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December 1992

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- Miracle Piano Teaching System
- ProLine
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System 6 is power. System 6 is speed. System 6 is a must for all Apple IIGS owners. It includes:

- StyleWriter printer support. Now you can use Apple's low-cost inkjet printer with any Apple IIGS Desktop program.
- Macintosh, Apple DOS 3.3, and Apple Pascal disk support—great for converting your files!
- A completely redesigned Finder—faster, friendlier, and more powerful than ever before.
- The Finder can be set to avoid grinding your 5.25" drives.
- When the computer asks you to insert a disk it needs, you no longer have to hit Return—the computer detects it automatically.
- The screen no longer switches to text mode and back to graphics when launching some Desktop programs.
- New music tools and applications to allow new programs to sound even better.
- Media-control toolset and desk accessory to allow easier integration of video with your multimedia presentations.
- Universal Access features for physically handicapped users.
- More tools for programmers to write great programs. Like drivers for Apple flat-bed scanners and SCSI tape drives.
- Simpler and faster hard drive installation.
- Great documentation.

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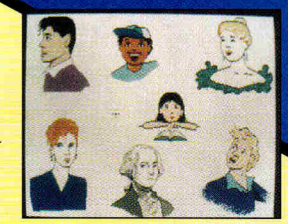

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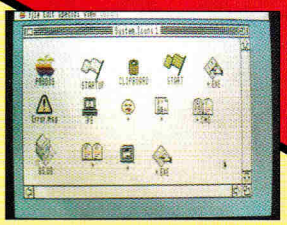
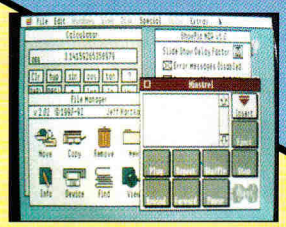
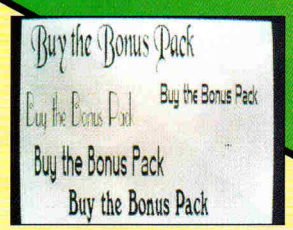
- Clip Sounds. Because the IIGS's sound capacity is so great, we're also including over 50 digitized sound files. Some are classics while some are the newest on the market. They go great in HyperStudio and other sound programs, or you can have music playing in the background while you work.



- Icons. Over 50 fun, useful icons.
- DA's. Just to give you more to choose from, we're giving you several handy desk accessories including: Enhanced Calculator, Scrapbook, Games, and more.



- Fonts. Using the same font for everything is very un-cool, so our Bonus Pack includes over 30 display and text fonts.
- FlashBoot. What is faster than a speeding disk drive? A RAM disk. FlashBoot lets you automatically set up a super-fast, super-convenient RAM disk.
- The Apple II Enhancement Guide. This handy little book is packed with information to help you upgrade your Apple II. It covers RAM, hard drives, accelerators, the Finder, and more.



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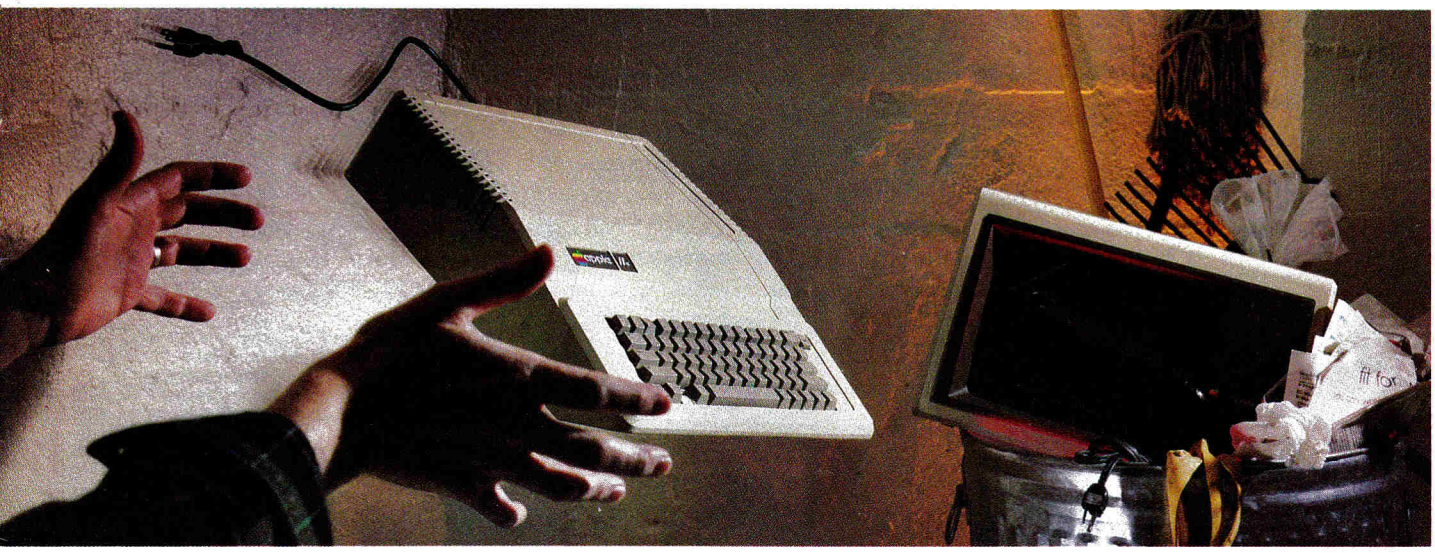

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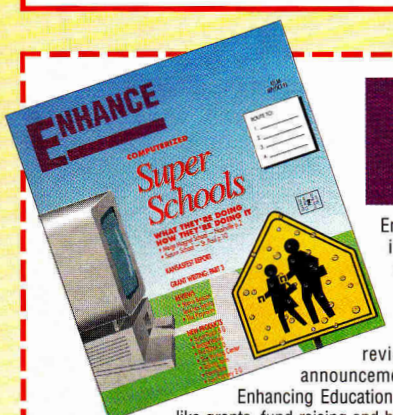

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4-Meg. Q-RAM comes with FlashBoot FREE!

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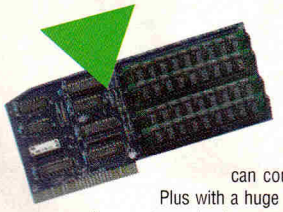

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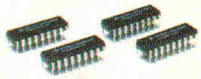

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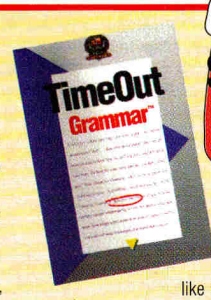

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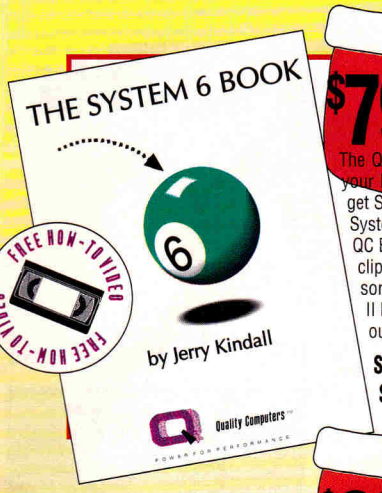

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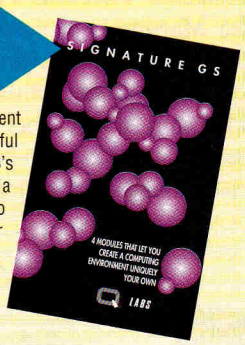

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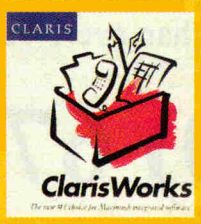

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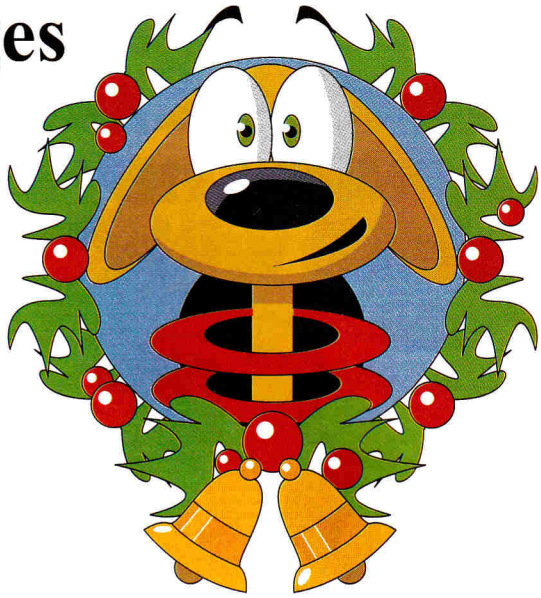

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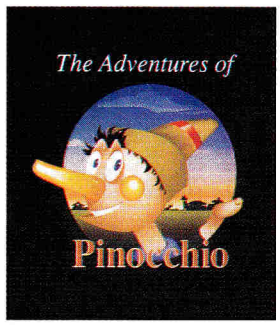
New for the Macintosh, this original adaptation of Pinocchio is exquisitely illustrated, taking full advantage of the power of the Mac. These high-density disks are filled with all-new adventures brought to life by vivid graphics and terrific sound. Users can click on highlighted words for simple definitions, and comprehension questions monitor their progress.



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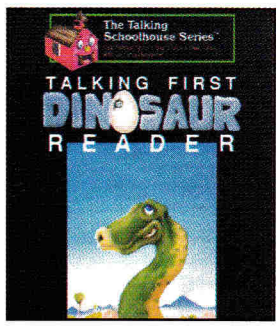
Talking First Dinosaur Reader

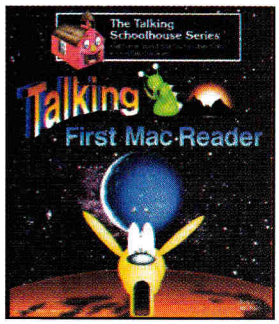


Recently released for the Apple IIGS and Macintosh, this fun program provides a charming experience for young readers. **Let's Go Back in Time** allows kids to interact with the program making choices altering the outcome. Three stories that feature dinosaur characters are included: **What Could This Be?**, **Bertha's Missing Garden,** and **The Different Dinosaur.**

#MC700 **$59.00** (Mac) #C1047 **$49.00** (Apple IIGS)

Talking First Mac Reader

Join Electro Dog as he travels through the galaxy befriending strange aliens! This amusingly animated first reader program for the Mac features an endearing cartoon character who helps children develop early reading skills. Kids learn to read word-by-word, completing sentences using pictoral clues. Sections include **Talking Words, Word Match, Sentence Ender,** and **Read Along.**



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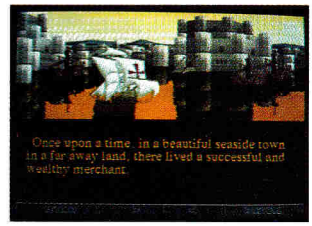
Beauty and the Beast

Enjoy a brand-new version of the classic tale of love overcoming all obstacles. Beautiful illustrations on the Macintosh depict the action as beauty slowly comes to appreciate the kind-hearted soul within the Beast. This story about inner strength and beauty includes an on-screen dictionary, sound effects, and reading comprehension questions that stimulate thought and discussion.



#MC1100 **$59.00** (Mac)

Talking Academic Quiz Kid

Available now for the Macintosh and Apple IIGS computers, this exciting program allows 1-4 players to test their knowledge in a game-show format. The host, Wink Moneydale, reads dollar amounts and provides verbal feedback. Categories include: **U.S. Presidents, Science and the Human Body, Famous Leaders, World Geography, Animals,** and **Historical and News Events.**

#MC800 **$59.00** (Mac)
#C1046 **$49.00** (IIGS)

Talking U.S.A. Map

Designed for both the Macintosh and Apple IIGS, **Talking U.S.A. Map** is perfect for users of any age who wish to learn the geographical facts of our nation. Crisp graphics show the locations of capitals and points of interest. A human voice pronounces the names of the states and a *capitals quiz* tests newly acquired knowledge.

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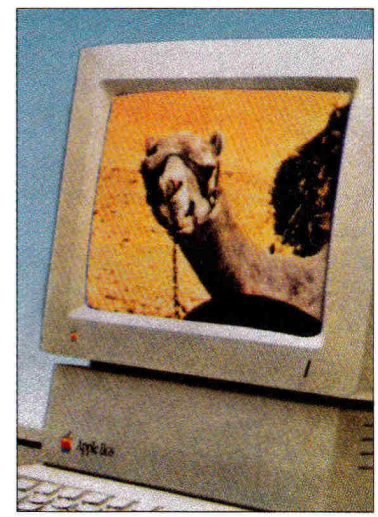
DECEMBER

1992 Vol. 10 No. 12

FEATURES

Classics in the Making by Cynthia E. Field 32
For home, school, and small business, 1992 was another banner year, producing more than 150 new and updated programs for the Apple II. Combining the best of the tried-and-true with some exciting and powerful new developments, the II community is pushing the technology to the limit and beyond. *Plus:* Mac trends to track in '93.

On the Path to Success by Cynthia E. Field 46
Making your way through the world of career options isn't easy, and competion's stiff these days. Your Apple II or Macintosh can help — thanks to college- and career-planning software, finding the type of work or education that fits you best is simpler than ever before.



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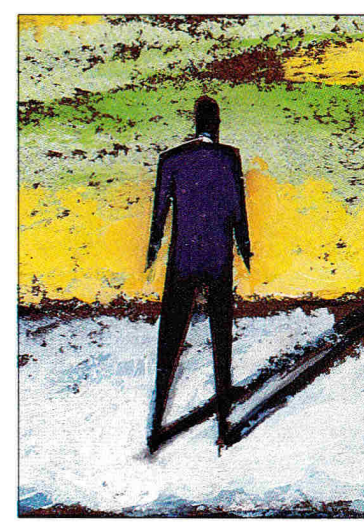
The Miracle Piano Teaching System 24
Skeptics may never see the inside of Carnegie Hall, but if you keep the faith — and practice, practice, practice — this keyboard-and-software combo for the Macintosh *does* work wonders.
Plus: ProLine * Desktop Enhancer 2.0 * GSymbolix

Apple II Report
Dinosaurs and ecosystems, plus all the news that's fit to print 25



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inCider/A+ proudly presents the Gappies, for distinction in connectivity.

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Mail merge helps you stay in touch with friends and family.

HyperActivity * *Dean Esmay* 57
Invisible buttons atop graphics or text make card elements interactive.

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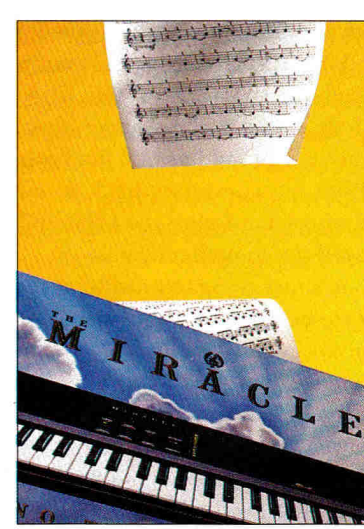
Multimedia represents a new paradigm for the future of computing.



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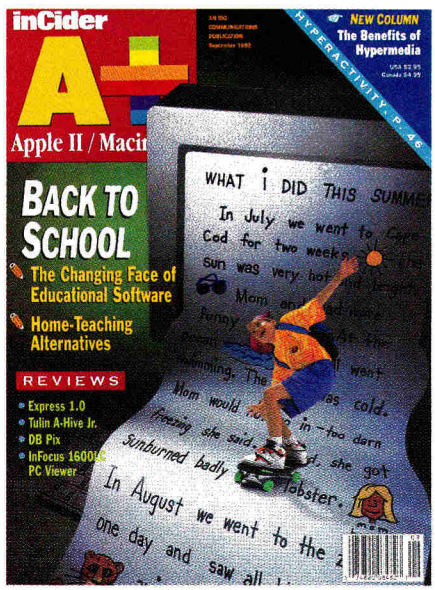
LETTERS



SPLIT DECISION

I'M A WRITER AND USE EXPRESS, Seven Hills' print-spooler program (Reviews, September 1992, p. 20) almost exclusively with AppleWorks GS and Pointless for text-only printing.

Express is a great idea, but a person thinking of buying it needs to know what kind of user he or she is, because Express saves time only in certain situations — in others it actually lengthens your wait. For example, my writing style is to print a draft, pencil in the changes, then type in the changes and print a final copy. True, I get my computer back sooner with Express, but I need the printout before I need the computer again.

Another thing to consider is the size of Express' spool files. Like many users' hard disks, mine is nearly full. An eight-page letter of best-quality text can take up a megabyte of space. Some of us just don't have that kind of extra room.

But there are several situations in which spooling is an advantage. One is when you're printing multiple copies of a document or you need copies from time to time. You can create a spool file and then print it anytime, or over and over while you're doing something else on the computer. Another plus is that you can send a spool file created with any GS text or graphics program to anyone else who has Express and he or she can print it — even if that person doesn't have a copy of the program that created the file. If you have a friend with a high-quality printer, it might be in your best interests to encourage him or her to purchase Express.

Jonathan A. McCreight
11934 300th Avenue, RR#3
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REGISTRATION WITHOUT REPRESENTATION?

WE'RE CONVINCED BUYERS OF original, non-pirated software. We've sent in the registration cards for several programs, including a number of games, and have as yet received only one response.

We're still waiting for a "scanner holster" that Caere promised every buyer of its Typist OCR scanner. The company also failed to inform us of a major upgrade to the scanning software. Our Microsoft Word contained something that looked like a registration card, but it had no serial number, and we never heard anything more about it. We learned about the 5.0 upgrade from magazines instead of Microsoft. Maxis urges the buyers of SimEarth and SimAnt to send in their registration cards, but that company didn't send us the promised newsletter containing offers of "low-cost updates and upgrades" (quote from the documentation).

We don't know whether we're the only ones whose registration cards were swallowed by a black hole. Maybe U.S. software companies keep in touch only with American users, because they don't want to spend the postage. In any case, it would be better if the industry either stopped complaining about piracy, or treated their overseas customers like honest users.

David & Ulrich Seim
Schillerstrasse 47
5230 Altenkirchen
Germany

Never let it be said that the inCider/A+ *staff looked the other way when there was a windmill that seemed just a bit too complacent — as if it needed to be run through with a lance at full gallop. Onward, Pancho!*

We called the three companies and got partial satisfaction from each. At Caere, we found the scanner-holster department quickly, but were thwarted by our lack of a serial number. Caere asks that users who haven't received their holsters call (408) 395-7000 (in the U.S.) and ask for extension 2196. Have your disks handy, since the service rep will ask for the serial number. As for your update-communications breakdown, Caere asks that you fax relevant information to Corrado Sabbro, an international sales representative, at (408) 395-9288.

Microsoft USA referred us to Microsoft Germany; call 49-89-31760, or fax 49-89-31761000. Again, be sure to have your package materials handy. Finally, service reps at Maxis checked their registration base and found you two, but as you suspected, they don't send the newsletter overseas because of the postage costs. They're sending you the most recent issue of the newsletter, though, and recommend that you contact Mindscape, which handles Maxis' European distribution. — *eds.*

UPDATE

Procyon, mentioned in the October 1992 Letters column ("GNO/ME Search," p. 11), has a new address and phone number. Contact the company at P.O. Box 620334, Littleton, CO 80162-0334, (303) 933-4649.

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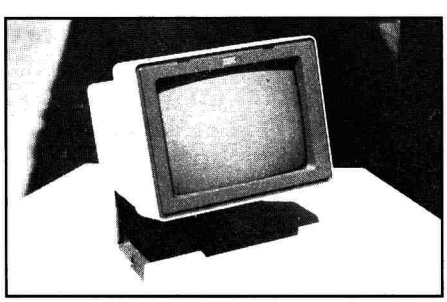

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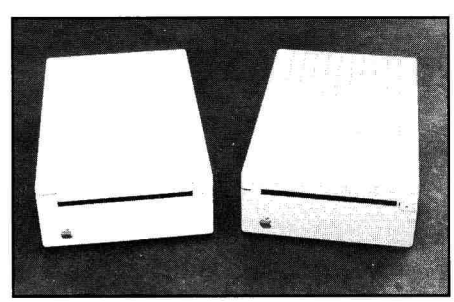

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103 on Reader Service Card.

COMMAND PERFORMANCE

Apple wants you to buy a Mac. If you've been putting off buying one, now may be a good time to make your move. In September Apple announced the release of its Performa line for the "consumer market." While the **Performa 200** and **Performa 400** are more or less the same machines as the Mac Classic II and Mac LC II, and the **Performa 600** looks like a Mac IIci and even offers an optional built-in CD-ROM drive (see the specifications list, left) their prices and the way they're sold may make them more attractive to the individual buyer.

The Performa line will be available in approximately 2000 locations in the United States, at several large store chains: Sears, Montgomery Ward, Circuit City, Dayton Hudson, Lechmere, Silo, Office Depot, Officemax, Staples, Tops, and Incredible Universe. Prices will be set by individual retailers; Apple hopes that prices will range from $1250 to $2500.

At the time of the introduction, the Performa 200 and 400 were available in packages that included System Software 7.0 in a special "single user's" version that eliminates or hides some networking features; Apple's easy-to-use beginner's desktop, At Ease; and an integrated software package and some other application programs installed on the computer's internal hard drive.

Longtime Apple owners are permitted to raise an eyebrow, but Apple has also promised free (and toll-free) telephone technical support to buyers of Performas for one year, plus a warranty that includes a year of house calls.

Apple obviously hopes that not much will go wrong with its Performas. That's the reasoning behind the simplified System 7, for instance. The Performa desktop includes a utility called *Launcher*, which appears in the lower left-hand corner of the screen, and lets you open frequently used programs with a single mouse click. Any document you save from an application is stored by default in a desktop folder called *Documents*. You must choose to return to the Finder desktop from a menu; you can't simply click outside a document window.

The choice of Performa peripherals should be simple, too. The Performa 200 has a built-in 9-inch black-and-white monitor, presumably the same one used in the Mac Classic. The Performa 400 and 600 can be attached to either an **Apple Performa Display** or an **Apple Performa Display Plus**, monitors with slightly curved 14-inch color screens. The more expensive Plus displays a clearer picture and also conforms to Swedish government standards limiting electromagnetic emissions. A standard Apple keyboard and mouse are included with each Performa.

The Performa 200 has no expansion slots; the 400 has one. As the Performa 400 is based on the Mac LC II, we assume it will accept Mac LC expansion cards such as Apple's popular Apple IIe Card. The Performa 600, like the Mac IIci, has three NuBus expansion slots. The 600 is Apple's first computer with a CD-ROM drive in the case; it also includes a megabyte of dedicated video memory (VRAM), supporting Kodak's new Photo CD technology, in addition to QuickTime video and computer graphics. With the Photo CD system, you can manipulate your snapshots on the Mac the way professional retouchers do.

The **Apple StyleWriter** and **Personal LaserWriter LS**, two printers that are easily connected to a single Mac, will be sold at the same retail outlets as the Performas, but the models are unchanged.

After buying a Performa, you can order Apple peripherals, accessories, and software, which may not be available at your local Sears store, from the new ***Apple Catalog***, a source for direct sales of Apple equipment. Customer-service personnel are available seven days a week, 24 hours a day. To order a copy of the catalog, call (800) 795-1000.

Have high prices or the vagaries of Apple support discouraged you from buying a Mac? Then don't buy one: Pick up a Performa instead. **— P.S.**

IT'S ALL IN THE STATS

Performa 200
16MHz 68030 microprocessor
4MB RAM expandable to 10MB
80MB hard drive
SuperDrive internal floppy
sound in/out/microphone
Apple Keyboard II
enhanced System 7.0 installed

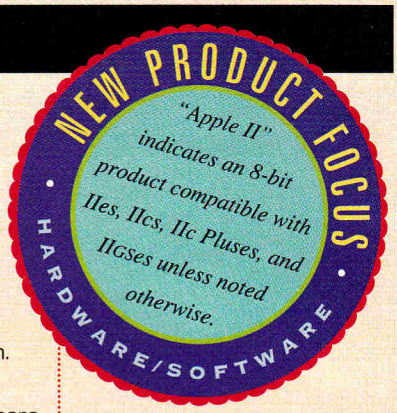
Performa 400
16MHz 68030 microprocessor
4MB RAM expandable to 10MB
80MB hard drive
SuperDrive internal floppy
one expansion slot
built-in video support (256 colors)
sound in/out/microphone
Apple Keyboard II
enhanced System 7.0 installed

Performa 600
32MHz 68030 microprocessor
4/5MB RAM expandable to 68MB
160MB hard drive
SuperDrive internal floppy
three NuBus expansion slots
accelerator slot
built-in video support (256 colors)
sound in/out/microphone
Apple Extended Keyboard II
enhanced System 7.0 installed

Performa 600 CD
32MHz 68030 microprocessor
5MB RAM expandable to 68MB
160MB hard drive
SuperDrive internal floppy
three NuBus expansion slots
accelerator slot
built-in video support
1MB VRAM for more than
16,000 colors on 14" display
sound in/out/microphone
internal AppleCD 300i drive
enhanced System 7.0 installed
Apple Extended Keyboard II

Performa Display
640 x 480 pixels
67Hz refresh rate
0.39mm dot pitch

Performa Display Plus
640 x 480 pixels
67Hz refresh rate
0.29mm dot pitch
complies with SWEDAC MPR-2



NEW HARDWARE

▲

IT'S NO FLOP

Applied Engineering has added a 3.5-inch drive for floptical disks, which hold more data than standard magnetic floppies, to its line of storage products for the Macintosh.

The **AE Floptical Drive** lets you stash 21 megabytes of data on a single disk, providing an economical way to meet the storage demands of modern computing. For instance, you can back up a 40-megabyte hard drive on two flopticals — priced at $24 apiece — in just ten minutes.

The drive formats, reads, and writes to 21-megabyte floptical disks and 1.44-megabyte Mac disks, as well as 720K and 1.44-megabyte MS-DOS disks using the included software. Mac Plus, SE, and II owners can benefit from these features without purchasing the hardware upgrade needed to use Apple's SuperDrive.

AE's Floptical Drive, including SCSI cable, one floptical disk, and Access PC software, carries a suggested retail price of $512.

For more information, call or write Applied Engineering, 3210 Beltline Road, Dallas, TX 75234, (800) 554-MACS, or circle number 350 on the Reader Service card.

▲ ◆

A BETTER MOUSETRAP

Does "mousing" around the monitor for eight or more hours at a stretch give you a pain in the wrist?

Long mouse usage is now thought to contribute to the symptoms of carpal tunnel syndrome and other injuries. The **Mouse Paw**, the first wrist support for mouse users that slides with the mouse, can help. This patented pad attaches to the mouse with Velcro to provide continuous support for the wrist.

Still another innovation: The bottom surface of the Mouse Paw is made of a new low-friction material that glides as easily as the mouse rolls across a pad or desk.

The Paw unit has a universal design that attaches to either a flat-backed mouse, such as Apple's, or the round-backed variety sometimes used with other personal computers. Its suggested retail price is $7.95, from Marty's Computer Workshop, P.O. Box 550, Cambridge, MA 02142-0004, (617) 491-6935. For more information, circle 351 on the Reader Service card.

More news from the Mac multimedia front: Tom Snyder's first interactive videodisc ($299.95). Full-motion video draws kids into the plot: rescuing lost space probes. Students work in teams to decipher clues; success depends on collaboration. A library of stills and movies enhances the learning experience. For information call (800) 342-0236.

NEW SOFTWARE

▲

CDOPEDIA

Compton's Multimedia Encyclopedia, containing all 26 volumes and more than 9 million words of the print version of the resource, is now available for the Macintosh on compact disc (CD).

Taking advantage of the best features of the Mac, the new Compton's uses QuickTime, Apple's System 7 extension that provides a standard architecture for the integration of dynamic data, such as sound, video, and animation.

In Compton's Multimedia Encyclopedia you can see more than 40 animated sequences, ranging from a beating heart to a revolving solar system.

Compton's contains some 15,000 pictures and 60 minutes of recorded sound, speech, and music. The encyclopedia is augmented by Webster's Intermediate Dictionary, which can provide definitions for 65,000 words in the encyclopedia at the click of a mouse — you can even hear some words pronounced.

In addition, Compton's also incorporates advances in artifical intelligence: Its search-and-retrieval engine, known as SmarTrieve, lets you call up information from the CD by asking natural questions.

For more information, contact Compton's NewMedia, 2320 Camino Vida Roble, Carlsbad, CA 92009, (619) 929-2500, or circle 352 on the Reader Service card.

▲ ◆

ROAD TRIP

A Field Trip to the Rainforest is an open-ended opportunity for students in grades 2 to 10 to discover and explore this unique Central American environment. **A Field Trip to the Sea** offers an introduction to the magnificence and diversity of the kelp forest and the rocky-shore habitat. Both programs teach students to use models to observe life cycles, co-evolution, adaptations, and interdependence.

Each program is organized into three sections. Exploring offers detailed pictures of the sea or the rainforest. Students can examine some 70 different species in their natural habitats at all times of day and in all kinds of places. Young scientists can then turn to Data Tables, an extensive database (which you can search and sort) of information on the life of the sea or the rainforest. Food Chain challenges students to start with any plant or animal they've seen and construct a food chain for the entire habitat from it. (An additional Field Guide is also available for the Mac version.)

The dynamic format of these two programs makes them appropriate both for individual investigation and group instruction. A beautiful and informative nature book and a teacher's guide are also

▲ MAC ◆ APPLE II ■ APPLE IIGS

included with each product. The Mac version ($99) requires 2 megabytes of RAM for color or 1 megabyte for monochrome; the 8-bit version ($75) requires only a 128K Apple II.

Additional disks and a network version are also available, from Wings for Learning/Sunburst, 1600 Green Hills Road, P.O. Box 660002, Scotts Valley, CA 95067-0002, (408) 438-5502, (800) 321-7511. Circle number 353 on the Reader Service card for more information.

▲

ELECTRONIC BOOKS

If you like the look of Voyager's Expanded Books, now you can write your own. The **Expanded Book Toolkit** brings the concept home — outstanding classic and contemporary fiction and nonfiction for the Macintosh, offering paginated, typeset text in eye-pleasing fonts of variable sizes, including pop-up annotations, indexes, word search, and even the ability to jot notes in the wide margins.

The **Expanded Books** line, priced at only $19.95 each, includes The Complete Annotated Alice (with notes by Martin Gardner), Michael Crichton's Jurassic Park, a three-in-one volume of William Gibson's sci-fi novels, and Ken Kesey's recently published novel, Sailor Song. Voyager will also publish selected titles from Random House's new Modern Library series; Oscar Wilde's The Picture of Dorian Gray will be the first.

The Toolkit costs only $295, and lets you turn any text into an expanded book, as long as it's in a Mac file. Expanded Books use Mac HyperCard, but the Toolkit is easier — just point to the feature you want, click, and it's done.

Teachers can use the Toolkit to quickly and painlessly create machine-readable student works and records on the Macintosh. Students can annotate the classic works of literature for themselves and for next year's classes. For more information on either Expanded Books or the Toolkit, contact Voyager, 1351 Pacific Coast Highway, Santa Monica, CA 90401, (310) 451-1383, or circle number 354 on the Reader Service card.

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CRIME-FIGHTING PUP

McGruff the Crime Dog is the star of a program for the Apple IIGS created by inCider/A+'s own Contributing Editor Cynthia Field and members of the Rhode Island Crime Prevention Officers Association. **Better Safe Than Sorry** is being used across the country to educate children about protecting themselves. It covers such topics as home safety and security, being good neighbors, school safety, Halloween safety, drug prevention, and travel safety.

McGruff helps kids protect themselves.

Better Safe Than Sorry is fun to use, taking advantage of the power and color of HyperCard IIGS and the widely known and lovable crime-fighting hound McGruff. It also teaches some important lessons: why and how to escape drug abuse, how to avoid becoming the victim of a crime, and how to keep friends and family safe.

Copies are being distributed to every school in Rhode Island at no charge; if you'd like one for your GS (Hypercard IIGS required), send $10 to cover shipping and handling to the Rhode Island Crime Prevention Officers Association, 40 Carswell Street, Naragansett, RI 02882. A Macintosh HyperCard version is in the works.

◆

GREAT DEAL

Here's an offer you can't refuse. **Balloons Software** has put together a collection of ten public-domain and shareware disks, geared mainly toward elementary and middle-school students, although some can be used in a high-school setting. They cover a range of subjects, from keyboarding to math to spelling to problem solving.

Almost all applications run on any 64K Apple II, including the II Plus, IIe, IIc/Plus, IIGS, and Laser 128 series. A couple require 128K. Disks are available in 5.25-inch format only. Send a check or money order for $10 to Balloons Software, 5201 Chevy Chase Parkway NW, Washington, DC 20015, (202) 244-2223. Circle 355 on the Reader Service card for more information.

NEW PRODUCT FOCUS

"Apple II" indicates an 8-bit product compatible with IIes, IIcs, IIc Pluses, and IIGses unless noted otherwise.

HARDWARE/SOFTWARE

■

ANIMATED ACTION

New for Apple II graphics buffs is **Animasia 3-D**, a complete animation solution for the GS. It lets you create models of two- or three-dimensional objects, render them accurately on screen, then construct a time-based animation with them.

You can import Animasia models from other GS applications or from the popular AutoCad format. The use of hierarchical relationships lets you build very complex objects; you can then render objects with various lighting effects and shading, wrapping pictures around objects and using different surfaces.

Animasia 3-D uses flexible time-based animation, as opposed to the cumbersome frame-based approach. Simply create "start" and "stop" points and let Animasia make the transitions, or create your own for smoother effects. The only limit to the length of an animation is the size of your disk space; you can display animations as quickly as 30 frames a second for life-like graphics effects.

The program is available for $99 from Animasia, 42 Chaplin Street, Chaplin, CT 06235, (203) 455-0298, or circle number 356 on the Reader Service card for more information.

Æ Update . . .

Performa Peripherals - Æ recently announced support for Apple's new Performa computer line. The announcement outlined 14 different products for the Performa 200, 400 and 600 computers. The products include the Floptical Drive, ShadowLAN Software, DataLink II Express, 3.5" Drives, TransWarp accelerators, FastMath co-processors and power supplies. For a complete list of Performa compatible products call (214) 241-6060, ext 2862.

Æ's new Floptical Drive is now shipping - The Floptical drive is a SCSI 3.5" HD drive that will format, read and write 800k, 1.44MB and 21MB storage media. It will connect to any Macintosh with a SCSI connector and any Apple IIGS with either the RamFast or Apple's High Speed SCSI card. PC Transporter owners can also use the Floptical drive for 800K, 1.44MB or 21MB of MS-DOS storage. The Æ Floptical Drive is exceptionally useful for backups, archives and transferring very large files. Users can back up a 40MB hard drive on only two Floptical disks in just seven to eight minutes. The drive includes a dual SCSI connector which enables easy inclusion anywhere on the SCSI chain. The Macintosh version includes Insignia Solution's AccessPC allowing your Mac to format, read and write MS-DOS disks.

The Applied Engineering drive, including SCSI cable and one 21MB Floptical disk retails for $512 making it the most cost effective storage system available for Macintosh and IIGS owners. Æ's retail price for the 21MB Floptical disks is $24. LRO Computers, based in Woodstock IL, is now shipping the Floptical drives for the IIGS with either Apple's High Speed controller software or the RamFast ROM upgrade. Call 1-800-ASK-4LRO for more IIGS Floptical information.

Special Educational Networking Software Offer - Æ is now offering a special trial offer for ShadowLAN. ShadowLAN allows Macs on an AppleTalk or EtherTalk network to share each other's serial ports. Classrooms equipped with ShadowLAN can share a StyleWriter, Personal Laser Printer, ImageWriter, modem, label printer or other serial devices. ShadowLAN allows every student on the network to use each serial device as if it were hooked directly into their computer, thereby making the best use of the school's peripherals. The program accommodates up to 35 users, and can be expanded in 5-user increments. ShadowLAN installs automatically and even provides Password Protection to prevent unauthorized access to any individual serial device.

The Educational Trial price is only $19, for a fully functional 5-user version of ShadowLAN. ShadowLAN Classroom Version retails for $299. User's who try the 5-user version of ShadowLAN and want to upgrade to 35-user Classroom Version will receive a $19 credit toward the purchase price. For more information on this limited time offer, call (214) 241-6060, ext 2862.

Axcell provides Cellular Communication from your computer - Æ is now shipping a revolutionary communication device called Axcell. Axcell allows a IIGS or Macintosh computer equipped with a modem to connect with a cellular phone and have full modem functionality using cellular lines. It allows computer users on-the-go to take full advantage of today's cellular technology advances. Axcell is a small, light-weight box that is about the size of a pager. It includes a 9v battery for power and 2-color LEDs to monitor your transmission. Axcell includes a standard RJ-11 phone jack, and is compatible with several models of portable and mobile cellular phones. For more information, call (214) 241-6060, ext 2862.

Price Reductions - Æ has lowered the price on several of their Apple II and Macintosh products. For example, the DataLink II Express modem with V.42bis is now only $215; TransWarp LC 25 MHz accelerator is only $513 and TransWarp Classic 16 MHz is only $412. To get a current price list for all Æ products, please call (214)241-6060, ext 1123.

Inventory Reduction Specials - For a limited time, Æ is offering special pricing on RamFactor memory expansion boards. The RamFactor with zero K is only $39 (limited quantities). RamFactor was voted "All Time Favorite Memory Board" by A+ Magazine. It is expandable in 256K increments up to 1MB and offers a piggy-back expansion board that allows for additional expansion up to 5MB. RamFactor is compatible with the Apple II+, IIe and IIGS, and includes Æ's AW3.0 expander and diagnostic software.

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SHAREWARE SOLUTIONS BY JOE KOHN

"Let there be songs to fill the air."
— The Grateful Dead

With an Apple IIGS, great music is never further away than a few mouse clicks. Whether your tastes tend toward Bach or the Beatles, Pachelbel or Pink Floyd, classical or rock, rap or disco, you'll find a plethora of remarkable-sounding shareware programs — thousands of prerecorded titles. Equipped with a GS, you too can let songs fill the air.

Built into every GS is an Ensoniq sound chip; that same electronic component is the heart and brains of many electronic synthesizers and keyboards used by professional musicians. For an additional $100, you can add a stereo-output board and a pair of low-cost amplified powered speakers — the same type used by Walkman-style stereos — and listen to music that rivals a compact disc in quality. With the addition of a MIDI interface and keyboard, you can convert your GS to a digital studio. Whether you want to use your system to record music or simply play back others' work, any number of shareware solutions will soon have your toes tapping and your neighbors complaining.

SoundSmith, from Huibert Aalbers. $20 shareware. The de facto standard shareware music program for the GS. The recent 1.01 update now provides support for MIDI devices, adding enormously to its utility; musicians can now play passages on their MIDI keyboards and record them to the GS. SoundSmith is a 14-track sequencer you can use to either create or listen to music. Synthesized instruments in standard ASIF format make it easy to create additional instruments in seconds if you own sound-digitizing hardware. SoundSmith instruments are readily available as freeware; one package, **DYA Instrument Disk**, from Matt Keller of Digital Youth Alliance, contains 117 instruments.

SoundSmith uses the standard Apple IIGS interface; you load songs or instruments from pull-down menus. To play an instrument, click on the piano keyboard displayed on screen; to play a song, choose the graphics-based playback area, complete with multicolored animated VU meters. Many of the prerecorded songs contain six or eight instruments. Some are familiar, such as piano and drums; others are digitized files to heighten sound effects.

Admittedly, using SoundSmith to create songs from scratch is a time-consuming, tedious endeavor, because you have to enter all notes manually, one by one. Also, professional musicians may be dismayed to learn that SoundSmith doesn't use standard sheet-music notation; rather, you enter notes into a spreadsheet-like window with 14 columns. Despite those apparent limitations, there are already hundreds of SoundSmith songs available from on-line networks and Apple II user groups.

NoiseTracker, from Free Tools Association. Freeware. The next most popular music program for Apple IIs. Using a very different interface, and running under ProDOS 8 rather than GS/OS, NoiseTracker can play songs created with SoundSmith, and it can also play MOD songs created on Amiga computers. NoiseTracker includes some mind-boggling animations, hidden Easter eggs, and numerous editing features that let you add digitized voices to musical passages for wild-sounding special effects. Also included is a sound-editing program that lets you create synthesized instruments from digitized sound files.

NoiseTracker can use SoundSmith instruments and can play SoundSmith songs, but it's overcome one major SoundSmith limitation. SoundSmith instrument files must be smaller than 64K; NoiseTracker instruments can be up to 128K in size, permitting more realistic tones. Aside from that, NoiseTracker requires that you enter all notes one by one; it doesn't support cut and paste as SoundSmith does. On the other hand, NoiseTracker is ideal for musicians who have only a single 3.5-inch drive; since it operates under ProDOS 8, it loads much faster, with no disk swaps.

MODZap, from Ian Schmidt/**SoniqTracker**, from Tim Meekins. Freeware. Several GS programmers noticed that NoiseTracker had difficulty playing certain Amiga MOD files properly, so they built a better mousetrap. Neither MODZap nor SoniqTracker is a full-blown music program; they're simply MOD playback programs. Both are GS/OS-based freeware and require System 6. They're feature laden and present an artistic, beautiful-looking interface. Complete with animated VU meters, they both offer a jukebox component that lets you play multiple MOD songs, either once or over and over again.

Tool219/Tool220, from Free Tools Association. Freeware. Freeware and shareware utility programs also play an important part in the GS musical arena. The Free Tools Association has provided GS programmers with two freeware programming toolsets that let you play back SoundSmith- or NoiseTracker-generated soundtracks from within any program. Although somewhat slow to catch on, these software tools have been used successfully in the commercial game **Hoverblade** and in the freeware title **Simple Animation Program** (SAP) from Kenrick Mock. SAP is an animation construction set that lets nonprogrammers create dynamite animations with fantastic soundtracks.

MODifier/AudioZAP, from Ian Schmidt. Freeware/$10 shareware. Ian Schmidt has also released two useful utilities. MODifier is a freeware program that converts MOD songs to SoundSmith format; AudioZAP is a $10 shareware utility that lets you create SoundSmith and NoiseTracker instrument files from any digitized sound file, and extract individual instrument files from SoundSmith DOC DATA files. AudioZAP's full-featured sound utilities gives you the power, for example, to record a digitization of Jimi Hendrix's wailing guitar and save it as a SoundSmith instrument file.

SynthLAB, from Apple Computer. The hottest music program of the year, part of the System 6 package. Since all GS owners can now lay their hands on a stupendous-sounding music program that provides MIDI support, it's not surprising that several System 6-based freeware/shareware music players have been released.

SynthINIT, from Mike Nuzzi of Triad Venture. Freeware. In the wake of System 6, a new type of utility — small add-on programs called Finder extensions — is making its appearance. SynthINIT, for instance, lets you play SynthLAB songs by just double-clicking on titles; you don't have to even run the SynthLAB program unless you want to use it to create music.

DeskTracker, from Richard Wifall/**Ear**, from Chris McKinsey. $10 shareware. DeskTracker lets you play SoundSmith songs by double-clicking on a title; Ear lets you play either SoundSmith or SynthLAB music by double-clicking on a song title.

File Extender, from Robert Hill. $10 shareware. The utility that provides the most useful musical capabilities isn't even a music program; it's a new desk accessory that lets you use Finder extensions from within any standard GS/OS desktop program. You can add a soundtrack to any GS program, even if it doesn't already have music.

FOR FIVE DISKS OF GS MUSIC PROGRAMS, UTILITIES, AND SONGS, SEND $15 (U.S. FUNDS ONLY) TO JOE KOHN, 166 ALPINE STREET, SAN RAFAEL, CA 94901. FOR OVERSEAS DELIVERY, ADD $2 FOR POSTAGE. COST COVERS SHIPPING ONLY; YOU'RE RESPONSIBLE FOR SHAREWARE FEES WHERE APPLICABLE.

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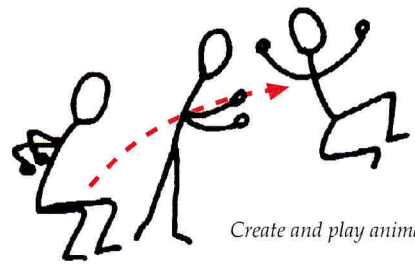

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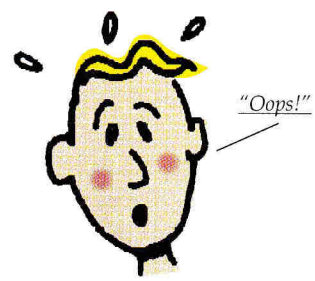

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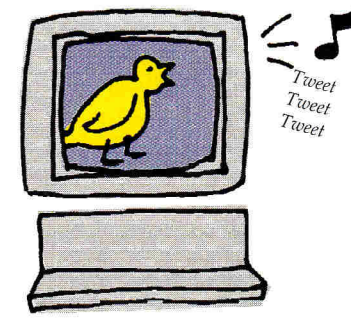

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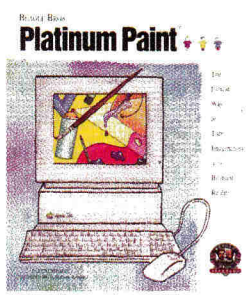

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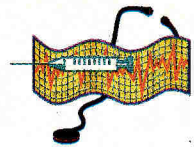

APPLE CLINIC

HOLIDAY TREATS

inCider/A+ serves up a platterful of tips — take a seat by your Apple, and dig right in.

By CYNTHIA E. FIELD, Ph.D.

PLEASE RELEASE ME

LAST SUMMER WE OFFERED TWO software locks which help prevent students from making undesired changes to the GS' CDA (*classic desk accessory*) Control Panel ("Control Panel Gets Smashed," July 1992, p. 16). We expanded our discussion of computer security in the October 1992 issue with a more-comprehensive article describing dozens of software and hardware locks for Apple IIs and Macintoshes ("Maximum Security," p. 38).

But there's one security measure that managed to escape our attention — until now. According to Apple's *Technical Note #30* ("Apple IIGS Hardware Reference Updates"), everybody's favorite computer maker incorporated a firmware lock into ROM 3 GSes. Activating it is as easy as popping the lid on your computer.

You can remove the text Control Panel temporarily from the CDA menu by placing a jumper across connector S1 inside your ROM 3 GS. That's the menu you see when you press the Control-Open apple-Escape key combination. Other classic desk accessories remain available; only the Control Panel CDA is removed.

To keep your GS' Control Panel CDA settings intact, turn off your GS and its peripherals; don't unplug them. Remove the computer's cover. Because static cling is even worse for electronic devices than it is for your appearance, touch the power supply to bleed off any charges that have accumulated in your body. The S1 connector is located below the slots, near the ADB (*Apple desktop bus*) microcontroller in the upper-right quadrant of the motherboard. Look for a pair of metal pins in a plastic base sticking straight up out of the motherboard near the ADB controller chip; you'll see "S1" in white lettering next to the jumper. (If you've scoured your GS and still can't find the connector pins, make sure you have a ROM 3 machine.)

To connect the pins, you'll need a *jumper* — a small bit of black plastic with two holes and a strip of metal connecting the two. In an absolute pinch, you could connect the two pins with a bit of wire — but you should be able to find jumpers at your local electronics store or computer dealership. (If you beg politely, the dealer might even give you an extra one for free.) Push the jumper gently down over the two pins — don't force it. If it doesn't slide on smoothly, something's wrong.

After the jumper's installed, replace the cover on your GS and fire up your system. When you press Control-Open apple-Escape, the Control Panel CDA should no longer appear. If you decide to change any Control Panel CDA settings, reverse the appropriate steps described above to remove the jumper. After making changes, reinstall the jumper.

One caveat: The control jumper doesn't prevent changes to graphics control panels, since the Control Panels NDA (*new desk accessory*) under the *Apple* menu in GS/OS doesn't pay any attention to the S1 jumper. If your students use authentic GS programs such as AppleWorks GS or if your GS is equipped with a hard drive (giving kids free access to the Finder), this firmware fix offers only partial protection. Apple Developer Technical Support recommends that to restrict access you should remove the offending control panels from the *CDEVs* folder. Or, to prevent access to any control panels, remove the Control Panels NDA from the *Desk.Accs* folder.

NEARNESS OF YOU

I'M A VISUALLY IMPAIRED APPLE IIGS user. I recently upgraded to System 6. Can you tell me if CloseView is compatible with AppleWorks GS?

James Kerns
Dayton, OH

As you know, James, CloseView is one of several GS/OS System 6 components collectively referred to as Apple's "Universal Access Suite." These enhancements — which include Video Keyboard, Sticky Keys, and Mouse Keys — were designed to make the GS easier to use for people who have visual impairments or other physical challenges. An Installer program provided with System 6 installs/removes enhancements such as CloseView. (For more information about System 6, see "Smooth Operator," July 1992, p. 34.)

When used with compatible GS programs, CloseView magnifies the screen display up to 12 times. All you have to do is pull down the Apple *menu, select* CloseView, *and choose the magnification level you prefer. By clicking on the appropriate radio button you can also inverse the screen to white on black instead of the usual black foreground on white background.*

When we tested AppleWorks GS 1.1 with CloseView turned on, the message "CloseView is not available under this application" appeared on our screen. Incredulous that a Claris product would be incompatible with Apple system software, we called Claris technical support only to learn that our findings were indeed accurate. Even more disappointing, when we asked whether the company was planning to update AppleWorks GS, public-relations manager Steve Ruddock told us that Claris had "no current plans to do so."

By contrast, other GS programs we tested — including Exorciser, HyperCard IIGS, Quickie, and SuperConvert — are compatible with CloseView. We recently learned, however, that at least one America Online (AOL) subscriber experienced video problems with his AOL telecommunications software until he used the System 6 Installer's Customize *feature to remove CloseView from his* System.Setup *folder. Moreover, CloseView doesn't work with Apple IIe programs such as Publish It! 4 or AppleWorks 3.0.*

FREE LUNCH

I HAVE AN OLDER-MODEL APPLE IIE with a Revision A motherboard installed. I've learned that I would need to replace it with a Revision B motherboard to run programs such as Tutor-Tech, GEOS, Publish It!, and Dazzle Draw. How can I get this motherboard? Where's the best place to purchase or exchange it? Approximately how much will it cost?

John L. Garcia
Minot, ND

According to the 1992 edition of The Apple II Guide, *John, some upgrades — including most Revision A-to-B motherboard swaps for the Apple IIe — are provided free of charge under Apple II upgrade programs. Apple warns that these programs "are subject to change at any time," but at press time Connecting Point Computer Center in Bismarck and Computer-Land in Minot confirmed that the swap is indeed free. Although these authorized Apple dealers told us they had at least one Revision B motherboard in stock, each suggested you call ahead to set up an appointment. Service takes about an hour.*

Doug Ritzke, ComputerLand's service manager, explained that some Apple IIes whose motherboards are stamped with the letters VAR *— aren't covered under the warranty-extension program. According to Ritzke, the letters are stamped "on the right-hand side [of the motherboard] just below the card-expansion slots." He says the letters* VAR *are also stamped on the solder side of the motherboard.*

Anyone interested in receiving information about IIe motherboard swaps or other free upgrade programs should contact his or her local dealer. If you call Apple at 1-800-538-9696 (24 hours, seven days a week), a customer-service representative can refer you to authorized dealers in your area. Note also that the 1992 Apple II Guide *is available from Apple free for the asking while supplies last.* ❑

G R A P E V I N E

HOLIDAY SAVINGS

✔ AppleWorks Classic owners never need leave AppleWorks to get a big cost savings when using either GEnie or CompuServe. AppleWorks-based off-line message managers can save you money by letting you read and respond to e-mail once you've disconnected from those services and are no longer paying connect charges. (Sure helps to finance those late holiday purchases.)

If you use CompuServe, you can get a free customized evaluation copy of **ULTRAscript** by sending e-mail to Cheung Tak Ma at CIS address 74030,2531. ULTRAscript is a $20 shareware off-line navigator program and automated message reader that works from within AppleWorks 3.0. It requires UltraMacros 3.1, 256K of RAM, and at least one 3.5-inch disk drive. It works as a "front end" for ProTerm 3.0, Talk Is Cheap 3.10 or later, and Point-to-Point 4.0 or later. You pay for the program only if you use it after the evaluation period.

If you use GEnie, you have a choice of several AppleWorks-based off-line message handlers. **TCXpress** is a $20 menu-driven UltraMacros-based off-line message processor for use with AppleWorks 3.0, UltraMacros 3.1, and Beagle Bros' TimeOut TeleComm 2.1. It even comes with a money-back guarantee. Contact Dan Crutcher, Dan's Macro City, 322 Stilz Avenue, Louisville, KY 40206.

GEnie Master (GEM) is a $20 shareware off-line message manager by Tom Hoover. You can get an evaluation copy by downloading file numbers 17340 and 17341 from GEnie's A2 library. GEM works as a "front end" to Talk Is Cheap 3.20 or later, Point-to-Point 4.0 or later, and ProTERM 3.0. UltraMacros 3.1 is recommended but not required. You'll also need an AppleWorks desktop of at least 100K. Upon payment of the shareware fee, you'll receive instructions via GEnie e-mail that will let you convert the evaluation copy to the full-blown GEM program with all functions enabled.

MY FIRST TOOL

✔ If you're a new modem owner, the first thing you should do after connecting to an Apple II BBS or on-line network is download **ShrinkIt**, Andy Nicholas' freeware file-compression utility. To save on disk-storage space and download times, all Apple II programs posted on line are compressed with ShrinkIt; different versions exist for II Plus, IIe/IIc, and IIGS computers. Locate the correct one on line, and download the executable version (generally listed on line as SHRINK.EXE) as a text file, and once off line, run BASIC.SYSTEM. From the Applesoft bracket prompt type -SHRINK.EXE and ShrinkIt will save itself back to disk as a runnable file. Use ShrinkIt to extract all your Apple II downloads.

BY GUM

✔ All users of AppleWorks off-line message processors should be aware of Doug Gum's **Disk Tools**. That $49.95 program includes a TimeOut Archive module that lets you compress or extract ShrinkIt files from within AppleWorks. TimeOut and AppleWorks 3.0 are required. Contact Office Productivity Software, P.O. Box 2132, LaGrange, GA 30240.

INIT CONFLICTS

✔ On-line pundits suggest that if you're having problems running older software under **System 6.0** on the GS, hold down the shift key as GS/OS starts to load. That will prevent desk accessories (DAs) and INIT files from being installed. If that solves your problem, you have an errant desk accessory or INIT file interfering with GS/OS. Remove all of them, then re-install them one by one to determine which one is causing problems. If you have Apple's **Universal Access Suite** installed (Easy Access, CloseView, and Video Keyboard) and don't need it, remove it from your system, as the INITs that make up the suite can cause problems.

CONTACT JOE KOHN AT JOKO (AMERICAN ONLINE), 76702,565 (COMPUSERVE), J.KOHN (GENIE), 76702.565@COMPUSERVE.COM (INTERNET), OR JOKO@AOL.COM (INTERNET).

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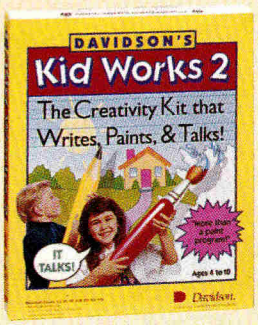

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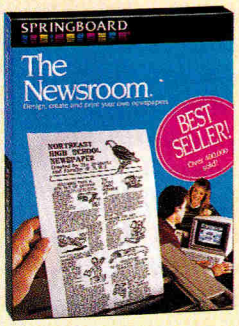

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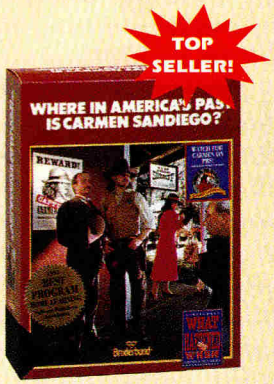

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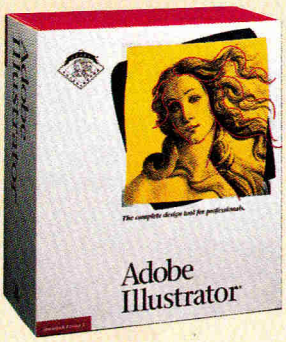

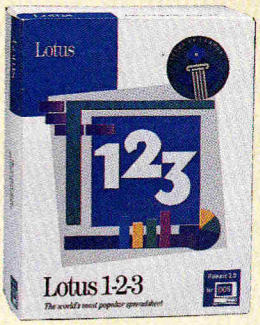

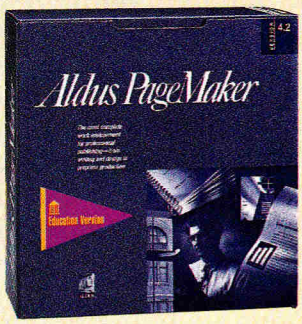

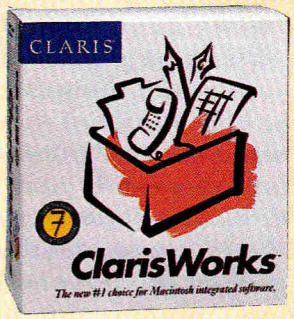

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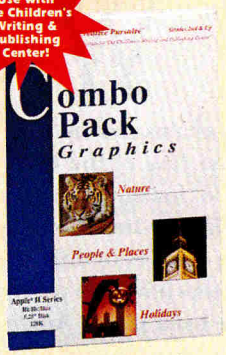

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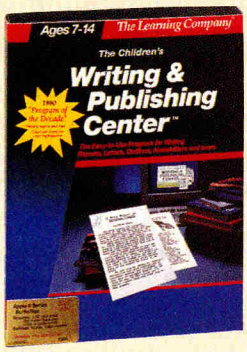

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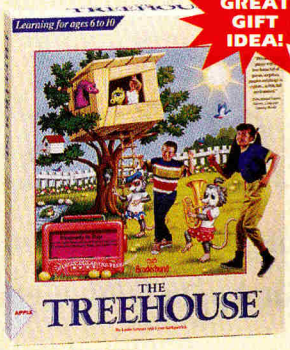

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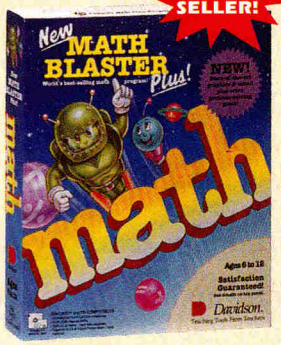

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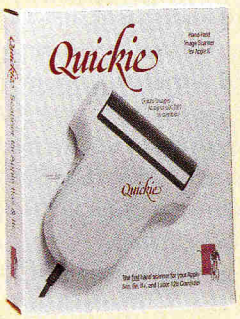

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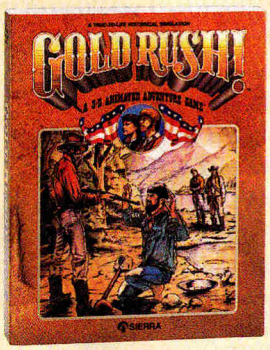

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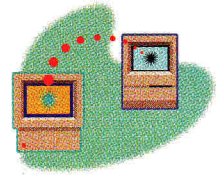


THE ENVELOPE, PLEASE

inCider/A+ proudly presents the Gappies, our own brand of award for distinction in Apple II/Mac connectivity.

By GREGG KEIZER

OKAY, SO I'M NOT BILLY CRYSTAL. And this isn't the Oscars. So sue me. But this *is* the First Annual Gappies, *inCider/A+*'s end-of-the-year awards for connectivity claim and shame. Proudly given and, in some cases, hesitantly received, the Gappies highlight the best and the worst in Apple II-to-Mac sharing. We'd all like to bridge the gap more effectively, and thanks to some of these products, we can. We'd like those bridges to be stable, two-way thoroughfares. Thanks to some Gappie winners, they aren't. So, get out your cameras, maybe get out your handkerchiefs, sit back, and enjoy the show. And, by the way, I can guarantee that the Gappies won't go overtime.

BEST TECHNICAL PERFORMANCE: GS

WestCode's **Pointless** wins this Gappie hands down. Not only does Pointless let you use TrueType on the IIGS, but with a little help from you, it can move Mac, even Windows, TrueType fonts to the GS.

TrueType produces terrific print on all sorts of models, from dot-matrix to ink-jet, with results that rival what you get from more-expensive PostScript-compatible printers. Screen fonts are sharper, too, and make the GS much more of a what-you-see-is-what-you-get computer.

BEST TECHNICAL PERFORMANCE: MACINTOSH

System 7 easily takes honors in this category, for its shared-folder concept really made possible the affordable networks that so many classrooms, small businesses, and, yes, even some homes, now depend on. With no additional hardware or software, you can quickly designate folders as shared. To other Macs or IIs, these shared folders look and act just like AppleShare volumes, so you can copy files to them and retrieve files from them. In some cases, you can even move Apple IIGS software (AppleWorks GS, for instance) to a Mac's shared folder, then run it from there by connecting the GS to the Mac with LocalTalk cabling.

Security provisions in System 7's shared folders are akin to AppleShare's, in that you set privileges, or access rights, for each person. You can lock some users out of certain shared folders, while letting others in; it's sufficient for classroom and small-business networks.

BEST PERFORMANCE IN A BUDGET PRODUCTION

Apple turned up at the podium more than once for a Gappie. Though it may not have had the most altruistic reasons (if it had, it would have dropped prices years ago), Apple's price slashing ended up with the right result — cheaper Macs.

Bridging a gap is impossible without something at both ends, and the lower prices on most Mac models — especially the entry-level **Classic** and **LC** series (and the new **Performa**-models program) — meant that more Apple II owners could begin the transition. Moving several Macintosh models out of dealerships and into computer superstores such as BizMart and CompUSA (and chains such as Sears and Lechmere in the case of the Performa series) helps, too, for these mega warehouse outlets offer one-stop shopping for everything from printers to disks to software at prices competitive with mail order.

It would have been nice if Apple had done all this long ago, and for less-mercenary reasons (particularly when it came to schools, many of which switched from Apple IIs to PCs when the Mac was outsight, pricewise), but as they say, better late than never.

BEST PERFORMANCE IN AN OLDER MARKET

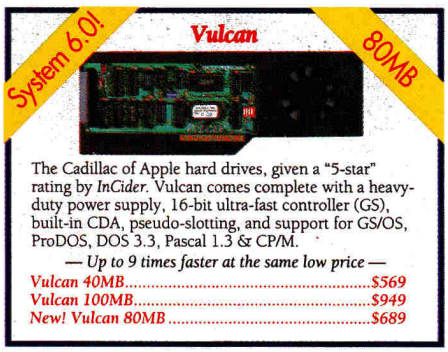
While other developers tinker around with newer machines, Broderbund continues to stick with the II platform. Its 8-bit versions of such titles as **The Playroom**, **The Treehouse**, and **Where in America's Past Is Carmen Sandiego?** — all of which are also available for the Macintosh — ensure that at least some software bridges the gap between the older models and the contemporary offerings. Now, if only KidPix could make it to the Apple IIGS . . . .

BEST IMITATION, APPLEWORKS CATEGORY

ClarisWorks would have won this Gappie last year, but with improved versions of three other integrated programs either already on the shelves or heading there soon, this Gappie must be drawn and quartered, then shared by **ClarisWorks**, Symantec's **GreatWorks 2.0**, **BeagleWorks**, and **Microsoft Works 3.0**. All four make a good pick to equip any Macintosh with a capable software suite; all four make good sense, too, when you're moving from the Apple II/AppleWorks combo to the Mac.

Take Microsoft Works 3.0, for instance. Scheduled for release by the time you read this, Works 3.0 lets you open AppleWorks 2.0/3.0 and AppleWorks GS word-processing documents, and AppleWorks 2.0/3.0 spreadsheet and database files.

Inventory Reduction



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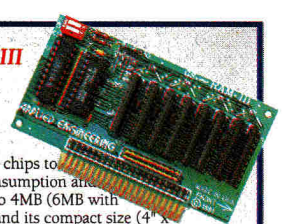

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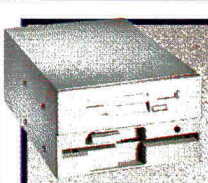

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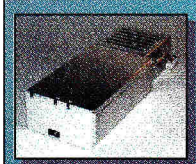

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BRIDGING THE GAP

And if you want to move in the opposite direction, you can save Works work in AppleWorks word-processing, spreadsheet, and database formats.

BEST PERFORMANCE IN A SPLIT-PERSONALITY ROLE

This Gappie goes not to any particular product, but to an entire printer category for working the hardest to split its attention and time between the Apple II and the Macintosh.

As AppleTalk-equipped laser-printer prices continue to fall, it makes more and more sense to build micro networks to connect a single printer to several computers. One printer to watch is Samsung's **Finale 8000**, a cut-rate PostScript-compatible laser printer that also includes a TrueType rasterizer. It's this last feature that makes this printer, which should carry a street price in the $1400 to $1500 range once you add the optional AppleTalk interface, a good choice for IIGS/Mac mixes. The TrueType rasterizer speeds up printing when you're using that font technology on the Mac (though it's uncertain whether it will be as fast on its feet when you're using Pointless, the TrueType interpreter for the GS).

Other personal-priced printers that work well in a shared environment include the Texas Instruments **Microlaser Plus**, a moderately priced 17-font PostScript printer, and the relatively inexpensive Hewlett-Packard **DeskWriter**. Both include AppleTalk ports, though the DeskWriter is so slow you may grow gray hair before your documents drop out of the printer.

BEST MISSED OPPORTUNITY

Apple wins yet another Gappie. For all the benefits that 1992's new **GS/OS 6.0** offered Apple IIGS owners — including a translator that lets the computer read from and write to Macintosh floppies — Apple missed the opportunity to make its most powerful Apple II even more powerful, and in the process, match the Macintosh operating system's functionality.

GS/OS 6.0 should have taken a couple more pages from the Mac's System 7. The latter, for instance, can quickly create an *alias* for any document or program; place an alias anywhere on the desktop (or on a floppy, for that matter), double-click on it, and the document opens or the program launches — no matter how deep in the folder structure the actual file hides.

Another missed opportunity would make even more of a difference. While you can set up shared folders on any System 7 Mac (in effect, turning that folder into a miniature file server), GS/OS won't let you create a similar shared folder on the GS. If Apple had worked shared folders into the GS' operating system, the bridge would be two-way.

BEST MISSED OPPORTUNITY, SUPPORTING ROLE

America Online may be the choice of on-line services for anyone working with both the Apple II and the Macintosh, but it still gets a Gappie for a missed opportunity. America Online's Mac interface is a model of point-and-click efficiency, but the GS interface is stuck firmly in the past. You can use a mouse, of course, but the look and feel are obsolete.

America Online should have updated its GS software long ago to take advantage of the computer's ability to put graphics on screen and maneuver with icons.

BEST QUICK-CHANGE ARTIST

I've said it before, and I'll say it again: If you commonly move information from the Apple IIe/c or IIGS to any other kind of computer, whether Macintosh or PC, you need DataViz's **MacLinkPlus/PC**, XTND file translators that includes several dedicated to AppleWorks and AppleWorks GS.

While integrated programs such as ClarisWorks and Microsoft Works 3.0 toss in some XTND translators with their software, MacLinkPlus/PC goes much further in providing the tools you need to transfer and translate data between machines. With this Gappie winner, you can, for instance, turn an AppleWorks 3.0 word-processing document into almost any Mac or PC format, from the popular MacWrite II to Microsoft Word for Windows.

BEST BUY, BRIDGING CATEGORY

A slew of products vied for this Gappie, but the winner was the unnamed, yet the extraordinarily useful, **hard-disk drive** for the Apple IIGS. Building successful bridges is much easier when the two ends are more

or less on equal footing. You can add any of several components to a GS to make it more powerful — from an accelerator chip to additional memory — but you get the biggest bang for your buck when you add a hard-disk drive to the computer.

A GS with a hard-disk drive can easily run System 6, which, faults notwithstanding, is an integral part of any solid bridge. It can also store the huge graphics and font files you can move from the Mac, as well as all the software tools you need to keep your bridges up.

GAPPIE LIFETIME ACHIEVEMENT AWARD

AppleWorks is the pillar upon which almost every Apple II-to-Macintosh bridge rests. Because it's the II software standard, it should be recognized as the default information-sharing foundation. Simply because it exists, it's possible for Mac integrated packages like ClarisWorks and utilities like MacLinkPlus/PC to take its file formats into account, and so provide translators that move documents, databases, and spreadsheets between computers.

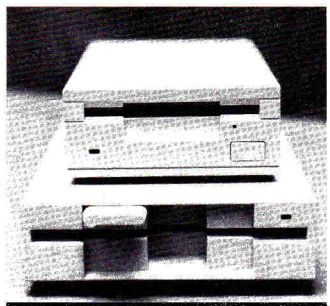
Sans AppleWorks, the Apple II world might well have such a fragmented file-format structure that it wouldn't be worth anyone's time to build translation bridges. We owe a lot to AppleWorks.

BEST DIRECTOR, PRINT DIVISION

While we're at it, we'll reserve a Gappie for ourselves. ***inCider/A+*** made space for Bridging the Gap for nearly two years. During that time, this column tried to demystify such jargon-filled topics as networks, printer drivers, file sharing, font and graphics conversions, and more. Countless features and other columns have also shown what the II and the Mac can do alone, and what they can do together.

You're looking at the last installment of Bridging the Gap. Though I'm leaving this regular space, I may, from time to time, drop back into these pages to explore new spans between systems. Who knows? Maybe we'll get together down the road and give out another group of Gappies. ❑

GREGG KEIZER IS A CONTRIBUTING EDITOR AND PRODUCT REVIEWER FOR *INCIDER/A+*. WRITE TO HIM AT 4420 HILYARD ST., EUGENE, OR 97405. ENCLOSE AN SASE IF YOU'D LIKE A PERSONAL REPLY.



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What's a miracle? Thomas Paine said the story of Jonah spending three days and nights in the belly of the great fish was certainly marvelous, but "it would have approached nearer to the idea of miracle if Jonah had swallowed the whale." The Miracle Piano Teaching System consists of an electronic keyboard, Macintosh software that helps you learn to play, and cables to connect the piano and the Mac. It's perfect for tone-deaf adults like me who played the triangle in the school band and never learned to read music. I realized — after I spent four hours at the keyboard learning my first lesson — that I never learned to play because I never took a lesson. If you want to learn to play, you have to make the commitment — there's no miraculous machine to breathe talent and skill into your brain and fingers. The Miracle Piano is nevertheless marvelous.

★ ★ ★ ★ ½

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TICKLING THE IVORIES

The piano keyboard is small but good. It does things that cheap electronic keyboards don't: Its keys are sensitive to how hard and fast you strike them (it has "velocity sensitive keys," in the jargon of electronic musicians); it's compatible with the standard musical-instrument digital interface (*MIDI*), so that if you do discover a prodigy, the keyboard can grow with your software when you move up to a sequencer on your Mac. A small electronic "sustain" foot pedal works fine on a firm floor — don't try it on the carpet.

The Miracle keyboard comes up a few notes short of full range; there are only 49, not 88, keys. But keys are full-sized, and cover a wide enough range for a beginner. You can hear your playing on the supplied small stereo earphones or on the Miracle's 4-inch stereo speakers, or connect the keyboard to any stereo system that uses standard RCA cables.

Because it's a proper MIDI keyboard, there are plenty of alternatives to playing the piano. If you insist on peppering your speech with jargon, the Miracle offers 128 different *patches*, or musical sounds. (Although you might question the musicality of the "dog bark" or "door creak" sounds, they create impressive effects.)

The keyboard is just big enough to get in the way. Chances are you don't have the space already in your computer room for

Photography • Larry Dunn

a yard-long peripheral that wants to rest right in front of your Mac monitor at just about the level of your knees when you're sitting. Similarly, it's unlikely you have space in your living room for your Mac. Remember — you're going to need to practice on this Miracle every day, and if you don't dedicate a small part of your house to it, setting it up and taking it down will begin to wear on you. You have to make a commitment of space.

GETTING ORGANIZED

It's a good thing the Miracle Piano is a solid performer, because it's the only one that works with the Miracle software. If you bought the Miracle keyboard and its Nintendo software two years ago when it was released, you can upgrade to Mac software for under $200. But you're out of luck if you want to learn to play a different MIDI keyboard. (The Software Toolworks reports that it's contemplating a software-only version of the system. We hope they make it a reality.)

The Miracle shows its heritage as a Nintendo cartridge: Its mouse controls seem like an afterthought. But the software works — if you have the RAM. As you can see from the system requirements, the Miracle will put quite a strain on a little Mac. On my LC I installed the black-and-white version — those two are enough colors for piano keys, after all — and still had to disable all my INITs to run it. It took up a solid 5 megabytes of my little hard disk, too. But I didn't mind — I was making a commitment, of my computer and hard disk as well as my desk.

Once you've installed and run the Miracle, the screen shows you the *Miracle Conservatory*, a building with six rooms. The *Administration* room is where you register for instruction that takes place in the *Classroom*.

You'll probably spend most of your time there, but there's also the *Practice Room*, where you can play a song you've already learned, a *Studio*, where you can make an all-digital recording, a *Performance Hall* when you're ready for a recital with accompaniment, and even an *Arcade* with three musical games.

UP AND RUNNING

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APPLE II REPORT

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Brookline, MA 02146
(617) 232-8432

- new GS/OS CDA
- 1MB Apple IIgs
- System 5.x or later
- $15

Quit-To, a handy shareware classic desk accessory for the GS, functions as a simple program switcher. Once installed in your GS/OS SYSTEM/DESK.ACCS folder, it lets you move from one application to another without having to return to the Finder or another program launcher. Quit-To works with both GS/OS and ProDOS 8 programs. It even lets you select Applesoft BASIC programs for launching. You simply press Command-Control-Escape to invoke the CDA from

Continued on p. 26

chapters on the Miracle software, you learn a song over a series of lessons. (If you learn all 40 chapters and songs in the Miracle software, *Song Collections* of another 40 tunes each are available for $49.95 apiece.)

Your Macintosh screen becomes a musical chalkboard. On the board appear the musical staffs and notes you must memorize; but instead of lifeless chalk and slate, this board is active. You can actually see the music as it plays.

The lessons begin very simply, and progress until you're playing notes and chords with both hands. I don't know for sure whether the Miracle follows a standard first-year piano curriculum, but I doubt it. The Miracle's goal is to have you playing recognizable songs quickly; there's no place in it for practicing scales, for instance.

HOW DO THEY DO THAT?

The key trick of The Miracle Piano Teaching System, as used in the *Classroom*, the *Practice Room*, and the *Performance Hall*, is that the computer simulates "listening" to what you play. That's the magic of MIDI: the notes you play, as well as the intensity with which you play them and your rhythm, are captured in a digital code, called *actual MIDI stream* (AMS).

The Miracle software on your Mac simply compares each digit in your AMS with an *ideal MIDI stream* (IMS) and calculates the difference. It's a natural task for a computer: comparing two gargantuan lists of numbers and performing simple sums and differences. But it would be no real Miracle if the software simply informed

APPLE II REPORT

Continued from p. 25

within an open application, then choose the program you want to launch after you quit; Quit-To will switch you automatically. A "run list" option lets you set up, then choose from, a convenient list of your most frequently used programs. Simple keystrokes provide access to all Quit-To options. This inexpensive desk accessory is an absolute must buy for both new and experienced GS computing enthusiasts.

REVIEW-IT: MATH COMPETENCY EXAM A

William K. Bradford Co.
310 School St.
Acton, MA 01720
(800) 421-2009

- new math review
- 64K Apple II
- $50
- $120 Exam A, B, C bundle

Review-It: Math Competency contains a 30-question exam designed as a general review of topics such as whole numbers, decimals, fractions, signed numbers, and mixed numbers. Students have two chances to answer each question. On-line help is available. A Worksheet function lets students complete calculations on screen; they can call up additional questions for each problem type for extra practice. The program provides a complete explanation for any problem's solution, and keeps a record of student performance. This package is highly recommended for review, remedial work, extra credit, or year-end testing.

SOFTDISK ISSUE 126

Softdisk Publishing
606 Common St.
Shreveport, LA 71130-0008
(800) 831-2694

- new issue/monthly magazine on disk
- 64K Apple II
- $19.95 3-month subscription

Every Softdisk collection for the Apple II is packed with several software goodies on two double-sided 5.25-inch floppies or one 3.5-inch disk. Issue 126 includes an application called ColorWorks, which adds color text to your AppleWorks 3.0 word-processing documents. A program called Political Plotter indicates whether you're politically liberal or conservative, while AYM: Net Worth lets you compare your financial assets and liabilities. Print Shop enthusiasts will appreciate compatible art clips of U. S. state flags. A solitaire game called Seasons will help get you through the long winter months as you await the first day of spring. Softdisk #126 represents good value. Its user-friendly, mouse-supported interface makes menu selections a breeze.

SOFTDISK G-S ISSUE 32

Softdisk Publishing
606 Common St.
Shreveport, LA 71130-0008
(800) 831-2694

- new issue/monthly magazine on disk
- 1MB Apple IIGS
- System 5.0.4 or later
- $29.95 3-month subscription

Like Softdisk for the Apple II, the monthly Softdisk G-S contains a variety of articles and innovative programs of interest to Apple II users, but the G-S in the title indicates the disk is specifically for the GS. Issue 32 features games, utilities, reviews, and productivity software. You'll get a great Word Search game to help you brush up on United States geography (states, capitals, cities, and rivers); a Home Refinancer calculator; a World Tour of the region around Australia; clip art of famous personalities; a primer on troubleshooting computer hardware and software problems; plus a calculator desk accessory that lets you paste calculations into desktop applications. Each monthly Softdisk G-S will provide you with even more enjoyable grist for your GS mill.

WHAT'S YOUR STRATEGY?

Wings for Learning/Sunburst
1600 Green Hills Road
Scotts Valley, CA 95067
(800) 321-7511, (408) 438-5502

- new math-skills package
- 64K Apple II
- $79 Teacher Kit
- $30 Group Kit (four students)

This classroom-oriented mathematical package for grades 4 to 6 develops problem-solving skills and strategies. It teaches youngsters to investigate patterns and relationships with coins, geometric shapes, and numbers. There are enough teaching materials (lesson plans, transparencies, worksheets, extension activities, and quizzes) for three to six weeks of classes, but only one section of the package actually uses The Factory software. Computer activities require children to manipulate on-screen factory "machines," assemble products, and conduct an experiment in reverse engineering. Youngsters are also required to solve paper-and-pencil problems based on software materials. What's Your Strategy is a well-rounded product, integrating a wide variety of learning materials for many math projects.

— Carol S. Holzberg, Ph.D.

you that "Your playing of the *Moonlight Sonata* registered 186278926. It should have been 873289274. Try again."

The Miracle's smarter than that. In fact, it can identify some 200 types of mistakes in some 40 categories, ranging from playing notes too fast to holding one too long to hitting too many keys at once.

And that's where the Miracle earns its stars. It's not only a tireless and patient teacher (don't we expect that of personal computers nowadays?), it's a remarkably consistent one.

Additionally, it doesn't weigh all mistakes equally. For instance, in a lesson on rhythm, it might ignore a missed note or two. A good piano teacher might want to ignore some discordant sounds when teaching rhythm, but might have more trouble shutting his or her ears to them than a computer.

CAN IT REPLACE A TEACHER?

No doubt the computer's skill at hearing only what it wants to hear has its down side: It also hears only what it can. The Miracle can't sense, and report to you, that "well, you played almost all the notes in that last piece wrong, and the rhythm was off, but the feeling was wonderful."

I learned to play two bars of Beethoven's *Ode to Joy* in four hours. That was quite an achievement. Now my piano lessons are proceeding along in the comfort of my own home at my own pace — which is, sad to say, a halt. The Miracle can't force you to practice.

Learning to play the piano requires that you make a commitment. It once required a commitment of your time and money — and maybe your sanity — to a piano teacher. The Miracle Piano Teaching System asks you to commit a large portion of your hard-disk drive, a big patch of your desk, and just as much time as the old-fashioned teacher wanted. You still need the will.

Miracles happen to believers. Skeptics won't learn to play the piano using The Miracle Piano Teaching System. But if you practice in good faith and keep all your commitments, this Miracle will work. It's a truly marvelous application of the home computer.

Paul Statt
inCider/A+ staff

★ ★ ★ ★ ★

PROLINE

Morgan Davis Group
10079 Nuerto Lane
Rancho San Diego, CA 91977-7132
(619) 670-0563 voice, (619) 670-9643 fax, (619) 670-5379 BBS

- bulletin-board program
- 64K Apple II
- requires ProDOS hard-disk drive 5MB minimum available
- requires modem
- $259.95

If you own a modem, you've probably used it to call BBSes — electronic bulletin-board systems. You may have also used your modem to call large mainframe computers, or commercial on-line services such as GEnie or CompuServe. But did you ever consider running your own BBS — one that could interact with major on-line computers?

ProLine, written by Morgan Davis, is an extremely sophisticated BBS that can interface with other bulletin boards, mainframe computers, and on-line services. It can serve as an excellent stand-alone Apple II BBS, but you can also use it to connect callers with other computers via Internet, a network of hundreds of government, scientific, and commercial computers.

THE NITTY-GRITTY

ProLine is as powerful as many UNIX minicomputer-based systems, yet amazingly, it runs on a standard Apple II. It requires a IIc, an enhanced IIe, or a IIGS and a hard drive with at least 5 megabytes of available disk space, plus a ProDOS-compatible clock and a Hayes Smartmodem-compatible modem. (The DC Hayes Micromodem and Novation's AppleCat aren't suitable.) You'll also need to use a Super Serial card or the GS' built-in serial port.

The program supports up to 9600 bps (bits per second), but if you use any modem faster than 2400 bps you'll want an accelerated machine. With all these options, wiring and configuration can be complex, but the package includes careful, complete documentation.

The program comes on three copyable 3.5-inch ProDOS disks that decompress and install on your hard drive automatically. The program and data files will fit into 5 megabytes, but more space is recommended.

The ProLine program is sold directly from Morgan Davis Group for the most part, and is also available from some mail-order companies. Morgan Davis provides direct support by phone or modem.

CONNECT THE DOTS

As a BBS, ProLine is top-notch. It supports mail, conferences, file upload/download, and on-line programs. You can even write or purchase BASIC software (simple games or adventure programs, for instance) that users can play with while on line.

You can run your ProLine BBS as an independent on-line system, but it gains a new world of capabilities if you network it with other systems. A networked BBS doesn't require any extra effort to run, but it's more expensive for the operator (you) in terms of long-distance phone calls. When you decide to upgrade to a networked system all you have to do is contact another Internet computer (typically another ProLine system) and request access. Your BBS gets added to that computer's list of associated systems.

Your ProLine BBS will call that system automatically at any frequency you want (once every hour, perhaps, or once a day at late-night reduced-phone-rate hours, and so on). When it logs onto that board it will forward any mail your users have sent to other systems and receive any mail that's waiting for your users.

LINK UP

For the most part the process by which messages are networked to other users is transparent, as long as mail is addressed properly to the other systems.

If you're familiar with the UNIX operating system, you'll feel quite at home with ProLine. If you're afraid of operating systems, you probably won't be able to take advantage of all of ProLine's sophisticated capabilities, but you'll still be able to use it if you can use standard BBSes.

Currently there are approximately 150 ProLine BBSes who are in regular contact

with the main board. Users on each of those BBSes can send electronic mail to other users on their own boards, users on other ProLine systems, and computers that are part of the Internet network.

LIFELINE

To run a decent BBS you should dedicate a computer and a phone line to its operation. Some BBSes are part-time systems accessible only at night, or available only whenever the system operator isn't using the computer for other purposes. That's adequate for limited applications, but not for a serious BBS.

Also, are you willing to put in the time and effort required to monitor and maintain your system? A typical BBS requires approximately a half hour each day and a couple of hours every week or so to answer mail and clean up files.

Once you've made the commitment, ProLine is an extremely sophisticated system, and it will take you time to learn how to use all its capabilities. You may start off running a conventional BBS, but you may end up becoming part of a worldwide computing network.

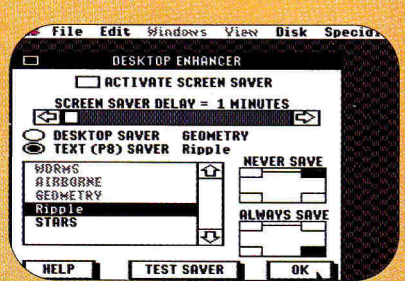
Philip Chien
Titusville, FL

★ ★ ★ ½ ★

DESKTOP ENHANCER 2.0

Simplexity Software
13045 Chapman Ave.
Suite 302
Orange, CA 92668
(714) 283-3957

- GS/OS and ProDOS 8 customization program
- 1.5MB Apple IIGS
- System 5.0.4 or later
- requires hard-disk drive
- $24.95
- $3 demo disk



Giving a personal twist to your personal computing is part of a happy, healthy system relationship, and several products, both commercial and shareware, can make your Apple IIGS fit your style just right.

One of the latest, Simplexity's Desktop Enhancer, offers a truly impressive list of customization features, including a date and time display in the GS/OS menu bar or in a movable window; screen savers that operate under both GS/OS- and ProDOS 8-based programs; desktop background graphics, colors, and patterns; and sounds you can add to specific Finder actions in either System 5.0.4 or System 6.0.

Performancewise, though, this Desktop Enhancer package would make a poor mailman, because on many occasions it just doesn't deliver.

EASY COME

Desktop Enhancer comes on a single 3.5-inch non-copy-protected disk. The packge includes an easy-to-use *Installer* module; to access it, just double-click on the *Enhance.Me* program from the Finder and you'll see a number of options that run the gamut from installing everything to installing just selected features. *Installer* copies Enhancer's INIT file and (NDA) new desk accessory to your hard-disk drive, as well as all or some of the sample sounds, screen savers, and graphics included.

The *Screen Saver* module displays animated graphics during periods of inactivity, as a way to preserve your monitor from "phosphor burn." Options are available to activate this module in both GS/OS programs and in ProDOS 8-based programs.

QUIRKS

Although the ProDOS 8 options seemed to work well in tests with AppleWorks Classic and from Applesoft BASIC, it activated prematurely while we were using several script-driven telecommunications programs, including both Talk Is Cheap and ProTerm, resulting in numerous lost characters.

The *Palette* module, which replaces the standard periwinkle-blue desktop color with graphics or patterns, worked well in 640 mode, but produced bizarre results in 320 mode. Testing it with several 320-mode GS programs, including PaintWorks and Platinum Paint, the desktop graphic or pattern failed to show up at all.

The *Timer* module, which displays the day of the week, the date, and the time in either the menu bar or in a movable window, includes three different alarm clocks that can alert you by playing any digitized sound file. But once an alarm sounded, our GS often suffered a fatal system error and had to be restarted. Oddly enough, this module seemed to conflict with Desktop Enhancer's own *Screen Saver* module, as there were more errors when we used the two together.

EASY GO

In general, Desktop Enhancer is a good idea that needs more work. For instance, its built-in *Help* functions aren't available from 320-mode programs. Also, while providing a generic ProDOS 8 screen saver is a great idea, programs that have their own screen savers, including a TimeOut-enchanced copy of AppleWorks and ProTerm 3.0, send Desktop Enhancer into a lockup tizzy,

While testing Desktop Enhancer, we had several long conversations with the folks at Simplexity Software. They were able to easily re-create some of the problems we experienced , and promised to fix them in an update we received within 24 hours. The update did correct some of the problems, but it also introduced new fatal system errors. (All testing was done on a ROM01 GS with 4 megabytes of RAM running unenhanced System 6.0 — no extra NDAs, CDEVs, or INITs.) Again, we contacted Simplexity, and again received an update the next day that corrected most of the system errors, but still left some untouched.

Desktop Enhancer resembles beta-test software more than a finished product. We found Simplexity Software responsive and willing to correct problems, but we believe that paying more than $20 for a commercially advertised product entitles the buyer to more stability than Desktop Enhancer offers currently.

Joe Kohn
San Rafael, CA

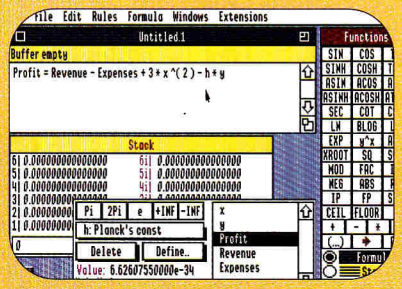
Editor's note: Simplexity Software claims to have fixed Desktop Enhancer's telecommunications compatibility problem, as well as improved the package's overall performance.

★ ★ ★ ★ ★

GSYMBOLIX

Bright Software
P.O. Box 18
4153 Reinach 2
Switzerland
061 711 23 83
061 711 52 63 fax

- algebraic calculator/graphing software
- 1MB Apple IIGS
- requires 3.5" disk drive
- hard drive recommended



GSymbolix is a great program; I wish I could give it a great review. "Does the product do what it's supposed to do?" is always the first question I ask of any software under review. I can't answer it, because GSymbolix never told me what it was supposed to do.

The program simplifies and evaluates algebraic expressions, solves equations, and graphs them. It's also a powerful mathematical calculator. GSymbolix would have earned more stars if its manual had simply included that basic introduction. Instead, I read that "GSymbolix is the first math program on the Apple IIGS that does not distinguish between pure numbers and algebraic expressions." That's true and no small achievement, but it would have been better to learn first what exactly GSymbolix does with numbers and expressions.

APPLES AND ORANGES?

GSymbolix treats two types of mathematics: numeric and symbolic. Since these terms aren't standard mathematical jargon for different branches of the subject, and aren't defined anywhere in the documentation, I was on my own when it came to deducing their meaning. *Numeric* math is apparently math you can do with a calculator; *symbolic* math is everything else. You might think of it as comparing "arithmetic" with "algebra." Calculators do arithmetic. Even programmable calculators and simple BASIC computer programs can do nothing but arithmetic; they can't solve abstract problems.

Numeric math, which GSymbolix performs on a calculator that lets you work with as many as 21 numbers at a time, is more or less arithmetic. "The core of the numeric math module is GSymbolix's built-in scientific RPN calculator," according the manual. If I need to explain what the phrase *reverse Polish notation* refers to, you probably don't want GSymbolix. It's an unusual (in the world of mathematics) form for numerical expressions that has become useful and usual in the world of computer programming. But if you need a scientific calculator in 1993, it's probably be easier to buy one that'll fit into your briefcase, not one that ties up your GS. It's *symbolic* math that sets GSymbolix apart.

"The core of GSymbolix," and especially of its symbolic-math module, "is the formula window," the manual says. A GSymbolix formula is a special type of equation: "You must enter formulas in the form of *F(x)= expression*, whereby only *expression* needs to be typed in," according to the documentation. A mathematical expression is a meaningful combination of numerical symbols (–3, 0, 5, 11/2, pi, or 42,000, for example) and variables (*x*, *y*, *a*, *b*, and so on) with various operational or grouping symbols (+, –, = ( ), { }). But the documentation also gives expressions such as *SIN(pi^(15/X))* as examples of valid formulas.

And that's the core of my criticism: GSymbolix treats expressions and equations (propositions) as if they were the same thing. For example, $2x^2 + x - 3 - x^2 + 3$ is an expression, which you can simplify by collecting like terms to $x^2 + 2x - 3$. GSymbolix does this neatly. But you can't solve an expression. You can solve an equation, such as $x^2 + 2x - 3 = 0$. But GSymbolix "solves" $x^2 + 2x - 3$ as neatly as $x^2 + 2x = 0$. The solution to the equation is that if you replace *x* with *–3* or *1*, the statement is true. The expression $x^2 + 2x - 3$ has no solution, no matter what happens when you pull down the *Formula* menu, choose *Solve*, or press Open apple-= (of all things) and get the same values for *x*.

To a mathematician, that might be a feature: he or she is relieved of the need to type out = *0* every time he or she has to find the roots of a function. To a mathematics teacher, it's a nightmare. You can use the program, but you'll have to take care that your students learn and respect the difference between an equation and an expression.

ROUGH EDGES

Another drawback to using GSymbolix with people who are learning math is its documentation. I worked with version 1.4 of GSymbolix while reading version 1.2 of its manual: It was anything but a "one-to-one correspondence." Windows have been renamed, some pull-down menus have become pop-up menus, and, to Bright Software's credit, many new features have been added. (Seven Hills was the program's U.S. distributor until recently; service is hard to come by, as Bright Software is based in Switzerland.)

The program's interface really requires a large-screen GS; everything is kept in its own window, and the desktop gets crowded fast. There's also some inconsistency in the way you open and close windows: Some require that you click on a *Cancel* button, others close with the standard corner check box.

EVOLUTION

GSymbolix has some rough edges, but it can make life easier for just about any high-school math teacher with an Apple IIGS. It *may* be appropriate for students. I think not, because I believe it will promote a lazy dependence on the computer among beginners. But any teacher can use GSymbolix to create accurate graphs, which alone justifies its purchase. You might print them for tests or classwork, or use a large-screen monitor or projection system to display them to a group.

That's why I recommend GSymbolix. It does what no other GS program can, and what programs such as Mathematica do on the Mac: It makes mathematics visible. Not just geometry, but algebra and trigonometry as well. It's a good program from which I hope its creators evolve a great one. ❑

Paul Statt
inCider/A+ staff

Applied Engineering

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hp Deskwriter for Macintosh	$ 479
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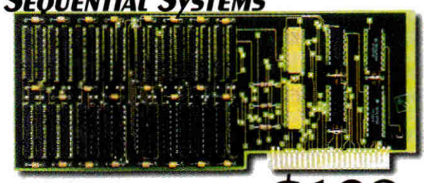
SEQUENTIAL SYSTEMS



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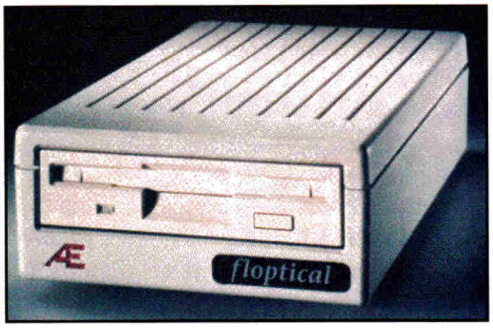
by Applied Engineering for Apple IIGS & Macintosh



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$ 469 Incl. 1 Floptical disk

Includes driver for RAMFast GS SCSI card and Macintosh. Requires ROM Rev.3.0J or greater RAMFast SCSI card. Works with Apple Hi-Speed DMA SCSI ($99 w/purchase of drive)

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Applied Engineering

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Æ Z-RAM Ultra III (IIc)	256K $174	512K $199	1MB $229
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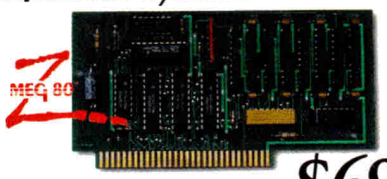
SEQUENTIAL SYSTEMS



1 MEGABYTE/80 COLUMNS-APPLE //e $69

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Parallel card IIe, IIGS	$59	Serial card IIe, IIGS	$79

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1megabyte Expansion kit for GS-RAM III & NCS Ram III ram board	$49
1meg RAMFast GS cache upgrade kit	$54.95
1meg SIMM expansion module for (Macintosh, GS-Sauce, Q-Ram)	$39
DIP memory chip sets	
1meg 80/100ns set (8)	$45
256Kx4 100ns set (2)	$14
256K 100ns set (8)	$15

All LRO memory products are covered by our no-hassel lifetime warranty. Please call for details and information about compatibility with your system.

All Our RAM Products are Fully DMA Compatible!

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Memory Expansion – Apple IIGS

Applied Engineering

Æ GS-Ultra	1MB $115	2MB $155	3MB $209	4MB $235

New Concepts

NCS RAM III	1MB $109	2MB $159	4MB $249

NCS RAM III
1MB/$109
Look Familiar...?

CV-Technologies

RAM GS Expander	1MB $88	2MB $121	3MB $155	4MB $189
CV-Tech/RAM GS Bundle	5MB $219	6MB $257	8MB $325	

The CV-Tech memory card lets you piggy-back your existing 1 or 4 megabyte RAM card onto the CV-Tech card for a total expansion of up to 8 megabytes.

NOTE: GS-RAM and GS-RAM Plus are NOT compatible!

All CV-Tech products covered by a lifetime warranty

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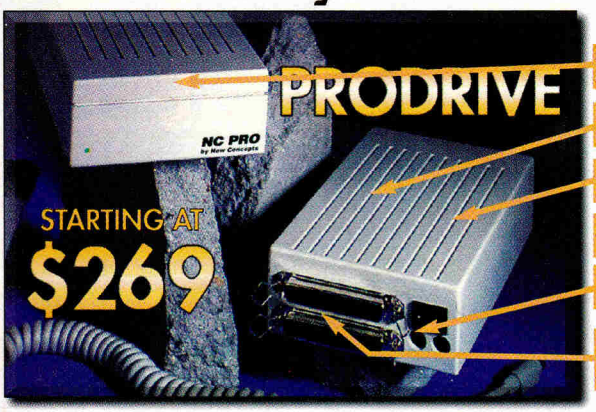
Anatomy of a Hard Drive



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Apple System 6.0 complete	$39
Hypercard GS 1.1 *by Apple*	$69
HyperStudio 3.1 w/sound digitizer *by Roger Wagner* *The Apple IIGS MultiMedia Solution*	$97
Inwords *by WestCode software*	$79
Pointless *by WestCode software*	$49
Foundation resource editor for the IIGS *by Lunar Productions*	$79
DreamGrafix *for your Apple IIgs* 3200 color paint program	$64.95
Seven Hills Express *by Seven Hills* print spooler for your IIGS	$24

Accelerators

Æ TransWarp GS - 8K	$215
Æ TransWarp GS - 32K	$285
Æ TransWarp GS - 32K upgrades	$79
Æ TransWarp IIe, II+, Laser	$89
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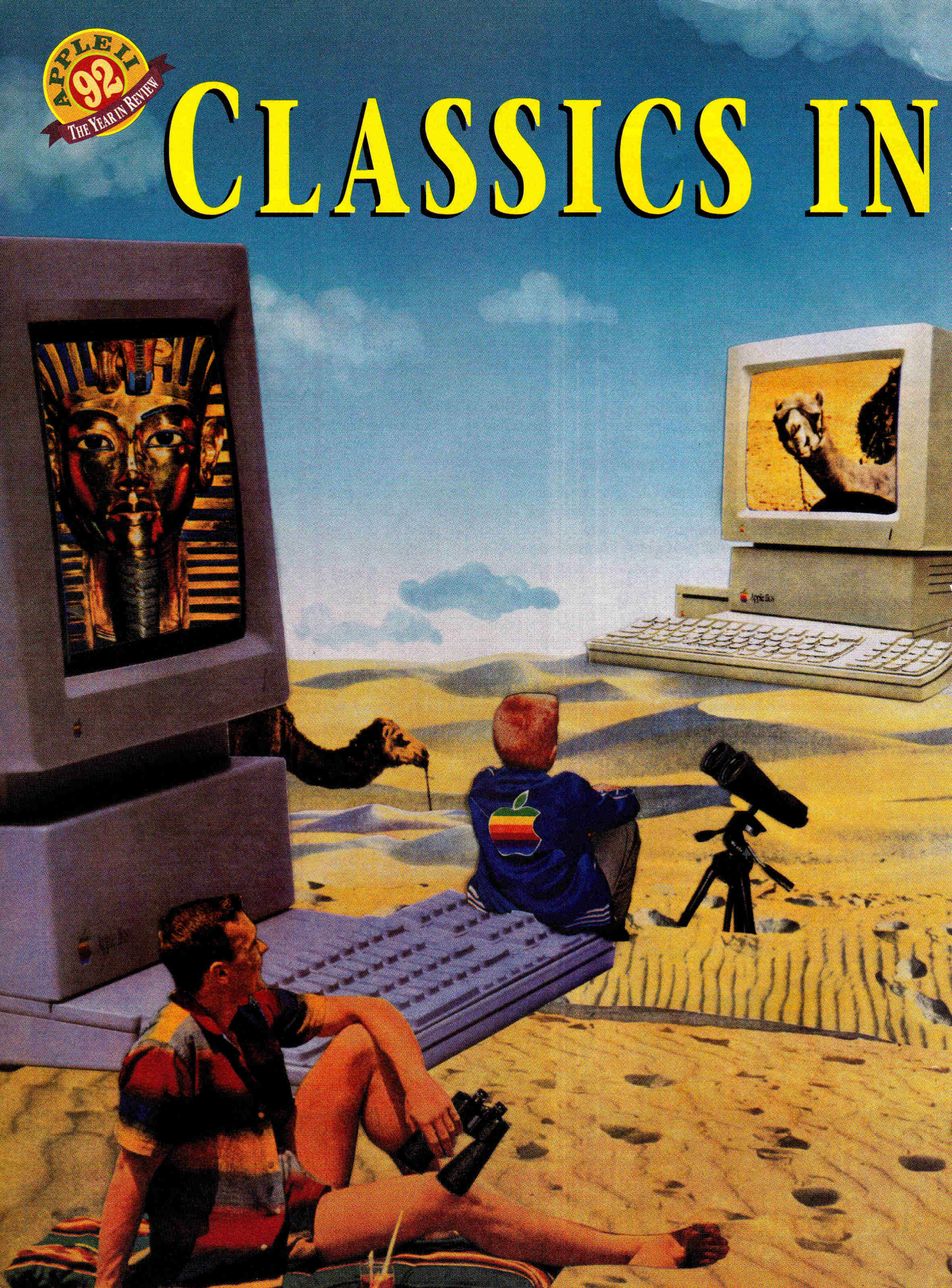
APPLE II 92
THE YEAR IN REVIEW

CLASSICS IN



By CYNTHIA E. FIELD, Ph.D.

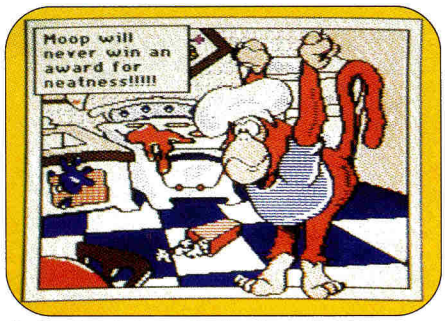
THE MAKING

"APPLE II FOREVER" — IT'S A CHALLENGE, not just a slogan, and developers are taking it seriously. Their goal is to combine the best of the tried-and-true with the most sophisticated of the new, pushing the technology to the limit and beyond. And year after year, they continue to create programs that are both exciting and powerful — programs of value, as enduring as the II itself.

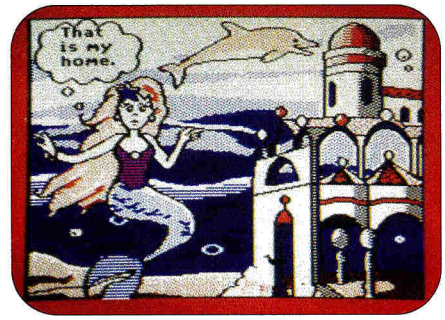
Want proof? Check out our accompanying product listing. For home, school, and small business, 1992 was another banner year — more than 150 new programs (and updates, denoted with a single asterisk), covering a wide range of computing needs. We've got it all (or most of it, anyway), from arithmetic to zoology and everything in between — chaos and cooking, finance and flashcards, programming and politics. Travel from outer space to inside the human body; count the three Rs and the four food groups; team up with billy goats, boars, and bunnies, trolls, fish, poodles, elephants, alligators, and turtle graphics.

All titles described here run on the Apple IIGS, and most work on the Apple IIe and IIc; with an Apple IIe Card you can enjoy many of these programs on a Macintosh LC or LC II, as well. In *inCider/A+*'s monthly "Apple II Report" we've provided nutshell reviews of some of these newer commercial programs. Others have been sliced and diced in our Reviews section during the past several months, or have been announced in What's New. Below we offer a first look at even more new programs. (See the product listing for references to writeups; two asterisks indicate that the title appears in the capsule-review section, beginning on p. 34.) ☛

ILLUSTRATIONS * CATHY SASKA



Animals with an Attitude helps kids create talking comic strips.



The Little Mermaid comes to life with new graphics, props, and speech.

ALPHACHECKS FAMILY FINANCES

With New Year's coming fast, there's no time like the present to tame runaway expenditures. Thanks to AlphaChecks Family Finances from ActaSoft, you can use the AppleWorks 3.0 database as a checkbook organizer to set up a budget, track expenses, and keep tabs on tax-deductible items. AlphaChecks Family Finances reconciles your bank statement and prints checks, as well.

ANIMALS WITH AN ATTITUDE

Look out, Doonesbury! Toucan's new Animals with an Attitude lets kids create comic strips and stories featuring four-legged actors, colorful backgrounds, and dozens of props. You can print creations in sizes ranging from "mini" and "skinny" to "poster." With an optional Echo board (Apple IIe, IIGS) or Cricket (IIc) speech synthesizer, stories are narrated, characters talk, and kids can learn to pronounce and spell new words.

ASK-IT

Time-tested methods such as tutorial sessions and multiple-choice exams can still help kids learn. Bradford's Ask-It, a surprisingly easy authoring system that uses familiar open-apple key commands, lets teachers create printed and on-line tests and interactive tutorials. You can add hints, notes, answer responses, and reading references to each question. The program's report system examines each test's or tutorial's effectiveness.

BEAUTY AND THE BEAST & THE LITTLE MERMAID

This *Write! Illustrate! Publish!* program from Toucan lets children add their individual interpretations to two classic fairy tales. First select the colorful background scenes you want to use in your story. Then add characters and props from the *Magical Makings* menu. Text boxes and speech bubbles help children incorporate story lines and dialogue. An optional speech synthesizer brings each tale to life.

BIG BOOK MAKER: CUTE & CUDDLY

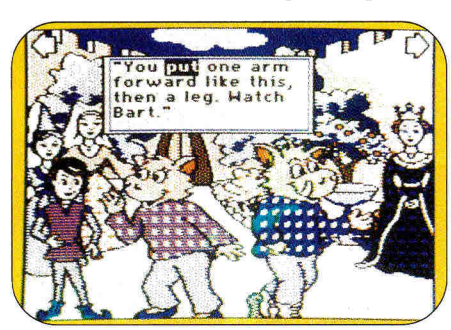
BIG BOOK MAKER: FEELING GOOD ABOUT YOURSELF

BIG BOOK MAKER: LETTERS, NUMBERS & SHAPES

Kids rubber-stamp their way to creativity with Toucan's Cute & Cuddly, a new children's desktop-publishing program. Designing a page is easy: Pick a ready-made picture frame or background scene. Plunk down some props and a cast of whimsical critters. Then type your story's text. You can print books in black-and-white or color in four sizes. Use "outline" mode to create custom coloring books.

But wait, there's more . . . . Like Cute & Cuddly, Feeling Good About Yourself makes it easy for teachers to create activity sheets and bulletin-board displays. Best of all, perhaps, the program features clip art kids can use in writing stories to promote multicultural understanding and respect for people who are different. The program provides a half-dozen standard fonts as well as Spanish.

Like other Big Book Maker programs, Letters, Numbers & Shapes helps kids design, write, and print stories to share with friends. Background scenes include *ABC.Acrobats* and *Alphabet.Soup* — not to mention the delightful *Cow.Sign*. Besides "body parts," other ready-made clip art files are a treasure trove of large alphabet letters and shapes — customary ones like square and triangle and oddball ones like horseshoe, hexagon, and check mark.



The Round Table will never be the same after The Boars invade Camelot.

THE BOARS IN CAMELOT

The legend of King Arthur takes a sudden turn for the humorous in this colorful Toucan reading adventure for 8- and 9-year-olds. A time warp transports a family of wild boars back to the land of Camelot, where they encounter Merlin's magic and Lancelot's jousting expertise (on a skateboard, no less).

With an optional Echo board or Cricket speech synthesizer, you can listen to each story as you read along on screen. Unlike digitized speech, this primitive form sounds pretty robotic. The cadence isn't right, either. But hey — maybe that's how wild boars talk.

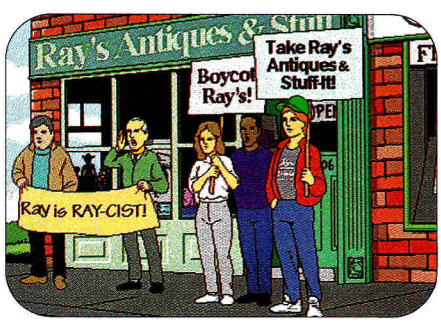
CREATURE ANTICS
CREATURE CAPERS
CREATURE CHORUS

To help celebrate its tenth anniversary, Laureate Learning Systems has released Apple IIGS versions of three popular learning games: Creature Antics, Creature Capers, and Creature Chorus. (Apple II versions are also available.) Designed especially for people with severe developmental disabilities, the games feature entertaining, brightly colored characters and engaging sound effects. Creature Antics and Creature Capers boast digitized human speech, as well. After you choose a character from the programs' main menu, a human voice announces the

The critters from Creature Antics frolic on screen and talk to you as they play.

character by name: *Here's . . . the Wiz!* (No, it's not Ed McMahon trapped in your GS.)

During each game, the voice prompts the child to "make something happen" or "show me more." When you press a key (or TouchWindow), click the mouse button, or activate a switch (a special input device), colorful characters such as Punk Poodles, the Globs, or the Wiz cavort on screen and play with objects that drop down, pop up, or otherwise appear magically. The animation and sound effects are absolutely delightful. Although Laureate's Creature games were designed for users with disabilities, toddlers and young children will also enjoy making things happen on the family's GS.



Decisions, Decisions: Prejudice tackles the thorny issue of freedom of expression.

DECISIONS, DECISIONS: PREJUDICE

Social-studies teachers have a big job ahead of them when it comes to examining the long history of freedom of expression in the U.S. Consider last summer's Supreme Court rulings, for instance, which held that while it's unconstitutional to invoke the G--word at graduation, the Bill of Rights protects a person's freedom to burn a cross or paint a swastika. If you're confused, imagine how your students feel. Fortunately, Tom Snyder's newest role-playing simulation, Prejudice, can help your class examine racial intolerance, stereotyping, and similar attitudes that spark hate crimes. Working in teams, students assume roles — historian, lawyer, activist, and campaign manager — in an effort to get the mayor of Spring Falls reelected. The package includes student handbooks and an extraordinary teacher's guide with worksheets and creative projects.

EXPLORING CHAOS

Whether it's designing colored tile patterns in *Mosaic Madness*, simulating populations of primitive colonial forms in *The Game of Life*, or generating fractals in *Sticky Dot*, the games in this new MECC program can help your students experience the physical and mathematical beauty of dynamic systems. According to MECC, topics addressed in Exploring Chaos are among those recommended in new standards set by the National Council of Teachers of Mathematics.

FIGURATIVE LANGUAGE

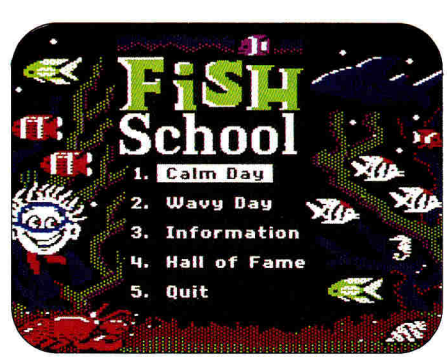
The 15 lessons in this unique "tutorial-and-practice" program from Educational Activities present passages from the world's greatest literary works, by authors such as William Shakespeare, Emily Dickinson, Langston Hughes, and Thomas Hardy. Reading each piece and answering the multiple-choice questions that follow can help students better understand the power of simile, metaphor, and personification. Special features include a built-in dictionary, a student bookmark option, and a class-management system.

FISH SCHOOL
MOVING MUSEUM

In MECC's Fish School, an arcade-style reading-comprehension game, students in grades 2 and 3 help Scrappy snorkel through a grid of sea creatures and discarded bottles.

When you land on a bottle — after successfully eluding puffer fish and crabs, that is — you get to read the paper that's trapped inside. The document might be anything from a promotional piece for the Seaweed Dishes cooking class to a memo from Mr. Alberto Barracuda.

To score points and win a place in the Fish School Hall of Fame you must correctly answer questions pertaining to, among other things, the main idea and supporting facts. Windy City (reviewed previously in "Apple II Report") and Moving Museum are similar programs for grades 4 to 5 and 5 to 6, respectively.



Fish School: A message in a bottle helps promote reading comprehension.

FORMULATE

Thanks to Seven Hills Software, never before has it been so easy to desktop-publish math worksheets, exams, and reports. By choosing the appropriate terms and symbols from Formulate's pull-down menu palettes, you can "typeset" even the most complex mathematical formula. Print it, or copy your work to the GS clipboard and paste the formula into a desktop-publishing program such as AppleWorks GS or GraphicWriter III. You can also export formulas as bit-mapped graphics for use with paint (or desktop-publishing) programs.

GRAMMAR MADNESS

If you love silly stories, you'll love Dr. Verbo's penchant for writing them. In this MECC package, each game (at one of four levels) provides a theme and a list of the parts of speech needed. The work-in-progress might be a weather report, a business letter, a telephone message, or something else.

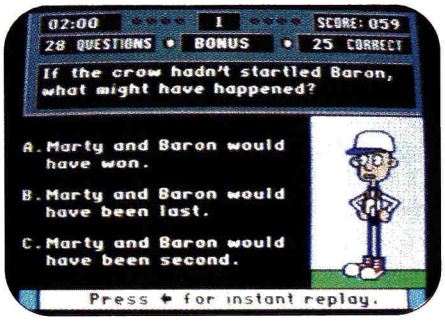
You can select appropriate words from lists presented by the computer or you can enter words from your imagination. After you finish selecting/entering words, the completed document appears on screen. You can print the wacky results as keepsakes or add them to your portfolio.

GRAPHS, CHARTS, AND TABLES IN THE SCIENCES

The interactive tutorials presented in this impressive Educational Activities program show students how to read graphs, interpret them, and even extrapolate the information they provide.

The *Drawing Graphs* module — a computer-aided drafting program of sorts — challenges kids to interpret tabular data and construct bar graphs (vertical or horizontal), line charts, or circle (pie) graphs.

The program provides immediate feedback as you plot each data point on screen. Tracking the effectiveness of roach bait or



Marty's Reading Workout stretches kids' comprehension muscles.

Animated critters are the stars of the show in Picture a Story.

the growth of window plants was never this much fun.

THE MAGIC FILE CABINET

Does the AppleWorks 3.0 database cramp your style? If so, enhance AppleWorks with The Magic File Cabinet from Magical Software. This set of UltraMacros (version 3.1 required) task files "attaches" a word-processing file to your database for virtually unlimited freedom of expression. You can add brief notes or complete documents — in fact, any kind of text passage — to selected database fields. Switching from the database to the word processor and back is as easy as pressing Option-F or Option-G, respectively.

MARTY'S READING WORKOUT

The 160 entertaining stories included in this new Marty Mathews program from Micrograms will keep children in grades 2 to 5 entertained all year long. Marty's love of sports is Reading Workout's theme. Each story's vocabulary and style are tailored to the reading level of its intended audience. A series of questions follows; colorful, animated characters evaluate your answers and give you the opportunity to reread the story — or, as Marty's coach would say, call for an instant replay. Sound effects and music help keep kids amused.

Teachers, take note: You can load a Marty program into more than one computer at the same time without fear of abridging Micrograms' copyright. You can also view and print summaries showing students' progress in crucial reading areas such as word meaning, main idea, detail recall, and drawing conclusions.

MUSIC DOCTOR

A self-running, interactive demonstration disk, Techware's Music Doctor features the music-composition capabilities of Tutor-Tech Hypermedia Toolkit 2.7. (A significant upgrade from earlier editions of the popular Apple II multimedia authoring program, version 2.7 supports XCMDs — extended commands — which let stack developers add even more functionality to their creations.) Writing music with Tutor-Tech — even two-voice music is possible on the Apple II — is as easy as typing a sequence of note names, such as *C# E Bb*. In addition to handling accidentals, Tutor-Tech's music processor lets you transpose keys and adjust note length, tempo, and volume.

NATIONAL GEOGRAPHIC SOCIETY KIDS NETWORK: WHAT ARE WE EATING?

If you purchase just one new software package for your class this year, make it a Kids Network kit from the National Geographic Society. What Are We Eating? is a basic nutrition curriculum in a box — complete with student guides, teacher's manual, hands-on activities, wall maps, software for your GS, and nutrient testing materials.

Perhaps best of all, your students go on line to share data with other test-site schools. There's no better way to blend hands-on science, geography, and computing skills than with a National Geographic Society Kids Network program.

PDE QUIZ SERIES

This series of copyrighted disks, created exclusively for the Public Domain Exchange, includes topics such as *TV Trivia*, *Great Movies*, and *Vocabulary*. Each disk contains a few dozen multiple-choice questions. Your answers prompt immediate feedback — kind of like electronic flashcards.

Ironically, you may learn more — at least about Applesoft BASIC — by breaking the program (use Control-C) and listing its contents. You can read and edit the question/answer text files with AppleWorks (or any other word processor that imports ASCII files).

Editing is advised: We found several misspellings in the vocabulary quiz alone.

PICTURE A STORY

With this new title from MECC, budding screenwriters aged 5 to 7 can create, save on disk, or print animated stories featuring animal characters such as Kitty, Alligator, Elephant, or Turtle. The child views cartoon-like panels on screen and selects the sequence he or she would like to run. When you press the *Play* button, the program animates the sequence and plays music. First- and second-graders can type story lines to accompany each scene, but teachers can disable the story-writing capabilities for younger children who use the program.

QUENTIN GOES TO SCHOOL
QUENTIN VISITS A FACTORY
QUENTIN VISITS THE BIG CITY

Toucan's Quentin series of reading-comprehension programs features colorful graphics, entertaining sound effects, and cute, age-appropriate stories.

Quentin the Rabbit and his animal friends — Sammy Squirrel, Molly Mole, Leo Lizard, and J.J. Groundhog — involve you in their stories by asking you questions along the way, not just at the end, as some other reading-comprehension programs do.

On-line questions and those in the accompanying *Teacher's Guide* follow Bloom's taxonomy. Like other Toucan products, a narrator "reads" each story if you have an Echo or Cricket speech synthesizer.

ROCKET FACTORY

This neat computer-aided engineering toolkit from MECC lets kids design model rockets by selecting assorted nose cones, fins, payload weights, and engines. When you launch your creation, the program calculates the rocket's highest altitude and maximum speed.

The program's *Cloud Chasers* game challenges you to design a rocket that can achieve a given altitude, not necessarily the highest possible. Teachers can set the program to provide measurements in

English or metric units and display instructions in English or Spanish.

SALINA MATH GAMES

Nowadays, most Apple II programs require 128K. Not Salina Math Games from Educational Activities, which runs on any Apple II, including the II Plus. The sheer variety of one- and two-player math activities is impressive — some 20 games in all are featured in the complete package. Each game focuses on a specific math concept, such as rounding (*Bingo*), percentages (*Bombs Away*), and proportion (*Duck Hunt*). Management options help teachers track students' progress.

SPACE FOX

Space Fox is a creation of the Swiss development company Bright Software, and is published by Seven Hills. In this arcade game you maneuver a fleet of spaceships through nine levels of "assorted bad guys" in interludes such as *The Enemy Base*, *Hyperspace*, *The Slimer*, and *Fire Planet*. Ultimately you destroy The Brain, the biggest bad guy of the universe. Space Fox sports fast-paced GS graphics and energizing 16-voice stereo music.

STORY TAILOR: WE MEET THE TROLL
STORY TAILOR: WHO WILL HELP ME?

Thanks to Humanities Software's Story Tailor series, your students can "star" in stories, poems, plays, and classic tales such as *The Three Billy Goats Gruff* or *The Little Red Hen*. It's easy to personalize a story: Just enter names in the student list and add information about your school and its neighborhood. As the program weaves a new version of each story automatically, kids can customize it further by filling in the blanks with appropriate words. You can even add frames in which students can draw illustrations after the story's printed. Although it can't use information from the class list, the word processor built into Story Tailor encourages students to flex their creative-writing muscles.

TIMS: ITERATING FUNCTIONS
TIMS: KOETKE'S CHALLENGE

Whether your class is exploring pre-chaos or predictability, test-drive these two latest additions to the *TERC Investigations in Math Series* (TIMS) from William K. Bradford. In Iterating Functions, students work as a class, in groups, or as individuals to set values in iterating (self-repeating) linear, logistic, sine, and quadratic equations. You view results in a table on the computer screen. Among other things, Iterating Functions can help you launch class discussions about periodicities in natural phenomena such as weather patterns, fluid dynamics, and biological functions.

Koetke's Challenge, based on a 1984 article by Walter Koetke in *Creative Computing* magazine, is a two-player dice-rolling game. Students can play against each other, one can challenge the computer (you choose the "strategy" the computer will use), or you can analyze a "machine versus machine" game. The object is to roll the dice to accumulate a higher score than your opponent. Problem is, if you roll the dice and the sum equals that of your first roll, you lose all points for the round.

USA DATA MAP

Introducing students to the creative aspects of geography is a lot easier thanks to Heath's USA Data Map. Your class can use this cartographic toolkit to explore demographic information included in the program's ready-made database. You can sort data (by population, say) or select subgroups of data (states with low unemployment, for example) to create bar graphs and scatter plots.

Even better, students can create their own custom databases with as many as ten categories (fields) and 50 sites (records). Using selected keys, you can plot special symbols on the U.S. maps you design.

Alice's friends help kids develop their reasoning skills in Wonderland Puzzles.

WONDERLAND PUZZLES

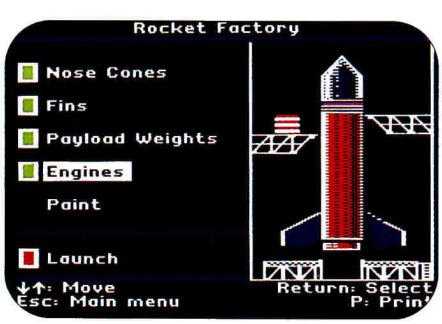
First, you fall down a rabbit hole. What else would you expect from a program that's based on *Alice's Adventures in Wonderland*?

But Wonderland Puzzles is related only indirectly to literature. Rather, MECC developed the games *Pepper Soup* (probability), *Mad Hatter's Tea Party* (visual reasoning and symmetry), *Who's That Card?* (hypotheses), and *Hedgehog Croquet* (prime numbers and factors) in response to recommendations from the National Council of Teachers of Mathematics that schools do more to help students enhance problem-solving skills.

YOUR MONEY MATTERS

Make a resolution now to get your 1993 financial affairs under control with Your Money Matters, a multiwindowing home and small-business accounting program for the Apple IIGS. This Software Solutions program supports any GS/OS or ProDOS hard-disk drive and loads all data into memory for speedy performance.

You can use the program's predefined categories or create your own to manage income, expenses, assets, and liabilities. Your Money Matters displays colorful bar graphs and prints both tractor-feed and wallet-style checks.



Kids design models and get a head start along the way toward learning some basic physics with Rocket Factory.

Rack up arcade points as you save the universe: Stereo music and gorgeous GS graphics make Space Fox a dream to play.

EDUCATION

Adventures of Tom Sawyer
reading
grades 4 to 6
August 1992, p. 23
Animal Facts & Adventures
science
grades 4 to 6
October 1992, p. 27
Dino Dig
dictionary skills
grades 3 to 6
October 1992, p. 28
First Math Adventures
math
grades 1 to 3
November 1992, p. 25
Fun with Numbers:
Beginning Math Skills
math
grades K to 2
It's about Time:
Clocks and Calendars
basic skills
grades K to 2
Keyworks
keyboarding skills
grades K to 2
September 1992, p. 21
Let's Go There: Beginning Map and Geography Skills
social studies
grades 1 to 3
Life Story: The Frog
science
grades 4 to 6
Make-a-Face:
Fun with Basic Shapes
math
grades K to 3
Parts of Speech: Fun with Verbs
grammar skills
grades 3 to 5
November 1992, p. 26
Peter Pan
reading
grades 4 to 6
Troll Sports Math
math
grades 4 to 6
August 1992, p. 25
Troll Associates
100 Corporate Drive
Mahwah, NJ 07430
(201) 529-4000
$39.95 each
48K

Alphabet Fun with Barney, $44.95
early learning
grades pre-K to 3
64K
Math Fun with Barney, $44.95
early learning
grades pre-K to 3
64K
Shape & Color Fun with Barney, $44.95
early learning
grades pre-K to 3
64K
Math Bingo, $39.95
math
grade 1 to adult
64K
April 1992, p. 28
Neurobics, $46
problem solving
grade 3 and up
64K
February 1992, p. 62
DLM Media
1 DLM Park
Allen, TX 75002
(800) 527-5030
(214) 248-6300

Amazing Window Gradesheet 1.85 *
Kitchen Sink Software
903 Knebworth Court
Westerville, OH 43081
(614) 891-2111
$39.95
gradebook
64K

Animals with an Attitude **
creative writing
grades pre-K to 8
Banner Books:
All Along the Alphabet
Banner Books:
Hiking Through Habitats
Banner Books:
On the Street Where You Live
Banner Books:
Writing Across America
Banner Books: Your School Day
creative writing
grades K to 6
Beauty and the Beast & The Little Mermaid **
creative writing
grades K-6
Big Book Maker: Cute & Cuddly **
creative writing
grades K to 6
Big Book Maker:
Feeling Good About Yourself **
self-esteem
grades K to 6
Big Book Maker:
Letters, Numbers & Shapes **
early learning
grades pre-K to 1
Quentin Around the House
reading
grade 1
November 1992, p. 26
Quentin Visits a Factory **
reading
grade 5
Quentin Visits the Big City **
reading
grade 4
Quentin's Neighborhood
reading
grade 2
September 1992, p. 22
Quentin Goes to School **
reading
grade 3
The Whole Neighborhood
social studies
grades K-12
May 1992, p. 24
128K
$49.95 each
The Boars in Camelot, $45 **
reading
grades 3 to 4
128K
$45
Bulletin Board Maker:
Classroom Art, $44.95
desktop publishing
128K
October 1992, p. 27

Bulletin Board Maker: The Pond, $44.95
desktop publishing/science
grades K to 6
128K
August 1992, p. 23
Toucan/Queue
338 Commerce Drive
Fairfield, CT 06430
(800) 232-2224
(203) 335-0906

Apple Grader 4.0, $19.95 *
gradebook
48K
Mitosis, $39.80 *
science
grades 9 to 12
48K
Space Shuttle Mission, $9.95 *
science
grades 5 to 12
48K
AV Systems
1445 Estrella Drive
Santa Barbara, CA 93110
(805) 569-1618

AppleWorks in the School Volume 6
The AppleWorks Educator
P.O. Box 72
Leetsdale, PA 15056
(412) 741-4110
$24 plus $3 purchase orders
128K

Ask-It, $99 + 8% shipping **
test/tutorial authoring system
Computer Connections, $135
computer literacy
grades 4 to 8
128K
requires Heath
Mathematics Connections
April 1992, p.27
Review-It: Algebra I, $130
math courseware
64K
September 1992, p. 22
TIMS: Connectany
math
grades 6 to 10
May 1992, p. 23
TIMS: Iterating Functions **
math
grades 11 to 12
TIMS: Koetke's Challenge **
math
grades 7 to 12
TIMS: Triangle Chaos
math
grades 9 to 12
May 1992, p. 24
TIMS: Two Vertices
math
grades 8 to 12
October 1992, p. 29
$60 each
128K
William K. Bradford Co.
310 School St.
Acton, MA 01720
(800) 421-2009
(508) 263-6996
(508) 263-9375 fax

Big Text Machine
Balloons Software
5201 Chevy Chase Pkwy. NW
Washington, DC 20015-1747
(202) 244-2223
$35
creative-writing toolkit
64K
September 1992, p. 10

Build a Circuit, $79
science simulation
grades 4 to 8
128K
October 1992, p. 27
Label Land, $65
classification skills
grades 2 to 6
64K
October 1992, p. 28
Learn About Dinosaurs, $75
science/report writing
grades 1 to 3
128K
September 1992, p. 21
Learn About the Human Body, $75
science
grades 1 to 3
128K
requires color monitor
mouse recommended
November 1992, p. 25
Wings for Learning/Sunburst
1600 Green Hills Road
Scotts Valley, CA 95067
(800) 321-7511

College Cost Explorer *
College Explorer *
The College Board
45 Columbus Ave.
New York, NY 10023-6992
(212) 713-8250
$125 each
college planning
64K
December 1992, p. 46

Color Me Read: Love Is
Color Me Read:
I Look Up, I Look Down
Color Me Read:
Good Morning, Good Night
Color Me Read:
The Four Seasons
McCarthy-McCormack Inc.
2885 Downhill Drive
Colorado Springs, CO 80918
(800) 869-1446
(719) 598-5579 fax
$59.95 each
whole-language reading/writing
preschool to grade 1
128K

Connections! Math in Action
Society for Visual Education
1345 Diversey Parkway
Chicago, IL 60614-1299
(800) 621-1900
$79
$189 with filmstrips
math
grades 5 to 8
128K
May 1992, p. 23

Creature Antics, $65/$75 GS **
special needs
64K version
requires Echo speech synthesizer
512K GS version
Creature Capers, $65/$75 GS **
special needs

64K version
requires Echo speech synthesizer
512K GS version
Creature Chorus,
$85/$95 GS **
special needs
64K version
requires Echo speech synthesizer
512K GS version
My School, $175/$200 GS
special-needs language
64K version
requires Echo speech synthesizer
1MB GS version
My Town,$175/$200 GS
special-needs language
64K version
requires Echo speech synthesizer
1MB GS version
The Sentence Master: Levels 1, 2, 3, 4
$475/level
special-needs reading
64K
requires Echo speech synthesizer
Laureate Learning Systems
110 East Spring St.
Winooski, VT 05404
(800) 562-6801
(802) 655-4755
(802) 655-4757 fax

Decisions, Decisions: Prejudice,
$119.95 **
social studies
grades 5 to 12
64K
TimeLiner: Space Data Disk,
$19.95
space-oriented time-line templates
grades K to 12
64K
requires TimeLiner ($59.95)
August 1992, p. 25
Tom Snyder Productions
80 Coolidge Hill Road
Watertown, MA 02172
(800) 342-0236

Dr. Livingstone, I Presume?
social studies
grades 5 to 9
Exploring Chaos 1.0 **
math
grades 7 to 12
Fish School 1.0 **
reading
grades 2 to 3
Freedom!
social studies
grades 5 to 9
Grammar Gobble 1.0
language arts
grades 1 to 6
November 1992, p. 25
Grammar Madness 1.0 **
language arts
grades 3 to 6
History Makers
social studies
grades 3 to 6
Moving Museum 1.0 **
reading
grades 5 to 6
Picture a Story 1.0 **
language arts
grades K to 2
Rocket Factory 1.0 **
science
grades 3 to 6

Take a Chance!
math
grades 2 to 8
Windy City 1.0
reading
grades 4 to 5
November 1992, p. 27
Wonderland Puzzles 1.0 **
logic
grades 4 to 7
Woolly's Garden 1.0
science
grades K to 2
November 1992, p. 27
128K
Storybook Weaver: World of Make-Believe
creative writing
grades K to 6
1MB GS
August 1992, p. 24
$59 each
USA GeoGraph, $69 *
social studies
grades 5 to 12
768K GS
MECC
6160 Summit Drive North
Minneapolis, MN 55430-4003
(800) 685-MECC
(612) 569-1500

Dynamics in Space
Higher-Order Thinking Company
1733 NE Patterson Drive
Lee's Summit, MO 64063
(816) 524-2701
$29.95
science/math
grades 11 to 12
64K
April 1992, p. 27

Figurative Language, $129 **
reading
grade 9 to adult
48K
Graphs, Charts, and Tables in the Sciences, $119 **
math/science
grade 5 to adult
Mind Winder, $59.95
critical-thinking skills
grade 5 and up
48K
August 1992, p. 24
Math in the Workplace: Working with Lines and Angles,
$119
geometry skills
grades 9 to 12
48K
October 1992, p. 28
Reading in the Workplace: Automotive, $295
reading
64K
August 1992, p. 24
Reading in the Workplace: Health Care, $295
reading
levels 1 to 3
64K
September 1992, p. 22
Reading in the Workplace: Health Care, $295
reading
levels 3 to 9
64K
Salina Math Games,
$59.95 each, $249 set **
math
grades 3 to 9, remedial high
48K
Educational Activities
1937 Grand Ave.
Baldwin, NY 11510
(800) 645-3739
(516) 223-4666
(516) 623-9282 fax

Food Friends
CoNi Corp.
5839 Abbott
Fort Wayne, IN 46816
(219) 447-2337
$29.95
$39.95 with book
nutrition education
preschool to grade 3
64K
October 1992, p. 13

Fractions & Decimals: Math Word Problems
Weekly Reader
Software/Optimum Resource
10 Station Place
Norfolk, CT 06058
(800) 327-1473
$49.95
April 1992, p. 28
math
grade 3 and up
48K

Geo-Race Canada
Geo-Race Europe
Geo-Race South America
Geo-Race USA
$49.95 each
grades 4 to 12
128K
geography
Keyboarding Klass 1.3,
$49.95 *
keyboarding skills
grades 3 to 12
64K
Mastery Development
P.O. Box 3126
Redmond, WA 98073
(206) 885-6927
(206) 885-7159 fax

GTV: Planetary Manager, $650
science/social studies
grade 5 to adult
768K GS
National Geographic Society Kids Network: Solar Energy, $375
science
grades 4 to 6
512K GS
National Geographic Society Kids Network: What Are We Eating?
$375 plus $97.50
tuition/telecommunications **
science
grades 4 to 6
512K GS
National Geographic Society
Educational Media Division
17th & M St. NW
Washington, DC 20036
(800) 368-2728 US
(800) 268-2948 Canada
(416) 890-1111 Toronto
(301) 921-1330 MD
(301) 921-1575 fax

InSight, $89.95 home,
$195 school *
career planning
64K
UltraKey, $59.95 home
$89 school *
keyboarding skills
grades 3 to adult
64K
Bytes of Learning
150 Consumers Road
Suite 202
Willowdale, ON M2J 1P9
Canada
(416) 495-9913
(416) 495-9548 fax

KeyWords 5.2,
$69/30 students,
$259/6-pack
216 students,
$399 site/network *
keyboarding skills
grade 3 and up
Story Tailor: We Meet the Troll,
$99 site/net **
creative writing
grades K to 3
128K
Story Tailor: Who Will Help Me?,
$99 site/net **
creative writing
grades K to 3
128K
Humanities Software
408 Columbia
Suite 222
P.O. Box 950
Hood River, OR 97031
(800) 245-6737
(503) 386-6737
(503) 386-1410 fax

Kids Time II 2 *
Great Wave Software
5353 Scotts Valley Drive
Scotts Valley, CA 95066
(408) 438-1990
(408) 438-7171 fax
$29.95
early learning
preschool to grade 3
512K GS

LogoWriter Robotics *
LCS/LEGO Dacta
555 Taylor Road
P.O. Box 1600
Enfield, CT 06083-1600
(800) 243-4870
(203) 749-2291
(203) 763-2466 fax
$520 starter pack
programming
grades 4 to 6
64K
September 1992, p. 21

Marty's Family Reader,
$29.95
reading
grades 2 to 5
128K
November 1992, p. 25
Marty's Reading Workout,
$119.80**
reading
grades 2 to 5
128K
Micrograms Publishing

1404 North Main St.
Rockford, IL 61103
(800) 338-4726
(815) 965-2464

Peterson's College Selection Service *
Peterson's Financial Aid Service *
Peterson's
202 Carnegie Center
P.O. Box 2123
Princeton, NJ 08543-2123
(800) 338-3282
$195 each
college and career planning
high school and up
128K
December 1992, p. 46

The Quarter Mile 4.0: *
Whole Numbers
Fractions
Decimals/Percents
Integers/Equations
Barnum Software
2201 Broadway
Suite 201
Oakland, CA 94612
(800) 553-9155
(415) 268-0804
(800) 553-9156 fax
$50 each
math
grades K-9, remedial, adult
64K/128K versions included
November 1992, p. 26

Save Our Earth
Monarch Software
P.O. Box 147
112 Husum St.
Husum, WA 98623
(800) 647-7997
$199 site license
science/creative writing
July 1992, p. 12

Science Project Databases
Applied Educational Technology
P.O. Box 37
Tigerville, SC 29688
(803) 895-4496
$20 plus $2 shipping
science-fair information
128K
requires AppleWorks 3.0
October 1992, p. 29

Sign It
Roger Wagner Publishing
1050 Pioneer Way
Suite P
El Cajon, CA 92020
(800) 421-6526
(619) 442-0522
$34.95
Signed English instruction
1MB GS
November 1992, p. 12

Talking First Dinosaur Reader
Orange Cherry Software
P.O. Box 390
Pound Ridge, NY 10576
(800) 672-6002
$59
reading
grades 1 to 4
1MB GS
August 1992, p. 25

Tim and the Cat:
The Big Red Hat
Tim and the Cat: The Fish Dish
Tim and the Cat: Grog the Frog
Tim and the Cat: Jen the Hen
$59.95 each
early reading
48K
64K optional Ufonic speech
128K optional Echo speech

TC Writer, $119.95
talking word processor/
creative writing/early reading
128K
Hartley Courseware
133 Bridge St.
Dimondale, MI 48821
(517) 646-6458
(800) 247-1380

The Treehouse, $49.95
early learning
grades 1 to 5
128K
October 1992, p. 52

Where in America's Past Is Carmen Sandiego?, $49.95
social studies
grade 7 and up
128K
October 1992, p. 26
Broderbund Software, Inc.
500 Redwood Blvd.
P.O. Box 6121
Novato, CA 94948-6121
(800) 521-6263
(415) 382-4400
(415) 382-4582 fax

USA Data Map **
D.C. Heath and Co.
125 Spring St.
Lexington, MA 02173
(800) 421-2009
(508) 263-6996
$99 plus 8% shipping
social studies
grades 4 to 8
128K

CREATIVITY

Animasia 3-D
Animasia
42 Chaplin St.
Chaplin, CT 06235
(203) 455-0298
$99
animation creation
1MB GS
December 1992, p. 12

ClipArt Plus
Triad Venture
P.O. Box 12201
Hauppauge, NY 11788
(516) 732-3771
paint/hypermedia clip art,
utilities
$39.95
1.5MB GS/HyperCard IIgs
1.25MB GS/HyperStudio
August 1992, p. 23

Design Your Own Home: Architecture Professional Version 3.0 *
Abracadata
P.O. Box 2440
Eugene, OR 97402
(503) 342-3030
$69.95
computer-aided design
64K

DreamGrafix
DreamWorld Software
P.O. Box 830
Iowa City, IA
52244-0830
(319) 338-6491
$99.95
paint program
1MB GS
August 1992, p. 22

HyperCard IIgs 1.1 *
Claris Corp.
P.O. Box 58168
5201 Patrick Henry Drive
Santa Clara, CA 95052
(408) 727-8227
$69
hypermedia authoring
1MB GS
requires hard-disk drive
May 1992, p. 35

HyperStudio 3.1 *
Roger Wagner Publishing
1050 Pioneer Way
Suite P
El Cajon, CA 92020
(800) 421-6526
(619) 442-0522
$125
hypermedia authoring
1.25MB GS
May 1992, p. 22

ImageMaster:
Basic Paint
Jada Graphics
7615 South 48th St.
Omaha, NE 68157
(800) 634-4552
$44.95
paint program
1MB GS
August 1992, p. 11

Media Magic
Toucan/Queue
338 Commerce Drive
Fairfield, CT 06430
(800) 232-2224
(203) 335-0906
$119.95
hypermedia authoring
grades K to adult
128K
April 1992, p. 28

Music Doctor, $35 **
free demo
Tutor-Tech stacks
128K

Tutor-Tech Hypermedia Toolkit 2.7, $195 *
hypermedia authoring
128K
October 1992, p. 29
Techware Corporation
P.O. Box 151085
Altamonte Springs, FL
32715-1085
(800) 34-REACH
(407) 695-9000

Script-Central, $48/year *
6 issues
disk publication for
HyperCard IIgs users
1MB GS
requires hard-disk drive

Studio City, $48/year *
6 issues
disk publication for
HyperStudio users
1MB GS
Resource Central
P.O. Box 11250
Overland Park, KS 66211
(913) 469-6502
(913) 469-6507 fax
November 1992, p. 24

TimeOut Grammar
Quality Computers
20200 East Nine Mile Road
St. Clair Shores, MI 48080
(313) 774-7200
$79.95
grammar proofreader
128K
requires AppleWorks 3.0
November 1992, p. 13

PRODUCTIVITY

AlphaChecks Family Finances **
ACTAsoft
19700 Wells Drive
Woodland Hills, CA 91364
(818) 996-6731
$49.95 plus $3.50 shipping
AppleWorks enhancement
128K
requires AppleWorks 3.0

A2-Central on Disk, $90/year *
12 issues
disk publication
128K
requires two 3.5" disks
or one 3.5" disk and hard drive
or 1MB RAM

TimeOut-Central, $48/year *
6 issues
disk publication for
TimeOut users
128K
requires AppleWorks 3.0,
TimeOut
Resource Central
P.O. Box 11250
Overland Park, KS 66211
(913) 469-6502
(913) 469-6507 fax
November 1992, p. 24

The Collector *
AV Systems, Inc.
1445 Estrella Drive
Santa Barbara, CA 93110
(805) 569-1618
$19.95
database
48K

Contacts GS
Simplexity Software
13045 Chapman Ave.
Suite 302
Orange, CA 92668
(714) 283-3957
$14.95
address/phone list
GS/17K free
plus data-file size
requires HyperCard IIgs

Desktop Manager
TMS Peripherals
1120 Holland Drive
Suite 16
Boca Raton, FL
33487-2729
(407) 998-9958
$39.95
notepad/calculator/calendar
1MB GS
September 1992, p. 12

Magic File Cabinet 1.0 **
Magical Software
c/o Gary Hayman
8255 Canning Terrace
Greenbelt, MD 20770
(301) 345-3230
$15 plus $2 shipping
AppleWorks enhancement
128K
requires AppleWorks 3.0,
TimeOut UltraMacros 3.1

'92 Tax Preparer *
HowardSoft
1224 Prospect St.
Suite 150
La Jolla, CA 92037
(619) 454-0121
$250
$79 update
income-tax preparation
128K

Portfolio Review
Rednef Industries
1234 Pam Anne Drive
Glenview, IL 60025
(708) 724-8451
$55
stock-quotation retrieval/
report function
128K
requires modem
October 1992, p. 13

ShoeBox
Seven Hills Software
2310 Oxford Road
Tallahassee, FL 32304
(904) 575-0566
(904) 575-2015 fax
$59.95
personal organizer/
financial planner
1.5MB GS
requires hard-disk drive
August 1992, p. 52

1040Works,
$16.95 plus $3.50 shipping*
income-tax preparation
128K
requires AppleWorks
1040Works-X,
$16.95 plus $3.50 shipping *
income-tax preparation
256K
1040Works Tax Planner,
$19.95 plus $3.50 shipping *
income-tax planner
requires AppleWorks,
150K desktop
National AppleWorks
Users Group
(NAUG)
Box 87453
Canton, MI 48187
(313) 454-1115
(313) 454-1965 fax

Your Money Matters **
Software Solutions
5516 Merritt Circle
Edina, MN 55436
(612) 929-8947
$74 plus $5 shipping
personal finance
1MB GS

ENTERTAINMENT/ LIFESTYLE

Family Roots, $225 *
genealogy
64K
Lineages, $99 advanced,
$49 standard *
genealogy
64K
Quinsept Inc.
P.O. Box 216
Lexington, MA 02173
(800) 637-7668
(617) 641-2930

Family Tree 3.41 *
Robert M. Merrill
6180 Via Real #25
Carpenteria, CA 93013-2863
(805) 684-3366
$39.95 plus $3.50 shipping
genealogy
64K
requires AppleWorks

FantasyWorks *
FantasyWorks Software
P.O. Box 540093
Grand Prairie, TX 74054-0093
(800) 727-4103
(214) 263-1335
(214) 642-9559 fax
$74.95 plus $6 shipping
fantasy football-league
management system
128K

Gate, $29.95
arcade/puzzle game
1MB GS
$29.95
December 1991, p. 88
Space Fox, $29.95 **
arcade game
1MB GS
September 1992, p. 12
Seven Hills Software
2310 Oxford Road
Tallahassee, FL 32304
(904) 575-0566

Gold of the Americas: Conquest of the New World
Strategic Studies Group
8348 Monticello Drive
Pensacola, FL 32514
(904) 494-9373
$49.95
history simulation
1MB GS
June 1992, p. 30

PDE Quiz Series **
The Public
Domain Exchange
2076C Walsh Ave.
Santa Clara, CA 95050
(800) 331-8125
(408) 496-0624
(408) 496-6439
technical support
48K
$5 each
September 1992, p. 11

Pro Football II
Raymark Enterprises
P.O. Box 70443
Oakland, CA 94612
(800) 2-APPLE2
$19.95
football statistics
48K

The Rational Person *
PsychSoft
2503 North Halsted St.
Chicago, IL 60614
(312) 871-2626
$49.95
psychological testing/teaching
128K Apple II
October 1992, p. 13

UTILITIES/ SYSTEM SOFTWARE

AutoArc, $59.95
file compressor
1MB GS
requires System 6.0
November 1992, p. 14
Universe Master, $149
hard-drive manager
1MB GS
requires System 6.0
Econ Technologies
P.O. Box 195356
Winter Springs, FL 32719
(407) 365-4209

Desktop Manager
TMS Peripherals
1120 Holland Drive
Suite 16
Boca Raton, FL 33487-2729
(407) 998-9958
$39.95
disk/printer manager
1MB GS
September 1992, p. 12

Express 1.0, $39.95
printer spooler
1MB GS
requires hard-disk drive
September 1992, p. 20
Formulate 1.0, $49.95 **
math/science formula typesetter
1MB GS
Kangaroo, $49.95
file management
1MB GS
Seven Hills Software
2310 Oxford Road
Tallahassee, FL 32304
(904) 575-0566
(904) 575-2015 fax
$39.95

GS/OS System 6.0 *
Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
(800) 776-2333
customer assistance
(408) 996-1010
$15 to $30 mail order
system software
1MB GS
July 1992, p. 34

LockOut 2.0 *
SuperStuff
3382 Sandra Drive
Kalamazoo, MI 49004
$49.95
Control Panel CDA lock
512K GS
October 1992, p. 38

OmniPrint
JEM Software
7578 Lamar Court
Arvada, CO 80003
(303) 422-4856 orders
$40
print/font manager
128K
requires AppleWorks 3.0
November 1992, p. 13

ORCA/Debugger
Byte Works
4700 Irving Blvd. NW
Suite 207
Albuquerque, NM 87114
(505) 898-8183
$50
C/Pascal development tool
GS/25K free
September 1992, p. 11

Pointless
WestCode Software
15050 Avenue of Science
Suite 112
San Diego, CA 92128
(619) 487-9200
(619) 487-9255 fax
$69.95
TrueType font interpreter
1.25MB GS
July 1992, p. 24

ProTerm 3.0 *
InSync Software
3035 East Topaz Circle
Phoenix, AZ 85028-4423
(602) 992-5515 sales support
(602) 992-1345 technical support
(602) 992-9789 fax/BBS
$129.95
demo disk free
telecommunications
128K
April 1992, p. 28
June 1992, p. 26

RADE
Real-Time Applesoft
Debugging Environment
Morgan Davis Group
10079 Nuerto Lane
Rancho San Diego, CA
91977-7132
(619) 670-0563
(619) 670-9643 fax
(619) 670-5379 BBS
$49.95
BASIC development tool
512K GS
November 1992, p. 14

UltraCat
Cecil Fretwell
2605 Highview Ave.
Waterloo, IA 50702
(319) 236-0961
$26.95
disk cataloger
GS/150K free
November 1992, p. 14

MAC NEWS

TRENDS TO TRACK

1. CD-ROM

There's probably a joke to be made here using Paul Masson's famous line, "We will sell no wine before its time," but at least five other publications have beaten us to it. CD-ROM's only advantage, no matter what anyone might tell you, is that it's a cheap way to distribute unbelievable amounts of data. The real trick is to write a program that does something worthwhile with all that information, rather than just present it electronic-encyclopedia-style. Broderbund's Living Books series (*Just Grandma and Me*, reviewed in August 1992, p. 53, is a good example) uses CD-ROM's massive storage capabilities to hold animations, graphics, and digitized audio tracks in several languages, then weaves them together in a charming storybook style that captivates both children and adults. Games like Activision's *Cosmic Osmo* ("CD-ROM Comes of Age," May 1991, p. 44) provide seemingly endless universes ready for exploration at the click of a mouse. With careful attention to the end product, CD-ROM can add new depth and dimension to computer software.

2. SHAREWARE

One of the most wonderful side-effects of the Computer Age is the subculture of programmers who spend weeks and months perfecting software and then offer it to anyone who cares to try it, asking only $10 or $15 if the user is satisfied. The Macintosh shareware community can be counted as one of the largest and healthiest. Several large-area computer clubs across the U.S. — and one countrywide organization, the *National Home and School Macintosh Users Group* — are dedicated to making shareware available; there are organizations just for shareware authors, you can buy CD-ROMs stuffed with shareware programs, and bulletin boards everywhere offer programs for the asking. Chances are, if you need something done, there's a shareware program out there that fits the bill. But hundreds of people download, copy, and use programs without ever sending a dime to the author. If you take one resolution with you through the rest of this year, it should be to pay your shareware fees.

3. NETWORKING

When was the last time you thought about your network as a place to play? LocalTalk networks, long used only for printing and file transfer, are becoming the site of a new wave in electronic gaming: real-time games you can play with two or more people at separate networked Macs. Educationally, the prospects are astounding. MECC has already begun an

exploration of cooperative learning with *Wagon Train 1848*, the network version of that perennial favorite, Oregon Trail. While kids still learn the important historical facts the game was originally designed to teach, they also learn collaboration and conflict-resolution skills. As if holistic education weren't enough of an incentive, there's always the thrill of conflict resolution through superior firepower — with games like Velocity's *Spectre*, a tank battle in an electronic arena. If cyberspace is your dream, you might just look for it first on a Mac.

4. EARLY (SAFE) LEARNING

If you want to get your children involved in computers, there isn't a platform around that can touch the Mac for ease of use and kid-friendliness. But nothing's worse than checking to see how little Ashley is enjoying her new drawing program, only to find that she accidentally reformatted your hard drive. Developers

are beginning to tune into the idea that you might want your youngster to be able to use your Mac unsupervised. Apple's entered the fray with At Ease, which might be described as a "kinder, gentler Finder." Edmark recently released KidDesk (see "Maximum Security," October 1992, p. 38), an access control program with early-learning extras such as a talking clock, a calendar with "stickers," a calculator that plays math games, and lots of colorful graphics. Giving kids a head start is crucial in the Information Age, but if you want to keep your Aged Information safe and your kids happy, you might want to start with a Mac.

5. INTEGRATED SOFTWARE

It slices, it dices, it makes crab cakes, ziti, and calzones!" Every time you turn around, some publisher is introducing an integrated package that will let you write letters, balance your books, organize your address file, draw a new letterhead, mix them all together in a presentation, and be home by 5:00. But if you want to see a platform that integrated software really cooks on, go check out a Mac. The latest wrinkle is *frame-based integration*, as exemplified in **BeagleWorks** and **ClarisWorks**. (See "Integrated Software: Weighing Your Options," February 1992, p. 28.) Drop a piece of spreadsheet into a letter you're writing, for example — it'll continue working in its own little frame, instead of becoming static text. Far be it from us to pontificate, but maybe you'll soon be able to write a letter to Uncle George and include a short QuickTime clip of yourself waving hello. The upshot is, if you're putting stuff together, save yourself some headaches and do it on a Mac.

6. MUSIC

You're figuring, "I'm a musical ignoramus — why do I need a Mac if I think 'high C' is a soft drink?" Here's the answer: If you want to learn about music, **The Miracle Piano Teaching System** from Software Toolworks (reviewed in this issue, p. 24) is the fastest and easiest method — short of independent wealth — to learn the basics. This patient teaching program comes with a MIDI-standard synthesizer keyboard.

7. DATA

The dream of having megabytes of instantaneously available and up-to-date information on your computer's screen at the touch of a button comes close to realization on a Mac. PC Globe, for instance, specializes in geographical information, as in its **MacGlobe** (Reviews, March 1992, p. 24) and **MacUSA** (Reviews, November 1992, p. 58) programs. They're atlas, almanac, and gazetteer all in one.

8. DESKTOP PUBLISHING

Correspondents, page designers, and budding novelists, take note: Want to do more without spending more? Tap the potential of your Mac word-processing program — chances are it excels at desktop publishing, too. Take The Learning Company's **The Writing Center** ("Sneak Preview: The Write Stuff," July 1991, p. 36), for example. It's got all the basics: You can lay out words in any number of columns or typefaces and add color pictures to your text, in addition to wrapping up your more-mundane chores as easily as point-and-click. A bilingual (Spanish/English) version is in the works.

9. QUICKTIME

Nobody needs to watch movies on a computer, but the first time you see what QuickTime — Apple's standard specification for storing video images and animations — brings to that Apple II classic **Operation Frog** from Scholastic, you may wonder how you ever got along without it. This QuickTime dissection kit includes actual movies of the intestines of a frog — almost as gross as the real thing. And because QuickTime is a standard format, today's small, shaky movies will become tomorrow's smooth wide-screen masterpieces — if you keep upgrading your Macintosh.

10. MULTIMEDIA

Sure, you can enjoy creating computer graphics and combining them with sound, and even combining video and computer graphics if you have a GS and an Apple II Video Overlay Card. But you want to make movies, don't you? You'll need a big hard drive, a fast processor, and lots of patience, but you'll especially need Diva's **Video Shop**, a neat program that makes creating your own QuickTime flicks (relatively) easy and cheap. **— P.S. & C.C.**

PRODUCT INFORMATION

At Ease
Apple Computer Inc.
20525 Mariani Ave.
Cupertino, CA 95014
(800) 776-2333
customer assistance
(408) 996-1010
price not available at press time

BeagleWorks
Beagle Bros
6215 Ferris Square
San Diego, CA 92121
(619) 452-5500
$299.95

ClarisWorks
Claris Corp.
5201 Patrick Henry Drive
Santa Clara, CA 95052
(408) 727-8227
$299

Cosmic Osmo
Activision
P.O. Box 3048
3885 Bohannon Drive
Menlo Park, CA 94025
(800) 227-6900
(415) 329-0800
$79.95

Just Grandma and Me
Broderbund Software
500 Redwood Blvd.
P.O. Box 6121
Novato, CA 94948-6121
(415) 382-4400
$49.95

KidDesk
Edmark Corp.
6727 185th Ave. NE
P.O. Box 3218
Redmond, WA
98073-3218
(206) 861-8200
(800) 426-0856
$39.95 home
$49.95 school

MacGlobe
MacUSA
PC Globe
4700 South McClintock
Tempe, AZ 85282
(602) 730-9000
$59.95 each

Miracle Piano Teaching System
The Software Toolworks
60 Leveroni Court
Novato, CA 94949
(415) 883-3000
$479.95

National Home and School Macintosh Users Group
15 Everglades St.
Kenner, LA 70065
(504) 464-6985

Operation Frog
Scholastic Software
P.O. Box 7502
2931 East McCarty St.
Jefferson City, MO 65102
(800) 541-5513
$89.95

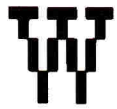
Spectre
Velocity Development
2315 Grant St.
Suite 5
Berkeley, CA 94703
(510) 848-9168
price not available at press time

Video Shop
Diva
322 Third Ave.
Suite 3332
Cambridge, MA 02142
(617) 491-4147
$595

Wagon Train 1848
MECC
6160 Summit Drive North
Minneapolis, MN
55430-4003
(800) 685-MECC
(612) 569-1500
$399

The Writing Center
The Learning Company
6493 Kaiser Drive
Fremont, CA 94555
(415) 792-2101
$89.95

LIFE IS FULL OF CHOICES



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ISADORA CAPS
Kathlita
LOMBARDIC
Lower East Side
Middleton
Park Haven
PIG NOSE
Richard Murray
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Silicon
STALINGRAD
Sydney
Thomas
UPPER WEST SIDE
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CAVEMAN
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MAZAMA
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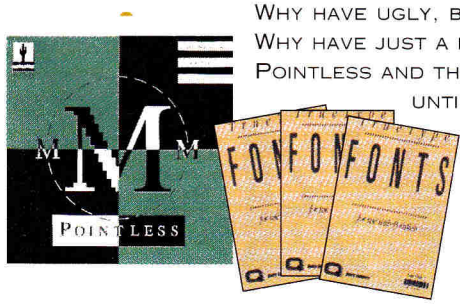

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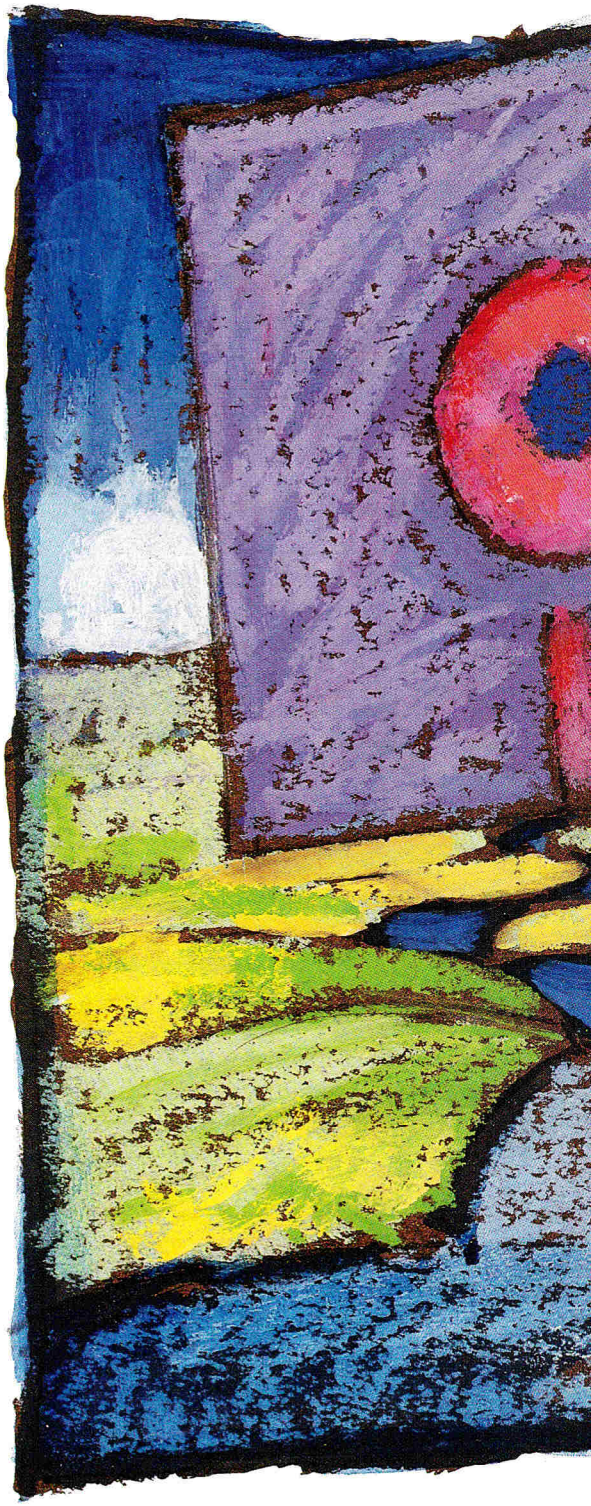
> **I took the one less traveled by,**
> **And that has made all the difference."**
>
> ***— Robert Frost***



ON THE PATH

WHETHER YOU SEE YOURSELF AS A PATHFINDER or as a fellow traveler, making your way through the world of career options isn't easy. Paradoxically, work can be either enslaving or liberating, an outcome that depends not so much on the job itself as on the degree to which the work fits the worker. Competition's stiff these days — so if you're a high-school or college senior ready to enter the work force, start planning your job search now, before the big spring push. And if you're a junior looking ahead to college, now's the time to start thinking about your preferences — possible majors, location and size of your ideal school, the cost range you can afford, and so on — and to begin collecting catalogues and other literature.

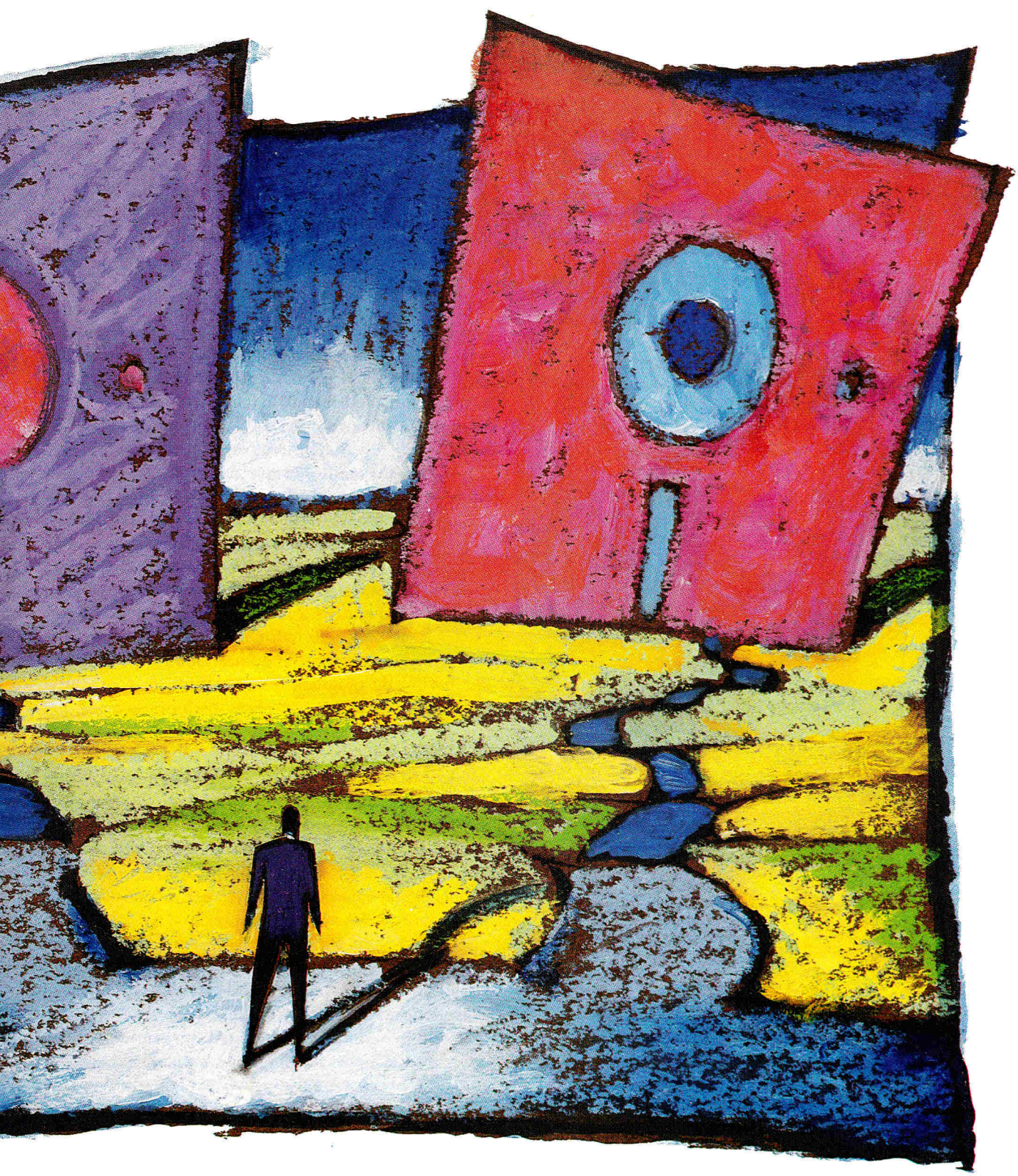
Your Apple II or Macintosh can help — thanks to college and career-planning software, finding the type of work or education that fits you best is substantially easier than ever before. We've previewed more than two dozen programs for IIs and Macs that'll help you at every step along your career path — getting into the right school, choosing an attractive occupation, and landing a satisfying job.

SCORING BIG

In deciding whom to accept for admission, colleges, universities, and professional schools consider a wide assortment of criteria — grade transcripts, extracurricular activities, and special talents, to name just a few. But at most institutions standardized test scores still count. Suffice it to say that it doesn't hurt to score the best you can.

It's probably no surprise that the very computer whose name has for so long been synonymous with K-12 education — the Apple II— can help you advance your postsecondary education, as well. And some of the most widely known test-preparation programs in the Apple II world are the ones published by Krell Software. Among the company's many offerings are programs that help you practice for the ACT (American College Testing), CAT (California Achievement Test), CBEST (California Basic Educational Skills Test), GED (General Educational Development), GMAT (Graduate Management Admissions Test), GRE

Illustration • Paul Schulenberg/Stockworks



By CYNTHIA E. FIELD, Ph.D.

TO SUCCESS

POUNDING THE PAVEMENT

"Nothing is really work unless you would rather be doing something else," said J.M. Barrie. Ever since the first cave dweller groused at the prospect of a daily commute to bring home the bacon, finding the right job has been a tough task all on its own.

Good software can give today's workers a head start in their quest, though. In researching college and career-planning software for this article, we discovered **Career Design** and **Jobhunt**, two exemplary programs for adult job seekers. Mac versions were still in development at press time, but according to the publishers they're expected to be similar to the MS-DOS counterparts we tested.

Perhaps the best career-planning program ever — as evidenced by positive reviews in publications such as BusinessWeek, National Business Employment Weekly, and Savvy Woman — Career Design is published by the software arm of Crystal-Barkley Corporation, a career-counseling group whose work is based on co-founder John Crystal's Life/Work Design process. Although you may be unfamiliar with Crystal's system, you'll probably recognize the title of the popular book it helped spawn: What Color Is Your Parachute?

Career Design guides you step by step as you probe and pursue your dream career. The program helps you assess your skills, set objectives, develop self-confidence, and construct a lifelong plan of action for achieving your goals. Not surprisingly, it can take as long as 40 hours to explore the program's dozens of modules. Individualized feedback encourages you (via pop-up windows) to learn more about yourself, your interests, and your aspirations.

If employment concerns are more pressing, Jobhunt — Scope's "complete job-search tool" — can help. It includes a database of nearly 600 companies actively seeking new employees. Each record includes the name or title of a contact person; company name, address, and phone and fax numbers; and a brief précis of the company's background or industry ranking. You can sort records by geographical region, by job function, or both. Jobhunt also creates mail-merge cover letters to accompany your résumé.

According to a Scope spokeswoman, the Jobhunt database is updated monthly with information gathered from a variety of sources, including employment agencies and company recruiters. Is it all it's cracked up to be? We think so. When we performed an impromptu survey of a half-dozen widely known companies listed in the Jobhunt database, we were pleasantly surprised to discover that all were indeed accepting applications and résumés.

If you want to get the most out of your work life, Career Design and Jobhunt are well worth considering. Contact the respective publishers for more information about planned release dates for Macintosh versions of these outstanding products. **— C.F.**

(Graduate Record Exam), ITBS (Iowa Test of Basic Skills), LSAT (Law School Admissions Test), MAT (Metropolitan Achievement Test), NTE: Core Battery (National Teacher Exam), PPST (Pre-Professional Skills Test), PSAT (Preliminary Scholastic Aptitude Test), SAT (Scholastic Aptitude Test), and TOEFL (Test of English as a Foreign Language).

Krell's **SAT Exam Preparation Series**, for instance, includes a terrific *Test Taking Tips* wall poster and thousands of simulated exam questions that can help you increase your proficiency on the verbal and math sections of the SAT. Krell's unique SCL (*Self-Customizing Logic*) learning feature automatically tracks your success in answering questions and stops asking the types of questions you've already mastered. According to Krell's Marcia Friedland, the company conducts an ongoing redesign of its products so that they conform to revised exam formats, such as a planned overhaul scheduled for the 1994 SAT.

If you prefer to practice for the SAT or the PSAT/NMSQT (National Merit Scholarship Qualifying Test) by taking actual versions of these exams, take a close look at two programs for Apple IIs offered by the premier testing company The College Board.

TestWise, subtitled *Preparing for the SAT*, includes computerized questions to help you prepare for the exam's six modules: antonyms, sentence completion, analogies, reading comprehension, regular math, and quantitative comparisons. After you practice at the computer, you can take an authentic three-hour written SAT. (Our reviewer's copy included the test administered in June 1986.) The computer scores the exam after you transcribe your responses from the printed answer sheet you use when you take the test. An accompanying handbook describes the SAT, explains its aims, and suggests test-taking strategies.

Similarly, **TestSense** helps high-schoolers prepare for the PSAT/NMSQT. In addition to computerized questions, the package includes a printed exam (ours was from October 1982), which helps simulate the actual test-taking experience. When you finish, you transcribe your answers into the program. TestSense calculates your score, tells you what it means, and offers tips for raising it.

CUTTING LOOSE

Ask anyone who's been there — surviving freshman year at college is a badge of honor. Leaving the family safety net, making new friends, struggling to meet teacher expectations, getting out of a warm bed for an 8 o'clock class — these are just a few of the challenges that await the college freshman. (Did someone say "party"?) But, despite the stress, many students thrive on campus because they chose the right college in the first place. You can, too — with the help of a variety of Apple II and Macintosh programs.

Published by The College Board and updated annually, **College Cost Explorer** for the II includes financial data provided by some 2700 accredited two- and four-year institutions of higher learning. You can select any college and then preview its projected resident-student (or commuter) budget. Each budget typically includes the cost of tuition, books, fees, personal expenses, room and board, supplies, and transportation.

Besides providing crucial financial information, College Cost Explorer also calculates the amount of money your family will be expected to contribute each year toward your education. A nasty recession may still hold parts of the nation in its grip, but that's no reason to be discouraged about pursuing a college degree. Not only do most schools in the College Cost Explorer database offer financial aid, but a surprising number grant tuition or fee waivers for a wide variety of students, including senior citizens, family members who are enrolled simultaneously, and children of unemployed workers.

You can count on one thing for sure: **College Explorer**, another valuable offering for the Apple II from The College Board, won't throw your back out like some of those hefty college directories you buy at bookstores for $20 or so. Each annual edition of College Explorer includes comprehensive descriptions of nearly 3000 two-and four-year colleges and universities.

You can search the program's database by selecting from 600 criteria, including location, tuition and fees, admission rate, enrollment size, college setting, financial aid, and sports programs. A unique capability lets you prioritize criteria. The result is an "A" list of colleges that meet all your criteria and a "B" list of colleges offering only the essentials. No printed guidebook can do so much so quickly.

It's fair to say that **College Planner** could be — or should be — your first line of defense against the disappointment of not being able to enroll in the school of your choice. Recommended for college-bound high-school juniors and seniors, this Apple II program helps you gather, organize, and evaluate the information you solicit from the colleges that interest you.

Seeking interviews or requesting catalogues and application forms isn't the drudge work it used to be when we went to school; just customize College Planner's preconfigured form letters. The letter-writing module and a built-in personalized electronic calendar gather information automatically from database records. That means you won't have to type inside addresses in your letters or financial-aid application closing dates in the on-line calendar.

From Peterson's, longtime publishers of printed college and career guides, come new editions of two popular software packages for the II. **Peterson's College Selection Service** (updated annually) includes a vast database of information on accredited two- and four-year colleges, with categories ranging from location and cost to programs available for learning-disabled students. Students can prioritize their lists of desirable school characteristics. Other options include a *Personalized Application Checklist*, which helps students keep track of their own application procedures; *Personal Inquiry Letters*, which lets students customize letters to admissions personnel and includes prompts for SAT scores, class rank, extracurricular activities, and so on; and *College Snapshots*, institutional portraits at a glance, including location, cost, application deadlines, and enrollment characteristics.

Peterson's Financial Aid Service (also updated annually), a step-by-step approach to planning for college costs, analyzes your personal financial information and computes eligibility for aid. You'll find a comprehensive explanation of how to seek college and private funding, including a list of more than 36,000 sources of traditional and nontraditional scholarships, plus non-need-based funds (academic interest, achievement, or athletic awards) at specific colleges. Pell Grant and Stafford Student Loan eligibility information is included, as well as cost and aid data on more than 1640 four-year colleges.

PUTTING RESUME SOFTWARE TO WORK FOR YOU

You never get a second chance to make a good first impression. That old saying's especially true when it comes to your résumé, the brief biographical sketch that tells a prospective employer who you are and, more importantly, what you can do to help his or her company succeed. Whether you prefer a résumé created from scratch or one that's modeled on a preformatted template, your Macintosh can help you create a document you'll be proud to send to prospective employers.

RésuméMaker, from Individual Software, takes a step-by-step approach to the design of résumés and cover letters. All you have to do is choose the résumé style you want: Chronological, Functional, or Performance. Write each section — Accomplishments, Experience, Education, and so on — as it's presented by the program. (Section subtitles may vary according to the résumé format you choose.) You can use the program's Guided Letter™ system to cut and paste professionally written paragraphs into personalized cover letters.

A joy to view in color on the Mac LC, RésuméMaker also offers hypertext-style on-line help with Tips, Spell, and Glossary buttons for additional assistance. RésuméMaker's other goodies include a target company database, an activities log, and an electronic appointment calendar.

RésumExpert is software of a different persuasion. Rather than take a modular approach to the creation of a résumé, this series of template packages from A Lasting Impression provides what company spokesman Jeff Spin calls "real résumés used by real people to get real jobs." Spin and his wife, Myra Fournier, are co-authors of The Encyclopedia of Job-Winning Résumés, a collection of 400 résumés and cover letters available through national bookstore chains. Fournier has more than 12 years' experience in the résumé-counseling field.

Each RésumExpert package includes some four dozen ready-to-customize word-processing templates you can open into MacWrite II, Microsoft Word, or Microsoft Works. All you have to do is select a format that fits your employment field and personal preference. Highlight text with the mouse and overtype the selected text with words of your own. Formatting remains intact, which means you won't have to fuss with fonts, sizes, and styles. Nor will you have to worry about justifying subheadings or incorporating bullets, rules, and other stylistic features. Depending on the length of your finished document, you may have to readjust page breaks, but that's about it.

We previewed generic RésumExpert and **RésumExpert for Students**. Dedicated versions are also available for specific fields such as management, computers and engineering, and health care. The accompanying manual includes facsimiles of the templates included on disk. In addition, the valuable "Special Cases" chapter offers advice for nontraditional job seekers, including older workers, those who have gaps in their employment history, and workers with a weak educational background.

Whether you prefer RésuméMaker's do-it-yourself approach or RésumExpert's template library, one thing's for sure: Your Macintosh can help you prepare a winning résumé and help you land the job you've earned. **— C.F.**

Macintosh users will find copious planning assistance in **College Connection** from Heizer Software and **The College Knowledge System** from Education Information Systems. Both products are collections of HyperCard stacks. While

College Connection restricts itself to institutions in California, The College Knowledge System, with its five independent modules, covers schools in the 50 states, District of Columbia, Puerto Rico, and other U.S. territories, including the Marshall and Virgin Islands (now, that sounds interesting).

In addition to a location map and database describing 179 four-year California institutions of higher learning, College Connection features a preference test designed to help you choose a major field of study that suits your temperament and skills. You respond to each of 27 questions by clicking on a *Like* or *Dislike* button. A typical question might read: *I would _____ work activities requiring me to amuse or entertain others, usually through stage, screen, radio, or television performances.*

After you answer the questions, College Connection compiles a ranked list of major fields you might enjoy. You can explore potential majors in a preliminary way by reading (or printing) descriptions offering a contemporary slant. A lead paragraph describing the environmental-studies major, for example, begins this way: *The Valdez Oil Spill, the largest oil spill in United States history, occurred in 1989 when the Exxon Valdez oil tanker ran aground in Prince William Sound. Millions of gallons of crude oil spilled into the sea, causing widespread environmental damage.* Each description is followed by an overview of course work required and career options available. The program covers some 262 majors in all.

The College Knowledge System is like a comprehensive — and attentive — guidance counselor on disk. It consists of five modules: *Personal Inventory of College Styles* (PICS), *How to Plan for College*, *How to Choose the Right College*, *How to Choose the Right Major*, and *College Knowledge Resources*.

PICS presents 95 sets of statements. Choose the statement in each set that describes you better, and PICS displays or prints a report detailing the type of college you'd like best. A report might suggest, for example, that you'd prefer a small school, with fewer than 5000 undergraduates, in a rural setting or small town. If you'd fare best in a school with heavy academic pressure, an intellectual environment, and an open curriculum, the report will tell you those things, as well.

Enrolling in any institution might be easier said than done were it not for the *How to Plan for College* module with its host of features, including assistance in choosing high-school courses. A collection of charts (for comparing colleges, among other things), a series of *Going Off to College* checklists, and a spreadsheet-like *Expense Planner* make *How to Plan for College* even more well-rounded.

Chock full of practical information about financing your education, *How to Choose the Right College* incorporates a database of nearly 5000 two- and four-year colleges. You can find information about a specific college, print profiles of all colleges in a particular state, or perform a full database search. You make choices that reflect key criteria such as *Field of Study*, *Student Body Size*, *Religious Affiliation*, *Location/Environment*, *Work Opportunity*, *Physical Disability Services and Facilities*, and *Sports*. The result is a highly refined list of candidate colleges.

How to Choose the Right Major incorporates a database of schools that collectively offer more than 350 fields of study. The program also gives users a sneak peek at *Hot Careers for the '90s*. Lastly, the fifth module, *College Knowledge Resources*, provides names and addresses of dozens of federal, national, and trade organizations as well as state Departments of Education. A lengthy list of organizations that help students with disabilities is also included. Need an assist cutting through the alphabet soup of college-planning jargon? If terms such as *CEEB number* stump you, *College Knowledge Resources'* on-line glossary can help.

GO FOR THE GOLD

Choosing a career and searching for a job don't necessarily mean having to earn a college degree, though. Many youngsters join the work force as soon as they can to earn spending money, to save for a car, or to stash away a few dollars for a rainy day or the senior prom. Whether because of corporate downsizing or because of a personal desire to switch gears, significant numbers of adults are changing jobs and careers, as well. Not surprisingly, both Apple II and Macintosh publishers offer a wide range of programs that can help teenagers, adult-education students, and other job seekers discover the types of work they enjoy most.

Three Apple II programs can help students acquire practical skills that will stand them in good stead when they join the work force. An older (circa 1985) program designed originally for special students, **The Right Job** includes some outdated wage-rate information. You can edit program data, though, and even add new job classifications. The Right Job encourages students to explore their personal preferences and to consider 60 occupations in areas such as sales, clerical work, the building trades, and service industries. Like all Wings for Learning products, The Right Job includes a generous number of reproducible worksheets.

Fill in the Blank: The Job Application Form is part of the **Consumerism and Life Skills** series from Orange Juice Software Systems. This interactive program not only teaches you how to complete a typical job application, but also how to react maturely and cordially to acceptance or rejection by a prospective employer. The program's advice — "Be positive! You are selling yourself" — is spunky and motivational.

In Queue's **Work and Career Series — Applying for a Job**, **Interviewing for a Job**, and **You and Your Career** — selecting from a main menu sometimes means typing codes such as *L50* (for *Preparing a Résumé*). Correcting mistakes is awkward, too, and there doesn't seem to be an easy escape route out of the lessons. The software's game formats — designed to help students review program information — offer about as much entertainment value as some old public-domain stuff we've seen. To its credit, though, the series provides lots of pertinent information that can help students choose a career, fill out a job application, prepare a résumé, and interview for a job. (For a look at two approaches to preparing résumés on your Mac, see the accompanying sidebar, "Putting Résumé Software to Work for You.")

Still another Apple II package designed for middle-school students and up, including adult job seekers, is **Peterson's Career Options**. Its step-by-step approach takes you through personal-assessment exercises to identify interests and abilities, then provides personalized career suggestions. A comprehensive database lists more than 700 occupations and related jobs, with training requirements for each. Information on how to research various occupations and where to get more-detailed data is also included.

Two Macintosh HyperCard applications currently available from Heizer are particularly noteworthy for the quality of their graphics and degree of interactivity. (For a quick preview of two other career-planning and job-hunt programs under development for the Macintosh, see the accompanying sidebar, "Pounding the Pavement.")

In **CareerLink**, which its authors describe as "the beginning of a successful career decision-making strategy," you answer a series of questions such as *I like/dislike performing a variety of duties, often with frequent change.*

When you finish the CareerLink inventory, the program assesses your aptitudes, your interests, the working conditions you prefer, and the preparation time you're willing to invest. A career-cluster summary ranks the occupations you might enjoy. CareerLink lets you investigate each potential occupation as well as its training, worker, and entrance requirements. Reports are both detailed and insightful. For example, someone pursuing a career in natural-science research is advised to possess *intellectual capacity and interest sufficient to acquire necessary academic background; thoroughness and penchant for detail; a facility with mathematics; and and* [sic] *inquisitive mind and fertile imagination* (piece of cake).

In a similar vein, **Career Values Connection** surveys your preferences by asking you to select from each of 45 pairs of statements the one that represents the value that's more important to you. For instance, a statement set might include *Motivating others to think or act in certain ways* and *Helping or teaching others to learn how to do or understand.* After you complete the survey, the software provides a *Values Ranking* that lists career attributes such as problem solving/creativity, prestige, time off, high income, and frequent public contact; the program then generates printed lists of careers compatible with your personal profile.

PERSONAL BEST

Continuing your education, picking a career that fits your personality and skills, and landing a good job are challenges we all face. According to some estimates, you'll change careers at least three times in your life — scary stuff for most folks, but a lot less daunting for Apple computer users. Whether you're fresh out of high school, returning to the workplace after raising children, or considering a midlife career change, programs for the Apple II and the Macintosh can help you achieve your personal goals more easily than ever before. And that's something you can take to the bank. ❑

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HOLIDAY GREETINGS 2

AppleWorks' mail-merge feature helps you stay in touch with friends and family.

BY RUTH K. WITKIN

BUSY, BUSY, BUSY — AS IF YOU didn't have enough to do this holiday season, here comes a column loaded with tantalizing treats too good to pass up. Oh, well, you'll simply have to squeeze in a few computer hours among all that shopping, wrapping, gift giving, celebrating, and socializing — and doing that will in turn save you some hours on the card-writing end.

Last month, you created a database to print mailing labels (November 1992, p. 44). In this session, you'll mail-merge a newsy holiday letter with selected records in the database, ending up with form letters that look like one-of-a-kind correspondence. (Many thanks to my husband, Burt Witkin, for creating this tongue-in-cheek missive.) If you missed the first installment, request a reprint from the *inCider/A+* editorial department at 80 Elm Street, Peterborough, NH 03458, (603) 924-0262.

Start by loading AppleWorks and bringing the database named *MAILING* to the screen. The seven records you entered last month appear in the *Review/Add/Change* screen's multiple-record layout.

Next, press the escape key to return to the main menu; then tell AppleWorks to create a new word-processor file named **MAILETTER**. You now see *Review/Add/Change* with the cursor in line 1 column 1.

Figure 1 shows the finished letter. **Figure 2** shows the unformatted letter with line numbers for reference, blots where you press Return, and placeholders (bracketed categories) that save areas for entries from the MAILING database.

Square brackets ([ ]) enclose categories that may not always contain an entry (here, company name and title), in which case you want AppleWorks to omit the line.

December 12, 1992

Prof David W. Carlisle
Hadley College
Dean
15 Shore Road
Abner NY 11999-0234

My Dear David:

It's that time of year again. Time to catch you up on all the good stuff that's been happening around here.

Molly and Philip built an in-ground swimming pool with a delightful heart shape and red diving board for those of us who are swimmers and not your sit-around-the-pool types who never get wet.

Allee and her best beau, Jimmy-poo (you remember him from that cookout last year), are off on a photographic safari in deepest Hawaii. We are looking forward to really fantastic pictures when they return.

In the meantime, me and my sweetheart of 30 years - yes, indeed, old Bart - are settling in for the winter on our 40 acres down east and waiting for all our good friends and family to visit. We promise to leash the dogs this time.

We would especially love to hear from you in this wonderful of all seasons.

Lots of hugs,

Melanie and Bart

Figure 1. Formatted holiday letter.

Angle brackets (<>) enclose categories you know will always contain an entry (here, courtesy title, first and last names, address, and salutation). You tell AppleWorks which brackets to use when you insert the placeholder. To enclose a category in square brackets, you'll type **Y** at the proper place in the process. To enclose it in angle brackets (the AppleWorks standard), you'll press Return. You'll see how this works in a moment.

First, press Open apple-Z (OA-Z) to keep the blots and printer options visible. Now let's make your screen look like the one in **Figure 2**. Type today's date and press Return five times. Leave the cursor on line 6.

Next you'll be entering the placeholders, so put the database on the desktop: Press OA-Q to display the *Desktop Index*, highlight *MAILING*, and hit Return. The database returns with records in multiple-record layout in *Review/Add/Change*.

Start the mail-merge process by printing (not moving or copying) the database to the clipboard: Press OA-P to bring up the *Report* menu. Type **2** to create a new *tables* format and hit Return twice (the second time to create the format *from scratch*). Now type **MERGE** (the name of this report) and hit Return again. The *Report Format* screen appears.

Press OA-P to bring up the *Print the Report* screen. Type the number that selects *The clipboard (for Mail Merge)* — typically, **4** — and hit Return. AppleWorks now confirms that your mail-merge data is on the clipboard.

Switch back to the letter: Press OA-Q to bring up the *Desktop Index*. Highlight *MAILETTER* and hit Return. It appears on cue with the cursor still in line 6.

Now press OA-O to bring up the *Printer Options* screen. Type **MM** (for *Mail Merge*) and hit Return. AppleWorks displays a list of database categories, with the highlight on *COURTESY*. That's what you want, so hit Return. AppleWorks now asks whether you want to omit the line when all entries

```
December 12, 1992
^<COURTESY> ^<FIRST MI> ^<LAST NAME>
^[COMPANY]
^[TITLE]
^<STREET>
^<CITY> ^<STATE> ^<ZIP>

My Dear ^<SALUTAT>:

It's that time of year again. Time to catch you up on all
the good stuff that's been happening around here.

Molly and Philip built an in-ground swimming pool with a
delightful heart shape and red diving board for those of us
who are swimmers and not your sit-around-the-pool types who
never get wet.

Allee and her best beau, Jimmy-poo (you remember him from
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family to visit. We promise to leash the dogs this time.

We would especially love to hear from you in this wonderful
of all seasons.

Lots of hugs,

Melanie and Bart
```

Figure 2. Text for holiday-letter template.

on it are blank. No, you don't, so press Return. You've just specified angle brackets.

A placeholder appears in the document with a space after it to separate it from the next placeholder when you have more than one on the same line. Now enter the next placeholder, *FIRST MI*: Type **MM** and hit Return. Type **2** and hit Return twice. Now enter the *LAST NAME* placeholder: Type **MM**, hit Return, type **3**, and hit Return twice. You now see three placeholders looking like those in **Figure 2**. Press Escape to return to the letter, and press Return to move down one line.

Next, enter the *COMPANY* placeholder: Press OA-O, type **MM**, and hit Return. Type **4** and hit Return again. This is one of those categories that may not always have an entry. To tell AppleWorks to omit the line when all entries are blank, type **Y** and press Escape. You've just specified square brackets. Press Return to move down one line.

Enter the *TITLE* placeholder, which also needs angle brackets: Press OA-O, type **MM**, and hit Return. Type **5**, hit Return, type **Y**, and press Escape. Press Return to move down. Using **Figure 2**, enter the STREET, CITY, STATE, and ZIP placeholders the same way, pressing Return each time to specify angle brackets. Back in the letter after *ZIP*, hit Return three times to insert two blank lines. The cursor should now be on line 13. Press OA-S to save the letter.

Line	Action
15	Type the entire paragraph starting with It's that time of year again. At the end of the paragraph, press Return twice. The cursor moves to line 18.
18	Type the entire paragraph starting with Molly and Philip built an in-ground swimming pool with a delightful heart shape . . . At the end of the paragraph, press Return twice. The cursor moves to line 23.
23	Type the entire paragraph starting with Allee and her best beau, Jimmy-poo . . . At the end of the paragraph, press Return twice. The cursor moves to line 28.
28	Type the entire paragraph starting with In the meantime, me and my sweetheart of 30 years . . . . At the end of the paragraph, press Return twice. The cursor moves to line 33.
33	Type the sentence starting with We would especially love to hear from you . . . . At the end of the sentence, press Return twice. The cursor moves to line 36.
36	Type Lots of hugs, and press Return six times. The cursor moves to line 42.
42	Type Melanie and Bart and leave the cursor where it is, which should be line 42 column 17.

Table. Instructions for entering holiday-letter text.

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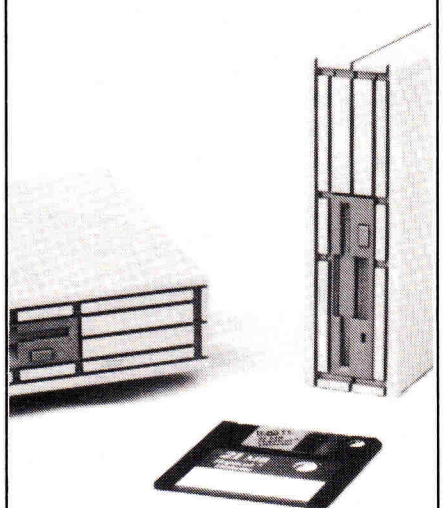

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Now type **My Dear** and a space, then enter *SALUTAT*, the salutation placeholder, as shown in **Figure 2**. Press Escape, press the left-arrow key once, and type a colon. Press Return twice to move to line 15.

Referring to the accompanying **Table**, enter the rest of the text in the letter. Press the spacebar only once between sentences. If you make a typo, press the delete key to back up the cursor and erase. That completes the text in the letter. Press OA-S to store it on disk.

Now let's make sure everything's spelled correctly, so press OA-V to start the *Verify Spelling* command. The highlight is on *All*, which tells AppleWorks to check the spelling of every word in the letter. Press Return to confirm *All*. Unless you made some typos of your own, here's the usual course of events. AppleWorks scans the letter and pauses with the cursor on the placeholder *SALUTAT*, an unknown word. Type the capital letter **I** to tell AppleWorks to ignore this word. It now pauses on *Allee*, another unknown word. Again, type **I**. This time, AppleWorks pauses on *poo*. Type **I** again. This completes the spelling check. Press OA-S to save.

Now for some finishing touches: This letter needs only a bit of formatting to make it look like the one in **Figure 1**. Press OA-1 to jump the cursor to line 1 column 1. Press OA-O to bring up the *Printer Options* screen. Set a top margin so the date prints 2 inches from the top of the page: Type **TM** and press Return. Type **2** and hit Return again. This leaves room for a letterhead if you use it.

Next, tell AppleWorks to justify the text, which produces lines with a smooth right edge: Type **JU** and hit Return. Specify a proportional font to give the text a polished look: Type **P2** and press Return. The formatting is complete, so press Escape.

This is the moment when all your work pays off. Turn on your printer and press OA-P to start the *Print* command. Press Return to confirm *Beginning* and again to select your printer (or type a printer number, then press Return).

AppleWorks asks whether you want to merge the database and document. You do, so hit Return, then hit Return again to confirm *1* copy. Seven letters roll off the printer, one after the other, with the first one looking like the one in **Figure 1**. Press OA-S to store the formatted letter on disk.

Sometimes you'll want to send letters only to a select few — for instance, friends (not business associates) on your Christmas card (not birthday) list. You can do this easily by using the alphabet codes in the database and AppleWorks' *Select Records* command.

Here's how: Press OA-Q and switch to the *MAILING* database. Now press OA-R to bring up the *Select Records* screen, type **10** to choose the *CAT* category, and hit Return. Type **7** to choose the *contains* criterion and press Return again. Type **X** (your code for *Christmas card* — upper- or lowercase doesn't matter), and hit Return.

You have a second criterion, so press Return to confirm *and*. Again, type **10**, hit Return, type **7**, and hit Return again. This time, type **F** (letter code for *friend*), and hit Return. You can see both selection criteria in the upper-left corner of the screen. Press Escape to return to the *Review/Add/Change* screen. AppleWorks now displays three records matching the criteria you specified.

Before you can print letters for only these selected records, you must print the database to the clipboard again: Press OA-P to bring up the *Report* menu, and hit Return to confirm *Get a report format*. Type **3** now to highlight *MERGE* and hit Return. The *Report Format* screen reappears.

Press OA-P to bring up the *Print the Report* screen, and hit Return to confirm *The clipboard (for Mail Merge)*. AppleWorks again confirms that your mail-merge data is on the clipboard. Press OA-Q to reach the *Desktop Index*, highlight *MAILETTER*, and hit Return. MAILETTER appears on cue. Now print the selected letters as you did before: Press OA-P and hit Return four times (to confirm *Beginning*, your printer, *Mail Merge*, and *1* copy of each letter). Three letters roll off the printer.

Now return to the database and select all records by pressing OA-R and typing **Y** (for *Yes*). An even easier way is to remove the database from the desktop without saving it, which lets the record selection disappear. Happy holidays! ❑

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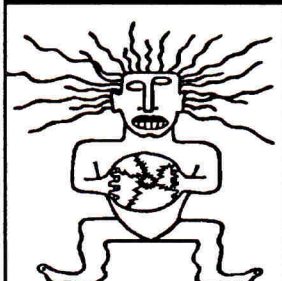

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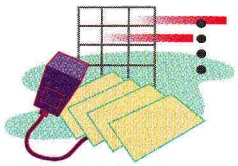

HyperActivity

Over and Under

Invisible buttons atop graphics or text make individual elements of your card interactive.

By DEAN ESMAY

STRANGE AS IT SEEMS AT FIRST, in most hypermedia environments the real power lies in that unobtrusive little object, the button. We've already seen that buttons can move you along to another card in the stack you're using, but in truth a button can do a great many more complicated things. It can also play a sound, show a picture, show an animation, ask a question, and, in more advanced applications, use *scripting* (written programs) to accomplish an almost infinite variety of tasks, such as add numbers, draw on screen, load or save text, and more. One button can even call, or "press," another button. And, most important of all, a button can do more than one thing at the same time — in fact, one single button can do everything listed above, all at once.

Buttons come in a variety of sizes and shapes. With most hypermedia-authoring software you can choose among certain basic outlines — squares, rectangles, and variations on those themes (sharp or rounded corners, with shadow or without, and so on). And, in most authoring systems, a button can be virtually any size. A button's size and shape rarely have anything to do with its function. A tiny button barely large enough to see can do half a dozen things at once, while a huge one taking up the entire screen might do nothing but jump you to another card.

There's one special type of button, as well — and it's particularly important to stack authors. It's called an *invisible* button, and it's a powerful tool. It may be a simple rectangle of any size you specify, but it can also be free-form, shaped to whatever configuration you can imagine. What's the point of a button that's invisible? Its biggest advantage is that you can layer it on top of a graphics image or a piece of text to make that element interactive. Let's use invisible buttons to create a stack on Australia. While we're at it, we'll show how you can make one button do two things.

In our last two columns we explored the basic mechanics of creating a hypermedia stack. In the process of designing our organizational stack for the computer club Apple Leaf, we learned how to create cards, how to create buttons to move among cards, and how to use graphics and text fields on each card to communicate information — all the fundamentals. From here on in, those concepts should carry over to everything else we do, so you'll be seeing fewer and fewer step-by-step directions. Roger Wagner Publishing's **HyperStudio** will remain our preferred environment, but the concepts will apply to all authoring packages. Experiment with your own software, read its documentation, and practice the basic moves. Hypermedia software is fun and easy to use, so don't just rely on the templates presented here — go exploring.

Speaking of exploring, let's tackle this month's project, an ideal tool for geography or history classes or perhaps a family travelogue — a stack illustrating your own discovery of the Land Down Under.

Figure 1. Section from HyperStudio's clip-art selection showing Australia and surrounding islands.

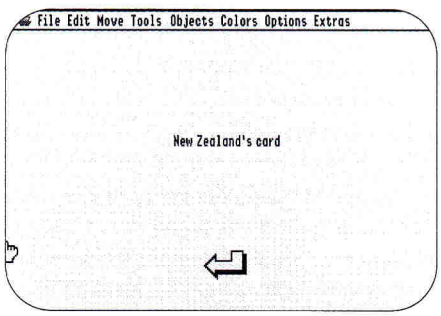

Figure 2. Set up a basic information card for each individual area; note button to return to main map card.

DIVVY IT UP

Start by pulling down the *File* menu, opening a new stack, and loading as a background a picture of Australia and its environs — convenient if you use HyperStudio, which includes in its clip-art selections a map of that continent and the larger islands surrounding it (**Figure 1**).

Let's say we're going to create an informational stack, one in which the user can click on the territory that interests him or her. After designing your main card on Australia, the next step is to create a series of cards, one for each of the major territories on the map. So from the *Edit* menu, make a new card; from the *Objects* menu, add a text field and type in the name of the corresponding territory or nation (starting with, say, New Zealand); and, again from the *Objects* menu, add a button and specify its "appearance" and "action" to return to the first card (**Figure 2**). Repeat until you have one for each territory you want to cover; later you can

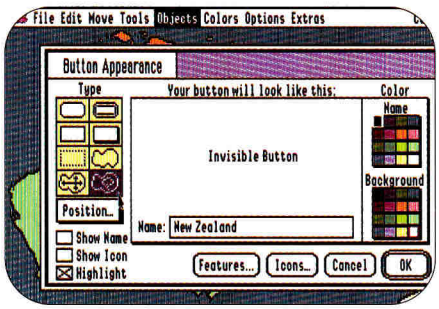

Figure 3. Button Appearance submenu showing basic shapes, including three invisible buttons.

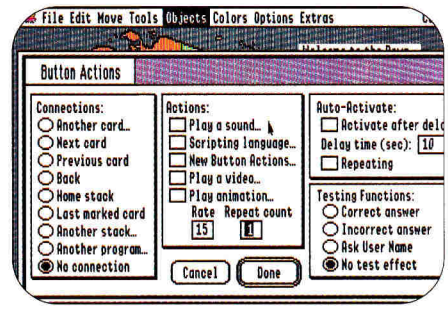

Figure 4. Button Actions specifies linked activities, such as moving to another card and playing a sound.

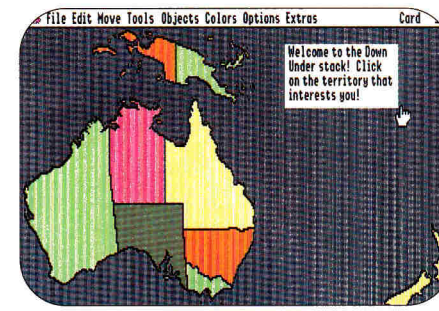

Figure 5. Text field on main map card contains instructions and other pertinent details.

go to each territory's card and fill in whatever data you like. (For a refresher course in the details of card design, see "Who's Who," October 1992, p. 48, and "Picture This," November 1992, p. 50.)

Now jump back to the first card, the one with the map (**Figure 1**). You're ready to tackle invisible buttons — one on top of each territory on and around the Australian continent. Start with that wonderful double island to the southeast, New Zealand. Basically, you'll create a new button and name it **New Zealand** (*Objects* menu), but instead of accepting the default rectangle, you'll pick one of the "transparent" types, which specify invisible buttons. In this case we'll use the "lasso" from the *Button Appearance* submenu (**Figure 3**). Notice the column called *Type*, containing among other items a standard marquée, plus three amorphous blobs.

If you've ever used a paint program, you know that the lasso tool lets you encircle an item and select it without any of the other material around it. So pick the invisible-button option containing the lasso, and draw a rough circle around New Zealand. The software selects it automatically; note that New Zealand is highlighted. HyperStudio asks whether the selection you made is correct. If so, click on *OK*.

This takes you to the *Button Actions* submenu (**Figure 4**), where you'll tell HyperStudio what you want the New Zealand button to do. In this case, let's try two things: play a sound and jump to another card. The latter action is easy: Just specify a *Connection* to *Another card* and move to whatever card you want. When you finish, you'll return to the *Actions* submenu.

Now click on *Play a sound* (**Figure 4**) and you'll see the sound submenu. Most hypermedia programs (except those that work in an 8-bit Apple II environment, such as Tutor-Tech) support digitized sound, and most come with a selection of sampled-sound files on disk. There are many other sources — on-line services and public-domain software distributors, for example. There are also a variety of ways to create your own. HyperStudio for the GS comes with a free sound-digitizer card, for instance; the Mac LC/LC II has one built in. A wide variety of third-party hardware and software products for the GS and the Mac give you a range of sound options. (For details, see "Command Performance" and "The MIDI Beat," August 1992, pp. 40 and 44, respectively.)

Wherever you get them, digitized sounds can add a whole new dimension to hypermedia stacks. To make things simple here, pick one of the four "sample" sounds that are always available within HyperStudio. My own favorite is "boing," which sounds like a little spring; it goes nicely with buttons. Click on *OK* after you've chosen your sound, then *Done* on the *Actions* menu.

DETAILS, DETAILS

Notice that once you've designed your button and set up its actions, you can no longer see it — and that's the nature of an invisible button. If you click on New Zealand, you should immediately hear a "boing" noise and move to that card. Pretty cool, huh?

Now moving back to the map card, how can you tell where your invisible buttons are? Most hypermedia programs let you "peek" at a card to see hidden buttons; usually you just hold down the command and option keys simultaneously. (That's open-apple and solid-apple, respectively, for you old-timers.) All invisible buttons on the card should show up in white.

Almost done — just repeat this operation for the other territories or nations on your map. But wait — there's a problem. If you try to make an invisible button with the lasso on a territory that's part of the Australian continent, such as Queensland, you find that the lasso doesn't capture just the area you want. It isn't sophisticated enough to tell the areas apart; the pattern is too complicated for it to deal with.

The fix is to use one of two options: the "free form" invisible button (the amorphous type with nothing inside it in **Figure 3**), drawn by hand, which can be difficult to do just right; or HyperStudio's "expanding lasso" option (the one with crossed arrows). To use it, simply click inside the area you want to define for your button, and it automatically expands outward to fill the space. Try it to see exactly how it operates — it's pretty snazzy.

Everything else works the usual way, so within minutes you've defined your stack, with each territory on the main map sporting an invisible button, which, when clicked, jumps to the card containing information on that area or nation.

Now just create a text field (*Objects* menu) to one side of your map and type in instructions for your users and any other pertinent information about your stack (**Figure 5**). Fill in also whatever data you feel is relevant on the cards you created for the individual territories. Like magic, you've got an interactive mini-atlas tailored to your family's or students' needs. Happy exploring! ❑

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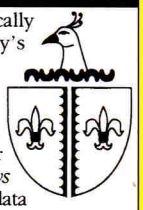

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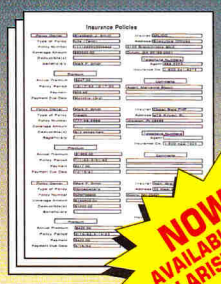

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Continued from p. 64

Databases are rigid; hypertext documents are fluid. In a world of fast information growth, we need all the flexibility we can get from our tools. **HyperCard** for the Mac and the Apple IIGS and **HyperStudio** for the GS are poised at the boundary between stage 1 and stage 2. They retain the "card" metaphor from the mechanical world, yet support many of the stage 2 ideas mentioned above.

Spreadsheets existed long before computers were created. While most of these stage 1 tools have added new capabilities (especially graph generation), they're still replications of mechanical processes. Their real limitation has nothing to do with stage of development, though. The underlying model is simple causality: Event A produces result B. Most spreadsheet packages send an "error" message if you try to relate B back to A. Bidirectionality and synergy are antithetical to it. Spreadsheets also produce static views of the microworlds they represent. In times of interdependence and rapid change, this model is quite limiting.

The spreadsheet's stage 2 counterpart incorporates the interconnections among factors and produces a dynamic result, either an animation or a graph that displays results over time. Last month I explored a model built in **Stella II**, from High Performance Systems ("The Bottom Line," p. 64). As a systems-analysis tool for the Mac, it's a splendid example of a stage 2 product.

INTO THE FUTURE

What does the transition from stage 1 to stage 2 look like? It's not easy. For one thing, stage 1 technology can take advantage of preexisting metaphors. The concept of desktop publishing is comprehensible because we grasp the underlying concept of page layout. The software provides alternative ways of performing a task we already understand.

That's not the case for stage 2 applications, however. Nonlinear multimedia has no preexisting metaphor to define it, and that makes it harder to grasp. I'm convinced that had Apple not given HyperCard away at first, that program and other authoring applications would have remained on dealers' shelves, because very few people appreciated their significance. Remember that **Tutor-Tech** from Techware was available for the Apple II months before HyperCard came on the scene; many people had no idea why it would be useful. I even encountered Apple employees who still failed to grasp the power of HyperCard more than a year after its introduction.

Because the transition into the stage 2 world is revolutionary, not evolutionary, it requires a radical alteration in our thinking — a paradigm shift. It requires that we break down the gate blocking our view of the future. Failure to acknowledge the nature of this transition will only perpetuate old established models. Our children seem so comfortable with new ideas. Don't we owe them the best and the most that technology has to offer — the clearest and most creative path we can envision? ❑

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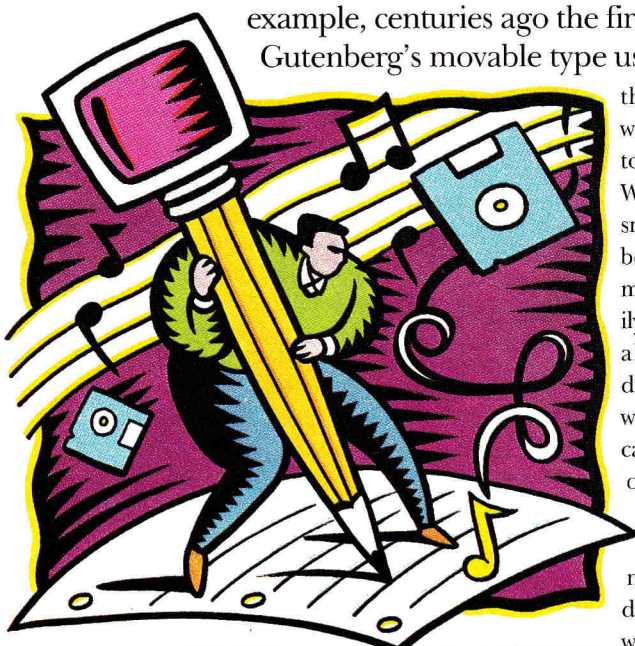
SHIFTING VISION

Multimedia and dynamic modeling systems represent a new paradigm for the future of computing.

Throughout our history, Western society has been marked by a hunger for innovation — and, at the same time, a curious reluctance to take full advantage of it. The adoption of a new technology often takes place in two stages. At first we use the new technology to do old things; later the new technology comes into its own and we use it to do new things. For example, centuries ago the first books produced with Gutenberg's movable type used typefaces similar to those created by scribes who worked by hand. The resulting tomes were heavy and clumsy. With Manutius' invention of a smaller italic typeface, however, books became compact documents that could be carried easily. In our time, early educational software was based on drill-and-practice worksheets as we used the computer to replicate tasks traditionally carried out by mechanical means. The development of the language **Logo**, however, moved computer use into a new domain — a second stage, in which kids began to use computers to explore "microworlds" of their own design. Unlike the world of worksheets, microworlds — graphics created through the manipulation of mathematical phenomena — involved new and unfamiliar paradigms, new ways of looking at computers' purpose and potential.



By DAVID D. THORNBURG, Ph.D.

BEYOND THE LINEAR

Clearly, the most powerful use of computers in education and business comes in the second stage — a stage we're just entering today. To illustrate this concept let's look at three popular computer applications.

Word processors, to begin with, are really just fancy typewriters. They're easier to use — you can do all your editing on screen before printing, thanks to your computer's memory and the software's cut, paste, and delete functions — and a selection of fonts and formats makes for some nice-looking documents. But the result is still a printed page. The same can be said of desktop publishing; it extends the concept of word processing to include complex page layouts and the incorporation of graphics, but Gutenberg would still recognize the result. As valuable as these tools are, they represent stage 1 in terms of technology use. On the other hand, multimedia documents that include animated graphics, sound, and color movies move beyond the realm of Gutenberg. The resulting "document" is a disk file that doesn't have a paper equivalent. In other words, multimedia is stage 2.

As educators, we must grow and adapt right along with our students as they move into the multimedia world. Will we accept student reports and projects on disk? Instead of establishing a "ten-page minimum" for a paper's length, for instance, should we expect the report to be at least 700K? Fortunately, for those of us who are making the transition from the world of words to the world of multimedia, good tools are available — tools such as the Mac authoring program **MediaText**, developed by Dr. Elliot Soloway and his colleagues at the University of Michigan. (For more information, see "Disktop Revolution," Learning Curve, August 1992, p. 64.)

The database world is, perhaps, more complex, but the dominant metaphor is still the "record" — a reference to the kind of information you might place on an index card. While databases have undergone tremendous changes in the past decade, they still operate on the assumption that you store information in categories or labeled fields. This stage 1 idea traces back to the era of punched-card sorters and other electromechanical devices that preceded the the modern computer.

In the stage 2 world, the need for defined fields is eliminated through the creation of hypertext documents and rapid text searches that can find isolated words in huge files in a fraction of a second.

Continued on p. 63

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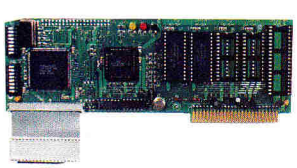

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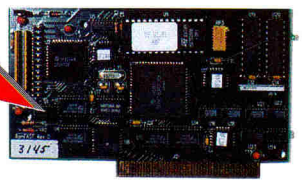

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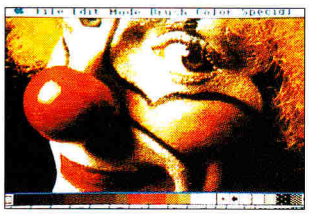

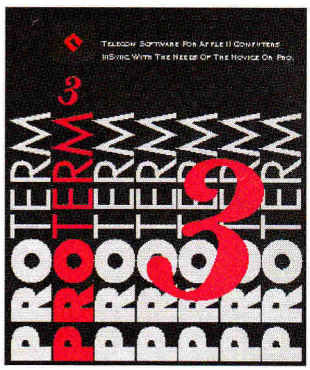

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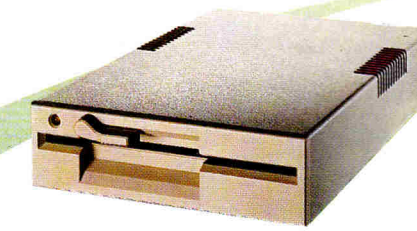

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