

TEXAS INSTRUMENTS

TI Forum Fourth Annual Chicago TI Fair



by Ron Albright &
Jonatha Zittrain

Pssst! Got a secret for you! Don't tell my editor but this column is getting easier and easier to write! There is so much happening in the TI orphanage that it is hard to keep up without a program. And that, I guess, is where I fit in. I will try to fill that role. But it sure is an easy way to make a living! The hardest part about writing this column is deciding where to start.

Still The Best...

The Fourth Annual Chicago TI Fair was a raging success. Attended by a 1000 or so TI fanatics from all over the U.S. as well as Canada, it was a vendor's paradise. The 30 or so sellers that had booths there were (almost) all overwhelmingly pleased with the economic part of the Fair. Whereas previous Fairs had been better attended, none of the Fairs could rival this one for dollars spent. The "hard-core" TI user has arrived. The selling, and the seminars (the music demonstration from J.

Peter Hoddie had to be seen and heard to be believed) were surpassed only by the camaraderie—the sense that those 1000 folks had a common bond that very few in the world could understand. A little black and silver box that has withstood corporate abandonment and has given so much pleasure to so many because of the giving, creativity, and ingenuity of its owners. A true phenomenon. But I digress. The Fair was great and the Chicago Users Group did a fine job at the organizational end. Sandy Bartel, Vice-President of the group, promised me there would be a Fifth Annual Fair. If there is, I will be there. If you want to be a long-distance member of a super group, join the Chicago group and receive their super newsletter and other member benefits (\$21/year; Chicago UG, Dept. M2, PO Box 578341, Chicago, IL 60657). I have sent several photographs of the Fair with this article. You can see for yourself the crowds and activity there. It was an event I am happy I could attend.

While at the Chicago Fair, Giulio Fino of the Central Ohio 99ers (C.O.N.N.I., 2215 Bayfield Drive, Columbus, OH 43229), gave me a nice information packet about that group's incredible BBS. A TIBBS board at (614) 268-1994 full of downloads and files and a really active all-TI message base. Highly recommended. Both the BBS and the users group (\$15 for a long-distance membership and one of the top 5 newsletters in the TI community. I mean that).

An interesting concept has been started by Steve Venable (P.O. Box 97, Mobeetie, Texas 79061; (806) 845-3751). Steve and about a dozen other clergymen have formed "P.U.G." ("Pastor's Users Group") to explore the uses of the TI and computers in general in the ministry. If you fit the membership requirements, drop them a line.

Software Galore!

So much to mention and never enough room. Finally got a chance to take a look at Tom Freeman's "Diskassembler" program (M.G., 1475 W. Cypress Avenue, San Dimas, CA 91773; \$19.95 + \$2 S&H). This is one of M.G.'s finest programs and it's most neglected by the consumers. Folks, I gotta tell you, I am no assembly programmer (there are some who would argue I am no programmer at all!). But this software will take ANY assembly program already written and break it down to pure source code—so precisely, that the output source code can be re-assembled to produce the same program you started with. Amazing! You can now explore the code of the "masters" and learn from their heretofore hidden assembly tricks. Congrats to Tom Freeman for a super program. Speaking of M.G. (notice they have abandoned "Miller's Graphics") they are rumored to be abandoning the 1986 Hardware Product of the Year. "Gram Kracker" due to increasing chip costs and falling profit margins. If you have not bought yours, you may be out of luck.

For about 2 years now, I (and a lot of others) have lamented about the lack of a good "Print-Shop"-like program for the TI. We had a lot of close attempts (notably Dave Rose's "Character Sets and



Graphics Design"), but now we have two real contenders—simultaneously! "Font Writer" by J. Peter Hoddie (Asgard Software, PO Box 10306, Rockville, MD 20850; \$24.95). Written in Extended BASIC with some assembly links (yeah, it is a little slow). This is a set of programs that (1) allows you to create or edit fonts from TI-Artist of CSGD to your liking, (2) a text formatter which allows use of TI Writer files and imbedding of graphics in the text, and (3) allows you to keep all these fonts, graphics and such organized. A great program.

Slow, but that was my only complaint. It is definitely an upgrade in the search for a useful graphics program like a Print Shop.

I raved about McCann Software's "Business Graphs 99" some months back and Mike is at it again. He is out with "The Printer's Apprentice" (McCann Software, PO Box 34160, Omaha, Nebraska 68134; \$22.50). Like BG99, "Apprentice" is written entirely in Forth, making it quicker (to me, no formal benchmarks, folks) than "Font Writer." But

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Editor's Note WARNING

While proofreading Ron Albright's TI Column this month, I came across his comment, "No one save Rite Data ever sends us anything at *Computer Shopper*. I was amazed, here Ron gives publicity to TI manufacturers that they could not buy for money, and they don't send him material for review! Things have certainly changed since Randy Holcomb stopped writing this column. Advertising in this magazine costs money and this TI Column gives it away for free to the TI community. I am willing to devote this space to the TI because we have many loyal TI readers who do buy printers, disks and other supplies from our advertisers. That is my justification to my bosses for this column. However, this is fair warning, if the TI community does not support Ron Albright and Jonathan Zittrain by sending software and hard-

ware for them to review, this column will disappear—forever!

I don't know if there is any other national circulation magazine who features TI 99/4A news, and I would hate to see the TI community without a voice in *Computer Shopper* but there is no free lunch here or anywhere else. If the vendors of TI software and hardware are not willing to support this column and get thousands of dollars worth of free publicity for their efforts, why should I run it!

I don't want to get a lot of mail from our TI 99/4A users about this. If you can afford the time and postage to write to me, better use it to write to the publishers of TI software and hardware and tell them what I said. If these turkeys can't support their own column, then you should get another computer. ●



Is This The Year For UNIX?

by Stan Veit

UNIX is a multi-user operating system developed at Bell Labs in the 1960's by Ken Thompson and Dennis Ritchie. It was originally designed to run on the DEC PDP-7 which was then in use at the Labs along with many other computers. There were two main differences between UNIX and the other operating systems in use at that time. All of the others were designed with one particular computer, or family of computers in mind. Because the AT&T Bell Labs was equipped with many different types of computers, Thompson and Ritchie wrote the UNIX system without reference to any particular system architecture. The first versions were written in DEC

assembly language but then a language was needed to utilize the new system and the authors improved an experimental language in use at Bell Labs called simply "B." The resulting new language was then called "C" and it became the pilot language of the UNIX system, which itself was rewritten in the C Language.

UNIX and the C Language became the time sharing, multi-user language at Bell Labs and was ported to all of the computers in use. Bell Labs has always had a close relationship with the major universities of this country and as one school after another installed powerful computer centers, Bell Labs made UNIX available to them. This created a powerful lobby for the system

because graduates were trained in UNIX and looked for similar systems once they left the university and went into business or science. The system grew and was adapted to new computers as they were developed. Machines made by DEC, IBM, AT&T, and other minicomputer and mainframe manufacturers could run UNIX and many of the computers installed in schools did.

AT&T was not so generous with its product in the commercial world. They controlled the licenses and the price for commercial use was kept high. In addition IBM who was the main maker of mainframes supported their own operating systems and did not encourage the spread of UNIX from AT&T.

Then with the development of powerful minicomputers with multi-user capabilities, many of them selected UNIX as their operating system. AT&T took a completely different attitude toward UNIX as the result of court rulings keeping the communications giant out of the computer business. They licensed UNIX to resellers who being left to their own devices adopted enhancements different from other versions. Even the using universities developed versions of UNIX with differences from the original. Berkeley UNIX is typical of such variations that are popular in the UNIX world. The microcomputers also developed enough power to run UNIX and such companies as Microsoft developed versions such as Xenix that could run on the more advanced micros. Microsoft also owns and controls MSDOS, the operating system that is used in the PC/XT/AT world of Intel microprocessors. Microsoft with its knowledge of the future plans of both Intel and IBM has always steered MSDOS toward eventual compatibility with Xenix, its version of UNIX. If you look at the first versions of MSDOS you will notice how closely the system resembles CP/M, the main DOS of the 8-bit 8080/Z80 world. Then version-by-version other functions such as re-direction, pipes and paths have been added to MSDOS until it starts to have more of the flavor of Xenix.

The Structure Of Unix

The UNIX operating system consists of a scheduler which allows more than one person at a time to use the system, a file system which includes files in memory and those stored on the system disk storage and the shell which is the UNIX system's command interpreter and the interface with the user. It is the shell that largely has been changed and enhanced by various UNIX variations. Some of the different shell version in use include the C-shell (Berkeley shell), Bourne shell, and Korn shell. Actually the shell is just another program running under UNIX.

In addition, the entire UNIX system has evolved under different versions licensed by AT&T at different times. The Microsoft Xenix which now represents the largest installed base of UNIX users, some 175,000 was developed from

an earlier version of the system. AT&T is now selling UNIX Version V, Release 3 and Microsoft has just announced that it has signed an agreement with AT&T to upgrade Xenix to the current version of UNIX. This means that the latest technology will be available to users of Xenix systems. Bill Gates, chairman of Microsoft said "We are committed to the evolving UNIX System V standard for multi-user systems with the very best implementation of UNIX System technology for Intel processors. This agreement allows us to deliver that technology to our customers in a timely and cost effective manner."

Why Is This The Time For UNIX?

Given the fact that UNIX has made little headway in either the commercial or the PC world up to now, what is all the fuss about in recent months? In this issue of *Computer Shopper* there is an article about the 80286 vs the 80386 which suggests the answer. Up to this time UNIX has had little reference to personal computers. They seldom were run in a multi-user environment and when they were they used operating systems that placed restrictions on the memory size allocated to each user. These restrictions were never large enough to accommodate UNIX. The few successful personal computers running UNIX were largely those using the M68000 CPU such as the Tandy 16 or DEC PDP-11 which were capable of directly addressing large amounts of memory.

The development of the IBM AT and compatibles using the 80286 has caused Microsoft to develop a new version of MSDOS which will be issued shortly. This will be known as ADOS, or 286DOS and it will enable this advanced processor to utilize pipelining and other features not now possible under MSDOS 3.X. The 640K restriction on RAM and the 32Mbyte per virtual drive limit on hard disks will become a thing of the past. The 80286 will be free to address the megabytes of memory it is capable of. Yet in spite of the vast improvement offered by this new version of MSDOS as far as the transitional 80286 based AT is concerned, it will not begin to

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the program's manual is a bit less-than-"user friendly" and there were a few minor bugs in the first version released in Chicago (since corrected). "Apprentice" handles only its own fonts (cannot import from CSGD) but with the "Scheduler" function of the program, you have much greater control of where you place the graphics in your document than with "Font Writer." Which to choose? Since I am not artistic and have difficulty drawing a stickman, much less design a font, I would pick "Font Writer" simply because it allows use of the dozens of fonts available from Ti-Artist and CSGD. If I could draw, I'd choose "Apprentice" for its speed. Why not just buy them both! By the way, McCann's "Business Graphs 99" is now selling for \$15.95 and is an absolute steal.

Asgard not only released "Font Writer" but also came out with Warren Agee's "Total Filer," a "free-form" database written in speedy c99. What is a "free-form" database? Where traditional DBs use fields for data input, "Total Filer" just gives you a screen—you put what you want on it. Then give it a title, assign some keywords, and then save it to disk. Then, you can search on all your records by keywords at any time and even use "Wildcards" to find records. The search is extremely fast and I like the unstructured nature of the data input. I am using "Total Filer" to keep abstracts on some jour-

nal articles and it is super. \$24.95 from Asgard. Rumor has it that Warren Agee is working on a full-fledged relational DBMS for the TI and/or Geneve. If anyone can give us one, it will be Warren. And it will be in c99, no doubt.

If you are wondering why there are no new games for the TI, it is because folks have matured a bit in the computer use and the market for pure games is small. But what about combining a game with an educational concept? "High Gravity" by Tom Wibel (Asgard, \$14.95) is just that. Hard to explain, but it is both a learning tool for any grade level to understand the concept of gravity, but also an infuriatingly enjoyable game as you try to shoot cargo to a ship stranded in a cluster of planets, each with a variable gravitational field. Just super fun. Based on "Font Writer," "Total Filer," and "High Gravity." I feel secure that I made the right choice naming Asgard "1986 Software Producer of the Year."

Fairware continues to produce some exceptional and unique software. Andy Dessoff (Fairsoft, Inc., 1041 Church Hill Road, Fairfield, CT 06430) has released his long-awaited "BasicSort." This is the first sorting utility for the TI that is written in 100% Assembly Language, is a "memory-resident" routine (once-loaded, it occupies 4K but is invisible till called on), and can be called with a CALL LINK from your own programs. "BasicSort" can sort your data on any of 16 se-

quence fields (ascending or descending, not simple "alphabetizing" but a full-string sort) in a flash. This utility is a must for anyone who still programs and works with data, numeric or text. Some noteworthy applications are just waiting to be programmed incorporating these routines. I congratulate Andy for putting so much effort into a remarkable set of routines that, as he well knew, would have a limited market. Andy felt strongly they were needed and, as a penultimate programmer, that was enough. Write Andy for details on how to get a copy of this program and its documentation (which exceeds 99% of the docs I have seen for traditionally-marketed commercial software). Nice program, and thanks, Andy. Also, James Sleeth (P.O. Box 20723, El Cajon, CA 92021) has some templates for TI Multiplan that are available. You will have to write Jim first, as the details are sketchy. He is a financial consultant so he knows what he is doing. The templates work great.

"Pass me a wing, please..."

I have already set the table and I am just waiting on the main course to arrive from Basking Ridge, N.J. At this writing, the mysterious gate-arrays have arrived from Mitsubishi and the new Geneve was shipped in early December. Reportedly, the first 500 (that's right, five-hundred, five-zero-zero) will be headed to Tenex (P.O. Box

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6578, South Bend, IN 46660; (219) 259-7051). One smaller mailorder confided that he already had 10 orders for the Geneve (rumored to now be the "9640" because of possible trademark problems with Hewlett-Packard's "Geneva" portable—hard to fathom since the Geneva is another orphan, but nonetheless...), 2 from as far away as Argentina. Looks like the new 9900-compatible is off and running. While I sincerely doubt I will get one to try out here at the *Computer Shopper* (no one, save Ryt Data, ever sends us anything), I will be reporting what I hear as I anxiously await the user reports of this long-awaited machine. Should be interesting. Since the December column declared I will eat

crow if the Geneve is "buyable" by the end of the year, I await the foul fowl from Lou Phillips any day now. Such are the tribulations of soothsaying.

Congratulations, *MICROpendium!*

This month marks the 3rd anniversary of the publication of *MICROpendium* (P.O. Box 1343, Round Rock, TX 78680; \$17/year). No publication ever for the 99/4A has been as regular in publication and as consistent in its quality. With the recent addition of Cheryl ("Regena") Whitelaw to their staff (joining the technical wizardry of Mack McCormick), *MP* just keeps getting better. My heartiest congratulations to Laura Burns and John Koloen for an indispensable "asylum for the orphans." May they have three

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heading is moved (or deleted) in outline mode, the associated text in document mode is moved (or deleted.) When in outline mode, you can look at your document at several different levels. You can view just the major headings, or the major heading and first layer subheadings, and so on.

Word will automatically handle footnotes. When you are ready to enter a footnote, you press ESC FORMAT FOOTNOTE. Word moves to the end of the document to enter the footnote and then move back to your original footnote. At print time, you can have Word print the footnotes on the correct pages or all at the end of the document. When text is moved or deleted, the associated footnotes are moved or deleted.

Other Programs

In addition to word processing, Word comes with several related programs. ANAGRAM.COM will take a list of letters and form all the possible words that can be formed by rearranging those letters. ATER would yield RATE, TARE, and TEAR but not RAT since rat does not use the e. WORDFIND.COM is extremely useful to crossword puzzle fans. It will take a pattern of letters and wild card symbols and show all possible words matching that pattern. QPPT would yield QUIT. WC.COM will count the words in a document. WORD-FREQ.COM will tell how many words are in a document, how many unique words are in a document and how many words are only used

once. CONVWS.COM will convert Wordstar files to Word format. This program works fast and converts some Wordstar formatting such as bold and underlining. It does not convert the Starindex index and table of content markers even though Word will generate indices and table of contents using special marker characters. It also adds an occasional ASCII 141 character to the document. These characters cause unusual problems when the document is printed.

Problems

As powerful as Word is, it is not without its problems. It is not completely compatible with SideKick. When you exit from Sidekick, extraneous keystrokes are passed on to Word. Sidekick block and line transfers to Word drops characters. Word uses a solid block cursor that sometimes gets lost in the text. Word can not replace text longer than forty characters. Word makes all replacements in memory. This allows the UNDO to reverse a search and replace but it also limits the number of replacements that can be performed on a large document.

Word will allow you to confirm page breaks but not column breaks. Word has no conditional page break command. It is possible to work around this by using a no new paragraph return (SHIFT RETURN) combined with no break paragraphs. The widow and orphan control will only prevent a single line being stranded, you cannot set it for a higher number. There is no way to reserve an empty block for drawings or pictures. ●

more, equally successful years at least.

Orphan's Survival Manual

The response to the *Orphan's Survival Manual* (published by Disk-Only Software, P.O. Box 4170, Rockville, Maryland 20850; \$16.95 including S & H) has been great. The 225-plus page compendium has all the information you need to keep your TI productive and useful—schematics, programming tips, where to buy, groups to join, BBSs to call, and more. Check it out.

Delphi Cranks Up!

Delphi has increased its support of the T.I. Information Network and has added some exciting new innovations there that make it more competitive with the more established networks. With Jeff Guide's establishment of the "99 Professional Counsel" ("99 PC"), there will be more help for users and increased availability of new and innovative uploads. I would like to formally announce that I will be available there daily to answer any questions you may have

and provide uploads of any code that may appear in the *Computer Shopper* column (save you from typing it in by downloading) and I plan to start an "industry watch" newsletter that will be available there as well. It will be updated regularly and I have some nice plans to have it have code, tips, as well as the usual TI news. You can join the excitement tonight. Just follow this procedure: Dial your local Tymnet or Telenet number. When "Please Log In" appears, enter DELPHI. At "Username" enter JOINTI99. At "Password" enter TELEDATA. During this special offer, for \$10.00 you will receive a membership account and one hour of non-prime time usage. For \$29.95 you will receive a Users Manual, Command Card, membership account and three hours of non-prime time usage. Now, I can be reached on Compuserve (75166,2473) or Delphi ("IN-FOINC"). Drop me a line!

I Didn't Forget, But...

I have run out of room. I will have to discuss the "CIN-

VADERS" source code for c99 next time (I hope). In the meantime, you can download that source code exclusively from Delphi and the T.I.I.N. Write to the *Computer Shopper* with a self-addressed, stamped envelope (if you want a reply), and I'll send some freebies your way.

Newsletters Received...

The mailbox gets more and more fun each month. We appreciate your group placing JZ and I on your mailing list. We have started receiving the newsletters of the Cleveland Area 99 4A Users Group (20311 Lake Road, Rocky River, OH 44116) and "Call Sounds" from the Central Westchester 99'ers (1261 Williams Drive, Shrub Oak, NY 10588). If you are not currently a member of a users group and are looking for more TI information, consider writing one of these fine groups for a "long-distance" membership. And keep writing us at *Computer Shopper* and, if you want a personal reply, be sure to include a self-addressed, stamped envelope. ●

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answer the capabilities of the 80386 CPU.

The 80386 is upward compatible with the 8086 and 80286 in its single user mode, and it offers all of the improvements made possible by the new MSDOS update. However, if that is all you could ever get from the 80386 why then bother with it? If you read the specifications of the 80386 for the protected modes for multi-user and multi-tasking operation, it will become all too obvious to anyone with a knowledge of UNIX that the virtual protected modes must be operated from a form of UNIX. For what UNIX does is just what the Intel designers built into the advanced 80386 CPU. Protected users areas of virtual memory offers up to a gigabyte per user. This is the stuff that mainframes could not offer a short time ago. The new 32-bit microprocessors have the kind of power we all dreamed of a few short years ago. There is simply one way to use this power from a simple operating system like MSDOS, no matter what changes you make to bring it in line with UNIX. You need the real thing to get the real results.

This is why Bill Gates of Microsoft signed with AT&T for UNIX V, Version 3. No one knows better than he what the future of MSDOS is and what

it can and cannot do. The day of the 80386 is here and UNIX is the key to unlock its potential.

There has been a lot of speculation about what IBM will do about the 80386 computers. Will they adopt a proprietary operating system for the protected mode?

Will PCDOS diverge from MSDOS? Will they change the bus, or the DOS, who knows? Well one thing we do know is that IBM cannot abandon PCDOS and the mountain of software that Charlie climbs in the TV commercial. No way! It has been said that IBM will never completely buy a system controlled by AT&T. There must be a lot of truth in this, but Bill Gates who often acts for IBM PC software did sign the agreement not IBM. It is Microsoft who will supply the XENIX for the advanced 80386 computers and it is Microsoft who will design a shell that looks like MSDOS for multi-user operation of 80386 based computers.

There are others currently at work on 80386 operating systems and perhaps they will be used by some, but the allure of UNIX will be too strong to resist. We want to pass through gateways into mini and mainframe environments and using a bastard DOS will never get us there. In UNIX there is compatibility and strength and that is the path toward LAN and multi-user operation of these

"mainframe-on-a-desk" computers using the 80386 and later chips. We indeed live in interesting times.

One of the drawbacks of UNIX is the shell which interfaces with the user. It was never designed for Local Area Networks, rather it was intended for time sharing operation where the master controls the files and serves users who access the data on a time shared basis. The idea of LANs is a network of equals sharing the system resources. It has been said that UNIX must "come out of its shell" to properly operate on a LAN and this may be true. However it is more likely that the LAN software will comprise a new shell incorporating token passing abilities needed for LAN operation. The prospect of ever going back to time sharing operation is remote. Today LANs are the main way that multi-user operation will occur. The structure of UNIX is not adverse to this method of operation because when the system was formed, there were only mainframes or large minicomputers accessed by terminals. Today the terminal has become the AT computer and is an independent member of the computing group with system resources equal to any other part of the net. Only changes to the shell and perhaps the file system are required to bring the system up to date and the day of UNIX operation as a LAN is here now. ●