

99

May

Volume 2
Issue 12



Remember to click on the pictures for captions and other goodies!



This month's note: We took a month off and now we're back. Wahoo! Visit our website for more information, quick polls, and to send email to our staff members. We want to hear from you!



Feature Article



Microsoft vs. Everyone Else?

Just what is going on with the US vs. Microsoft?

Brian Kelley — brian@applewizard.net



Columns



The Happy Mac

Cool dialog boxes and Mac oddities (including Daria!)

Daria Aikens — daria@applewizard.net



Macintalk

The CTO of Connectix stops by for a quick chat.

Bruce Klutchko — bruce@applewizard.net



A Spider Speaks

Learn how to make cool desktop patterns and much more.

Erik J. Barzeski — erik@applewizard.net



'Warehouse

Brian's back with more shareare you'll want to check out.

Brian Kelley — brian@applewizard.net



HTML ToolBox

More on Cascading Style Sheets this month!

Jeff Frey — jeff@applewizard.net



The CoxFiles

Do we ever know just what Craig is up to? Ever?

Craig Cox — craig@applewizardzards.net



Medicine Man

Is your Mac feeling ill? Get the prescription here!

Brent Hecht — helpdesk@applewizardzards.net



Mac Junkie

Is Steve Jobs listening? Mac Junkie has an idea...

Mac Junkie — macjunkie@applewizardzards.net



Shop Talk

Multi-pre-emptive-cache-based what huh who?

Aaron Linville — voodoo2@applewizardzards.net



The Creator Code

Let's start with an understanding of classes and objects.

Jeff Frey — jeff@applewizardzards.net



Website Watch

German sites are cool, I think...

Ron Freeman — ron@applewizardzards.net



Reviews



Extensis PhotoGraphics 1.0

Will this Photoshop plug-in replace Illustrator?

Erik J. Barzeski — erik@applewizard.net



Yoot's Tower

Does the sequel to Sim tower "stack up?"

Pete Burkindine — pete@applewizard.net



Gravis GamePad Pro USB

USB fans will be interested in this review.

Daria Aikens — daria@applewizard.net



Mini-Reviews

Including PopChar Pro, Okey Dokey Pro, and more.

Various — mini-review@applewizard.net



Extras



From the Desktop

Miscellaneous ramblings from my miscellaneous brain.

Erik J. Barzeski — erik@apple wizards.net



Behind the Magic

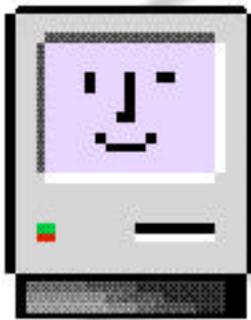
Staff Bios, Distribution Information, and much more.



APPLE  WIZARDS



<http://applewizards.net/>



The Happy Mac

SOMETHING TO SMILE ABOUT

Daria Aikens

<daria@applewizards.net>

April Update



I'd like to take this moment to apologize for all of the broken hearts and psychological breakdown that our readers suffered due to our decision to take a break during the month of April. How could we do such a thing, you ask? Well, those darned off-line lives just got in the way. Sure, we could have just thrown a half-baked issue out to our readers, but that's not who we are. Everyone here at Apple Wizards takes a lot of pride in the quality of publication that we produce, and we felt that some time off would help us to rejuvenate and come back in full force. So here we are! Now, on to the fun stuff.



Drumroll, Please! And the Winner Is...



In our March issue we promised to give away free copies of MacAmp Lite 1.5 to five of our lucky readers. In order to win, contestants had to answer a few Apple Wizards related questions correctly. It wasn't easy but we've finally picked our winners:

Christopher Pike
Karl Sakas
Dierk Seeburg
Timothy Nowak
C. Wade

Congratulations, and enjoy your new software! Correct responses to our contest questions are posted at <http://applewizards.net/win-malt.shtml>.



I'm a Prophet! A Forewarning to the Melissa Virus Revealed!



This wise and observant reader noticed that my February column revealed a strange warning from none other than "Melissa," the namesake of the most destructive and popular computer virus of all time. Read on!

I've been reading your column (and indeed the rest of your fine publication) diligently for nigh on a year now, so I felt it was about time I became one of the many millions of lunatics who seem to mail you every month ;)

Anyway, to the point of my letter: If you'll cast your mind back to February's Apple Wizards, and your Happy Mac column, you'll see, towards the bottom of the chapter, a mysterious letter from one "Melissa Weise," which featured the rather awe-inspiring line "I am God." Strong words, I'm sure you'll agree, and your reply to the letter inquired as to whether it could have been a warning of some sort.

Now zoom forward to a the end of March, and you'll doubtless remember the furor created by the "Melissa" macro-virus, which hit Wintel users running Microsoft's Word and Outlook programs. Said virus propagated by mailing itself to the first fifty addresses in each address book in the unlucky victim's outlook mail client. This self-replication, it could be argued, is something of a god-like feat...

My humble: you were being forewarned of the apocalypse that would occur when Melissa was released :)

— Jambo

<http://jambo.blackout.org/>



Uh, Oh! What Exactly Does This Mean?



Is this what happens after your Macintosh has deleted everything on your hard drive and has now begun to devour all of the files on your network? Or does the negative number indicate that your Macintosh is putting files back onto your hard drive? I have no idea, and I hope I never have to find out. Unfortunately, reader **Dan Ferguson** witnessed this interesting phenomena in his school's computer lab, which he reports uses Novell NetWare.



Signature File of the Month: I Don't Want To Know Where You Got This Information!

Steve Jobs wears "Bert is Evil" underwear!

— **Tony**

<http://www.brainerd.net/~momma/>



Yeah, and I heard that Andy Grove alternates between "Teletubbies" and "Barney" underwear. (Wow! Check out that conscious effort to pick on someone other than Bill for a change!)



Yet Another Wacked Out Error Message!



Tried to bite off more than my Mac could chew :-)

— **Alan (UK)**

In a tradition started by reader **Robert Z.**, ya'll have started to get the hang of sending me neat stuff to show off in this column. I love it! What we have here is an error message, sent in by **Alan Heeler**, that popped up during what seems to be a routine game of Solitaire. Apparently, the game's programmer had a sense of humor and decided to grace his program with a few lifelike qualities.



May's Magnificent Mindblowing Comic

Submitted for publication by:
Tom Robinson

<http://www.actrix.gen.nz/users/robinson/>



Daria Aikens

daria@applewizards.net



APPLE  WIZARDS



<http://applewizards.net/>



The United States vs. Microsoft

It's been described as the antitrust case of the century: the Department of Justice and the Attorneys General from 20 states have brought suit against software giant Microsoft, alleging that Microsoft is using its position of industry dominance to conduct business in a manner that is unlawful and anticompetitive.

At the time of this writing (mid-March 1999), the court is in recess for six weeks until the trial resumes in April, at which time Microsoft and the government will be presenting rebuttal arguments. This recess is an ideal time to look back over the course of this landmark antitrust case, to review the testimony, to recap the maneuverings of both sides, and to try to figure out what it all means.

Update: 7 May 1999

The trial has resumed. In the latter half of its rebuttal phase, Microsoft plans to scrutinize ("point finger and shout madly about") the AOL-Netscape deal. The government is examining Microsoft's role among industry heavyweights such as IBM and Original Equipment Manufacturers. Additionally, the economic experts of both sides, both MIT professors, will be making return appearances.



Background — Timeline

In June 1990, the Federal Trade Commission began a secret probe to investigate possible collusion between Microsoft and IBM. On 05 February 1993, the FTC elected to take no action as a result of this investigation after a 2-2 vote of its commissioners. In August of 1993, the Department of Justice took over the Microsoft investigation.

After nearly a year, Microsoft and the Department of Justice signed a **consent decree** on 15 July 1994 which stated that computer hardware manufacturers (also known as OEMs, or Original Equipment Manufacturers) who license Microsoft operating systems could not be compelled to license other Microsoft products. However, the **consent decree** did allow Microsoft to develop integrated products. The Department of Justice agreed to drop its investigation, and in return Microsoft eased off some of the more restrictive contracts it had with PC makers — specifically, Microsoft could no longer force hardware makers to pay a license fee for PCs that shipped without the Windows OS. It can be noted, by the way, that this clause has been expressly ignored by Microsoft or else circumvented by special "preferred client" programs.

In February 1995, U.S. District Court Judge Stanley Sporkin threw out the **consent decree**, but on 16 June 1995, an appellate court overturned the Sporkin ruling. At that point, the case was turned over to U.S. District Court Judge Thomas Penfield Jackson.

On 21 August 1995, right around the time Windows 95 was rolling out to the tune of "Start Me Up," Judge Jackson approved the **consent decree**, reaffirming that Microsoft could not force OEMs to license other Microsoft programs along with the Windows OS.

In September of 1996, the government began to investigate whether or not Microsoft had violated the **consent decree**. Apparently they had.

On 20 October 1997, the Department of Justice, led by Attorney General Janet Reno, asked Judge Jackson to fine Microsoft for bundling the Internet Explorer web browser with Windows 95. Microsoft protested, countering that Internet Explorer was an integrated part of the operating system, and therefore its inclusion was not a violation of the **consent decree**. This was obvious garbage — an attempt to deflect attention from anticompetitive actions against Netscape Corp.

Matters began to heat up in December of 1997. On December 11, Judge Jackson agreed to issue a preliminary injunction against Microsoft and required Internet Explorer to be unbundled from the operating system. At this time, Judge Jackson appointed Harvard law professor Lawrence Lessig to be a "special master" in the case, to assist Judge Jackson in understanding the technological issues involved. On December 16, Microsoft appealed Judge Jackson's injunction, and at the same time offered computer makers what it characterized as an old or "broken" version of Windows 95 without the integrated web browser. Despite this, on December 17, the Department of Justice asked Judge Jackson to hold Microsoft in contempt for refusing to comply with the unbundling order.

In January 1998, Microsoft appealed the appointment of Lessig as "special master" in the U.S. Court of Appeals. A week later, Microsoft gave permission for computer makers to install Windows 95 without including the Internet Explorer icon on the desktop. On February 02, the Court of Appeals granted Microsoft's request and halted the proceedings before special master Lawrence Lessig.

On 12 May 1998, the Court of Appeals ruled that Judge Jackson's December 1 injunction requiring that Internet Explorer be unbundled from the operating system did not apply to the forthcoming Windows 98. Why? Because Win98 was an "entirely new product" which "depended fundamentally on the integration of Windows and IE," as "evidenced" by the fact that IE files are required for the system to connect to the Internet. Can we say "more garbage?" :-)

On 18 May 1998, the Department of Justice, along with the Attorneys General of 20 states and the District of Columbia filed antitrust cases against Microsoft.

On 14 September 1998, Judge Jackson rejected Microsoft's motion for summary judgment to end the case.

Finally, on 19 October 1998, the Microsoft antitrust trial began in Judge Jackson's court. From the outset, procedural steps were taken to speed up the trial. Initial testimony was filed on paper, rather than delivered orally in court — only the cross-examinations were heard in the courtroom. Also, each side has been limited to calling only 12 witnesses.



What Exactly Are The Charges?

The Department of Justice alleges that Microsoft is conducting business in violation of the Sherman Antitrust Act of 1890. That act was designed to protect consumers, and to guard against businesses fixing prices, rigging bids, or allocating customers. In the Microsoft case, the specific charges include:

1. Predatory Pricing

The government asserts that, in giving away Internet Explorer for free, Microsoft illegally used its monopoly in the area of PC operating systems in order to undercharge for its product and thereby drive a competitor, Netscape Communications, out of business. Paul Maritz, Microsoft's Vice President in charge of the Platforms Group, is quoted in the N.Y. Times as telling industry executives (regarding Netscape), "We are going to cut off their air supply. Everything they're selling, we're going to give away for free."

2. Tying

The Department of Justice charges that Microsoft is illegally tying other Microsoft products to the Windows operating system, specifically by bundling Internet Explorer.

3. Exclusionary Agreements

Microsoft is charged with illegally using its monopolistic power in the area of operating systems to leverage its other products. For example, Microsoft is charged with pressuring Internet Service Providers to favor Internet Explorer. According to the Department of Justice, "Microsoft's anticompetitive agreements with ISPs have substantially foreclosed competing browsers from this major channel of browser distribution. Over 30 percent of Internet browser users have obtained their browsers from ISPs."



Who Do You Want To Depose Today?

The trial opened on Monday, 19 October 1998 with the government showing excerpts from Microsoft Chairman Bill Gates's videotaped testimony which appeared to contradict statements he made in email and other documents. The apparently perjurious testimony was taken "dangerously and unreliably out of context," according to lead Microsoft attorney Bill Neukom.

Day two included testimony from Netscape CEO Jim Barksdale, who described a June 1995 meeting in which representatives of Microsoft proposed dividing the browser market: "I have never been in a meeting in my 33-year business career in which a competitor had so blatantly implied that we should either stop competing with it or the competitor would kill us. In all my years in business, I have never heard nor experienced such an explicit proposal to divide markets."

During Barksdale's cross-examination, an embarrassing Netscape email was produced, showing that former Netscape boss Jim Clark actually invited Microsoft to "take an equity position" in Netscape Communications. The email came six months before the June 1995 meeting in which Microsoft allegedly threatened to crush Netscape if Netscape wouldn't divide the web browser market with Microsoft. However, Barksdale said that Clark told him the email had been written in "a moment of weakness." Justice Department attorney David Boies accused Microsoft of attempting to "change the facts and change the subject," because nothing in the Clark email foreshadowed what would later occur in the June 1995 meeting.

Jim Barksdale testified for a total of six days. About the Microsoft/Apple agreement which made Internet Explorer the default browser on every Mac: "It irritated the stew out of me," Barksdale complained. In notes released by the Justice department, Apple's Chief Financial Officer Fred Anderson wrote to Barksdale that Apple would have been "dead" if they had not agreed to make Internet Explorer the default browser; Microsoft had threatened to abandon development for the Mac altogether unless Apple complied.



Antitrust Online

The next phase of the trial focused on testimony about the deal America Online and Microsoft made, in which AOL agreed to make Internet Explorer its standard web browser. According to the written testimony of AOL Senior Vice President of Business Affairs David M. Colburn, "It was AOL's objective to have both Navigator and Explorer available to its members, allowing them to choose which browser to use. Microsoft, on the other hand, attempted to secure exclusive distribution and promotion for Internet Explorer, with few or no exceptions for distribution or promotion of a competitive browser. AOL ultimately agreed to these restrictions in order to obtain bundling with Windows and placement in the Online Services folder." During Colburn's cross-examination, Microsoft attorney John Warden attempted to assert that Microsoft won the contract because Explorer is a better product, but Colburn insisted that it was Microsoft's position of dominance, not the quality of its software, that had clinched the deal.



Biting The Apple

Note: because this is a Mac-oriented e-zine, this section is given particular prominence.

After Colburn's testimony, the trial focused on two days of Bill Gates' videotaped deposition. Gates repeatedly claimed to be unable to remember the contents of crucial emails he sent to other Microsoft executives regarding Apple, Sun, Netscape, and other competing companies.

The prosecution then turned to the testimony of Avadis (Avie) Tevanian, Apple's Senior Vice President of Software Engineering. Tevanian's written testimony explained barriers to competition in the area of operating systems, particularly with regard to Apple's experience with Rhapsody, its next-generation operating system which melded the Macintosh OS with the Unix-based OpenStep. The Rhapsody strategy failed when Apple was unable to convince a sufficient number of independent software vendors, including Microsoft, to write programs for Rhapsody.

Tevanian discussed in detail the events leading up to the 05 August 1997 agreement in which Microsoft invested \$150 million in Apple and Internet Explorer became the default browser for the Mac OS. "In 1996, Apple became involved in discussions with Microsoft on a number of issues, including two important disputes. First, Apple advised Microsoft that it was infringing Apple's patents. Second, Microsoft was concerned about Apple's arrangements with Netscape relating to distribution of Netscape's Navigator browser. Microsoft ultimately succeeded in resolving both disputes by threatening to withdraw its support from an essential application that ran on the Mac OS." At the same time as the ongoing patent dispute, Bill Gates and then-Apple CEO Gil Amelio reached an oral agreement for Apple to include Internet Explorer with future releases of the Mac OS, and in return, Microsoft was to show public support for Apple's acquisition of NeXT Software. Beginning with Mac OS 8, both Internet Explorer and Netscape Navigator were placed in the Mac OS's "Internet" folder. However, if the user simply clicked the "Browse The Internet" icon on the desktop, Netscape Navigator would launch. Gates was very upset when he learned of this, claiming it was a violation of the agreement he'd reached with Amelio.

Tevanian continued, "In the spring of 1997, Microsoft insisted on merging the disputes over patents, the browsers and other aspects of the companies' relationship to seek a comprehensive solution." In mid-May, Microsoft's negotiators threatened to remove support for all of Microsoft's Macintosh applications if Apple would not resolve the patents-and-browsers dispute. Faced with the loss of Microsoft Office for Macintosh, Apple ultimately agreed to Microsoft's demands. The August 05 Technology Agreement stipulated that Apple would include Internet Explorer on all Macintosh computers for the following five years and that Explorer would be the default browser for the Mac OS. Although Apple could bundle other browsers, they could do nothing to promote those browsers, and their icons could not be placed on the desktop by default. "The Technology Agreement," Tevanian wrote, "also gives Microsoft the right of first refusal to develop the default browser for any new operating system Apple develops during the five-year term of the agreement. In return, Microsoft agreed to continue development of Office for Mac for five years, subject to Macintosh meeting certain sales minimums. Microsoft also agreed to provide a browser to Apple for five years without a charge. Finally, Apple and Microsoft agreed to cooperate in efforts related to Java technologies."

Tevanian's written testimony then moved on to the subject of QuickTime, Apple's multimedia software. He characterized Microsoft as using "anticompetitive actions to thwart the growth of QuickTime." He stressed QuickTime's ability to create dynamic multimedia content for playback on both Macintosh and Windows, freeing a media producer to sell its products to as wide an audience as possible without having to develop separate versions for each platform.

"Years ago," Tevanian testified, "Microsoft recognized that QuickTime was superior to its multimedia product offering. Regrettably, Microsoft has taken steps to impede the adoption and use of QuickTime 3.0 by additional users. These steps include causing QuickTime to fail to work for certain content in the Windows environment and the generation of misleading error messages." He went on to state that Microsoft had repeatedly pressured Apple to cede the multimedia playback market to Microsoft's DirectX and Media Player technologies, leaving Apple the much smaller market for the tools to create multimedia content.



Intel, the Jihad, and Java

The trial continued into November with more of Bill Gates' videotaped testimony, this time focusing on Gates' denial that Microsoft tried to force chip-maker Intel to get out of the software business. Intel's Native Signal Processing multimedia technology was seen as a threat to the multimedia capabilities of Windows. Microsoft's persuasive efforts succeeded. Development of Native Signal Processing was dropped, and Intel CEO Andy Grove conceded to "Fortune" magazine, "We caved. Introducing a Windows-based software initiative that Microsoft doesn't support... well, life is too short for that." Intel VP Steven McGeady lightened the proceedings with some past quotes from Bill Gates — he said that in July 1995, Gates told Intel executives that "The antitrust thing will blow over." In light of how many emails have appeared to contradict Gates' sworn testimony in this case, Gates' assertion, "We are reviewing our email retention policies," is particularly amusing.

The next memorable revelation of the trial was a 1996 memo from Microsoft exec Brad Chase, who wrote of the battle for browser market share, "We need to continue our Jihad next year." When asked about this inflammatory language, Bill Gates replied, "I think he is referring to our vigorous efforts to make a superior product and to market that product."

On 18 November 1998, in a separate case, a federal judge in Seattle ordered Microsoft to modify Windows 98 within 90 days or remove it from store shelves. At issue was Microsoft's altering of Java, creating a version of the language that would work only with Windows, in contradiction of the "write once, deploy everywhere" goal of Sun Microsystems. Subsequently, Gates agreed to comply with the 100% pure Java directive.



AOLscape, OS/2, and The "Threat" of the Browser

In a surprising turn of events, America Online and Netscape Communications announced on 24 November 1998 that, after a month of secret negotiations, AOL had agreed to purchase Netscape for \$4.21 billion in stock options. As an adjunct to the Netscape deal, AOL is licensing from Sun Microsystems Inc. hardware, operating systems, and middleware in exchange for AOL's endorsement of Java. The deal put a new face on the Microsoft antitrust suit. "This proposed deal pulls the rug out from under the government," said Microsoft attorney William Neukom.

Meanwhile, the case continued with testimony from independent computer consultant Glenn Weadock, who questioned the value of integrating the browser and the operating system. IBM executive John Soyring detailed the difficulties faced by IBM's OS/2 operating system in its attempt to compete with Windows. OS/2 has treated both Netscape Navigator and its own Web Explorer as products that are separate from the operating system. Soyring stated that Microsoft itself has at certain times treated Internet Explorer as separate from Windows.

Economist Frederick R. Warren-Boulton testified that Microsoft's profits and extraordinarily high profit margins come as a result of its monopolistic power, but that web browsers pose a threat to Microsoft's PC operating system monopoly.



Java, South Carolina, More Videotape, Recess

In December, the case proceeded with the testimony of Sun Microsystems VP James Gosling, the creator of the Java programming language. Gosling acknowledged that the "write once, run anywhere" promise of Java had not been fully realized, but Microsoft had used this as an excuse to develop its own Windows-specific version of Java that was no longer cross-platform.

On Monday, December 07, South Carolina dropped out of the anti-trust suit, bringing the number of states involved down to 19. South Carolina Attorney General Charlie Condon said, "The merger of America Online with Netscape and the alliance by those two companies with Sun Microsystems proves that the forces of competition are working. Further government intervention or regulation is unnecessary and, in my judgment, unwise."

As the trial wound down in mid-December before the Christmas recess, government prosecutors presented testimony about browser/OS integration from professors David Farber and Edward Felten, then played more of Bill Gates' videotaped testimony. One highlight of that testimony was Gates' claim that he didn't know what market share Windows has — the government states that Microsoft owns 80% of the world's PC operating systems market. However, just before declaring the recess, Judge Jackson admitted that the AOL/Netscape merger might indeed be "a very significant change of the playing field" which "could very well have an immediate effect on the market."



Grinding Onward, Microsoft's Turn, Altered Tapes?

The trial resumed in January, with the prosecution presenting its twelfth and final witness, economist Franklin Fisher, who stated that any technological challenge to Microsoft's dominance is doomed "if Microsoft is permitted to go on as it has."

Finally, on 11 January 1999, Microsoft began its defense by calling MIT dean Richard Schmalensee, who testified that if Microsoft really were a monopoly, it could be charging far more for Windows 95 than the \$56 average price. Specifically, Microsoft would charge \$900 to \$2000 **per copy** of Windows. This ridiculous claim was a hallmark of Microsoft's courtroom tactics and FUD. Schmalensee asserted that the BeOS, the iMac, and the PalmPilot all constitute threats to Windows, but on cross-examination, Schmalensee stated that those "were not terrific alternatives."

In a dramatic turn of events, on 02 February 1999, government attorney David Boies stopped a video demonstration of Windows 98 to point out a small change in a window's titlebar. Boies alleged that this glitch shows that Microsoft deliberately altered the videotape, which had been designed to show that the performance of Windows 98 degrades when Internet Explorer is removed. Microsoft's case was further weakened by the news that in a patent dispute, Microsoft itself had referred to Internet Explorer as a standalone product, and not as an integrated part of the OS.

The following week, defense testimony from Microsoft executive Cameron Myhrvold concerned Microsoft's relations with Internet Service Providers. Under cross-examination, Myhrvold admitted that his company wanted to avoid having ISPs choose between Internet Explorer and Netscape Navigator. "We thought we would lose in a side-by-side choice," he said.



Pants On Fire?, Naming Your Price

Near the end of February, another blow to the Microsoft defense occurred during the testimony of Dan Rosen, who had been the top Microsoft executive present at the June 1995 meeting with Netscape. At issue during the questioning was the timing of when the Windows 95 version of Netscape Navigator was available to Mr. Rosen. Rosen stated that he received a copy of the browser in July, weeks after the June 21 meeting. Prosecutor David Boies produced emails which show that Rosen had in fact gotten the browser in May. After a moment of silence, Rosen said "I stand corrected."

The last defense witness called before the six-week recess, Microsoft senior vice president Joachim Kempin, stated that he set the price for Windows 98 without having to consider the competition. The government rebutted that such an action is further proof that Microsoft wields monopoly power.



Recess

During the six-week recess before the trial resumes in April, there has been much speculation that Microsoft would do well to settle the case, rather than wait for Judge Jackson's ruling. However, it has also been reported that Microsoft believes it is doing well in the trial. According to a very upbeat internal memo from Microsoft attorney David Heiner, Microsoft believes that the government has failed to prove its case, that news coverage has been distorted, and that, "Microsoft will prevail."

So will Microsoft triumph or will they cut their losses and settle the case? Just before the current court recess began, Judge Jackson admonished the two opposing sides to "use your six weeks wisely." What Microsoft will ultimately do is anyone's guess.



Acknowledgements

Grateful acknowledgement: I made use of many online resources when I was researching this article, including CNN, ZDNet, c | net, Time.digital, and Wired magazine. Without this invaluable source material, this article would have been impossible.



Brian Kelley

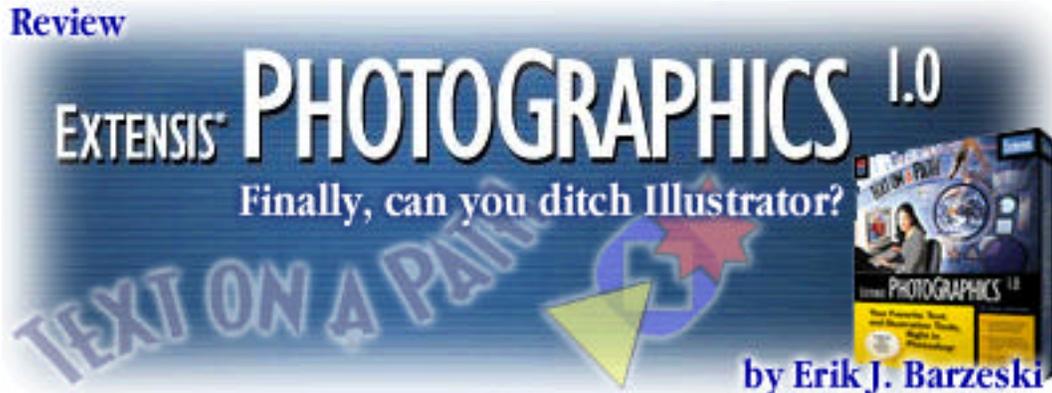
brian@apple wizards.net



APPLE  WIZARDS



<http://apple wizards.net/>



Review by Erik J. Barzeski



4.0 Stars - 1 Star Poor, 5 Stars Excellent



Title: PhotoGraphics

Version: 1.0

Developer: Extensis

Price: \$149

Contact Info: <http://www.extensis.com/>

Genre: Photoshop plug-in

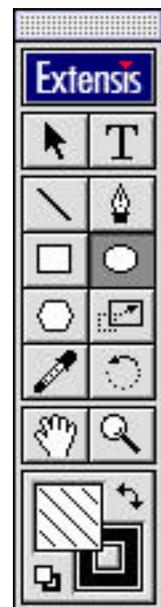
System Requirements: PowerPC, Mac OS 7.5 or later, 10 MB free disk space, Photoshop 4.0 or later.



Which Path Will You Take?

Many graphics professionals consider both Adobe Photoshop and Illustrator to be vital parts of their electronic toolbox. Traditionally, pros have used each for separate tasks: Photoshop with pixel-based images and Illustrator for vector- or path-based graphics. But, alas, both programs are quite expensive, so for as long as I can remember, complaints have surfaced over the lack of path-based text tools in Photoshop. It wasn't even until Adobe released Photoshop 5.0 that text became re-editable!

Once again, Photoshop fans can turn to Extensis for a world-class product to fill a gap in Photoshop's functionality. Extensis' PhotoGraphics is a powerful, easy-to-use Photoshop plug-in that both veterans and newbies alike will find useful. Make no mistake about it: if you need more control over your text in Photoshop, grab this plug-in. If you're sitting on the fence, the rest of this review should push you into the greener pastures of



pixel-pushing.



This is a Version 1.0 Product?

Yes, it is. But it isn't! PhotoGraphics 1.0 comes from Extensis, a Photoshop plug-in powerhouse. Extensis has long reigned as the king of plug-in interfaces, easily beating out competitors Metacreation and others in both ease-of-use and pure flexibility, and PhotoGraphics does not differ from their proven formula. I know two people that work with Extensis, and both comment regularly to me how tight their QA is. It shows!

PhotoGraphics adds a layer on top of Photoshop in that it acts essentially as an "application within an application." It has its own menu system, tool palettes, and more. It even has its own open and save functions! But we'll get into that later...



Wet My Palette

PhotoGraphics, simply put, enables you to create geometrical shapes, draft Bézier curves, and place text on those objects within the Photoshop environment. The simple toolbar, seen above, allows you to draw rectangles, ovals, polygons, stars, and more. Other tools allow you to rotate or resize shapes to suit your needs and desires. Any child with an understanding of geometry can probably figure out how to use these tools, so I'm pretty darn any Mac user would be able to as well.

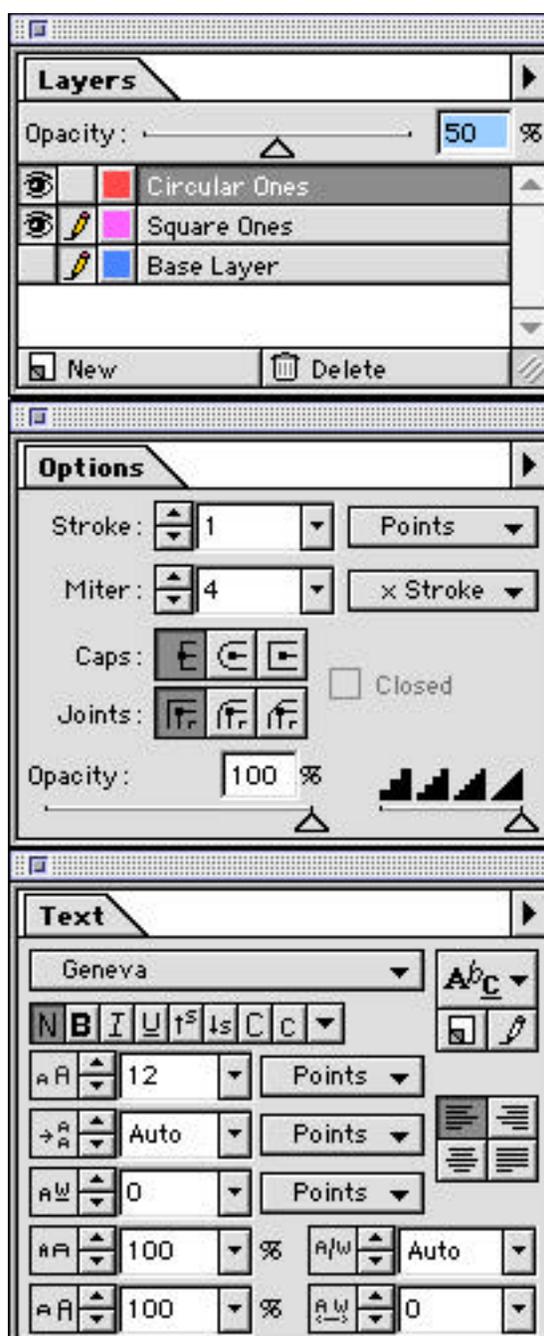
The pen tool works just as it does in Illustrator and allows you to create fairly complex Bézier curves with little or no effort. In fact, should you have trouble creating things like complex corners, interesting points, or unusual turns, the comprehensive manual devotes five pages towards helping you figure out how to use the pen tool. Users should read it, anyway, as many of the keyboard shortcuts and other items come in handy.

A word of caution, however: once you deselect a shape or Bézier curve, you forego the right to edit that object. Sure, you're allowed to resize and rotate the object, but you can't shift a point in a Bézier curve, you can't adjust the number of points in a star, and you can't round the corners on a rectangle. This fault single-handedly dropped the star rating from a 5 to a 4... Sorry Extensis. Maybe version 2.0 will fix this fairly egregious omission.

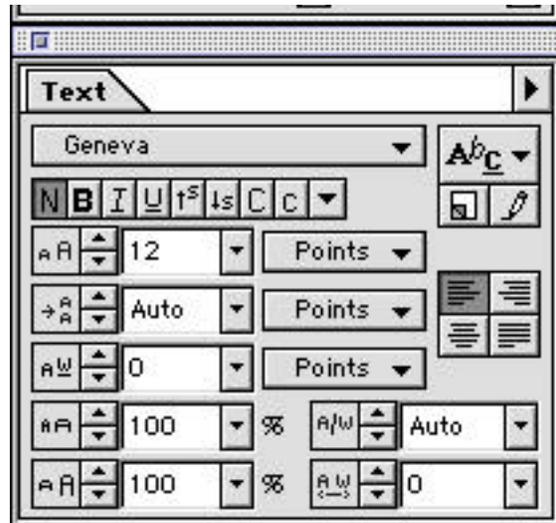


Refined Control

Among graphics applications (or quasi-applications, as is the case with this product) that deal with pixels — and Photoshop is one of them — PhotoGraphics scores high marks for control. If you want absolute control over your text, PhotoGraphics will give it to you. Just look at the toolbars and palettes available to you (at right)! Wow! Adjust everything from kerning, baseline, character width, style, alignment, horizontal and vertical scaling, aliasing, and more. Mix and match these along the same line of text or different lines. It doesn't matter. Perhaps the only thing missing is the ability to directly paste in styled text from another application! If you can't get your text to look right, it's your fault, not PhotoGraphics'.



As you can see from the top palette from those at the right, PhotoGraphics supports layers within itself. This continues the "application within an application" theme quite well. Heck, Extensis even takes it one step further by allowing you to lock, hide or show, name, and color-code layers. Adjust each object's or layer's opacity to suit your needs with a simple slider. Go nuts! It's all intuitive.

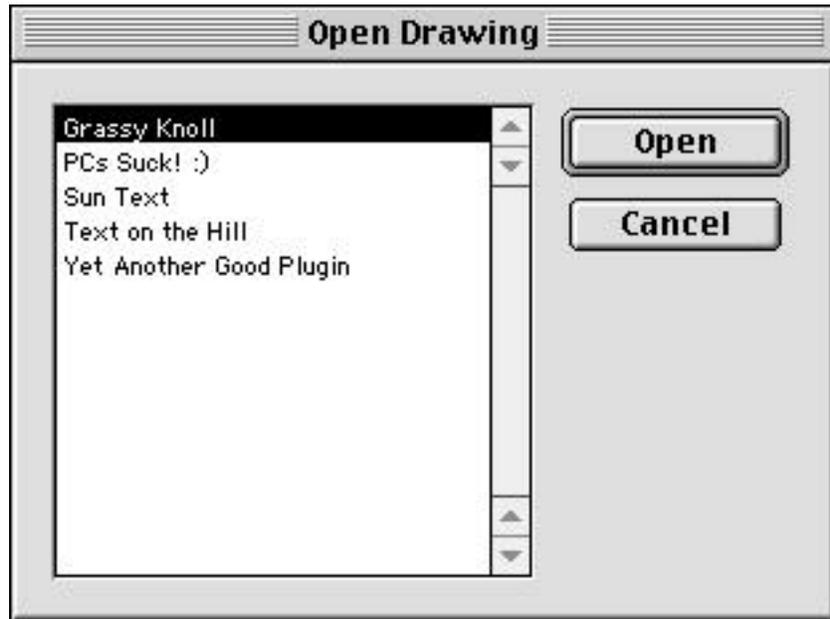


Aside from having great toolbars and palettes, Extensis has made using PhotoGraphics as pleasurable an experience as possible. Keyboard shortcuts exist for just about any common action and the PDF manual provides answers and tips in a timely and fairly loose fashion. PhotoGraphics' workspace includes an extra "slop" which comes in handy quite often. A lot of thought went into the design of this software, and it shows.



Maybe the Niftiest Thing...

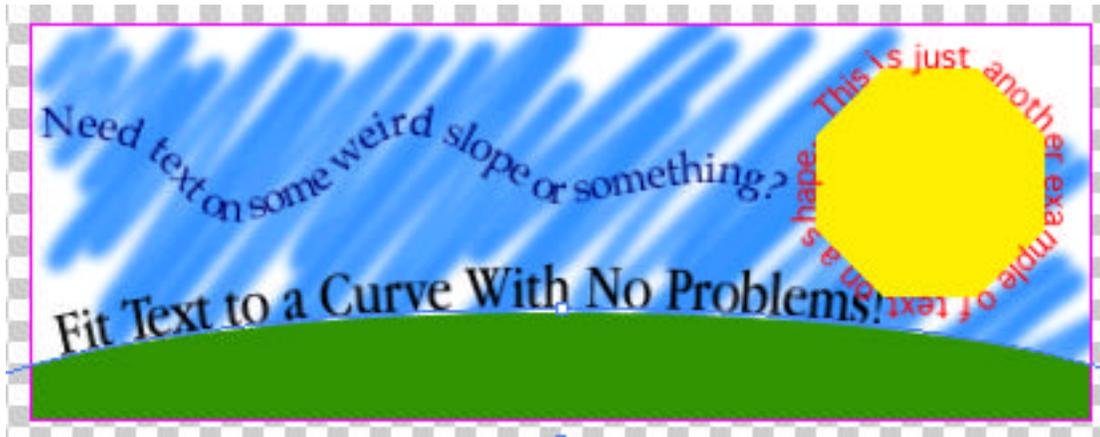
Extensis' "application within an application" philosophy for PhotoGraphics extends even to saving and opening your work. Specifically, PhotoGraphics allows you to save and open what it calls "drawings." Drawings are your workspace, essentially, and contain one or more objects, text strings, blocks of color, shapes, and more.



Though only one drawing can be open and edited at any given time, compositing drawings on different layers solves that minor problem. What's even cooler? Drawings can be saved either externally or within a wide variety of formats, including bmp, eps, jpeg, pdf, pict, png, scitex, targa, tiff, and more. Email your colleague a PICT file with embedded drawings and, provided they have PhotoGraphics as well, they will be able to open and manipulate your "drawings," even if they're on a Wintel machine. Drawings don't add much overweight in file size, and multiple drawings can be saved per file (see graphic below). This is an innovative solution!



That About Does It



At \$150, PhotoGraphics is reasonably priced. With a great feature set, it may encourage you to ditch Illustrator altogether, at least for the vast majority of your tasks. Though PhotoGraphics is mature for a version 1.0 release, it does lack the ability to re-edit objects and Bézier curves once they've been deselected. As with many products nowadays, a demo version is available on the company website at <http://www.extensis.com/> , so you won't lose out by trying it out.



Erik J. Barzeski

erik@apple wizards.net



APPLE  WIZARDS



<http://applewizards.net/>



Welcome to Macintalk, my series of monthly interviews with people who make a difference in the Mac world and beyond. This month Macintalk interviews John Garber, who works as the Chief Technical Officer of one of the Mac world's most significant software companies, Connectix.

John has given us an overview of his company's contributions to the Mac experience — past, present, and future. What he has to say may say a lot about where our platform is heading. As always, please continue to write me with your comments, suggestions, critiques, and suggestions for future interviews. I can always be reached at bruce@apple wizards.net.

Interview conducted: 15 March 1999



Bruce Klutchko: Tell me about your job at Connectix.

John Garber: My official position is CTO — the Chief Technical Officer. Nominally I'm responsible for surveying the technological landscape. I look for good projects and good directions for engineers, and try to make good matches between the two. And recruiting is another important aspect. That's about it.

BK: How long have you been with Connectix?

JG: I've been here since we started in October of '88. Connectix just recently celebrated their ten-year anniversary.

BK: You must be one of the older Apple software companies around today.

JG: Yeah, I guess so. For the anniversary we had a special celebration — everybody in the company got a round trip for two to Hawaii! We took the whole company off to Hawaii for a long weekend — a long and restful

BK: Hey, I'm sorry I don't work for a company like that —it's certainly not like that at Apple Wizards. Tell me, what was your background when you first started working at Connectix?

JG: My educational background is actually in Material Science at Stanford University — my graduate work. Just prior to that I came through two startups. One was a rocket company, working in commercial space transportation launch. The other, more recent one was a diamond growth company. Turning swamp gas into diamonds! The old adage was, there's only one thing better than the old philosopher's stone of turning lead into gold — that's turning swamp gas into diamonds. We had a methane deposition process, which actually turned methane gas into chemical vapor deposit diamonds.

BK: So, alchemy really does work.

JG: It really does. The technology really is amazing. The downside is the amount of capital investment it takes to bootstrap something like that. We've already fabricated diamond semiconductor devices. It turns out that the diamond industry reads like a Who's Who in material science. Everybody knows that it's the hardest substance. It's also incredibly chemically inert. Boiling it in sulfuric acid just cleans it off. It's also the best conductor of heat bar none — it conducts heat six times better than silver or copper. We're using some diamond heat spreaders now.

BK: I had no idea.

JG: But you also remember that diamond is in group four of the periodic chart — a group that contains carbon and silicon and germanium — Wait a minute. Silicon and germanium — that group's the... the...

BK: Semiconductors...

JG: Right. It turns out that carbon diamond is the world's best semiconductor of heat. We fabricated devices that operated easily at 100° C. Things are glowing red at that temperature.

BK: Well that's great, but I'm sure if I open up my Mac, I'm not going to find any diamonds inside...

JG: We're getting way off topic. Actually, not all that long from now you might see some diamond heat spreaders. But anyway...

BK: Ten years ago all I knew about Connectix was that you were making Mode 32.

JG: Ten years ago our first product was called Virtual. It was the first implementation of virtual memory on a Macintosh. It ran under System 6. It was the first implementation of virtual memory on **any** popular microcomputer. We did that years before Apple did.

BK: Was it primarily a disk based virtual memory system?

JG: It was swapping to disk and we had some other products. Mode 32, you mentioned. CPU was a popular one. But things really took off in 1994 when we adapted our virtual memory technology with RAM Doubler, which uses memory compression. It turns out that through quirks in Apple's memory management, ram compression on Macintoshes is just a wonderful benefit. That was a hit product. That same year we invented the Quick Cam, which made cheap digital photography a reality. The year after that we came out with Speed Doubler, which is the first example of a dynamic compiling recompiling emulator.

BK: You mean it allowed the PPC processor to emulate the 68K programs a little faster?

JG: A lot faster. The emulator which Apple built into their original Power PC's, first of all, let me say, was a work of art. It was a straightforward emulator that only had an overhead of like six or seven to one which is incredibly difficult to do. But this went one better. Rather than doing a line by line emulation, a dynamic recompiling emulator looks at blocks of information and recompiles those blocks. It lets you in some cases get code that is just as efficient as the original implementation, just on a different microprocessor. And that was really the start of getting into our dynamic recompiling technology — we use it even today in Virtual PC and Virtual Game Station and to some extent in the Java Perks VM project.

BK: So you've learned from your previous projects and you've expanded upon them.

JG: We've built on them, yes.

BK: So Connectix has a kind of foundation there. Tell me, now that most software comes Power PC native and most people use Power PC's, or most software, if it's not native, it's fat, what does Speed Doubler do these days that's still of use to a Mac user?

JG: That's a good question. Apple has released a very dynamic recompiling emulator which they continue to improve and which is very good. It doesn't retrofit itself on some of the older Power PC's like the 6100 and 7100 series. So in that sense we can still do a lot for some of those older machines. But the emphasis on Speed Doubler has gone into speed copying, network copying, compression during TCP/IP copying as opposed to AppleShare copying.

BK: Why do you suppose a company such as Apple Computer has left it to third party developers to do something like that instead of doing it themselves?

JG: I think Apple continues to make progress. Apple's plate is as full as you could ever want a plate to be. They have got OS X, they've got Carbon, they've got lots of things. At some point, it doesn't make sense to dot every "I" and cross every "T" for the ultimate in speed in what is essentially yesterday's technology. You want Apple to look ahead and you want third parties like Connectix to fill in the gaps in the road and the balance as best they can. For those who need added performance, it's worth something.

BK: And possibly a smaller company like Connectix can do a better job at it than Apple, which is spread out so thin...

JG: A better job? I mean, the resources that Apple has to throw at problems like this swamp a smaller company.

BK: But they don't. As you say, they throw their resources at the future.

JG: At the bigger problems. And let me say, the engineering team here I couldn't be more thrilled with. I mean it's a really bright group of people who by and large love the Mac and work on it every chance they get.

BK: Well, let's see. We've talked a little bit about Speed Doubler and emulation. Can you just briefly mention RAM Doubler? I think that all of our readers pretty much understand what RAM Doubler is about. Maybe you could just give us a brief overview of Ram Doubler 8 and tell us how it compares to virtual memory.

JG: Well, first of all, two important things. Apple has really improved their virtual memory. RAM Doubler 8 is really a great program, but I don't want to over-emphasize its utility for everybody. Apple has dramatically improved their VM, but the **price of RAM has gone through the floor!** Not just RAM, but also hard disk space. One of the great things about RAM Doubler was that it did not reserve any hard disk space whatsoever. You could have it, if necessary, try to do everything it could, the file mapping, and the compression. Those techniques still work very well. You get a small disk footprint with RAM Doubler. Particularly where RAM is still expensive, particularly in the PowerBook, RAM Doubler is a great solution. However, at the same time, let me say again, the prices of RAM have gone way down. If you don't have enough RAM in your machine for what you're doing, you really want to investigate that.

BK: One of the things I've learned is that Apple's virtual memory is very disk intensive and if you're using a PowerBook and you're in a place where you can't recharge...

JG: That's great! You're pitching my line for me. And you're absolutely right. I just didn't want to come off like RAM Doubler 8 is THE solution for everyone who's looking for more memory.

BK: Right, but there are times when it really is a good deal.

JG: Right. Not hitting the disk, saving the disk power there, not having to spin up the disk, saving the disk spin-up time. If you could otherwise do with compression what you otherwise would have done with disk access those annoying spin-up waits are eliminated as well.

BK: Ok, let's talk a little bit about emulation now. The first emulator that I ever tried was Virtual PC.

JG: Good. Just for historical correctness, I'll mention that even Virtual, our first product, was an emulation of sorts. Speed Doubler, which emulated a 68K on a Power PC, was our first true foray into complex emulation. And Virtual PC, which of course emulates an X86 on a Power PC, is yet another step toward that. We built on those technologies that we have been building up. And Virtual PC is a great product; we're putting a lot more research and time into it. I think we're going to have a pretty compelling upgrade when it next comes out.

BK: What kind of compelling upgrade is that, exactly?

JG: There are multiple new features. There is more speed, which is always a good thing. How should I say it, cross-platform interoperability. To see it work, you have to see a demo. And when you see a demo, your jaw will drop.

BK: I'm looking forward to seeing that, because I'm very reluctant to invest in a Windows machine.

JG: It really depends on how much you are going to be doing any serious Windows operation. I will say just having VPC, it's like a security blanket for a lot of people. It's like, "If I really had to, I could fire that up." I've talked to a number of people who claim to have VPC on the shelf, still in the shrink-wrap, just in case they come across the software that they really have to run. Once it's there, they feel, oh, they're covered. And then they go on and run all the great Mac software there is, anyway.

BK: I myself bought VPC just to run one particular package.

JG: Please tell me it worked...

BK: To a degree, but it didn't work well. And the software people told me that they didn't believe it could run under emulation. Although it doesn't access the hardware, my best guess is that they wrote it sloppily.

JG: A DOS or...

BK: No, a Windows 95 program.

JG: Was it slow or something?

BK: A little slow, but I don't have that fast a Mac. The real problem was it would crash very often.

JG: That's very unusual.

BK: And I haven't seen it crash with any other software, but of course that was the one thing I wanted to run. You just came out with Version 2.12, and there are still further improvement coming...

JG: I think the goal is not to worry so much about what hardware base an application was developed from. It's kind of like the Java goal. Somebody wrote an application, you just want to be able to click on it and run it. You really don't care if it's written for Windows or Mac. What you really want to do is run the application and you have this particular hardware. Maybe your hardware is Web TV or a set-top box or, heck, a Playstation. What you really want to do is double-click on this and you want to run it. And so, I think there's always room for improvement until we reach that goal.

BK: A lot of people are talking about getting new G3 Macs and running VPC on them. Are you optimizing your software for that machine or is that not necessary?

JG: Boy, a G3 — particularly the backside cache — helps VPC disproportionately to other normal program. In fact, the backside cache size, in going from 512K to 1 Meg, you won't see all that big a benefit in most normal software. It helps VPC a lot. The memory bandwidth in general it helps a lot. So, does it run a whole lot better on those machines? Yes it does. Is it because we optimized it for the G3? Well, no. To the degree we optimized, it is for the 604's. It's so tough that Moore's law is so inextricable, that doubling every 18 months. When you realize what that means over just a few iterations, it's really scary.

BK: So if somebody buys a G3 350 or 400, a really hot machine now, and then buys the latest version of VPC, about what kind of speed Pentium do they get?

JG: People would love a solid answer on this. I won't cheat you — I'll give you the best answer I can. But you've got to remember this is not it for all purposes. Some things dynamically cross-compile extremely effectively. And some things don't. So, in general, take a G3, divide it somewhere between 2.5 and 3, and that's the Pentium you get. So let's say you have a 300 MHz machine and I'll use the worst case, you've got something which will easily perform like a 100 MHz Pentium. Many things will do much better than that, and some things, it won't do that well. We actually don't recommend VPC Win '98 on anything less than a G3.

BK: Can you run Win '95 on VPC 2?

JG: Oh absolutely.

BK: So you can save some overhead that way.

JG: Oh, absolutely. For me, it seems to run a lot faster.

BK: That's good, because a lot of us haven't found a big advantage in Win '98.

JG: (Laughing) I understand.

BK: This is a mammoth undertaking to emulate the Intel processor and then run Windows. Now you have another emulator, the Virtual Game Station. That also borrows the same technology you used for Virtual PC?

JG: It leverages heavily upon the development we did and the dynamic recompiling and uses many of the tools we developed originally for VP. When you think about it, VPC emulates a Pentium and the motherboard — all the peripherals, the disk I/O controller, the DMA controller, the peripheral interrupt controller, the sound chip. All that stuff. And Virtual Game Station emulates an R3000 processor and a graphics coprocessor and a CD-ROM interface and a sound chip and peripheral controllers.

BK: I've heard that it runs nearly as well as the original hardware.

JG: That's a goal. The truth is, we can't claim to run every game perfectly. I wish it were so. But many games run, and there are some that don't.

BK: Can you mention which games run well?

JG: The best I can do is refer people to our website at <http://www.virtualgamestation.com/>. Which lists the games which, at least in the opinion of our QA team, are very very playable. Now those are playable on the original iMac with a 233 MHz G3. If you had a machine faster than that, even more games might be listed as playable. That doesn't necessarily mean the game plays faster. What we endeavor to do with the emulation is to sync up the real time and emulated times so that the game plays at it's natural flow. If you have lots and lots of processor speed, that means that the machine idles much of the time. You really don't want to play Crash Bandicoot three times faster.

BK: No no no! There's no way to win then.

JG: On machines which are slightly underpowered, you occasionally have to skip rendering of a frame or otherwise make up some emulation time.

BK: How did Connectix come up with the idea of emulating a game machine?

JG: Uh, you know, that's an interesting question. I'm not sure anybody here quite knows. We talked about it very early on as a potential follow on to VPC. Some of us owned Playstations at the time. But the CD that the Playstation games come on, have you ever seen one? It's a jet black CD. We said, Oh Man, those are special CD's. That's how they protect their software. Someone was foolish enough to stick it in a Macintosh drive and watch it mount and read the files. He said, wait a minute, the Mac can read these. At which point the idea reappeared back on the table.

BK: Did you choose the Sony PlayStation because the software comes on a CD?

JG: No, I don't think you could say that. There really are many many reasons. First of all, Playstation emulation is an idea whose Mac has come. That is, Macs are just now getting fast enough to make this an attractive opportunity. The Playstation has a lot of hardware dedicated to do the graphic elements responsible for running the Playstation. We are trying to emulate on a general purpose processor — yes, it's a more powerful processor and costs ten times as much, but until the iMac was out, this was just a potential product. One thing that made this possible was machines got a lot faster. It opens up new possibilities in operation. And a lot of people ask, why do I need a faster machine all the time? What do I need to run my word processor? If all you are doing is running your word processor, you probably don't need a high end G3. The reason why it's great that Moor's law continues to march on is that it continues to open up new horizons in that wonderful theoretical world of not caring what platform the software was written from. But linking the disparate bodies of software and the hardware platforms and running one on the other.

BK: A lot of people on the Mac side said, "Isn't this a great thing for Sony. Look at all the software they are going to sell." And then we heard that you had been sued. What happened? Why did they do that?

JG: Because they have filed, it's probably improper for me to comment or speculate on why they are taking this course. We admire Sony. We admire their work and we admire the Playstation in particular. We hope that at some point they'll look back upon this with a different perspective.

BK: It's hard to understand why they would do this from a financial viewpoint. If they could sell software to a significant amount of iMac purchasers some of their software, it seems like they would make a lot of royalties.

JG: Again, I can't comment because we are literally in the middle of litigation. I also want to be fair. I assume they have reasons for doing what they are doing. I mean, they are big boys — believe me, are they big boys — I'm sure at this point they believe it is for some reason in their best interest. Like I say, I hope that over time we can change their perspective.

BK: But you know, Intel is not too shabby a company. And they did not decide to sue you.

JG: Well, don't forget the AMD lawsuit. Getting multiple vendors for closed platforms, there's a long history. The irony is, you see some PC people complain "how could Connectix make something that emulates a Playstation," not realizing of course that they are using a computer that isn't an IBM PC, it's a PC clone. The clones were reverse engineered. And there were ones that worked better and ones that worked worse for a long of time. Eventually, the compatibility got pretty good and "PC Compatible" started to mean something. And IBM PC started to mean less. IBM's reluctance in making that transition might have been better focused.

BK: When Connectix designs a product for an Apple Macintosh, Apple doesn't always reveal in advance what their plans are. I know there are beta releases and Apple helps its developers to a degree, but Apple doesn't always tell which way it is going in advance. Once in a while Apple comes out with a new system and everything is incompatible. How does a company like Connectix scramble to make its products compatible with the next operating system? What do you guys have to go through to do this? And is it worse than Income Taxes?

JG: I don't think anything is worse than Income Taxes so I'm not going to claim that. There are times that elements provide small changes, and times that elements provide big changes. Apple is trying to give as much heads-up as possible for OS X, Carbon, and all that. And frankly, Connectix has a long way to go... we need that long head start because a lot of our software works at a very low level with the processor and we need some exposure and cooperation from Apple. A lot of it is just having a competent and diligent QA department who, I might add, has been suffering through playing game after game after game... day in and day out. You always think this sounds like such a great job. And the truth is when you've played the same games all the way through on twenty-five interim release builds, it really starts to drive you crazy.

BK: So are these QA guys fifteen to twenty-five year olds?

JG: Actually we're looking for some more help. Maybe I should plug that. We are looking for some more game testers. We'll take what we can get.

BK: I've got a wonderful eight-year-old son who knows every flaw and every bug in every game he plays. If he ever devotes himself to computers the way he does to games, I think he'll have a great future. Speaking of the future, what kind of things will Connectix do? Apple keeps doing more and more with its OS — introducing new System features. What kind of things can we look for from Connectix?

JG: Well, thanks for asking. One of the things we are really excited about now is our Perk VM initiative. This is a Java virtual machine that actually lives up to a lot of the hype that has been around Java for a long time. Incredible. It uses dynamic recompilation — a more advanced process of SSA analysis for truly optimizing performance for Java. And the ultimate goal, is as I said before, there are many bodies of software out there that people have written. And there are various hardware platforms. And it's a real shame that to date there are lot of incompatibilities between these large bodies of software and these hardware platforms. And our goal is to make that as transparent as possible. Users can use their software of choice on their platform of choice.

BK: When you talk about Java, is this Pure Java or are you going to change it like Microsoft did?

JG: To date, this is Real Pure Java Stuff. Perk VM actually runs Java 2. Which isn't out in common. It's the next Java spec.

BK: We've also heard that you are about to release or want to release the Virtual Game Station for the Wintel platform.

JG: Yep. It's an opportunity that, if we didn't do it, our shareholders would rebel. It's an opportunity that is economically almost necessary. There are a lot of PC's out there. There already is supposed competition in the market. It's important not to overestimate the economic impact brought by Windows. There is always a lot more competition. Getting advertising, promotion is a lot more expensive. There's a lot more noise. And the piracy issues — there's a hacker community. Not that there isn't in the Mac, but there is perhaps even more of a hacker community in the Windows market. But we designed the code from the beginning to be cross platform. So we are looking to release on the other platform.

BK: For those who don't know, when you sell a Macintosh Virtual Game Station, you just sell software. You don't sell any hardware with it.

JG: That's right. The VGS — a lot of people are confused. They still think that games come on cartridges. When they see the media format the Playstation CD's and realize "That's a CD!" and they can just stick it in. And it begins to dawn on them. I grew up with Cartridges myself on the Atari 2600. And "Where do you plug in the cartridge?" You just plug in the CD. The very fact is that with CVGS 1.1 and later, just putting the game CD into your computer automatically launches CVGS. You put in the CD and it fires up and plays the game for you.

BK: Where do you plug in the gamepad, the game controller?

JG: First of all, you don't have to use an external game controller. You use the keyboard. We map the keyboard keys onto what would be gamepad keys. Otherwise, CVGS is compatible with any Apple Game Sprocket input device. You can easily just set the key on the gamepad that you want to correspond to whatever key in the Gamestation program.

BK: And there is one more question I just have to ask you or my readers will never forgive me. With the possibility that you guys could wind up selling millions and millions of these Virtual Game Stations on the PC platform, is Connectix going to remain a Mac-centric company? That is, are you guys still going to be paying the same attention to the Macintosh?

JG: I absolutely think so. Remember what I said, the whole design of CVGS was to be cross-platform compatible. It helps both ways. All the bugs and improvements, etc. that we developed up to CVGS 1.2 will be in the Windows version. Meanwhile, all the fixes we do in the Windows version also get echoed to the Mac version. Being sensitive to multiple platforms makes all the software better. And where we're going in the future, well I'd love to think it's Java. Java is platform agnostic, but at the same time it's not. Because how well Java runs on any one platform really depends on how clever the people who adapted the Java virtual machine are to the platform in question. And there I think the Power PC and the technology we developed for Perk VM can really start to shine on the Mac platform.

BK: What is the corporate culture there at Connectix? What is it like to work for that kind of a company?

JG: Ok, I have fun.

BK: You have fun? You like your job.

JG: I have fun. And I didn't just get that from Hawaii. What really provides the highs though — I don't know if you got to see Macworld San Francisco. Around the Connectix booth the energy, the enthusiasm, the "Oh my God this is Neat-ness!" of being a Mac owner is just electrifying. You go there and there are bunches of people who really believe that it is worth paying just a little bit more to get a platform that's a little bit better. People have described it as a mutual lovefest. It is mutual. It feels good to have people respond to our software this way and it feels good to have made the decision to build the software from their response.

BK: It's an exciting company to work for.

JG: I like to think so. There's work to do all around. And there is stuff that you have to slog through. But it is the end result that makes it all worthwhile.



Thanks, John, for spending all this time with us and letting us know where Connectix is heading. I'm sure all the gamers out there will be thanking you for the hours and hours they can spend playing on their Mac while almost appearing to be productive.

If there is a someone in the Mac community that you are dying to learn more about, please let me know. We would love to hear your suggestions and your comments about my column.



Bruce Klutchko

bruce@applewisards.net



APPLE  WIZARDS



<http://applewisards.net/>

Erik J. Barzeski <erik@applewizards.net>

A Spider Speaks

Tips and tricks for
newbies, gurus, and
everyone in between.



Hello, and welcome to this month's edition of **A Spider Speaks**. Each month I strive to provide you, the Mac user, with a wealthy source of tips, tricks, and tidbits of useful information. Comments or questions can be sent to me at erik@applewizards.net. I'm always looking for good ideas, so fire up your email application and throw some bytes my way.

This month I will talk about a few fairly unrelated things. First, we'll work on making a unique desktop pattern to spruce up your Mac. Next, we'll bring back the Scrapbook from the software scrap heap. Finally, I'll give you some information that will make it easier for you to contact me.



Wacky Desktops



A user's desktop says a lot about what kind of Mac user they are. Are their icons scattered about or neatly organized? Do they have a desktop picture of their children or of Sandra Bullock? If they don't have a desktop picture, is their desktop pattern subdued or really "out there?"

This section will teach you how to create your own desktop patterns and "install" them for later use. Let's take it step by step, shall we?

1. Get the Stuff

Visit <http://www.texturemagic.com/> and download TextureMagic. Then pay the shareware fee — the author is a friend of mine and it gives you good karma. Besides, it's good software! :-)

2. Crank It Up

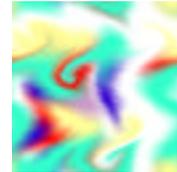
Open TextureMagic. Familiarize yourself with the menus and the toolbar. Flip through the manual (electronically, that is) and look at the sample textures provided.

3. Create Your Texture File

Create a new file that is 128 x 128, 64 x 64, or 32 x 32 (other sizes will work, but perhaps not as well). Leave the resolution at 72 — this is what your monitor uses, so anything higher is a waste and anything lower may result in ugliness. I prefer to make my textures 128 x 128 because my monitor is often set to 1280 x 1024, so a small pattern would be too "tight."

4. Do Something

Screw around. Draw with the airbrush. Run some of the Filters and Effects. Make a texture you like. In about two minutes, I created a texture that looked like the one seen at right.



5. Export The Bugger

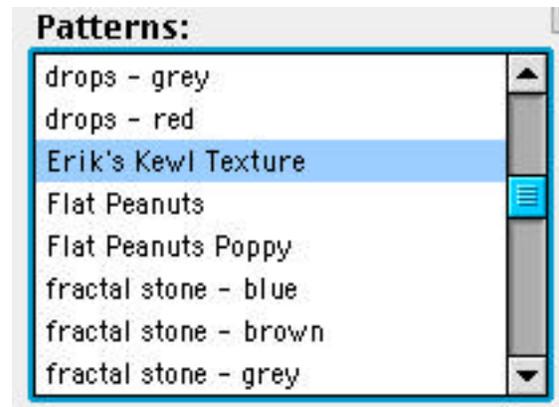


Using the hand tool (see left), click and hold in the texture's window and drag the texture to the desktop to create a picture clipping file. Alternatively, choose "Save As..." from the File menu and save your PICT file somewhere convenient. Give your file (be it a clipping or a PICT file) a good name, because this is the name that you'll see any time you want to use this texture in the future within the Appearance control panel.

6. Put It In There



Open the Appearance control panel and remove any desktop picture you have displayed. Drag the texture to the left-hand area (the mini-representation of your desktop) and you'll see your texture added to the list at right. Again, make sure you give it a good file name and not "picture clipping 2" or something! That's it! You have created and saved a desktop pattern.



To delete a pattern from the Appearance control panel, by the way, just drag it from the left-hand (the desktop representation) pane to the trash can on your real desktop. This may come in handy if your not-so-artistic sister ever gets a hold of this article. <grin>



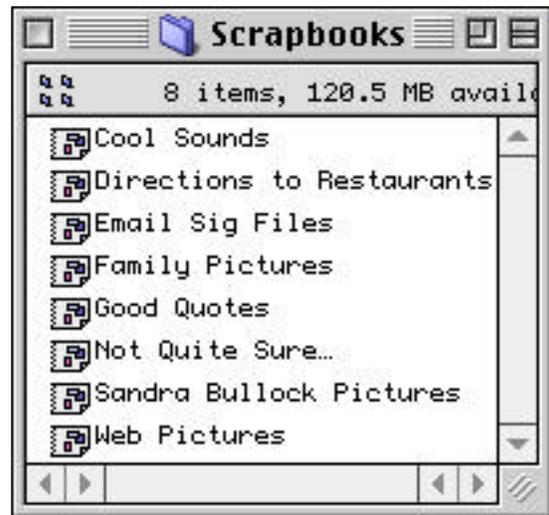
Scrap This!



The Scrapbook... ah, an old favorite. What? You don't use it! What is wrong with you?

It's no surprise to me that most people don't use the Scrapbook. As an unnamed Apple Wizards staffer said, "it's so System 7." Nonsense! The Scrapbook is one of the most useful tools in a Mac users's arsenal. And no, Windows users don't have an equivalent.

The Scrapbook application uses the file called, imaginatively enough, "Scrapbook File" within your system folder. However, by duplicating and renaming that scrapbook file, you can create as many as you'd like. I recommend creating a blank scrapbook and making duplicates of it — this will save you the (minimal) time it takes to delete the contents when you need a new scrapbook. Store all of your scrapbook files in a convenient place and you're ready to rock!



That's great, but **what** is the point? Well, consider Scrapbook's many uses:

- Drag a file from your browser to a scrapbook to save good images for later perusal and use.
- Store commonly-used graphics, audio clips, and more in one easy-to-find location.
- Solve the problem of multiple clipboards by storing project items inside a scrapbook.

The scrapbook allows you to play sounds, manipulate 3DMF objects, and more. It's a pretty basic little piece of software with millions of uses and some pretty great features. Go ahead, see what you can use it for!



A Few People Have Asked Me...



Lately, I've received a few emails asking how readers can get in touch with Apple Wizards staffers. Well, here's the deal. My computer's on all day — and typically I leave ICQ on all day — so that's the best way to reach me. I'm even on AOL Instant Messenger every now and then. Heck, I even pop into Yahoo chat every now and then! My info:

AOL IM — screen name "**iacas**"

Yahoo — screen name "**iacas**"

ICQ — User Number "**8186546**"

Email — erik@applewizards.net

There are a variety of other options available as well. All Apple Wizards staffers have email, of course, and we encourage you to email us about anything! We even have a form on our website at <http://applewizards.net/> for your convenience. Until next month...



Erik J. Barzeski

erik@applewizards.net



APPLE  WIZARDS



<http://applewizards.net/>



Let's Do The Timewarp Again!

My most exciting technological discovery in years has been a heretofore undocumented use for my iMac's mezzanine slot. You might recall that this mystery slot shipped with the original Rev. A iMacs with a stern warning from Apple that third-party developers should not develop any expansion modules for this slot, and end users shouldn't even **think** about messing with it, on pain of death or an eternity of using only Microsoft products (whichever prospect you'd consider scarier). Long story short, I've learned the true purpose of this enigmatic slot: it's a time travel device! So far, this timetravel slot has disgorged a half-dozen neolithic arrowheads, a 1976 vintage Pet Rock™, a bolt of a shiny, silvery, futuristic fabric I've not been able to identify, and the April 1999 edition of my 'Warehouse column for Apple Wizards, which disappeared under mysterious circumstances just a month ago. While I await the arrival even more valuable antiquities, that column is now presented for historical purposes.



April Freeware

On April Fool's Day 1976, Apple Computer was officially founded by Steve Wozniak, Steve Jobs, and Ron Wayne. To celebrate the 23rd anniversary of that historic event, this month's edition of 'Warehouse features four light-hearted diversions, all of them freeware. Three of these items relate to the iMac, the little computer that's gone a long way toward saving our favorite "fruit company." Happy anniversary, Apple, and many many more!



Pack It In



Pac The Man

Like many people, I squandered the better part of my youth feeding quarters into arcade machines, so the original Pac-Man and its gender re-assigned successor, Ms. Pac-Man, occupy a great deal of territory in my mental landscape. The gameplay, simple as it was, now seems like a metaphor for all of human existence: you run around continuously, never stopping to rest, eat as much as you can, try to avoid getting nailed by the bad guys — then when you finally die, you'll just come back and do it all over again... Okay, now I know I've been playing this game too much.

Sebastian Wegner has released an outstanding freeware version of Pac-Man called Pac the Man. True to the spirit and feel of the original, Pac the Man (v.3.1.1, Feb '99, 393 K) contains 25 different levels, and the music files may be downloaded separately (or not) — they're an additional 2554 K. Gobble, gobble, gobble.

<http://home.t-online.de/home/mcsebi/pacman.html>



Follow The Industry Leader



iSimon

iSimon is a fun and witty HyperCard stack by BDS McConnell. It utilizes the famous "flower" photo of the five iMac flavors to play a "Simon" game: repeat the pattern, follow-the-leader. The object is simply to repeat increasingly long sequences of lights and sounds produced by a ring of flashing iMacs. iSimon (v.1.0.1, Feb '99, 205 K) is the first in a planned series of iMac-themed goodies from DayLate & DollarShort Software collectively known as iMachromania — future releases will include adaptations of other color-oriented games like iMind ("Mastermind"), iThink ("Concentration"), iDrop ("Columns"), and iTwist ("Twister"). Now all we need is an iCandyland and we can all live happily ever after. Say, that gives me an idea...

Any and all iMac fans (and doesn't that include just about everybody?) will enjoy visiting <http://home.swbell.net/blueman/> for this amusing diversion.



On The QT



iMac Puzzle and ClickMatch

QuickTime movies were never like this before. These two movies, authored with a product from Totally Hip called LiveStage, utilize QuickTime 3 and 4's interactive abilities to create movies containing "wired sprites." In the same niche as iSimon (see above), these simple point-and-click games offer a fun real-world demonstration of an exciting new technology. You can download these movies to your hard drive, or (if you have the QuickTime plug-in), you can play with them directly in your web browser!

iMac Puzzle is one of those sliding puzzle games; a picture is divided up into a grid of square pieces with one piece removed and you have to slide the pieces around to restore the picture to its normal state. The URL is

<http://www.apple.com/imac/theater/puzzle1.html> .

ClickMatch is a flip-the-cards memory game like "Concentration." You click on the cards to turn them over two at a time, attempting to match two of the same iMac flavors. The URL is

<http://www.apple.com/imac/theater/puzzle2.html> .

To learn more about QuickTime's capabilities, Apple's QuickTime site at <http://www.apple.com/quicktime/> makes for fascinating reading. You can read more about Totally Hip's LiveStage authoring environment at

<http://www.totallyhip.com/> .



'Warehouse Trivia Contest



Once again, we're giving away three copies of CDFinder by Norbert M. Doerner, who has been a great friend of Apple Wizards. A truly awe-inspiring cataloging utility with its speed and elegance, CDFinder is invaluable for indexing CD-ROMs and other removable media. Surf to <http://people.frankfurt.netsurf.de/nmd/> and check out this wonderful app.

With "Contest" in the subject line, email your answers to brian@apple wizards.net.

The Five Apple Wizards Questions for May 1999

1. Along with the two Steves, who founded Apple? (Hint: see the beginning of this column.)
2. Who is currently Apple's Senior VP of Software Engineering?
3. What was the code-name of the 20th Anniversary Macintosh?
4. What is Apple's color management technology called?
5. And finally: is Internet Explorer **your** web browser of choice? Explain.

The winners for February were Eric Carr, Adam Tabak, and Maite Montoya, who all won a copy of WebbToys, Chilton Webb's outstanding collection of Internet utilities.



Brian Kelley

brian@apple wizards.net



APPLE  WIZARDS



<http://apple wizards.net/>



Review by Pete Burkindine



2.5 Stars - 1 Star Poor, 5 Stars Excellent



Title: Yoot Tower

Version: 1.0

Developer: Sega PC

Price: \$39.95, \$29.95 if purchased online before June.

Contact Info: <http://www.yoottower.com/>

Genre: Simulation

Requirements: A monitor capable of 640x480 and 256 colors, CD-ROM. Lots of RAM and a fast processor will help gameplay enormously.



Overview

As a connoisseur of sim games, and as a child who who wasted large portions of his play time building imaginery civilations, cities, and ants, I was thrilled when I heard the gaming gods had come up with a sequel to SimTower. I was a big fan of SimTower, as it delved more into the world of finance and business than most of the other games in the sim genre. That sequel is Yoot Tower, from SegaPC.

Unfortunately, it became obvious after just a few hours of play that Yoot Tower is less a sequel than an expansion pack to SimTower. It still features the same incredibly addictive game play that made SimTower a hit with gamers who were sick of beating the game and being done with it — however, it has many serious flaws that keep me from recommending it too highly. Here's why...



Graphics



Look familiar? It should — it's pretty much the same as SimTower. When I heard the word "sequel," visions of SimCity 2000 danced through my head — 3D towers with complex and diverse units available to adorn each floor — to make a truly unique tower in the same way that each city in SC2K had its own identity. This is not the case.

Your towers do evolve as more people move in and you get recommendations, and many special units are available as you progress through the game (especially in the Tokyo map), but graphically, nothing really gets past the Pixel Man's Adventures in Pixel Land stage.



Sound

In a word, annoying. In an attempt to create the ambient noise a god-like Tower Lord would have to endure, the folks at SegaPC have installed the option of hearing the elevators, environment and "special events" like dawn in a constant stream. While each kind of annoying sound can be turned off, I wonder why they were included at all. Even with these sounds disabled, certain annoying sounds (the rooster at dawn, rain noise, etc) persist. I find I cannot play this game with sound on.

In theory, there is background music to be had. With the option turned on, the volume up and the CD in, I have never once heard the music in question. The manual, which I will get back to later, does not elucidate.



Requirements and Limitations

Yoot Tower comes with a default RAM setting of 100 MB. On my 300 MHz G3, this was still insufficient for dealing with very large towers. I experienced lengthy delays whenever a large computation (like the rent coming in) took place. This is especially weird since the game will not run with more than 256 colors, contains no complex sprites of any kind, is not fast paced, and so forth. It's like playing PacMan on a supercomputer and getting a "Please wait..." between levels.



Gameplay

This game has exactly one saving grace: it is more addictive than any other game I've ever played. The sheer monotony of clicking apartment after apartment into place, manually changing the prices of each one, trying to figure out why the cheap apartments aren't doing well, etc. really does put you into a sort of trance. I find myself playing this game for entire afternoons, staying up later than I know I can just to finish adding a new wing, skipping lunch to reprice all my offices in my Hawaii building, and so on. Now, I'm obviously a total loser, but our assistant editor, Daria, who is much cooler than me, had this to say about Yoot:

"...if I dare open up yoot's tower, I end up blowing an entire afternoon or evening on it. It's seriously dangerous."

I wonder if the game would be addictive in the same way if they made it less monotonous — allowed universal repricing of property types, for example, or offered a "paint bucket" sort of tool to allow you to fill large areas with a property type. We may never know (cue ominous music).



Packaging

If there is any single element of this game I would call "a reason not to buy," it is the packaging. Specifically, it is the manual. The box is quite nice, actually, and the CD insert contains some useful tips to get you started. The manual, on the other hand...

First of all, it's a pretty obvious bad translation from the Japanese. A large company like Sony with extensive American operations should be able to handle things like this more effectively. The manual should have been rewritten from scratch.

Second, it contains many, many spelling errors (as does the game itself) that give it a very unpolished appearance and make its steep-ish (for a sim) \$40 regular price tag seem kind of presumptuous.

Third, even if the manual were in perfect, polished English, it would not have given me any concept of how to proceed. There is little to no advice offered for trouble-shooting issues. Without the CD insert (not referenced in the manual), I would have had no idea what the requirements for advancement were in any of the three standard scenarios.



The Best Graphic in the Whole Game



Isn't that hilarious? He's the terrorist (the main "disaster," along with fires). You are visited by terrorists who actually leave explosives **every time** about once every three years. I don't know about you, but I wouldn't really think much about visiting a building that got bomb threats once every three years. It's almost like I have some right wing zealot living in my building who is under constant surveillance. For this reason, you will find yourself building apartment buildings with five or six security offices. Have you ever heard of a real building with six security offices? Or a doctor's office on every tenth floor?



Some Positives

For all its flaws, there are some things that were well implemented that bear mentioning in the world of Yoot. The plug-in architecture introduced (and highly hyped in the packaging) is very cool and allows, theoretically, for infinite expansion of scenarios (in the same 2D model as all the others, of course). However, several months after its release, Sega has not finished their first extra plug-in, and no third party plug-ins are in the works.

The background scenery for the Kegen Falls scenario, which changes with the seasons, is quite pretty (the real Kegen Falls is much prettier) and bears witnessing. The waterfall freezes in mid-air in the winter. It's really cool.



The Final Word

Yoot Tower is not a realistic simulator. It is not a visually stimulating masterpiece. It is not a revolution in the concepts of game design. It is not all that amusing. I would recommend it for one reason only: you **will** get more gameplay out of Yoot Tower than any non-sim you own. I give Yoot Tower 2.5 stars. Maxis, are you listening? I'd love to see the real sequel.



Pete Burkindine

pete@applewizards.net



APPLE WIZARDS



<http://applewizards.net/>

A bit-o-code each month for you in...



<HTML>
ToolBox

by: Jeff Frey

<jeff@apple wizards.net>

Last month we began discussing Cascading Style Sheets (CSS). It was a very brief introduction which covered only one small aspect of CSS: over-riding the behavior of an HTML tag. The specific example focused on the `<BODY>` tag. Within our `.css` file we defined a new set of default parameters for that tag, so when we used `<BODY>` within a web page, the page automagically took on the appearance we defined in the `.css` file.



But How Do I...

Of course, that's all fine and dandy for a tag like `<BODY>`, which gets used only once within a web page. Let's say, for instance, that you have a special format you want to apply to a table, but you don't want every table in your page to have the special formatting. If you were to override the default behavior of the `<TABLE>` tag, each and every table on the page would use those characteristics:

```
TABLE {  
  color:          black;  
  font-family:   verdana, sans-serif;  
  font-size:     smaller;  
  font-style:    normal;  
  font-weight:   normal  
}
```

All is not lost, though! CSS allows you to define a specialized variant of the `<TABLE>` tag which is applied only when you specify that variant. To define such a beast, you use a selector with a **class** attached to it:

```
TABLE.format1 {  
  color:          black;  
  font-family:   verdana, sans-serif;  
  font-size:     smaller;  
  font-style:    normal;  
  font-weight:   normal  
}
```

The CSS code above specifies a special class of `<TABLE>`, identified as "format1." Only tables which are of the "format1" class will inherit these attributes.



Now What Do I...

Once you've defined a new class of `<TABLE>`, how do you go about using it? We saw that for a simple override tag we need only use that tag within our HTML document. For an individual class, you use the tag with an added `class` parameter:

```
<TABLE class="classname">
```

where `classname` would be "format1" for the `<TABLE>` class we defined above. That's all there is to it!

```
<TABLE class="format1">
  <TR>
    <TD>
      :
      :
```



Where to Go From Here...

The ability to define classes of HTML tags opens up some wonderful opportunities for an HTML programmer. Let's say you have a set of 20 web pages, and among those 20 pages are three different schemes for the font, text color, and background color. You could create a full `<BODY>` tag in each document, followed by a `` tag:

```
<BODY BGCOLOR="black" TEXT="red">
  <FONT FACE="Verdana" SIZE="-1">
    :
    :
```

Using a full tag would be a real burden, though, when it came time to revise your pages — you would have to go back to each and every file and modify the tag. If we create three classes of the BODY selector in a .css file, though, we could make the modifications globally:

```
BODY. variant1 {
  font-family:      verdana;
  font-size:        9pt;
  color:            red;
  background-color: black
}
```

As you'll find out by reading more on CSS, you also gain a great deal more flexibility in how you format a page by using style sheets.

One application of style sheets which came in handy for me was defining special types of ordered lists. Have you ever needed to make an outline in HTML? The last time I did it, I had to make use of some fancy layout work with a table to make it look right. I had tables embedded within tables which were within a table. That doesn't make for an easily modified piece of HTML code! With CSS, I was able to make the following classes:

```
OL.level1 {
  color:            black;
  display:          list-item;
  font-family:      verdana, georgia, geneva, sans-serif;
  font-size:        smaller;
  font-weight:      bold;
  list-style-type:  upper-roman;
  margin-bottom:    0px;
  margin-top:       0px;
  padding-bottom:   0px;
  padding-left:     0px;
  padding-right:    0px;
  padding-top:      0px
}
```

```
OL.level2 {
  color:            black;
  display:          list-item;
  font-family:      verdana, sans-serif;
  font-weight:      normal;
  list-style-type:  upper-alpha;
  margin-bottom:    0px;
  margin-top:       0px;
  padding-bottom:   0px;
  padding-left:     0px;
  padding-right:    0px;
  padding-top:      0px
}
```

...and so on, all the way to "level5." So to construct the outline, the complex table was transformed to:

```
:  
:  
<OL class="level1">  
  <LI>Introduction to CSS</LI>  
  <OL class="level2">  
    <LI>Origins of CSS</LI>  
    <LI>Browsers which support CSS</LI>  
  :  
  :  
  :
```

III. Article III. Powers and
A. The S.G. shall b
decisions of the
B. It shall be the o
keep on file a s
documents. S.G
by the Administ
C. The S.G. reserv
guidelines.
1. A written
2. If, upon r
Committee
3. The appor

When all was said and done, I had a wonderfully formatted outline without the hassles of a complex set of tables. To see the final product, check out <http://csunix1.lvc.edu/~stugov/> and click on the "Constitution" menu item.



Jeff Frey

jeff@apple wizards.net



APPLE  WIZARDS



<http://applewizards.net/>



Preparing for a Roadtrip

I had occasion this week to stop in at the local Mac store, Mac Resource, here in America's "Rocket City." I had urgent need of an automobile AC adapter for my newest possession. I am, you see, for however brief a period of time, resting at the top of the gadgetary food chain.

Thanks to Apple's huge March price drops on PowerBooks, I was able to order a top-of-the-line 300 MHz model with the DVD player. Yikes! Can you say mobile entertainment center? Can you say tax-free, no shipping charge, box on your doorstep in less than 12 hours? I knew you could.

We're pulling out on a family road trip soon, making our way to Williamsburg, Virginia, with the two young daughters. The notion of being locked in the vehicle for 11 or 12 hours with the girls apparently pushed my wife over the edge. She actually encouraged getting the DVD player to help keep them entertained. This is a coup of Homeric proportions. But, back to the story.



Memories of Springtimes Past

I recall that the last time I had been in Mac Resource, the air of despair was almost palpable. Perhaps it was the new location that changed the ambience. They had, after all, recently moved into a new building with a large, dramatic, multi-colored, neon-powered apple adorning the exterior. It was certainly an attractive set-up.

I took the opportunity to chat with the gentleman running the store. He was happy to talk. "How are the iMacs selling?" I asked. "Great," he replied. "What colors are selling the best?" I inquired. "Nationwide," he told me, "the blueberry and grape are selling the best. Here it's the blueberry, strawberry, and tangerine."



Rah, Rah, Rah

The strawberry sales, I knew, were due to the color being close enough to that of the University of Alabama's to get the fans revved up. "Tennessee fans buying the orange ones?" I asked. "Yes," he answered. Here in the extreme north of Alabama we have a large population of Volunteer fans. (We expect to get most of them in the next roundup and have them shipped off to dwell with their brethren.) The number of fans temporarily grew as the transient fans drifted toward whatever football team was on a winning streak. Sort of the sports equivalent of "the economy's good, so what the heck" mentality.

The loyal Tennessee fans represent a strange phenomenon. They'll buy orange underwear. They'll buy cheap, orange-colored sheet cakes, believing they'll taste better due to the hue. I trust Apple's marketing geniuses will take note of this. A lot of others have. They need to capitalize on this while they still have a monopoly on non-beige or black computers.

I asked the store manager about sales in general. He became one really happy dude as he started rattling off numbers of computers sold in the last week. "That's good, I guess," I commented.

"I'm selling as much in one month today as I was selling in three months a year ago," he told me with a big smile on his face. Things were looking up, indeed. This was the reason the atmosphere was different in Mac Resource. I paid for my power adaptor and moved on.



Some gratuitous quasi-poetic stuff

How fitting that I noticed this as Spring's in the air here. It is, in a way, Springtime for Apple.

Apple's reinvigorated — reborn. You can feel it in places like Mac Resource. Apple's products are creating excitement. The open sourcing of OS X Server has the industry talking Apple again. The new blue and white G3 towers are a smashing success. The March 15 issue of InfoWorld, which normally can't bring itself to use the word "Apple" just rated the new boxes a "Hot," nearly pegging the rating scale. The reviewer went so far as to say she wanted to trade in her Pentium for one. Read it yourself at

<http://www.infoworld.com/cgi-bin/displayArchive.pl?/99/11/c05-11.37.htm>.



It's a Cool, Cool summer

You know, I think Apple's summer is going to be even hotter. Look for some very exciting products to roll out of Cupertino over the next few months. The new PowerBooks are due out in a month or so. The consumer portable "P1" is just around the corner. Rumors are flying hot and heavy about new, improved iMacs shipping at any time. As the corporate types see how easy and powerful Mac OS X is, we'll start seeing a lot more about that in the trade journals. On top of that, those "in the know" say we'll be seeing a lot more in the way of consumer electronics from Apple. Personally, I'm hoping they'll make a digital cell phone with accommodates messaging that will also allow you to plug into the internet and, through the use of QuickTime, let you view streaming video right on your cell phone! — among other things. Wouldn't that be killer? I'll take a couple right now!

I've got to go now. I think my six year-old might be getting her greasy fingers on the new PowerBook. She could at least wait until the new "Lombard" PowerBooks come out before she gets Fritos grease all over it.



Craig Cox

craig@applewisards.net



APPLE  WIZARDS



<http://applewisards.net/>



Review by Daria Aikens



4.5 Stars - 1 Star Poor, 5 Stars Excellent



Product: GamePad Pro

Version: USB

Developer: Gravis

Price: \$29.95

Contact Info: <http://www.gravis.com/>

Genre: Gaming input device

Requirements: Mac OS 8.0 or better (and yes, Windows 98, too), USB port



Making Your Play Station More Like Your PlayStation

For years, my friends and loved ones have been kicking my "boot disk" whenever we played computer games together. Sure, it's easy to use the "girl thing" as an excuse to never try to improve my game, but frankly, I was sick and tired of always losing. The only time that I could ever hold my own was when I played "Tekken 3," a popular fighting game, on Sony's PlayStation. In playing that game, I'd finally found a controller that seemed to melt into my hands, so when I discovered the identically styled Gravis GamePad Pro, I prayed that my computer game losing streak would come to an end.

The Gravis Game Pad Pro is a USB game controller that takes advantage of Apple's Input Sprocket Technology. This means that you can create customized sets of gamepad configurations for any game that supports Apple's Input Sprockets. The overwhelming majority of games introduced within the past few years are compatible with the GamePad Pro. This is a much better arrangement than in the olden days when every game company used a different input device technology, limiting the compatibility of game pads and joysticks with games on the market. As I mentioned before, the GamePad Pro uses the same design and keypad layout as the original Sony PlayStation controller. Even their weights are similar.

Altogether, there are 11 different buttons on the Gravis GamePad Pro and 14 separate actions that can be controlled. Under your left thumb you will find a circular directional pad which can additionally accept a small plastic "joystick" fixture included in the package. The middle of the device is home to the essential 'select' and 'start' buttons, and there are 4 small circular buttons on the right side of the game pad. On the top of the GamePad Pro, there are four more buttons which are easily operated using the index fingers of each hand. The shape of the GamePad Pro makes it extremely comfortable to hold for long periods of time, as the oblong protrusions on the device fit nicely into the palm of a gamer's hands.



iMac, Meet Gravis GamePad Pro USB

True to the ease and simplicity of the iMac, installing and configuring the GamePad Pro is a breeze on any USB-equipped Macintosh. Simply install the drivers from the included CD-ROM and plug the gamepad into one of your computer's USB ports. Remember, USB is hot swappable, so you only need to keep the gamepad plugged in while you are using it.



In order to configure each of the gamepad's buttons to work with your favorite games, you will need to launch the game and configure the GamePad Pro within the preferences dialogs of each of the games separately. True to Input Sprocket tradition, gamers are able to set up and save multiple sets of key configurations for each game that works with the gamepad.

No longer will you need to whine about your roommate/spouse/breeding changing your configurations. Oh happy day!

I evaluated the Gravis GamePad Pro using Unreal, Quake, iNes (a Nintendo system emulator available at <http://www.emulation.net/>), and Connectix Virtual Game Station. Each game ran flawlessly and happily using the gamepad as would be expected. Here's the amazing part: I could finally play games and not lose miserably to local preschoolers!

As an example, I had been playing Super Mario Bros. using the iNes emulator (yes, I do own the game, so my possessing the ROM is very legal) for about 2 weeks using the original iMac keyboard as the primary input device. Although I was having a marginal amount of fun, I was quite annoyed that my preteen Super Mario skills just weren't coming back to me. I couldn't remember where all the hidden rooms were, I couldn't leap onto the highest part of the flagpole, I couldn't time my special movements right. There were just a whole slew of problems with my performance. Then one sunny afternoon, the FedEx guy showed up with my GamePad Pro. All of a sudden my high scores were back. I was kicking the poop out of all of the evil ducks and making mincemeat out of Bowser, the terrifying bulldog. The comfort and ease of use associated with the gamepad caused me to remember old point-raising techniques and rediscover hidden areas. The self-esteem I gained in one afternoon is definitely worth the small \$29.95 price tag attached to this device!

I experienced similar improvements in just about every game I tried with Gravis's new GamePad. Important to note is that the rapid-response of the GamePad Pro to all of a gamer's movements makes this an ideal device for anyone playing speed/timing sensitive games such as sports games or racing games.



What More Could I Want?

Sure, the Gravis GamePad Pro USB does everything that it was advertised to do, but does it go beyond the call of duty? My answer is not really. That is what prevents me from giving it a full five-star rating. (Not that 4.5 stars is anything to be ashamed of.) There are just a few nitpicking items that I feel deserve to be mentioned here. For one, the small, plastic screw-in joystick that is included with the gamepad is only about 1.25 inches tall and has a plastic thread. I fear that the plastic thread will eventually wear down after months of use. Overall, I found the joystick awkward to use due to its size and positioning on the directional pad of the Gravis GamePad Pro. Although it could be used in emergencies, I definitely can't recommend it as an alternative to a real joystick.

My other qualm with this device is its lack of special features such as an auto-fire button or a PlayStation-esque rumble-pack. These are features that would take the GamePad Pro above and beyond the call of duty.



Conclusion

I've been thinking about something lately. Why do we spend thousands of dollars on state of the art computer systems and then go out and buy a Sony Playstation or Nintendo 64 for an additional \$100 or \$150? Especially in this day and age when Macintosh games are plentiful due to technologies like Connectix Virtual Game Station — not to mention the fact that the graphics performance of a shiny new G3 can far out pace that of your television. I'll tell you: it's because no matter how comfortable you become using a keyboard and simple mouse to control your games, it can never compare to the comfort and playability of a well-designed gamepad. The introduction of devices such as the Gravis GamePad Pro make it unnecessary to spend that extra \$150, at least in my humble opinion. I do have to admit however, that most people's TV sets are larger than their computer monitors, making the living room a more dramatic place to play video games. However, the higher resolution on computer monitors helps to make up for this.

The Gravis GamePad Pro is an inexpensive solution to uncomfortable gaming. Don't spend \$50 a pop on Macintosh games only to play them as if you were living in the dark ages. This is an investment that every iMac or USB-equipped Macintosh deserves.



Daria Aikens

daria@applewisards.net



APPLE  WIZARDS



<http://applewisards.net/>



Welcome to the latest edition of Medicine Man. I am your virtual on-call Macdoctor.

To ask a question (sorry, no house calls), just pop by the Apple Wizards website at <http://applewizards.net/> and click on any of the links for the "Special Area" — you should see "Medicine Man" as a choice. Drop us a line with your question. The website is open 24 hours a day, 8 days a week.

This won't hurt a bit... I promise!



OUCH! # 1

I just got Mac OS 8.5! Where can I find some cool Sherlock plugins? Is there a downside to having many plugins?
- Todd Longos

Pain-Killer #1

Way to go on your OS purchase! Sherlock is a fantastic feature in Mac OS 8.5 that makes searching the Internet a whole lot easier. Although OS 8.5 comes with around ten Sherlock plugins for some major Internet sites, there are countless more plugins out there. The most official source is no doubt Apple's own database at <http://www.apple.com/sherlock/plugins.html> . However, if you want to find plugins for smaller websites, visit <http://www.apple-donuts.com/> . They currently have a database of 285 plugins (and counting).



There really is no downside to adding plugins... but if you have over one hundred, I would recommend upping Sherlock's memory allocation by at least a megabyte or two.



Owwy! #2

I would like to get a Video Frame Grabber, similar to the "Gotcha" or "Snappy" devices available for the PC. The closest I could come is Iomega's Buzz, but I find it so much more expensive (\$300) than the two devices available for the PC (\$50-70).

- George Reichman

Antiseptic #2

The best solution is to go out and buy ixMicro's ixTV. This product, though marketed as a TV-tuner (allows you to watch TV on your Mac), also functions as a basic source for video input.

You can connect your camcorder or other video source to the connectors on the ixTV and use the software to either grab entire video clips or simple freeze frames! Not only that, but you can watch and capture video and snapshots from TV too! Go to <http://www.ixmicro.com/> for more info.



You may also want to check out ATI's line of video products, such as the XClaim VR and XClaim TV previously reviewed in Apple Wizards. Visit ATI at <http://www.atitech.com/>.



WAHHH!!! #3

Hi, I want an ADB port on my iMac to connect my existing game controller and expensive keyboard. What options do I have?
- Zackary Smalls

First-Aid #3

We have all heard about the iMac's lacking of previously standard Mac ports. The ADB is no exception. I am afraid I have only heard of one possible solution for this problem, the Griffin iMate. The iMate allows you to connect any ADB peripheral to your iMac's USB port. Its colors match the iMac's! Unfortunately, it ain't cheap. Expect to spend around \$50 for the adapter. Check out

<http://www.griffintechnology.com/imac/imate.html> for more info!



Medicine Man's Prescriptions

There will now be a portion of my column dedicated to reporting the most important software updates that have been releases over the past month. Let me remind you that keeping your software up-to-date is one of the most important elements to maintaining a stable Mac. Without further ado:

Apple Drive Setup 1.7.2

<http://asu.info.apple.com/swupdates.nsf/artnum/n11303/>

This update to Apple's venerable disk formatting utility will update your Apple hard disk driver.

USB Overdrive 1.0

<http://www.montalcini.com/overdrive/index.html>

A new shareware USB driver that provides support for any USB input device, Mac or PC.

Adaptec Firmware Updates [various versions]

<http://www.adaptec.com/support/>

SCSI card to boot a Blue and White Mac G3.

ColorSync 2.6

<http://www.apple.com/colorysync/software/>

Update to Apple's advanced color matching technology. Sports an entirely new interface!



Dr. Brent Hecht

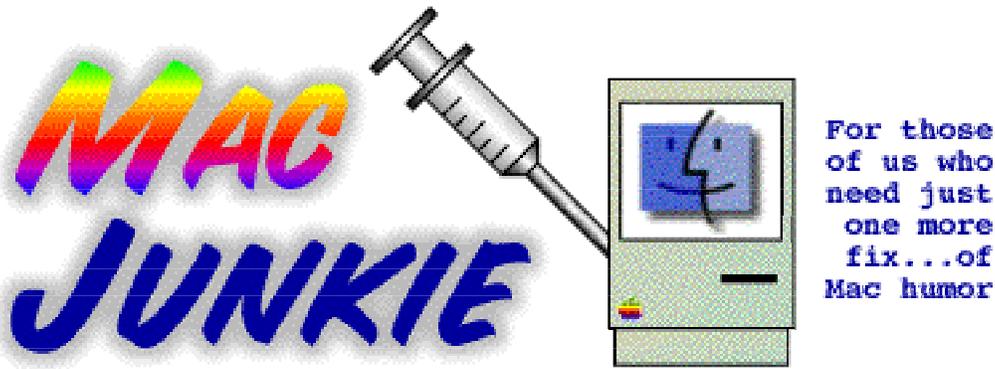
hel pdesk@appl ewi zards. net



APPLE  WIZARDS



<http://appl ewi zards. net/>



Excitement That's Non-Stop! That's Apple...

There comes a point in every person's life when they realize that they need more **stuff** to be truly happy. And although most people will tell you that it's spirituality, not material possessions, that lead to eternal joy, cool Mac accessories seem to bypass that philosophy altogether and enact the "iwannit" drool reflex. For those unfamiliar with the drool reflex, it usually looks like this:



- Eyes pop out of sockets
- Steam spews from ears
- Extensive drool from mouth can be seen

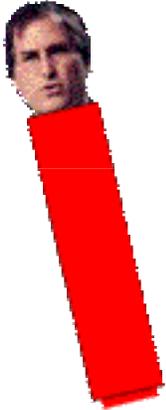
Statistics show that 97% of people responded this way the first time that they saw the iMac. The other three percent were Michael Dell and Bill Gates wannabes (most of them are writing Gate's next book based on the assumption that if you put 100 monkeys in a room with 100 typewriters, you'll eventually get a book) and were therefore too enthralled by the first nearly comprehensible book by Gates and eagerly awaiting the sequel that they just couldn't understand the translucent goodness.

So what kinds of gadgets are necessary to elicit this response, and why am I writing another Mac accessory wishlist column? I don't know but I'll try to figure it out as we go. In a "think with both sides of your brain" strategy, I began by thinking different, of course...

So let's see, what's already been done... colorful keyboards and mice (you can make the bondi mouse glow with just a soldering iron and an LED), posters to surround your Mac with to make it happier, and about a million third-party items from stuffed Dilbert characters to voodoo Mac dolls (including bunny suit men with pins). In that vein, here are a few more ideas for Apple...



Edible Mac Stuff



You all know that I already think that a Steve Jobs line of vegan meals is in the works, but I think the company should push this even further. How about starting simply with Apple flavored bubble gum? They could work it Tidal Wave style... you remember Tidal Wave, right? That wonderful invention of the 1980s, where inside a square piece of chewiness lies a thick sludge of fruity syrup. Well, Apple could do something similar, perhaps throwing in some Bazooka Joe like comics poking fun at everyone's favorite MS founder.

The centerpiece of this whole edible line of goodies would have to be a line of PEZ dispensers featuring famous Apple employees. Apple or Pepsi flavored (for Scully of course), there could be an entire collection just for Jobs from "Co-founder Steve" to "Sour Apple ousted Steve" to "iCEO Steve."



Non-Edible Mac Toys!

I think that if Apple is going to push this whole evolution thing with the Wintel conglomerate being the fossils of the past and Apple being the quick-thinking, warm-blooded species of the future, they need to release a whole line of Carbon Action Figures. Start out with great thinkers like Darwin, the Woz... and just about anyone featured in an Apple commercial, I suppose. Maybe some cross promotional stuff with Pixar might be in order. I found this image at the Steve Jobs Helipad (located at <http://macrules.com/users/stevejobs/>) where someone out there has already begun with this concept: Steve Lightyear.



This could also be done in a good vs. evil setting where extinct creatures of Earth's past could feature the likenesses of the Dinosaurs of the computer world: Michael Dell/Greasy Mammoth or Bill Gates/Saber Tooth Sloth. After this takes off, I see afternoon cartoons, lunchboxes, coffee mugs, morning cereal inserts, and a whole bunch of other stuff.



All Sorts of Fun

The future is wide open, as you can see. I have no doubt that our convention-happy iCEO will be excited to be able to speak keynotes at non-computer-related functions. And everyone would like more stuff to put around their Mac. After all, as those monitors get bigger, there's more room for toys on top. Well, I'm done for this month. You might even want to read the rest of this issue :-)



Mac Junkie

macjunkie@apple wizards.net



APPLE  WIZARDS



<http://applewizards.net/>

Aaron Linville <aaron@applewizards.net>



Greetings and Salutations

This month's column deals with the subject of multithreading and multitasking. These two terms are commonly sprinkled quite liberally in modern, jargon-jammed press releases.

The question of the month deals with dirty ROMs and will bring back memories for many folks who can remember way back to a time before we were spoiled with 32-bit addressing.

Do you have a question that has been bugging you? Visit the **Special Area** at the Apple Wizards website at <http://applewizards.net/> and submit your question!



Multi What?!

A **task** is a very basic unit of scheduling in an operating system. Different systems have different definitions of a task. A task can be defined as each single invocation of an application or the entire application. **Multitasking** is the ability to run more than one application on a computer at one time.

There are two types of multitasking: **preemptive multitasking** and **cooperative multitasking**. Preemptive multitasking systems assign different priorities to different tasks depending on their importance. A lower **priority** task is not given the same resources as a higher priority task.

Cooperative multitasking allows for a system's resources to be divided equally among all the different tasks. Cooperative multitasking works well and can be very efficient. Sometimes (cough, ahem, IE 4.5, cough) a badly written program won't be nice and share, and Mac users get upset.



The Almighty Scheduler

A **scheduler** is what decides which task gets what resources. The **Mac OS** has a very preemptive scheduler that keeps a low profile and generally isn't too strict. It allows low-level tasks to get the time they require and all of the other tasks pretty much fight it out between themselves. The application that is in the foreground has priority, but whenever it isn't using time (such as when it is waiting for the user to do something) other tasks can jump in and take up time.

Windows 98 uses a preemptive scheduler except that only works with 32-bit applications. The old 16-bit applications, on the other hand, can really screw things up. They can prioritize the resources or they can be very efficient, depending on how they were written.

Windows NT also has a preemptive scheduler, except each task decides what priority it should be. This is great except when a task has delusions of grandeur, due to an overzealous programmer, and gives itself a high priority when it shouldn't.



Bite-Sized Chunks

Multithreading, similar to (and commonly confused with) multitasking, is multitasking within an application. Computers can generally only operate on one **instruction** at a time (this depends on your type of system and how many CPUs it has in it). Multithreading is basically breaking down an application and allowing the system to process the instructions in an efficient fashion.

Pervasive multithreading is basically the same thing as regular multithreading except that processes are broken down much farther. Currently, the only operating system that utilizes pervasive multithreading is **Be OS**.

Okay, so what's that mean? Consider that the system is a funnel and that a process is material being passed through the funnel. With regular multithreading, the processes are broken down into small chunks of material that flow better through the funnel than if you tried to cram the entire application down the neck of the funnel. Pervasive multithreading is as if the material is broken down into fine grains of sand. Everything flows extremely well and there are few inefficiencies in the system.



Word of the Month or Mot du mois \mo dew mwah\

USB \you-ess-bee\ **v2.0**: Intel Corporation has announced version 2 of the revolutionary peripheral connection standard known as USB. Intel announced that the new bus will reach speeds between 120 Mbps to 240 Mbps, which is faster than wide SCSI-2 and narrow ultra SCSI-3. USB 2.0 will also be completely backward compatible with USB 1.1 devices. Intel has also mentioned that USB 2.0 will replace IEEE-1394 (otherwise known as FireWire) in all applications except for those such as camcorders and televisions.

USB 2.0, currently being developed by 7 companies, will be designed for use with applications such as hard drives, digital video, and other higher bandwidth demanding devices.

The Mac Weekly Journal has an excellent article that goes into great depth on USB 2.0 and how it compares (or rather, how it doesn't compare) to IEEE 1394. You can find this article reprinted at MacKiDo at:

<http://www.mackido.com/Hardware/USB20.html>



Question of the Month

Q. I would like to know what dirty ROM means. I heard this was a technique to make old Macs recognize more RAM. Is this for real?

- John Freeborn

A. Whoa! Now that question is a blast from the past! Certain II class machines (Mac II, IIfx, and IIfx) had a so-called "dirty ROM" that didn't have real 32-bit addressing enabled on them even though it could be supported. Connectix Corporation enabled 32-bit addressing on these machines with an application called MODE 32. Connectix described activating 32-bit addressing on these machines as "breathing new life into them."



Aaron Linville

aaron@apple wizards. net



APPLE WIZARDS



<http://applewizards.net/>

Apple Wizards

Mini-Reviews



What Products Take the Gold?



Send submissions to <mini-review@applewizards.net>

In a continued effort to cover the things that our readers (you!) want to see, we at Apple Wizards have created **Apple Wizards Mini-Reviews** as a means of increasing our coverage of software and hardware that you want to know about. Mini-Review items aren't quite complex enough to warrant a full review, but that doesn't make them less important!

The cornerstone of this idea is reader participation — you! Participate by reading the reviews, emailing the authors, and writing a mini-review of your own! Help us help you — send email to mini-review@applewizards.net for more information. We've got a kit prepared for you already!



PopChar Pro 1.1.3



Epson SC 740



VQSG Guide to HTML for the World Wide Web



Okey Dokey Pro 2.0.3



GraphicConverter 3.6.1



PopChar Pro 1.1.3 Gold Medal



Price: \$39

Contact Info: <http://www.unisoft.co.at/products/popchar.html>

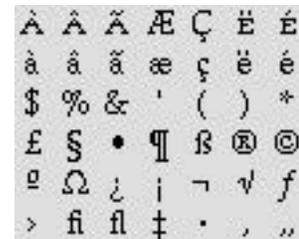
If you type option-e e you'll get a character that looks like "é" in most fonts. Option-i u will get you "û" and so on. Though it's relatively easy to make these special (or international, if you prefer) characters on a Mac (and much easier than on Windows), it's still somewhat of a pain to remember just what commands are.



Enter PopChar Pro, a simple control panel by Uni Software Plus. Priced at \$39, this control panel puts a convenient little "P-box" in your Mac's menu bar (see mini-screenshot above). Clicking on the P box provides a menu of characters, a portion of which is shown below. Suppose you need a yen ¥ character. Option-y will do it for you, but why remember that? Just choose the ¥ symbol from PopChar Pro's menu.

PopChar Pro's got a few nice options. It can display the ordinal number (in decimal or hexadecimal), which is useful for programmers. It displays the key combination its top bar to facilitate learning of the key combos. You can open a floating window (which can be minimized) to hover beside your document(s), saving you a trip to the menu bar. PopChar Pro even comes with a layout editor in case you don't like the default character layout. Though PopChar Pro seems simple at first, spend some time with the manual and you'll begin to appreciate just what you can do with this software.

PopChar Pro saves you a whole lot of time. If you work with foreign languages, scientific documents, or other things which require those "funny" characters every now and then, PopChar Pro could become an indispensable part of your software arsenal. Priced at \$39, this software isn't exactly inexpensive, but that \$39 will free you from trying to remember just what the key combination for € is (shift-option-2).



Phillip Grey

phillip@applewizard.net



Epson SC 740 **Gold Medal**



Price: \$249

Contact Info: <http://www.epson.com>

When I bought my iMac I started looking for a new printer to replace my trusted Color StyleWriter 2500. I was sold when I saw Epson's new Stylus Color 740, the first ever USB ink-jet printer. The printer has also serial and parallel connections for older Macs and PCs.

With the printer, you get black and color ink cartridges, Adobe PhotoDeluxe 2.0, sample print media package, drivers, and excellent manuals. There is no USB or printer cable included, however, and some older packages may lack the USB drivers.

The driver software allows you to select from different printing options and clean and adjust the printing nozzles. It also tells you how much ink remains. The Epson SC 740 also supports watermarks and Apple's ColorSync. Unfortunately, desktop printing is not supported.

The best feature is naturally the printing quality. Epson 740 produces almost photo-realistic pictures even when printing to plain paper. With special and more expensive papers you get the maximum 1,440 dpi resolution. With a digital camera, Epson 740 and the bundled PhotoDeluxe software you can print your photos easily.

The printing speed is quite good for an ink-jet printer. When printing a page of plain text it takes only a few seconds, but with high resolution pictures it can take a few minutes. If speed is a necessity, consider a laser printer.

I've found Epson 740 to be an excellent printer. I've printed school reports, pictures, greeting cards and T-shirt transfers without problems. The only thing missing is the desktop printing option. For \$249 the Epson 740 is a good choice for iMac and Mac users.



Teemu Masalin

teemu.masalin@Helsinki.FI



VQSG Guide to HTML for the World Wide Web Gold Medal



Price: \$17.95

Contact Info: <http://www.peachpit.com/>

Elizabeth Castro has made a great book for beginners and intermediate HTML programmers. Before I got this book, I knew the bare minimum when it came to HTML. I was always asking my friends for help. Now that I own this book, I'm fairly fluent in HTML.

This book covers all the important tasks in HTML such as formatting text, using images, page layout, links, lists, tables, and more. It also has a section on Cascading Style Sheets and Javascript. The book's format is great. It has easy directions in plain English as well as examples in the middle. There is an example for each topic, which helps to make HTML quick and easy to learn.

If you are a new or intermediate webmaster, this book is for you. It has everything you need in an informative manner. I give it two big thumbs up!



Adam Kudurshian

aramk@worldnet.fr



Okey Dokey Pro 2.0.3

Silver Medal



Price: Freeware

Contact Info: <http://www.macdownload.com/>

If you're the type of person who leaves your Mac a lot and hates coming back to dialog boxes, this utility is for you. Okey Dokey Pro is a control panel that "presses" the default button in modal dialog boxes. You can choose among several options, including activation delay, display of a counter, and logging of dialog boxes encountered. The log file, for example, contains snapshots of dialogs along with the application name, time, and date.

Okey Dokey Pro also allows you to specify preferences involving its Special Applications List. Basically, this list allows you to specify applications in which Okey Dokey Pro should be inactive or active, should you need this functionality. A clean interface built around a radio button or two makes it a pleasure to use.

Never come back to a Mac on "pause" because of a dialog box. Get Okey Dokey Pro — it's free!



Brian Galbreath

bri_edw_gal@thedoghousel.com



GraphicConverter 3.6.1

Gold Medal



Price: Germany 46.40 DM, Europe US \$30, rest of world US \$35

Contact Info: <http://www.lemkesoft.de/>

This shareware program has aptly been described as the Swiss Army Knife of graphics applications. It imports around 100 different file formats and can export to almost 40, including animated GIFs. It includes a good selection of picture manipulation functions such as scaling, brightness and contrast, dithering and filtering, and a standard toolbox with the pencil, eraser, paint bucket, etc.

As a self-employed computer programmer, I originally used GraphicConverter (GC) to convert bitmap images into GIFs and JPEGs. After I purchased the product I delved into the other features it offers. JPEGView, my former favorite, was ditched in favor of GC. I've been using it for just about everything.

Currently at version 3.6.1 (and updated frequently!), this product requires a Mac with a 68020 or later, System 7 or later, and 3 MB (4 on a PowerMac) RAM.

Some of GraphicConverter's highlights include:

- Batch processing of files: Renaming, creating/removing previews and icons, creating catalogs, etc.
- Hold down the option key while copying and GraphicConverter will generate an HTML `IMG` tag with `HEIGHT` and `WIDTH` populated and place it on the clipboard.
- Thorsten Lemke, the author, responds to bug reports and suggestions quickly. A bug and feature I reported were implemented in the next release!
- Regular updates (very often!)
- Supported Navigation Services and 32-bit icons soon after their release
- Stable and easy to install
- Find and replace for colours
- Customizable — over 30 screens of preferences

GraphicConverter's got some cons, as well, and they are:

- The online manual really only explains the program by menu options, not procedures.
- The interface takes some getting used to — sometimes the translation to English lets it down, sometimes it's just plain crowded from the myriad of "Swiss Army Knife" options.

At US \$35, pricing is above that of most shareware, but this product justifies it. On registration, you'll receive GraphicConverter and some extras on a CD-ROM. The documentation states that payment covers any future versions.

For anyone wanting to translate graphic formats or manipulate and view image files, I heartily recommend this product.



Tom Robinson

Tom.Robinson@actrix.gen.nz



APPLE  WIZARDS



<http://applewizards.net/>



The Creator Code

Programming Your Mac

Jeff Frey <jeff@applewizards.net>

This being my first month writing Creator Code, perhaps I should introduce myself. I am Jeff Frey, a long-time devotee to Macintosh programming. In ninth grade I used the Think Pascal manual to learn the basics of the Macintosh graphics toolbox (known to us enlightened ones as QuickDraw) and from there I've gone on to write several applications for use on my college's campus. At the moment I'm up to my eyeballs writing a 3D molecular visualization application which uses QuickDraw 3D and PowerPlant. Those are pretty advanced topics, so for now we'll be sticking to the basics of C++ and object-oriented design/programming.

And for those long-time readers of Apple Wizards, yes, I'm the same Jeff Frey who has been writing HTML ToolBox. I'm simply switching jobs :-)



Making a Distinction: Object vs. Class

Before we even begin delving into the tenets of object-oriented programming, a terminology clarification needs to be made. Many people get confused when they begin discussing this programming paradigm — there is a distinct difference between an **object** and a **class**.

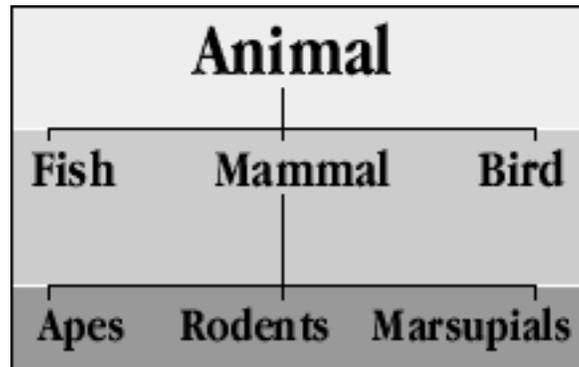
Think back to elementary school, particularly kindergarten. The teacher told you what a cube was: a six-sided solid, with the length of every edge equal. That was fine and dandy, but you only really understood the concept of a cube when you got to hold one and play with it. The teacher's description of the cube was the cube's **class**, i.e. it told you how a cube is defined. The solid cube you could actually hold was one particular manifestation of a cube — cubes come in many sizes, colors, or textures. The material object you held is just that: the **object**. So the **class** refers to the description of an item, and the **object** is a particular instance of that **class**.



Building the Class Hierarchy

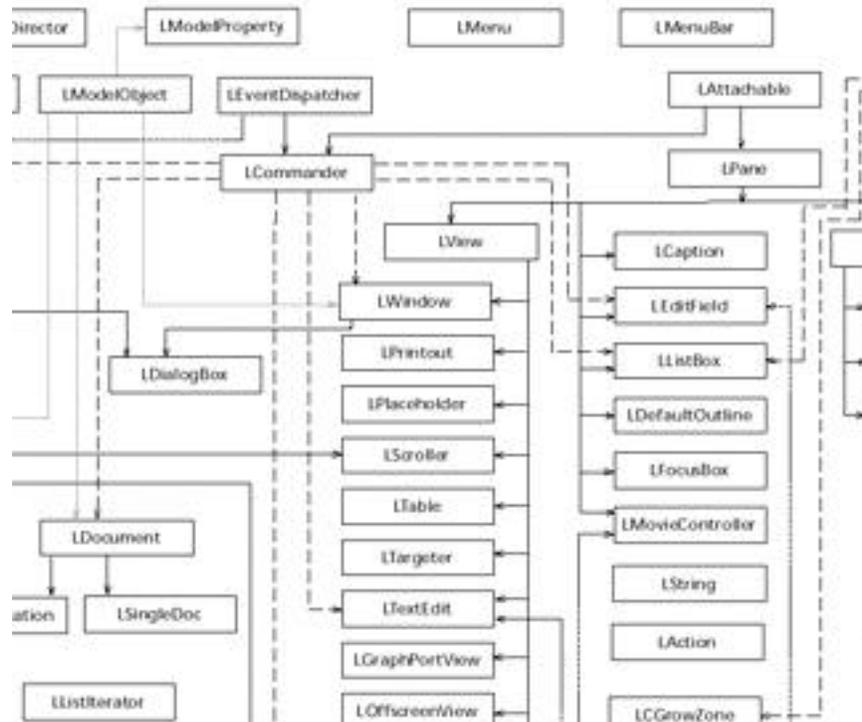
Now that we know what we're talking about when we say class and object, we can move on to talking about how you go about defining classes from a codeless perspective.

If I asked you to come up with some class (i.e. definition) of items in the world, you could say many different things. For starters, I'll say "animal" is the class I'm interested in. Animal is just one class of living things (others being plant, fungi, and protista, in case you were wondering). How do we define an animal, though? Scientists have taken care of it for us — take a look at the following diagram:



Looking at the diagram, you can immediately see that the class "Animal" has several **sub classes** coming from it. A **sub class** is any item which directly inherits attributes from another item. By this definition, a "Mammal" is a sub class of an animal — although it is not directly below "Animal," the "Apes" item inherits the properties of "Mammal," which inherited its traits from "Animal." In other words, the sub class of an item inherits not only the properties of that item, but also the properties of the class above that item in the hierarchy. The item above something in a hierarchy is known as its **super class**. So the class "Mammal" has "Animal" as its super class and "Apes," "Rodents," and "Marsupials" as its sub classes. Notice in our animal hierarchy the "Animal" class has no super class shown. A class with no super class is known as a **base class** because it forms the base upon which all other classes are built. Just as you can't build a house without a foundation, you can't build a class hierarchy with some sort of base class (or classes). Likewise, a class with no sub classes is called a **leaf class** — the termination of branches on a tree are the leaves, so the termination of a hierarchy "tree" is also called a leaf.

The contents of a class hierarchy are not easily defined. It is up to you as a programmer to factor out the functionality of the components of your program so as to optimize how much code is necessary for each class (note, I didn't say "object" because I'm speaking only of the definition of the item). One of the most prominent programming paradigms today is the use of pre-built class hierarchies. Metrowerks produces the hierarchy which I use to create programs: PowerPlant. A portion of the PowerPlant hierarchy looks like this:





Where We Go Next

The next step is to talk about **factored design**, the way you separate program functionality into discrete classes. By learning how to properly factor a program, you can begin to build a class hierarchy. In doing this, we will use the PowerPlant hierarchy to illustrate proper factoring. For those of you with the appropriate means, download CodeWarrior Lite from the Metrowerks website at <http://www.metrowerks.com/> so you can learn about PowerPlant. Until next month, happy programming!



Jeff Frey

jeff@apple wizards.net



APPLE  WIZARDS



<http://applewizards.net/>

Achtung! Stabhochsprung!: The World's Premier Pole Vault Website

<http://lonestar.texas.net/~achtung/>

This site isn't in German, it just has a German title. However, that doesn't prevent this site from being cool. Go to this site quickly and check out the current showcase graphic - a man in a suit pole-vaulting. It was so neat, I set it as wallpaper on my mother's computer.

What we learned this month: Before this column, I bet only about four of you knew the German word for bellybutton.



Ron Freeman

ron@apple wizards.net



APPLE  WIZARDS



<http://applewizards.net/>



On Our Month Off and More

I feel like rambling. I hope you can bear with me...

Apple Wizards didn't publish in April. Why? Well, there are a number of reasons. Some articles were late, some weren't ready just yet, and Apple Wizards staffers and myself were extremely busy. So we didn't publish. Rather than putting out some half-hearted issue, we decided to regroup and come back with a regular May issue. We think we made the right decision.

We posted news of this on our website, but regardless of that, got over 500 emails from readers asking where the issue was. This leads me to wonder just how effective our website is — do our readers only visit it after getting an email notification via their subscription? Do our readers not visit it at all and instead grab Apple Wizards from some other (unknown) source? What's going on? If you know, let me know!

Some other folks emailed me during the two-day span in which the following ran on the Apple Wizards website:

Apple Wizards for sale? We're considering to the possibility. If you have a reasonable offer, or would like to discuss it further with me, please email me.

Though the reasons for this news posting are going to be forever locked within my own head, I can say that there never was a possibility of a sale. The three emails I received from readers who noticed this "news" were just what I had hoped for — pleas not to sell; to keep Apple Wizards as it was and not let corporate bozos schmuck it up. Thanks.

During this time of year, also, I'm planning my trip to Macworld Expo in New York City. My girlfriend happens to reside in Brooklyn, so unlike most, I won't be staying in a hotel. Last year I enjoyed myself immensely — I was finally able to put a face to the many names I had dealt with over the previous months. This year, I look forward to saying "hi, how are ya?" Myself, Daria, and some other Apple Wizards staffers will be patrolling the floor, so stop us and say hi!

After a month off, it's good to be back. :-)



Erik J. Barzeski

erik@apple wizards. net



APPLE  WIZARDS



<http://apple wizards. net/>



BEHIND THE MAGIC

General Information

Thank you for taking the time to read Apple Wizards, **Volume 2, Issue 12**. We sincerely hope that you enjoyed it. This issue of Apple Wizards was created in **DOCMaker v4.8.4** and **Adobe Acrobat Distiller 3.0.2** using the fonts Monaco, Palatino, Courier, SnyderSpeed, and Apple Garamond. Please visit our website at <http://applewizards.net/> or the DOCMaker website at <http://www.hsv.tis.net/~greenmtn/> for more information on our publishing format of choice. **Mac users:** we highly recommend the DOCMaker version over the PDF version, in case you were wondering...

Apple Wizards is an independent magazine and is not affiliated with Apple Computer, Inc. or any other company. Apple, the Apple logo, PowerMac, Mac, and Macintosh are registered trademarks of Apple Computer, Inc. and all other trademarks remain the property of the appropriate company.



Distribution

Apple Wizards is distributed through email subscriptions, web site downloads, friend-to-friend, CD-ROM, MUG distribution, and alternate site downloads. If you would like to include Apple Wizards on any shareware or freeware sites or on any CD-ROMs, etc., feel free to do so as long as you don't modify any content. However, we graciously request that you notify us of such an event so that we are aware of increasing Apple Wizards distribution. Thank you.

As of 01 March 199, Apple Wizards has a readership of over 1,000,000.



Free Subscriptions

Apple Wizards is a free e-zine. If you would like to subscribe (again, for FREE), read the below:

To subscribe to Apple Wizards, send email to:
subscriptions@apple wizards. net
with `Subscribe Apple Wizards` in the `SUBJECT` of a message.

You may also subscribe or unsubscribe using our ultra-easy online forms at <http://apple wizards. net/>.

Company subscriptions (still free) can be worked out as well. Contact Apple Wizards PR/Business Director Daria Aikens at daria@apple wizards. net for more details.

Note: No information is sold or otherwise given to other organizations. Our subscription lists are completely confidential. We do not even store your name in our subscription database.



Review Policy

Apple Wizards has no set policy for accepting review material. We tend to play it by ear, in other words. If you would like Apple Wizards to review any software or hardware that you or your company may have, please contact our PR/Business Director, Daria Aikens, at daria@apple wizards. net. We evaluate each review request individually.

Additionally, companies interested in learning about Apple Wizards, our readers, and other information should consult our Press/Information Pages at <http://apple wizards. net/press/>.



The Best Disclaimer Ever!

All information in Apple Wizards is correct to the best of our seemingly limitless knowledge. However, we make no absolute guarantees or promises. The opinions expressed herein are not necessarily the opinions of the entire Apple Wizards staff — only those of the writer. Any and all material published in Apple Wizards is copyright (©) 1997, 1998, 1999 Apple Wizards and may not be published elsewhere without our prior express-written consent (which we almost always willingly give).



Staff



Editor in Chief / Webmaster

Erik J. Barzeski

erik@apple wizards. net

I am an avid Cherry Coke drinker. I get too busy. When I'm not burning CDs, working on Apple Wizards, writing reviews for MacAddict, or otherwise using my G3, I'm usually playing some sport or another or designing a website for someone. I've been a Apple fan since I first played Oregon Trail on my family's Apple IIe. Too bad little Billy Gates always died by the time we got to Blue Ridge Run...

I enjoy working on Apple Wizards because I have a serious distaste for free time and society in general. <GRIN>



PR / Business Director

Daria Aikens

dari a@apple wizards. net

I am a 21-year-old graduate of the University of Florida who is sick and tired of the inconsistency of the Gator Football program. But hey, at least I'm not a Seminole! When I'm not webmastering in front of my souped-up Performa 6400 or fighting over the iMac with my boyfriend, I can be found rehearsing and choreographing for dance companies or working at a local, regional ISP. Apple: If you are looking for anyone to choreograph a dance piece for next year's "Apple Road Show," I'm available!

My work at Apple Wizards is dedicated to the memory of my Apple IIe and beloved Macintosh Classic.



Columnists and General Staff

Pete Burkindine — Reviews

pete@applewisards.net

An Apple/Mac lover since 1986 (remember Lemonade Stand?), I am a Web designer, Mac consultant, and freelance humorist and just recently packed my rear off to college to study computer engineering. I am also an accomplished French hornist, and I love to ski.

I write for Apple Wizards because I just can't say no to Erik (he's so cute!). I hope you all enjoy my columns, otherwise I will be deeply emotionally wounded and go sulk.

Craig Cox — The CoxFiles

craig@applewisards.net

I am a logistics information systems manager for the US Government. When I'm not battling the takeover of the government by Bill Gates, I'm playing with my daughters, swimming, reading, or trying to keep the "money pit" from collapsing in around us.

Apple Wizards looked like a cool bunch of folks with the same general philosophy of combating banality and enjoying the finer things in life - like Macs.

David Doonan — PDF Maker

david@applewisards.net

I have been involved in the graphic arts since 1972, primarily as a photographer and offset printer. Seven years ago, I escaped with my wife and two sons from Trenton, New Jersey to the rural countryside of upstate New York. The most important thing about computing is the spread of knowledge and the potential for individual empowerment. Today's desktop has become every man's printing press.

Life has become a never-ending struggle to learn faster than my sons.

Ron W. Freeman — Website Watch

ron@applewisards.net

Born in the greatest decade known to man (the 1980's - what else!), I have progressed through various levels of schooling to become a high school senior (we rule the school!). R.E.M. is the band he grew up with, though other favorites include U2 and 10,000 Maniacs. I enjoy spending time learning to play the guitar and working in ice cream parlors.

Apple Wizards to me has a very special place. You know, that place on your back that you can't quite reach no matter how hard you try...

Jeff Frey — HTML ToolBox

jeff@applewizards.net

The one thing every "well-rounded" college student needs is a foreign language. Well, I can answer with the standard "Uh, yeah, I took German for two years," or, I can answer by saying "I'm proficient in C, C++, Pascal, PowerPlant, Java, HTML, and AppleScript." Usually that gives me the same affect as saying "Ich habe Deutsch studiert." And of course, I'm devoted to the Macintosh...the computing choice of the NeXT (oops, did I hit the shift key too many times?) generation.

My columns for Apple Wizards are meant to encourage experimentation and dabbling in HTML, since everyone knows that only the MacOS encourages those same qualities in every user.

Brent Hecht — Medicine Man

hel pdesk@applewizards.net

I am rather new at this writing stuff. I currently author articles for MacOS Daily and 32 Bits Online when not hard at work for Apple Wizards. Contact me at the email address above to ask a question, comment or just to talk to someone!

"If someone gives you lined paper, write the other way." - Fahrenheit 451

Brian Kelley — 'Warehouse, Features

bri an@applewizards.net

I am the Apple Wizards shareware guy. In addition to my Apple Wizards work, I write technocentric fiction and non-fiction. I am also starting to learn programming and you may some day see my own shareware app in 'Warehouse! I live and work in upstate NY with my wife, Gini, and our Performa 6205 and iMac.

Writing the Apple Wizards shareware column is a great way to justify all the downloading I'd be doing anyway!

Aaron Linville — Shop Talk

aaron@applewizards.net

I am an 18-year-old college student and majoring in Computer Science. I am an experienced consultant with a CNA license. I have used almost every operating System ever made, and I always keep coming back to the Mac OS.

The mind is the most imaginative, creative, and powerful thing in the universe. Why waste your energy using any other tool besides the Mac OS, the best tool to harness that energy?

Marc Messer — Mac Junkie, Game Reviews

macjunkie@applewizards.net

I'm a 22-year-old-senior at the University of Florida studying Computer Science through the college of business. When I'm not on my 6500, Gustav, I'm doing such useless time consuming things like sleeping, eating, and occasionally going to class. I'm forever struggling with java and nothing ever compiles. Other than that, I like to watch UF sports and listen to hardcore, ska, and hardcore ska music.

I love to play with PCs! I especially love to play with the autoexec.bat. But for some reason, no one will let a Mac user play with their PC.

Morgan Williams — Copy Editor

morgan@applewizards.net

A philosophy major at Southern "Harvard" University, I strongly believe that the counter-intuitive behavior of Windows is a direct affront to our very rational nature - and thus, at a very primitive level, we naturally find it insulting. I am new to Apple Wizards, which is quite cool, and hope either to do tech writing or design levels for Bungie Software. Also, if I don't kick your butt at Myth, it'll be darn close ;)

These days, money talks, and information is subject to change.



Many Thanks

Our gratitude goes out to Other World Computing. Other World Computing has sponsored us through June 1999, thus enabling us to bring you Apple Wizards each month. Please support Apple Wizards by visiting our sponsor at <http://www.macsales.com/>. Thank you.



Volume 3, Issue 01 is scheduled to be released 05 June 1999.



APPLE  WIZARDS



<http://applewizards.net/>