pictures of the designers). The newest Macs have 1024 K of ROM. Every computer has some kind of ROM, at least to tell it what to do when the power first comes on. Even your

microwave oven has a ROM chip. Maybe your washing machine, too.

router networking: A combination of hardware and a software-referee that divides a busy network into smaller networks (called zones) and keeps the information in those networks separate except when necessary. Routers are used when the amount of information being transferred over the network is too large to be easily carried to all parts of the network.

RS-232C communications: A standard for communication between computers and peripheral devices. The Mac uses RS-422A (which is different but fully compatible) to connect some devices. The types of connector over which RS-whatever travels can vary substantially.

RS-422A communications: A Mac standard for communication between computers and peripheral devices via a serial port. RS-232C is different but fully compatible. This standard is used with a variety of physical connectors.

RTF output: (Rich Text Format) A file format by Microsoft that encodes all manner of text formatting information (from text fonts and styles to paragraph indentation to footnotes) amongst the text to be formatted. An RTF file consists entirely of ASCII characters so it may be transmitted easily to any type of computer (hint: blue ones) that has software capable of interpreting RTF. Many word processors contain RTF writers to create RTF files, and RTF readers to reformat text from elsewhere.

run-time version programming: Software that allows a document to be run independently of its original application. Many applications (from programming languages to databases) allow users to write programs, but won't run without the parent application. A run-time engine (the code that accomplishes this feat) removes the dependency and allows documents to run alone.

SANE programming: (Standard Apple Numeric Environment) Apple's implementation of the standards for mathematical computation developed by the IEEE (Institute of Electrical and Electronic Engineers). Using SANE results in highly accurate, predictable, reproducible math. It takes time, though. Some applications have their own routines that are much faster, with the trade-off being that they are less precise.

sans serif output: A typeface without serifs (the little bars at the ends of letters) such as Helvetica. Sans serif typefaces look clean but are harder to read at small sizes.

save storage: Storing information so that it is not lost if you turn off your computer (or if there is a power failure or system crash). Normally you save to a disk or some other medium.

scanner input: A piece of hardware that minutely scans an image, reading dark, light and colored areas as a stream of digital data. You put a photograph, a drawing or even a three-dimensional object on the scanner, close the lid and push a button and the machine sends a copy of it to the computer. It's sort of like a copier. Some scanners are handheld and you roll the little machine over the top of the image. There are also video scanners that can input live stuff. The scanning software usually offers you several file format options. Unless you have a clear idea

and a good reason not to, always save scanned images as TIFFs.

Scrapbook system software: A desk accessory from Apple into which you can paste text or pictures for use later. It is different from the Clipboard because it saves the information to disk, so it stays around after you shut the computer off. A graphic that you put into the Scrapbook will be converted to PICT format, so make sure that this is OK.

screen dump system software: A picture of the screen in PICT format under System 7, bitmap (MacPaint) format previously. A way to capture pictures of icons, windows, menus, etc., and an indispensable tool for writing articles about things Macintosh. Holding down Command-Shift-3 takes a picture of the screen at that moment, producing a screen dump.

screen saver silly software: A utility program that prevents screen burn-in by creating animated effects while you are not working. Effects range from moving patterns to flying toasters. If you leave an image on the screen for an extended period of time, it will eventually burn in and leave a permanent shadow.

script programming: A user-definable set of instructions for use by an application. Two common script systems are the HyperTalk programming language used by HyperCard and AppleScript for Apple events. Really a high-level programming language, but the term "programming" scares novices.

scroll bar interface: A rectangular bar that may be along the right or bottom of a window. If the scroll bar is empty, the window is showing the entire document. If the scroll bar is active, the window is showing only a part of the document. An active scroll bar is shaded and contains a scroll box in the middle and a scroll arrow at either end. Clicking or dragging in the scroll bar causes the view of the document to change.

SCSI storage: (Small Computer Systems Interface) pronounced "scuzzy". A standard for connecting computers and peripheral devices which allows information to be exchanged very quickly. The standard also allows for some communication between devices without the main processor doing anything, although this capability is not used often. The physical SCSI connectors have either 50-pins (the industry standard) or 25-pins (the Apple standard). A revision called SCSI-2 now exists.

SCSI ID storage: A number from zero to seven that identifies each device connected via their SCSI ports. The Mac itself is seven, and internal hard drives are usually zero. The ID is also called the SCSI address.

SCSI-2 storage: A revised version of the SCSI protocol that can handle 16 or 32 bits at a time. The result is a substantial increase in speed.

sector storage: The smallest subdivision of a disk (or other storage medium) ranging in size from 512 bytes on a floppy up to thousands of bytes on a hard disk. The computer reads and writes nothing smaller than one sector, for the sake of speedy operation. A bad sector cannot hold information accurately.

selection interface: The information affected by the next command. Selected text is usu-

ally highlighted, graphic objects sprout handles, icons switch to inverse video. The text insertion point is also a selection.

selection rectangle interface: An area of the screen shown by a rectangle of dashed lines that is created when you push the mouse button down, hold it and then drag the mouse. A selection rectangle is available in the Finder and most graphics programs. A variation is the lasso tool, which snaps tight around the edges of the selected objects when you release the button, as opposed to the rectangle which retains its shape.

serial transmission communications: A way to transfer information in sequence on a single channel, as opposed to in parallel. Usually there is also a return channel.

serif output: The little ledges or other embellishments on the ends of letters which make them easier to read.

server networking: One-half of a two-part software system. The other half is the client software. Your computer is the host and others log on as its clients. This relationship is used on the Internet and BBS's such as Planet BMUG. A file server, by contrast, is a networked computer used as a central hard drive.

Shareware industry: Publicly Distributable software that you can use for a time to determine whether you like or need it, and then pay for. Try before you buy software, usually not marketed through traditional channels but available from users groups, bulletin board serves, and friends. Shareware is generally pretty cheap (\$5 to \$20) and you really should pay it to encourage other people to create nice things for us.

SIMM hardware: (Single Inline Memory Module) A small plastic strip holding memory chips which fits into a Mac (except the Portable and PowerBooks) and gives it more RAM.

single sided storage: An obsolete description of a floppy disk that has two sides but where only one side has been tested by the factory. Original Macs used only one side of the disk to store 400 kilobytes and you might have some of those old disks laying around. The existence of a button offering to initialize a disk as single-sided is an extreme example of backwards compatibility.

SingleFinder system software: A passé term for the normal Finder as opposed to MultiFinder under System 6.

size box interface: The small box in the lower right corner of most windows which allows you to change the size of the window when you click on it and drag. Some applications will not let you drag with complete freedom; they restrict the window size.

slot hardware: The place you plug a card into inside the computer. Usually there's a long thin connector with numerous metal contacts that match traces on the edge of the card. Different Macs take different types of cards, so be careful.

smart quotes output: Curly "quotation marks" (and apostrophe's) that face in opposite directions at either end of the quotation (as used here). The mark of distinction. Many word processors and other applications have a checkbox in the preferences section to always substitute smart quotes from the plain

ones the Mac keyboard supplies. If yours can't do this, use the left and right brackets in combination with the Option and Shift keys to get what you want. Experiment!

snd programming: A file format for sounds on the Mac. It comes in two varieties: snd 1, for sounds used by the Mac II; and snd 2, for sounds used by HyperCard. HyperCard 2 can use both formats.

SneakerNet networking: The world's simplest network: none! Just put data on a floppy or other media and carry it between machines. Often the network of last resort.

SNMP networking: (Simple Network Management Protocol) - Invented in the late 1980's to manage the Internet, it has become a de facto standard for network management. Although included by Apple in its TCP/IP and AppleTalk packages, real Mac implementations are just beginning to come into the marketplace.

soft hyphen output: A hyphen that is invisible unless the word falls at the end of the line, in which case the computer will break the word and show the hyphen.

soft return output: A feature of some word processors and page layout programs that forces a line break but doesn't start a new paragraph. This is what the computer does when it wordwraps.

software applications: Hardware is the stuff you can touch. Software is the invisible stuff, the programming, the energy coursing through the chips that makes the computer work. Software includes the applications, the documents and the operating system, in memory or stored on a disk or drive.

software piracy industry: Making copies of commercially-sold software you did not purchase, also known as stealing. The term "pirate" typically refers to those who addictively collect software simply for the pleasure of having lots of it.

special character output: Generic term for non-alphanumeric characters which have special characteristics, either for enhanced typography or for some purpose special to the computer.

spooler output: Software and/or hardware that takes over a task so that the CPU is not tied up. Most often associated with printers where the spooler intercepts the data being sent to the printer and stashes it in RAM or on disk and sends it to the printer at a slow rate the printer can accept. That way you can resume using your computer more quickly. Apple uses the term "print server". The term comes from an old IBM acronym, "Simultaneous Peripheral Operation On Line".

spreadsheet applications: An electronic ledger used primarily for calculating numbers. Spreadsheets are made up of cells arranged in rows and columns. Cells can hold data or formulas that take information from other cells, do calculations on it and display the result. Some spreadsheets, such as Microsoft Excel, also have relational database capabilities, do fancy graphing, page layout and even some word processing.

SQL networking: (Structured Query Language) Database protocol for interapplication communication.

stack programming: A document created by HyperCard. It works as a series of cards (hence the term stack, as in stack of cards) and is meant to be viewed by others on the computer. As you flip through the cards, you are apt to find anything: sounds, animation, music, and ways to interact. Many CD-ROMs use HyperCard stacks as front ends for navigation and control.

stand-alone programming: A program that can be run on its own. A correctly written and compiled program is a stand-alone, as is a demo program with a run-time engine.

start bit communications: The very small piece of information used by a computer to signal that it is about to send a larger piece of information. It is needed in situations where sending a known amount of information takes an unknown amount of time, such as when using a modem to communicate over phone lines.

Startup Disk system software: 1. A Control Panel that you use to designate which disk the Mac will use to start up (load and run the operating system and the Finder). This situation exists when there are multiple hard drives containing System Folders connected to a Mac. The startup volume's icon will appear in the top-right corner of the desktop. 2. (lower case) Any floppy or hard drive that has a System Folder on it that you can use to get your Mac started.

startup volume system software: The disk or drive whose System and Finder the Mac uses to boot up. The startup volume always puts its icon in the top-right corner of the desktop. You can change the startup disk by using the Startup Disk Control Panel.

stationery pad system software: A document which instead of being opened by its application is copied, and the copy is opened for you to work on. Useful for standard formats you would like to reuse. You can make any document a stationery pad via the Get Info box accessible from the Finder. Many programs allow you to save a document as a stationery pad.

stop bit communications: When the computer has stopped sending a larger piece of information it sends this very small piece of information. It is needed where sending a known amount of information takes an unknown amount of time.

StuffIt communications: A Shareware file compression utility written by Raymond Lau when he was in high school and used by virtually every Mac telecommunicator to reduce the size of files before spending time uploading them. The plain version is known as StuffIt Lite. StuffIt Deluxe is a more advanced version sold commercially. It has more features than StuffIt Lite, but both use the same compression format and algorithms. Names of files compressed by StuffIt should be tagged with a ".SIT" suffix, so others will know how to uncompress them. StuffIt can also decompress files compressed with PackIt, an older utility (those files end with the ".PIT" suffix).

style sheet output: A list of the text styles and format settings you have applied (or intend to apply) to each single paragraph. You can then apply the same style wherever you wish. Best of all, if you make a change in the stylesheet the change is automatically applied to all paragraphs having that style. A

wonderful feature of better word processors and all page layout programs.

suitcase system software: 1. A file for storing fonts or desk accessories. In System 7 if you double-click on a suitcase, it opens up to a window with an entry for each font size, and you can double-click each one to take a look at it. In System 6, if you double-click on a suitcase you'll launch the Font/DA Mover where you can create suitcase files. In that program you can click on the name of a font to see it displayed on the screen. System 7 does not create suitcases, and it handles fonts and DAs singly. Under System 7.1 a new folder called the Font Folder lives in the System Folder. You drag fonts into that folder to install them. 2. Suitcase II, by Fifth Generation Software is a utility that works quickly and efficiently with a large number of fonts, DAs, sounds and fKeys.

SWIM hardware: (Super Woz Integrated Machine or Sanders Woz Integrated Machine) A floppy-drive controlling chip which can read IBM's PS/2 formatted disks.

SYLK applications: (Symbolic Link) A file format used to transfer information to and from spreadsheets and databases.

synchronous communications: A kind of information exchange controlled by timing, usually possible only with computers connected directly to each other. Synchronous transmissions are more controlled and more efficient.

SysOp communications: (System Operator) The person responsible for setting up and maintaining a BBS or online service.

System 6 system software: The culmination of Mac operating system development prior to the introduction of all-new System 7 in 1991. Some users prefer System 6, which is faster for some tasks on some Macs. System 6 takes up less RAM space than System 7 so it is better on 1 megabyte Macs. It supports multiple applications with MultiFinder. INITS come first and Font/DA Mover is used for resource management.

System 7 system software: Apple completely rewrote the operating system in 1990. System 7 has many improvements over previous systems. Among them is the ability to have as many programs running side by side—not yet true multi-tasking—as RAM will allow, and 32-bit addressing which allows access to far more RAM than the previous limit of 8 megabyte. The System Folder was organized and improved greatly: Fonts are installed by dragging them into the Fonts Folder under System 7.1. DA's live in the Apple Menu Items folder, where you can put aliases of the icons of your applications too. INITS, now called Extensions, live in their own folder inside the System Folder. System 7 supports Bubble Help, TrueType fonts, Apple Events and Inter-Application Communication. Most older applications run fine under System 7, but some have had conflicts and had to be rewritten for deep technical reasons.

System and Finder system software: The two main pieces of software required to operate a Mac. These two inseparable friends are almost always kept in a folder called the System Folder. There have been multiple revisions and upgrades to these; the latest versions are System 7.1 and Finder 7.1. You must have a System and a Finder (or a Finder re-

placement like Servant, PowerStation or Oasis) on any disk you use to start the Mac. You should have no more than one System and Finder on a hard drive.

System Folder applications: The loss of control of the Mac when something goes seriously wrong. Either you will see a very polite but disturbing notice on your screen with a picture of a bomb about to explode and an error code number, or things will just stop working. This disaster is most often caused by software. There are several remedies. Under System 7, you may be able to do a “force quit” by holding down the Command and Option keys and pressing the Escape key. Next, if you have the Programmers Switch installed, try hitting the reset button (with the triangle on it). If you succeed in getting back to the Finder you should choose Restart from the Special Menu to eliminate any lingering symptoms of the problem. If all else fails, you have to turn the Mac off and on again to regain control. Newer Macs allow you to execute a “warm boot” which means to restart the Mac without turning the power off. If your computer cannot even boot up because of a hardware problem, you may hear the dreaded “Chimes of Doom”.

tab output: On manual typewriters literally a metal tab that momentarily stopped the travel of the carriage, used to create alignment inside the margins. Computers have expanded the function of the tab character. Now you can specify the alignment the text will take at the tab—right, center, left or decimal point—or attach leaders for better readability of tables. The tab key is also used to move from field to field in a database or where there are multiple text boxes in a dialog such as Page Setup. When exporting from a spreadsheet or database the tab is often used to delimit (separate) the cells in a row or fields in a record. You can see where the tabs are in a word processor by choosing a menu item such as “Show Invisibles” or “Show Paragraphs”. A most useful character.

Taligent industry: A joint-venture by Apple and IBM formed a few years ago to oppose a common enemy, Microsoft. So far it has brought us the PowerPC chips (not a bad start) and soon will come the Pink operating system (or whatever code name it has these days).

tape drive storage: Hardware that encodes large amounts of data onto a type of cassette tape. Too slow to replace a hard drive, but relatively cheap backup.

TCP/IP networking: (Transmission Control Protocol/Internet Protocol) A set of rules for exchanging information between very different computers on a network. It has become a de facto standard.

TeachText system software: A very small 36K, word processor that comes with System software and allows you to read text documents. The Read Me documents on software disks are in TeachText format. TeachText for System 7 can view PICT documents and QuickTime movies. TeachText comes on many software disks, so it's easy to get more than one copy on your hard drive. You have no reason not to get rid of the duplicates.

tear-off interface: A menu or palette that you can drag down from the menu bar and leave floating on screen for access. Typically a tear-off menu or palette becomes a windoid.

telecommunications communications: The exchange of information in digital format (as opposed to voice) over phone lines.

telecommute communications: Working at home and sending your work to the office via your modem and fax. Hey, it's the lifestyle of the '00's!

terminal emulation communications: Telecommunications software that makes your computer impersonate a dumb terminal for the benefit of the other computer. A dumb terminal is just a screen and keyboard and little else.

termination storage: A kind of electronic shock absorber that goes at the beginning and end of a series of peripherals (external hard drives, scanners, etc.) that are connected to a SCSI port using a single cable path. The rule of thumb is that the first and last device in a SCSI chain must be terminated to prevent the data from echoing back upon itself and getting jumbled up. Hooking up a SCSI chain can be tricky. The computer has an internal terminator, so that takes care of one end of the chain. But some peripheral devices have an internal terminator (to be switched on and off) and some don't and sometimes you have to dismantle the case to find out. An external terminator that looks like a connector without any wires may be necessary. A worse problem is that sometimes you have to rearrange the SCSI devices and terminators until everything works. That should keep the techies in business. One vital hint: be sure to turn off the power before disconnecting or connecting anything!

text box interface: The place(s) in a dialog box where you can type names, etc. Usually identified by a thin black outline and insertion point (flashing vertical bar).

text editor applications: An application or desk accessory that allows you to type letters and numbers, but which doesn't enable you to specify much formatting. The documents created by these are usually in text-only format.

text-only storage: A document which contains words but no formatting and which can be read by many different applications, even on other types of computers. A text-only file consists of ASCII characters only.

thesaurus applications: A compilation of words linked to each other. Synonyms and antonyms are linked, as are words similar in meaning. The granddaddy of them all is Peter Mark Roget's Thesaurus, first published in 1852, and unequalled since. There are electronic thesauri, but check out the original to enjoy a stupendous accomplishment. A thesaurus can also be a set of terms used for indexing or classification or a list of keywords.

third-height storage: A hard drive that is about one inch tall — a perfect fit for laptops.

TIFF output: (Tagged Image File Format) A graphics format used for saving or creating high resolution bit maps and gray scale images. TIFFs were invented for scans. TIFFs can have from 1 to 24 bits per pixel and are often compressed. If the image is straight black-and-white, with no gray areas, save it as a line art TIFF. If the image has gray tones, such as a photograph or pencil or charcoal drawing, save it as a gray-scale or con-tone

TIFF. Halftones only apply to gray or color areas. A halftone breaks a gray area into dots that a printer can print. If the image is solid black-and-white, you don't need any sort of halftone. If your scanning software can create special effect halftones that you want to use, or if your printer is non-PostScript compatible, save as a halftone TIFF. If there is no special effect halftone that you need, don't bother saving it as a halftone - let the PostScript printer halftone it for you on the way out. Yes, all PostScript printers can take any gray or color and break it into lines per inch. An Apple LaserWriter halftones at 53 lpi; a Linotronic 300 halftones at 105 lpi.

tilde output: The little squiggly accent you see over the letter n in some Spanish words. Obtained on the Mac by typing Option-N and then immediately typing a plain n. This is how many diacritical marks and accents are typed on the Mac.

title bar interface: The space at the top of a window containing the name of the window, a close box and usually a zoom box. Clicking on this and dragging moves the whole window. Under System 7's Finder, Command-clicking on the title in the title bar gets you a menu of the hierarchy of folders in which the window is nested.

toggle interface: Change from off to on, selected to unselected, or vice versa.

Token Ring networking: A set of rules, developed by IBM, for exchanging information between computers that are connected with cables. Token ring networks can operate at speeds of 4 or 16 megabits per second, which are many times faster than normal AppleTalk networks. The token is actually a packet (like a small envelope) that is passed from computer to computer around the ring. If a computer has nothing to say, it passes the token on to the next computer. This strategy eliminates data collisions, which is what happens when two computers talk at the exact same time.

TokenTalk networking: Apple software that lets Macs connect to a Token Ring network.

Toolbox programming: A collection of programming routines built into the Mac ROMs. It is the Mac equivalent of the IBM PC's BIOS but is far more complex. As the Mac has evolved since 1984, some toolbox routines (including additions to, replacements of and improvements upon the ROM routines) are provided in the System file.

trackball interface: A captured ball that can be spun continuously in any direction used to move the cursor around the screen. It also has one or more buttons associated with it.

trackpad interface: A small, flat rectangular pad that Apple developed to replace the trackballs in PowerBooks. It uses capacitance-sensing like the touch-sensitive buttons in elevators, and has 387 points-per-inch sensitivity. Like the mouse, it is a relative-motion device - when you raise your finger and put it back anywhere on the pad, the cursor stays put.

TrueType output: Outline font technology co-developed by Apple and Microsoft and introduced with System 7. TrueType fonts produce smooth characters in any size or style on both the printer and the screen. Unlike

bitmaps, TrueType fonts don't come in specific point sizes. Unlike fonts, TrueType fonts are not composed of two parts. With TrueType, the Mac's processor does all the work of scaling the font for both the printer and screen, unlike PostScript, where the printer's processor does the work. TrueType is standard in the Windows operating environment. TrueType's biggest drawback is that is not part of a complete graphics language like PostScript.

Type 1 font output: There are two distinct formats for PostScript fonts: Type 1 and Type 3 (Type 2 was a proposed font technology that never made it). At first, Adobe Systems, Inc. had a monopoly on Type 1 fonts; they used a secret algorithm to produce them and wouldn't let anybody else have the algorithm, so everybody else had to make Type 3 fonts. Type 1 fonts are PostScript, and they are especially designed to print well at "low" resolutions (like 300 dpi). They print fast and clean on PostScript printers, and they can be scaled with Adobe Type Manager (ATM) to appear very smooth on your screen. In 1990 Adobe decided to publish the secret algorithm so that everyone (meaning font manufacturers) could create Type 1 fonts.

Type 3 font output: Typefaces that are made without Adobe System's proprietary technology. They tend to be less expensive and they often don't print as cleanly and smoothly, nor as fast, as Type 1 fonts. They also tend to be more graphic in nature; that is, many Type 3 fonts are very decorative, with gray shades, elaborate fills and fancy shadows. Now that the Type 1 font technology is known, Type 3 fonts aren't being created much.

typeset-quality output: Equal to or greater than 1,000 dots per inch resolution. The resolution at which the eye can no longer distinguish the very small dots that make up the printed letters or graphics.

Unix system software: A powerful operating system developed at Bell Labs in the 1960's. Unix is multi-tasking, since it was designed in the days when one mainframe or mini-computer had many users. Basic Unix commands are the same on all computers, which is to its credit, but they are quite user-unfriendly. It was written in the language C, so it can be linked to lots of different computers. Apple's version is called A/UX, but very few people own it, since it's a memory and disk-space hog. Unix is the OS on the Internet, so it will be around for a long time.

update industry: A minor improvement in software or hardware, often just bug fixes. These ought to be free, since they are akin to warranty repair service on your car. Updates are indicated by the decimal component of the version number, as in 2.5 replacing 2.3. Hardware updates usually involve driver software.

upgrade industry: A major improvement in software or hardware. Software upgrades occur when the publisher issues a new version of the product and makes it available at a reduced cost to existing owners. An upgrade should include whole new features and possibly a new file structure. Minor fixes are called updates, and ought to be free.

Upgrades are indicated by the integer component of the version number, as in 3.0 replacing 2.5. Hardware upgrades involve adding or exchanging existing equipment for newer, usually at full cost.

upload communications: Transferring a file from your computer to a remote computer, using a terminal program and a transfer protocol (for example, ZTerm and ZModem respectively).

user group industry: An organization such as BMUG of users of computers. They often have BBS's and some put out newsletters (boy do they!). You can join with like-minded individuals at regular meetings to hear about the latest developments, view software demonstrations, get help for problems, find out what your BBS pals actually look like (if you dare), express your views and schmooze.

utility applications: An application that does only a few things and which probably doesn't create a document. Most often utilities are applications which can perform maintenance functions on software and hardware (Norton Speed Disk), enhance workability (Suitcase II), or increase your computing pleasure (After Dark).

v.x communications: CCITT rules for transferring information over phone lines. By the way, bis (pronounced "biss") is Italian for the second version of something.

v.22 runs at 1200 baud, compatible with the Bell 212A standard used in the US and Canada.

v.22bis runs at 2400 baud. It includes automatic fallback to 1200 baud and compatibility with Bell 212A and v.22 modems. All 2400 baud modems for personal computers support this standard.

v.23 runs at 1200 baud with a 75 baud back channel. Used in Britain.

v.29 is the universal standard for 9600 baud fax machines.

v.32 runs at 4800 and 9600 baud. It includes automatic fallback to 4800 when line quality is poor. Note that the Hayes V-Series 9600 baud modem is not v.32 compatible.

v.32bis runs at 14400 baud with automatic fallback to 12000, 9600, 7200 and 4800. As line quality improves communications speed can also be increased to the next higher rate.

v.32TERBO is a non-CCITT standard for 19.2 kbps transfer, but it is not universally accepted by modem manufacturers.

v.FAST is a non-CCITT standard for 28.8 kbps data transfer.

v.34 is the protocol for 28.8 kbps modems.

v.42 is the CCITT standard for modem communication that defines negotiation for LAPM error control. It also includes support for MNP Levels 1-4 error correction.

v.42bis is an extension of v.42 that adds data compression to the v.42 correction protocols. Data transmission can be done in a number of ways since new error-checking protocols are being added on a regular basis. It can speed transfer by a factor of four, and is smart enough to not try to compress already-compressed files.

v.17 (not known if this is CCITT) an emerging standard for computer-to-computer fax transmission.

vaporware industry: Any computer product that is announced, and possibly even demonstrated at trade shows, but which is not released on time. Some programs continue for years at this stage. See Microsoft.

version number applications: The numbers after a program name which indicate its seniority. The higher the number, the more recent (and supposedly more capable) the program. Version numbers are typically given in ones and tenths, and occasionally in hundredths. It goes like this: "ProGram 1.4.3". The 1 means its the first version to be released to the public. The 4 means they've added features and upgraded that first version four times, but not overhauled it. The 3 means they've updated this, fourth revision of the first version, three times because of bugs or incompatibilities. Before software is released to the public, it's version numbers are prefixed by a letter. Apple follows this pattern: D for development (the earliest versions), A for alpha testing (still working on major bugs or features), and B for beta testing (most features working, still smoothing out rough edges), and sometimes FC for "final candidate" stage.

video card display: The card that controls the video display on your screen. You can get different kinds of video cards for different kinds of monitors that display different levels of grayscale or color. Basic video output is built in to the motherboard on most Macs, but for a better video display you need a separate card. Some cards plug into the PDS slot, but most are NuBus cards. Video accelerators are another thing to have if your software requires frequent redraws of huge video files—programs like Photoshop—because they relieve the CPU from handling all the video display chores.

videotex communications: The whipping boy of the information industry, videotex used to mean any information service accessed through computers that displayed pages of textual information on demand. It has come to mean any computer-based information service that displays anything on screen. Videotex systems were once thought of as the way normal people would get around to using computers, but so far, no service calling itself videotex has made it into the big time.

virtual memory system software: Using space on the hard drive as faux RAM. Virtual memory, which requires a PMMU, is a feature of System 7, available via a control panel, or it can be utilized via third-party software. Some memory-hungry programs, such as Photoshop, have their own virtual memory schemes. When a program is launched, the Mac creates a swap file on disk that is equal to the memory space the program uses (the number in the box on the Get Info... window). Virtual memory is best reserved for programs you occasionally run that need more RAM than you have. You should buy enough real RAM for your day-to-day needs.

virus applications: A bit of code written to do such things as: corrupt your System file, lock you out of your own machine, eat your applications and documents; they can even wipe out the contents of an entire hard drive. Viruses have sub-species named for the way they operate, such as worms and Trojan horses.

Viruses travel from computer to computer via floppy disks, networks and modems. You don't always know you have a virus; they often have delayed reaction time, so that you continue using the sick application until one day it eats itself. You'll know you have a virus when things start acting funny on your computer. Windows may not function properly, printing might not work right, files may be changed, programs may be "damaged". If you can suspect a virus, get virus-protection software and disinfect your hard drive and every single disk in your house and office. Then never let anyone put a disk into your computer without checking it first. The best package is one called Disinfectant. It will kill any virus (except HyperCard script viruses since they don't live in the resource fork), and it comes with an INIT that quietly checks any disk that you put into your machine. It is Freeware (yes, that's right, it's FREE), written by John Norstad at Northwestern University. He rewrites the program every time a new virus is discovered. The current version is 3.5. Disinfectant is available on many BBS's, from user groups and friends, and by mail from BMUG.

volume storage: All or part of a hard disk, floppy disk, tape drive or other storage device. If it appears on the upper right hand of the desktop and you can store files in it, it's a volume.

VT-100 communications: The lowest common denominator of computer terminals from the olden days. A screen and a keyboard. 80 characters per line on the screen with mandatory carriage returns after each line. Most telecommunications programs can emulate this type of terminal. Help, I'm stuck in the 1960s!

WAN networking: (Wide Area Network) Computers that are connected together across long distances and can exchange information. The computers need not be connected constantly to form a WAN. Nobody ever says this word, but people do write it.

WildCard applications: Code name for HyperCard.

windoid interface: The little windows used in some applications which have only a thin, light gray bar at the top and which float on top of the main application window. Tear-off menus typically become windoids.

window interface: The rectangular area that displays information on the desktop and through which you view documents. Every application (and every document) has its own window. You can open or close a window, move it around on the desktop, scroll through it if the document is larger than the window, and sometimes change its size and edit its contents. When windows are stacked slightly offset below and to the right of each other, they are said to be tiled. Some programs let you tile the windows automatically. It's been whispered that a very few insiders can create round windows on the Mac.

word processor applications: An application that lets you type on a computer and which has additional features including a choice of multiple fonts and styles, paragraph formatting and tab stops. A more powerful word processor has other helpful features such as automatic pagination, footnoting, indexing, style sheets, spell-checking, etc. My favorite is: no more white-out! If you want to get the most

out of your word processor, read "The Mac is Not a Typewriter" by Robin Williams.

word wrap output: The automatic moving of words from one line to the next when the line gets too long for the margins. This is one of the nice features which distinguishes a computer from a typewriter. You can customize the word-wrap of a document by putting in hard and soft returns and soft hyphens.

workstation hardware: Bigger/faster/more expensive than a microcomputer, smaller than a mini.

wristwatch interface: The shape of the cursor when the computer wants you to wait while it does something.

WYSIWYG interface: (What You See Is What You Get) The state when the display on your computer screen matches the image on the printer page, more or less.

XCMD programming: (Short for external command) A kind of resource that can be inserted into an application to extend the application's capabilities by giving it new commands. Originated in HyperCard but now used in other programs like MacroMind. A program called CompileIt! by Tom Pittman (Heizer Software) can convert HyperTalk scripts into XCMDs and is a wonderful way to begin to learn the Mac Toolbox and get a taste of Pascal.

XFCN programming: (Short for external function) A kind of resource that can be inserted into HyperCard stacks to extend their capabilities by giving them new functions. They differ from XCMDs only in that XFCNs return some information when used.

XModem communications: A set of rules for sending documents or applications from one computer to another in small blocks over phone lines. These pieces can be either 128-byte or 1K. The latter is called "1k-XModem" or sometimes "fast XModem". XModem/CRC adds another level of error checking. The original XModem was written by Ward Christiansen as part of a CP/M program but was brought into the real world by Kieth Petersen. XModem and XModem/CRC are slow transfer protocols compared to many others available.

XTND applications: A software technology developed by Claris that makes it possible to have a set of file-format translators that work with many different programs. For example, if you have an XTND translator for WordPerfect/Mac files, any program compatible with the XTND technology can use that translator to open WordPerfect files without needing to have its own knowledge of what they look like internally. It's a simple, efficient, modular way of doing things.

YModem communications: A file transfer protocol developed by Chuck Forsberg that is similar to XModem except that it uses 1K chunks, allows for multiple-file transfers, and includes much better error-checking. Recommended over XModem for speed, reliability and features. Called "Modem7" by some people. Note: a number of communications programs incorrectly use the term YModem but actually send using 1k-Xmodem. This practice is not proper and will result in failure when used with true YModem transfer.

YModem/G communications: A variation on the YModem transfer protocol that does not check the information being received for errors. Rather, it expects the hardware to do the error checking. It should be used only with "reliable" phone lines and modems supporting MNP or the US Robotics ARQ hardware error-checking methods, or v.42/v.42bis. YModem/G is among the fastest protocols, with the exception of newer versions of ZModem. If your modem supports MNP or ARQ, YModem/G should be your usual choice.

ZModem communications: Another telecommunications protocol by Chuck Forsberg. It is a "streamlining" protocol which sends variable size blocks of data with CRC-32 error checking, but does not wait for acknowledgment from the receiving computer. It assumes data is OK unless a repeat request is sent for a specific block. Slightly slower than YModem/G and 1k-XModem/G, ZModem should be considered when MNP is not available, or another batch transfer protocol cannot be used. ZModem has the unique capability to resume file transfers that have failed.

zone networking: One part of a large network. Zones are networks connected to other networks, but the information moving around the network stays inside its zone of origin unless it is addressed to a device in another zone.

zoom box interface: The little box in the upper right corner of most windows which, when clicked initially under System 6 expands the window to fill all or most of the available screen. Under System 7 it will expand the window to show as many of the items contained within it as it can. When clicked a second time, this box contracts the window back to its previous dimensions.

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