

HAAUG

Apple Barrel

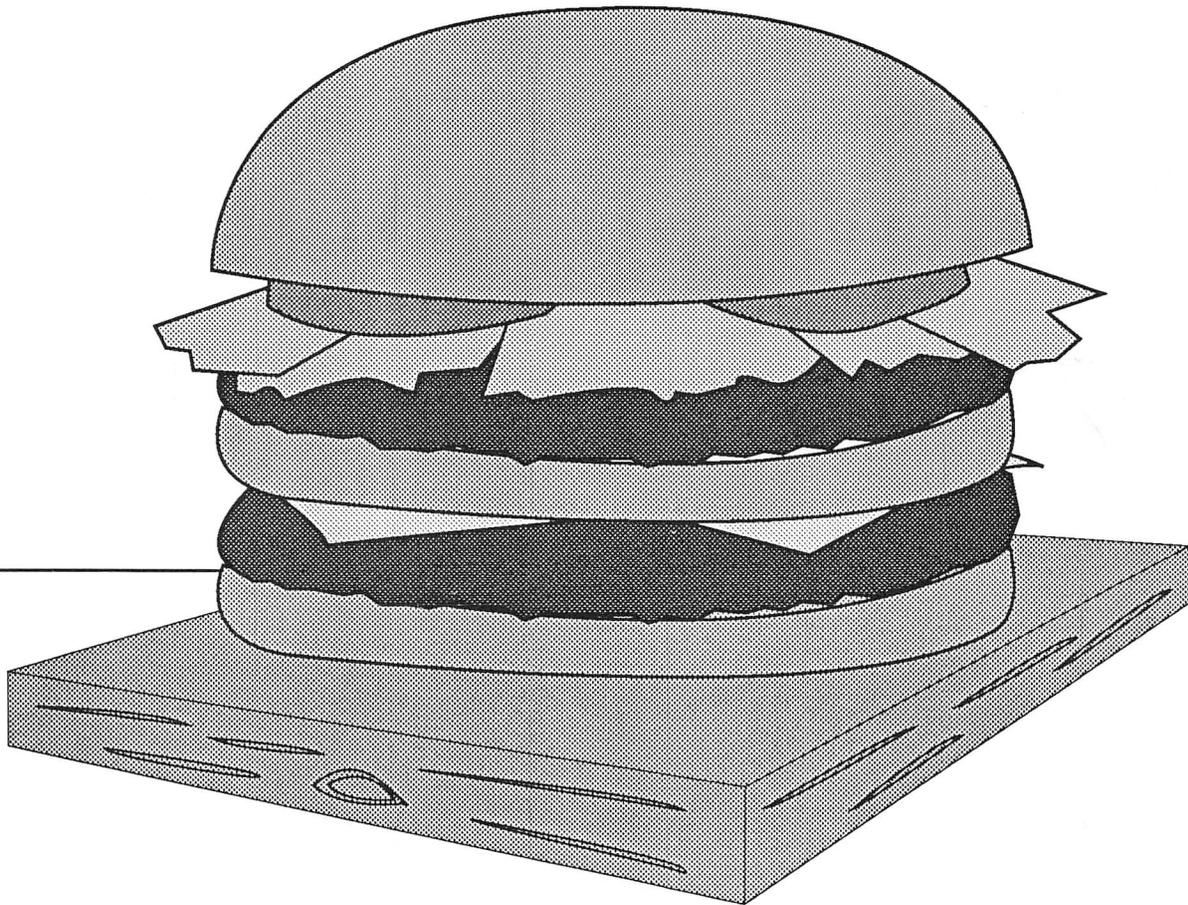
The Journal

of the

Houston Area Apple Users Group

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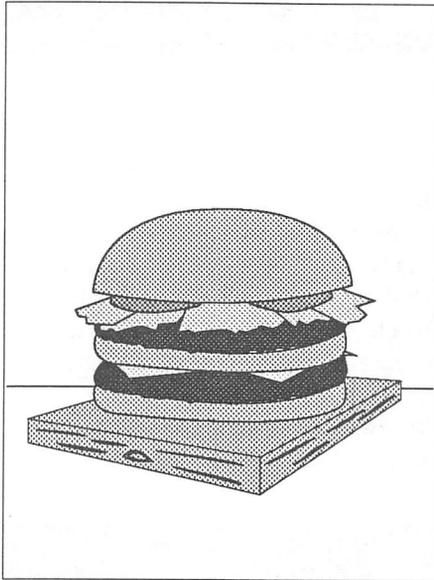
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About the Cover

For a change, Chris Flick created a cover that had something to do with a couple of the articles in the magazine.

Editorial Staff

Tom Engle
Cleland Early
Chris Flick

Circulation

1250

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The next meeting will be on **December 12**, and will take place at the Marriott Hotel.



Inside HAAUG

Overview

The Houston Area Apple Users Group provides a forum for the exchange of ideas and information about Apple Computer products and their associated hardware and software. Meetings, newsletters, special interest groups, and other events create this forum.

Membership Information

A one-year membership to HAAUG costs thirty dollars and includes the Starter Kit, a subscription to the *Apple Barrel*, and a membership card giving access to all of the club's services. You can become a member at the Answer Desk during the meeting, through brochures located at local dealers, or by calling the HAAUG Hot Line and having a brochure mailed to you. Renewal costs twenty-five dollars per year.

Meeting Date & Location

HAAUG meets on the third Saturday of the month at the Marriott-Astrodome Hotel, 2100 South Braeswood at Greenbriar. New members should attend the New Member Orientation. You can find out about changes through the Hot Line.

Meeting Schedule

- 10:00 New Member Orientation
- 11:00 Macintosh Main Presentation
- 12:00 HAAUG Club Business
- 12:30 Apple II Main Presentation
- 1:30 Special Interest Groups
- 2:30 Special Interest Groups
- 3:30 Special Interest Groups

HAAUG Hot Line (713) 522-2179

The HAAUG Hot Line provides a means for members to learn of the meeting time and location and announces any last minute changes in the meeting time or location. Non-members can also leave their name, address and phone number for more information about the club. If you have a question about a particular commercial product, please check the list of volunteer specialists in this issue.

Club Officials

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First Vice President	
Jeanne Boucher	723-9519
Second Vice President	
Mike Barnaba	527-9953
Secretary	
John Marek	782-3898
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Jack Cowart	467-4215
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Mike Kramer	358-6687
George Pierce	526-5103
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Dennis Bilbe	522-2179
Vendor Coordinator	
Jeanne Boucher	723-9519
Program Coordinators	
Mike Kramer	358-6687
Steve Bass	847-4407
World's Worst Badminton Player	
Tom Dillon	376-6502

The Board of Directors meets on the first Thursday of the month at the Marriott Astrodome Hotel at 6:30 pm. Members interested in making the club a better organization should attend.

Writer's Guidelines

Contact the Editors for more information about the Writer's Guidelines.

Advertising

Contact the Editors for more information about advertising.

Public Domain Software Libraries

The club maintains an Apple II public domain library and a Macintosh public domain library.

Macintosh Library

The Macintosh library contains over one-hundred disks of public domain software. Members may purchase copies of these disks at the meeting for five dollars per disk. You may copy the directory disks for free. The directory disks contain listings of the contents of the other disks. Members can also copy recent library submissions for free.

Macintosh Librarian

Dick Lee 821-1298

Apple II Library

Members may copy the Apple II library at the meeting for one dollar per disk side. Manuals are available at the meeting describing what is available in the library.

Apple II Librarian

Don MacGregor 530-5034

Hardcopy Library

The Hardcopy Library consists of back issues of the *Apple Barrel*, back issues of other magazines, and other material. It's open to members and is occasionally available at the meeting.

Hardcopy Librarian

Les Brown 795-2741

HAAUG Heaven Bulletin Board System

HAAUG Heaven, HAAUG's computerized bulletin board system, offers modem owners a meeting place. The telephone number is (713) 664-9873 and the recommended protocol setting is 8-N-1-Full.

Special Interest Groups

SIGs focus on one topic of common interest during these meetings within a meeting. The meeting handout contains the SIG meeting locations and times.

SIG Leaders

Apple II SIG Coordinator

Jeanne Boucher	723-9519
Apple IIGS	
Lewis Stephens	471-7344
Galen Gray	443-2150
AppleWorks	
John Slack	491-1747
Advanced Topics	
Bill Hensley	980-4993
Robin Cox	778-1635
Education	
Ann Petrillo	489-7535
Games	
Thomas Carson	861-5425
Larry Stehling	347-0821
Green Apples	
Glenna Payne	463-0640
Hardware	
Dave Simek	496-3304
Home Use	
David Jaschke	937-8349
Mike Stoops	242-1312

Mac SIG Coordinator

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Larry Stage	358-1105
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Desktop Publishing	
Charlie Moger	961-1601
Developers	
John Pence	522-2179
Engineering	
Ronnie Haws	444-6720
Games	
Bob Lewis	242-0990
Microsoft Excel	
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Microsoft Works	
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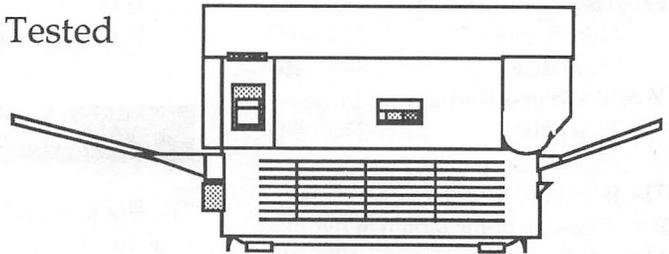
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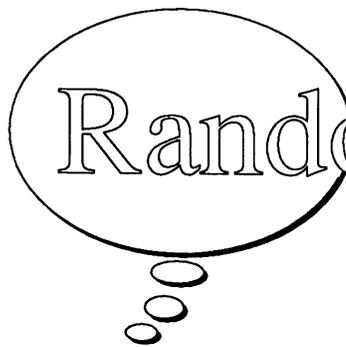


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Cleland Early's

Random Thoughts

In the world of Apple, metaphor is now king. A metaphor, of course, is figurative language, an imaginative analogy drawn between two objects. The power of the metaphor lies in its ability to transfer feelings or qualities we associate with one object to another. A skillful use of metaphor in a work of literature can make the unfamiliar seem more familiar or make the familiar seem new. Both functions are equally important because they make effective communication more likely.

What the microcomputer world has discovered is that what works for poets and novelists also works for computer programmers. A judicious use of metaphor can make application programs much easier to understand and use.

Because the Apple "desktop metaphor" seems so novel in contrast to conventional user interfaces, observers tend to believe that metaphorical software is something new. However, the most effective programs have always been designed around some sort of metaphorical structure; for example, *VisiCalc* and *Excel* are based on the same metaphor. Unfortunately, conventional text-based computer displays do not provide much of a platform for imagery.

In contrast, graphics-based systems allow the designer to visually reinforce the otherwise abstract imagery behind his model. The genius of the visual interface, pioneered by Xerox and popularized by Apple in its Lisa and Macintosh, is that screen images can look very much like the real-life objects which they are supposed to mimic. In most PC spreadsheets, you have to imagine the row-and-column grid; in Macintosh spreadsheets, you actually *see* such a grid.

Throwing a curve

If you doubt that metaphors are essential to human interaction with computers (at least for us normal humans), try thinking about Bézier curves. A fundamental part of computer graphic applications, the Bézier curve is defined by four points in the coordinate system. The curve begins at point A, is tangent to the line between point A and point B, ends at point D, and is tangent to the line between point C and point D. Got that?

As explained in the *PostScript Language Reference Manual*, the mathematical formulation of a Bézier cubic curve is derived from a pair of parametric cubic equations [$x(t) = a_x t^3 + b_x t^2 + c_x t + x_0$ and $y(t) = a_y t^3 + b_y t^2 + c_y t + y_0$]. Other equations define the curve's control points, but I won't bother to include them here. Even without seeing those other formulas, you get the idea—the theoretical basis for Bézier

Mixed Metaphors

curves is intimidating. Yet, the Bézier curve is useful for non-mathematicians because with the B-curve, we can construct smooth curves without the jaggies associated with "curves" built from bit-mapped images.

Contrast the above description with the way *Adobe Illustrator* deals with the B-curve. In *Illustrator*, you construct a Bézier curve by using a pen tool to draw an anchor point. With the cursor still on the anchor point, you press the mouse button and hold it down. Then you "pull" a "handle" out of the anchor point. This handle helps determine the direction, size, and shape of the curve. Finally, you release the button and click the mouse again to set the second anchor point. Presto, a Bézier curve.

The *Illustrator* method works well because it superimposes some imagery, a metaphor, on the underlying mathematics. A typical user will never even know that he's using mathematics—he's merely manipulating a metaphorical pen and pulling on metaphorical handles.

Mixing it up

As you probably learned in composition class somewhere along the line, you have to be careful when using metaphors and similar imagery.

Your English teachers probably chastised you for using a "mixed metaphor." In *The Careful Writer*, Theodore M. Bernstein warns that "mixaphors" are dangerous because the writer risks destroying the "usefulness of the figure by confusing the reader through a jumble of pictures, and has spoiled the adornment by shattering it." If, for example, you were to say, "Gloria is a little minx whose wings have been clipped," you wouldn't be making a whole lot of sense.

The example from *Illustrator* is the programming equivalent of a mixed metaphor and indicates how difficult constructing a consistent metaphor is. Lines drawn with a pen don't have handles. The *Finder's* desktop metaphor itself is an even more blatantly mixed metaphor. We speak of the screen image as the desktop. Come on—what desktop has the trash can sitting on top of the desk? What desktop has windows in it?

While I don't think we need to hold Bill Atkinson to the same standard as Bill Faulkner, computer programmers, like writers, do need to make sure that the metaphors they create don't contain too many brainless combinations. Though they lack consistency, the *Illustrator* and the desktop metaphor are effective, perhaps because, confused as they may be, the two models are easier to understand than what they replace.

For example, in the Macintosh model, we place files in a folder; in the MS-DOS world, we put them in a directory. I think the more concrete folder image works better. A directory is something you see in the lobby of an office building, not a receptacle for documents. I think that the DOS command, *dir*, makes sense because it gives you a file listing on screen; however, the place where you put the files should be called something else.

Risky business

Despite the success of *Illustrator* and the *Finder*, I believe programmers risk much by using a confusing metaphor. Take the example of *GraphicWorks 1.1*, the excellent painting program from MacroMind and Mindscape. *GraphicWorks* has not sold as well as the more straightforward *SuperPaint*.

I think *GraphicWorks* suffers from confusing imagery. Using *GraphicWorks*, you construct drawings by mixing panels on a page. Each panel is a distinct unit which contains further subunits called easels. The term *easel* is an unfortunate choice; something like *overlay* would have been better. To me, an easel should be a larger unit. You put finished drawings on an easel to display them; you don't put easels on a piece of paper.

Then there's *ink*. In *GraphicWorks*, you layer smaller drawings to create a whole. The program gives you the ability to specify how the overlaid images will combine in the final product. For instance, you might want the image on top to obscure what lies underneath. This is *matte ink*. Or you might want only black dots on the top picture to be opaque—*or ink*.

Ink strikes me as a poor choice to describe what *GraphicWorks* is doing here. In *QuickDraw*, the Macintosh's drawing routines, what MacroMind calls inks are known as *transfer modes*. Bland as it is, I think the *QuickDraw* nomenclature is more understandable. Sometimes you're better off resisting the urge to be clever.

Radio buttons

Like MacroMind, the original Macintosh system software programmers were occasionally guilty of forcing a meta-

phor in a situation where it didn't really fit. In the standard Macintosh interface, there are screen objects called "radio buttons," which you use to select one out of a group of mutually exclusive choices.

A radio button is a small circle; when you click in the circle with the mouse, a black dot appears inside the circle, indicating that you've selected that option. At the same time, the black dot in the previously selected radio button disappears. Now, maybe I'm dumb, but it took me a while to figure out why these things were called radio buttons.

They're supposed to be like the buttons on a car radio. Your car radio only allows you to listen to one station at a time. I have problems with this Macintosh metaphor because the buttons on a radio don't provide any feedback as to which one has been depressed. Radio buttons are usually momentary contact switches that spring out after you've pressed them. In contrast, a Macintosh radio button remains "depressed" after you click on it.

The Macintosh radio buttons therefore both *work* and *don't work* like real radio buttons. A confusing metaphor, and not a big deal in itself. However, if you add up enough little confusions, you get big confusion.

Software archetypes

What makes an effective computer software metaphor all the more problematic is that originality may not always pay off. In composition, the axiom is to use imagery sparingly, but to make it original when you do. Metaphors that were invented by the poet Pope and repeated constantly over the last three hundred years won't do.

The first sentence of this column contains a metaphor—a rather tired one, the kind a good writer wouldn't normally use (unless he was trying to make a point). By saying "metaphor is king," I hoped to stress the importance of metaphor in Apple software design. By using such a common expression, it's quite likely I made no impression at all.

In software, users value the familiar. Software tends to fall into fairly well-defined categories—what I like to call *software archetypes*. As defined by

Jung, an archetype is an inherited idea or mode derived from the experiences of the race and present in the unconscious. The race of computer users expects certain types of software to behave in certain ways.

For example, all word processing software is based on the same paradigm. You scroll vertically through a document from top to bottom; it is as if you had a whole bunch of pieces of paper stuck bottom to top. Now, imagine how jarring it would be to use a word processor that scrolled horizontally, where the underlying metaphor was pages stuck side-to-side. Weird.

I had such an experience when I first used *Ragtime*, the "document processing" program from Orange Micro. *Ragtime* appears to fit the page layout program category because it gives you flexible tools for handling text and graphics. Both *PageMaker* and *Ready,Set,Go!* treat each page (or group of two pages) like a distinct unit and represent pages by horizontally scrolling page icons, so I tend to think of pages placed side-to-side, perhaps on a table or stuck to a bulletin board.

Though it appears to belong in the same basket as *Pagemaker* and *RSG*, *Ragtime* scrolls vertically like a word processing program, treating the document as one continuous unit. I've come to like *Ragtime*, but I still feel a little uncomfortable using it. It doesn't really fit the archetype, the underlying model of what a page layout program should be like.

Manipulating the mind

Designing software involves more than merely writing code and creating screens. To make an application program that works for users, the programmer must tie what is essentially a collection of abstract algorithms to a more familiar and comfortable world through the use of metaphor.

Not an easy task. Software metaphors must be simultaneously original, familiar, appropriate (but not too clever), consistent (but pragmatic), and understandable. Program designers must have an understanding of human as well as computer memory management. Manipulating bits in a microchip is only half the job.

A state of the Barrel address

The *Apple Barrel* is better than it ever has been and is one of the best Apple user group publications in the nation. If you doubt that, browse through the pile of exchange newsletters HAAUG receives monthly.

In 1987, some 40 individuals have contributed articles to the *Apple Barrel*. We thank them. Production—design, editing, artwork, layout, advertising sales—has been the work of essentially three people: Tom Engle, Cleland Early, and Chris Flick. We thank us.

We also thank the User Group Connection people at Apple in Cupertino. Without the *Quick Connect* insert, we'd have had a tough time meeting our issue quota. Unfortunately, we still don't get enough articles from our members. Still, we accomplished our goal of publishing ten issues during the year, though we didn't get them out on as timely a basis as we would have liked.

The contributions we received steadily improved, making an editor's life much easier. We've also gotten better at using our tools. Because of these two developments, we spent much less time per issue toward the end of the year than we did at the beginning. The time involved remained considerable.

As the *Apple Barrel* became more of an artistic success, it grew more attractive for advertisers. We've increased the amount of ad revenue, but we could use more. An advertising manager would have been nice to have had.

What's ahead in 1988

No telling. It's likely that you've seen the last issue produced by the current regime. All three editors are feeling tired of the job. Tom and Chris have been doing the magazine for a year and a half; I just feel like I've been doing it forever. For all of us, doing the *Barrel* has meant sacrificing other important activities.

Have the sacrifices been worth it? Certainly there have been rewards, perhaps more for me than for Tom and Chris. HAAUG has given me a forum, and because of the exposure other opportunities have come my way; paradoxically, continuing to edit the *Barrel* may

keep me from exploiting those opportunities. Seeing my name in print every month has been an ego boost; hearing people quote me to others and even to me is a bigger ego boost.

It's neat to see the final printed, stapled product. I get a small rush each time. But after a while the fun turns into a grind. Then there's the reader's complaining and the sometimes unreasonable expectations, both hard to accept when you're working hard for free.

And, I feel frustrated. Considering the evidence, we editors can't escape the feeling that our efforts have had little real effect. HAAUG's officers have long blamed HAAUG's poor membership renewal rate on the *Apple Barrel's* irregular appearance; yet, in a year which has seen a regular *Apple Barrel*, membership stands only some five percent higher now than in January. The pool of potential HAAUG members has grown faster than that.

Early's opinion

So something is wrong. Right now, HAAUG is too big to be friendly, cozy, and quaint and too small to be more than a second-tier user group.

HAAUG must strive to be self-sustaining, where the quality of the club is largely independent of those who run it. We editors are torn—we want to reduce our role, but we fear that the *Barrel* will go in the toilet if we quit. There must be other HAAUG members with the talent and creativity to take the *Apple Barrel* to even greater heights. If only they'll volunteer.

We HAAUG members have to stop making the people who do step up and serve feel like they are foolish for doing so. To paraphrase Barnum, there's a sucker born every day and yesterday's sucker runs HAAUG. (I must be Wednesday's sucker—I'm running for reelection to the HAAUG board.) If everyone does a little, then no one feels like he's being taken. I would also endorse more tangible rewards for working in HAAUG's behalf.

We need to attract and keep more members. The club's revenues won't support more than a volunteer effort. Most first-rate user groups are at least semi-pro outfits. To me, less than first-rate seems hardly worth the trouble.



Apple Barrel Notes...

Layout Credits

Cleland Early
7-9, 14-16, 34-35

Tom Engle
3-5, 26-33

Chris Flick
10-13, 25

Charlie Moger
36-38

Apple Barrel Volunteers

If you are interested in helping to produce the *Apple Barrel* in 1988, please contact one of the current editors. You must be egoless and selfless and have 10 years of journalism experience, a PhD in English, a degree from the Rhode Island School of Design, and familiarity with all Macintosh and Apple II software. You should also own an Apple II, a Macintosh-filled AppleTalk network, a LaserWriter Plus, a Lino-tronic 300, a 300 dpi scanner, and a well-stocked liquor cabinet.

A willingness to work long hours for no pay a must! Warm bodies need not apply.

Be Patient

This is the last *Apple Barrel* you will receive until some time in January 1988. Because the nominating committee's slate of candidates is unopposed, there will also *not* be a mail-out ballot.

In the meantime...

December is a time for giving and *Apple Barrel* editors love to receive.

Understanding the RS232D Serial Interface

By Timothy Collins (c) 1987

If you have been around computers for very long then you have probably heard the expression "serial interface" or possibly "RS232 interface" or maybe just "RS232." The intention of this article is to help you develop a "working" knowledge of this interface.

On November 12, 1986, the Electronic Industries Association (better known as EIA) approved RS232D. RS232D literally translates to Recommended Standard #232 Revision D. The key word here is Recommended. This interface has been used and abused by most, if not all, manufacturers of computers and terminal equipment. It is also used by modems, plotters, some printers and various other types of related equipment, such as mice, graphic tablets, tape reader/punches, CRTs, and multiplexers. The standard specifies various aspects about the interface, including: Signal/Electrical, Mechanical, Functional Description of Interchange Circuits, Standard Interface for Selected Communications, and Recommendations/Explanatory Notes.

The main emphasis here will be on the Functional Description of Interchange Circuits and specific interfaces for various Apple Computers.

RS232D is an "interface between Data Terminal Equipment and Data Circuit-Terminating Equipment employing serial binary data interchange"; or, in more common terms, it is how to connect your modem/printer to your computer. By examining the different parts of the previous statement, a basic understanding of what we are trying to accomplish should surface.

Data Interchange—conversation between two or more objects. In this case, the computer and modem/printer.

Binary—a numbering system which consists of only two digits or states, such as 0 or 1, on or off, no voltage or voltage. Binary is the "language" of computers.

Serial—a group of objects in a series or sequence. As related to this discussion, the group of objects is binary digits that represent data such as A, a, B, b, etc.

Data Terminal Equipment—the computer. This will be referred to as DTE for the remainder of the article.

Data Circuit-Terminating Equipment—the modem/printer. Prior to revision D, this was known as Data Carrier Equipment. This will be referred to as DCE for the duration of the article.

Now let us see how our definition of RS232 is shaping up. We have the computer (DTE) and the modem/printer (DCE) talking to each other through a set of wires by varying the voltage in different sequences.

The only details about the Signal/Electrical characteristics that will be discussed are the ones which are necessary for a "working" knowledge of the interface or that I found of particular interest. There are four categories of circuits used. The first type is a data circuit, which is used to pass the actual information between the devices. The second type is a timing circuit. The timing circuits are defined to allow one device to supply the timing for the other. In all of the installations that I have been involved with, each device supplied its own timing. The third category of circuit is for control. Control circuits are used for things such as assuring that the other device is present and ready to converse. The

Circuit Definitions

Data Terminal Equipment Ready

Direction - to DCE
Circuit Type - Control
Mnemonic - DTR

This circuit is most commonly referred to as Data Terminal Ready (DTR). It is used by the DTE (computer) to let the DCE (modem/printer) know that it is in a ready state. DTR is one of the more important control circuits. The DCE almost always requires this circuit to be in an on condition before any data is passed between the equipment. Most DCEs have a method of setting DTR to an on condition if it is not provided by the DTE. This is usually accomplished by means of a jumper plug or a switch setting, although Hayes compatible modems can control this setting through codes sent from the DTE. Another method is to use a different control circuit on the DCE to provide the needed voltage (usually Data Circuit-Terminating Equipment Ready). It is preferred to have DTR properly connected between the DTE and DCE. Numerous pieces of communication software use DTR to force the modem to hangup the telephone.

Data Circuit-Terminating Equipment Ready

Direction - from DCE
Circuit Type - Control
Mnemonic - DSR

This circuit is usually known as Data Set Ready (DSR). It is used to indicate the status of the DCE. As an example of the use of this circuit, when the printer is put offline, DSR changes to an off state which causes the computer to stop sending data. The reason a computer will "lockup" when the printer is not turned on and you try to use it is that the DSR circuit is not in a ready state. If the DCE doesn't use this circuit and the DTE requires it to be on, the DTR and DSR circuits may be jumpered together or another circuit, such as DCD, maybe used instead. DSR and DTR compliment each other.

Request To Send

Direction - to DCE
Circuit Type - Control
Mnemonic - RTS

This circuit is used to inform the DCE that the DTE is prepared to receive data. Request to Send and

fourth type of circuit is the signal ground. The following are items that I found of particular interest: 1) The circuits are designed so that a short circuit between any two conductors (including ground) in the connecting cable will not result in a current in excess of 0.5 ampere. This amount of current should not cause damage to either device. 2) A protective ground (frame ground), if provided, should not be connected between the devices.

There are twenty-three different circuits and a protective shield provided for in the interface standard. Most of these are not needed in a typical installation. The remainder will be discussed next. While working with this interface, it is necessary to understand that all circuits are relative to the DCE. For example, two of the circuits, transmit data (TXD) and receive data (RXD), are used to send the actual information between the devices. If the data is going from the DTE (computer) to the DCE (modem/printer), it is going through the TXD (transmit data) circuit. If the data is going from the DCE (modem/printer) to the DTE (computer), it is going through the RXD (receive data) circuit. The direction of the TXD (transmit data) and RXD (receive data) circuits is to and from the DCE (modem/printer).

Circuit	Pin Numbers						Gnd	Data		Control	
	Standard	//c	//gs	Macintosh	Macintosh Plus	IBM		From DCE	To DCE	From DCE	To DCE
Shield	1						●				
Signal Ground	7	3	4	3	4	5	●				
Transmit Data (TXD)	2	2	3	5	3	2		●			
Receive Data (RXD)	3	4	5	9	5	3		●			
Request To Send (RTS)	4					7					●
Clear To Send (CTS)	5					8				●	●
DCE Ready (DSR)	6	5	2		2	6				●	●
DTE Ready (DTR)	20	1	1		1	4					●
Received Line Signal Detect (DCD)	8		7	7	7	1				●	

Table. Interchange circuits by category with pin identification.

Clear to Send are compliments and may be jumpered together to meet the requirements on the installation.

Clear To Send

Direction - from DCE
Circuit Type - Control
Mnemonic - CTS

This circuit is used to inform the DTE that the DCE is ready to transmit data. (See Request to Send).

Receive Line Signal Detector

Direction - from DCE
Circuit Type - Control
Mnemonic - DCD

This circuit is typically referred to as Data Carrier Detect (DCD). It is used by a modem to inform the DTE that another modem is connected through the telephone system and is in a ready state. It is common practice to connect this circuit to the DTR circuit with printer setups.

Transmitted Data

Direction - to DCE
Circuit Type - Data
Mnemonic - TXD

This circuit is used to send the actual information between the devices. The data is sent to the DCE from the DTE.

Received Data

Direction - from DCE
Circuit Type - Data
Mnemonic - RXD

This circuit is used to send the actual information between the devices. The data is sent from the DCE to the DTE.

Signal Ground

Direction - Not applicable
Circuit Type - Ground
Mnemonic - SG

This is the common ground reference.

Shield

Direction - from DTE
Circuit Type - Not applicable
Mnemonic - Not applicable

The shield is not a circuit. It is connected to the DTE only. It is used to prevent electrical interference from effecting the cable. If shielded cable

is purchased, foil is wrapped around the wires in the cable and a non-insulated (drain) wire is located between the foil and the outer jacket. This wire should be connected to the DTE only.

One of the differences between revision C and D of the standard is the type of connectors and pin assignments to be used are now specified. An interface cable with a 25-position male connector is used for the DTE. While the DCE uses a female connector. (The actual connectors are known as DB25P and DB25S for plug and socket). If all manufacturers follow the standard, only one cable would be necessary to connect any DTE to any DCE. That cable would use DB25 connectors with pins 2 thru 25 wired straight through and the shield wire connected to pin 1 on the DTE side. Unfortunately, quite a few manufacturers of equipment choose not to use these connectors. This is one of the major reasons for all of the difficulties involved in interfacing computers with other devices. Apple Computer uses a five pin DIN connector on the IIC, a DB9 nine pin connector on the Macintosh, a 8 pin mini DIN on the Mac Plus and IIgs, and

a DB25 for the Super Serial Card. (The interface on the //gs and the Macs is actually RS422, but it can be configured to work as RS232D). It's been my experience that most DCE equipment follows the standard. The exception to this is equipment that was made by computer manufacturers.

The easiest way to learn how to "use" the standard is to examine some of the cable wiring used with Apple computers. I'll start with connecting the //c to a printer and modem. The IIC uses a five pin DIN connector. The five pins are for DTR, TXD, SG, RXD, and DSR. They are attached through to the same circuits on the DCE except for DSR. If a printer is being connected, DSR is also wired straight through. If its a modem, the DCD on the modem is connected to DSR on the IIC. The DCD will be in an on state only when a connection to another modem is achieved. This is the only method the modem has for informing the IIC when a connection is made or lost. The reason this has to be done this way is due to the lack of a DCD circuit on the IIC. The printer/modem side of the cable needs CTS and RTS connected together (jumpered). The CTS sends current to the DTE to indicate a ready state and

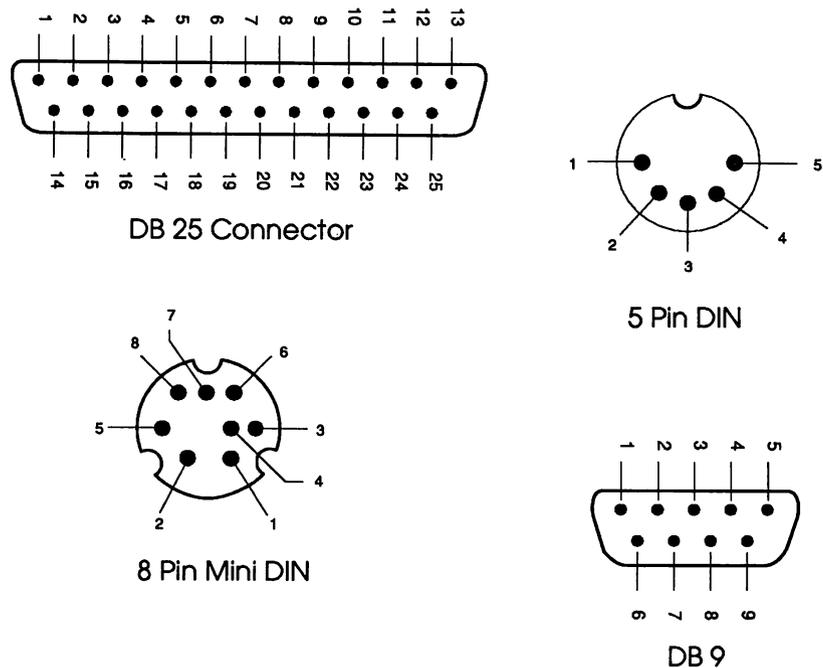


Figure 1. Various connectors with their pins identified.

RTS waits for current from the DTE. By jumpering these circuits together, the DCE "answers" itself which causes a "ready to receive data" state. None of the current Apple computer models have CTS and RTS circuits, so CTS and RTS will need to be jumpered on all DCEs used. It is recommended practice to attach the shield wire to the signal ground at the DTE end, but only if the DTE doesn't have a separate pin for this use.

The Iigs and the Macintosh Plus have identical connectors and circuits. They use a 8 pin mini DIN connector. This connector is also used on the ImageWriter II printer and it is difficult to find a company that sells it. The eight pins are: 1) Handshake out (DTR); 2) Handshake in (DSR); 3) Transmit(TXD); 4) Signal Ground; 5) Receive Data(RXD); 6) Transmit Data + (no equivalent); 7) DCD; and 8) Receive Data + (no equivalent). Pins 6

and 8 are not used.

The Macintosh uses a DB9 connector and the available circuits are: 1) Earth Ground; 2) +5 Volts; 3) Signal Ground; 4) Transmit Data + (no equivalent); 5) Transmit Data (TXD); 6) Filtered +22 Volts (no equivalent); 7) DCD; 8) Receive Data + (no equivalent); and 9) Receive Data (RXD). Because the Mac does not have DSR or DTR, these circuits need to be jumpered together on the DCE.

Cables for modems or printer will usually work for most DCEs. But, there is another type of device that may need to be connected to the computer and that is another computer. The cable that is used to connect two DTEs together is called a Null Modem Cable. The standard was designed to connect DTE's and DCE, not DTE to DTE. In order to make a null modem cable, certain circuits need to be cross connected and others will either need to be

jumpered or cross connected. TXD and RXD will need to be crisscrossed. Because of the lack of a modem, DTR will be used to supply current for DCD by using a jumper. DTR and DSR will need to be crossed or jumpered as well as CTS and RTS.

Using RS232D is very easy to accomplish. All that is needed is \$20 to \$50 to buy a cable and plug in the equipment. Making your own cables requires \$5 to \$10, a chart that shows which pins to connect where, and a little time. Understanding RS232D requires a little investigating and a little time to analyze the information that is found. I hope this article has shed some light on the subject. The published standard can be purchased for \$20.00 through:

Electronic Industries Association
Standard Sales Dept.
2001 Eye Street
Washington, D.C. 20006

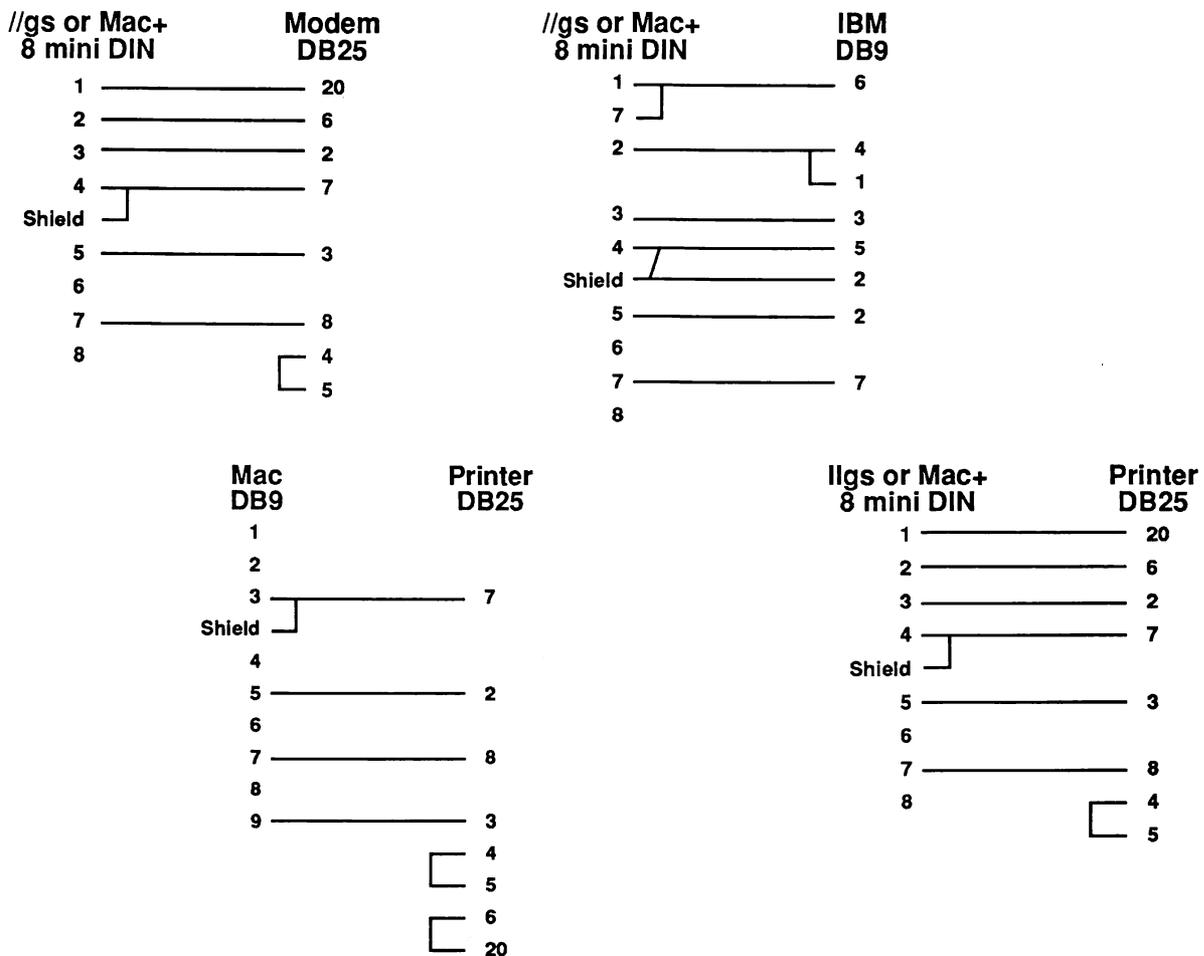
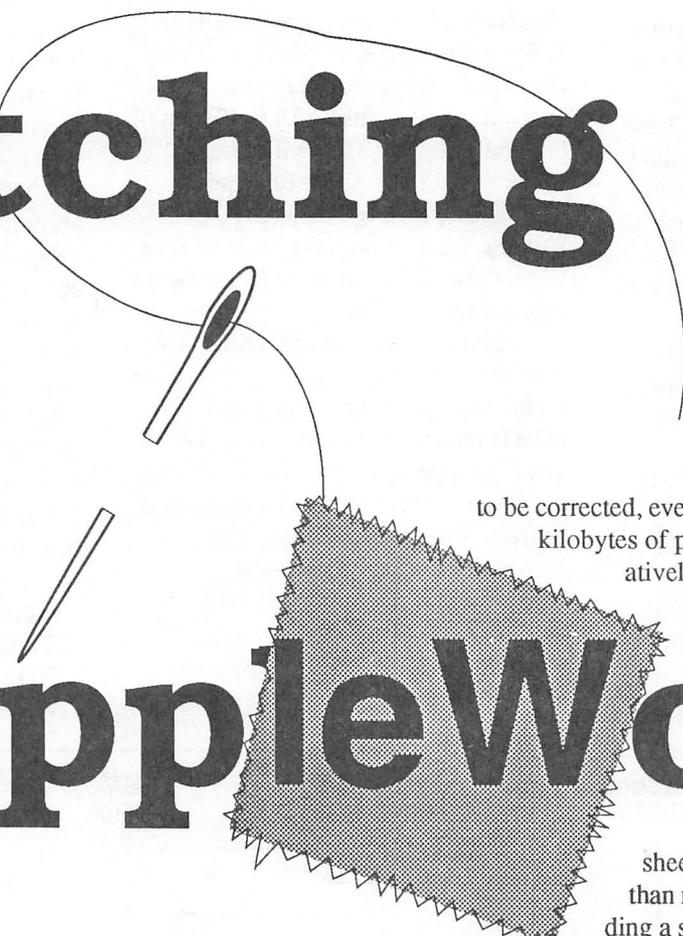


Figure 2. A few of the common cable connections.

Patching



AppleWorks

I am looking for a programmer who has disassembled *AppleWorks*. There are several glaring faults in *AppleWorks* that need to be corrected, even at the expense of many kilobytes of patches. Some changes will be relatively minor, such as adding the absolutely essential `log()` function to the spread-

sheet. This should involve no more than modifying a lookup table and adding a subroutine to call the appropriate function in ROM. Other changes would undoubtedly be very difficult, perhaps even impossible, such as adding true tabulation to the word processor. In brief, here are the changes to be made, organized by module.

The desktop

1. All the arrow keys should work on all of the menus. Some support only the left and right arrows, some support only the up and down arrows, while a blessed few support all four.
2. Change or (optionally) eliminate the beep.
3. Allow more than twelve desktop files simultaneously.
4. Should support more printers, including more than one custom printer.
5. Removing a custom printer should not delete it permanently. There should be some way of saving custom printers.
6. There should be more options for printer codes. These could be user definable for maximum utility.

The word processor

1. The maximum paper length should be 14 inches (legal) not 13.2 inches (?).
2. Should allow imbedded control characters like *AppleWriter*.
3. There should be an automatic paragraph indent feature.
4. *AppleWorks* does not use true tabulation. You can't insert tabs, and changing a tab does not affect existing text.
5. No right justification.

An AppleWorks Fanatic's Wish List

by Peter Lemettais

Apple originally designed *AppleWorks* as a workable basic program that would sell Apple //s. What I don't understand is why there are so many planned limitations and design flaws.

6. No 1-1/2 line spacing.
7. Should show headers and footers on-screen after page calculation.
8. Headers and footers should be able to use more than one line.
9. User cannot change the two line space between header or footer and main body of text.
10. Should (optionally) do automatic page breaks like *MacWrite*.
11. Search and replace functions should use "stop/find next/change then find/change all" logic to reduce keystrokes.
12. Should have a footnote feature like *AppleWriter*.
13. Should have conditional form feeds like *AppleWriter*.
14. New document page setup defaults are wrong.
15. Find page should calculate pages, then go to the top of the page.
16. Markers should use text instead of numbers for better mnemonics.

The spreadsheet

1. Must overcome the 1800 byte-per-row limit!
2. Must add trigonometric and logarithmic functions—sin(), cos(), asin(), acos(), log(), and ln().
3. Should add standard deviation STDEV().
4. Should be able to type past the right edge of the screen.
5. Should add text commands - lookup text, if cell=text, mid().
6. Should be able to change the alignment of numbers.
7. If you make a mistake entering something, the only way out is to backspace all the way back and hit return.
8. <Tab> should mean "accept entry and go right one cell," <OA-Tab> "accept and go left."
9. <Return> should mean "accept entry and go down one cell," <OA-Return> "accept and go up."
10. Entries should be evaluated at the end, so 123 Main Street would be a label, not an error.
11. Should add cell protection.
12. Must allow column width of zero.
13. Should have a bar graph value format (1 = *, 6 = ***** , etc.)
14. When copying one cell to many (replication), one should only have to answer "no change/relative" once.
15. There are too few date and time formats.

The database

1. <Tab> should mean "accept entry and go right one cell," <OA-Tab> "accept and go left."
2. <Return> should mean "accept entry and go down one cell," <OA-Return> "accept and go up."
3. Should be able to copy fields as well as records.
4. Should be able to type past the right edge of the screen.
5. The last record selection rule should be the default for the next search.
6. Should be able to select records based on more than three criteria.
7. Fields should be able to use more than one line of text.
8. There are too few date and time formats.

This job will require hard work, a keen mind, dedication, and a willingness to overcome all odds without much help. The pay is very poor (i.e. the satisfaction of a job well done). I doubt I would find anyone crazy enough to tackle the assignment anywhere except an Apple users' group—everyone knows hackers, especially Apple hackers, are crazy!

Actually, I am serious about this. We could put the resulting *AppleWorks* patches in the public domain on major bulletin boards (Compuserve, HAAUG Heaven). I am only a novice programmer, but I would be willing to help. This might even be a good "Advanced Topics" topic.

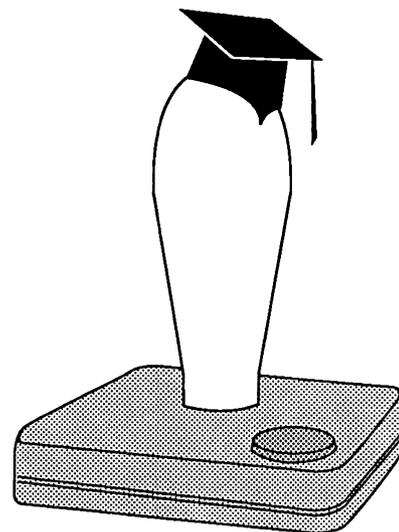
Apple originally designed *AppleWorks* as a workable basic program that would sell Apple //s. What I don't understand is why there are so many planned limitations and design flaws. The programmer took *Quickfile* part and parcel, so the database is very good. Apple was apparently too cheap to do the same with *AppleWriter*, however. Thus, the word processor in *AppleWorks* is pathetic. The spreadsheet, once the 1800 byte-per-row limitation is overcome, will be workable, even useful with a few more functions.

Individually, the modules would rate about two stars. The integration is relatively seamless, so as supplied by Apple, the package rates three stars. With Applied Engineerings' patches, this rises to four stars, and with the changes listed above, *AppleWorks* could easily be a five-star program!

The new smarts

Computers can make learning less painful

by John W. Daut



A short while back, one of my daughters (the college student this time) announced that one of her North Harris County College professors had just bought a new Apple IIe computer for home use. Not only does the teacher work with computers every day at school, but she already had one IIe at home. The new one is for her son to use.

"So, what else is new!" you are thinking. "A lot of people buy computers for their kids to use. It helps them in school." Sure they do, I agree, but in this case the son is a little less than two years old.

"Good Lord!" was my first response. Even thinking about the expense of a Apple IIe, as a toy for a mere baby, was almost beyond my imagination. However, it continued to stick in my mind and inspired me to do some serious rethinking about education.

When I entered school and started learning to read, write and count, we started from scratch and got our "smarts" the old fashioned way. We learned by doing boring repetitive lessons and maintaining a serious attitude or we got the palm of our hand swatted with a ruler. Most often the method of learning was memorizing long and tedious lessons while staring at a textbook and daydreaming about playing.

Thinking back, though, when each of my four kids started to school they seemed to already know a lot about reading, writing, and counting. All I ever saw them do when they were growing up was waste their time sitting around watching *Mr. Rogers' Neighborhood*

and *Sesame Street*.

After doing more thinking (and remembering and watching *Sesame Street* a little myself), it became evident that while they were *wasting their time*, the smarts were being painlessly pounded into their little heads by Mr. Rogers, Big Bird, The Count, and Burt and Ernie. There was even a wonderful bonus in this new way of learning. All that time they thought they were having fun.

Much later (two years ago), we purchased a computer to help my two youngest with their school work and to keep my small amount of business records. Youngest? One is now a senior in high school and the other is a sophomore in college. In helping them learn to use the computer and some of the educational programs, I discovered that there are a vast number of good programs besides *Lode Runner* and *AppleWorks*.

Now, even my grandchildren who attend the first and second grade in the little country school at Tarkington Prairie use Apples IIe in their classes. They can sit down, insert a disk into the drive and start running games and learning programs as easy as I can. The best part is that, like watching *Sesame Street*, while they are getting their smarts, my grandchildren think they are having fun instead of learning.

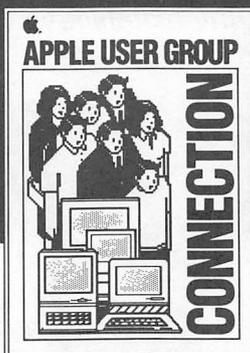
And, as weird as it may seem, an old timer like myself can even have fun playing with programs like *Alphabet Circus*, *Gertrude's Secrets*, and *Rocky's Boots*. The graphics and colors hold your attention, the sound effects and

music increase the magnetism and the occasional stroking, like "G-O-O-D J-O-B J-O-H-N" and "Y.O.U A.R.E R.I.G.H.T A.G.A.I.N" make you want to try harder on the next round. Huh!!! Maybe that is what the designers intended to do.

There is however, to adults, one infuriating thing about children's programs. The children usually do much better and learn to use the programs faster than the adults. Why? Children are not hindered by the knowledge that some things can not be done and try everything. If they goof up, who cares? They do not quickly cut their eyes around to see if someone noticed the mistake or have to make an excuse like "My finger slipped," or "The joy stick must have stuck."

So now modern preschoolers can get their smarts from a television screen like my children did. But now they interact with the program rather than just being a passive observer. Being an active participant greatly increases the amount of knowledge that is retained. In addition, the active participation required with most computer programs designed for children even better disguises the learning process as fun.

After giving the matter a great deal of thought, I still think buying an Apple IIe for a child less than two years old it is a little outrageous. But, if I ever start another family, I have decided that I would definitely share my computer. Then my children would get their smarts with a joy stick in the palm of their hand instead of a ruler.



The Genius behind HyperCard: Bill Atkinson

An exclusive interview with Quick Connect

He is a dreamer, an inventor, a software artist, and one of the biggest names in personal computing. Best known as the author of MacPaint® Bill Atkinson has a penchant for pushing the frontiers of the Macintosh™ dream: to put the power of the personal computer into every user's hands. First, he gave all of us the power to create sophisticated graphics on a computer. Now, he's given us the power to become software developers without having to know a single word of programming code. HyperCard™ is already pushing the outer limits of this dream farther than anyone thought possible, except, of course, Bill himself.

We asked Bill to tell us his story of HyperCard and to make a few predictions about the future. Here's what he had to say.

How did you get the idea for HyperCard?

Actually, HyperCard is a descendant of two ideas. One was the give-away Rolodex program that I wrote just to keep track of my own journal articles. The other was a research project I did on what the new generation computer should look like. In this project, we knew what we wanted to build, but we knew we couldn't build it within ten years. Part of HyperCard is an extraction from that project that could be done on today's technology.

When did the product get underway and who was on your team?

I've been working on HyperCard for the last three years. Two years ago, I showed a working prototype of it to John Sculley. He got excited about it and wanted to make it a real product. And I did, too. So a team was put together at Apple which today numbers about 30 people. Four people contributed to the code: Dan Winkler worked closely with me writing the language portion, Adam Paal did the printing code, Ted Kaehler did the sound code, and Carol Taylor played a big role in the interactive, on-line help system. Chris Espinosa is my product manager and I was very fortunate to have him. He basically enabled me to just keep working to make it happen while he worked on the political connections, including the planning and the rollout. Mike Holm is currently the product manager while Chris is on sabbatical.

What breakthroughs were made over the last three years?

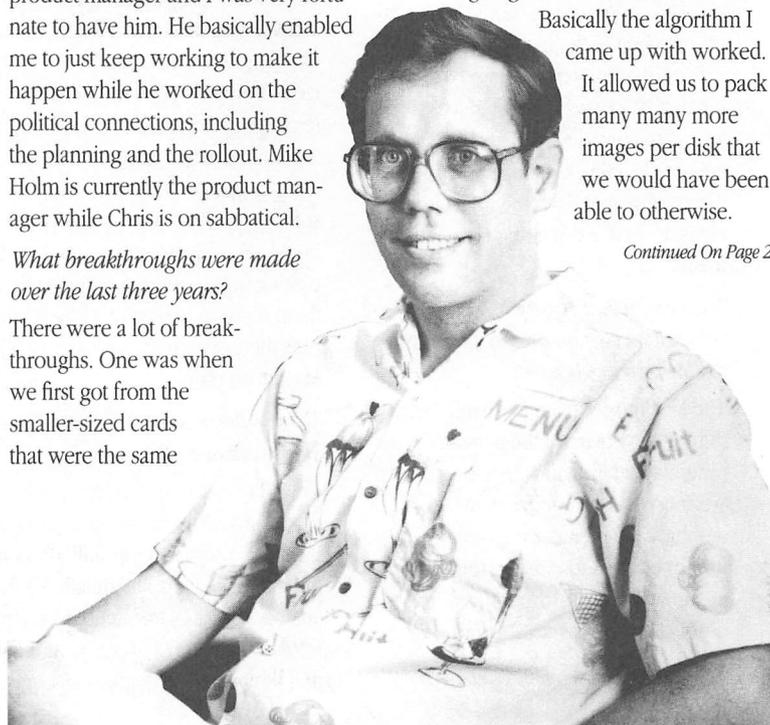
There were a lot of breakthroughs. One was when we first got from the smaller-sized cards that were the same

size of the MacPaint window to full-screen ones. That really opened up the ability to use HyperCard as an authoring tool to make something that was an end application that didn't have to look like HyperCard.

A big breakthrough was when we went to bit-map packing. We really wanted to use the richness and lush detail that you can get with a full bit-map in the graphics, but they're very expensive—the cost of each shared graphic and card-specific graphic was 44K, uncompressed. So I worked out a new packing algorithm. I remember waking up at four in the morning and going downstairs to work on it.

Basically the algorithm I came up with worked. It allowed us to pack many many more images per disk that we would have been able to otherwise.

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The Genius behind HyperCard: Bill Atkinson

Continued from page 1

Another breakthrough was working out the technology for fast searching. In my research, I had already figured out that, at least theoretically, the searching could be speeded up 100 times. When I actually got to doing it, the measured performance was 700 times faster! This breakthrough allowed us to search the Los Gatos town library card catalog—which had 100,000 cards or 15 megabytes of text—in 2 seconds instead of 10 minutes. We were really pleased. It was very exciting when that first broke.

How would you compare your work on HyperCard with MacPaint?

HyperCard is much more open and much more ambitious. Unlike MacPaint, HyperCard is something that you build on top of. It's going to open up people because there are so many things you can do with it. In terms of ambition, HyperCard is about 15 times as big as MacPaint. The assembly language alone in HyperCard is bigger than that in QuickDraw. It's certainly the largest thing I've attempted, and I think it's the most significant in terms of what it will do to the computing community as a whole.

What will HyperCard do to the computing community?

All the people with great ideas or specialized knowledge of information won't need access to a professional Macintosh programmer with time on his hands to express themselves. Making stacks is no big deal. It's easy. The great ideas that are yet to come in the Macintosh world are mostly going to be from people who aren't programmers but who have great ideas. HyperCard is going to enable them.

You've said that HyperCard is part of the original Macintosh dream. Could you explain what you mean?

The Macintosh dream has really been putting the power of the personal computer into an individual person's hands. We succeeded to some extent by using graphics and menus, and a consistent user interface and direct-manipulation metaphors to make the software more usable and accessible. The end user



didn't have to learn all the control characters and all the command sequences and bits and bytes and stuff like that. You didn't have to be a computer jock to use the Macintosh.

But at the same time, we made it harder for the programmers to create Macintosh applications. It really takes not only a professional programmer, but also someone who has spent a year or so learning the *Inside Macintosh* handbook to understand how to use all the Toolkit features, the graphics, the menus, etc. So the Macintosh dream wasn't really complete because the individuals couldn't get all the power of the personal computer. They could only use canned pieces of power.

HyperCard, acting like a software erector set, really opens up Macintosh software architecture to where individual people can make their own customized information environment, and interactive information and applications without having to know any programming language. It takes the creation of software down to the level of generating MacPaint images that you like, then pasting buttons on top of them to make them do what you want. HyperCard puts this power into the hands of any Macintosh user.

What is the most exciting thing about your work as a software designer?

The art of creating software that is usable by individuals is a communication skill. It is not a programming skill. Programming and what a software artist does is analogous to a pianist who needs to know how to move the keys and have that down cold so that he can concen-

trate on the feeling and message that he is portraying in his rendition of this music. So slinging the bits is an enabling technology for me to express and communicate and teach. The most exciting thing for me is when I see people amazed and pleased at the newfound power they got from a program—when they say, "Wow, I can do this!" That's the feeling people got back in 1984 when they saw MacPaint and started using it. It's the same kind of feeling that is going to happen here with HyperCard. But that feeling will be magnified, because the amount of power you get out of HyperCard is really so much greater. HyperCard is going to open up the whole meaning of what personal computers can be.

Can you make any predictions about the future?

I think if we look a year from now, I'll bet there will be 20 times as many people making interactive information for the Macintosh as there are now. A lot of people are going to get opened up, enabled, empowered to control their computer. That's really what we're trying to do. It's the same dream. Nothing's changed. It's the original Macintosh dream of making the power of personal computer accessible to individuals. HyperCard is just unfolding another layer of Macintosh. It touches all the people who now own Macintosh computers, and a lot of people who are going to own them because of this.

"The great ideas that are yet to come in the Macintosh world are mostly going to be from people who aren't programmers...."

"Slinging the bits is an enabling technology for me...."

TRIVIA

What was the name of the festival put on by a well-known Apple founder?

Answer on Back Page

A New Connection Says Hello!

You can't have too many good connections. Nor can you have connections that are too good. So Apple is pleased to introduce the User Group community to another supporter—and one of the best kind. She's Sue Goodin, Technical Support Engineer in Charlotte, North Carolina, and creator of the dynamic Tech Tidbits document now sent to all Apple User Groups.

Like many User Group members, Sue has been a long-time Apple advocate. In fact, she has aspired to work at Apple since putting her fingers on her first Apple® II. Today, she's mousing away at her office in East Coast Technical Support, providing technical and troubleshooting support to Apple's authorized dealers, national accounts, universities, and other direct customers, and assembling valuable technical insights in a spirited, easy-to-understand document now being distributed to User Groups.

Much of Sue's new job—she officially joined Apple in August after several months of contract involvement—is dedicated to answering her share of the 2,500 technical inquiries that her group fields each week.

But Sue wanted more. She wanted to feel the satisfaction of knowing her work

improved Apple's connection with end users. That's when she discovered that the newly born Tech Tidbits newsletter could be expanded to address a larger audience. So she approached the Connection to determine how this growing resource could be used.

Needless to say, her question fell on eager ears. Within a week, back issues of Sue's documents were being formatted for User Group distribution, and ASCII versions were being posted to the User Group Bulletin Board System on AppleLink®.

"I'm committed to the User Group community, and to extending Apple's outreach to them however I can," Sue affirms. "In addition to my other responsibilities, I plan to 'hang out' when possible on the AppleLink User Group Bulletin Board, responding to User Group technical inquiries and other things my office can provide." She stresses, however, that she is a finite resource, and will not be able to get directly involved with User Groups outside of her geographic region. "But Tech Tidbits and my AppleLink presence will be available to all groups," she adds.

Sue requests that any interested groups place her on their newsletter mailing list using the address below.

On a Personal Note

Sue's personal life involves Apple, too. She met her husband—you may know him as the Primary Sysop on the Apple II/III Forum on CompuServe's MAUG—through her involvement with Apple computers. But the real apple of their eye is daughter Barbara, age 2, whose favorite phrases include, "Mommy, 'puter NOW!" and "Daddy, Mac! Do balloons!"

Sue's technical expertise came in handy when Barbara tried a user interface experiment on her Apple IIe: drizzling iced tea onto the keyboard. A command followed: "Clean keys, Mommy!" Hmmm. Sounds like multitasking is no problem for Sue!



Also, if your group runs a Bulletin Board, let her know so that she can make the appropriate referrals in her area.

We're sure you'll extend the same warm welcome to Sue that we have. Let her know that you appreciate her contribution by sending her your newsletter and corresponding with her on AppleLink. She can be reached the following addresses:

Sue Goodin, TSE
Apple Computer, Inc.
5130 Parkway Plaza Boulevard
Charlotte, NC 28210

AppleLink GOODIN2
CompuServe 70007,3141

"...Tech Tidbits and my AppleLink presence will be available to all groups."

TRIVIA

What was Mike Markkula, co-founder and one of Apple's early presidents, doing for a living immediately before he came to Apple?

Answer on Back Page

Making an Impression with Desktop Presentations

New tools and techniques...help you prepare your materials quickly, cost-effectively, and beautifully using Apple technology.

As a User Group, you probably give presentations all the time. So you already know the value of using visuals to get your point across. But you may not know about the host of new tools and techniques that can help you prepare your materials quickly, cost-effectively, and beautifully using Apple technology. It's all part of Desktop Presentations—a major new applications area that Apple is addressing to help people like you communicate more effectively.

In both large corporations and small professional firms, Desktop Presentations is rapidly becoming one of the hottest applications for the Macintosh and LaserWriter® particularly in the areas of sales, marketing, education, and training. Workgroups everywhere are discovering that these two tools are ideal for creating high-quality visual aids for everything from small, informal business meetings to large-scale, slick sales and marketing presentations. Here's a sampling of how Apple technology can help make any presentation take on a whole new dimension.

With a Macintosh and LaserWriter alone, you can produce exceptional quality black-and-white overheads just

by loading the paper cassette with transparency materials and clicking on Print. Charts and graphs, illustrations, and text-only outlines come out looking professionally done in near typeset quality. And if you want to get fancy, there's a new software product that's opening up new possibilities in preparing presentation materials. PowerPoint, developed by Forethought, not only allows you to create overheads by cutting and pasting graphics, text, or scanned images from other applications, but allows you to add borders, designs, or your company logo to your materials. Once you design a template, it can automatically be transferred to all your overheads. The program also gives you the capability of adding speaker notes below each overhead and printing mini versions of each one—up to six per page—to use as handouts.

For those of you who want to add a bit of drama to your presentations, PowerPoint features a "slide show" capability so you can present your materials right on the Macintosh screen. If you

need to project your Macintosh images for large audiences, there's Macnifier by Comtrex Ltd. This small LCD device, which connects to the Macintosh through the video out port, sits on top of your overhead projector and magnifies images from the computer screen to a large screen or on a wall.

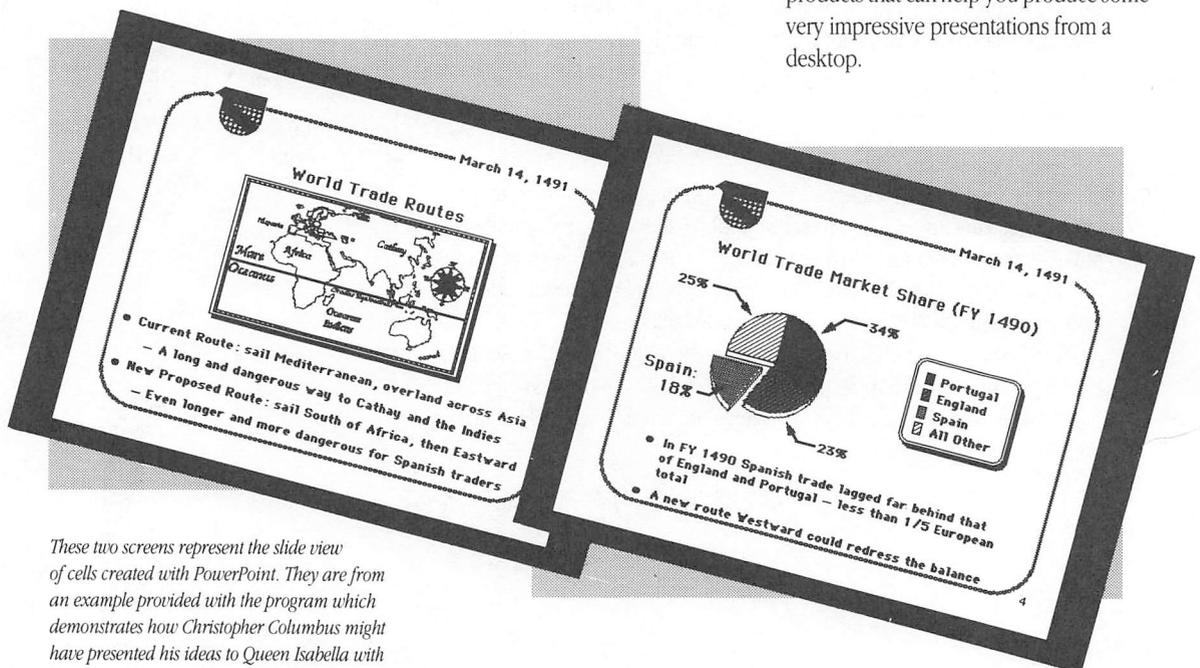
Another new entry into the world of Desktop Presentations is a desktop slide-making machine called ImageMaker by Presentation Technologies. With ImageMaker, you can create 35mm slides from any image on your Macintosh screen. In fact, you can create color slides even if you don't own a Macintosh II. How? By selecting fill patterns for the different colors you want in your slide. So even if your screen is black and white, ImageMaker can produce slides in living color. And, to produce your slides, you pay only for the cost of film and developing—quite a cost savings over the \$50 to \$100 per slide typically charged by professional service bureaus.

These are just a few of the Desktop Presentations solutions currently available for creating materials that make you look your best. As the market continues to grow, you'll see more and more new products that can help you produce some very impressive presentations from a desktop.

TRIVIA

What everyday office function were Apple employees once forbidden to do while standing up?

Answer on Back Page



These two screens represent the slide view of cells created with PowerPoint. They are from an example provided with the program which demonstrates how Christopher Columbus might have presented his ideas to Queen Isabella with his Macintosh.

Connecting with Joan Tabb . . . The right kind of encounter!

Chance encounters happen all the time, but how many of them change your thinking, your job, your lifestyle? Joan Tabb has had three such encounters in only two years' time. But then, synchronicity has always been a part of Joan's life. She seems to meet the right people at the right time—in hallways, in parking lots, in elevators. And this propensity will serve her well as the new Program Manager for Government and Business User Groups. In this role, Joan's job is to bring people and ideas together in mutually beneficial ways. Here's a look at how Joan connected with the Apple's User Group team and how Apple's government and business User Groups will soon be connecting with her.

Two years ago, Joan made her first connection with Apple. At the time, she was managing the new sales training program at Memorex and producing video tapes on the company's new products. She was also the program chairperson of a professional group of instructional designers and training specialists—the Silicon Valley chapter of the National Society for Performance and Instruction. The president of this organization happened to be Bob Loftis of Apple's Customer Publications group. Bob was Joan's first connection with Apple. As Joan describes it, "He tapped me on the shoulder at one of our meetings and said, 'I know the company you should be in.' Two months later, I was at Apple."

Her first mandate in Apple's Training Support group was to develop sales training programs for two channels: national accounts and VARs (Value-Added Resellers). But it wasn't long before a second chance encounter added another responsibility. "One day I was walking down the hall," Joan recalls, "and literally bumped into Bob Hall—one of the architects building Apple's government sales program. We began discussing



training for this group and one thing led to the next. Before I knew it, I had become the training person for government sales, in federal as well as state and local channels."

Training Apple's government sales reps was perhaps one of Joan's biggest and most rewarding career challenges. "My task was to develop training for these people—to teach them the products, how to work with Apple corporate, how to write Apple contracts, and how to maximize the Macintosh." And train she did. In this one-week training, Apple's entire government sales force learned the basics of everything from A to Z about Apple products and opportunities for them in government applications. And from them, Joan learned a lot about working with the government.

It was Joan's work in training that led her to her third chance encounter—this time with Ellen Leanse, the Connection's program manager. Joan tells it this way: "I realized that I wanted my next career move to bring me closer to our end users. I really wanted to work with those people who had real love and enthusiasm for our products. That's when Ellen and I bumped into each other in the parking lot. We already knew each other, because she often made presentations in sales trainings. So when I told her what was on my mind, she said, 'Call me when you get back to the office. Let's talk.' And that's how I got into the User Group Connection."

And that's where Joan is planning to take full advantage of her government and business sales connections, her training background, and what she considers her main skill: communicating.

As Joan explains, "I feel that above all else, I am a communicator, and my goal is to bring together three different groups to share information and support: Apple corporate, the government and business User Groups, and Apple field offices—the sales and support people who can provide the resources that User Groups want. These groups can generate new ideas just by being together, and my job is to facilitate that communication and coordination. I want to be a catalyst to create more momentum, more enthusiasm, more sharing of the resources from Apple and the ideas, strategies, and solutions that people have out there. My role is to be a clearinghouse for information and to connect all these people together to build new programs to facilitate these efforts."

"I have a tremendous enthusiasm for what's in front of me. Both government and business are markets that have hardly even been tapped, and I see User Groups as an integral part in helping Apple break new ground. The User Group community, in providing service, support, and training, has already become an important resource for the large numbers of new business and government Apple Computer users. I feel an overwhelming appreciation for them and am privileged to be a part of building the business and government User Group efforts."

"I encourage anyone from these groups who is interested in participating or contributing their ideas and suggestions to drop me a note, or link me at AppleLink TABB1."

So, if you're a government or business User Group, don't leave your encounter with Joan Tabb to chance. Who knows? This may be just the connection you've been looking for!

"I want to be a catalyst to create more momentum, more enthusiasm, more sharing of the resources from Apple and the ideas, strategies, and solutions that people have out there."

TRIVIA

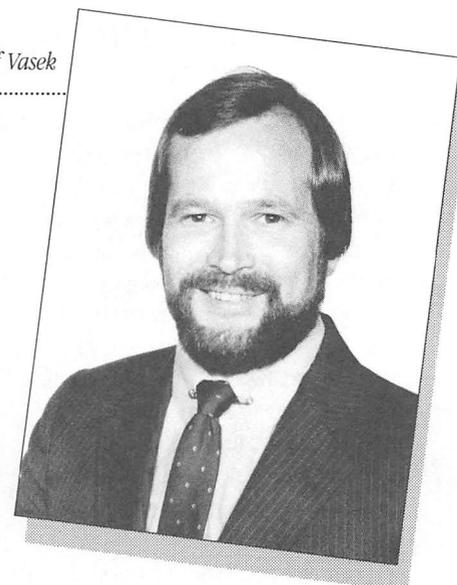
Who was the first celebrity spokesperson for Apple Computer?

Answer on Back Page



Developing Your Own Training on the Macintosh

by Jeff Vasek



Jeff Vasek is manager of the Interactive Education group within Apple's Customer Publications and CBT department. Jeff's department is responsible for producing CBT for all of Apple's products and has spent the last two years developing and using state-of-the-art CBT development tools for the Macintosh.

"What we needed was a dynamic storyboarding tool... Enter HyperCard."

The result of Apple's instructional animators' work is near movie-quality computer-based training.

TRIVIA

What type of insect was the original computer "bug"?

Answer on Back Page

Suppose you've been asked to put together a training class for your User Group. Whether the class will teach geometry, wind surfing, or cooking, you decide that the best training program would be one developed and run on a computer. If you were ambitious enough to try it, you would probably sit down at your computer and start programming in BASIC, or Pascal, or even Assembler. After hours and hours of programming, you might have about five minutes worth of instruction that might or might not do justice to your topic. That's when you'd say to yourself, "There's got to be a better way!"

We at Apple arrived at the same conclusion. Our job is to develop computer-based training (CBT) to teach our customers how to use the computer. And our situation wasn't much better than the one described above. We'd begin with a concept, spend months committing our training to paper (which we called a script), then hand it over to a programmer who would go away and come back a couple of months later with a finished version of what he thought we meant to show. Then we'd correct it, maybe add a few graphics, and hand it over to the programmer again. This cycle would go on until we got it right, or until the training absolutely had to ship. We also decided that there had to be a better way.

And we found several. Thanks to a whole new kind of software that's now available for the Macintosh, we've discovered a variety of ways to develop high-quality CBT faster, more efficiently, and more economically. We'd like to share these new tools with you, as well as the ways we're using them here at Apple.

Storyboards

Because people learn better when concepts are presented to them visually, we decided a few years ago to develop graphic-based training programs rather than text-based programs. We wanted the graphics to be an integral part of the training rather than an illustration or two thrown in when there was enough space left on the disk. To show the program-

mers how the graphics and the instruction fit on the screen together, we started using storyboards. A storyboard is a kind of script that shows the text and graphics that will appear on the screen. It also describes in words and graphics the action that will occur on the screen, whether it is some type of movement of the graphic or an action that the user should complete.

Unfortunately, sketching the graphics on paper, typing the words on a word processor, then laboriously cutting and pasting them (you remember the days of manual cut and paste, don't you?) into the storyboards was a real tedious operation. Then along came the solution in the form of desktop publishing on the Macintosh. We could now develop the sketches with a graphics package and the text on a word processor, then integrate them using a page layout package, such as PageMaker or Ragtime. For the first time, we were able to show the ideas we had for the training without using scissors.

Then we discovered we had another problem on our hands. No matter how detailed our storyboards were, and no matter how much we waved our arms in the air to explain what would be on the screen, people who didn't have a lot of experience with CBT couldn't envision what the final product would look like from the sketches and words we showed them on paper.

What we needed was a dynamic storyboarding tool, one that would allow us to show the graphics and text on the screen just as it would appear in the final product. Enter HyperCard, Apple's new system software product. With HyperCard, we could very easily import text from the word processor and sketches from the graphics package to individual cards, each representing a full screen. We could create buttons so the reviewer could move through the instruction, and even flip through several cards very quickly to simulate the animation we had in mind. For the first time, we were able to show the training exactly as it would look in final form, but without the months of programming time that usually went into developing a prototype.

Authoring Languages

After we'd found the tools to develop storyboards more efficiently, we still needed to expedite the production of the final version. Programming the training product in BASIC or Pascal took enormous amounts of time. Revising even the smallest part of the program—to fix a bug or to make a part of the training easier to understand—required rewriting a lot of the code, which took more time. And, as any programmer knows, fixing a bug in one place always presents the possibility of introducing more bugs somewhere else.

What we needed was an authoring language—a software program that would allow us to put the text, graphics, and interaction together in final form without having to resort to a programming language. What we found was VideoWorks Interactive (VW/I), a derivative of the original VideoWorks, co-developed by Apple and MacroMind. VW/I moved graphic "sprites" (or objects) on the screen and received user input—either from the mouse or the keyboard—and checked it against predetermined correct answers. The program allowed the training to branch in several different directions, depending on the feedback we wanted to give

Continued On Page 7

Continued From Page 6

the user. This was the tool we used to develop such training disks as Your Apple Tour of the Macintosh SE, and Your Apple Tour of the Macintosh II Applications: A Software Overview.

But because VW/I relies on sprite animation, it requires knowledge of how to move objects across the screen, as well as some programming ability to structure the user interaction. Here at Apple, we use people who have both the graphic animation ability, as well as a bent for programming, and we call them instructional animators. The result of their work is near movie-quality training.

In addition to this authoring language, others are available with different features and flexibility. For example, languages based on graphic flowcharting allow each screen to be designed independently—complete with text, graphics, animation, and user interaction, then linked together in a sequence determined by a flowchart. HyperCard, too, works like an authoring language, since it allows cards, or screens, to be designed and linked together in any order to create the final CBT.

Conclusion

With these tools and others like them, we at Apple can develop and produce sophisticated CBT in less time than was ever possible before. And so can you. Gone are the days when you needed a background in computer science and computer programming to put together a training program that worked. But just like the old days, good CBT still requires research and planning, and results from a good design. If you don't know what you want to teach before you begin developing the training, you'll almost always end up teaching the wrong thing.

So the next time your User Group needs a computer-based training course, get your hands on the tools that will make the job easy. Because now, the power to develop CBT is where it belongs: in the hands of the people like you who have both the knowledge to teach and the ability to teach it.

Apple Grantees and User Groups: Forging the Missing Links

by Sterling Speirn

As many of you know, Apple's Community Affairs program donates computers to charitable organizations throughout the United States. These "Apple grantees" are quite a diverse group of nonprofit organizations whose successful proposals have earned them donations of computer equipment. Included in their grant are three days of hands-on training to help them launch their computer projects. Trainees arrive at our lab in Cupertino in a curious condition. They are what we call "inexperienced experts." They have clearly become quite skillful in their service areas, be it food banks or AIDS projects, a program for disabled citizens or an arts consortium. But they are just beginners when it comes to using computers. Despite their years of experience, they are entering unknown territory. And they need help.

After more than five years of helping human service and arts groups adopt computer technology for their operations, we believe the critical factor for most nonprofit groups is ongoing local training and support. And that's why one of the first things we tell grantees is, "Join a User Group." Well, some do, but too many don't. I suspect our grantees resemble the majority of nonprofit organizations. They imagine that User Groups are just for pros, and they don't realize what a wealth of information and assistance they might find if only they would join.

At User Group University this spring, I was overwhelmed by the enthusiasm that User Group representatives seemed to have for helping nonprofit enterprises in their communities. I was interested to hear how various groups had taken on special projects to help local organizations or schools, and I wondered out loud in several conversations how User Groups could recruit more nonprofit people and help shepherd these new users and late adapters into the technological fold. I also wondered if the phenomenon reported by one User Group president—that he gets many

calls from members who wish to volunteer their services—was common among all. And if so, how were User Groups identifying needs and opportunities in their communities where members' computer skills could make a difference?

This summer, our staff has been on the road conducting follow-up training workshops around the country. At every site, User Group representatives have been there eager to help train and conduct demonstrations, and to let Apple grantees know just how much the User Group has to offer them. It's that old story of the out-of-towners playing matchmaker. As soon as our grantees realize that the answer to a software glitch may be just a phone call away, or that a User Group member is actually excited about helping them get their modem hooked up or a template working, their eyes light up quicker than you can say "AppleWorks!"

If you have ideas about how these kinds of good connections can be fostered among User Groups and Apple grantees and nonprofit groups in general, we would greatly appreciate hearing them, and we would like to share them with others interested in undertaking similar projects. More than the hardware or software they are often identified with, User Groups also offer their communities something else, and that's humanware.

Sterling Speirn is the Program Officer for Community Affairs at Apple Corporate Grants. He can be contacted at SPEIRN1 on AppleLink.

One of the first things we tell grantees is, "Join a User Group."

TRIVIA

Who told The Wall Street Journal, "We believe this will be a two-horse race between Apple and IBM?"

Answer on Back Page

QUICK BULLETINS

TRIVIA TEASERS

Answers

page 2—

The US Festival, by Steve Wozniak

page 3—

Nothing (He was retired.)

page 4—

Talk (It got too noisy, since offices were separated only by five-foot cubicle walls.)

page 5—

Dick Cavett

page 6—

A moth

page 7—

John Sculley

Did You Know?

Apple's Chairman, CEO, and President, John Sculley, is an author. His book (co-authored by John A. Byrne of Business Week magazine), entitled *Odyssey: Pepsi to Apple . . . A Journey of Adventure, Ideas and the Future*, will be published in mid-October by Harper & Row.

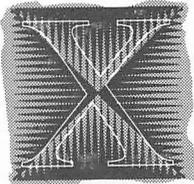
Introducing the Apple Training Alliance Program

In response to the growing demand for Macintosh applications training, particularly for Desktop Publishing solutions, Apple will announce a new training program in October. We have established the Apple Training Alliance (ATA) to encourage and support successful training efforts by selected third-party training companies and authorized Apple dealers.

The objective of the program is to make Macintosh application training more accessible to our users. The first five applications will be:

- Aldus PageMaker 2.0
- Microsoft Word 3.01
- Adobe Illustrator
- Forethought PowerPoint
- Silicon Beach SuperPaint

For more information, contact your authorized Apple dealer.



In Apple's History...

SEPTEMBER

1976—Six months after Apple began, Jobs and Woz are splitting a monthly salary of \$250.

1977—The first Apple International Show opens in Paris.

1980—Apple's employee count has grown to over 1000.
—The Apple III is introduced.

1981—The first Dealer Executive Briefing is held.

1984—The Macintosh 512K is introduced.

1985—The ImageWriter® II and HD-20 are introduced.
—Steve Jobs resigns.

1986—The Apple IIgs™ and an enhanced Apple IIc are introduced.

OCTOBER

1979—Personal Software, Inc. releases VisiCalc for the Apple II. The spreadsheet is the first application to make personal computers a practical tool for people who don't know how to write their own programs.

1980—The Cork, Ireland, manufacturing facility opens.

1981—The National Accounts Program is launched.

1983—The Certified/Registered Developer Program begins.

1984—Apple's Corporate Grants Department is formed. It encompasses Education Foundation and Community Affairs, as well as the company's Employee Volunteer Action program.

Staff

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Reader Rabbit GS

by Galen Gray

Reader Rabbit is a fun and effective way of teaching young children to read and talk with over two hundred words. Yes, I said talk. *Reader Rabbit* uses digitized sound through the standard IIGs sound port meaning no need for an extra sound card to hear it talk.

To start the program you simply put the disk in the drive and turn on the computer. If you have a RAM card, you can turn it on and the program will load itself into memory making it run much faster. From the startup screen you can choose to play one of the four games by pressing the corresponding number key on the keyboard. To toggle between Voice & Sound and Voice & Quiet press the number 5 key until the selection you want appears and it is set. To toggle between Joystick and keyboard press the number 6 key until your selection appears. There is no mouse control.

The Sorter Game

To play the sorter game press the number 1 key. Then it will say "lets play the sorter game." To play this game, you simply match the word it says with the target word in the box. If the word that slides out of the side matches the target pattern, press the space bar to store it on the shelf. Basically, it is a very simple game to teach recognition of syllables.

The Labeler Game

To play the Labeler Game, press escape and choose it from the main screen. This game teaches children to spell. You choose a letter from a scrambled group of letters and it will help you place it in the right order under a picture of the word you're spelling.

The Word Train

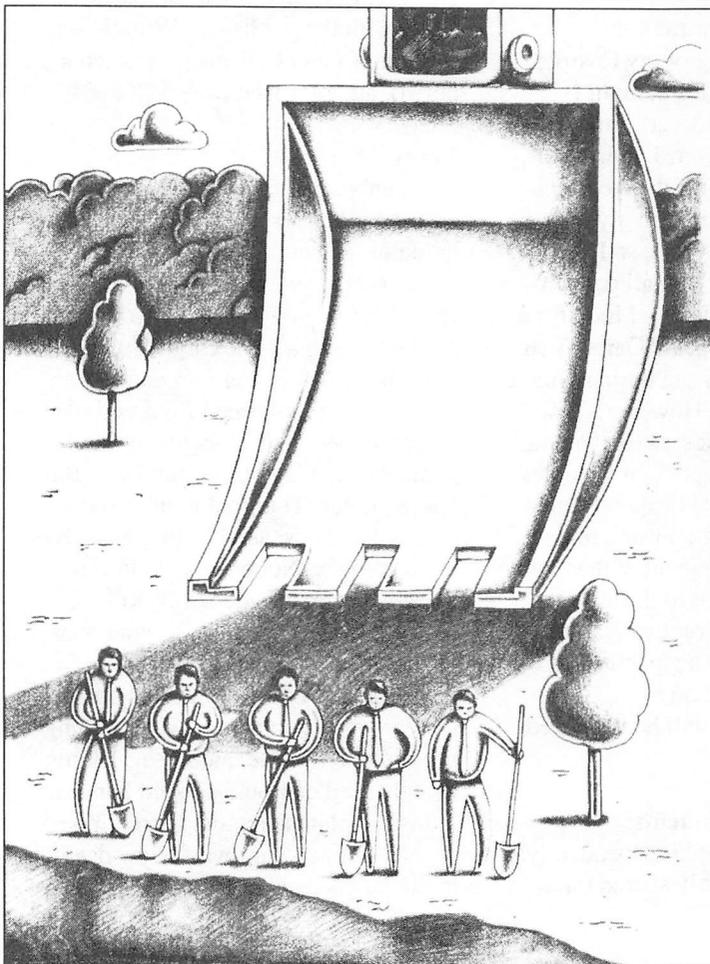
Playing this game requires that you

repeat the steps to play the Labeler Game but choose the Word Train. The goal of this game is to load words from the Word Factory onto the Word Train. This game teaches children to read by recognizing different patterns in the words. Each word must have a different letter in it than the one in front of it to enable the child to load it onto the train.

Matchup

The Matchup tries to have the child review what he or she has learned in the previous games. Therefore, it should be played last but it doesn't really matter, especially to the kid who is playing.

Reader Rabbit was written by The Learning Company. It was the first to use digitized sound extensively in a program. If you have a IIGs and young kids, consider getting *Reader Rabbit*.



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Tom & Larry
Present Their...

Top 10 Games

By Tom Carson and Larry Stehling

Every month in the Games SIG, Larry and I trash new games. The question arises (at least in our minds), what games do we like? With the Christmas season upon us, Larry and I would like to share our opinions on the best Apple II games we have played. If you are a game player, it is our wish to point out some games you may have missed. If you have a loved one who pursues this seemingly mindless activity, take pity. The game player does not want a woolly sweater, a leather briefcase, nor a cuddly puppy for Christmas. He or she wants a game! It is your duty to buy the game player games—lots of them.

Both Larry and I have game prejudices. We both are partial to sports games. If your loved one does not like to watch sports, steer clear of our sports games selections. Neither of us like text-only adventures (so-called “interactive fiction”). I would much rather read a book than play “guess-which-words-the-computer-understands.” I enjoy wargames. We don’t show wargames at the Games SIG anymore because they tend to clear the room. So be warned; if your potential gift recipient does not show a propensity towards wargames, don’t buy one.

In choosing my list, I employed a

system of calculations based upon approximate hours of enjoyment I received from the game. Larry used a more truthfully subjective system which he explains below.

Larry’s Opening Comments:

When I began thinking of my favorite games for the Apple II, I thought I would have an easy answer. But before I could finish my answer, I thought of several games I liked for different reasons. First of all, I have had my Apple IIc for less than three years, so I know that I have played but a small percentage of the games available. I look for a game that has play appeal. Games that use a gimmick usually get boring after a little amount of play. However, if the game has great graphics, player interaction, and a personality, then it becomes a winner for me. I also disqualify myself from commenting on war simulations. I very rarely have more than a couple of hours a week to dedicate to game playing on the computer, and I like to start and finish a game in that time period (I do have an exception to that guideline, which will be discussed later).

Tom’s Opening Comments:

Our lists were compiled independently of one another. We only shared three

games in our Top 10. Because of my deceptively quantitative approach I came out with a Top 20, the second half of which I only mention when it coincides with some of Larry’s picks. At the end of the article we list our picks along with the publisher. With the exception of two of the games (which are noted), all are priced from \$20 to \$40.

Larry’s #1: *Elite*

My number one favorite game is *Elite* by Firebird. This is the exception to my guideline of being able to start and finish a game in one sitting. *Elite* is a space trading simulation. You start out equipped with a basic cargo cruiser with pulse beam lasers and a small bank account that you inherited from your deceased father. The objective of the game is to achieve Elite status by killing space pirates, Thargoid mother ships and their drones, and blasting approaching asteroids. Not only will blasting these items credit you with a kill, you also get monetary credits to your bank account, and with enough kills you jump status. You jump from system to system, galaxy to galaxy while trading goods in demand (example: agricultural planets need computers to aid harvest, industrial planets require food). You can determine your own fate by dealing in illegal goods such as narcotics, weap-

ons, and slaves. You can attack other traders or police ships. All of the previously mentioned activities will gain you fugitive status and cause every bounty hunter in the galaxy to come after you. Once you have traded successfully several times, you can then afford to upgrade your ship. You can add an extra cargo hold, a fuel scoop, better lasers, a galactic hyper-drive, an escape pod, etc. What attracts me to this game are the smooth graphics and constant action. (Vector graphics are used instead of solid filled objects.) You can save the game often so that when you are killed you don't have to restart your character. I can recommend this game to all aspiring Luke Skywalkers out there.

Tom's #1: *Elite*

Elite also ranks as my number one selection. Along with the points Larry made, let me add that once the game has booted it never accesses the disk—thereby eliminating, at least temporarily, the silly idea of buying a newer more powerful computer. The game's manual is without peer in a world of mediocre documentation. Attendees of our Game SIG meetings will vouch for one of my mottos, "If you have to read the documentation, it might as well be a spreadsheet." You don't have to read *Elite's* lengthy manual, but you'll want to. It is written as a technical manual in the made-up future. It is not cloying as so many other manuals feel the need to be. The drawback of the game is that once all the ship accessories have been bought, the sense of purpose that drives a player is exhausted. The game's ostensible goal is to achieve "Elite" status. However, this goal can only be achieved by hours of repetitious play. Although the player grows stronger, the opponents do not, thus causing boredom to set in. Nevertheless, the game does provide about 25 hours of top-notch computer game playing.

Tom's #2: *Wizardry—Proving Grounds of the Overlord*

This original issue of the *Wizardry* series transferred fantasy role-playing to the computer. The computer replaces a role-playing referee with excellent results. The game player creates characters that go into a dungeon with the purpose of killing the evil wizard who lives

at the bottom. There is no diplomacy or cuteness. The player simply hacks, slashes, and steals his way to victory. The map-making required is not too hard nor too difficult. One can back up characters so that in the event your adventuring party gets wiped out, not too much time is lost. This game also has a good manual and should appeal to gamers whose motto is, "Kill them and take their gold."

Larry's #2: *Captain Goodnight and the Islands of Fear*

This game is fast and absorbing. I have yet to successfully complete this adventure, but it is very entertaining, although at times very frustrating. You, as Captain Goodnight, are assigned to save the world by turning off the Doomsday Machine located on Doom Island. However, to reach Doom Island, you must survive two other islands with their own defenses. You mostly encounter renegade robots that either zap you or toss hand grenades at you. The most appealing thing about this game is that it has a personality. During the entire game you are taunted by your foe with little dialog messages. Captain Goodnight has a personality of his own. It seems that the Captain is not a very patient person (that is all I'm going to say about him. I'll let him catch you by surprise like he caught me. I will say that I found it very amusing). The graphics are very good in this one.

Tom's Response:

I haven't played this game nearly as much as Larry has. I would underscore Larry's use of the word "frustrating." I understand that there is a cheat program available that allows an unlimited mission clock. This "cheating" sounds like a good idea, but should have been incorporated with the original game. Too frustrating for my tastes.

Larry's #3. *Airheart*

For number three, *Airheart*. In *Airheart*, you are the pilot of a jet sled that skims across the water surface. You are given several tasks by the Spirit Guardians. Each task becomes increasingly more difficult. You must find and retrieve three proofs of fitness. They are a sword, a goblet, and a harp. Each of these items are protected by robots.

To successfully retrieve each item, you must first defeat the robots and return the items, one at a time, to the Spirit Guardians who will reward you with additional lives and the chance to earn additional jet sleds. There are seven different robots, each with their own characteristics. Once you have retrieved all three items you are then assigned to save the baby prince who is also guarded by robots. The most interesting thing about this game is the graphics. The graphics are very fast and crisp. When the jet sled skims across the water, you can see ripples. When the sled submerges, the image is broken and distorted. When the sled and its pilot emerge from the water, the pilot shakes the water from his head. When the sled is stopped, the pilot will look around like he is confused or lost. Really great stuff.

Tom's Response:

I agree with Larry in regards to the game's graphics. They are the best of any for the II (non-GS) series. On the basis of the graphics, this game came in at 19th on my list.

Tom's #3: *Battle of Antietam*

This game is a wargame. It is fairly complicated and children will not like it. However, if you enjoy tactical-level board wargames, then you will probably like this game. The game simulates the American Civil War battle of the same name. Players command the units of McClellan and Lee's armies. The game can be played solitaire (you won't find anyone to play with you), two-player, or with the computer playing both sides (why bother?). Computer wargames are terrible as two-player games because the inactive player cannot study the battlefield while the active player moves. As solitaire games, they are wonderful for the avid wargamer. Your opponent is often infinitely patient and unlike board wargames, it is a lot harder to "cheat" for one side (come to think of it, maybe this facet is a drawback). *Antietam* was the first of SSI's civil war series. Subsequent releases include the *Battle of Gettysburg*, *Battle of Chickamauga*, and *Battle of Shiloh*. They all use the same mechanics as *Antietam* with a few added refinements (e.g., the non-random depletion of ammunition).

I spent about 25 engrossing hours playing this game until I realized my entire line of defense (I was the Confederate player) faced imminent demoralization. I haven't booted the program in over a year because the thought of losing to a computer opponent is demoralizing in itself.

Tom's #4: *Questron*

Blind loyalists of the *Ultima* series will detest this adventure game. It uses the same outdoor graphics as the *Ultimas* (under license). I found *Questron* to be much more playable than any of the *Ultimas*. The plot of the game is identical to every other fantasy adventure game (the evil wizard must be killed), but the game thankfully lacks the pretentiousness and seriousness of the other role-playing adventures. Variety in an adventure game is an alien concept. Here, it arrives as a blast of fresh air into the stuffiness of the dungeon genre. The game incorporates a simple arcade game, a memory game, and lots of gambling into its system. The game is more forgiving than most of this ilk and rewards the player with a grand ceremony for his good work.

Larry's #4: *Autoduel*

This game enters my list with mixed emotions. The game plays very well but there is one major drawback. The game allows you to save to disk anywhere during the game. But if you die, that character and any cars or fortune accrued cannot be retrieved for continued play. Also, you cannot retrieve the character from the last place saved. He is dead, forever. This may not seem like much, but you will spend many hours developing the character's fortune, cars, and prestige. To have it wiped out with one mistake can be very frustrating. There is some hope; I have seen character editor programs available in the back of magazines. I would consider this a must, although I don't have one myself...yet!!! In *Autoduel*, you start out with \$2000.00 and you are on foot. You can start out driving in amateur nights to gain some prestige which will later get you the better paying courier jobs, or you can travel by bus to Atlantic City and gamble to amass your fortune. I recommend going to Atlantic City and playing stud poker. Bet high

when you are winning and low when you start to lose and have patience. Once you have enough money, go to an auto factory and custom order a car to your liking. Driving between towns is like driving in one of the *Mad Max* movies. You encounter meanies trying to kill you, steal your cargo, and salvage your car. As you successfully travel from town to town, your prestige will increase. One annoying thing about this game is that at night, when everything closes, you must go back to the truck stop for a night's sleep. This seems a waste of time. It just interrupts the flow of the game. Other than that, the game is pretty good.

Tom's Response:

This game has a good premise and a rather good execution, but the fatal flaw that Larry mentions kills the game. The designers were too cruel. A large time investment can be wiped out too easily by the game's unforgiving death rules. I know a cheat program exists for this game, as well. But again, these "cheat" features should have been written into the program.

Larry's #5. *Loderunner*

This fast moving arcade game has 150 different levels. Each level is a different puzzle that must be solved. You must avoid the enemy, gather the gold boxes, and escape the level to proceed to the next screen. The interesting part of the game is figuring out how to get all the gold boxes without getting trapped or killed. The character you control has a laser blaster that is used to melt bricks which can serve as traps or escape routes. There is even a screen editor and a "build your own" capability.

Tom's Response:

Number 14 on my list. The game avoids the frustration of many computer games by allowing players to enter the specific screens that they want to.

Tom's #5: *Computer Baseball*

Computer Baseball was released in 1981. In the relative world of computer advances, this six year old game almost qualifies as an archaeological find. What is truly amazing is that in six years no one has released a better base-

ball simulation. The graphics of this game are very primitive, but they are adequate. Unlike the arcade games, the player assumes the role of a baseball manager making only managerial decisions—setting defenses, warming-up bullpen members, substituting, setting line-ups, etc. As a game player, you have no control over strictly player functions such as the pitch locations, timing of swings, etc. The designer shared that same love of esoteric detail that marks baseball fans. It is possible to experience player injuries, rain-outs, and ejections. Plus, you can print the box-scores of the games. The game also allows you to input any team or player you have the stats for. The main drawbacks to the game are time consuming disk access for substitution and the already mentioned graphics. Another draw to the game is the reduced price-tag it and its companion *Computer Quarterback* now carry.

Tom's #6: *Decision in the Desert*

If you have some interest in playing computer wargames but have never indulged yourself, the Microprose Command series is an excellent introduction. They use joystick control, have a limited number of units to control, are fairly fast moving (these are "real-time" games), and can be completed in less than two hours. *Decision in the Desert* simulates the North African Campaign of World War II. The game has several scenarios covering different parts of the campaign. Unfortunately, no campaign length scenario is included. The other two games in this series are *Crusade in Europe* (World War II Western Front) and *Conflict in Vietnam* (several different Vietnam battles).

Larry's Response:

For a wargame, this one is fairly easy to learn and, unlike most of them, conflict is resolved quickly.

Larry's #6 and #7: *Computer Quarterback* and *Computer Baseball*

Basically, these two games are non-graphic game simulations. That is, they are statistical number crunchers. Both games rely on success rates of offense versus defense. In *Computer Quarterback* you select how much you want to spend for each position and the com-

puter will automatically determine how successful he will be at his position. You select the plays. The computer will calculate the yards gained or lost, throw in a random number of penalties at what seems like the worst possible times (sounds like the Oilers...just joking) and turnovers. In *Computer Baseball* you can select from several teams on the disk, select from those teams your starting line-up and their batting order. You also control the bullpen, defensive positioning and plays, and you can control the offense (e.g., hit and run, steal a base, bunt, etc.). Both games have team disks available and both games can be played with one or two players.

Tom's #7: *Winter Games*

Epyx has released a slew of these sports games. Each is similar in that they contain about eight different events (e.g., kayaking, figure skating, gymnastics, pole-vaulting) which are played in an arcade format. These games' events vary from the enjoyable (javelin-throw, skeet shooting) to the unworkable (high-jump, fencing). *Winter Games* has the best graphics and highest overall quality of the series. All the events are playable and half of them are outstanding (hot-dog skiing, biathlon, ski-jumping, and bob-sleding). The game accepts up to eight players at once and keeps a running tabulation of the medal competition. Additionally, the vanity board keeps individual "World Records" for the different events. The joystick controls are fairly easy to learn. That and the non-lethal nature of the action make this game appealing to people who would not usually care for video gaming.

Larry's Response:

This game is entertaining, has good graphics, and is the best of the Epyx *Games* series.

Larry's #8: *Karateka*

I really like this game because I have successfully completed it several times. I can't say the same for any of the others above. The graphics are typical Broderbund—excellent. You are given the task of saving the princess who has been abducted by the evil warlord. As you approach the castle, the warlord sends out his Karate goons to head you

off at the pass. You must defeat each of these goons and continue to and through the castle, chamber by chamber, goon by goon until you battle the warlord himself. Just one tip, if you get through the warlord, watch how you approach the princess. Also, if you get really good, try booting the disk label-side down.

Tom's Response:

Unlike Larry, I've never finished this game. It is very cinematic in concept, and is a good game to show to non-computer gamers.

Tom's #8: *Lordlings of Yore*

Although the packaging of this game makes it appear to be another fantasy role-playing game, it is actually a medieval wargame. The magical elements included could be explained by conventional means. The scenario pits the lordlings of four contiguous shires against one another. As one of these four lordlings, the player collects revenue, outfits his army, invades the enemy, and tries to protect his own shire. The game system hides enemy troop dispositions. To collect such information you must enter into battle or pay the local peasants for spy reports. To avoid calamities, you must also return part of the taxation to the peasants as appeasement. The game can be played with one to four humans, although having more than two humans substantially lengthens the game. As a two player game, you can team up against the computer opponents, double-cross each other, or simply wage open warfare. The relative number of fighting men is low so that a lost battle can have dire effects. An invading army has the burden of garrisoning the towns and villages of the hostile shire to ensure greater tax revenue. Tax revenue is used to purchase more troops or magician's spells. This game uses many good ideas. It is marred somewhat by not using a joystick.

Tom's #9: *Ultima III*

I found this fantasy role-playing game to be very entertaining for the first 20 hours of play. Unfortunately, 20 hours will not get you close to your goal (killing the evil wizard). Like so many adventure games, this one requires

much repetition of action to achieve the goal. Instead of inventiveness, the designer relies on the stamina of the player to finish his creation. After the enjoyable time, I spent at least another 20 hours in an effort to finish the game. I didn't and I won't (at least for a while). This game's inclusion on my list is a reflection of the early, exploratory phase of the game which really was fun.

Larry's Response:

I'm not patient enough to stick with these adventure games.

Larry's #9: *Ogre*

The only reason I like this one is because I played it when it was a microgame by Micro-Gaming Concepts. *Ogre*, developed by Steve Jackson (the same guy who developed *Car Wars*, which was transformed into *Autoduel*), was originally a \$2.95 board game which came in a baggie with cut-out pieces. The game transforms well from board to computer because the concept is simple. There is a giant robot tank that just knows to attack your headquarters and defending army of small artillery and tanks. In the process it destroys as much of your force as possible and then returns from whence it came. *Ogre* can be played with one or two people. The game can be used with either a mouse or a joystick; however, the mouse is highly recommended to make command selection easier. Sound effects are pretty good. An improvement to the game would be a helm's view of each attacking vehicle during the attack sequences.

Tom's Response:

Like Larry, I played the original board version of this game. The computer version improves very little on it. The \$2.95 board version was a much better value.

Tom's #10: *Computer Quarterback*

As Larry mentions, this game relies on statistics, not arcade action. There are two levels of play: semi-pro (18 offensive plays, 14 defensive plays) and pro (36 offensive plays, 24 defensive plays—each with the choice of 3 alignments and 3 double team possibilities). The computer can provide an op-

ponent for the semi-pro version but the pro version is strictly for human opponents. As in *Computer Baseball*, there are rudimentary graphics. Both *Computer Baseball* and *Computer Quarterback* are due for revision but until that time they remain a great value. (Note: *Computer Quarterback* requires game paddles.)

Larry's #10: *Hardball*

Another baseball game. This one has outstanding graphics. The game can be one or two player; however, I recommend finding someone to play with because I think the computer cheats. It must be scuffing the ball and using corked bats. I usually hold the game close for three or four innings then nothing goes right. As manager, you select the players, substitute when desired, and select offensive plays. As player, you control the pitch selection and location, fielders' positioning, and throws to the infield. As batter, you can select the type of swing you take. When played against the computer, only the joystick is used. When two players play, they alternate using the joystick

and the keyboard.

Tom's Response:

This has the best graphics of any Apple II baseball game. Larry is right, the computer does cheat. The game is best played by two players. The players should disallow positioning the catcher's mitt as this movement makes hitting too hard. The game was 13th on my list.

Larry's Closing Comments:

Well, there it is. My top ten. Now, let me explain that these are the favorites of the games I have played. There are a few that I haven't played yet, but I certainly would like to. I would like to

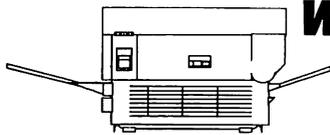
play *Bard's Tale I and II*, *Wizardry*, and any of the Gamestars/Activision sports games.

If there are any games that should receive any attention on my part, please let me know. I'm always looking for a good game.

Tom's Parting Shot:

Below is a list of the Top Ten. With the exception of *Computer Baseball* and *Computer Quarterback* which are priced at around \$12, all of these games cost between \$20 and \$40 from mail order or discount retailers. As with any computer product, mail order is cheaper but does not supply immediate gratification.

Larry's Top Ten	Tom's Top Ten
1. <i>Elite</i> , Firebird	1. <i>Elite</i> , Firebird
2. <i>Captain Goodnight</i> , Broderbund	2. <i>Wizardry</i> , Sir-Tech
3. <i>Airheart</i> , Broderbund	3. <i>Battle of Antietam</i> , SSI
4. <i>Autoduel</i> , Origin	4. <i>Questron</i> , SSI
5. <i>Loderunner</i> , Broderbund	5. <i>Computer Baseball</i> , SSI
6. <i>Computer Quarterback</i> , SSI	6. <i>Decision in the Desert</i> , Microprose
7. <i>Computer Baseball</i> , SSI	7. <i>Winter Games</i> , Epyx
8. <i>Karateka</i> , Broderbund	8. <i>Lordlings of Yore</i> , Softlore
9. <i>Ogre</i> , Origin	9. <i>Ultima III</i> , Origin
10. <i>Hardball</i> , Accolade	10. <i>Computer Quarterback</i> , SSI



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Setting Up a Custom Printer in *AppleWorks*

By Eric Nye

Did you buy a printer whose name doesn't appear on the list of supported printers on the *AppleWorks* "Add a Printer" screen? There are plenty of excellent printers not listed and good reasons to buy one. If you chose "custom printer" on the "Add a printer" screen and have been able to keep the printer from printing one line on top of another, you are as far along as I was six weeks after I unpacked my new system. I had only seen one size character on all the paper that had passed through my printer. It looked great!

But the word processor section of my *AppleWorks* manual kept mentioning the phrase "characters per inch or ci." I asked myself, "What are they talking about?" (I asked that one frequently.) I read the section again and experimented with Open-Apple O, CI, specifying numbers like 6, 8, 12, 15, 17, and 20 because my printer manual said my printer was capable of those sizes. I was really puzzled because they seemed to make no difference. Well, if you haven't seen your dot matrix printer create those great big letters and those little tiny letters, read on...

In order for you to get the printer to vary its character width and shape, you must enter certain printer commands as part of the custom printer set-up. To the inexperienced user this procedure is

probably the most difficult aspect of *AppleWorks*. The task requires a few (maybe quite a few) hours and a willingness to follow steps in an orderly way. We'll start with the printer manual as the place to identify the commands you will need. Find the section which presents the general comments on the subject "characters per inch" and determine what widths your printer is capable of producing and make a chart like the one in Figure 1a. Don't try to fill in the portion to the right of the equal sign, yet.

Next, locate the section of the printer manual which gives the codes for these character widths. At this point you may need to learn a few terms, such as pica which means 10 ci, elite which means 12 ci, and others. Your manual may not state that 10 ci = "code X"; rather, it may state Pica = "code X". Furthermore, you must realize that if you combine the term pica with something like "wide print" or "double width" you arrive at the 5 ci figure above. You would determine 6 ci by combining "double width" with elite or one-half of 12. For ci numbers higher than twelve, you will have to combine terms like "condensed" or "compressed" with pica or elite. Through combining these names your printer can produce the different character sizes.

Nowhere in my manual did I find the clear phrase, "To make the printer print 17 ci you should specify command(s) X and Y." Unclear manual instructions exacerbate the difficulty of setting up a custom printer in *AppleWorks*. In fairness to printer manual writing staffs, one must consider that they intend their product to be used by many computer brands; therefore, their vagueness can be forgiven somewhat. In order to fill in the chart above, you will have to locate the codes for pica and other terms. Lastly, there is the concept of proportional characters. This principle allots more width to a "w" than to an "i". This is the trickiest one of all, but my experimentation has indicated that proportional pica works in *AppleWorks* if you specify thirteen characters per inch. You should postpone the aspect of proportional character width until you feel comfortable with the standard widths. At that time you will want to experiment for yourself. You cannot hurt the computer or printer by specifying commands that are incorrect. The printer just won't do what you desire it to do, and may even print part of the code it doesn't know how to interpret, thereby giving you a clue to the problem's solution.

You must then find the section of the printer manual which specifies

"codes" for your printer. Having found them, are you confused by the three or four choices listed for the term elite? From my personal experience, if the manual specifies a "control code" for a term, I recommend that you use it rather than the ASCII code. If the manual does not mention a "control code," use the ASCII code. Only "real" programmers need the decimal and hexadecimal equivalents. *AppleWorks* is able to use either the ASCII code or the "control code." Okay, now fill in the chart you made earlier with the code for elite width. All of my examples, by the way, are from the Epson LQ series printer manual.

To the right of "12 chars per inch =" I write "ESC M" (without the quotes). The capital and lower case letters are totally different so make sure you are transcribing them properly. Completing the chart in the same manner, I write the code for pica, ESC P. For double-width pica or 5 ci I write two sets of codes: ESC P for pica and ESC W1 for double-width. For double-width elite or 6 ci I also write two sets of codes: ESC M for elite and ESC W1 for double-width. For fifteen (the name given to the 15 ci width), I write only one code because that is the third standard size that the LQ prints: ESC g for fifteen. For condensed pica or 17 ci I write ESC P for pica and Control-O for condensed. Finishing the list, I write ESC M for elite and Control-O for condensed. I bet you are getting the hang of it now? Does the code name itself mean anything? Well, in general, no. But the "P" in "ESC P" could be remembered easily because "p" is the first letter in pica. Nevertheless, it's perhaps best to think of them as arbitrary symbols. The chart should look like Figure 1b now.

We are now ready to put these strange looking codes into the *AppleWorks* file, SEG.PR on the program side of the diskette. I interject that for those who have wondered what those cryptic file titles mean. PR indicates printer information. I'm still wondering about most of the other titles. Load *AppleWorks* and from the main menu type 5 for "Other Activities." Then type 7 to specify information about your printer.

Now you are at the screen entitled

"Printer Information." If you have not already added a custom printer, press 3 and highlight "custom printer." Press return and give the printer a name and press return. If you already have added a custom printer, you will not be allowed to add a second. You may continue to work with the custom printer you already have named or delete it and create a new custom printer.

While at the "Printer Information" screen, press 4 to "Change printer specifications." The ensuing screen is titled, "Change a Printer." For decisions 1-5 on this screen I refer you to your *AppleWorks* manual. To paraphrase their main idea, try the default settings and if your printer performs correctly, don't be concerned about these choices. By the way, *AppleWorks* version 2 adds choice 5, Interface cards.

At the bottom of the screen, "Change a Printer," type the number for Printer codes. You are then presented with the screen titled appropriately, "Printer Codes." Remember the term "characters per inch" or ci? Press 1 (return). "Characters per inch" is the title of this screen. Next, press 5 (return) for 5 ci. At last, we are ready to enter the codes we placed on the chart prepared earlier. The prompt at the bottom of the screen asks you the question, "Is the presently displayed printer code correct?" The current code is "none." Aha! Now you understand why my printer never changed the width of any characters it printed during the first six weeks I used it. *AppleWorks*, as usual, performed its part correctly. It had sent my printer "None" when I had specified the various characters per inch. My printer received "None" and made no changes to what it had been printing. Well, the present code of "None" is not okay; so press return while "No" is highlighted.

Refer to the chart you made earlier and enter the appropriate code(s). For the inexperienced, to enter "ESC" or "Escape" press the key named Esc and release it. Don't press the space bar next, a space will be added automatically by *AppleWorks*. Then press the next code letter. If a second ESC is needed, press the Esc key again and continue.

After you have made a mistake

during this code entry step, you will see something on the screen you do not want to see there. Don't panic and stab at various keys in an attempt to escape. If you do, you will merely add more words to the screen you don't want to see there. There is no way to delete or erase an incorrect key press at this point. Once you detect an error, there is only one way to end the code entry step: press shift 6 or the caret key. The caret key press will return you to the "Characters per inch" screen where you may start over. Type the same ci number on which you made the mistake. It is good practice to jot down the ci number as soon as you detect the error and before you press the caret; otherwise, you will exit the error screen only to ask yourself, "Now which one was I working on?" Expect to make plenty of mistakes, but don't let it upset you.

From the "Characters per inch" screen, press 5 again and try to make your key presses correctly. It takes practice. Laugh a little at your mistakes. Continue entering the codes for the rest of the characters per inch numbers which have codes for your printer. For the beginner, to enter a Control-O for example, press the control key and while holding it depressed, press the other key (upper or lower case, this time).

After all the codes for characters per inch are entered, you are ready to see your dot matrix printer create those large or tiny characters which, by the way, look the same on your *AppleWorks* screen. Place a short word processor document on your desktop and enter it. Skip down a few lines of text and press Open-Apple O. Then type CI (return) and pick any number other than 10 which appears on your chart. (Well, pick 5 this first time so we'll communicate more clearly.) Type that number and press return. Notice that *AppleWorks* has inserted "_____Chars per Inch: 5 chars" at the left margin just above the paragraph in which you inserted the ci option. Print the document on your printer and notice that at the point where you specified 5 ci, the letters have now become twice as large as the default 10 ci letters at the top of the page. Take out your ruler and measure one inch; then count the

number of characters. You now have a clear understanding of the concept of characters per inch. Turn off the printer power switch; then turn it back on. You do this to erase the codes which produced 5 ci. (More about this later.) Try the other ci numbers by placing the cursor directly under the “_____ Chars per Inch: ?? chars” and watch the number change as you type in your other ci choices. Caution: Try them all but only one at a time. And *remember* to turn off the printer power switch between each printing experiment. The reason for this will be apparent below. Experiment with each ci number your printer is capable of producing.

You have the basic concepts fully understood and have seen the big and tiny characters your dot matrix printer is capable of producing. But it sure was a hassle to turn off the printer every time you changed to a different setting, wasn't it? This is the idea which is basic to all printer codes: if you enter a command to tell the printer to change its behavior in some way, then it will continue to print that way until you have entered another command to tell it to stop behaving in that way. Thus, for every option that you can turn on with a command, there is its cancelling or negative command.

We must return to the printer manual at this time to note how to turn off an attribute that we have specified. It's back to square one, but now we have a little more experience and can build a more complete chart.

Start with a chart like the one in Figure 1a. The terms required to print 5 ci were pica and double print but we didn't need condensed so we must cancel condensed just in case we had been using a character width which employed it immediately preceding where we now want to insert 5 ci. (It never confuses the printer to receive a cancel command even though what you are cancelling was not in effect at the time.) So, we must locate the command which cancels condensed and include it along with the commands which we do need to print 5 ci. The command is Control-R.

The formulas will now look like those in Figure 1c. Notice how all the formulas have the same number of codes on the right? Use that as your

Character Widths	Printer Codes
5 characters per inch	
6 characters per inch	
10 characters per inch	
12 characters per inch	
15 characters per inch	
17 characters per inch	
20 characters per inch	

Figure 1a. Your sample chart should look like the above chart before you start writing codes.

Character Widths	Printer Codes
5 characters per inch	ESC P ESC W1
6 characters per inch	ESC M ESC W1
10 characters per inch	ESC P
12 characters per inch	ESC M
15 characters per inch	ESC g
17 characters per inch	ESC P Control-O
20 characters per inch	ESC M Control-O

Figure 1b. After finding the appropriate codes for turning on the various widths, your chart should look like the above chart.

Character Widths	Printer Codes
5 characters per inch	ESC P ESC W1 Control-R
6 characters per inch	ESC M ESC W1 Control-R
10 characters per inch	ESC P ESC W0 Control-R
12 characters per inch	ESC M ESC W0 Control-R
15 characters per inch	ESC g ESC W0 Control-R
17 characters per inch	ESC P Control-O ESC W0
20 characters per inch	ESC M Control-O ESC W0

Figure 1c. The final chart with a complete set of enabling and disabling codes.

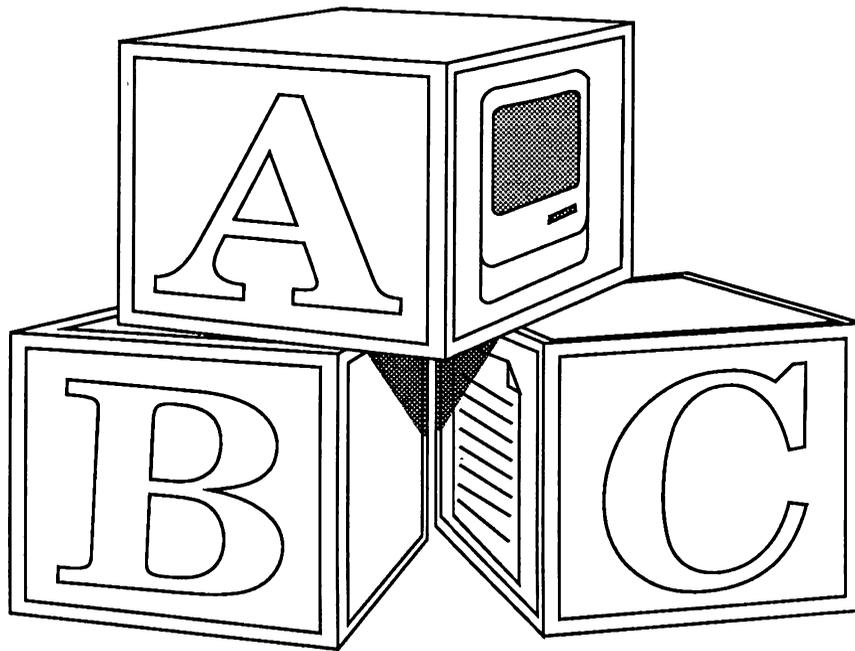
guide as you add proportional commands, for instance. The reason I do not have to cancel pica, elite, or fifteen is that they are “super commands” enabling the Epson's three basic character widths. It is only the options which need the cancelling commands.

You will need to enter the codes for the “Lines per inch, Boldface, Subscript, and Superscript, and Underlining” which appear on the “Printer Codes” screen using basically the same techniques and methods you have used to enter the characters per inch commands. Notice how *AppleWorks* helps you with the start/stop concepts with boldface, etc.

Once you have entered all the codes you need, it might be a good idea to make a back-up of the file SEG.PR

because you have done a great deal of work which will be lost if something destroys that file on your *AppleWorks* disk.

There are many more ideas to share on the subject of custom printers. For instance, “How do you get *AppleWorks* to print those big letters and little letters on the same line?” or “How could I build a macro which would enter all of those codes with a single key press?” I have learned many helpful tips from the work of Charles Rubin, a nationally recognized expert and author of excellent books on *AppleWorks*. I hope the somewhat tedious chore of setting up a custom printer in *AppleWorks* will be worth the trouble when you look down at your documents and say, “They looked great before, but now they look spectacular!”



Mac for Kids?

*Macintosh
Learning Aids
Reviewed by
Ted Lee*

If your Macintosh is lonely while you're at work, have you ever thought of letting your kids play with it? (*If you're through gasping in horror, please consider the possibilities.*) After all, unless your Mac is under lock and key because you're a selfish parent, you'll find that youngsters, whether toddlers or future MENSAs, really can benefit from a little quality time on the Mac.

Early criticism of children's programs for the Macintosh varied, but there was a consensus that there wasn't enough bang for the buck, the cost was generally too high, and the quality of the programs was usually low. Fortunately, some software producers are listening to the criticism.

CompuTeach is one of the more receptive children's software publishers. CompuTeach has produced several enchanting children's programs which use the Mac interface well. Previous versions of their programs were marketed individually with list pricing of around \$50 each. That price, alone, hardly encouraged you to replace your youngster's \$3 *Sesame Street* ABC wall chart with *ABsCenes* for the Mac. However, CompuTeach has just revised its pricing and is now bundling their programs

in a manner which can only make them more attractive.

Six of these programs are available in two formats: *Stepping Stones, level one*, and *Stepping Stones, level two*, based on age group. Since both my five- and eight-year-old children operate with opposite levels of understanding for computer skills, perhaps it would be useful to suggest that not all children are necessarily at a learning level based on age. Nevertheless, all CompuTeach programs follow a simple, repetitive user format. Even the simplest requires a child to interact with mouse and keyboard commands.

ABsCenes, in the *level one* package, is built into three steps of learned exercises, always reinforced by animation and lively sound to keep the child interested. In step one, you press a letter on the keyboard to produce the associated alphabetical picture and a tune. In step two, the picture appears, and the child must press the correct letter and is rewarded by sound and partial animation. In step three, the picture is shown with blanks to actually spell the correct word. Correct spelling is rewarded by full animation across the screen with sound. A wrong response gets a disappointing raspberry sound from the Mac.



ZE----



From *ABsCenes*.

The *level two* package, *Pictionary*, has a four-step format. The first step is to learn the picture and see the spelled word; the second is to see just the picture and find a correct word which cycles by pressing the space bar. In the third step, the word is shown while the picture cycles, and a fourth step requires the word to be inserted into a sentence which already has the picture.

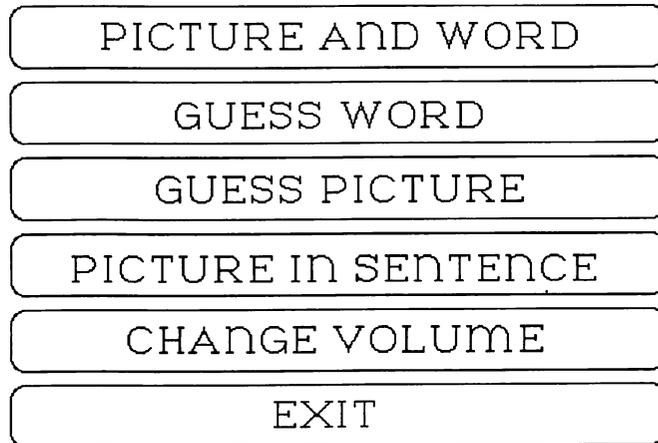
Stepping Stones, level one, contains three programs: *Counting, ABsCenes*, and *Word Pieces*; priced at \$39.95. (The manufacturer suggests an age range of 2-6 years). *Stepping Stones, level two*, is similarly a three-pack, containing *Addition, Pictionary*, and *Sentence Wizard*; priced at \$39.95. (Suggested ages, 4-8)

The good news is that CompuTeach has completely revamped its pricing for these programs. By dialing a toll-free number, (1-800-448-3224) they will mail a coupon which enables you to purchase their programs from any retailer on a two-for-the-price-of-one basis. This bonus should also be available if

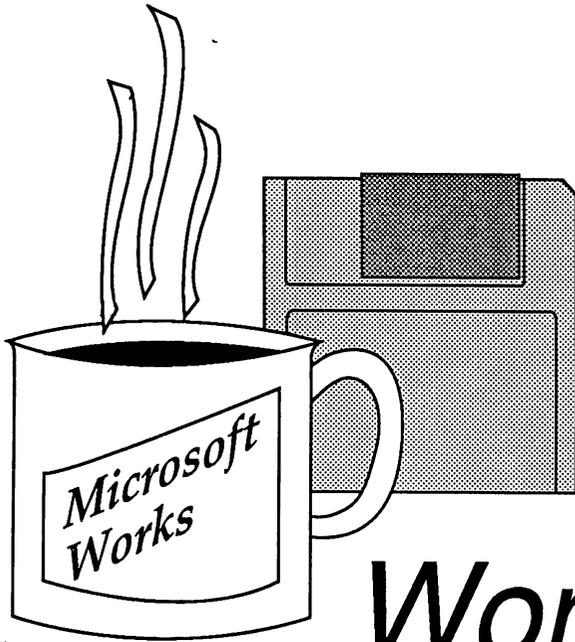
you buy one program mail-order and send the receipt to CompuTeach. They would then send you the second program. The new pricing and "two-fer" offer allows you to get all six programs for the price previously charged for one.

One further observation; after a few run-throughs of the programs, the vol-

ume control setting, shown below, will be very useful when the kids are going solo. The lively sounds are great for kids but not exactly top ten material.



The *Pictionary* control panel.



Works at Work

by Charlie Moger

Click. Ding. Another day begins, as work and my Mac both come to life. People demand a lot of Mac and me. Before the Mac's screen asks for one, disks are already in both drives; before the coffee fills my cup, my phone's already ringing. Here comes another day of being reached out for and touched...

I work in Buffalo, San Diego and 35 other cities in between—on the telephone. All told, there are more than 175 people on any given day with fires that need my attention. I work for a national radio marketing company that sells sponsored promotions to radio stations. Anyone who's done it will tell you it's hard work, with more little details to remember in one day than a dozen legal pads can hold. That's where Microsoft *Works* comes in.

My first call is from a promotion director in Albany, where it's already 9:30. She spent the first hour of her day looking for trouble—and found it. As she lays out the problem, I bring up my affiliated stations market database and the Albany call sheet.

She tells me the local distributor hasn't received his display materials and her night club event is tomorrow night. That doesn't quite add up, so I bring up my shipping report for the banners, posters and other goodies we send out... Sure enough, the request went in, but the goods never went out.

TS/Call Sheets		
6 items	239K in disk	529K available
<input type="checkbox"/> 1-Eastern	<input type="checkbox"/> 2-Central	
<input type="checkbox"/> 3-Mountain	<input type="checkbox"/> 4-Pacific	
<input type="checkbox"/> 5-Working	<input type="checkbox"/> Correspondance	
1-Eastern		
Name	Size	Kin
<input type="checkbox"/> TS/Albany	6K	
<input type="checkbox"/> TS/Augusta	1K	
<input type="checkbox"/> TS/Birmingham	7K	
<input type="checkbox"/> TS/Buffalo	4K	
<input type="checkbox"/> TS/Charleston, SC	4K	
<input type="checkbox"/> TS/Erie PA	1K	
<input type="checkbox"/> TS/Erie, PA	1K	
<input type="checkbox"/> TS/Flint MI (P)	6K	

MARKET SHOPPING LIST: Each market had a word processing document where I recorded notes during each contact.

I pop on the intercom: "Good morning, did Albany's signage go out?" Silence. "Let's overnight it for Saturday delivery," I suggest.

Back to the market database for the phone number of the Area Manager in upper New York state so I can notify him that DHL will drop the goods off in the morning. The promotion director is happy.

The Area Manager is on top of it. Crisis averted. Everything is under control...in Albany.

Wonder Works

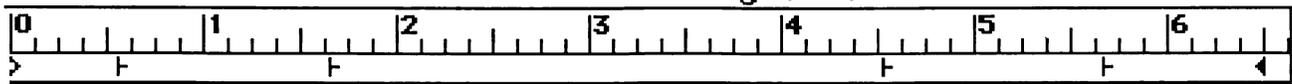
Every now and then in life, something so perfectly suited for your unique set of circumstances comes along that you think, wow—clean living has finally paid off. Remember the first time you held a mouse in your hand? Well, *Works* didn't give me quite that Zen-like a reaction, but it was pretty close.

Microsoft *Works* integrates word processing, database, spread sheet and communications programs under one roof. It's a personal productivity program that gives you basic integration.

TS/CM's Mkts (DB)

St	Market	Calls	For	Phone	PD	SM	GM
6	Portland, OR	KGON	AOR	503-655-9181	Iris Harrison	Mr. Charlie King	Dan
5	Reno, NV	KWNZ	CHR	702-323-0123	Beau Reyus	Gloria Bently-Brine	tsfr
4	San Diego, CA	KGB	AOR	619-292-1360	Tedd Edwards	Bob Lafrate	Tom
5	Souix Falls, SD	KKRC	CHR	605-335-6500	Dan Kieley	Bob Freeman	Paul

TS/New York City (WP)



10/13-Viginia Randall

ASk dave if he's sent out pr and to whom. She will cc: buchman on everything. She's also going to do someof the PR. They've gotten TV on Long ISalnd and should be getting some in NYC later this week!

10/14-Dave Cervini

Left message. Call me. He ran the stuff over to Boening Brothers on Monday, he says. ALSO: Sam's looks like it's going to happen for NOV/6 or 7. He's going to speak with Bob about generating Affidavits for the promos. Said I would send him the Butcher cut for use in promos. PROMOTIONS AFTERHOUSE: 516-587-1283

WORKS' WINDOWS ON MY WORLD: The top of the screen is filled by my market contact database which includes all market information; the bottom is where call sheet notes appear. During each call, I record notes from my calls to track

Now, let's understand what we have here: a sly little gadget with all the rudimentary features you could ever hope to use in basic day-to-day applications. No, *Works* isn't *Double Helix*. It isn't *Excel* or *Fullwrite Professional* either. It is a nifty little package, however, that delivers all the "power" this user really needs to get through a day at work. A day in the life of *Works* on my desk gives a glimpse of the program's power and potential.

Work without Works

My job is a mix of dates, quantities, budgets and notes. In pre-Mac days, we kept an Account Executive's notes for each market in ring binders. A different section for each market. We generated weekly reports on IBM-based word-processors. The idea of integrating notes, reports, correspondence, and station data was something everyone was too busy to consider.

Specifically, the company asks its AE's to track names, titles and address

information for the more than 35 affiliates each works with, comprehensive notes from dealings with each market (at least four separate contacts in each), and weekly status reports on the overall program.

Works finds a job...

The first day I walked in with my Mac, everyone from president to part-timer wondered exactly what I was going to do with it. The company had recently bought a Mac and ImageWriter II but largely remained the domain of IBM PCs.

What I did was take the AE job into the computer age. First, I looked at how things had been done in the past. Each person maintains two ring-binders: one for market contact notes; another for contact names, numbers and addresses. I replaced them—and the supplemental legal pads and card files with the Mac, *Works* and a couple of floppies.

Works' job description

Rather than keeping sections in a ring binder filled with handwritten sheets of notes from conversations for each market, I organized a series of word processing documents—one for each market. When I call into, say Portland, I open the Portland document and type my notes in during the conversation along with the date and contact person called. As time goes by, each document becomes a chronological narrative of what happens in each market.

Then, instead of maintaining a phone contact book in another three-ring binder, I keep everything from names and numbers to the most current ratings information in a *Works* database. In radio, people change jobs at a furious clip. What begins as a neatly organized volume at the beginning of our promotion, winds up with names scratched out and written over two and sometimes three times before the notebooks are updated. My database listing is constantly updated throughout the promotion.

Integrating my Works

Notes and contact information are the most important things we manage as account executives. Thanks to *Works*' integrated nature, I'm able to have both on the screen at the same time. On the top half of the screen, *Works* displays my contact database. The bottom half of the screen displays my contact sheet.

In fact, I often stack up the call sheet windows at the beginning of a day. When I wrap up my contact with one market, I close its window to reveal the next one requiring my attention. In this way, *Works* also functions as a "People To Call" list.

Works—a lot!

Besides organizing my contact information and call sheets, *Works* also generates my weekly summary report and a host of other reports. When I have to contact all the markets with a mass mailing, *Works*' mail merge capabilities, combined with my contact database, makes mailings a breeze. *Works* tracks. It updates. It reports. It does so much, I can't think of any area of my job that *Works* hasn't helped organize, simplify—including packing up at the end of the day. Rather than filing lots of papers, all I do is **Quit, Shutdown,** and split.

The bottom line

Many so-called "Power Users" scoff at *Works* because of its limitations: no macros, no definable default-fields, and so on. The same people tell you how Microsoft *Works* is a program that's a jack of all trades and a master of none. I don't argue with them. They're the same kind of people who would rather buy a high-performance sports car capable of mach speed to drive on city streets with 40 mile per hour speed limits.

Works will never replace the more powerful programs out there. I'm sure that was never its creator's objective. What we have in *Works* is a realistic toolbox for the day-to-day demands real life places on man and Macintosh.

The program may not be for everyone, but but since it came to the office, my job has been downright *Works*-able.

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