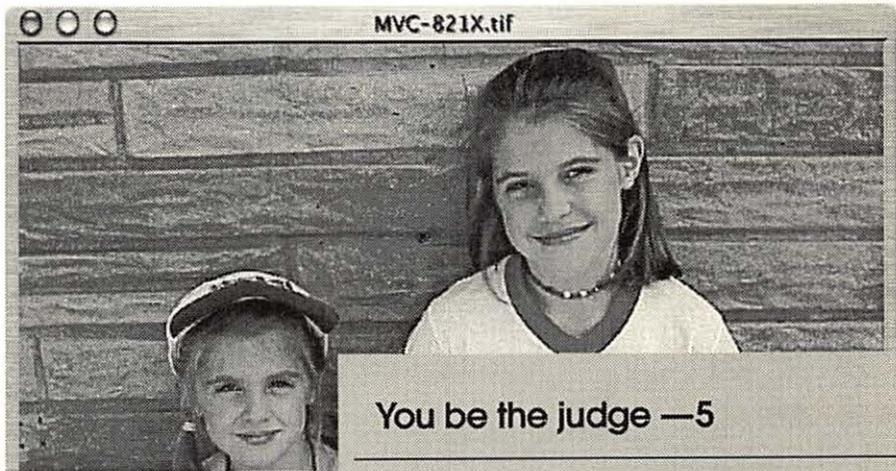
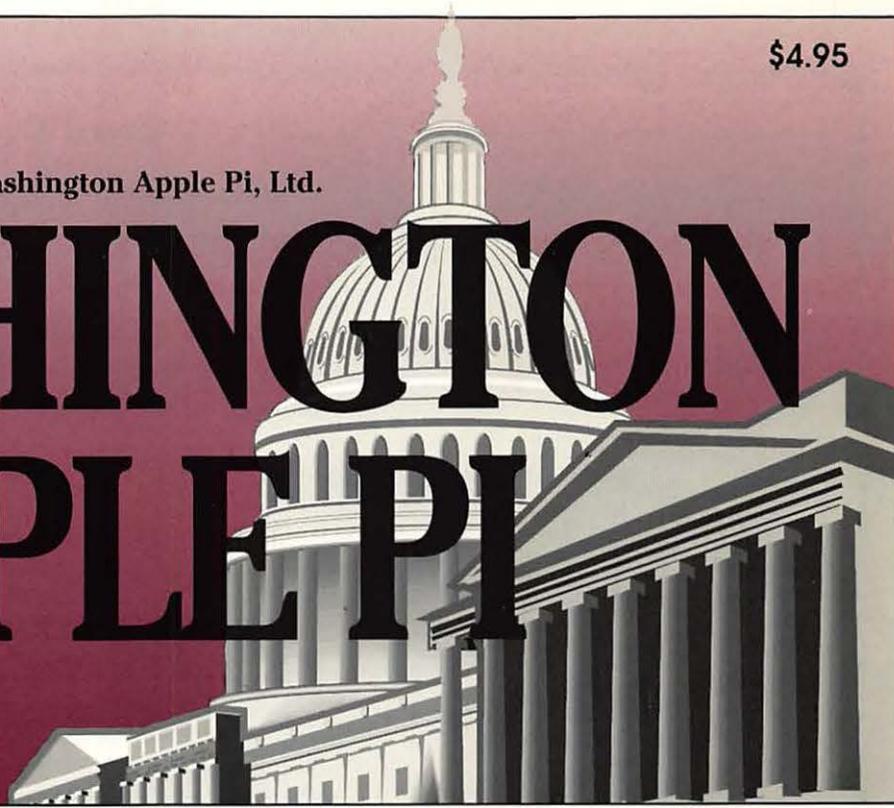


The Journal of Washington Apple Pi, Ltd.

WASHINGTON APPLE PI

Volume 22, Number 6



You be the judge —5

Untangling the Mac OS X Desktop Application—12

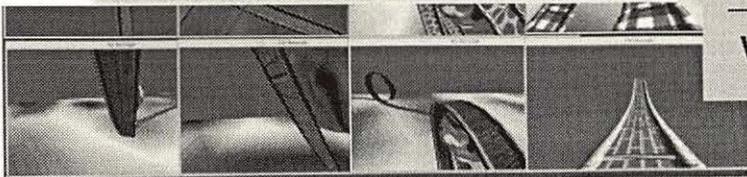
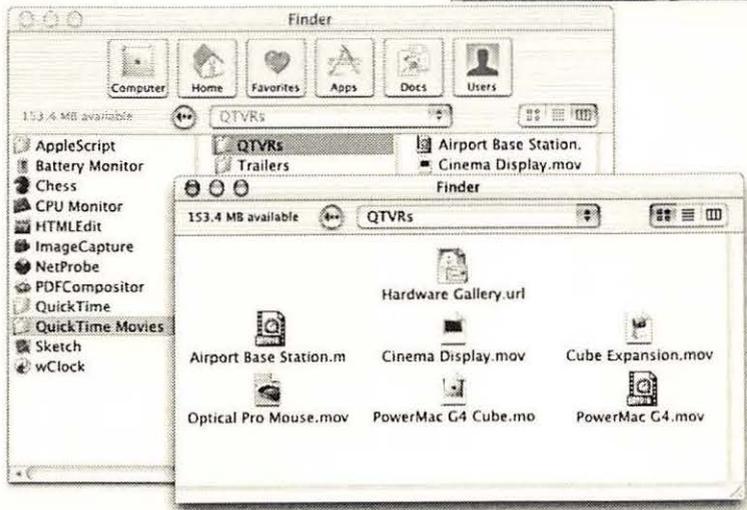
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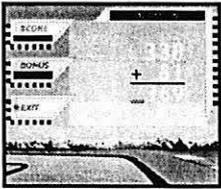


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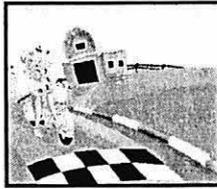
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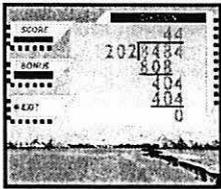
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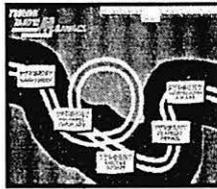
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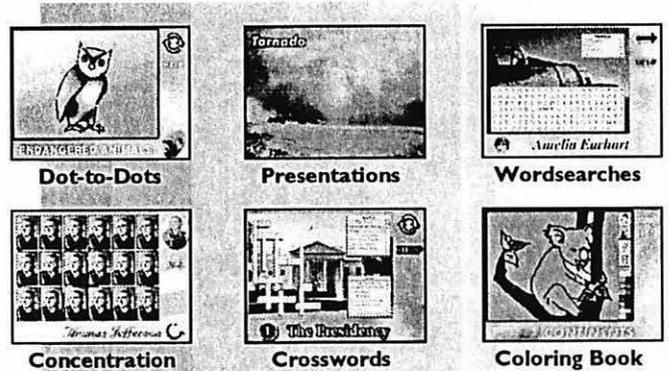
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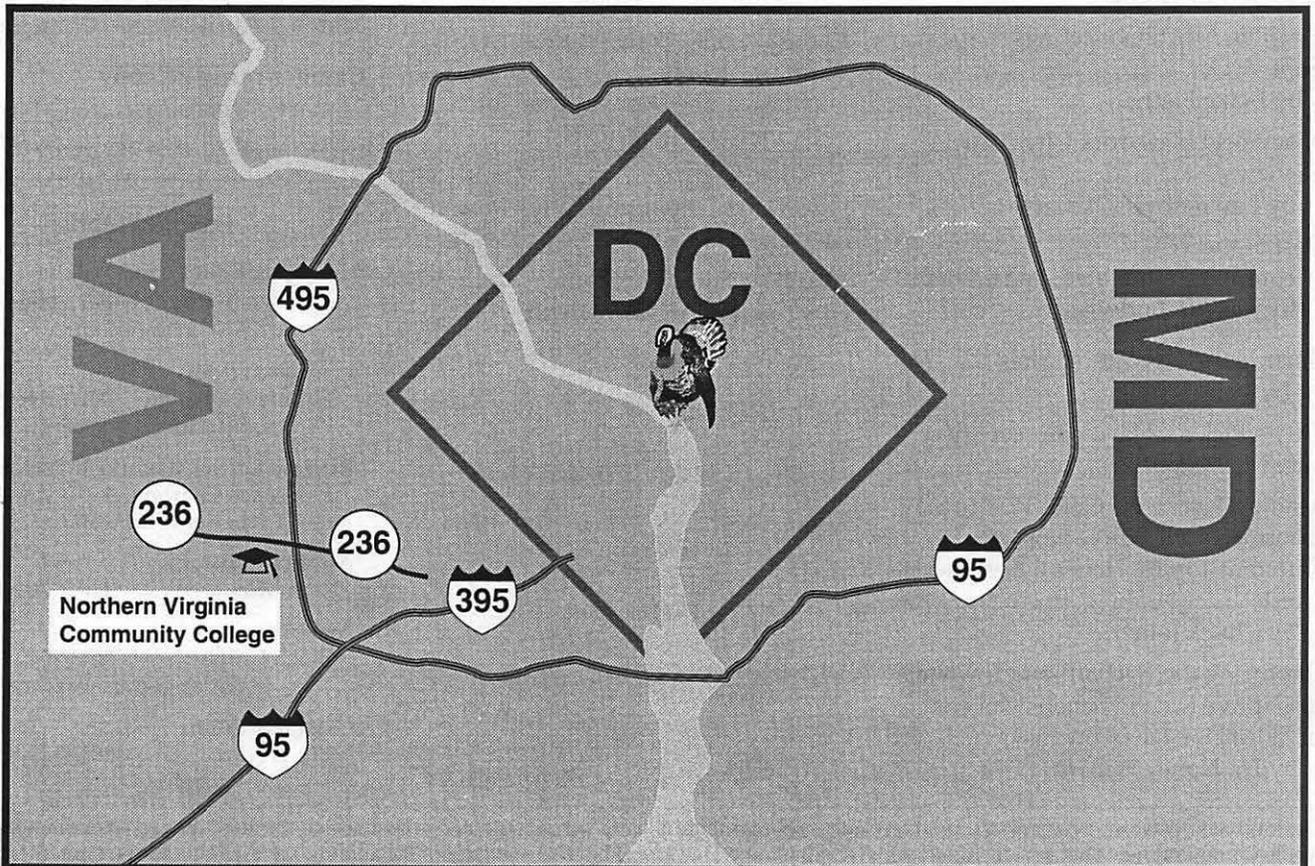


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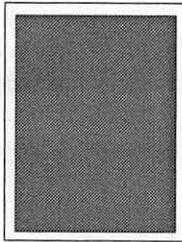
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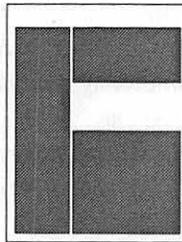
The page layout program used was PageMaker 6.5 the word processing program was Microsoft Word 5.1; the principal typeface is Palatino (10/12) for the articles; and Avant Garde Demi for headlines, subheads, and emphasis. Charlemagne Bold for drop caps.

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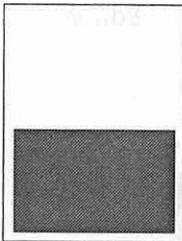
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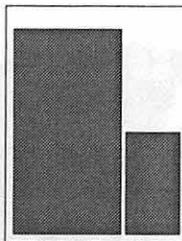
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Another journal at holiday time

A journal in your mail already and at a time when the holidays are starting to take shape. Don't miss out on this one for it is filled with many pieces that will give you an overview of the world of Apple as well as touch on the nitty-gritty of working with applications.

Lorin looks at how Apple is doing on Wall Street and for you at home.

Jon Thomason analyzes the new OS X by way of an open letter to Apple. Lazlo Vajda tries his hand at explaining the pros and cons of the new operating system after working with it on his own machine.

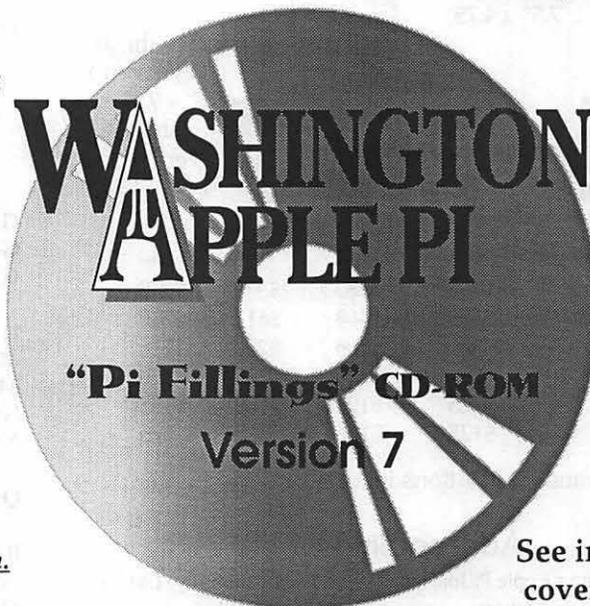
Two articles appear on the latest QuickTime—version 5. One written by WAP writer Dennis Dimick and the other by MDJ, the Daily Journal for Serious Macintosh® Users. What you can't tell here is how hard Dennis pushed to grab 5 when it was first available and write something for the journal. There is a fair amount of lag time between the writing of an article and your receiving a finished journal.

Pat Fauquet has offered us some insights on how to make the most of AppleWorks.

Lawrence Charters' piece on MacWorld is in this journal because of an oversight on my part—otherwise it would have been in the last one.

This certainly doesn't cover all that is here, but highlights some articles you should seriously consider.

Kathryn Murray
 Managing Editor



See inside back
 cover for more
 details

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You be the judge

IN THE LAST issue of the Journal, I wrote about a new ruling from the Securities and Exchange Commission called "Fair Disclosure" (FD). Put simply, it requires companies to make simultaneous disclosures of information about their health to analysts as well as to you and me. I thought I would give you a more complete picture of why Apple believes it did so poorly during its third quarter and let you read Apple's full disclosure statement. Nancy Paxton, the Director of Investor Relations did the honors.

"In connection with the recent adoption of new SEC rules on corporate disclosure, Apple will continue its current practice of making its earnings call open to the media and general public by broadcasting the call live over the Internet In addition, corporate representatives may meet privately during the quarter with investors, the media, investment analysts, and others. At these meet-

ings, Apple may reiterate the outlook guidance contained in its earnings release and today's conference call. However, Apple will publicly disclose any subsequent material changes in the outlook provided today. Note that during Apple's 'quiet period', Apple will not comment on its financial results or expectations. The 'quiet period' extends from the first day of the last month of each quarter until the date when Apple next releases its quarterly earnings."

It is nice to know that some of you actually wrote to Investor Relations thanking them for making these briefings public before Apple had to do so.

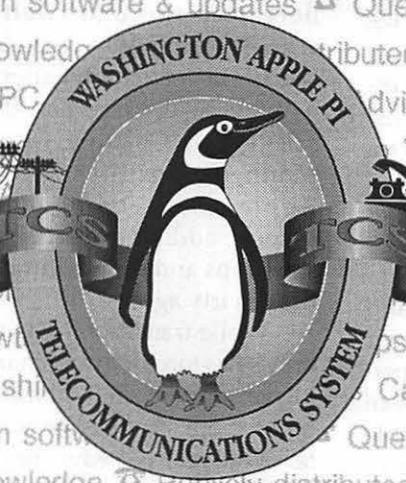
So What Did They Say?

Yes, it was a they. Typically it is Fred Anderson the Chief Financial Officer who brings the good news to the public. But this time Fred was joined by Steve Jobs. Fred handled the bean counting, while Steve read a prepared statement about where he is

trying to take the company. You will get to read it in a minute.

Although Apple made money in its third quarter and has a healthy bank account, it did not sell as many machines as Wall Street wanted it to or Apple predicted it would. First, Apple did not sell as many G4 Cubes as they guessed would be purchased. Second, they sold many fewer iMac and iBooks to schools than they had forecast. And finally, G4 tower sales came more from low-end models than the higher-priced G4 dual-processor models. A million here and a million there soon adds up. The company actually shipped 1.1 million units and generated \$1.87 billion in revenues. Unfortunately, that was \$180 million below their goal.

But this is not the financially shaky Apple of old. As Mr. Anderson put it: "Despite our disappointing quarter, our balance sheet remains incredibly strong. We increased our cash position by about \$200 million in the quarter, finishing with over \$4 billion in cash. At quarter[s] end, we had an additional \$800 million in investments, which means that our cash plus investments less debt was over \$12.50 per diluted share. Our cash conversion cycle remained strong during the quarter, with receivables



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plus inventories minus payables at 26 days." Thus Spake Fred.

This is the first time, to my knowledge, that Steve Jobs has appeared at one of these financial sessions.

"Hello, everyone. As Fred just reported, our sell-through in September was way off the mark, leaving us with an overhang of channel inventory. Rather than gradually reducing this channel inventory over the next several quarters, we have decided to reduce it to a normal level by the end of this quarter, which will result in a second disappointing financial quarter, even though the sales out of our channel to end customers this quarter should be moderately strong. Our plan is to be back on track for the January quarter, and we remain very excited about our products and programs for 2001.

We have identified several factors which we believe contributed to our sales shortfall, and we are taking strong steps to remedy them going forward. Let me outline what we think are the three largest factors.

First: the G4 Cube. We designed the G4 Cube to be the ultimate Macintosh for high-end consumers and professionals. We powered it with a G4 processor, just like our pro[essional] products, and engineered it to be compact and run virtually silent, just like our consumer products. We are thrilled with how it turned out, and think it's one of the finest engineering and design achievements to date. While many of our customers agree that the G4 Cube is an extraordinary computer, too few of them are buying one.

We believe the primary reason is that, in the eyes of our customers, the G4 Cube is simply priced too high. In addition, we had two early-stage product problems that have caused concern among some customers. First, a small number of early G4 Cubes have touch switches that became misaligned during shipment,

allowing them to randomly misfire and turn off the computer unexpectedly. This problem has been completely fixed, and Apple is promptly fixing all such systems in the field that are brought to our attention at no charge.

Second, some users have mistaken small plastic flow lines in the Cube's clear plastic enclosure for cracks. While none of them are cracks, nor compromise the integrity of the enclosure in any way, some customers have been upset with less than perfection. We have reduced the visibility of these plastic flow lines as we have moved up the learning curve in manufacturing, and have replaced some customer units that have more pronounced flow lines.

Our plan going forward? This week we launched a promotion which offers customers a \$300 rebate on the G4 Cube when purchased with an Apple display, effectively lowering the price of the G4 Cube to \$1499. We are planning to offer lower-cost models of the Cube by this coming spring, and have reduced our volume expectations for the product to bring it in line with the current demand.

Second: the megahertz gap. As many of you know, independent tests have shown that, at equal megahertz [rates], the PowerPC G4 processors we use in our Power Mac G4s are up to twice as fast as the Pentium III processors for many applications our pro customers use every day. In other words, a G4 processor running at 500MHz can be as fast as a Pentium III running at 1GHz. Nonetheless, most customers have been trained that higher megahertz equals better performance, and look to the megahertz rating as their primary or sole measurement of performance. Compounding this problem is the fact that Apple has been unable to ship G4 processors running above 500MHz for the past year, due to our G4 processor suppliers' inability to supply us faster processor chips.

These issues have led some of our customers to believe that Apple has

"I thought I would give you a more complete picture of why Apple believes it did so poorly during its third quarter and let you read Apple's full disclosure statement."

fallen into a 'megahertz gap' vis-a-vis Intel processors, and some of them have chosen to postpone their higher-end Power Mac G4 purchases until they can buy higher megahertz models in the future.

Our plan going forward: we have been working closely with Motorola, and plan to offer Power Mac G4s with higher megahertz processors in the next six months. Our plan is to begin closing the megahertz gap during the first half of calendar [year] 2001, and to make substantial progress during the remainder of the year.

Number three: education sales. As many of you know, Apple is the number one or two supplier of computers to schools in the US, depending on whose numbers you believe. The largest part of this market is kindergarten through twelfth grade schools. Before July, we sold to these schools using a combination of Apple employee sales reps and third-party sales agents. On July 1, we executed a planned transition to using only Apple sales reps to sell to these schools, adding over 150 new Apple sales reps and terminating all of our third-party agents.

While transitioning to an Apple-only sales force may be smart, the timing certainly wasn't. During the July quarter, our strongest education quarter of the year, our education revenues fell by \$60 million short of our expectations. The sales force transition appears to be the primary cause. For example, last quarter, 40% of our sales reps were new to Apple, and half of

our customers had new account managers. In hindsight, the July quarter was clearly a poor time to execute this transition.

Our plan going forward: in September, we hired a new vice president of education sales, and he and the entire executive team are placing tremendous management attention on our education business. The next big education sales quarter begins in April, and we intend to be ready to begin regaining market share.

We believe these are the three largest factors which contributed to our sales shortfall last quarter, and which we will continue to pay for this quarter. We are taking strong steps to remedy all of them going forward.

Now let me turn to the future, and discuss a few of the many things you will see in the coming months. First is a great new product line-up for 2001. Our engineering department has been working overtime to create some of the best, most innovative products in Apple's history for 2001. While I cannot go into details, for obvious reasons, I can say that Apple has a very, very competitive line-up of desktop and portable computers for the pro, consumer, and education markets. It's the best product line I've seen in my career.

Two: Mac OS X. Apple will be launching Mac OS X, the next generation of the Macintosh operating system, early next year. And while no operating system transition can be painless, things are looking very, very good. We released the Public Beta version of Mac OS X last month. So far, over 60,000 copies have been sold, with an additional 500 copies or so selling each day. We just released the Japanese version of Mac OS X Public Beta. Moreover, it is highly likely that the number of users running the Public Beta software greatly exceeds the number of Public Beta copies sold.

So far, we have received over 45,000 separate feedback submissions from our Public Beta users. We have

invested significant resources to capture this valuable feedback and are evaluating it to understand which are the most frequent and important suggestions so we can make Mac OS X even better. Most of the feedback has been overwhelmingly positive, and confirms our confidence that we are on the right track as we prepare the transition from Mac OS 9 to Mac OS X during the course of 2001. Another major area of feedback we have re-

“Although Apple made money in its third quarter and has a healthy bank account, it did not sell as many machines as Wall Street wanted it to or Apple predicted it would. First, Apple did not sell as many G4 Cubes as they guessed would be purchased.”

ceived is that many users are excited that Mac OS X combines the ease of use and the sophisticated application platform from Macintosh with the state-of-the-art memory management, protection, multi-tasking, and networking from UNIX. For the first time, serious computer users can have both the mainstream user experience on the outside and the industry's most respected [and] robust engine room on the inside. We think that the existing Macintosh installed base is going to love Mac OS X, and that it will open up new markets for Apple as well.

Three: more iMovie-like applications. iMovie has been a grand slam for us, creating demand for every product we make, especially iMacs. iMovie has won praise in dozens of publications, from industry newslet-

ters to Time Magazine. Besides the Internet, iMovie is possibly the most compelling new thing our customers do with their computers. The genius of iMovie is that it combines an industrial-strength video editing studio with a magically easy-to-use user interface, a tradition that Apple is famous for. The result is that hundreds of thousands of Mac users have made iMovies so far. You can even put your iMovie on your own personal Web site that Apple hosts for free, so that it can be seen by anyone, anywhere in the world, on any kind of computer. I highlight iMovie because it is a good example of Apple's core strategic competitive advantage. We are the only vertically integrated company in our industry, and as such have two advantages over our competitors.

- One, Apple is the only company in our industry that can take responsibility for the entire customer experience, from unpacking the Apple-designed hardware to running the Apple-designed operating system, to connecting devices like camcorders using Apple-invented FireWire, to running Apple-authored application software like iMovie. The synergies that are possible because of this vertical integration are evident by watching a user make an iMovie on their iMac for under \$1000, an experience our competitors can't even begin to match.

- Second, Apple can innovate faster, because Apple doesn't need to get six companies in a room and make three-year initiatives. We can place our bets on key technologies, then implement the hardware, software, applications, developer relations, and marketing to create this innovation in record time, and then sell the benefits to our developers and customers. Again, digital video is a good example of this, where Apple has developed the hardware, operating system software, and both consumer and pro versions of the application software necessary to give users a complete, seamless solution for breakthrough prices.

In the coming months, you will see two more breakthrough applications like iMovie that will leverage hardware, operating system software, and new application software to bring amazing new capabilities to Mac users in Apple's legendary ease-of-use way. It's going to be fun.

There is a lot more coming. We can't talk about it today; maybe we've even disclosed too much. But the bottom line is this: Apple is going to have two disappointing but profitable quarters. Then we'll be back on track in January to grow our revenues and profits again. While this is a regrettable pause, let me reassure you that the same innovative spirit that has driven Apple during the last few years is going to drive Apple back into a position of revenue and profit growth. Thank you."

So What?

What you just read is the result of your tax dollars at work. Once upon a time, Wall Street types got to hear that and you got what they cared to pass on. Thanks to the new full disclosure policy of the SEC, you got the raw feed. But we still need to cut through some of the nice corporate English.

Mr. Anderson offered some brave words about recovering lost business; his boss hints at neat new things. I suspect, however, that Apple is in a bit of a pickle. Their fourth quarter historically has been a strong one for the company. But it won't be this time around, because Apple has three problems:

(1) all that inventory left around that it wanted to sell last quarter plus additional machines it would like to sell this quarter; (2) a higher cost for selling those computers [advertising, rebates, etc.]; and, (3) an educational market which is very quiet at this time of year so there won't be much sold there. Fred Anderson was forthright when he said: "Accordingly, we are dramatically reducing revenue out-

look for the quarter to about \$1.6 billion. We expect gross margin to decline to about 22%, due to an expected low mix of pro products, and [for] operating expenses to be up about \$10 million sequentially, due to higher advertising for the holiday season. As a result, we are targeting only a slight profit in the December quarter.

As for next year, Mr. Anderson is hopeful: "We believe that for the balance of fiscal 2001, we will achieve unit and revenue growth of close to 10%, and that we will return to the aggregate profit levels of the last nine months of fiscal 2000."

"In the end, it all comes down to you and me. Macintosh is just simply better than its competitors on the street. Wall Street's measures of goodness are not the ones you and I use when deciding what computer to buy."

But Steve did something that he is not wont to do — and that is talk about future products. And he did it at a time when there is lots of current stuff that is not selling. How do you explain trying to sell a pipeline full of existing hardware so that it is all gone by the end of the next quarter, while hinting that around the corner are faster G4s and cheaper G4 Cubes? Depending on how enticing the holiday packages will be from Apple, you could be in for some bargain shopping soon.

Steve alluded to two new software packages. If you are looking for a companion application to iMovie, there is an appealing hint of two more

to be released after the first of the year. And of course there is a new operating system to sell. Apple has never had a brand new operating system to sell. The way they are handling the public beta release does not give me a sense that they have figured out how to do that.

And then there is the school market. From what we see at street level, Apple has major repair work to do. Steve would have us believe that a transition from one sales force to another is the primary cause for a drop in school sales. That may be part of it; but it is not nice to blame the sales folk when you don't give them competitive packages to sell. The Macintosh may be your obvious choice, but it does not appear that way to contracting officials in schools. A real human has to make the case for the Mac: a web store doesn't. Someone has to assemble competitively-priced packages of machines and hardware support that match those being offered by PC companies. Apple cannot announce products aimed at the school market in July when the buying cycle is April through June. The company has got to address the paucity of local of teacher training, regional service, and technical support. Any time their new vice president of education sales would like to talk to us, we are ready to help.

In the end, it all comes down to you and me. Macintosh is just simply better than its competitors on the street. Wall Street's measures of goodness are not the ones you and I use when deciding what computer to buy. If you are at all interested in upgrading your Macintosh, this holiday season should afford you some good deals. All the machines available today can operate with the new Mac OS X operating system. Any machine that has FireWire built-in turns you into an iMovie producer, a process you'll find fun and easy. There is an affordable Macintosh out there for you at whatever speed you travel.

—Lorin

Washington Apple Pi

Board of Directors Notes

September 6, 2000 Meeting

[Note: the Board had not approved the minutes of this meeting as of this writing. Full minutes of the Board of Director's meetings may be found on the Washington Apple Pi bulletin board, the TCS, in File Transfer Area 5.]

Directors present: Kristen Dunn-Thomason, Don Essick, Lorin Evans, Pat Fauquet, David Harris, Brian Mason, Kenneth Clare, Richard Sternberg, and Steve Fink.

Directors Absent: David Ottalini, Dale Smith, Jim Kelly, Steve Kiepe, David Weikert, and Needham Langston.

Member Present: Jon Thomason

After struggling with the copy machine to get copies of the handouts needed for the meeting, the Board of Director's meeting was called to order at 7:55.

Old Business

AFTER GIVING the Board an opportunity to read the minutes which had been revised just prior to the meeting, Steve Fink moved and Kenneth Clare seconded that the minutes be approved, which they were.

Through the efforts of David Weikert, Lawrence Charters, Jon Thomason and others, email addresses for the officers of the WAP have been established using the office title, such as President@wap.org and Secretary@wap.org. These mail addresses can be used by the members or anyone else regardless of who occupies the office, and the email will

be forwarded to whatever mailbox the current office holder wants the email to go to. There was some question about whether an officer would be required to establish an account with the WAP TCS in order to use this service. The answer was that if the officer wanted the mail to not be forwarded, but they wanted to pick up the mail out of the title@wap.org mailbox, they would have to have an account with the WAP TCS. But if the address just provided a pointer to a mailbox off of the system, there would be no need for the officer to establish an account on the TCS. After this was clarified to the Board, we moved on to:

New Business

The first topic under new business was the old Sharp copier. The WAP has been forced to move up to a newer model copier because toner is no longer being sold for the Sharp. Lorin had found a Toshiba for \$1000 off the \$2500 regular price. However, Richard Sternberg suggested he shop around at local copier maintenance firms. He thought it might be possible to get a copier for just the cost of a maintenance contract. Pat Fauquet pointed out that the previous Board of Directors and a vote of the members at a previous general meeting had given Lorin the authority to replace the copier.

The question was raised of whether the WAP should try to turn our Tuesday night clinic into something more commercial. This would

mean trying to open more than one evening a week, getting more volunteers or maybe even a paid employee to provide the services, and paying Apple \$500 for a license. Some items such as iBooks, and PowerBooks if they are under warranty go right to Apple for repair. No attempt is made to repair them locally. The Board members nodded their heads showing they understood the conversation.

The final topic on the agenda was the WAP TCS Explorer service. Lorin was looking for some idea of the direction the Board thought this service might go in the near future. Currently, the service is run totally by volunteers. There is no attempt to compete with commercial services. We provide 24 lines at 33.6K maximum speed. It takes a week for a person to be activated once they sign up. We are finding that fewer and fewer people are signing up. Many of those who do sign up are only looking for an easy way to do email without all the bells and whistles and ads that accompany the commercial email services.

Currently we have three activities — our web page, our service as an Internet Service Provider (ISP), and our text-based services including the Bulletin Board System and email. These activities cost the WAP in terms of administration costs and time and effort and pain suffered by the volunteers of keeping things running. There is no question that we need to continue to have a presence on the Web. One of the advantages of being an ISP is that many folks using us as their ISP enter the Web using the WAP as their home page. There is also no question that we need to retain our text-based services for our members who do not have Internet access. But a decision needs to be made about our ability to continue to serve as an ISP. We could farm this function out by contracting with a third party. We could drop this function entirely. If we continue to provide this function, we at the very least need to upgrade to 56K modems.

“...whether the WAP should try to turn our Tuesday night clinic into something more commercial...getting more volunteers or maybe even a paid employee to provide the services...”

But in this day-and-age when folks are moving off of modems and going to DSL and cable modems, this would still put us behind the times. The Board agreed to consider these options during the next month.

The costs and benefits of the Journal were discussed next. Two-thirds of the WAP members do not live in this area, so the only contact they have with the club is through the Journal. It needs to be a quality publication that provides a useful service to these members. Articles are solicited from the Board and all members. Remember this is a volunteer organization. The Journal does not have a staff of paid writers. All articles come from volunteer amateurs like you and me. If you struggle through putting a new piece of hardware on your machine, write about your experience so others don't have to go through what you went through. If you install a new piece of software, tell us about what you learned as you got familiar with it. If you bought a book and it turned out to be totally useless, tell us about it.

Pat Fauquet announced that the mini-tutorials at the general meetings will start with the September meeting.

Pat also announced that a group in Las Vegas, New Mexico, wishes to become a slice of the WAP. Though we have never had a slice so far away before, the Board agreed to send the group an application.

Because it was so late, a discussion of whether to establish links to commercial sites from our Web page was tabled until the next meeting.

Richard Sternberg moved and David Harris seconded that the meeting adjourn which was unanimously agreed to by the Board at 10:05 pm. ■

Washington Apple Pi

Board of Directors Notes October 4, 2000 Meeting

Directors present: Kristen Dunn-Thomason, Don Essick, Lorin Evans, Pat Fauquet, David Harris, Brian Mason, Kenneth Clare, Richard Sternberg, Steve Fink, David Ottalini, Dale Smith, and Needham Langston.
Director Absent: David Weikert
Member Present: Jon Thomason

After struggling with the copy machine to get copies of the handouts needed for the meeting, the Board of Director's meeting was called to order at 7:50.

Old Business

THE Directors had before them 3 different versions of the minutes of the September meeting, one of which was suggested by Lorin, one was the original version written by the Secretary, and another with comments by Richard Sternberg. Though a motion was made to accept the version with the comments by Mr. Sternberg, David Ottalini moved and the motion carried, to table the final approval of the minutes until they could be rewritten to incorporate Mr. Sternberg's comments.

Lorin said he had been researching possible replacements for the office copier, but with no satisfactory solution. He assured the Board he would continue this effort.

New Business

Lorin asked for suggestions on

what should be included in our next CD since the WAP is almost sold out of number seven. One suggestion mentioned was a folder of material having to do with Apple User Groups including a database. Another suggestion was to gather all the material the WAP has on the Apple III.

Lorin announced that the WAP is now an official member of the Association of Apple Computer User Groups (AACUG). Membership was free to the Pi.

The WAP has been contacted within recent weeks by a number of entities asking that we place a link on our Home Page to their sites. Everyone agreed that we do not want to put any such links on our Home Page. However, it was felt by some that we could establish a separate page for such links. In fact, there might be one type of page for those who would be willing to pay the Pi for the place-

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ment, and another type of page for those who do not pay but offer discounts to members. The Board asked for a better understanding of the offers before being asked to decide who would be allowed where on our site.

David Harris announced that the Board of Directors could now test a beta version of a new graphical interface to the WAP Bulletin Board System. He, along with Nancy Seferian, Bonnie Ashbaugh, as designers, and Jon Thomason as the technical guru, have been working on this interface over the past several months. This new interface will allow members access to the WAP's TCS BBS while surfing the Internet. They will no longer have to hang up their Internet connection and dial back in using a communications application in order to read and post messages.

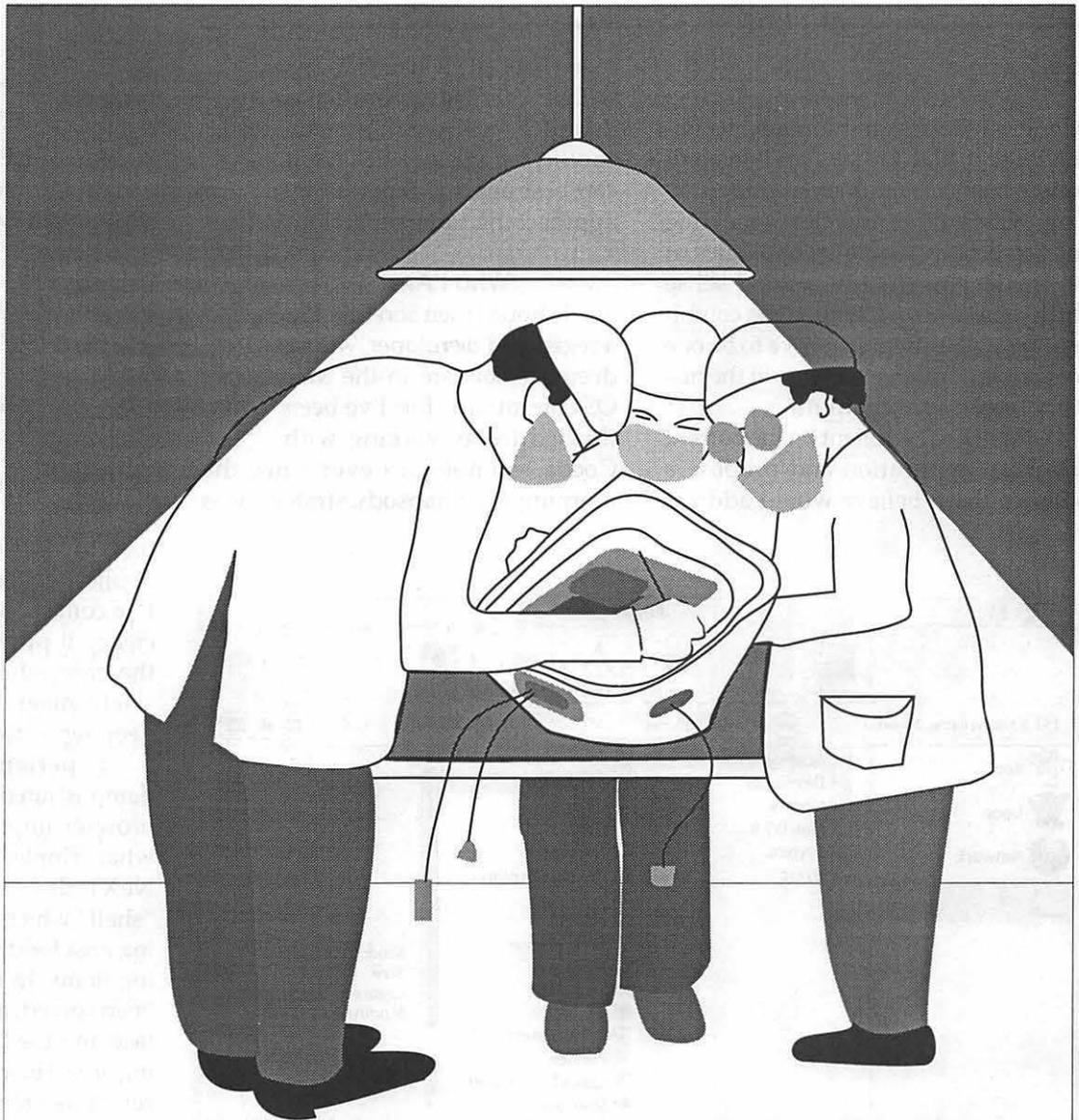
The WAP is getting very close to being ready to donate 42 Mac 6100's to a DC Charter School. Through the efforts of several members, but especially the office manager and the President, these machines have been totally cleaned and checked out in order to get them ready to use. Other machines are almost ready to be donated to individual families that have been identified. Two Macs are ready for pickup by a member of the staff of the Em-

“David Harris announced that the Board of directors could now test a beta version of a new graphical interface to the WAP Bulletin Board System.”

bassy of India that will be going to a nunnery there.

It was announced that the October general meeting will be the first at which a mini-tutorial will be held. The subject will be how to create a rescue disk.

David Ottalini moved, and Dale Smith seconded that the meeting adjourn. The motion passed at 9:02 pm. ■



WAP Tuesday night clinic operations

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Untangling the Mac OS X Desktop Application

An Open Letter To Apple Computer, Inc.

Jon C. Thomason, Washington Apple Pi, Ltd.

Dear Apple,

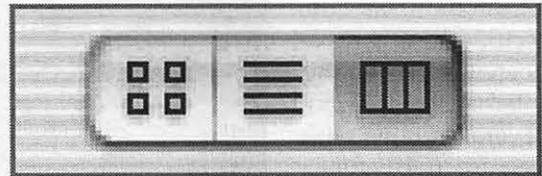
Congratulations on shipping the Public Beta of Mac OS X! This has obviously been a monumental undertaking, with unique and clever melding of the best available technologies at every level. While in a good sense little of it is new, I believe the combination will ultimately prove to be one of the pivotal achievements in the history of personal computing.

I'd like to comment on the current Desktop application and propose a change that I believe would address

many people's frustrations with it. This one application is definitely new, and has many conflicting goals. I believe it can best achieve them all by approaching some separately.

Who I Am

I should mention that I'm a registered developer, whose deepest roots are in the Mac OS community. But I've been thrilled to be working with Cocoa technologies ever since the morning the Rhapsody strategy was



Public Enemy Number One. This innocuous looking control is the heart of the trouble working with Mac OS X's new Finder windows. The rightmost option doesn't belong in windows that would display either of the other two, and vice versa.

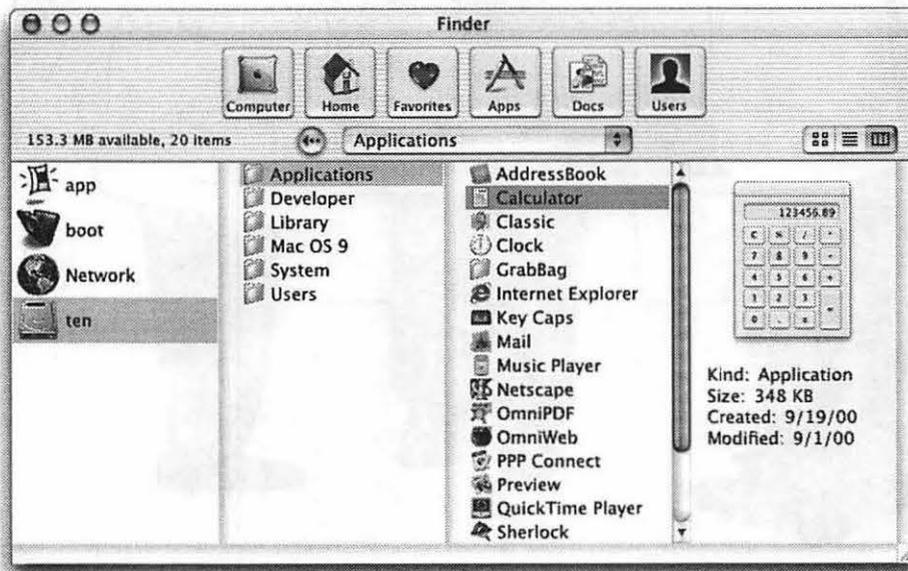
Appreciating the Column View

It took me a couple weeks to get used to Mac OS X Server's Workspace application for manipulating files, but I've come to appreciate it for the efficiency it provides. This is especially the case when working with massively integrated networks and other deep repositories of files.

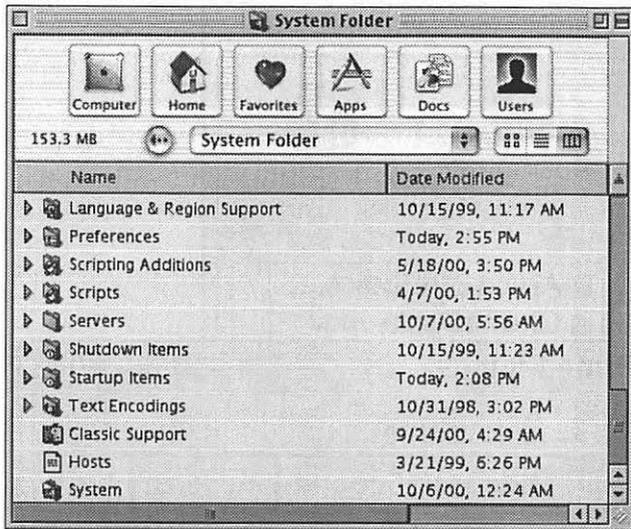
Experienced colleagues have demonstrated that Mac OS X Server's browser implementation was somewhat crippled from its own design in NeXT days through the lack of a "shelf" which could be used as a staging area for dragging and manipulating items. In my mind, this has now been solved, as both the desktop surface and the Dock serve as that staging area. However, the Icon View also serves as a tempting if awkward substitute.

Fumbling with Icon and List Views

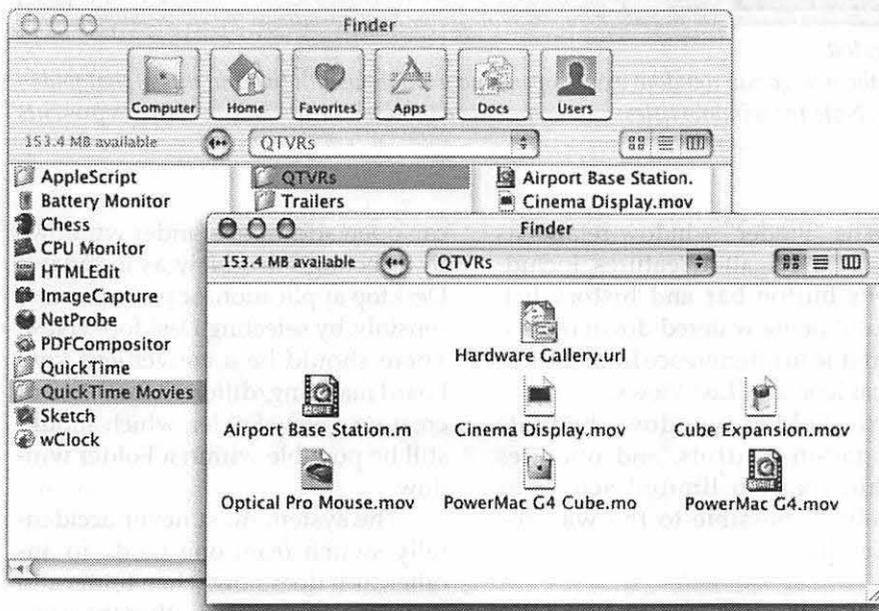
As much as I admire the Workspace/columns way of doing



Column view at its finest. Mac OS X provides a refreshingly convenient way to burrow deep into one's machine or network and find important information. This isn't just another way to view a folder's contents. Instead, it's a new method to jump between and browse among many folders at a time.



Artist's rendering of a very bad idea. By the simple addition of in-window navigational controls into a traditional Mac OS Finder window, we can produce a new hybrid that looks like a duck, quacks like a horse, and swims like an anvil. Thank goodness this doesn't exist outside of Photoshop... or does it?



Icon view and column view coexist in separate windows. Under my proposal, double-clicking on a folder in the navigation window would open a new window with the contents of that folder. Shown here using Mac OS X Public Beta. Note that the toolbar prevents us from making the icon window much smaller than shown here.

things, and after two years of getting used to it, I still find it frustrating in use with the Classic environment or drawing from my favorite Mac OS applications and habits. But I haven't found the new Desktop application's icon view to be any better for this purpose. It just never felt right to me, even for all the months I've given it to sink in.

It wasn't until after I read John Siracusa's thoughtful analysis on Ars Technica that I realized just what it was that had been bothering me: I'd completely lost my

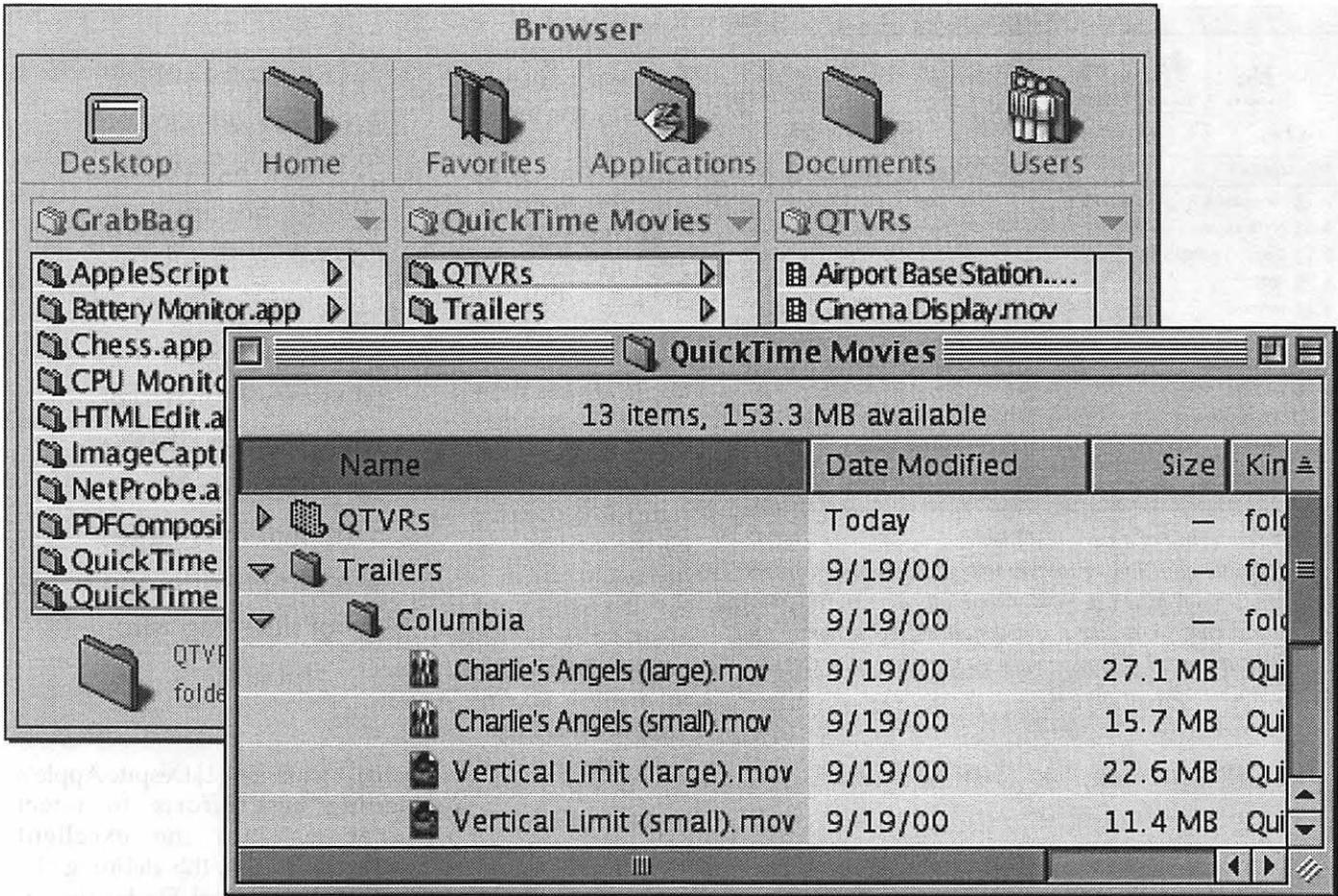
"It took me a couple weeks to get used to Mac OS X Server's Workspace application for manipulating files, but I've come to appreciate it for the efficiency it provides. This is especially the case when working with massively integrated networks and other deep repositories of files."

spatial orientation.[1] Despite Apple's ongoing best efforts to inject Finderisms into the excellent Workspace design, this defining element of the original Finder design was simply lost.

Forward-Looking Expectations

I'm sure new habits will ultimately lead me to using just the columns view for most things in the future. I think that as we work with larger data sets we'll all come to appreciate that approach even more than we have the Finder way. But I also think putting people off their game for a number of years in the hope that this happens is a losing proposition.

I scratched my head from Rhapsody to DP4 and came up with no plausible solution to the problem. But once Siracusa's article sunk in I got thinking that the two philosophies - can- be seamlessly blended in a way that enhances both cultures while detracting from neither.



List view and column view coexist in separate windows. Under my proposal, double-clicking on a folder in the navigation window would open a new window with the contents of that folder. Shown here using Mac OS 9 with Greg's Browser. Note the window titles: one represents a browser dashboard, the other represents a folder.

The Idea

Column View is a navigation context, showing multiple folders at once. Icon and List Views are more like document contexts, showing exactly one folder's contents. One cannot simply click in a widget and cause that window to satisfactorily switch between the two contexts. However, that doesn't mean the two environments can't get along well.

I propose keeping every "Finder" window[2] in Column View all the time. But allowing the user to manually bring up a "Folder" window[3] which can be switched between Icon and List Views at will, just as under Mac OS 9.

The "Finder" window retains its superior navigation features, including its button bar and history list, without being watered down or confused due to interference from the historical Icon and List Views.

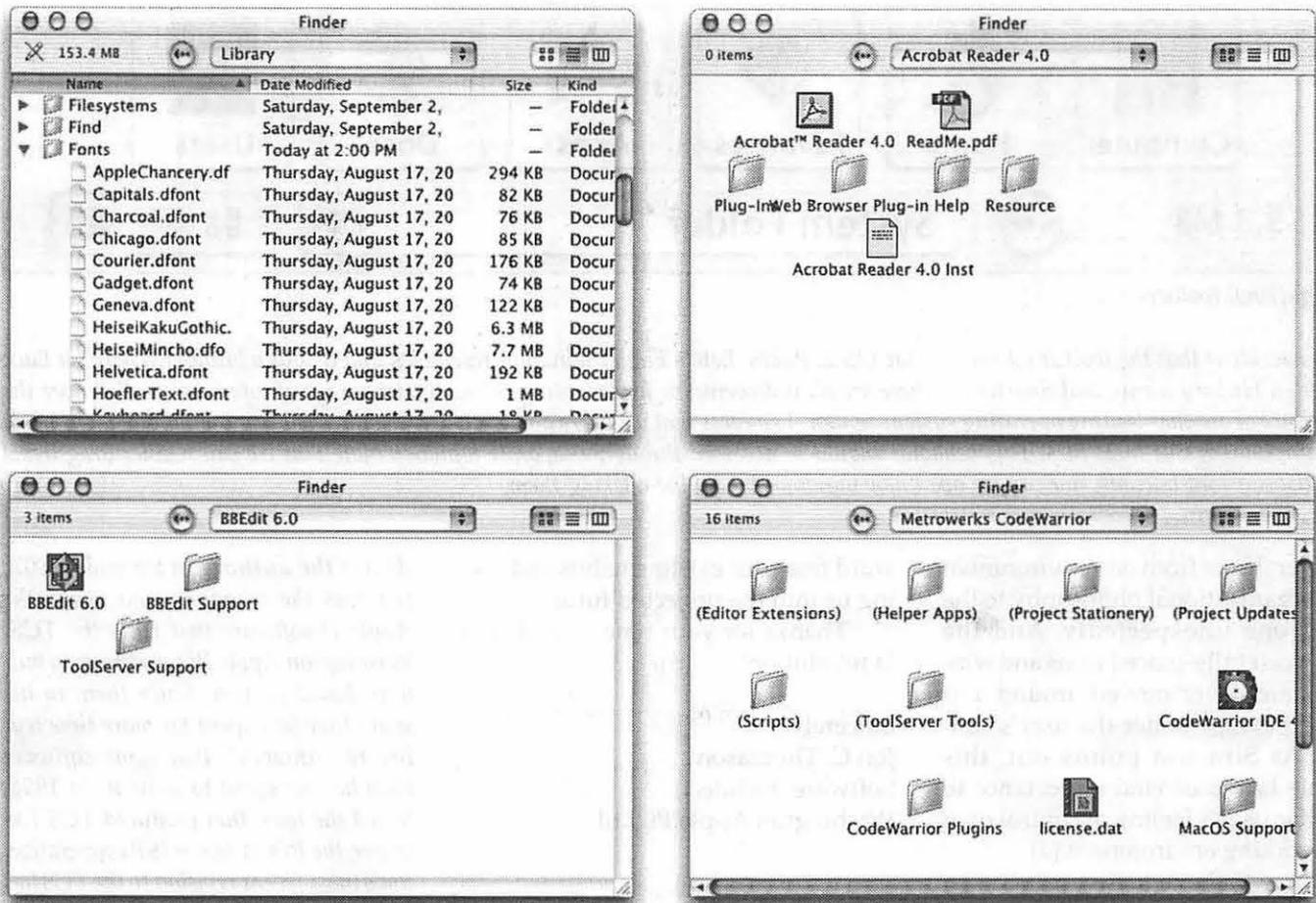
A "Folder" window sheds its navigation controls, and operates within its own limited scope, as closely as possible to the way the Finder did.

Keeping the Hot Side Hot and the Cool Side Cool

A user should be able to open as many navigation (Finder) windows and as many spatial manipulation (Folder) windows as she wants. She

can open additional Finder windows by selecting File->New as in today's Desktop application, or perhaps more sensibly, by selecting Desktop->New. There should be a convenient keyboard mapping, different from that of creating a New Folder, which should still be possible within a Folder window.

The system must never accidentally switch from one mode to another, as it does now when folder settings are interpreted within the navigational window. The "Finder" window should never attempt to interpret folder attributes such as size, location, and icon position. And a "Folder" window should never attempt to dis-



One size does not fit all.

Browsing through folders within a single window works great in column view, but not in the traditional icon or list views. For folders containing few items, it's a big waste of space. For folders containing many, it's an inconvenience.

Most importantly, this destroys the underlying principle that made these views useful: spatial orientation, or the simple expectation that we will find something in the same location (by visual and muscle memory) as where we last put it.

play content from any folder any size or shape or location other than its own.

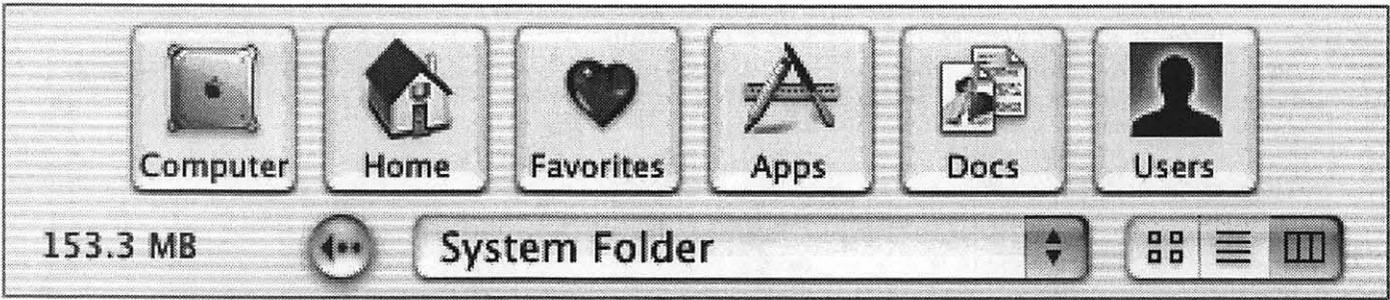
An explicit user action should be required to step out of the "Finder" window into the other environment. Specifically, double-clicking on a listed folder in the "Finder" window should open an appropriate "Folder" window. Double-clicking on a shortcut button should also do the same. Single-clicking on either of these should instead select the item and remain within the same window.

Take It For a Spin

I haven't tried this yet, but I imagine I should begin doing so: it would appear that Greg's Browser[5] under Mac OS 9 provides much the same experience as I'm looking for. Greg's Browser handles the columns mode ("Finder") windows while the Mac OS Finder still handles the traditional "Folder" windows. Neither one is reaching its full potential in every case except through interaction with the other one.

Under this arrangement, the user

"Under this arrangement, the user is never thrust from one environment and organizational philosophy to the other one unexpectedly. And the user's carefully-placed icons and windows are never moved around and resized except under the user's control."



Navigational toolbar.

It's no accident that the toolbar adorning Mac OS X Public Beta's Finder windows resembles that of a web browser. There's a Back button, a History menu, and Shortcuts. These are all indispensable for browsing through vast arrays of information. But over the insistence of another leading operating system vendor, I suggest that we users don't actually desire a web browser as our main mode of manipulating our local files. This behavior should be accessed through a separate window. Note that we can neither drag items onto the shortcut buttons, nor can we open new windows by double-clicking them.

is never thrust from one environment and organizational philosophy to the other one unexpectedly. And the user's carefully-placed icons and windows are never moved around and resized except under the user's control. As Siracusa points out, this simple fact is of vital importance to the Mac user's feeling of control over her working environment.[4]

I now believe these goals can be accomplished in a way that draws from the unique strengths of Mac OS X and builds on them, bridging us for-

ward from our existing habits and taking us into the projected future.

Thanks for your time — and viva la revolution!

Sincerely,
Jon C. Thomason
Software Architect
Washington Apple Pi, Ltd.

***About the author:** In the mid-1980's, Jon was the teenager who wrote the Apple II software that runs the TCS, Washington Apple Pi's community bulletin board system. Since then, in his spare time he's spent far more time trying to "unwrite" that same software than he ever spent to write it. In 1996, he led the team that produced TCS Explorer, the Pi's in-house ISP cooperative. Jon's most recent revision to the TCS has tapped in using Apple's WebObjects technology, thus hosting the Pi's bulletin board on the Web. This system is currently in private beta testing—watch for more details in future issues of the Journal of Washington Apple Pi.*

[1] <http://www.arstechnica.com/reviews/4q00/macosx-pb1/macos-x-beta-14.html>

[2] Here I'm using the Desktop application's new window terminology, and extending it very slightly. A "Finder window" is a window belonging to the Desktop application (itself formerly known as the Carbon Finder). In my proposal, these "Finder windows" are always shown in Column View.

[3] Here I'm using a term of my own, a "Folder window", to describe the purpose and character of a window from the Mac OS 9 Finder and earlier.

[4] While remaining aware that folder and icon positions on a multiple-user machine are not guaranteed to be stored per-user. People have accepted this in the context of AppleShare, and I imagine they'll continue to accept it on single-user machines and while warming up to column view.

[5] <http://www.kaleidoscope.net/greg/browser.html>

Graphic Arts SIG Meetings August, September & October

By Blake Lange

THE AUGUST meeting was well attended as are almost all meetings on Photoshop. It is for most graphic artists hands down the most fun of the programs they use on a regular basis. Virginia Sheard planned the meeting and started it off by presenting tips and tricks from the Computer Arts magazine. It wasn't long before George Venable, senior technical illustrator for the Smithsonian, took over the meeting showing shortcut after shortcut off the top of his head. People were so fascinated that he continued with quite a bit of the audience after the meeting formally ended at noon.

There were so many people attending the August meeting with new digital cameras that the September meeting was devoted to show and tell. As promised quite a few people showed up with their cameras for the meeting. In addition I had grabbed some material off the dpreview.com web site and made a presentation on their glossary of terms (with attitude) which covered:

- Aperture
- Artifacts
- Barrel distortion
- Batteries
- CCD
- Depth of field
- Digital zoom
- Effective pixels
- Exposure
- Focal length
- Interpolation
- Manual, Noise
- Perspective
- Picture angle
- Sensitivity

- Shutter speed
- Street price
- Subject distance, and
- White Balance

There was quite a bit of discussion about each of these points so the meeting was quite a success.

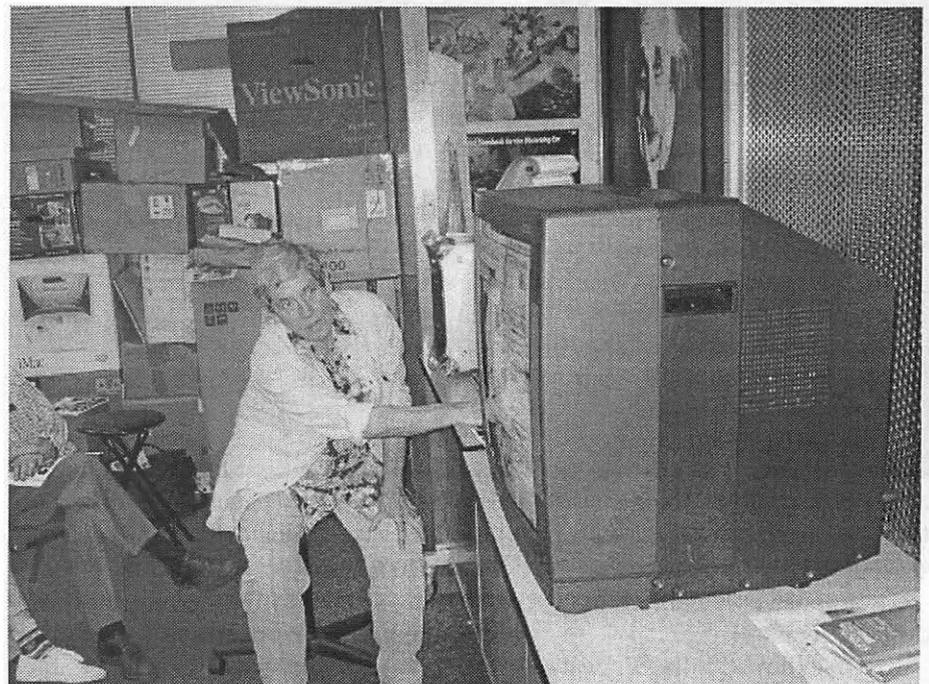
The October meeting was the sleeper. The Graphic Arts SIG is founded on the principle that each of the participants has something great to share with the group as a result of their years of effort and experience. This is a truism of which there can be no doubt. Yet, when a member of the group for the first time steps forward and presents their breadth of knowledge and experience I am filled with a sense of admiration and appreciation.

Robert Everett made great preparations and made an expert presentation on how to get the most detail out of one's photographs both on film and digitally.

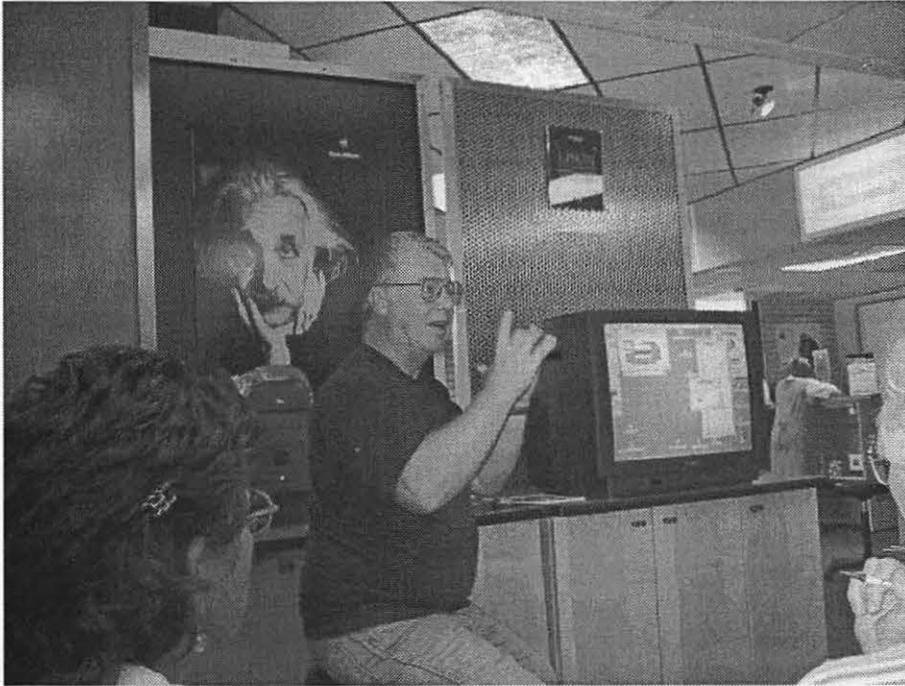
Resembling a learned professor Robert laid out the theory first using well prepared slides. Questions came up regarding differences between what he was saying and theories that are widely taught. Since his presentation was based not only on theory but also on years of research on the subject Robert was well prepared for that. He explained that "spherical lenses" are no longer being used and haven't been for the better part of 15 years, so all the theories related to their use no longer apply. Now lenses are designed based on computer modeling and are much superior. One result of this theory is that lenses are now at their best when the aperture is wide open as opposed to having a sweet spot somewhere in the middle of the aperture range.

He laid out what to expose film to get the most detail. Hopefully I took good notes because here is the list as I recorded it:

- Use hyperfocus for everything.



Virginia Sheard started off the August meeting by demonstrating Photoshop tips and techniques.



After Virginia finished her part of the presentation during the August meeting, George Venable shared some of his insight into the use of Photoshop.



Anytime the group does a demonstration on Photoshop the attendance goes up because there is so much of value to learn. Learning a single new technique and results in hours of saved time on the job so those at the August meeting did not want to miss a trick.

- Expose only enough to get the desired detail.
- Use film with the highest resolution for the lighting conditions.
- Use a tripod.

- Lock your mirror up before making the exposure.
- Use the largest format possible.
- Use the lens with the shortest possible focal length commensurate

with taking the photo, and

—Use highly accurate developer.

As to using a digital camera, when the 50 megapixel cameras are affordable Robert plans to make the switch. He estimates that if the trend continues that the number of available pixels doubles every 18 months, such a camera will be available in about 5 years.

After he was done presenting the theory Robert handed out a packet of 20 tables showing the amount of detail that can be achieved using various combinations of film resolution, file format, and aperture (commonly called f-stop). As an example of the thoroughness of his presentation Robert's explained the three examples in the handout of how to use the tables and worked through each one.

After all this Robert showed off a photograph he had taken from atop a Moorish Castle Fortification in central Portugal. It was a grand landscape photo showing what looked to me to be one of its own ramparts in the near distance with a stone tower about halfway down the steep hillside with another castle in the mid-range distance and a plain in the far distance. Zooming in on the top of the tower which was about 1/1000th of the whole picture one could see three people well enough to recognize them, if you knew them. Good detail such as individual shingles could be seen in buildings that were just specks on the picture looked at as a whole. In the far distance, in a wooded area that just looked like tree tops, there was a car that could be seen using maximum zoom with enough detail that a car aficionado could have recognized the make. It was a fitting example of the work of a man who has made it his cause to get every bit of detail possible with his photographs.

After the meeting was over and all but 4 or 5 of us remained in the seminar room Russell Kirsch showed off a photograph of his son that he had scanned in three passes on a 1-bit scanner that he had built himself dur-

ing the 1950's. It was the world's first scanned photograph.

Attendance: August— Blake Lange, Helen Dilley Barsalou, Diana Buell, Sy Deitchman, Virginia Sheard, Karen L. Klein, Harald Hoiland, Rob Kleinsteuber, Mary Keene, Carol Sky, Etana Finkler, Arthur Hoiland, Ned Spencer, Ritz Balick, Bob Everett, Karen Howe, Gene Haddon, Esta Gladstone, Pat Schoen, John Ward, Marilyn Church, Lois Jelin, George L. Venable, Dick Sanchesan, Donnie Morron, and Tim Pyron, Marilyn C. Drea.

September— Blake Lange, Helen Dilley Barsalou, Ann Lesnik, Sy Deitchman, Karen L. Klein, Stuart Bonwit, John W. Laughlin, Harald Hoiland, Ray Duke, Arthur Hoiland, Richard Sanderson, Laura Leigh V. Palmer, Gene Haddon, Mary Herber, Pat Schoen, Marilyn Church, Lew Hyer, Jean Koike, Charles Reiwitzel, Robby Ghimire, and Lou Dunham.

October— Blake Lange, Diana Buell, Sy Deitchman, Russell Kirsch, Linden Tucker Bell, John W. Laughlin, Bob Russell, Carol Sky, Arthur Hoiland, Ned Spencer, Richard Sanderson, Bob Everett, Ed Goldstein, Mary Herber, John Ward, Matt McIntosh, and Rick D'Alessandre.

Schedule

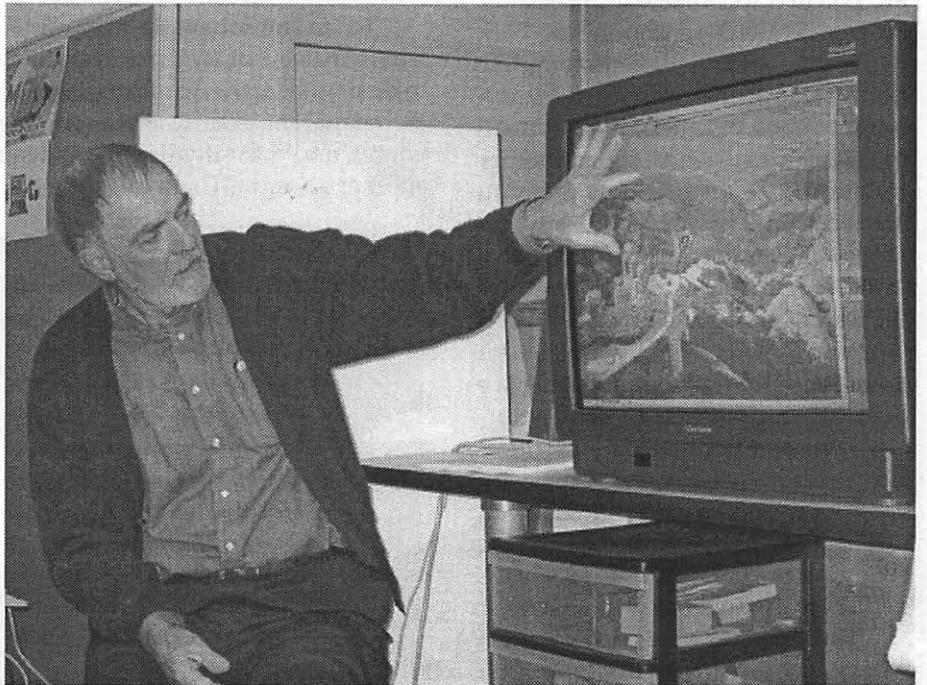
The rule of thumb, in case you want to figure out when there will be a meeting, is that the meetings are scheduled the second Saturday of each month except when the Washington Apple Pi has a major activity scheduled for that day. This year that means every month except December when the Computer Show and Sale will be held.

Directions

Mac Business Solutions is located at 9057 Gaither Road, Gaithersburg, Maryland 20877. The phone number is 301-330-4074. From Interstate 270 and Shady Grove Road go East two lights, make a left onto Gaither Road, then almost immediately turn into the second entrance on the right. From the Shady Grove Metro stop it is just a short taxi ride. ■



During the September meeting the members helped each other out demonstrating the various features of their digital cameras.



During the October meeting Robert Everett shared the secrets of his mastery of getting the most detail possible in his photographs. Here he shows a photograph taken from atop a Moorish Castle Fortification in central Portugal. When he zoomed in on the landscape many details became quite clear such as the tile work on the roof of a far off castle and a clearly recognizable car that was not even visible as a pixel in the view pictured here.



OS X: Proceed or Wait?

by Laszlo Vajda

REMEMBER having been told a year ago to buy OS 9 and have a new computer just by installing it? A leading US Mac magazine now greets OS X as "Apple's First Modern Mac OS" on its cover page. You're probably now hearing from folks who as much as a year ago strongly felt that MacOS 9 or any of the (old) MacOS belonged in a historical museum, that they are based on something as old as my daughter (and she turned sixteen this summer) and are patched together with band-aids. Now with OS X (pronounced "O-S-ten"), they say, we have preemptive multitasking, protected memory, dynamic memory allocation and all other beauties the most contemporary technology can offer. Have you started thinking you can easily get behind, become a loser in the Great Technological Race that constitutes the next step in our social evolution? On the other hand, ever wondered if there is anything remaining after we peel off the marketing hype surrounding a not-yet-existing product? Have you gotten confused and want to know, what you gain and what you might lose? Is it worth considering changing to OS X right now?

There are two possible answers.

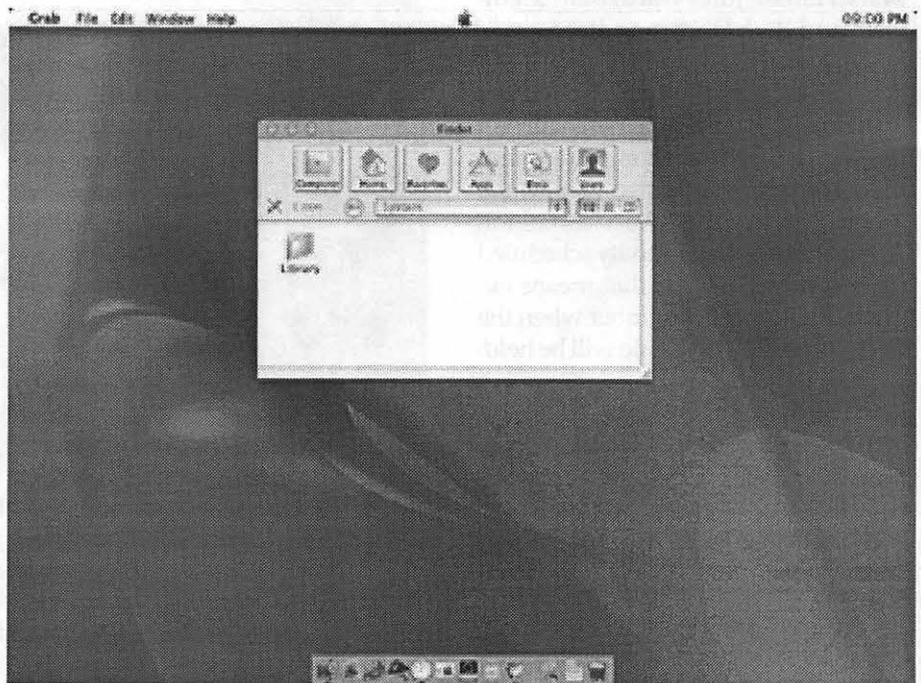
The short answer is no. No, don't worry, you do not need OS X now. You might get on well with OS 9—or whatever previous Mac OS you use—for the next few years. Apple hasn't stopped developing the good old Mac OS, third party developers will not stop supporting it, it is working fine. If your Mac's health is OK, and you are happy with what you can do with

it (and you are in peace with what you cannot), do not let anybody bother you with OS X. Even if you use your Mac for business (and if you are hungry for new technologies and the productivity gains they might offer), I recommend you to wait. Wait at least until the commercial version of all those software pieces and hardware gadgets your living depends upon get bubbled with carbonized Aqua (i.e. until you can be sure they will work with OS X – or can be replaced at a reasonable price).

Yes is the longer answer. Three letters instead of two. Yes, you have to deal with OS X. Apple might get it on the market as early as this coming winter, and even if you have to wait another six months, it will come.

"And it is good enough just to install it (provided you have the necessary hardware around) and play with it, say to try to write an article on OS X using AppleWorks 6 running natively under it."

Apple, the company that has made a successful transition to the PPC processor family, is now trying to make a greater change in the OS to make use of all the features of the most contemporary hardware design and development options, anticipate what coming years should bring. It is not that the old OS is not good anymore. It isn't true it was not sophisticated enough. It is just as if you had the newest and most powerful engine to be built in a historical chassis. It is



The smallest window size with the Toolbar switched on

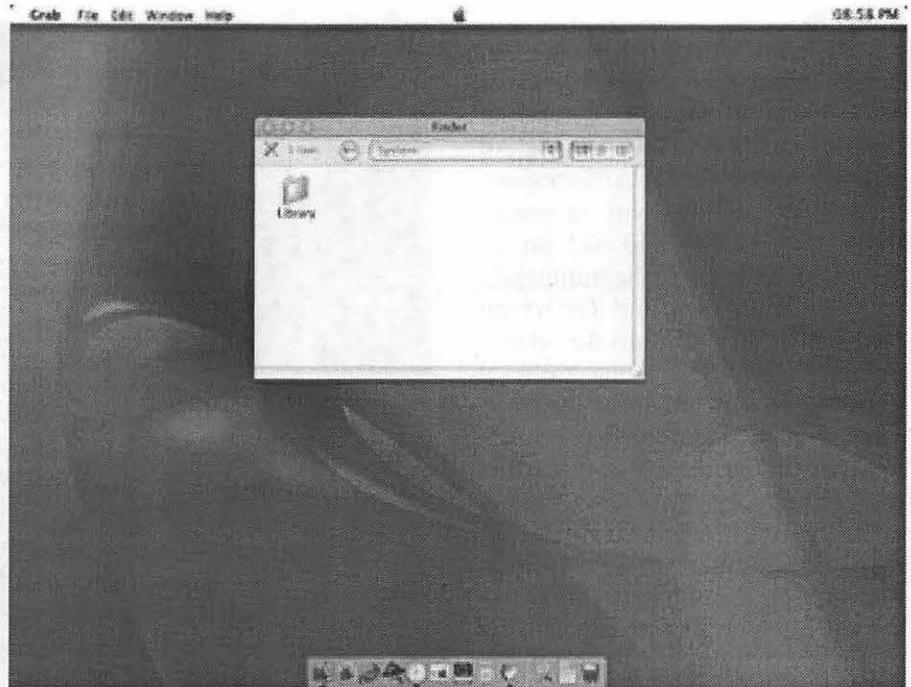


nice and running smooth, just you will never have the opportunity to use the powers of the engine without crashing the whole thing. The sixteen-year-old Mac OS at its core is just not up-to-date and not reasonably "patchable" any more.

In addition to the technical rationale, there are economic reasons for this change too. Market share is the key issue here. However sophisticated the Mac was, it never had a higher than 15% user base in its core markets (not to mention regions where this share has historically been much smaller). In spite of repeated efforts, Apple has never been able to build a larger corporate user base. The new OS brings Apple closer to the PC world (without getting closer to the MS Windows stuff.) Even if there were a software giant that could prevent Apple from porting the new OS to the PC platform, e.g. by offering Mac-specific development of its most widely used office-type software and net browser, the UNIX-based MacOS will sound much more familiar to the corporate buyer than any previous Mac OS.

Apple has a business model where it segmented its market, separating its products from others in their class by developing (inventing) most features on its own (and the support of a group of sophisticated Mac-dedicated developers). However, Apple was unable to exploit several technically superior elements built in its OSes to the level of industry standard and failed to receive the full support their development should have earned them. The old business model was not sustainable. Globalization is more than just an issue in international trade, it made its way into all aspects of doing business everywhere. There was no way Apple could keep the borders of its independent fairytale kingdom closed to the influence of the rest of the world.

I wrote "yes" a few paragraphs ago and I meant it. If the introduction



The smallest size a window can be reduced to in OS X (note PTHClock running in the right upper corner)

of the new OS is part of globalization in the computer industry, I do not expect to have crowds protesting against it in front of Apple headquarters in Cupertino, California. (Apple PR people might consider organizing one, however!) Apple, again, tries to make the transition as smoothly as possible. But, as you well know, Apple II's are still in use as well as 68k Macs. A considerable portion of present Mac users will not make the change, will use what they have accumulated in equipment, software and knowledge and will live happily till the end of times. Why the YES, then? For whom does that "yes" stand?

Yes is the answer for those, who can not live in peace with what they can not do with and/or can not get from the existing Mac platform. It is for those, who are ready to bear the costs of the transition for the benefit of a more stable and reliable, more scalable operating environment. For those who want faster reaction time and more features than what the

"old" OS could offer. For those, who plan to develop their system, who consider buying one or more new Macintoshes (or PC with UNIX or Linux). And for those, of course, who are curious enough to invest their time and money for the sake of discovery itself.

Apple promises a superior working environment and a smooth transition. Promises for now, and not necessarily something delivered. Public beta means it is still not a commercial product, there are flaws and bugs, as well as (several) parts the developer hasn't finished working on. It is good enough for the curious (and techie interested) to play with, to report problems they have found to a strictly guarded Apple site from which no information could leak out to other interested parties. It is good enough to charge you thirty bucks to purchase. And it is good enough just to install it (provided you have the necessary hardware around) and play with it, say to try to write an article on OS X using AppleWorks 6 running natively



under it.

Superior working environment means better user services. OS X is several magnitudes more stable than the previous Mac OS-es. As a sign of how confident Apple is in this respect, there is no obvious way to restart (hold down Option and click on the Special menu to get to the command), and both Shut Down and Restart can be disabled. Applications do not mix up in the memory, so if one crashes it doesn't affect the others or the operating system. Memory use is organized by the OS, there is no more "not enough memory" message, and there is no need to manually address memory allocation for applications: there is simply no memory option in the Get Info window (renamed to the more fancy "Inspector") any more. Multiple users is not an extension but a deeply built-in feature of the new OS, and without proper authorization even the user/owner of the Mac has no direct access to the core part of the OS on his/her machine (based on some of my own Tuesday clinic experiences, I think this might be a great feature!).

Networking capabilities are inseparable and cannot be switched off, providing faster, simpler to use, more reliable and standardized network experience. Although the Finder does not show it in public beta (to see a long name in its full you have to click on the name as if you were trying to change it), but you might have file and folder names as long as 255 characters. (Do not use this feature with files/folders you want to open in OS 9! OS 9's Finder will cut the names back to 32 characters automatically.)

A better, nicer user interface also belongs to a superior working environment. Apple intends to offer this as well. I hope somebody who really likes it will present it to you. I've found too much eye-candy and too little or no productivity gain on this front in public beta. Navigation in the Finder is confusing because of so many pre-defined folders with the



An other clock application with the open calendar option

same name. (Although you are allowed to change some of them, you render them useless by a name-change and the system recreates the folders with the names you tried to get rid of. How much better it would be to either see the whole path in the header part or to name the "Documents" folder in user AI's set say "AI's Documents" instead of having several folders named "Documents" forcing you to do extra searches to determine your whereabouts each time you land in one of them.) Large, uncostumizable header icons (no additions or removals and no option to make them smaller, although they can be switched off altogether) and a too large minimum size for open windows take a considerable amount of screen real estate, limiting the amount of open windows and constraining navigation among them. Animated changes are nice but take more time than I am ready to wait to get a window (document or application) to the dock or out of the dock. I still have to figure out how to disable this feature. These and other interface problems make me feel

uncomfortable with the new OS. However, I have to tell you I really like Aqua as a piece of industrial art, and I will keep trying OS X again and again partly just because I like how it looks.

As for smooth transition, it means two things. Software applications running under OS 9 should work in OS X's OS 9 environment. However, OS 9 running in OS 10 in the public beta is still slower than running it on its own. Memory protection and preemptive multitasking work only for the whole OS 9 environment as a single piece, but not for the applications using OS 9 to run.. It means if an OS 9 application crashes, it brings down all other applications running in the OS 9 environment, most probably brings down the environment itself, but not OS X. Your Macintosh will remain up and ready to work for/in all running OS X native applications and OS X itself most of the time. (In spite of all marketing hype, none of OS X or UNIX or whatever operating system created so far is 100 percent crash-proof.)

The use and feel of OS X seen



from the point of view of a previous Mac user is the other thing referred to as part of a smooth transition. A comparison between OS 9 and OS X in this regard has been made by somebody else (see <http://macworld.zdnet.com/2000/09/13/guide/changeguide.html>). Such an inventory might have been a good thing to do on the day Mac OS X PB1 was released, but it would be definitely a bad example to follow. I personally oppose the point of view itself. An intelligent user can understand that OS X is a brand new OS in which some of the features belonging to a previous system might be a pain to recreate. Beware: the best way to create rejection and pain in the family is to compare two siblings of the same parents based on the best characteristics of just one of them. I know this will not save those who desperately miss one or another option, but in general, I am for taking OS X as a class on its own and trying to find new and replacement features or workarounds for features I have gotten used to using in OS 8 or 9. It is worth looking around on the market for third party solutions too (<http://www.versiontracker.com> offers a good opportunity). If a Mac user is not alone with what she/he misses, the replacement is almost surely on its way. There are already two clock options for the menu bar to choose from, an Apple-menu replacement is in development (developed for a previous pre-version of OS X, and it works fine if you do not try to use the OS 9 environment with its own Apple Menu), and a control strip is also in downloadable beta, to name a few. Don't you limit your expectations to finding everything working exactly the same way in OS X as in OS 9, you perhaps can open your mind to changes, and then understand the great job Apple has done in supporting the transition. If you insist on seeing everything working in exactly the same way in a basically

different operating system, don't even bother trying OS X.

(This is the point where I was warned to keep in mind the nature of the public beta. AppleWorks has just disappeared from my monitor taking two unsaved paragraphs with it. But the OS is still running, I could restart AppleWorks. and here it goes:)

An Additional note on transition. Whatever great job Apple has done to smooth it, it has been a (still repairable) historical mistake not to rely much on the resources of Mac user groups. If Apple recognized a single company can not develop every single feature in its OS and user interface, it should have long better understood how the same stands true for its marketing efforts. Rejecting available resources and support of enthusiastic volunteers in order to keep all marketing efforts under centralized control is a la mode in modern business; I just wonder why Apple keeps reminding me: think different...

And now something completely different.

Have you gotten excited and want to figure out how much it would cost to have OS X working for you? Think it over two or three times before you invest. Make a careful inventory, take into account everything in and out of the box you plan to use to run Mac OS X with. One of the major and known limits of public beta is the lack of support for third party cards (e.g. the SCSI card built into some high-end G3s and G4s), peripherals and all sort of gadgets. Check very carefully with Apple and with third party sources (manufacturers and developers) whether what you already own could work with OS X.

Take into consideration the software part too. Should you own a multiprocessor G4, OS X will definitely help to gain productivity, since it supports multiprocessor Macs even if the specific application was not intended to use this feature. For the rest of us, consider what software you use or intend to use. Standalone OS 9, for now,

“An intelligent user can understand that OS X is a brand new OS in which some of the features belonging to a previous system might be a pain to recreate.”

is faster than the OS 9 in OS X, so if you have no carbonized application to run, you are better off without OS X. (Using it, on the other hand, might help you prepare for the time when most applications will be native to OS X. You always have the option to switch back and forth whenever you want anyway.) If you are not in OS 9, do not forget calculating its cost too: OS X will not work without it. Know what minimal configuration you have to have just to install OS X and do not forget to consider the time and costs of learning. Once you decide to go forward, check what Washington Apple Pi has to offer. Volunteers have already started to work on teaching materials, started to prepare to provide you with other types of help should you be in need of.

Mac OS X is not a newborn, rather something that just completed high school. Release of the commercial version will mean it will have graduated from college, ready to take any serious job. We, the employers have the right to decide if we want to use its capacities, wait until it gets a bit more experienced, until it matures further, or we might reject it indefinitely. Apple might intend to enlarge its user base and might make serious efforts to keep existing users as well. I do not think they made a mistake with developing and offering OS X in the way they did. I think they make a great mistake leaving user groups out of this effort to the extent we have experienced and already have input. ■

MacWorld New York City 2000: In Review

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Editor's note: this article failed to appear in the last journal because of an oversight. My apologies for the delay of getting Lawrence's article to you.

By the time you read this, various news Web sites, and even some of the print magazines, will have had their chance to declare MacWorld New York 2000 as either a success or failure, a triumph or a disappointment. So we won't address these issues, but will instead concentrate on four main messages:

- MacWorld New York 2000 was crowded. Perhaps not as crowded as MacWorld Tokyo (which regularly counts attendees in the hundreds of thousands), but crowded. Even during the "quiet time" at the end of the day, when the exhibitors and public were all exhausted and many had drifted back to hotels, it was difficult to move from Point A to Point B without bumping into dozens of people. The people were enthusiastic, friendly, excited, and occasionally even courteous, but you couldn't avoid noticing there were great, vast, thundering hordes of them.

- Apple's Power Mac G4 Cube was the hit of the show. There were arguments about its cost (many people think it should have a lower price), expandability and practicality (the "ordinary" Power Mac G4 is more flexible, and costs less), but everyone who played with one wanted one. Everyone.

- While the Power Mac G4 Cube (henceforth, "the Cube") was the show hit, it was not the coolest thing at the show. That honor fell to Harman Kardon's SoundSticks, a pair of digital speakers and a digital woofer that plug in to USB-equipped Macs.

- There were a number of other wonderful things on display that weren't by Apple or Harman Kardon, many of them relentlessly practical and more useful. Just not quite as cool.

Two Clear Winners

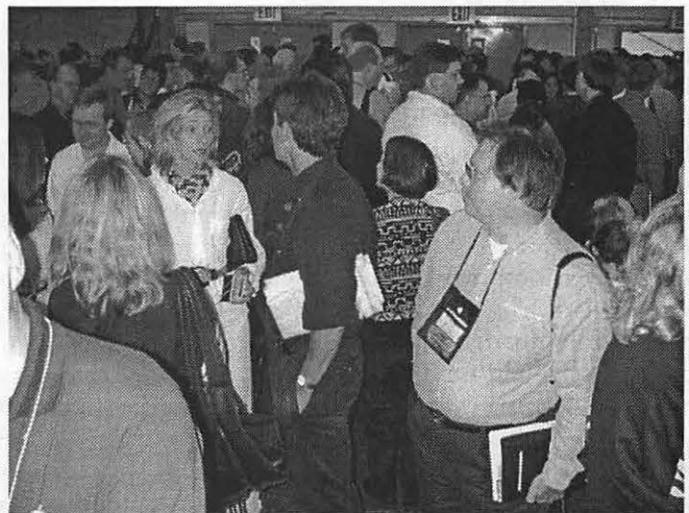
Apple, riding the success of the iMac, introduced some new colors that attracted lots of attention (though "snow" is an acquired taste), and the new \$799 price for an intro iMac will gather new converts. Some groused that the intro unit should be even less expensive, but none of those complaining owns a computer company (but many of them paid three times as much for their 128K Macs, sixteen years ago; deflation is heck).

Similarly, the new dual-processor G4

"Apple's Power Mac G4 Cube was the hit of the show. There were arguments about its cost (many people think it should have a lower price), expandability and practicality (the "ordinary" Power Mac G4 is more flexible, and costs less), but everyone who played with one wanted one. Everyone."

machines will catch the fancy of the number crunchers and the pixel renderers. The G4 was already fast; with two processors, people were struggling to describe its speed. So try this: if you go back 10 years to MacWorld San Francisco 1990, a single dual-processor G4 has more sheer number crunching power than all the machines at that show.

Combined.



Acres of Very Important People were herded into pens before the keynote, to mill around and wonder what their particular color of VIP ribbon was supposed to indicate. (Photo by Lawrence I. Charters)

But the true hit of the show, as mentioned, was "the Cube." In a space a quarter of the volume of a standard G4, Apple crammed an entire Power Macintosh G4 — a 450 MHz G4 processor, up to 1.5 GB of RAM, 20 GB (or larger) hard drive, DVD drive, and ATI Rage 128 graphics card with 16 MB of RAM. Also included is an external power supply that looks like a miniature muffler, two external stereo speakers (designed by Harman Kardon) that resemble cut crystal balls, and the new Apple Pro Mouse and 108-key keyboard. Interfaces include two USB ports, two FireWire ports, a 10/100 Mbps Ethernet port, 56K modem, and ports for both a standard VGA monitor or one of Apple's new "one cable" displays (a single cable contains audio, video and power connections). You can also add an AirPort card for wireless networking.

Over the past twenty years Steve Jobs has used the terms "gorgeous" and "beautiful" so often, to describe so many different things, that veteran Apple watchers have learned to just tune him out. But when Steve described "the Cube" as "gorgeous" and "beautiful" and compared it to a work of art, everyone agreed.

While "the Cube" is encased in clear plastic, with a solid white facing around the electronics, Harman Kardon's SoundSticks are clear plastic, period. A set of SoundSticks includes two clear tubes that look like blown glass, housing multiple small speakers, plus the famously unusual iSub woofer. Combined, they pour out sound of incredible purity, and earth-shaking volume. And yes, the SoundSticks are "cooler" than "the Cube," not the least because, at \$199 a set, they are more affordable, and will work with any Mac that comes from the factory with USB ports.

Harman Kardon had "the Cube" on display in their booth, with an Apple Cinema LCD display and a full SoundSticks set. Not only did it look like a work of art, it sounded like a work of art. If you took their entire booth and stuck it in MOMA, New York's Museum of Modern Art, it would have looked perfectly at home, though some museum visitors would object to the volume. Even jaded MacWorld Expo veterans were in awe.

Harman Kardon also had probably the best poster at MacWorld: an almost all-white poster featuring "the Cube" and SoundSticks, with the words "Disturb the Peace" in the lower left corner. Refined, even elegant, but with a bite.

True story: my companion for most of MacWorld Expo took one look at the SoundSticks and declared them the "coolest" thing at the show. She repeatedly steered me toward the Harman Kardon booth until I agreed with her (and also agreed to buy a set; who will retain ownership is still under negotiation). During one such visit, the vice president of information technology for a major Wall Street firm was there. He'd come, reluctantly, at the request of his boss, who is apparently an avid Mac fan. The IT VP could not understand why his boss liked Macs, and had long dismissed them as "marginal," "second rate," "non-



Before the keynote opened, "the media" set up shop on several raised platforms in the keynote hall. These platforms were placed strategically in front of several sections of VIPs, many of whom wondered allowed if there were any "UIPs" (Un-Important People) in the hall, and if they had better seating.

standard," "out of bounds" and "not ready for business." But standing in the Harman Kardon booth, looking at the G4 Cube with attached iSub and SoundSticks, he had little to say except to tell his boss, "I had no idea. I had no idea. I had *no* idea."

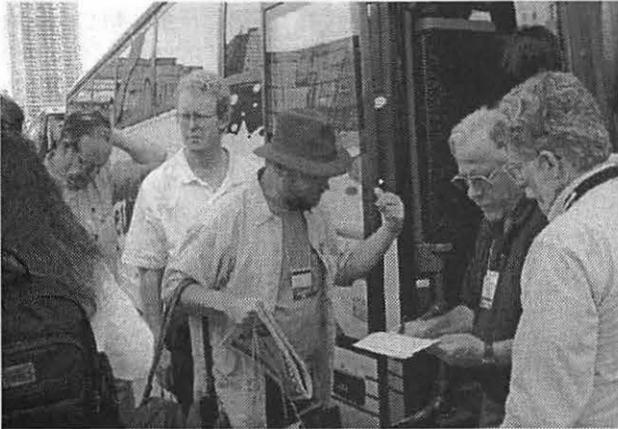
But now he does.

Low-End Wonders

If you could get beyond the dazzle of "the Cube" and SoundSticks, other wonders were at hand, some expensive or exotic, some not. Starting with the moderately priced, Canon's Canon PowerShot S100 Digital ELPH camera is an engineering marvel. Smaller than a pack of playing cards, it will easily fit in a shirt pocket. The 2.1 megapixel all-metal camera has a retractable zoom lens with a shutter that covers the lens when closed. It may not be the best digital camera out there, but it certainly is one of the most elegantly engineered, and at \$599, less expensive than lesser cameras. Aside from outstanding engineering, it is also practical: you can't take a picture if you don't have a camera, and with the ELPH, you can always take a camera.

Canon had another winner in the ZR10 digital video camera. At \$899, the price is affordable, the quality is almost scary, and the size is amazing. Much like the ELPH, the ZR10 gives you the impression you are handing an artifact from the future: can this be real? Apple apparently thinks so: their booth featured two long rows of iMacs (in Summer 2000 colors), each with a ZR10 mounted on a wall above it, so you could experiment with iMovie and look at yourself on the iMac's screen, piped in via the ZR10.

Aiming for the really compact market, and those



Washington Apple Pi sponsored two buses to MacWorld New York. On the return trip, careful checks were made to ensure there were no stowaways. (Photo by Pat Fauquet)

640x480 pixels, which isn't outstanding, but the price is low (under \$200) and the photos transfer to your computer automatically when you synch the Palm.

Those without Palms or the cash for the Canon ELPH can try the ixla PhotoEasy. This \$149 USB-equipped digital camera only supports 640 x480 pixel resolution, but the kit includes

"Many users, of course, have traditional cameras, and would like to get images from their slides and film into their computers. PacificImage Electronics was showing the PrimeFilm 1800i scanner, a \$179 slide and film scanner that hooks up via USB. They claim it scans at 1800 dpi..."

this is definitely for the hobbyist, or an incredibly patient and not too efficient professional.

While the SoundSticks were clearly the most interesting way to get sound out of a computer, Telex offered two USB audio microphones for getting sound into a computer. The M-560 superdirectional USB digital microphone, at \$69.99, is promoted by fans as being the "best" microphone to use with IBM's ViaVoice, since it manages to suppress almost all extraneous noise. For those who want both headphones and a microphone, the H-551 offers a USB digital stereo headset with microphone, again for \$69.99. Add a joystick, sunglasses and a flight simulator game, and you can't help but look cool, too.

Hewlett-Packard, seeking to regain its position as the leading Macintosh peripheral manufacturer, had a wide variety of printers, plotters and scanners on display. Need to print out a life-size photo of the Sistine Chapel? One of the H-P plotters could probably do the job... On a more practical level, possibly their most interesting machine was the OfficeJet G85, a color printer, scanner and copier with a USB interface, for under \$500. It currently ships without Mac soft-



with a Palm computer, Kodak's PalmPix camera may be an ideal match. The PalmPix attaches to a Palm handheld computer (III series or, with adapter, V series) and makes the Palm slightly longer. When you take pictures, you use the Palm's display to view the images; on black and white Palms, the screen images are black and white (though the pictures themselves are in full color), while owners of the new Palm IIIc can see their pictures in somewhat strange colors. The pictures are limited to

the camera and some simple photo editing tools. Maybe if the company makes some money, they can buy capital letters and a pronounceable name.

Many users, of course, have traditional cameras, and would like to get images from their slides and film into their computers. PacificImage Electronics was showing the PrimeFilm 1800i scanner, a \$179 slide and film scanner that hooks up via USB. They claim it scans at 1800 dpi, though at one frame or slide at a time,

ware, but allegedly you can download the necessary drivers from HP's Web site, and drivers will ship in the box by October. An optional HP JetDirect print server allows you to put it on a network.

Networks intimidate many users, but how about conferences? Promoted as a conferencing tool, the Xircom NetStation is an all-in-one networking package consisting of a portable 10/100 Ethernet switch with either 4 or 8 Ethernet ports, complete with cables (the cables retract inside the unit). The NetStation can then be left stand-alone, for small-scale networking, or plugged into other NetStations (for larger networking), or plugged into a LAN. For a small flock of PowerBook or iBook users, it is an almost painless way to get everyone sharing files in a hurry; you can even tell them they are "conferencing" if it will make them feel better.

Getting high-speed access to the biggest network — the Internet — is also intimidating, especially if you want to protect your home or small office from hackers, and share that high-speed link among multiple computers. Umax, best known for its extensive line of scanners, also has the UGate-Plus and the UGate-3000 aimed right at DSL and cable modem users. These devices are an interesting combination of 4-port 10/100 Mbps Ethernet switch with an integrated DHCP server, Internet gateway and rudimentary firewall. While you can undoubtedly get a better switch and better firewall separately, the integrated package, and low prices, should make these devices attractive.

Sophisticated Circuits, long an innovator with clever power protection and crash recovery tools, introduced Kick-Off, a crash recovery device for USB Macs. Essentially a very sophisticated power cable, it looks somewhat like a power cable that is trying to digest a gerbil. Kick-Off

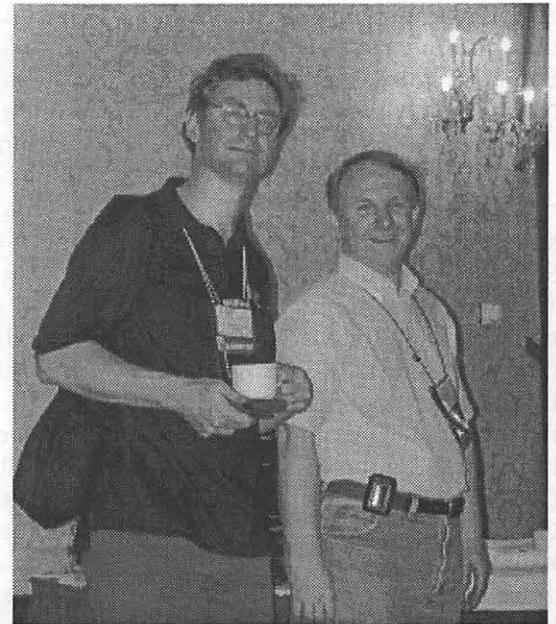
cycles the power on a USB Mac when a crash is detected, forcing a restart. It will probably work on non-USB Macs, too, though the less expensive ADB-based Rebound!, also from Sophisticated, might be the better choice for older machines.

Two very different devices, with similar names, are aimed at G3 and G4 tower machines. The GDock, by New Motion Technology, is a plastic frame that fits between the handles on top of G3 and G4 Power Macs and provides 4 USB ports, 2 serial ports, and 2 ADB ports, and optionally can include a floppy drive or ATAPI bay.

The G•Rack, on the other hand, is a set of metal brackets that replace the plastic handles on G3 and G4 Power Macs, allowing you to mount these machines into standard 19" LAN racks. The manufacturer, Marathon Computers, had a LAN rack filled with a stack of G4 machines, and it acted as a techie magnet, sucking up all passing network managers who came by to "Ooooh!" and "Aaaah!"

At \$599, the forthcoming Echo30 tape drive should be a hit with those who should back up their data, but have always found the necessary hardware and software too expensive and too difficult to use. This ADR tape drive from OnStream gives you 30 GB of tape backup, via FireWire, and includes a copy of the industry-standard backup program, Retrospect. About the only down side is that it won't be available until October.

Nova Development offered the largest software package at MacWorld, based on sheer volume. Their new Art Explosion 750,000 offers 750,000 pieces of clip art, QuickTime clips, sounds and fonts, for \$149.95 (at the show). It ships on



Former Pi member Chris Bastian, now with NYMUG, and Pi Vice President for Publicity Dave Ottalini meet at MacWorld New York. Note that Dave has a pager (shame, shame) and Chris appears to be using a Palm PDA as a saucer for his cup. (Photo by Pat Fauquet)

48 CD-ROMs or 5 DVD-ROMs. Unlike last year, Nova's gumball machine lasted the entire show, despite the larger crowds.

Federal agencies are currently struggling to cope with Section 508, a law requiring all new government office equipment purchases (including computers) to be accessible by the disabled. ALVA Access Group has addressed these needs on the Mac with inLARGE 2.1, a screen magnification software package for those with limited vision, and outSPOKEN 9.0, a screen reader for Mac OS 9 that "speaks" whatever is on the screen. The two ALVA representatives, by the way, were blind, and watching them navigate around with a Mac was highly educational.

MacSpeech tackles similar problems from a different angle with iListen, a set of utilities that allows you to drive the Mac from just talking to it. ListenDo! (free) allows you to control Finder functions; custom

ScriptPaks are tailored to drive various commercial packages, from SoundJam to FileMaker to Word 98 to Netscape Navigator.

High End Wonders

At the more exotic end of the spectrum, Common Ground Softworks was demonstrating Qilan 1.1, a graphical application development package for Mac OS X Server (and soon for Mac OS X). Qilan may have an unpronounceable name, but it allows you to put information from high-end database packages (OpenBase FrontBase, Helix, or Oracle) on the Web, without any knowledge of C++, Java, or other programming languages. The \$1995 price includes a "Web-enabled" version of FrontBase.

Frontline Software, the Danish publisher of FrontBase, wasn't at MacWorld, but Common Ground was more than willing to display the power of this high-end SQL database for Mac OS X Server and Mac OS X. FrontBase is touted by its fans to be "better" than Oracle, and with prices ranging from free to \$1,999, it is far less expensive, too.

Also looking forward to Mac OS X is Running Start's ArticleBase, a high-end Web "content management" tool built on top of WebObjects. ArticleBase allows an organization to put Web content creation in the hands of users: they fill out an on-line form with particulars, and ArticleBase then serves out formatted Web pages with that content. Running Start can't quite decide if it is a consulting firm or a software publisher, so pricing is a bit vague, but ArticleBase is quite slick.

MicroNet, one of the oldest Macintosh storage vendors, has long offered high-end RAID systems, but now they have come up with a new wrinkle: the SANcube. The SANcube is a Storage Area Network (SAN) that connects to up to four Macs via FireWire, allowing these four Macs to share 70 to 270 billion bytes of data.

Since the SANcube appears to be a "local" drive to all connected Macs, you eliminate the need to copy files from a server to the Macs, and all machines can instead load and save things directly from the SANcube at speeds of up to 30 megabytes per second. SANcubes can be mirrored, allowing you to have both very high speed as well as the security offered by redundancy. The 270 GB model, with six IBM Ultra66 ATA drives, retails for around \$3800.

Tenon introduced iTools 3.0 for Mac OS X. Originally designed for Mac OS X Server but retooled to support forthcoming Mac OS X, iTools provide a graphical (via browser) interface allowing you to set up virtual FTP hosts, DNS, WebMail E-mail (POP or IMAP), and support for SSL 3.0. The \$499 price tag will save you countless hours and countless errors trying to configure such functions on your own.

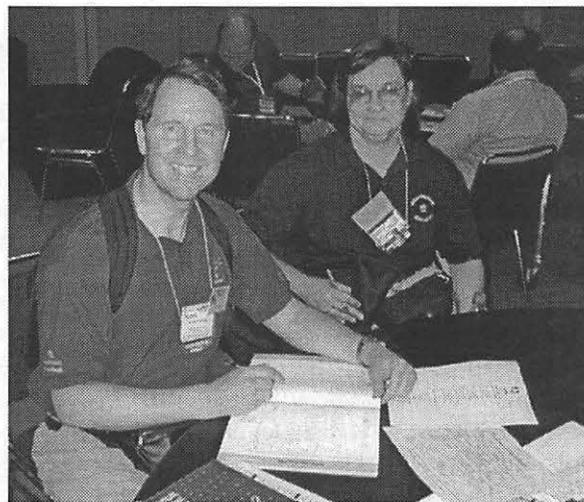
Richard Nixon would have loved the NuSpectra remote controlled pan and tilt camera systems. From almost any Macintosh, you can remotely control color television cameras and send the output as streaming media to a Web site. NuSpectra offers both in-

door and outdoor camera systems and, unlike many vendors at the show, their equipment has been extensively field tested, and they appeared to have an excellent grasp of the problems and promise offered by streaming a remote controlled video image over the Web. On second thought, Nixon probably wouldn't like that.

Finally, for those who like "exotic" but are also cheap, consider SuSE Linux, a four CD-ROM set of Linux and Linux applications designed to work on a wide variety of Power Macs, Power Mac clones, and even some IBM RS-6000 supermini computers, all for \$49. SuSE has been working with Linux since 1992 (Linux was released in 1991) and their software seems better integrated than many Linux releases (but — warning! — it still isn't in the least bit Mac-like).

Wild Idea

Though it really has nothing to do with the Macintosh per se, the StoryBox Network deserves mention, at least from the point of view of innovative thinking. After observing the growing use of "Smart Picture Frames" (special stand-alone color LCD panels that function as digital picture frames), StoryBox Network was founded to provide a service for sharing "digital greetings" and other images. If you have a "Smart Picture Frame" from a supported vendor, and a telephone line that can be shared with the frame, the StoryBox Network will enable you to send and receive photos, news and weather reports, and exchange information with other StoryBox Network users. You can send a



MacWorld's User Group meeting room offers a chance for Tim Childers (Columbia Apple Slice) and Pat Fauquet (Pi Tutorial Coordinator) to sit down and compare notes. (Photo by Pat Fauquet's camera)



Mac, glorious Macs, a whole wall full of Macs. And this is only one of the Mac walls in the Apple section. Look closely and you can even see one of the great new mice sitting on a round pad next to the new keyboard. The iMac in the foreground is one of the new Sage DV+'s, next to it is a Ruby DV and next to that is the entry level Indigo and then it starts with Sage again. You can see another Apple Tech person answering questions. One Thing Apple does well at MacWorld is to be sure there are enough qualified personnel to answer all the questions the Macophiles ask. The new iMac colors are a completely different color palette unlike any of the previous ones. It is like the first fruit palette in that it has clear, jewel tone colors that are halfway between transparent and translucent. The colors are deep and rich and well chosen to be more "neutral" than the current fruit palette is. The Snow SE is more of a semi-opaque white than a transparent or translucent white. It is also a clear, neutral white neither warm nor cool. With light on it, it looks very much like the pristine, virginal whiteness of soft, fluffy, newly fallen snow with all the little sparkles that one would see on a snow bank on a bright and sunny day.

photo of your new baby directly to your mother's picture frame, or post fake stock reports directly to the picture frame on your boss's desk. Just think of the love, and madness, you can spread!

For More Information

Apple Computer Power Macintosh G4 Cube, <http://www.apple.com/powermaccube/>

Harman Kardon SoundSticks, <http://www.harman-multimedia.com>.

Canon PowerShot Digital ELPH, <http://www.powershot.com/>

powershot2/s100/

Canon ZR10, <http://www.canondv.com/zr10/>

Kodak PalmPix, <http://www.kodak.com/go/palmpix>

ixla PhotoEasy, <http://www.ixla.com>

PacificImage PrimeFilm 1800i, <http://www.scanace.com>

Telex microphones, <http://www.computeraudio.telex.com>

Hewlett-Packard OfficeJet G85, <http://www.hp.com>

Xircom NetStation, <http://www.xircom.com>

Umax UGate, <http://www.umax.com>

Sophisticated Circuits Kick-Off, <http://www.sophisticated.com>

New Motion Technology GDock, www.newmotiontech.com

Marathon Computers G•Rack, <http://www.marathoncomputer.com>

OnStream Echo30, <http://www.onstream.com>

Nova Development Art Explosion 750,000, <http://www.novadevelopment.com>

ALVA Access Group inLARGE, outSPOKEN, <http://www.aagi.com>.

MacSpeech ListenDo!, <http://www.macspeech.com>

Common Ground Softworks Qilan, <http://www.commongrnd.com>.

Frontline Software FrontBase, <http://www.frontbase.com>

Running Start ArticleBase, <http://www.running-start.com>

MicroNet SANcube, <http://www.sancube.com>

Tenon iTools, <http://www.tenon.com/products/itools>

NuSpectra cameras, <http://www.nuspectra.com>

SuSe Linux, <http://www.suse.com>

StoryBox Network, <http://www.storybox.com> ■



A New Player & Spherical Movies

First Peek at QuickTime 5

©By Dennis R. Dimick

IN EARLY October Apple released a public preview of the next version of QuickTime. With major revisions every couple of years, each update of Apple's multimedia enabling technology adds versatility and utility. The most recent release version, QuickTime 4, has been remembered mostly for an ugly, shiny, and generally overbearing interface and controls for its QuickTime Player program.

As I write, the pre-release QuickTime 5.0 was posted on Apple's website hours earlier on October 10, and minutes earlier on the same day was installed on my PowerMac 9600 running Mac OS 8.6. This is an experiment in testing system stability.

My impressions of QuickTime 5 are superficial, yet I've used and variously abused QuickTime since version 1.0. First indication on this new "public preview" is that Apple has taken to heart user complaints about QuickTime Player 4's appearance.

A New Player

The QuickTime Player 5 offers a less-obtrusive look and presents easily configured audio controls such as a slider instead of a wheel for volume control. Also, QuickTime Player 5 presents neat on-screen controls for changing tint, color, brightness and contrast of movies. Whenever possible I avoid using QuickTime 4's Player application; the new version is

attractive and comparatively inviting.

Other changes under the hood are apparent. As Internet connections become more varied in type and speed, Apple has created a Connections panel that can be more specifically set to accommodate increased variations

in how you might access the Internet. These include 28.8 through 56 Kbps modems, ISDN, DSL and cable modem in speeds from 112 Kbps to 1 Mbps, 1.5 Mbps T1/Intranet/LAN, and faster connections via Intranet/LAN. The new QuickTime 5 offers the ability to receive multiple simultaneous steaming data incoming.

Apple says that system requirements for QuickTime 5 are a Power PC Macintosh with Mac OS 7.5.5 and Open Transport 1.2 or higher. You will need 32 MB of installed RAM. Apple says this new QuickTime 5 does not work with Mac OS X beta, except when running in Classic mode. If you now use OS X you should use the version of QuickTime that came with that operating system.



Brightness: QuickTime 5's Player program now offers several on-screen image correction options. Here a semi-transparent layer pops to allow changing of visual attributes of a movie or image. In color, the word "Brightness" appears in a day-glo green.

"My impressions of QuickTime 5 are superficial, yet I've used and variously abused QuickTime since version 1.0. First indication on this new "public preview" is that Apple has taken to heart user complaints about QuickTime Player 4's appearance."

More User Options

The QT5 Browser Plug-In panel allows you to select whether movies will begin playing automatically as they download to your web browser. You can also choose to "cache" all movies in your browser's disk cache if the movie's author allows this. It's also possible to open movies in your browser in "kiosk" mode, which hides the options to save movies and change QuickTime settings from within a browser window. Via the "MIME Types" control you can set up QuickTime to recognize and open more than 40 different media types it might encounter whether as an incoming file from the Internet or as a file on your computer's drive.

This new QuickTime 5 comes as a complete file archive for downloading. Unlike QuickTime 4, which initially downloaded an installer file to your drive and then forced you to get the rest of the needed pieces from Apple's website, you get all 10 MB from day one. Plan accordingly if you have a modem connection to the net as I do at home.

It appears you're going to pay



It's in Color: Previous versions of Apple's QuickTime player programs required you to dig around inside the "Get Info" box to change visual qualities of movies. Here an easily accessible visual popup allows you to modify color, brightness, tint and contrast in much the same way newer televisions present onscreen controls.

more for QuickTime 5.0 even if you already own the Pro versions of QuickTime 3 or 4. A page on Apple's website says, "QuickTime 3 and 4 Pro users can try out the QuickTime 5 Public Preview at no additional cost during the preview period." The current price for QuickTime Pro is \$30. There is no indication yet what the upgrade cost for current Pro users will be; apparently the release version will come some time early in 2001.

Apple's "Read Me" file with QuickTime 5 says the new version now supports playback of resident and streaming MPEG 1 files. From what I know, existing QuickTime 4 already supports playback of resident MPEG 1, maybe the new version adds support for playback streaming

MPEG. Further, the new QuickTime adds support for playback of Flash 4 files. Alas, Macromedia has since released Flash 5; I am not sure if Flash 5 and 4 share the same file format.

Total View: Spherical VR Movies

QuickTime 5 also supports creation and viewing of VR spherical panorama files, which Apple calls "Cubic VR." I noticed in the QuickTime 5 Extensions folder (a folder inside the System folder Extensions folder) that there exists a file called "iPIX Support." Whether "Cubic VR" and "iPIX" are the same format, related, derivative or similar is not indicated.

"iPix" is a litigious company that in the past has sued anyone trying to create spherical panorama VR mov-



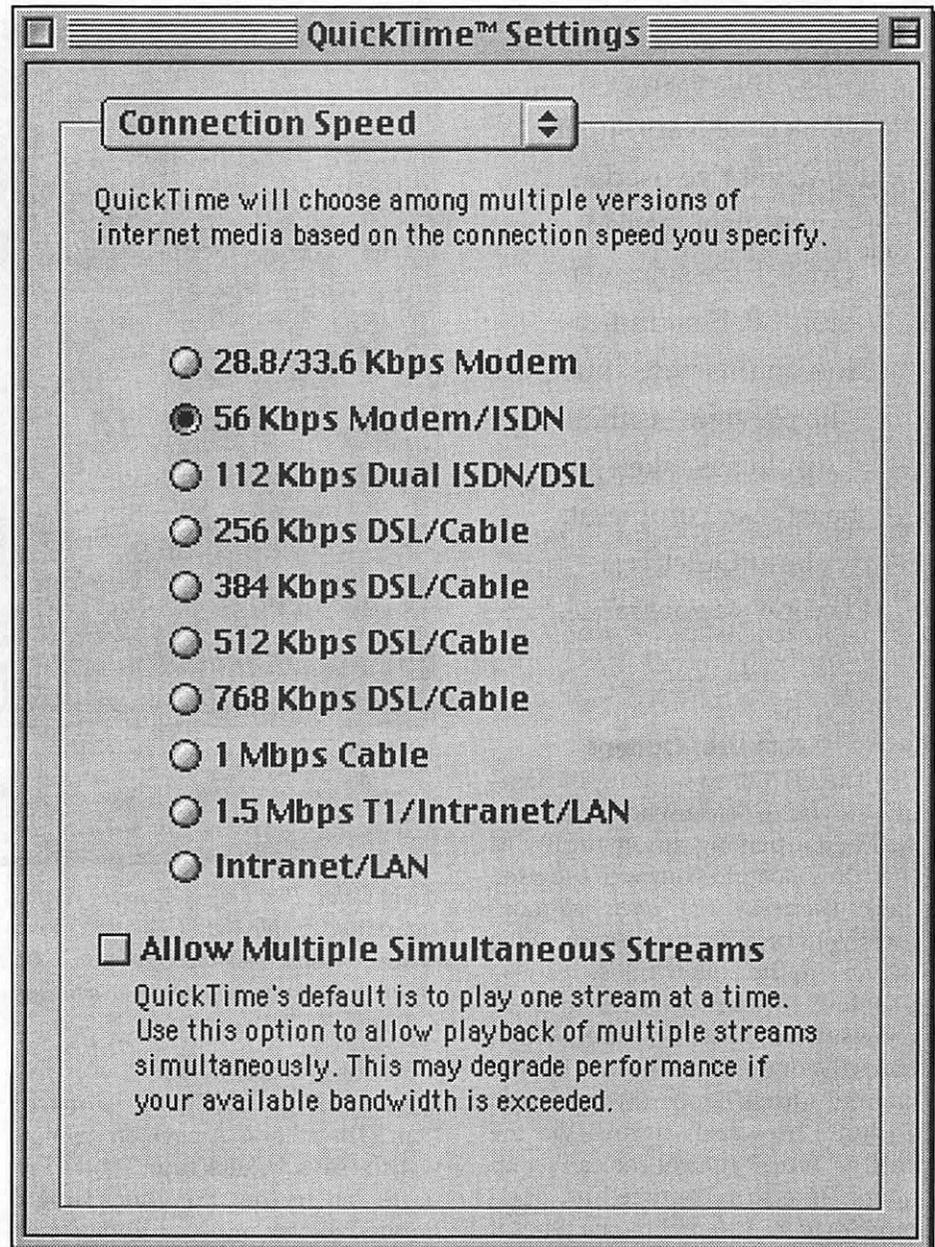
“Apple’s ‘Read Me’ file with QuickTime 5 says the new version now supports playback of resident and streaming MPEG 1 files. From what I know, existing QuickTime 4 already supports playback of resident MPEG 1, maybe the new version adds support for playback streaming MPEG.”

ies via what it claims are its patents on the idea of making spherical panorama digital movies from fisheye camera lenses. Apple’s added support for “Cubic VR” is an interesting and not clearly explained development for QuickTime 5. Did Apple license from iPIX the technology to create spherical VR movies or is this a move by Apple to circumvent iPix’s legal claims?

Other improvements Apple claims for QuickTime 5 include these: support for “DDD” format allowing conversion of movies into 3D format viewable with special glasses; a new sound synthesizer that includes a complete general instrument set licensed from Roland; an improved DV format codec for higher-quality images in DV format movies.

Get Into the Stream

Since QuickTime 4.0 Apple has placed a heavy emphasis on “streaming” media playback from the web, and with QuickTime 5 that emphasis has only increased.



Bandwidth Adjustments: Web users now have an array of connection choices, and Apple has increased the selection of options for optimal performance when you connect your Mac to the Web. This is the Connections Panel inside the QuickTime 5 Settings Control Panel.

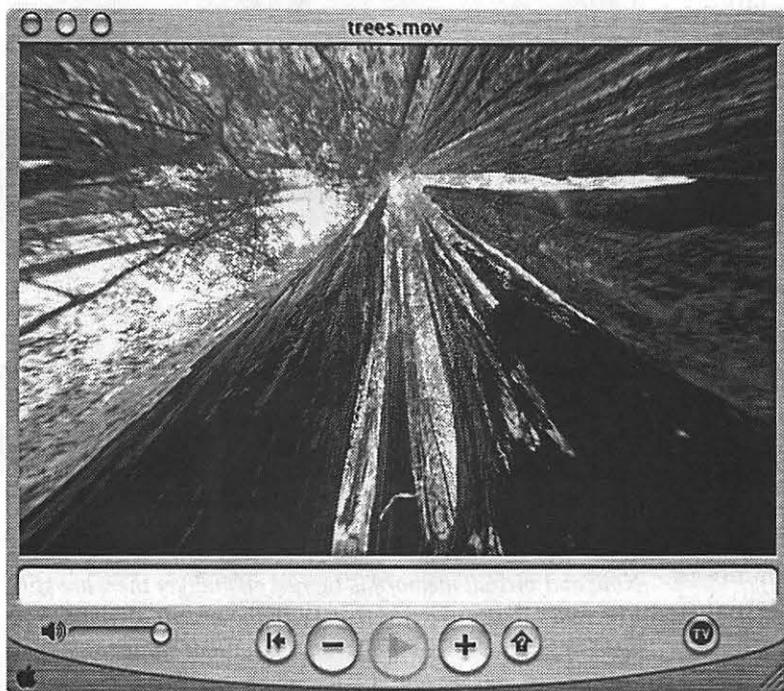
Streaming media has never impressed me. Most anytime I’ve tried streaming media I’ve suffered video or audio breakups, especially via dialup connection. It’s fine that Apple is moving in this direction, but they also have done so at the expense of also encouraging the creation of

downloadable QuickTime movies. (Unlike downloadable movies, streaming QuickTime movies do not save to your computer so you can play them later when you are no longer connected to the web.)

Streaming media for real-time events is fine if you like low-quality,



Crisp Sounds: The screen presence of QuickTime 5's new Player is much subdued from the previous version. You now control audio volume with a slider. Other attributes like bass, treble, and balance also are modified by small sliders below the image in this screenshot. The small buttons at top left are used to resize and close the movie window.



The World Around: A spiffy addition to QuickTime 5 comes in the form of spherical virtual reality (VR) movies. Also called "Cubic VR," this revised VR scheme allows users to look at the sky above and at their feet. This image showing an upward look at huge trees, came from Apple's website. Previous VR movies allowed you only to rotate around inside a cylinder view or to rotate an object on the same pivot.

“First signs for QuickTime 5 are encouraging, especially the new QuickTime Player interface and ‘Cubic VR.’ ”

grainy images with awful sound, but I have never understood why Apple has also opted for pushing the idea of streaming QuickTime from non-live or taped content.

High quality downloadable and “fast-start” files have always been QuickTime’s great virtue over other formats like RealVideo, and it would be a shame if Apple totally abandoned encouraging downloadable files to compete against RealMedia formats and the latest garbage video format from Microsoft. As long as people still access the Internet via dialup phone, live streaming media will not be ready for prime time.

First signs for QuickTime 5 are encouraging, especially the new QuickTime Player interface and “Cubic VR.”

My computer with its prerelease QuickTime 5 still has not crashed. We will see how long this lasts. ■

Pi member Dennis Dimick believes that QuickTime is one of Apple’s crown jewels. He’s been trying to find the time to make QuickTime movies since about 1993. He can be reached via email: ddimick@aol.com.



High-End Macintosh Benchmarking

© 2000 Washington Apple Pi Labs

LONG-TIME fans of Washington Apple Pi Labs (both of them) will recall that we are fond of using the game *Gerbils!* as a benchmark. The game, included with Mac OS 7.6, was originally designed as a “proof of concept” by Pangea Software, (<http://www.pangeasoftware.com/pangeahistory.html>) showing how QuickDraw 3D could be used in games, and in fact has no system of scoring, winning, or losing. So maybe it really isn’t a game. And maybe it really isn’t a benchmark.

But we like using it, anyway. It has several advantages over traditional benchmarks:

- like the game, you can’t win or lose, since it runs only on Macintosh computers — no Wintel or UNIX machines need apply;
- it is a heck of a lot more fun than any other benchmark we’ve used;
- it is aggressively graphical, allowing even non-Washington Apple Pi gurus to understand what is going on. Or at least be equally amused;
- the 3D texture mapping in QuickDraw 3D really is impressive, and you can customize the gerbils, track, and track surface instead of doing something more productive;
- it annoys the heck out of anyone not directly involved in the benchmarking.

Clearly, it has at least four more pluses than any other benchmarking suite available.

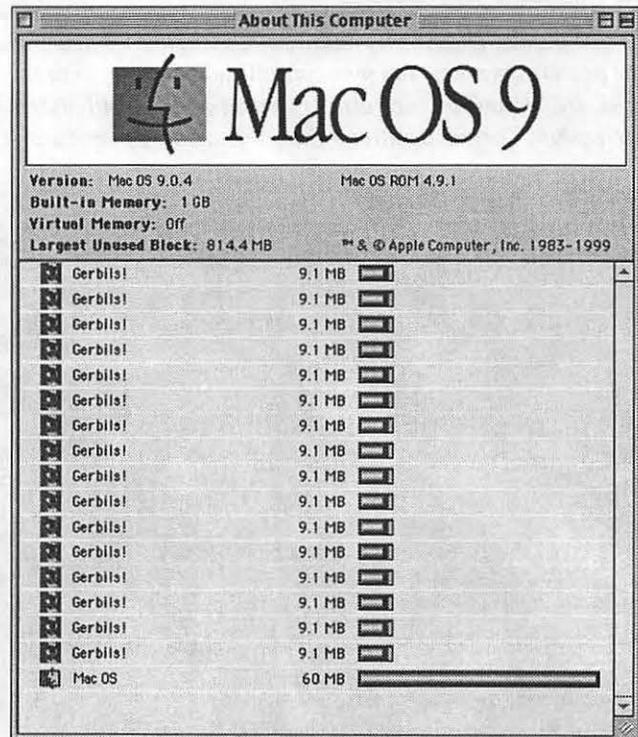
So, when a new opportunity came to use our favorite benchmark, we didn’t hesitate. A graphic artist was taking delivery of a Power Macintosh G4/450 dual-processor machine, and wanted a full gigabyte (one billion bytes) of memory added, plus a large flat-screen Sony Trinitron monitor. Would we like to do the honors?

Mere seconds later, the memory was added, and the thousand-pound monitor attached. (A large Sony Trinitron is only slightly smaller and lighter than a Boeing 747 jetliner.) The power button on the G4 was pressed (the new Apple keyboard doesn’t have a power button), the lights dimmed, and — nothing happened after Mac OS loaded. Very boring.

So we immediately transferred a copy of *Gerbils!* to the machine,

“Mere seconds later, the memory was added, and the thousand-pound monitor attached. (A large Sony Trinitron is only slightly smaller and lighter than a Boeing 747 jetliner.)”

and promptly made 15 copies. Then we launched all 16 copies at once, and spent several minutes arranging the windows so we could see them all, plus gave each a uniquely textured racetrack. Then we took a screen shot (CMD-Shift-3) or two.



Note that virtual memory is turned off and yet there are still 814.4 megabytes of RAM free. With the advent of Mac OS X and “desktop UNIX,” this won’t seem that impressive in a year or two, but we found it amusing, anyway.



“You see, *Gerbils!* has one rather unusual characteristic: if a gerbil bumps into another gerbil on the track, one falls off. And the one falling off says “Oh-oh!” ”

As far as screen shots go, this one is awesome, 1920 pixels by 1440 pix-

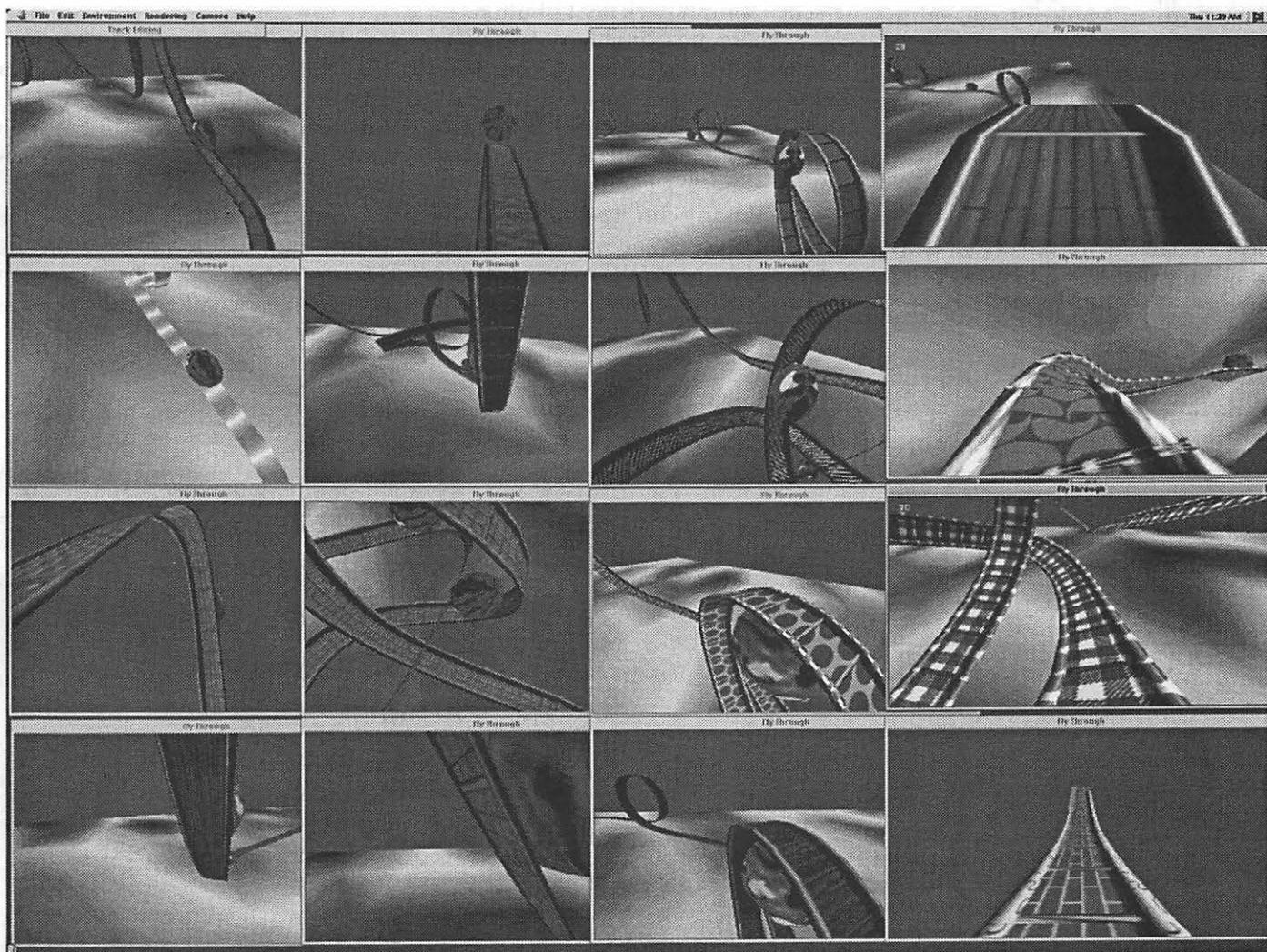
els (26.6 inches by 20 inches), or 2,764,800 pixels. We could never catch gerbils on all 16 screens at once. (OK, maybe we could have, but that would have been “work,” and “work” clearly was not a key consideration at the time.) We did manage, however, to immediately attract a crowd...

You see, *Gerbils!* has one rather unusual characteristic: if a gerbil bumps into another gerbil on the track, one falls off. And the one falling off says “Oh-oh!” in a cute, child-like voice. With just one game active, you hear “Oh-oh!” fairly often; with sixteen copies active, and the sound

cranked up, you get death treats from those who claim to be “doing something useful.”

We then checked on available memory. With virtual memory turned off, and all sixteen *Gerbils!* running at full blast, we still had 814.4 megabytes of RAM free. Plus, since *Gerbils!* isn't multi-processor aware, there was also an entire unused G4/450 processor, doing nothing useful.

With great reluctance, we handed the machine over to the graphic artist. ■



This looks pretty impressive in black and white, but you ought to see it in color; a color version is on the Pi Web site at <http://www.wap.org/journal/gerbilbenchmarking/>. The color version makes a very distracting background picture (hint, hint).



Using the Application Switcher

© Pat Fauquet

ONE OF the features of Mac OS 8.5, 8.6 and 9 is the Application Switcher. In earlier versions of the System software, this was just another pull down menu topped by a small icon in the menu bar. New (and old) Mac users often had trouble determining which applications were launched, so Apple introduced this feature.

First, note the small white lines just to the left of the icons or program name. If you click and drag on these lines, you can show or hide the program's name. See Figure 1.

When you click on the program icon or name in the menu bar, a drop down menu comes into view. The active program has a check beside its

name in the lower box. See figure 2. If you drag through the bottom of this drop down menu with your mouse you can detach the box and turn it into a floating palette. See Figure 3. Note that the active program is now in a darker box than the other applications. To make a different program active, simply click on it's button.

There are a number of ways to change the appearance and size of this palette. Clicking on the "Collapse" icon in the window title bar will roll up the window until only the title bar is showing. See Figure 4.

Clicking on the "Zoom" or "Resize" box in the window title bar will resize the palette so that only the icons are visible. See Figure 5.

"There are a number of ways to change the appearance and size of this palette. Clicking on the 'Collapse' icon in the window title bar will roll up the window until only the title bar is showing. See Figure 4.

Clicking on the 'Zoom' or 'Resize' box in the window title bar will resize the palette..."

If you hold down the "Option" key while clicking the "Zoom" or "Resize" box in the window title bar the computer will toggle between large and small sized palettes. See Figure 6.

If you press the "Option" and the "Shift" key while clicking on the "Zoom" or "Resize" box, you can change the orientation of the palettes

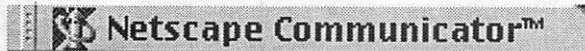


Figure 1.

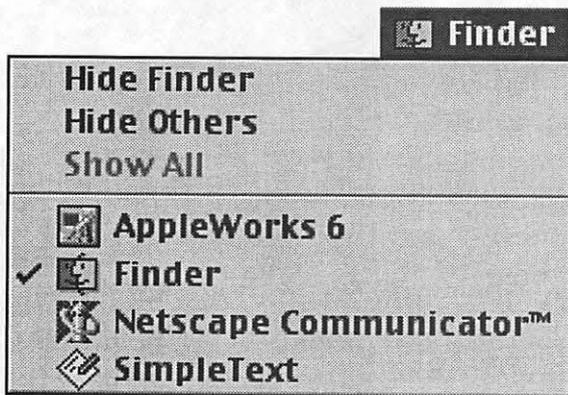


Figure 2.

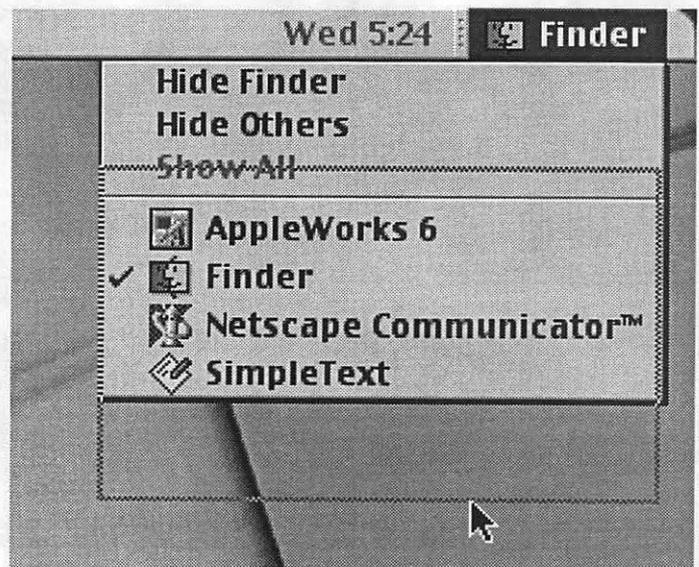


Figure 3.



Figure 4.



Figure 5.

so that they toggle between horizontal and vertical orientations. See Figure 7.

If you want to use the keyboard to switch applications while the Application Switcher palette is visible, press the "Apple" or "Command" key and the "Tab" key to move the right in the horizontal orientation or down in the vertical orientation. Press the "Apple" or "Command" key, the "Shift" key and the "Tab" key to move to the left in the horizontal orienta-

tion or up in the vertical orientation.

If you want to remove the palette from your screen, simply click in the "Close" box.

The Application Switcher is a nice feature, and it has been overlooked by many users. I highly recommend it to the novice user. It will help to remind you of all the application that you have used, but have forgotten to "Quit." For other users, the palette makes it easy to rapidly change applications when working on web or graphic projects.

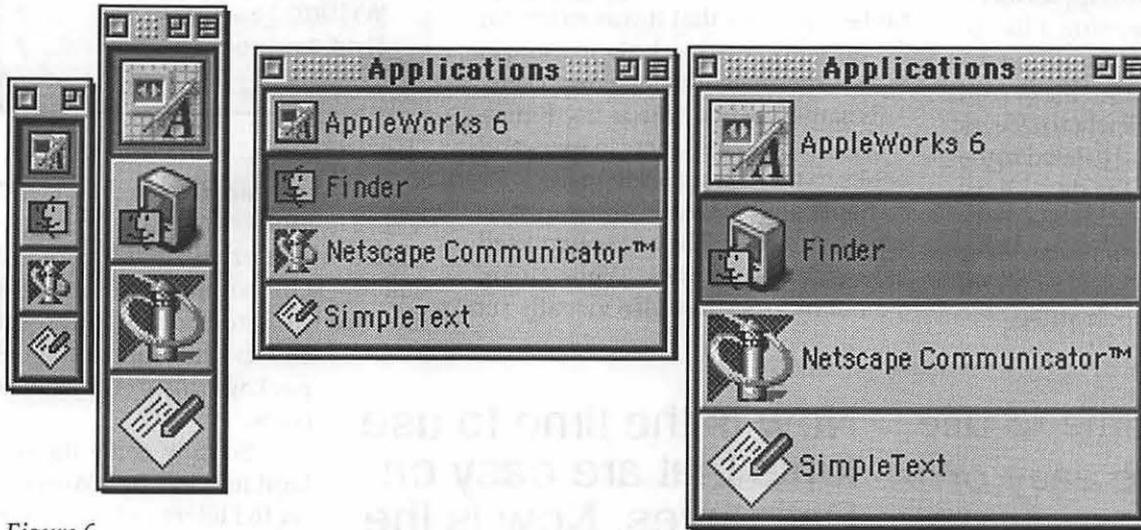


Figure 6.



Figure 7.

Giant and Safeway computers for schools program

You no longer need to save your receipts and send them to WAP in order to help schools get equipment from Apple. Simply apply for a bonus card with either of these supermarket chains, then specify which school or schools you would like your purchases to assist. Each school has a number code which the supermarket enters into their computer.

Take advantage of this easy way to help schools get the equipment they need!!



Of Fonts and AppleWorks

© Pat Fauquet

HIGH ON my list of "how comes" is one directed at the programmers of AppleWorks. Because I do a lot of reading, I like to have type that is easy to read. In examining why it is easier for me to read the newspaper or a book when my eyes are tired than something printed in the new, modern fonts of the day, I have come to love those old fashioned fonts.

Easy to read fonts have serifs or "heads" and "feet" at the bottom of some of the letters. Look at the "N"

in figure 1 and contrast it to the "N" in figure 2. Notice the tops and bottoms of the letters. Long ago typographers learned that it was easier for the human eye to track along a line of type if these elements were present. This same kind of type is used in almost all magazines, newspapers and books to make it easier to read.

Fonts without serifs are known as sans serif fonts. They are often used in headlines, and titles. While giving a modern look, they also visually set

Now is the time to use fonts that are easy on Pat's eyes. Now is the time to use fonts that are easy on Pat's eyes. Now is the time to use fonts that are easy on Pat's eyes. Now is the time to use fonts that are easy on Pat's eyes. Now is the time to use fonts that are easy on Pat's eyes. Now is the time to use fonts that are easy on Pat's eyes. Now is the time to use fonts that are easy on Pat's eyes. Now is the time to use fonts that are easy on Pat's eyes. Now is the time to use fonts that are easy on Pat's eyes.

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Figures 1 and 2.

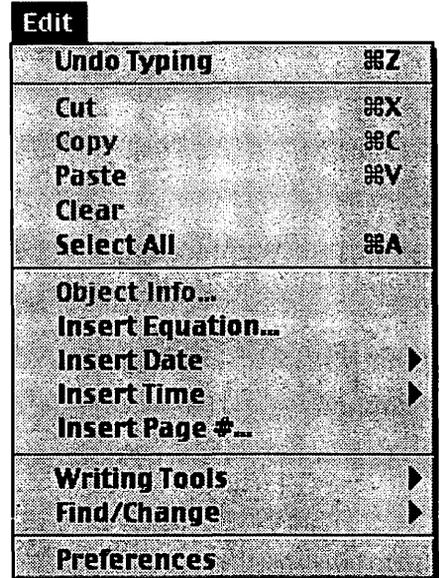


Figure 3.

these elements apart from the general text. The only time I see their extended use in professionally printed material is in the small print—things like license agreements, copyright and liability notices and the package inserts in medicines.

So how come the default font in AppleWorks is set to Helvetica? You have the ability to fix that problem. Each application or program for the computer comes with default settings. In more recent versions of applications, Apple Computer has set guidelines for where to place commands to modify the default preferences. If there is an Edit menu, the "Preferences" will be in the last sub box of that menu. See Figure 3. If there is no "Edit" menu, the "Preferences" command will be at the bottom of the "File" menu.

In AppleWorks and ClarisWorks 5 you will see this dialog box. (Figure 4). Click on the "Helvetica" button to choose a new de-

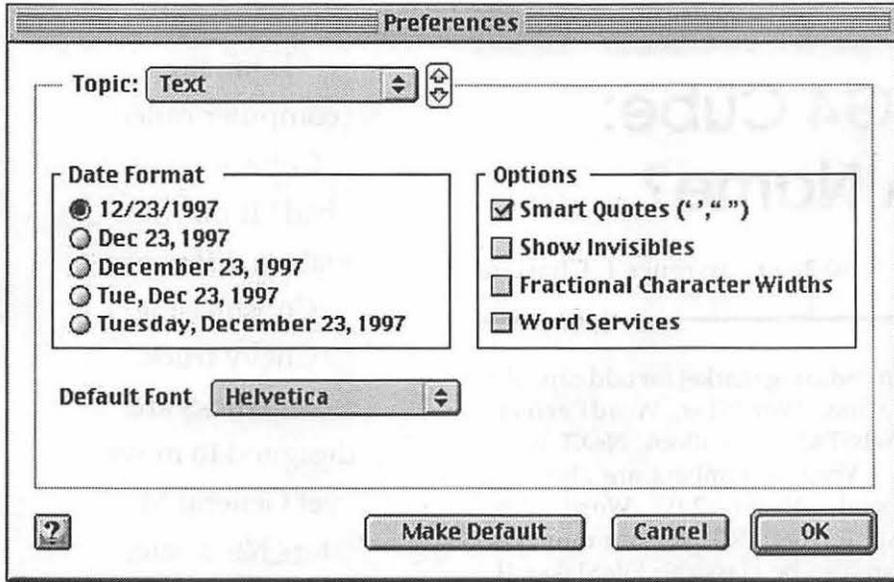


Figure 4.

fault font. In AppleWorks 6 the "Preference" option leads to a pullout menu (Figure 5) Choose "General". You will see a dialog box (Figure 6). Click on the "Default Font" button to choose a new one. Note that you can also change the default size.

The next question is what font to choose. Commonly, the font menu will include a number of serif fonts. See Figure 7. Note that while the fonts are essentially the same in appearance, there are large differences in the weight of the letters, their relative height and the length of the same words in the various fonts. My personal favorite is New York. However, if I am trying to squeeze a few extra lines onto a page to avoid printing an extra sheet, I will choose one of the other serif fonts. Conversely, if a page is too short, I will play around with the fonts and sizes to fill the page nicely.

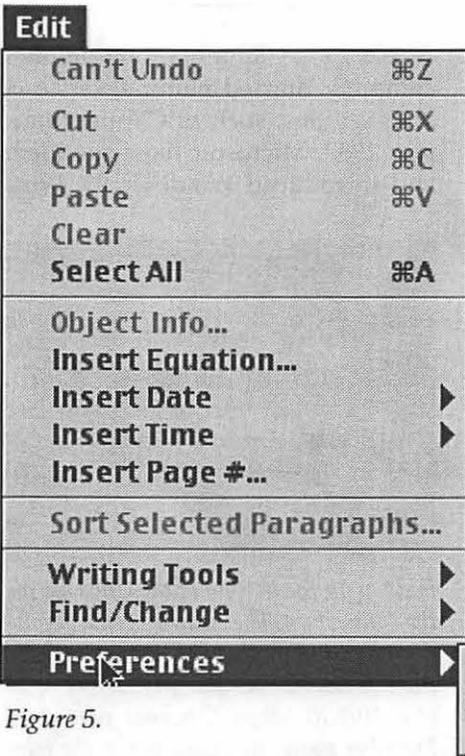


Figure 5.

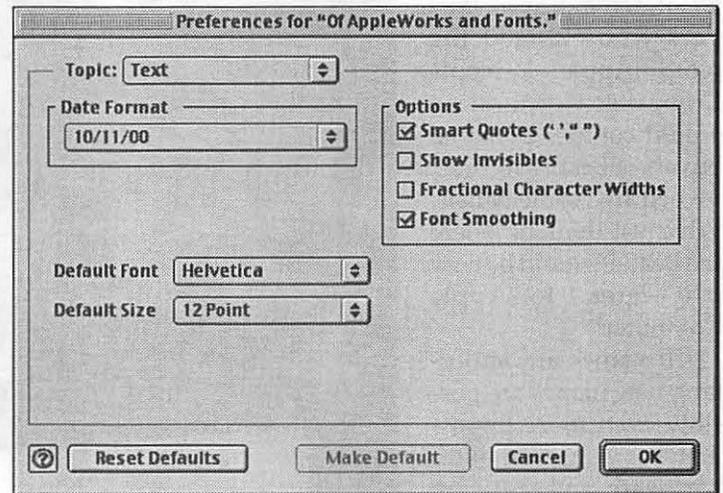


Figure 6.

This is written in Times, size 18.
This is written in Times New Roman, size 18.
This is written in Georgia, size 18.
This is written in Palatino, size 18.
This is written in New York, size 18.

Figure 7 (left).



Power Mac G4 Cube: What's In A Name?

© 2000 Lawrence I. Charters

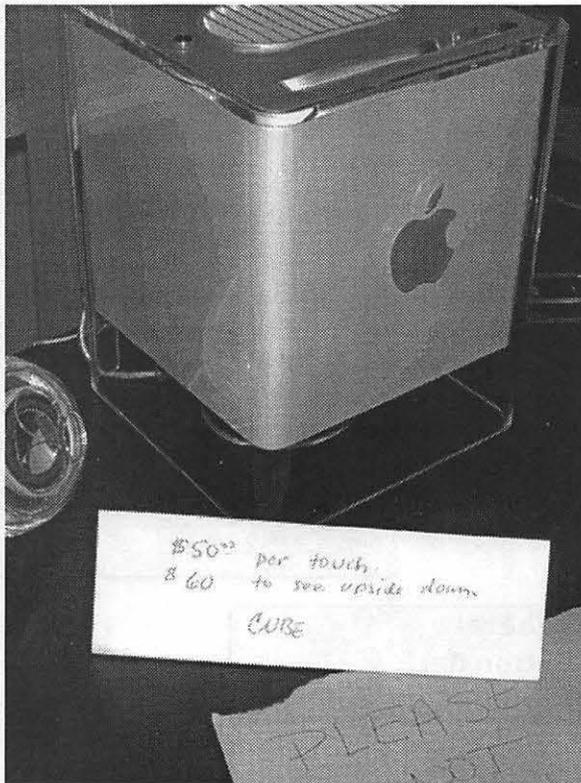
Editor's note: if this article looks familiar it is because it ran in the last journal. The captions were not placed correctly in the September / October issue and that is the reason this has been run again. Our apologies to Lawrence Charters who does a terrific job working on the journal.

an enduring market for odd capitalization: WordStar, WordPerfect, WebSTAR, eBay, iBook, NeXT, etc.

Version numbers are also big: Excel, Excel 2.0, Word 4.0, AppleWorks 5.0. Version numbers can also be classical: FileMaker II, dBASE III (note: version numbers and mixed capitalization), Apple II,

NAMES ARE important. Our favorite digital fruit company was once sued by underemployed lawyers who claimed the word "Apple" in Apple Computer Corporation would confuse potential buyers of Beatles records, owned by Apple Music. Why, just think of where the Beatles would be now if it weren't for Apple Computer!

If names are important, new names are possibly even more important. For years, computer hardware and software companies have struggled to come up with new and different ways of saying something was new and different. The first commercially successful spreadsheet, VisiCalc, was noted as much for the unusual capitalization of the name as anything else, creating



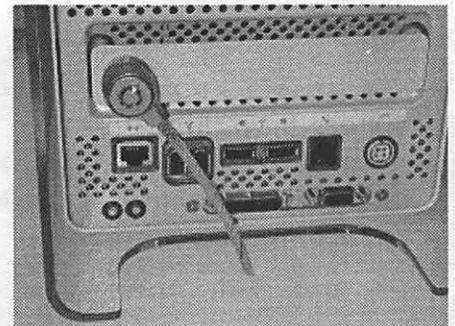
While the G4 Cube might be a people magnet, that is both good and bad. One vendor put up this hand-written sign that reads, "\$50 per touch. \$60 to see upside down." This is funny for another reason: with all the high-quality printing and page layout software on display, a hand-written sign is a charming incongruity. (Photo by Lawrence I. Charters)

"Is having a computer called Cube good or bad? It may not make a difference.

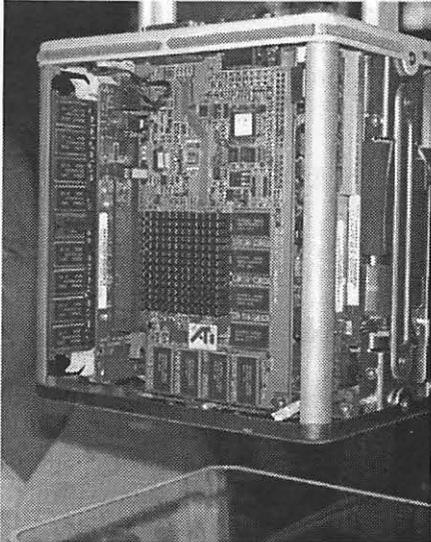
Consider the Chevy truck.

Trucks are designed to move, yet General Motors has a sales slogan that..."

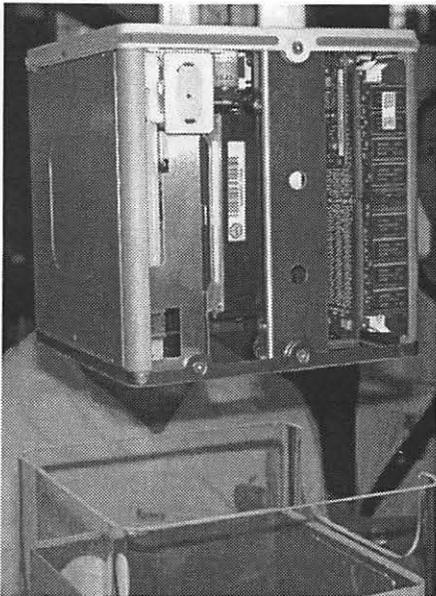
Apple ///. Clipper, a long-defunct company, started naming versions after seasons, such as Clipper Summer 1987. Microsoft liked the idea, and introduced Windows 95, Win-



Hidden on the bottom of the Cube are all the connectors. The security cable is connected to the handle used to pull the Cube from its case. Below that, from left to right is a 10/100 Mbps Ethernet port, two FireWire ports, two USB ports, the telephone jack for the modem, and the jack for the power supply (an external device that looks like a half-foot long muffler). On the bottom row are two tiny Programmer/Reset buttons (new challenges in accessibility!), the all-in-one video, sound and power jack for Apple's new displays, and a standard VGA port. (Photo by Lawrence I. Charters)



The shell-less Cube reveals how you get a G4 motherboard into a box this small: very carefully. Here you see the radiator from the G4 CPU, with memory chips along the left edge of the photo. Note the plastic outer shell at the bottom of the photo. (Photo by Lawrence I. Charters)



With the outer shell off, the Cube is almost as interesting as it is with the skin on. This side shows the hard drive, mounted on its side, and memory chips. One side of the Cube, shown on the left, is a featureless metal plate. Note the plastic outer shell at the bottom of the photo. (Photo by Lawrence I. Charters)

dows 98 and Windows 2000. (Windows 2001 will forcefully take over your home and send your car into orbit around Jupiter.)

Sometimes, it helps to explicitly separate the riff-raff from the elite, such as with MacWrite Pro or Microsoft Office Professional.

Clearly, only amateurs use anything other than Pro software. (And apparently only stupid pros read "Microsoft Office for Dummies.")

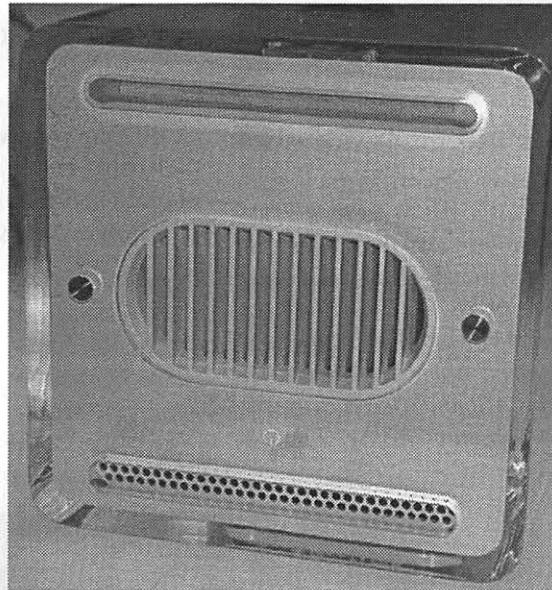
Every now and then, a company makes an extraordinary effort, and manages to incorporate virtually every known means for demonstrating "newness." The current champion may well be FileMaker Pro 5.0v3: it has a mixed-case name, it is a "Pro" package, and it has two different kinds of version numbers. About the only thing it lacks are Roman numerals.

Which brings us to Apple's Cube. For years, Apple insisted its line of computers, introduced in 1984, were "Macintosh" computers, not Macs. But the current lineup consists of the iBook, the iMac, the PowerBook G3, the Power Mac G4, and the Power Mac G4 Cube — not a "Macintosh" in the lot. So the most famous misspelling of a type of apple in history is now history, truncated to the long-standing nickname of "Mac" (or banished entirely, in the case of iBook

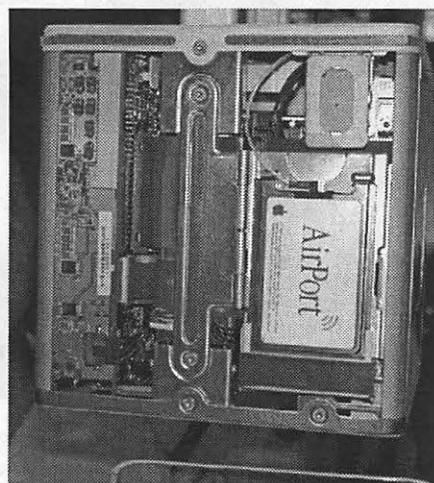
and PowerBook).

Apple has tried Roman numerals before, and car-style funny suffixes (Iix, Ilici, Ilsi, IIVI), and curiously misleading numbers (Power Macintosh 8500, LaserWriter Pro 8500), but never a geometric shape. It is also unusual in that the parent line, while it may be called "Mac" now, comes from McIntosh, the aforementioned misspelled apple, and apples are not normally cube shaped.

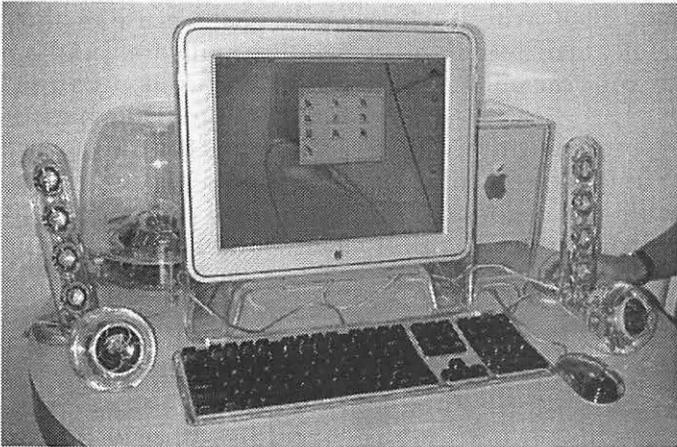
Is having a computer called Cube good or bad? It may not make a difference. Consider the Chevy



The top of the Power Mac G4 Cube is very plain: a slot for loading CD-ROMs (at the top in this picture), a central grill for radiation heat, and another air vent at the edge. Almost invisible between the two vents is the power switch. (Photo by Lawrence I. Charters)



Another side of the Cube reveals what it looks like inside with the optional AirPort card installed. (Photo by Lawrence I. Charters)



Harman Kardon, Apple and several other vendors found that the easiest way to draw a crowd at MacWorld was to set up a Power Mac G4 Cube with an Apple Cinema flat-panel display and the Harman Kardon SoundSticks, a combination of USB speaker towers and iSub woofer. In addition, this particular display also includes the striking crystal ball speakers included with the Cube, as well as the new 108 key keyboard and Apple Pro Mouse. The hand reaching into the picture is lifting a SoundStick; each speaker tower has a heavy metal base to keep it from vibrating. (Photo by Lawrence I. Charters)

truck.

Trucks are designed to move, yet General Motors has a sales slogan that equates Chevrolet trucks with inanimate objects: "Chevy Trucks: Like a Rock." Is it fast? Is it comfortable? Is it sleek? Does it move? No, it is "like a rock," and apparently dirty, immobile, and painful if you fall on one.

But it works: General Motors sells lots of Chevy trucks. Could it work for other products?

Zale's diamonds: like a rock (hmmm)

Domino's pizza: like a rock (no)

Sealy mattresses: like a rock (no)

Boston Whaler: like a rock (no)

Nation's Bank: like a rock (maybe)

The Rolling Stones: like a rock (hmmm)

Jimmy Dean sausage: like a rock (no comment)

Caress body soap: like a rock (no)

The Whopper: like a rock (no)

Boeing 747: like a rock (no)

Nike shoes: like a rock (no)

Viagra: like a...

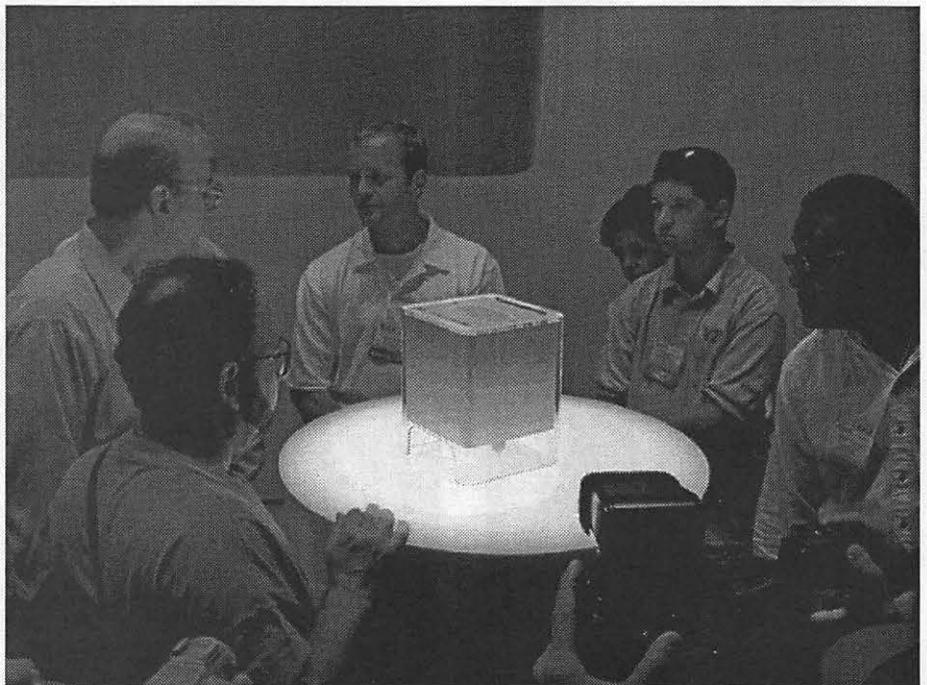
Power Mac G4 Cube: like a rock. Like a rocket, maybe? A white, toaster-sized rocket?

Power Mac G4 Cube: power cubed. (Not bad)

Power Mac G4 Cube: square, man, square (very 60s)

Power Mac G4 Cube: another roll of the dice. It is a gamble for Apple, but a worthy one. Come to think of it, they could create a special edition of the Cube, with patterns of black spots on the sides, and sell them in pairs as dice.

Power Mac G4 Cube: a 21st century toaster. ■



Dimly seen worshippers gather at the Power Mac G4 Cube altar, where they exchange whispered comments or simply stand in silent awe. (Actually, because of the sound of the MacWorld crowd, the worshippers would have liked to whisper, but had to shout questions to the Apple's G4 Cube priest, such as "Can I stack things on top of it?" (no), "How do I get files from my Mac Plus on to the Cube?" (be serious) and "Is Apple giving any of these away today?" (no). (Photo by Lawrence I. Charters)



Willow Design: Cross Country Protection

© 2000 Washington Apple Pi Labs

Travelpro Platinum is an excellent case, and it would hold a PowerBook G3, if someone would loan us one to test.

Which brings us back to the Willow Design Cross Country. An iBook will fit in one of these carefully designed cases. The high-density foam padding not only protects the laptop, but also allows the case to hold its shape far better than most soft-sided cases. Various internal and external pockets allow you to carry CD-ROMs, books, spare batteries, telephone cables and adapters, a cellphone and pager, and even small tools. An external flap allows you to attach a camera tripod (or, as Willow Design suggests, an umbrella) to the outside of the case.

Fully stocked, the case can carry a laptop and far, far too much other junk to be very comfortable. Fortu-

FIRST, THE good news: everyone who tried the Willow Design Cross Country Traveller Briefcase thought it was the best laptop carrying case they had ever used. All of them wanted to keep it. The bad news: none of them wrote a review. In fact, none of them wrote so much as a word.

So Washington Apple Pi Labs stepped into the breach, lugging the Cross Country Briefcase cross-country. And we thought it was –

Let's first mention the competition. Probably the most popular selling laptop cases are the Kensington and Targa cases. Kensington cases are, for the most part, made of nylon, and are prized for their snug fit. Targa cases are made of black leather-like plastic, taken from a close cousin of the noble Naga.

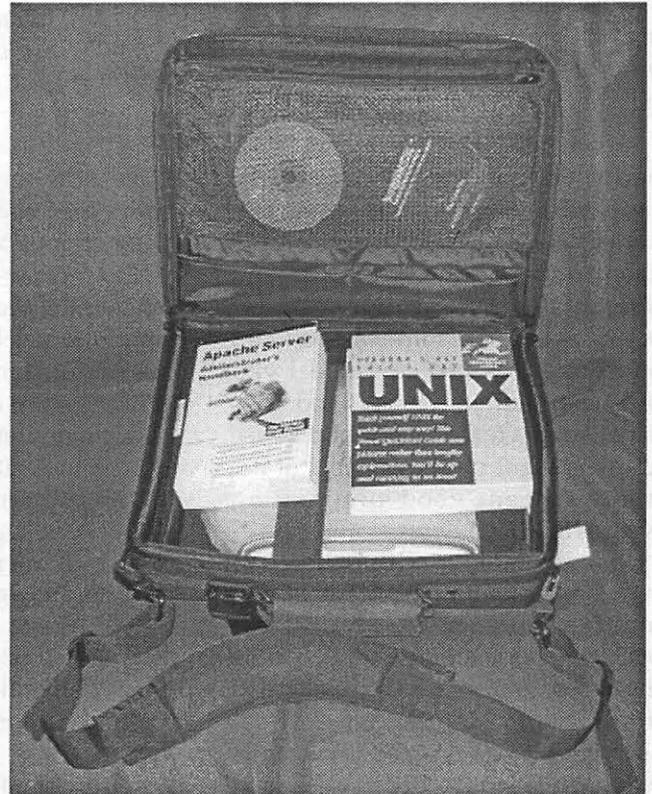
Kensington cases, while nice and snug, don't provide much protection. They have pockets for storing cables and maybe a battery or two, but the cases are not padded, so while they make the laptop easier to carry, they provide almost no protection. Washington Apple Pi Labs has seen many a laptop, both PC and Mac, that required repair after the Kensington-clad machine had a close encounter with a doorway, or a short fall from a chair.

Targa cases are padded, but the low-density foam used in the cases is only marginally better than Kensington's heavy nylon. While Targa-encased laptops seem to suffer fewer mishaps, they don't exactly in-

spire great confidence. Additionally, Washington Apple Pi Labs had difficulty in finding a case that could hold an iBook. Because of the palm rest and unusual shape, the iBook deforms most Targa cases in almost every direction.

One of the best laptop cases, by far, is the Travelpro Platinum. While this is technically a soft-sided case, the Travelpro Platinum has a rigid metal frame (cloth covered) that offers outstanding protection. Anything likely to damage a laptop in one of these cases would probably cause you, personally, far more damage.

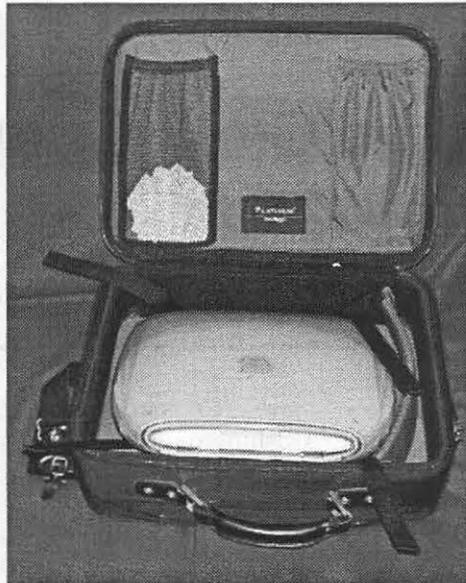
The Travelpro Platinum has two significant drawbacks, however. First, it is priced at over \$200, which, while probably worth it, makes you appreciate the value of inexpensively priced, immobile desktop computers. Second, it won't hold an iBook; the rigid metal frame lacks any kind of "give," and an iBook simply won't fit. Just the same, the



Inside, the Cross Country has a roomy compartment, capable of handling the iBook (which is deeper than most laptops), along with some UNIX and Apache manuals (for Mac OS X), CD-ROMs, cables and whatnot.



The side of the Cross Country has a pocket that can expand an extra three inches, allowing you carry way, way too much. The strap on the left is used for attaching something externally to the case. Willow Design mentions an umbrella, but we found it useful for carrying a camera tripod.



In terms of quality, the Travelpro Platinum case is on a par with the Willow Design Cross Country. It has a rigid, metal-reinforced rim and excellent padding, providing superb protection for the laptop. Unfortunately, it isn't deep enough to hold an iBook. Here you see the iBook, inserted at an angle, still sticking out over the front edge.

Canada V5J 4M5

or

Willow Design Ltd.
800 Grant Avenue
Blaine, WA 98230
800-668-1109
604-433-4232
http://www.willowdesign.com

Cross Country Traveller
\$145.00 (price fluctuates
with exchange rate) ■

nately, Willow Design equipped the case with both a traditional briefcase-style handgrip and a detachable shoulder strap. After carting around roughly two tons of equipment for several weeks, we think there should be a deluxe, self-powered model with its own motor and wheels, too. This is not so much a criticism of the case as a comment on the dangers of being prepared: good preparation weighs a lot.

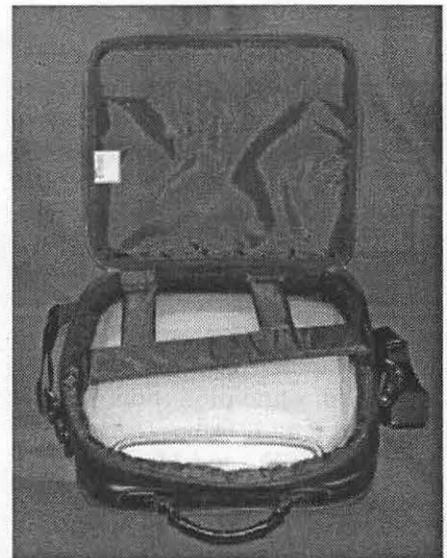
Our experience with Willow Design Cross Country Traveller cases — mostly other people's cases — goes back several years, and in that time the Cross Country case has expanded from the original "any color you want as long as it is black" to the current — well, actually, they haven't changed the color at all. But for those who do want something even larger, they've added the International Traveller case, which can even store a small

printer. The new Inflight Roller briefcase is still larger and, while it lacks a motor, it does come with wheels.

Is the case sturdy enough to allow you to check your laptop as luggage for an airline flight? Of course not! Washington Apple Pi Labs would be reluctant to check an anvil, much less a laptop computer. But we've carried laptops literally tens of thousands of miles in various Cross Country Traveller bags, in cars, planes and trains, with no mishaps.

We can highly recommend the Willow Design Cross Country Traveller. It is more expensive than some of the competition (and less than others), but it offers a superb blend of workmanship, materials, size and, most important, protection.

Willow Design, Ltd.
6943 Antrim Ave.
Burnaby, British Columbia



Targa cases, made from the apparently plentiful Naga, are padded, but the padding is low-density, providing protection against casual bumps but little help for stronger jars. And they are too small for an iBook: here you see the laptop deforming the case in almost every direction.



Willow Design: Kerouac 3+6—Backpack

© 2000 Washington Apple Pi Labs

LIFE MAY BE filled with uncertainties, but a few things are guaranteed: taxes, death, and you will drop your laptop computer. Or bang it into a doorway. Or step on the brake suddenly and watch it demonstrate the wonders of kinetic energy as it bounces around your car. Or have it disappear, since “portable” also means “easy to steal.”

Willow Design did their best to make the Kerouac Backpack laptop case look like something other than a laptop case. Most laptop cases are soft-sided, briefcase-style cases (and Willow Design makes these, too, perfect for Washington bureaucrats, lobbyists and Beltway Bandits). But the Kerouac case, named after a writer known for his travel pieces, looks like a backpack. Or a briefcase. Or an over the shoulder case. Or something large enough to carry a good-size moose. But it doesn't look much like something for carrying a computer.

As with other Willow Design cases, the Kerouac backpack is padded with high-density foam, covered with heavy nylon, and carefully stitched together. A large number of pockets are provided, along with a large number of heavy-duty zippers and Velcro fastenings. In terms of flexibility and adaptability, the Kerouac case is akin to a Swiss Army knife: practical, adaptable, durable and indispensable.

Washington Apple Pi Labs has extensive experience with another Willow Design case, the Cross Country Traveler. We were reluctant to even look at the Kerouac backpack since, unlike New York City, relatively few Washington-area residents use backpacks. Back-

packs are the realm of college campuses, public schools, and the West Coast. Right?

Maybe, though once we started looking, we found a fair number of Capitol Hill backpack packers. But, reluctant or not, we soon came to find the Kerouac a daily companion. It can hold more than almost any briefcase; at one point we were carrying around not one, not two, but three laptops in one Kerouac case. It is exceptionally flexible: you can carry it as a briefcase (though it looks a bit odd), or wear it as a backpack, or use the handle at the top to simply haul it around. We couldn't use it as a shoulder bag because of a manufacturing defect (see below).

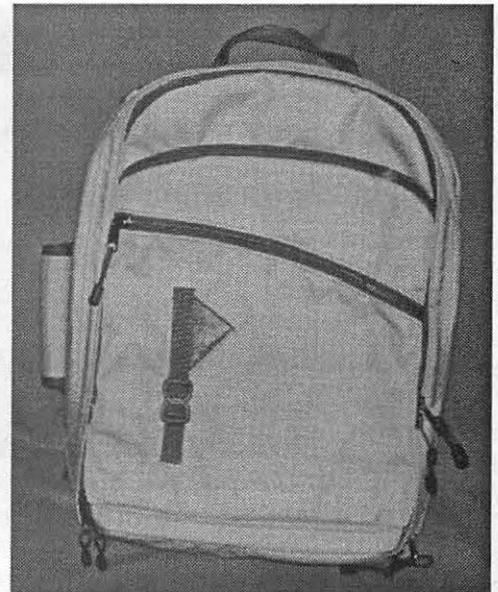
Having such a versatile carrying case does present a serious problem: you tend to carry more. On a recent trip to the West Coast, the Kerouac was crammed with a laptop (of course), digital camera, a power supply or two, various important papers (reservations, tickets, and such), about 25 pounds of books and magazines, a waterproof coat, and “everything you need to survive on a long plane trip that you don't mind stuffing in an overhead luggage bin.” Speaking of which, while the Kerouac case is larger than most laptop cases, it will fit through the new restrictive openings in airport X-ray security scanners. And it fits far better in an overhead bin than the steamer trunks some air travelers try and cram in them.

Our Kerouac case was not perfect, however. The supplied shoulder strap wouldn't clip on the attachment rings. An E-mail to Willow De-

sign prompted a return call in which we repeated the problem, and they theorized that the strap clips apparently hadn't been “ground down” to fit in the rings. A replacement strap was offered, but never arrived. We didn't press for the strap because, quite frankly, we didn't care: we never really missed it. But in the interests of full disclosure, we never did try carrying the case as a shoulder bag. We are also fully confident that Willow Design would have sent a shoulder strap if we reminded them. (And even if we don't: a strap, with apology, will probably arrive shortly after this review is published; Willow Design genuinely cares what their customers think.)

Even if we never tried it as a shoulder bag, we did carry it throughout the Washington-Baltimore region, throughout the Northeast, and over a large expanse of the Northwest. Despite initial misgivings, we discovered we like it better than the traditional briefcase-style laptop cases. Much better.

Would we be willing to check it, complete with a precious laptop computer, as baggage on an airline? Of



A rear shot of the Willow Design Kerouac laptop backpack. Note the hand-hold on the top, the handle on the side (for carrying it as a briefcase), the external strap (for carrying an umbrella or tripod) and two external pockets.



course not! But we'd have no hesitation in carrying a computer in this bag to the top of a mountain or two, or taking it on a lengthy ferry ride, or on an Amtrak trip to New York City, or throwing it in a car for commuting to work. And, in fact, we did all of these things, without any mishaps at all.

We highly recommend the Willow Design Kerouac case. A portion of the Willow Design Web site is devoted to showing customers how to "size" a backpack appropriate to a given customer's torso length. We also highly recommend you visit the Willow Design Web site, which has a wealth of information on case colors, and an illustrated guide on how to "size" a backpack to match the length of your torso.

Willow Design, Ltd.
800-668-1109
604-433-4232

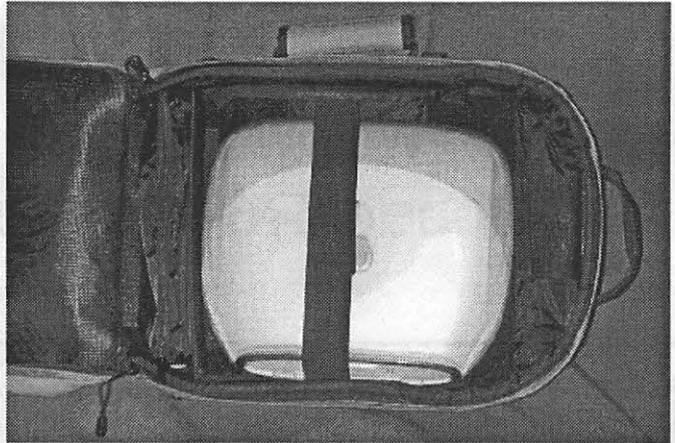
<http://www.willowdesign.com>



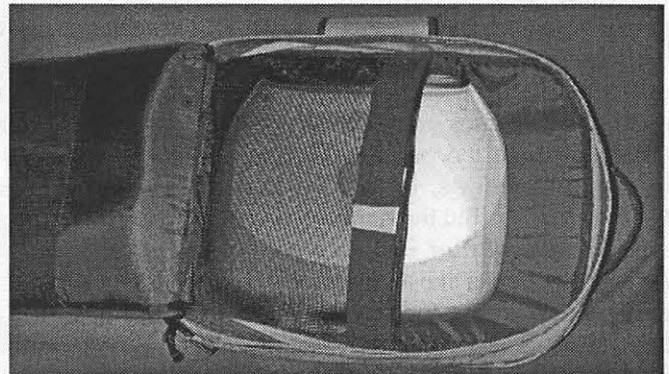
When worn as a backpack, the Kerouac laptop backpack shows careful attention to comfort. The adjustable shoulder straps and waist belt allow you to carry an amazing amount of weight in good comfort. A portion of the Willow Design Web site is devoted to showing customers how to "size" a backpack appropriate to a given customer's torso length.



A cloth panel covers up the backstraps when the Kerouac laptop backpack is carried as a briefcase. At the bottom of the photo is the shoulder strap included with the case.



The main compartment easily holds an iBook, and the safety strap keeps it from shifting position. At the bottom of the case (on the left) is a zippered, removable bag for holding small parts and tools; at the top (on the right) is a small compartment, with Velcro flap, for holding cell phones, pagers, wallets, and other items. The compartment is held in place with Velcro and, like the zippered bag at the bottom, can be removed, in the event you need to carry a small moose or something.



A middle compartment on the Kerouac laptop backpack is large enough to hold a fairly hefty quantity of books – or another laptop. While under evaluation by Washington Apple Pi Labs, the case once held – at the same time — an IBM Thinkpad, an Apple iBook, and an old Apple PowerBook 100. If this wasn't enough, it also held a confused assortment of Ethernet cables, telephone cables, adapters, converters, power supplies, chewing gum, Kleenex, a pager, a cell phone, a science fiction novel (paperback), a digital camera and a pair of sunglasses. This particular combination is not recommended for long distances unless you are a llama.

6943 Antrim Ave.
Burnaby, British Columbia
Canada V5J 4M5

or
Willow Design Ltd.
800 Grant Avenue
Blaine, WA 98230

Kerouac Backpack , \$132 (price fluctuates with exchange rate)
Available in black, charcoal, navy, teal and purple ■

Hotline

The hotline service is only for members of WAP. Please do not call after 9:00 pm or before 8:00 am.

Name	Telephone	Heading	Subjects
Apple General			
Bob Sherman	305-944-2111	Communications	DBMaster
Ron Evry	703-490-1534	Hypermedia	Hyperstudio
Bernie Benson	301-951-5294	Miscellaneous	Ile Card for the LC
Harvey Levin	301-299-9380	Programming	Apple Script
Eric Sheard	908-782-6492	Spreadsheets	Advanced Visicalc (eves) 908-782-6492 (days) -2242
Allan Griff	301-654-1515	Spreadsheets	Apple Works
Eric Sheard	908-782-6492	Spreadsheets	Visicalc (eves) 908-782-6492 (days) -2242
Ken DeVito	703-960-0786	Telecomm	
Apple //			
Bernie Benson	301-951-5294	Accounting	Apple SSC (Super Serial Card)
Neil Laubenthal	703-691-1360	Apple IIGS	General
Allan Griff	301-654-1515	Apple Works	General
Ken DeVito	703-960-0786	Apple Works	General
Paul Campbell	313-255-6497	Apple Works	General
Ray Settle	410-647-9192	Apple Works	General
Allan Griff	301-654-1515	AppleWorks	General
Ken DeVito	703-960-0786	Beagle Buddies	
W. T. Cook	410-995-0352	Beagle Buddies	
Don Avery	202-362-1783	Beagle Buddies	
Dale Smith	301-294-2287	Communications	
Allan Griff	301-654-1515	Database	Apple Works
Morgan Jopling	410-721-7874	Database	Apple Works
Milt Goldsamt	301-649-2768	Database	Apple Works
Guy Durant	202-575-0414	Epson Printers	
Ron Evry	703-490-1534	General	
Harold Polk	301-662-6399	General	
Ken DeVito	703-960-0786	General	
Guy Durant	202-575-0414	Hard Drives	
Guy Durant	202-575-0414	Hardware	
Ron Evry	703-490-1534	Hypermedia	Hyperstudio
Bob Sherman	305-944-2111	Laser Printing	
Ron Evry	703-490-1534	Word Processing	AppleWriter
Allan Griff	301-654-1515	Word Processing	
Apple // e			
Morgan Jopling	410-721-7874	Upgrade	
Apple // GS			
Rich Sanders	703-450-4371	Drawing/Graphics	Deluxe Paint II
Dick Grosbier	301-898-5461	General	
Eric Grupp	410-315-8331	General	
Seth Mize	410-766-1154	General	
Rich Sanders	703-450-4371	Word Processing	Multiscribe GS
Apple // GS			
Ken Carter	301-834-6516	General	
Apple ///			
Dave Ottalini	301-681-6136	General	
Paul Campbell	313-255-6497	General	
Seth Mize	410-766-1154	General	
Robert Sambolin	203-853-2512	General Repair	
Steve Truax	304-263-5749	Integ. Packages	3 Easy Pieces
Dave Jemigan	540-822-5137	Integ. Packages	3 Easy Pieces
Paul Campbell	313-255-6497	Repairs	
Dave Jemigan	540-822-5137		3.5" Super Drive
Dave Jemigan	540-822-5137		SCSI Drives
Steve Truax	304-263-5749		Stemspeller
Dave Jemigan	540-822-5137		Stemspeller (before 9 PM)
Carey McGleish	313-332-8836		Word Juggler (evenings)

Name	Telephone	Heading	Subjects
Cross Platform			
Ken DeVito	703-960-0786	Transfers	MS/DOS-Apple-Mac
IBM/Compatibles			
Etana Finkler	301-891-2821	Illustration	General Can call until midnight
Tom Cavanaugh	301-627-8889	Printers	General
Internet			
Dan White	301-843-3287	General	
Wait Francis	202-966-5742	General	
Will DeKrone	410-626-7716	General	
Curt Harpold	301-762-0887	Programming	JAVA
Craig Contardi	410-796-4562	World Wide Web	Netscape Navigator
Seth Mize	410-766-1154	World Wide Web	Sailor
Jaque Davison	703-644-7354	World Wide Web	Web Site Builder
Macintosh			
Nancy Seferian	202-333-0126	Art & Video	General
Robert Sambolin	203-853-2512		General
John Engberg	301-262-9347	or 301-604-8348	Basics
Tho. Snowberger	410-757-4656	Contact Managers	Now Contact/UTD
Mort Greene	703-522-8743	Database	File Maker Pro
Bill Waring	410-647-5605	Database	Filemaker Pro
Bob Wilbur	703-426-0556	Database	Filemaker Pro
Rick Shaddock	202-321-2110	Database	FoxPro
Harvey Levin	301-299-9380	Database	Helix
Bob Wilbur	703-426-0556	Database	Helix Express
Mort Greene	703-522-8743	Database	MS-File
Dick Nugent	703-425-1056	Database	FileMaker Pro
Elizabeth Mangan	703-750-2710	Database	Pro-Cite
Dave Weikert	301-963-0063	Databases	Panorama
Bob Wilbur	703-426-0556	Database	General
Blake Lange	301-942-9180	Desk Top Pub.	PageMaker
Mort Greene	703-522-8743	Desk Top Pub.	PageMaker
Eric Grupp	410-315-8331	Desk Top Pub.	Quark Xpress
Paul Schlosser	301-831-9166	Desk Top Pub.	Quark Xpress
Ron Johnson	410-315-8764	Drawing/Graphics	Adobe Illustrator 3.0
Nancy Seferian	202-333-0126	Drawing/Graphics	Aldus Freehand
Bob Wilbur	703-426-0556	Drawing/Graphics	Canvas
Lloyd Olson	410-544-1087	Drawing/Graphics	ClarisDraw
Etana Finkler	301-891-2821	Drawing/Graphics	Freehand Can call until midnight
Nancy Seferian	202-333-0126	Drawing/Graphics	General
Neil Laubenthal	703-691-1360	Drawing/Graphics	General
Etana Finkler	301-891-2821	Drawing/Graphics	General Can call until midnight
Bob Wilbur	703-426-0556	Drawing	General
Blake Lange	301-942-9180	Drawing/Graphics	Illustrator
Etana Finkler	301-891-2821	Drawing/Graphics	Illustrator Can call until midnight
Mort Greene	703-522-8743	Drawing/Graphics	Photoshop
Blake Lange	301-942-9180	Drawing/Graphics	Photoshop
Mort Greene	703-522-8743	Drawing/Graphics	SuperPaint 2.0
Dave Jemigan	540-822-5137	Foreign Languages	FlashWorks
Dave Jemigan	540-822-5137	Foreign Languages	Greek Tutor
Dave Jemigan	540-822-5137	Foreign Languages	Hebrew Tutor
Dave Jemigan	540-822-5137	General	

November 2000

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			<i>Networks/Networking</i> 1 <i>Web Page How To's</i> WAP BoD	<i>Spreadsheet Intro</i> 2 <i>FileMaker Pro Intro</i> Columbia Slice	3 <i>PageMill/Homepage</i>	4
5	6 <i>Mouse Mousse</i> <i>Mac Intro Lab</i> <i>Scanner Intro</i>	7 <i>Clinic</i> <i>Write/Save/Print/It</i> <i>Mac Intro Lab</i> <i>Improve Digital Photos</i>	8 <i>Finder Basics</i> <i>Digital Camera Intro</i> <i>Mac Intro Lab</i> <i>Photoshop 1</i>	9 <i>Surfing 101</i> <i>Web Pages Fast&Easy</i> <i>Mac Intro Lab</i> Stock SIG	10 <i>Simplify Your Computer Life</i> <i>We Need a Picture</i> <i>Mac Intro Lab</i>	11 Frederick Slice Graphics SIG
12	13 <i>Jazz Up Web Pages</i>	14 <i>Clinic</i> <i>Brush Up Mac Skills-1</i> <i>Ride the I-Net Wave</i> <i>Photoshop 2</i>	15 <i>Digital Video Camera Intro</i> <i>iWant an iMovie</i> Excel SIG	16 <i>Brush Up Mac Skills-2</i> <i>Dwldng/Installing</i>	17 <i>iMade an iMovie-Now What?</i>	18 Annapolis Slice
19	20 <i>Adobe Go-Live Intro</i>	21 <i>Clinic</i> <i>QT VR-Panoramas</i>	22	23	24 Office Closed	25 <i>NoVa ComCal</i> WAP General Meeting
26	27 <i>Adobe Go-Live P2</i>	28 <i>Clinic</i> <i>Illustrator Intro</i> <i>Mac-Digging Deeper</i> <i>Netscape Com e-mail</i>	29 <i>QT-VR-Virtual Objects</i>	30 <i>Mac-Digging Deeper</i> <i>Intro to AppleWorks</i>		

December 2000

WAP Office Phone: 301-984-0300
 TCS 2400 bps: 301-984-4066;
 TCS 14400 bps: 301-984-4070

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31					<i>Web Pages - How To's</i> 1 <i>Networks/Networking</i>	2
3	4 <i>Scanner Intro</i> <i>Mouse Mousse</i> <i>Mac Intro Lab</i>	5 <i>Clinic</i> <i>Improve Digital Photos</i> <i>Write/Save/Print/It</i> <i>Mac Intro Lab</i>	6 <i>Digital Video Camera Intro</i> <i>Finder Basics</i> <i>Mac Intro Lab</i> WAP BoD	7 <i>Surfing 101</i> <i>Web Pages Fast&Easy</i> <i>Mac Intro Lab</i> Columbia Slice	8	9 <i>NoVa ComCal</i> WAP Computer Show/Sale
10	11 <i>Simplify Your Computer Life</i> <i>We Need a Picture</i> <i>Mac Intro Lab</i>	12 <i>Clinic</i> <i>Ride the I-Net Wave</i> <i>Brush Up Mac Skills-1</i>	13 <i>Digital Camera Intro</i> <i>iWant an iMovie</i> <i>Photoshop Intro</i>	14 <i>Dwldng/Installing</i> <i>Brush Up Mac Skills-2</i> Stock SIG	15 <i>PageMill/Homepage</i>	16 Annapolis Slice
17	18 <i>Jazz Up Web Pages</i>	19 <i>Clinic</i> <i>Netscape Com e-mail</i> <i>Mac-Digging Deeper</i> <i>Photoshop - 2</i>	20 <i>Adobe Go-Live P3</i> Excel SIG	21 <i>Appleworks - Intro</i> <i>Mac-Digging Deeper-2</i>	22	23
24	25	26	27	28	29	30

Unless otherwise noted, call the SIG chairs or Slice officers for meeting information. A list of the SIG and Slice chairs is on page 3 of every Journal. Calendar events in italics are tutorials, workshops or seminars.

Meeting Notices

Annapolis Slice

3rd Saturday; 9:30 AM; Severna Park Library on McKinsey Rd. (off Rt. 2), Severna Park, MD
Answering Machine: (410) 647-5605

AOL SIG, contact John Barnes at JDBarnes@aol.com or in the evening at 301 / 652-0667.

Apple III SIG

Quarterly on 2nd Saturday; 10:00 AM; WAP Office.

Columbia Slice

1st Thursday; 7:00 PM. Call for location
BBS (410) 964-3706

DataBases (Mac) SIG

Volunteers needed to restart this SIG

Delmarva Slice

At the campus of Salisbury State University, but will rotate throughout Delmarva area when appropriate. Email Shelly Wetzel form more information. <sawetzel@ssu.edu>

Excel SIG

3rd Wednesday; 7:30 PM; WAP office.

FileMaker Pro SIG

3rd Thursday; 7:30 PM; WAP office.

Frederick Slice

General meeting time, 2nd Saturday; 10:00 AM; United Methodist Church; 22 Main Street in Walkersville.

Game SIG

1st Thursday; 7:30 PM; Call for location.

Genealogy SIG

Not meeting in July or August. Volunteer needed.

Graphic Arts SIG

2nd Saturday of the month

Linux SIG

Contact Will Byrd or Gregory Kelley
(wbyrd@fred.net or grekell@earthlink.net)

Mac Programmers' SIG

Volunteers needed to restart this SIG

Newton Developers' SIG

Volunteer needed

NoVa Education (Ed) SIG

Call SIG chair for times & locations.

QuickTime SIG

2nd Tuesday of each month; 7:30 PM; WAP office.

Retired SIG

4th Wednesday of each month; 11 AM to 2 PM; each meeting will have a topic, but be run informally. WAP office.

Stock SIG

2nd Thursday; 7:30 PM; WAP Office. (Morris Pelham who chairs StockSIG is Sysop of the Investment/StockSIG board on the TCS. Contact him on that board.)

Telecomm SIG

Call SIG chair for times & locations.

WAP Garage Sale— December 9, 2000

WAP General Meeting

4th Saturday; 9:00 AM; Northern Virginia Community College, Annandale Campus, Community Cultural Center Auditorium.

Women's SIG

At the Pi Office at 6:00 PM dinner (\$2) followed by 7:00 PM meeting/presentation. Call SIG chair or office for next meeting.

Notice: Plans change! Anyone with calendar information please call the Calendar Editor, Bill Wydro (301) 299-5267 or Beth Medlin at the WAP Office (301) 984-0300.

Hotline—The hotline service is only for members of WAP. Please do not call after 9:00 pm or before 8:00 am.

Name	Telephone	Heading	Subjects	Name	Telephone	Heading	Subjects
Joan Jernigan	540-822-5137	General		Michael Hartman	301-942-3717	Programming	Pascal
Dan White	301-843-3287	General		Charles Schindler	410-437-4624	Spreadsheets	Excel
Dick Grosbier	301-898-5461	General		Lloyd Olson	410-544-1087	Spreadsheets	Excel
Russell Robinson	301-739-6030	General		Wait Francis	202-966-5742	Spreadsheets	General
Eric Seidel	540-667-5289	General	Networking	Roger Burt	301-424-6927	Spreadsheet/Chart	ClarisWorks
Eric Seidel	540-667-5289	General	Hardware	Bob Wilbur	703-426-0556	Spreadsheet	ClarisWorks
Robert Sambolin	203-853-2512	General Repairs	Older Mac through SE30	Dave Jernigan	540-822-5137	Spreadsheet	ClarisWorks
Neil Laubenthal	703-691-1360	General		Mark Pankin	703-524-0937	Spreadsheet/Chart	Excel
Tom Cavanaugh	301-627-8889	General		Dick Byrd	703-978-3440	Spreadsheet/Chart	Excel
Tom DeMay	410-461-1798	General		Mort Greene	703-522-8743	Spreadsheet/Chart	Excel
Tom Witte	703-683-5871	General		Rick Shaddock	202-321-2110	Spreadsheet/Chart	Excel
Bob Wilbur	703-426-0556	General		Tom Cavanaugh	301-627-8889	Spreadsheet/Chart	Excel
Jim Kelly	301-926-2949	General	Applescript	Bill Waring	410-647-5605	System	General Mac Help
Henry Miller-Jones	703-478-3721	Answering Syst.	Mac Commcenter, FAXciliate, GV	Lloyd Olson	410-544-1087	System	Mac OS
Henry Miller-Jones	703-478-3721	General	Fax Software	Neil Laubenthal	703-691-1360	System	Mac OS Modems General
Joan Jernigan	540-822-5137	Hypermedia	HyperStudio	Henry Miller-Jones	703-478-3721	System	Mac OS
Jerry Iler	410-987-5432	Ilsi	General	Bernie Benson	301-951-5294	Telecomm.	Modems Hayes Smartmodem
Bill Geiger	703-237-3614	Integ. Packages	ClarisWorks	Henry Miller-Jones	703-478-3721	Telecomm.	ProTerm
Sandy Kowalczyk	410-268-3149	Integ. Packages	ClarisWorks	Henry Miller-Jones	703-478-3721	Telecomm.	General
Ray Settle	410-647-9192	Integ. Packages	Clarisworks	Henry Miller-Jones	703-478-3721	Telecomm.	MacTCP, Free PPP
Henry Miller-Jones	703-478-3721	Integ. Packages	ClarisWorks	Dave Jernigan	540-822-5137	Utilities	Conflict Catcher, Retrospect, Stuffit Deluxe, Tech Tools
Joan Jernigan	540-822-5137	Integ. Packages	ClarisWorks	Henry Miller-Jones	703-478-3721	Utilities	General
Jim Ritz	301-770-1405	Integ. Packages	MSWorks	Jaque Davison	703-644-7354	Virtual Reality	Alien Skin Texture Shop
Ray Settle	410-647-9192	Integ. Packages	MSWorks	Jaque Davison	703-644-7354	Virtual Reality	Bryce 2
Tim Childers	410-997-0066	Integ. Packages	MSWorks	Jaque Davison	703-644-7354	Virtual Reality	Specular Logomotion
Dave Weikert	301-963-0063	MacDisketeria	Disk Library	Jaque Davison	703-644-7354	Virtual Reality	Virtus - 3-D
Dave Jernigan	540-822-5137	Mail List Manager	My Mail List Manager	Jaque Davison	703-644-7354	Virtual Reality	Virtus Walkthrough Pro
Mort Greene	703-522-8743	Miscellaneous	File Transfer & Backfax	Dave Jernigan	540-822-5137	Word Processing	Word Perfect
Sandy Kowalczyk	410-268-3149	Miscellaneous	HyperCard	Charles Schindler	410-437-4624	Word Processing	WordPerfect
Blake Lange	301-942-9180	Miscellaneous	Hypercard	Eric Grupp	410-315-8331	Word Processing	WordPerfect
Tom Witte	703-683-5871	Miscellaneous	Hypertalk	Bob Wilbur	703-426-0556	Word Processing	WordPerfect
Jeff Dillon	301-434-0405	Miscellaneous	MX-80	Wait Francis	202-966-5742	Word Processing	General
Dave Jernigan	540-822-5137	Miscellaneous	Online Bible Mac	Tim Childers	410-997-0066	Word Processing	Hebrew
Dave Jernigan	540-822-5137	Miscellaneous	Soft Windows Mac	Tom Cavanaugh	301-627-8889	Word Processing	MS Word
Rick Chapman	301-989-9708	Miscellaneous	Hypercard	Joan Jernigan	540-822-5137	Word Processors	ClarisWorks
Tom Witte	703-683-5871	Miscellaneous	Hypercard	Dave Jernigan	540-822-5137	Word Processors	Word Perfect
Peter Combes	301-445-3930	Multi Media	Director	Henry Miller-Jones	703-478-3721	WWW	Netscape Navigator
Peter Combes	301-445-3930	Multi Media	Language	Craig Contardi	410-796-4562		WWW Netscape Navigator
Mort Greene	703-522-8743	Multimedia	Image Studio	Macintosh & Apple			
Mort Greene	703-522-8743	Multimedia	Macro Mind Director	Ginny Spevak	202-244-8644	Miscellaneous	Dvorak Keyboard
Stuart Bonwit	301-598-2510	Multimedia	Quicktime	Mike Spevak	202-244-8644	Miscellaneous	Dvorak Keyboard
Tom Witte	703-683-5871	Multimedia	Quicktime	Bob Sherman	305-944-2111	Telecomm.	General
Mort Greene	703-522-8743	Multimedia	Video Works	Dale Smith	301-294-2287	Telecomm.	General
Joan Jernigan	540-822-5137	Multimedia	HyperStudio	John Barnes	301-652-0667	Telecom	AOL
Frank PappaJohn	703-922-3851	Music Notation	Finale	Dale Smith	301-294-2287	Telecomm.	TCS
Henry Miller-Jones	703-478-3721	Networking	AppleTalk	Nancy Seferian	202-333-0128	Telecomm.	TCS
Jerry Iler	410-987-5432	Older Claris	Genera	Paul Schlosser	301-831-9168	Telecomm.	TCS
Henry Miller-Jones	703-478-3721	Online Services	AOL, CISI	David Harris	703-845-1331	Telecomm.	TCS
Jerry Iler	410-987-5432	PB180C	General	Networking			
Lester Morcerf	410-987-0685	Performa 550	General	Douglas Ferris	301-924-4180	Networking	Novel
Tho. Snowberger	410-757-4656	Performa System	General	Douglas Ferris	301-924-4180	Networking	Windows
Rick Shaddock	202-321-2110	Pers.Contact Mgr.	ACT	Dave Weikert	301-963-0063	Networking	Mac/AppleShare
Mel Benson	410-647-6873	Personal Finance	Dollars & Sense				
Bill Geiger	703-237-3614	Personal Finance	Manage Your Money				
Mel Benson	410-647-6873	Personal Finance	Manage Your Money				
Clarence Goldberg	410-263-5189	Personal Finance	Quicken				
Henry Miller-Jones	703-478-3721	Personal Finance	Quicken				
Bob Wilbur	703-426-0556	Personal Finance	Quicken				
Tom Cavanaugh	301-627-8889	Printers	General				
Wait Francis	202-966-5742	Printers	General				
Michael Hartman	301-942-3717	Programming	C				
Michael Hartman	301-942-3717	Programming	General				
Harry Erwin	703-758-9660	Programming	General (e-mail at herwin@gmu.edu)				
Joshua Juran	301-231-8622	Programming	Perl, C, C++, Pascal				

We're updating the hotline!!

To have any changes or additions made, simply call the office during normal business hours or send the information via e-mail to Jim Ritz at <jim.ritz@tcs.wap.org>.

Let us know if any of this information is incorrect. Thanks.

Telecommunications Help Sheet

A quick reference sheet for use while on the TCS

TCS Phone Numbers:

- 301-984-4066
(for 300, 1200, 2400 bps)
- 301-984-4070
(for 9600, 14400, 28800 bps)

Main Menu

- Bulletin Boards
- <C> Change Conferences
- <E> E-Mail
- <F> File Transfer
- <L> General Library
- <M> Membership Search
- <N> Now On System
- <O> Off the System
- <P> Public Library
- <T> Time and Date
- <U> User Preferences
- <W> Read Welcome Bulletin
- <X> eXamine Weather Forecast

File Transfer Menu

- <A> Adjust Pointers
- <G> Global Read New Descs
- <L> List All Available Areas
- <N> New File Descriptions
- <O> Off the System
- <Q> Quit to Main Menu
- <R> Read All New Descs
- <Z> Zelect File Areas

File Area Menu

- <A> Alphabetical List
- Batch Functions
- <C> Change File Area
- <D> Download a File
- <F> Find File Descriptions
- <H> Help With File Transfer
- <I> Info on File Contents
- <L> List All Files
- <M> Mark Files for Downloading
- <O> Off the System
- <Q> Quit to Main Menu
- <R> Read File Descriptions
- <T> TitleScan Descriptions
- <U> Upload a File or Files
- <W> Welcome Bulletin

Editor Menu

- <A> Add to File
- <C> Clear File in Memory
- <D> Delete a line from File (#)
- <E> Edit a Line (#)
- <F> Find a String
- <G> Global Search & Replace
- <I> Insert Lines into File (#)
- <L> List the File (#)
- <M> Toggle Reply Mode
- <N> Line Numbering Mode On/Off
- <P> Purge Temporary File
- <Q> Quit - Clear File & Exit
- <R> Read back from Temporary File
- <S> Save File and Exit Editor
- <T> Write File to Temporary File
- <U> Upload Mode Toggle (No Reply Mode)
- <V> View Temporary File
- <X> Exchange a String within line (#)
- <"> Modify Reply Mode Characters

Change Conference Menu

- <1-8> ... Choose Conference Number
- <L> List Conferences Available
- <Q> Quit to Main Menu
- <1> General Conference
- <2> Apple II Conference
- <3> Macintosh Conference
- <4> Classified Conference
- <5> Global General Conference
- <6> Global Apple II Conference
- <7> Global Macintosh Conference
- <8> Global Miscellany Conference

Conference Menu

- <A> Adjust Pointers

- <C> Change Conference
- <G> Global Read All New Msgs
- <L> List All Available Boards
- <O> Off the System
- <Q> Quit to Main Menu
- <R> Read All New Msgs
- <W> Welcome Bulletin
- <X> Xfer All New Msgs
- <Z> Zelect Boards of Interest

Bulletin Board Menu

- <A> Alter/Edit an Existing Message
- Blind Reply to a Msg by Number
- <C> Change Boards
- <D> Delete Msg From or To You
- <E> Enter a Message
- <F> Find Message by Keyword
- <L> Library for this Board
- <O> Off the System
- <Q> Quit to Main Menu
- <R> Read a Msg or Msgs
- <S> Scan Message Headers
- <T> TitleScan Msg Headers
- <W> Welcome Bulletin for Board
- <X> Xfer (Download) a Msg or Msgs

User Preferences

- <A> Alter Password
- <E> Emulation Mode
- <F> File Transfer Protocol
- <P> Prompt Character
- <Q> Quit to Main Menu
- <R> Reply Mode Prefix
- <V> Video Length
- <X> Expert/Novice Prompts
- <Y> Your Current Status

Electronic Mail Menu

- Blind Reply to a Letter
- <D> Delete Letters
- <E> Enter a Letter
- <F> Find Letters
- <H> Help/Brief Tutorial
- <I> Info on Letters
- <K> Keep Letters
- <L> List Letters
- <O> Off the System
- <Q> Quit to Main Menu
- <R> Read Letters
- <S> Scan Headers of Letters
- <T> TitleScan Letters
- <X> Xfer (Download) Letters

Please see page 50 for TCS Help Hotline phone numbers.



Macintosh Tutorials

General Level Classes

Mouse Mousse - (Part 1 of 5 Part New User Set)

Your new pet needs care and training. This two hour class with one hour lab session will teach you how to tame the little beast! Tricks such as clicking, double clicking, pointing and dragging will be taught along with hints for care and feeding. If you own an iBook and would like to use that during the class, please bring it to class with you. This class may be retaken for free by members if further training is needed.

Prerequisite: None.

Number of Sessions: One (2 hours of class time and 1 hour of lab time)

Price: Standard Members: \$35.00, Associate Members: \$50.00, Non-Members: \$50.00

Instructor: Pat Fauquet, Jim Ritz
11/6/00 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm
12/4/00 - 1 pm - 3 pm and Lab from 3 pm - 4 pm
1/16/01 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm

Write It! - Save It! - Print It! - (Part 2 of 5 Part New User Set)

This introductory class will focus on using AppleWorks to write, print, and save your first computer documents. Write It! will include elementary text formatting skills. Save It! will help you learn to save documents in a central location and then find them again. Print It! will help you set up your printer, preview your document, make choices about color, and paper quality.

Prerequisite: None.

Number of Sessions: One (2 hours of class time and 1 hour of lab time)

Price: Standard Members: \$35.00, Associate Members: \$50.00, Non-Members: \$50.00

Instructor: Pat Fauquet, Jim Ritz
11/7/00 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm
12/5/00 - 1 pm - 3 pm and Lab from 3 pm - 4 pm
1/17/01 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm

Finding Your Way Around the Finder - (Part 3 of 5 Part New User Set)

Your computer desktop fills with windows and icons quickly! Learn the secrets of the Finder to deal with them!

Prerequisite: None.

Number of Sessions: One (2 hours of class time and 1 hour of lab time)

Price: Standard Members: \$35.00, Associate Members: \$50.00, Non-Members: \$50.00

Instructor: Pat Fauquet, Jim Ritz
11/8/00 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm
12/6/00 - 1 pm - 3 pm and Lab from 3 pm - 4 pm
1/18/01 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm

Surfing 101 - (Part 4 of 5 Part New User Set)

Learn how to catch your first Internet wave! This class will give an introduction to the browser window, show you some great Internet sites, teach you how to make bookmarks to find your way back and send your first email messages.

Prerequisite: None.

Number of Sessions: One (2 hours of

class time and 1 hour of lab time)

Price: Standard Members: \$35.00, Associate Members: \$50.00, Non-Members: \$50.00

Instructor: Pat Fauquet, Jim Ritz
11/9/00 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm
12/7/00 - 1 pm - 3 pm and Lab from 3 pm - 4 pm
1/19/01 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm

Simplify Your Computer Life - (Part 5 of 5 Part New User Set)

Are you tired of having to open so many folders to get to AppleWorks or the Internet? Do you save things only to lose them? Can you throw something away when the trash can is covered? This class will teach you how to make your computer easier to use!

Prerequisite: None.

Number of Sessions: One (2 hours of class time and 1 hour of lab time)

Price: Standard Members: \$35.00, Associate Members: \$50.00, Non-Members: \$50.00

Instructor: Pat Fauquet, Jim Ritz
11/10/00 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm
12/11/00 - 1 pm - 3 pm and Lab from 3 pm - 4 pm
1/22/01 - 9:30 am - 11:30 am and Lab from 11:30 am - 12:30 pm

Brush Up Your Mac Skills

This class is meant for the new user as well as the user who has just upgraded to a new computer and wants to learn more about the basic operation of the Macintosh. This class is also recommended for Macintosh owners who are new to Mac OS 8.0 and above or those who have never really learned all the things that the Mac OS has to offer to the computer user. In addition to start up, sleep and shutdown procedures, the student will learn how a computer works and common Macintosh terminology. The Finder and its basic operation will be fully covered. This discussion will include the menu bar, Apple menu



and the Application Switcher. Students will learn how to access and use the built-in help application on the Macintosh. Error messages, dialog boxes, icons, folders, and view options will be discussed. You will learn the basics of word processing and text formatting. Copying, cutting, pasting, dragging and dropping will also be covered. Basic system and mouse maintenance will be included. The fundamentals of searching for files will also be covered.

Prerequisite: None.

Number of Sessions: Two.

Price: Standard Members: \$70.00, Associate Members: \$100.00, Non-Members: \$100.00

Instructor: Pat Fauquet, Jim Ritz and Cordell Ratner

11/14/00 and 11/16/00 - 9:30 am - 12:30 pm each day

12/12/00 and 12/14/00 - 1 pm - 4 pm each day

1/9/01 and 1/18/01 - 9:30 am - 12:30 pm each day

Ride the Internet Wave

This three hour class, intended for users of all Internet browsers, will introduce you to the World Wide Web. Learn what the various buttons on the browser window do. Learn to customize the browser window to meet your visual needs. Learn how an Internet address works and how to deal with error messages that appear. You will learn how to use Sherlock, search engines, directories and metasearch sites to find the information you seek. Learn how to capture pictures and text from the Internet and how it print web pages. This class is appropriate for all users of the Internet including America Online customers. It is suggested that all participants enroll in one of the e-mail courses to complete their introduction to the Internet.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$35.00,

Associate Members: \$50.00, Non-Members: \$50.00

Instructor: Pat Fauquet, Jim Ritz

11/14/00- 1 pm - 4 pm

12/12/00 - 9:30 am - 12:30 pm

1/9/01- 1 pm - 4 pm

Introduction to AppleWorks

This class will introduce the student to the integrated software package known as AppleWorks. The course will begin with an introduction to the fundamentals of the AppleWorks environment: the window layout, the help menu, and the universal commands. Each of the six modules (Text, Draw, Paint, Spreadsheet, Database, and Communications) will be treated separately but the emphasis will be on text and draw documents. The course will conclude with an examination of some basic integrated applications.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$35.00, Associate Members: \$50.00, Non-Members: \$50.00.

Instructor: Pat Fauquet and Jim Ritz

11/30/00 - 1 pm - 4 pm

12/21/00 - 9:30 am - 12:30 pm

1/25/01 - 1 pm - 4 pm

Web Pages Fast and Easy

Want a web page, but don't want to have to buy new software, learn HTML, learn about FTP, and find a page host? Let Apple do it for you! In this three hour class you can make a web page and publish it on the web! Use that page to show off family pictures or items you want to sell on eBay, post a family newsletter, put your resume online for all to see, post an invitation to a party or even make a place to share files with other people. This class works best for people using Mac OS 9, but instructions will be given that will allow users of Mac OS 8 to also use the iDisk. Bring a few photos to scan and leave with your pages on the Web!

Prerequisite: 5 Part New User Set or

Brush Up Your Mac Skills

Number of Sessions: One

Price: Standard Members: \$35.00, Associate Members: \$50.00, Non-Members: \$50.00.

Instructor: Pat Fauquet

11/9/00 - 1 pm - 4 pm

12/7/00 - 9:30 am - 12:30 pm

1/19/01- 1 pm - 4 pm

Introduction to Digital Video Cameras—Finding the Right Camcorder

When you shop for a camcorder, the choices among features can seem overwhelming. This class will help you choose the right camera for your needs. Features such as automated controls, media format, image stabilization, low light shooting, batteries and accessories will be discussed. We will also discuss places to shop and how to get good prices on cameras, batteries and accessories.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

Price: Standard Members: \$35.00, Associate Members: \$50.00, Non-Members: \$50.00.

Instructor: Pat Fauquet

11/15/00 - 1 pm - 4 pm

12/13/00 - 9:30 am - 12:30 pm

Medium Level Classes

The Mac—Digging a Little Deeper

The Mac—Digging a Little Deeper will follow up on the concepts taught in Brush Up Your Mac Skills. You will learn more advanced Macintosh skills and terminology including contextual menus and advanced Finder options, the custom installation of software and updating software applications. Students will learn about memory error messages and how to deal with them. Hard drive organization, archiving and backup strategies will be discussed. An introduction to managing system extensions and control panels will be covered along with virus protection, system enhancements



and Macintosh “housekeeping” philosophies. Students will learn how to use Disk First Aid, how to deal with system crashes and what causes them. They will also learn to use Sherlock to find files on the computer, to find text phrases in saved data, and to find items on the Internet.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: Two

Price: Standard Members: \$100.00, Associate Members: \$150.00, Non-Members: \$150.00

Instructor: Pat Fauquet, Jim Ritz and Cordel Ratner

11/28/00 and 11/30/00- 9:30 am - 12:30 pm each day

12/19/00 and 12/21/00- 1 pm - 4 pm each day

1/23/01 and 1/25/01- 9:30 am - 12:30 pm each day

Making your Mac Sing

Making your Mac Sing will follow up on the concepts taught in The Mac—Digging a Little Deeper. In this hands-on class students will learn how to back up the essential data and settings files, then how to install, update and upgrade system software. They will learn the difference between clean and dirty system installations and when to use them. They will learn how to remove installed software, manage system conflicts, and troubleshoot crashes. Software such as Norton Utilities, Tech Tool Pro, Conflict Catcher, Spring Cleaning, and Disk Warrior will be demonstrated and used to fix computer problems. Hard drive initialization, partitioning, defragmentation and optimization will be discussed and demonstrated. Students are encouraged to bring their Macs to use in class to actually troubleshoot and update their own computers. iMac owners should bring their computer, keyboard and mouse. All others should bring only their CPU and modem. If students own Zip drives or Super Drives they should also bring those to back up important data.

Prerequisite: The Mac—Digging a Little Deeper

Number of Sessions: Two

Price: Standard Members: \$100.00 Associate Members: \$150.00, Non-Members: \$150.00

Instructor: Pat Fauquet and Jim Ritz
Call Office for Dates

iVisit iMac

Take a working tour of the software included on the iMac.

This two part, six hour class will introduce the various pieces of software included with the iMac. Students will learn how use the assistants and templates included with AppleWorks to perform tasks such as writing a letter, making a computer address book, flyer or certificate, and printing an envelope. They will learn how to send and receive a fax from their iMac and begin using Quicken to balance their checkbook. They will learn how to make a favorites list in Internet Explorer, use the address book and send a file to someone using Outlook Express. They will also learn how to install and look up items in the World Book Encyclopedia, and to make a personalized start page on their computer. Strategies to win with Nanosaur and protect children with the EdView Internet Safety kit will also be shown. This class now includes the new Kid Pix Deluxe, a children’s graphics and animation program.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: Two

Price: Standard Members: \$100.00, Associate Members: \$150.00, Non-Members: \$150.00

Instructor: Pat Fauquet and Jim Ritz
Call Office for other Dates

Networks and Networking - What does it all mean?

AirPorts, Ethernet, Router, Hub, Server, Appletalk, LAN, WAN, etc. Do you want to have a better understanding of just what all of this means

and how it works? If you do then this class is for you. This class will be a discussion of all these different topics as well as just how to create a network. Come learn the possibilities offered by the Macintosh platform to share not only printers, but also files, applications and even modems between two or more computers. Learn about the built in networking software in every Macintosh and various hardware and software options available to do even more. This class will cover AppleTalk and PhoneNet connectors, - switch boxes, serial port expanders, USB ports and hubs, ethernet, cards and transceivers. Hubs, routers and servers will also be discussed. Learn how to install network cabling without tearing down all the walls and learn how to determine what kind of cable to buy and how to put the connectors on the cables.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00.

Instructor: Pat Fauquet

11/1/00 - 9:30 am - 12:30 pm

12/1/00 - 1 pm - 4 pm

E-mail with Netscape Communicator

This class will deal specifically with the e-mail capabilities of Netscape Communicator. Students will learn how to send, receive, reply to and forward email. They will learn how to save mail into folders, how to use and manage the address books and how to send mail to groups of people. They will learn how to attach files to e-mail messages and how to deal with the attached files that they receive. Students will also learn where their email and address books are stored and how to back them up.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00,



Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet, Jim Ritz

11/28/00 - 1 pm - 4 pm

12/19/00 - 9:30 am - 12:30 pm

1/23/01 - 1 pm - 4 pm

E-mail with Microsoft Outlook Express

This class will deal specifically with Microsoft's Outlook Express e-mail application. Students will learn how to send, receive, reply to and forward email. They will learn how to save mail into folders, how to use and manage the address books and how to send mail to groups of people. They will learn how to attach files to e-mail messages and how to deal with the attached files that they receive. Students will also learn where their email and address books are stored and how to back them up.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet

Call Office for Dates

E-mail with America Online

This class will deal specifically with the e-mail capabilities of America Online. Students will learn how to send, receive, reply to and forward email. They will learn how to save mail into folders, how to use and manage the address books and how to send mail to groups of people. They will learn how to attach files to e-mail messages and how to deal with the attached files that they receive. Students will also learn where their email and address books are stored and how to back them up.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet

Call Office for Dates

Downloading, Installing and Using Files and Software From the Internet and from CD-Rom's.

Learn how to find files and software on the Internet. Learn how download them, how to install and use them. Learn about Macintosh viruses, and how to combat them. This one ses-

sion class is intended for students who have completed Ride the Internet Wave and an e-mail class and who want to learn more about the various software resources that are available on the Internet. These will include software, fonts, Sherlock and contextual menu plug-ins, Applescripts, and system resources.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Some Specifics

Who Standard members are those who have paid the standard membership dues and includes all family members living within the household of a standard member. Associate members are those who have only paid the associate membership dues.

What The tutorial program of Washington Apple Pi is hands-on training for our members in the use of Macintosh computers. The tutorial room is furnished with computers so that each student has the use of a computer during class.

When Classes are held each month at different times. Since the listing of classes in this Journal was done months in advance please check the web site at <http://www.wap.org/classes/> for any changes or updates to the class calendar.

Where Unless otherwise stated, all tutorials sponsored by Washington Apple Pi are given at the office located at 12022 Parklawn Drive in Rockville, Maryland. A map to the office may be found on the web site at <http://www.wap.org/info/about/officemap.html>.

How To register for a class please call the Office during normal business hours. If you would like to inquire about a class and the office is not open, please send email with the classes you wish to know about along with a daytime phone number were the office may reach you to the email address of office@wap.org. The office will get back to you either by email or by telephone.

Fees Class fees vary due to the level of the class. Please see the specific class description for the fee for that class. Pre-registration and Pre-Payment must be made to hold a seat.

Class Size Class size is limited to 6 students per class.

Instructor Cancellation If a class is canceled by the instructor, all students will be notified of the cancellation. Please check your home answering machine if you have not given a work number for notification.

Student Cancellation A student cancellation must be received 72 hours prior to the scheduled class time. Student Cancellations may only be made via telephone during Washington Apple Pi's business hours or via email to the email address of office@wap.org. The office does not have an answering machine - only an announcement machine.

**Number of Sessions:** One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet, Jim Ritz

11/16/00 - 1 pm - 4 pm

12/14/00 - 9:30 am - 12:30 pm

1/11/01 - 1 pm - 4 pm

We Need a Picture Here

Calling all people who don't want to be graphic professionals, but who would like to be able to put Photos, Clip Art, Draw, Paint, Vector, and Bitmap into an email, flyer or newsletter. In this three hour class students will be introduced the secrets of drawing and paint programs for the computer. They will learn how to use graphics from computer programs, clip art CDs and the Web to enhance their documents. They will learn how to re-size and re-color graphics that are "just about right" to make them "just right." Elementary retouching of photos will also be covered.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet

11/10/00 - 1 pm - 4 pm

12/11/00 - 9:30 am - 12:30 pm

1/22/00- 1 pm - 4 pm

AppleWorks and Newsletters

Learn how to use the newsletter assistant in AppleWorks to easily produce newsletters for a variety of audiences. In this class participants will produce a basic newsletter, then learn how to use the Mac OS stationery pad function to speed the production of future newsletters. Basics of graphic design, layout, typography, writing style and suggestions for economical reproduction will also be covered. This class is not an introduction to AppleWorks.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills. In addition

Introduction to AppleWorks class or a good working knowledge of another word processing application is suggested before attending this class.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00.

Instructor: Pat Fauquet

Call Office for Dates

AppleWorks Advanced

In this class we will take AppleWorks to a new level! Learn how to make easy outlines, lists, and check-off charts. Make great slide shows and presentations right in AppleWorks. Learn how to dress up charts and graphs, how to make specialized dictionaries, and how to have AppleWorks read to you! Learn the secrets of stationary files, how to make your own AppleWorks libraries store not only pictures, but also frequently used text strings. Learn how to write personalized form letters and how to do special layouts for newsletters. Many of the projects included will be using the capabilities of AppleWorks. Students will receive templates, stationary files and handouts to take home. If you have any feature of the program that you would like covered in particular, please mention it when you sign up.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills and Introduction to AppleWorks or a good knowledge of the basics of AppleWorks.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00.

Instructor: Pat Fauquet

Call Office for Dates

Introduction to FileMaker Pro

This course covers what a database is, database terms, how to plan a database, and create database fields and layouts. Searching, sorting, printing and editing information in a database

will also be covered.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00.

Instructor: Pat Fauquet, Jim Ritz

11/2/00 - 1 pm - 4 pm

Introduction to Spreadsheets

This class will introduce basic spreadsheet concepts. Students will learn how to set up a spreadsheet, how to enter and edit numbers and words, how to enter basic formulas and make basic charts and graphs. They will learn how to sort data and how to print the whole spread sheet or only a portion of it. Students will use either the spreadsheet module of AppleWorks (ClarisWorks) or Excel. This class is not meant for persons who are intermediate or advanced users.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00.

Instructor: Jim Ritz

11/2/00 - 9:30 am - 12:30 pm

FileMaker Pro Clinic

This class is for those who have some experience with FileMaker Pro and are interested in asking questions and having specific problems discussed. The class will be a questions and answer format. You should bring along on floppy/zip a sample of things you would like help.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet

Call Office for Dates

Introduction to Scanners

Bring your scanner, the software,



manual and some photos to class and learn all about scanning. Learn to install the software and update it. Learn how to scan into programs like Adobe PhotoDeluxe, PhotoShop and Graphic Converter. Learn about the scanner controls such as resolution, brightness, contrast, sharpness and how to use them. Learn how to prepare a photo file to attach it to an e-mail message. Learn the secrets of OCR and when to use it. If you do not own a scanner, but are in the market for one, use one of the classroom scanners and get tips on which scanner will meet your needs.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet

11/6/00 - 1 pm - 4 pm

12/4/00 - 9:30 am - 12:30 pm

1/16/00- 1 pm - 4 pm

Introduction to Digital Cameras

Bring your digital camera and accessories to class and learn how to use it. Learn about media types, batteries, card readers, flash units, accessory filters and lenses and how to use them. Learn shooting and editing tips, how to print photos, how to attach them to e-mail, and how to put them on web pages. If you do not have a digital camera, come anyway and learn how to choose one. A variety of digital cameras will be available for student use during class.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet

11/8/00 - 1 pm - 4 pm

12/6/00 - 9:30 am - 12:30 pm

1/18/00- 1 pm - 4 pm

Improving Digital Photos and Scans

Now that you have scanned that photo, taken a picture with a digital camera, or had photo disks made, learn how to improve your photos using inexpensive programs like Adobe PhotoDeluxe and Graphic Converter. Learn to lighten, darken, crop, and combine pictures to make them ready for printing, emailing and putting them in web pages.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00

Instructor: Pat Fauquet

11/7/00 - 1 pm - 4 pm

12/5/00 - 9:30 am - 12:30 pm

1/17/01- 1 pm - 4 pm

Web Pages-The How To Dos

When your web page grows to more than two pages, its time to get organized!

Learn how web pages differ from printed documents, what you can and can't control in web page design. Learn how to organize your files to make it easier to update your pages. Learn how to register a domain, upload pages to a web server and how to get people to visit your site. Learn about graphic types and when to use them. This class replaces Web Page Workshop and is the prerequisite for all other web page classes at Washington Apple Pi.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00.

Instructor: Pat Fauquet

11/1/00 - 1 pm - 4 pm

12/1/00 - 9:30 am - 12:30 pm

Making Web Pages with Adobe PageMill or Claris HomePage

Learn how to make web pages, format the text, add pictures and link pages together. Learn about tables

and how to and use them. Learn about the site management features of these programs and how to upload your pages to the web server.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills along with Web Pages-The How To Dos or the permission of the instructor.

Number of Sessions: Two

Price: Standard Members: \$100.00, Associate Members: \$150.00, Non-Members: \$150.00.

Instructor: Pat Fauquet

11/3/00- 9:30 am - 4 pm

12/15/00- 9:30 am - 4 pm

Jazz Up Your Web page

In this all-day workshop students will learn how to make and prepare backgrounds, headlines, clip art, buttons, rules, dividers and animations for web pages. They will also learn how to construct graphic sets. Students will learn about the GIF, JPEG and PNG formats and when to use them. If you want to use these projects in an actual web page, please sign up for a web page class in addition to this class.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills along with Web Pages-The How To Dos or the permission of the instructor.

Number of Sessions: Two

Price: Standard Members: \$100.00, Associate Members: \$150.00, Non-Members: \$150.00.

Instructor: Pat Fauquet

11/13/00- 9:30 am - 4 pm

12/18/00- 9:30 am - 4 pm

iWant to make an iMovie!

Bring your digital video camera with some footage in it and learn how to make iMovies. Learn shooting tips, how to use the software, and what to do with completed movies. This is an introductory class and is intended for new users to the program. If you do not have a camera yet, come anyway and learn the basics on some stock footage. Three hours.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills



Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00.

Instructor: Pat Fauquet

11/15/00 - 9:30 am - 12:30 pm

12/13/00 - 1 pm - 4 pm

I've made an iMovie—Now What?

Bring your digital camera with a video you have begun to edit. Learn more about transitions, titling, adding audio tracks and saving your masterpieces. Learn what codecs to use, how to save to QuickTime formats for the web and how to burn your masterpieces to CD.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: Two

Price: Standard Members: \$100.00, Associate Members: \$150.00, Non-Members: \$150.00.

Instructor: Pat Fauquet

11/17/00 - 9:30 am - 4 pm

Microsoft Word for Office 98

This class will introduce the student to the fundamentals of the Microsoft Word for Office 98 word processing software package. The course is designed for those with very limited or no previous knowledge of Word. Topics that will be covered include: reviewing the screen elements of a basic new Word document (the standard and formatting toolbars and the menu bar); setting default options such as spell checking and document editing choices, default font selection that are applied to a basic document; creating, editing, saving and deleting a simple Word document; using the on line help function; simple formatting using tabs and setting margins; creating a simple table; and reviewing pre-defined templates such as the letter template that are included in Word.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Mem-

bers: \$75.00.

Instructor: Cordell Ratner

Call Office for Dates

Excel for Microsoft Office 98

This class will start by covering opening, saving and retrieving an Excel workbook, and then will discuss definitions of a workbook, a worksheet, and a cell. Next we will review the objects on a typical worksheet screen including those items on the menu bar, the standard toolbar, and the status bar. The student will then be assisted in creating a simple Excel worksheet that will be used to teach the concepts of entering, editing, formatting, and deleting data (text, number, time, date, and formula) in a cell, along with learning techniques on how to navigate within the worksheet and between worksheets. Other topics for which the student created worksheet will be used are for: inserting and manipulating rows and columns, creating basic formulas of addition, subtraction, multiplication and division in a worksheet using the function wizard, adding comments to a cell, using the fill command to enter a data series, making the screen easier to view using splitting and column header freezing techniques, adding, deleting and naming worksheets within a workbook, and creating headers and footers printing of selected cells and an entire workbook. Finally, we will create basic charts using pie and bar charts as examples, and will wrap up by discussing worksheet style techniques along with reviewing the set of workbook options in the tools menu.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One.

Price: Standard Members: \$50.00, Associate Members: \$75.00, Non-Members: \$75.00.

Instructor: Cordell Ratner

Call Office for Dates

Other Educational Opportunities

Apple Computer Inc.,
Reston, VA 703-264-5100 or
www.seminars.apple.com

EI—Training
703-683-7453
www.eecomunications.com

MacAcademy
800-527-1914
www.macacademy.com

Mac Business Solutions
301-330-4074 or
www.mbsdirect.com

Micro Center 703-204-8400
or www.microcenter-education.com

Piwowar & Associates 202-223-6813 or www.tjpa.com

Carol O'Connor 703-430-5881, graphicsss@ao.com

Higher level Classes

Coming soon —Adobe LiveMotion and DreamWeaver.

Adobe GoLive 1: Introduction

This class will cover the first three lessons in the Adobe GoLive Classroom in a Book. Students will learn to start a page, add and format text and pictures, use tables, and link pages together. They will learn about dynamic components, templates, and image maps. They will also learn elementary site management.

Prerequisite: Web Pages-The How To Dos OR Making Web Pages with



Adobe PageMill or Claris HomePage OR the permission of the instructor.

Number of Sessions: Two.

Price: Standard Members: \$150.00, Associate Members: \$250.00, Non-Members: \$250.00

Book Price: \$10.00 to be paid with class registration.

Instructor: Pat Fauquet
11/20/00- 9:30 am - 4 pm

Adobe GoLive 2: Frames, Animation and Site Management

This class will cover lessons four, five and eight in the Adobe GoLive Classroom in a Book. Students will learn how to build a web page using frames. They will learn how to use rollovers and floating boxes to add interest to their web pages. They will also learn how to use the site management tools in Adobe GoLive to convert old site and update sites easily.

Prerequisite: Adobe GoLive 1: An Introduction OR the permission of the instructor.

Number of Sessions: Two.

Price: Standard Members: \$150.00, Associate Members: \$250.00, Non-Members: \$250.00

Book Price: same book as for Adobe Go Live 1.

Instructor: Pat Fauquet
11/27/00- 9:30 am - 4 pm

Adobe GoLive 3: Editing QuickTime Content

Adobe GoLive has a great QuickTime editor built into the program. This class will cover its use in making and editing QuickTime movies. Instruction will also be given for how to add QuickTime VR scenes, panoramas, and objects to web pages

Prerequisite: Adobe GoLive 1: Introduction OR the permission of the instructor.

Number of Sessions: Two.

Price: Standard Members: \$150.00, Associate Members: \$250.00, Non-Members: \$250.00

Book Price: same book as for Adobe Go Live 1.

Instructor: Pat Fauquet
12/20/00- 9:30 am - 4 pm

QuickTime VR—Making a Panorama

They're showing up everywhere—tours of homes, museums, businesses

and scenic spots. Learn how to shoot a panorama, how to stitch one together, and what software and equipment is needed. This class will include the use of freeware shareware and commercial software. Students will use a range of digital cameras to produce several panoramas that will be stitched into tour with nodes linking the panoramas. Pan heads and leveling devices will be used and discussed. Adding panoramas to web pages will complete the day.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills along with Web Pages-The How To Dos or the permission of the instructor.

Number of Sessions: Two.

Price: Standard Members: \$150.00, Associate Members: \$250.00, Non-Members: \$250.00

Instructor: Pat Fauquet
11/21/00- 9:30 am - 4 pm

QuickTime VR—Making a Virtual Object

Imagine being able to manipulate a picture of a three dimensional object! Rotate it, turn it, bring it closer. Learn to produce object movies that can be

Washington Apple Pi Tutorial Registration Form

Washington Apple Pi
12022 Parklawn Drive
Rockville, MD 20852
301-984-0300

Name _____

Address _____

City/State/Zip _____

Phone (day) _____ (evening) _____

Member Number _____ Non-member _____

Number of Classes ____ x Class Fee \$ _____ = Total Fee \$ _____

Check/Money Order Visa/MasterCard

Card Number _____

Card Expiration _____ Signature _____

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placed on web pages. This class will include the use of freeware shareware and commercial software. Students will use a range of digital cameras to produce several VR objects. Adding these object movies to a web page will complete the class. This is a three hour class. -suggest it is offered at higher price level.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills along with Web Pages-The How To Dos or the permission of the instructor.

Number of Sessions: Two.

Price: Standard Members: \$150.00, Associate Members: \$250.00, Non-Members: \$250.00

Instructor: Pat Fauquet
11/29/00- 9:30 am - 4 pm

Beginner Final Cut Pro

This three hour beginning Final Cut Pro class is the jump off point for people who would like to start using this powerful program for making videos. Topic to be covered are listed below.

Hardware and Software Setup: System/Memory settings; Camera/Deck/Monitor connections; Scratch Disk setup; Final Cut Pro preferences.

Final Cut Pro — The Interface: Browser; Viewer; Timeline; Toolbar.

Logging and Capturing: Setting the log bin; Transport controls; Ins and outs of timecode; Selected capture; Handles.

Editing: Trimming clips; Keyboard shortcuts; Transitions; Dynamic previewing and rendering.

Titles: Title and action safe areas; Drop shadows.

Filters and Effects: Applying.

Audio: Importing from audio CD.

Final Output: Print to Video vs. recording from Timeline; Exporting QuickTime file.

Special Instructions: Students should bring their Digital Video Camera, cables and software with them to class.

Prerequisite: 5 Part New User Set or

Brush Up Your Mac Skills.

Number of Sessions: One.

Price: Standard Members: \$75.00, Associate Members: \$125.00, Non-Members: \$125.00

Instructor: Barrett Thomson
Call Office for Dates

Adobe Photoshop Part 1

Learn the basic fundamentals of Adobe Photoshop, the most widely used graphics program. Learn the proper way to configure the Photoshop preferences and how to use the tool, info, channel and color palettes. Also learn how to use each of Photoshop's tools, create new documents, define colors and manipulate text and images. Also covered will be the proper format to save your image in, and what compression will or won't do to your image.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$75.00, Associate Members: \$125.00, Non-Members: \$125.00

Book Price: \$10.00 to be paid with class registration.

Instructor: Paul Schlosser

11/8/00 - 6 pm - 9 pm

12/13/00 - 6 pm - 9 pm

1/10/01 - 6 pm - 9 pm

Adobe PhotoShop Part 2

Learn how to isolate different parts of an image or layers. Edit layers as discrete artwork with unlimited flexibility in composing and revising an image. Create more complex effects in your artwork using layer masks, clipping groups, and adjustment layers. This class includes both layer basics covered in the Photoshop tutorial and advanced layer techniques covered in the Classroom in a Book, Lesson 8.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills along with Adobe PhotoShop Part 1 or a knowledge of the topics covered in that class

Number of Sessions: One

Price: Standard Members: \$75.00,

Associate Members: \$125.00, Non-Members: \$125.00

Book Price: \$10.00 to be paid with class registration.

Instructor: Blake Lange

11/14/00 - 7 pm - 10 pm

12/19/00 - 7 pm - 10 pm

1/16/01 - 7 pm - 10 pm

Adobe InDesign 1

Work through a demonstration of Adobe InDesign providing an overview of the key features. Get to know the navigation features for using the drawing, layout, and editing capabilities. Learn the work area including the document window, the pasteboard, the toolbox, and the floating palettes. This class covers "A Quick Tour of Adobe InDesign" (the same as Chapter 1 in the User Guide) and "Lesson 1: Getting to Know the Work Area" from the Adobe Classroom in a Book.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$75.00, Associate Members: \$125.00, Non-Members: \$125.00

Book Price: \$10.00 to be paid with class registration.

Instructor: Blake Lange

1/30/01 - 7 pm - 10 pm

Adobe InDesign 2

Learn to use the tools for setting up pages to ensure a consistent page layout and to simplify your work. Learn how to set up master pages and use columns and guides. Work with frames to hold either text or graphics. Learn how InDesign gives you flexibility and control over your design. This class covers "Lesson 2: Setting Up Your Document" and "Lesson 3: Working with Frames" from the Adobe Classroom in a Book.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills along with Adobe InDesign 1 or a knowledge of the topics covered in that class.

Number of Sessions: One

Price: Standard Members: \$75.00,



Associate Members: \$125.00, Non-Members: \$125.00

Book Price: Same book as used with Adobe InDesign 1.

Instructor: Blake Lange
Call office for dates

Adobe Illustrator: Mastering the Bezier Curve

Illustrator has become so feature laden that current tutorials are just overviews of the product; they do not present the fundamental workings of the program in depth. The Bezier curve, otherwise known as a vector graphic, is the primary building block of Illustrator (and many other drawing programs). Mastering its use will fundamentally change your view of the power of the program. The way the Bezier curve works, however, may seem alien at first with its points and vectors, an approach to illustrating many find counter-intuitive. This class will start with creating and editing the simplest lines and curves and build up to the creation of complex illustrations. By the end of the class you should feel comfortable editing any illustration based on the Bezier curve, for example, all clip art that has the eps extension in its file name. This class serves as both a good introduction to the program and as a help for the more advanced user to become adept in its use.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$75.00, Associate Members: \$125.00, Non-Members: \$125.00

Book Price: \$10.00 to be paid with class registration.

Instructor: Blake Lange
11/28/00 - 7 pm - 10 pm

Introduction to Quark XPress

Learn the basic fundamentals of Quark Xpress, the most widely used page layout program. Learn the proper way to configure the Xpress preferences and how to use the tool,

measurement, color and documents palettes. You'll learn how to properly create new documents, define four-color process and spot colors, create master pages and manipulate text and graphic objects. Learn how to correctly use Xpress font and picture usage windows and how to configure the document for the laser printer or high-resolution imagesetter.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$75.00, Associate Members: \$125.00, Non-Members: \$125.00

Instructor: Paul Schlosser
Call Office for dates

Quark Xpress Clinic

This class is for those who have some experience with Quark Xpress and are interested in asking questions and having specific problems discussed. The class will be a question and answer format and you should bring along on floppy a sample of things for which you would like help. **Prerequisite:** Introduction to Quark XPress or a good working knowledge of QuarkXpress and its interface.

Number of Sessions: One

Price: Standard Members: \$75.00, Associate Members: \$125.00, Non-Members: \$125.00

Instructor: Paul Schlosser
Call Office for Dates

Introduction to PageMaker

Using the basic commands, tolls, and palettes, you will import, format, and position text and graphic elements needed to assemble a single-page, black and white flyer. This project will cover the following topics: Restoring default PageMaker settings. Changing the view of a publication. Creating a new publication. Opening an existing publication. Setting up the horizontal and vertical rulers. Displaying and hiding guides. Positioning the zero point. Using the pointer tool, the text tool, and the zoom tool.

Specifying multiple columns. Locking the guides. Creating, placing formatting, and positioning text and graphic elements. Creating a drop cap. Applying a tint to text. Specifying a hanging indent. Creating ruler guides. Drawing circles, rectangles, and lines. Adjusting the stacking order of elements on the page. Range kerning text. Using the Snap to Guides option.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

Price: Standard Members: \$75.00, Associate Members: \$125.00, Non-Members: \$125.00

Book Price: \$10.00 to be paid with class registration.

Instructor: Blake Lange
Call Office for Dates

PageMaker Clinic

This class is for those who have some experience with PageMaker and are interested in asking questions and having specific problems discussed. The class will be a questions and answer format and you should bring along on floppy a sample of things for which you would like help.

Prerequisite: 5 Part New User Set or Brush Up Your Mac Skills along with Introduction to PageMaker or a good knowledge of the basics of PageMaker and its interface.

Number of Sessions: One

Price: Standard Members: \$75.00, Associate Members: \$125.00, Non-Members: \$125.00

Book Price: Same book as used with Introduction to PageMaker.

Instructor: Blake Lange
Call office for dates



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Best of the TCS

compiled, annotated, and edited
by John O. Ludwigson

In a computer club, perhaps it's no surprise that people fall to discussing computers. Sometimes, however, the discussion can get fairly technical. This column is dedicated to, and presented especially for, the geekier folk among us.

Firewalls — A Necessity <sigh> of Life...

AlphaGeek: I said it was a matter of time. The SonicWall line now supports PPPoE*.

Geek2: I'm in the market for a firewall/router for my DSL connection that currently has 4 Macs connected via a 10BaseT hub. What is the Pi favorite or recommended firewall/router that one could use with a 10BaseT Hub? Or do they all come with multiple ports also?

Advice is greatly appreciated. A friend of mine also has Cable and wants to do the same thing. Mine is Fixed IP, his is DHCP.

AG: > What is the Pi favorites or recommended firewall/router that one could use with a 10BaseT Hub? Or do they all come with multiple ports also?

They all have at least two ports: the private (LAN) side and the public (WAN) side. Some are built around hubs or switches, in which case they have multiple LAN ports — but the

cost of a separate hub is insignificant for this purpose, being almost comparable to the shipping cost in some cases.

There's a good review of the SonicWall SOHO/10 in the Journal a few back. It's more expensive than the MacSense or Linksys "Internet sharing hubs", as well as being more flexible and more secure. At this point I'll take it on faith that they're all comparably easy to use now. At the time the Journal article was written, the SonicWall was a standout in price, security, and ease-of-use all separately and all at once. (Comparing favorably to a \$25K commercial firewall for high-volume business use, but being priced and engineered for home use.)

If getting your hands dirty doesn't bother you, and you have a spare 486 with two ethernet cards lying around, you might want to try setting up GNAT Box. That's a floppy disk image you can download (on your Mac, no less) and boot on the PC to use that hardware to perform most of the SonicWall's functions plus a few unique technical stunts of its own.

Somebody please capture this thread. We haven't had this discussion in a few months, because I had a series of tantrums about our doing it once a week. :) Hopefully there's some middle ground, and we can capture the best parts and direct new people to archives somewhere. It's a sad fact: every member will be interested in this topic exactly once — and they'll

ignore it until then.

G2: Thanks for the feedback on the firewalls. Coincidentally, I do have a 486 lying around, I am looking for a place to donate it - if anyone knows of a place, please let me know.

I am planning on just using one of your suggestions only due to space at the house.

Geek3: Have a family that would love to have any type of computer..

Their son is in high school and the school has windoze...

Please call or leave msg. here...[phone number deleted]

G2: (sorry to be taking up the bandwidth on this board) Where should I go from here to donate more equipment to the Pi, or charitable organizations, etc.

Can you email me....? I am leaving for the beach on Saturday and would very much like to give away this 486 computer - works fine last time I checked.

Can you pick it up tomorrow or Friday?

I also have some IIs's, IIX, and LaserWriter II's that may need a little work - all for the cost of the gas to come get them.

email me if you are interested or know of someone who could use these items.

Geek4: >in the market for a firewall/router for my DSL connection There has been a lengthy discuss on of this on Deal-Mac.com and today's list a deal on what I think was one of the more popular switchers for this at ~\$100 something. (<\$200)

washington Apple pi general meetings

9-11 a m

Northern Virginia Comm. College
Community & Cultural Center Aud.
8333 Little River Turnpike
Annandale, VA

November
TBA
Nov. 25, 2000

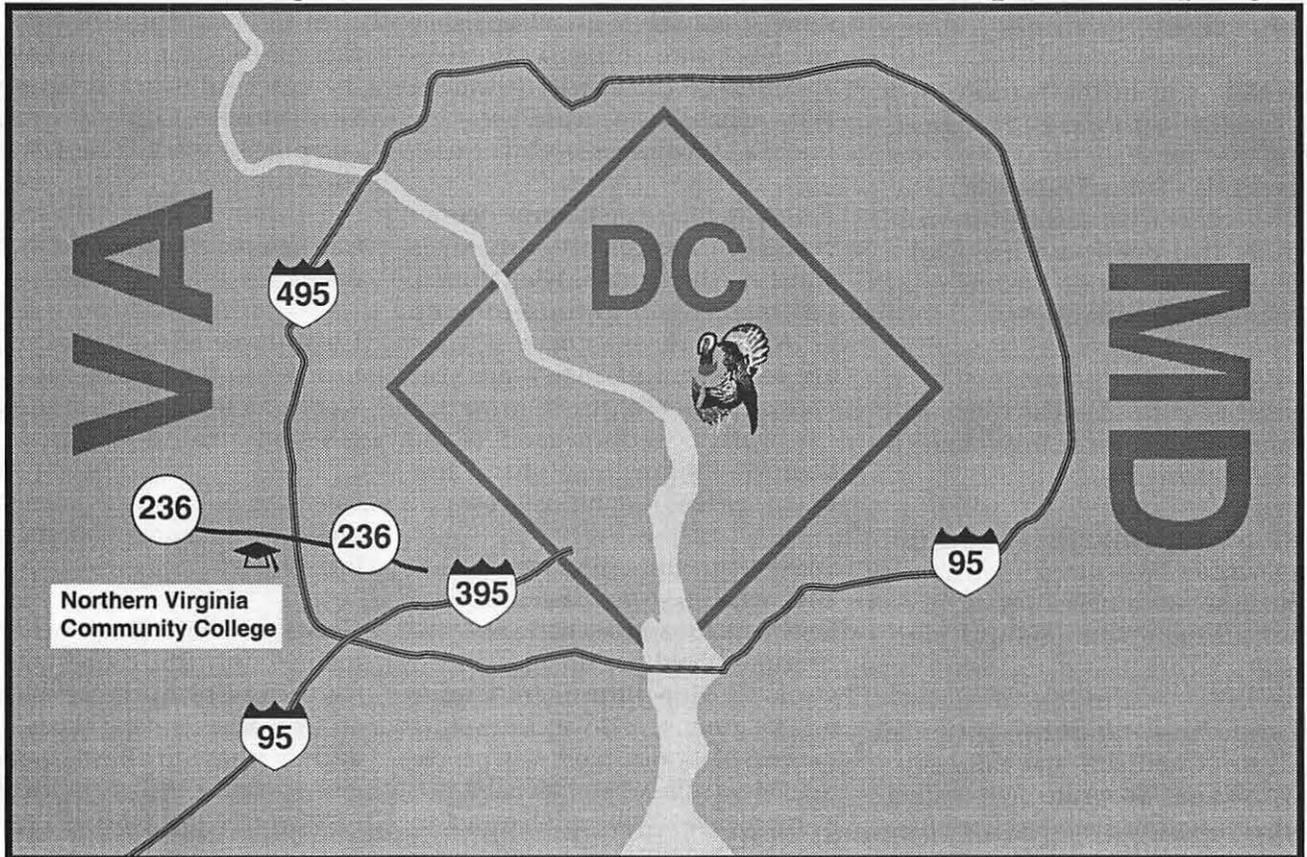
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Toward a new century with
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For schedule changes check the TCS or the Pi's Website at <http://www.wap.org/>



Geek5: I'll reply to myself . . . but note the slightly changed subject line so this is really a new question. I signed up for SpeakEasy today . . . decided to go with the basic package with dynamic IP as I currently don't need a static IP or roaming access. I can upgrade later if I need to.

I'm currently running IPNetRouter on my file server to route on my internal network from a 56K modem using the non-internet routable 192.168.0.x IP range. With full time access; this provides an obviously insufficient level of security so I need to do something else. I've listed the solutions below as culled from watching the TCS for years and soaking up all the varied experiences here. I wanted to make sure there aren't any solutions I've missed . . . I want to provide adequate security at the lowest price.

Starting from the most expensive solution:

Sonicwall SOHO: About \$400 from buy.com . . . although it may be slightly cheaper elsewhere. Pros: This is a real firewall with all the real firewall capabilities as well as NAT and DHCP. Clearly the most secure.

MacSense XRouter Pro: About \$170. Only provides NAT services; depends mostly on non-routable IP range for internal network for protection. I am currently using ASIP Pro with TCP/IP connections on the network for maximum AppleShare throughput.

IPNetRouter: About \$35 for a second NIC for whatever machine is running IPNR. My gut tells me that if I take this route I should not run IPNR (even with a second NIC) on my file server. I have a PowerCenter 132 under the desk that can easily be converted to an IPNR firewall/router and sit between the DSL modem and the network hub. Pros: IPNR when setup as a firewall provides pretty good se-

curity as I understand things but means another box is running.

Linux: I can take the Powercenter 132, install Linux, and run routed for routing and some Linux firewall package with a second ethernet interface costing the same as the IPNR solution. Cons: I don't know that much about Unix . . . and although I could set it up I am not sure I can adequately maintain the firewall for new attacks, known security holes, etc. I don't want to spend lots of time maintaining a firewall . . . so this seems like a poor choice based on man hours spend maintaining things.

So . . . what to do? I will pretty much only run Macs behind whatever I do . . . the occasional VPC session but I don't have much current need to put up a Wintel box . . . but I guess whatever solution I choose shouldn't close the possibility out in case I need one later. I will be running OS X when available (or course).

Clearly the Sonicwall is the best solution . . . but I figure it's probably overkill for this kind of situation (or is it). The XRouter is the simplest thing . . . but has pretty much no security (or is there more provided than I think by the NAT/nonroutable IP range combination). IPNR provides a way to get firewall protection that should be equivalent to the Sonicwall at a lower cost (although it doesn't include logging or attack notification as the Sonicwall does).

Obviously cost is an issue . . . but none of the solutions is out of the question on a dollar basis . . . I just don't want to pay for an unnecessary level of security, and I'm not a real network guy . . . so I guess the question is 'Am I overlooking anything or does the IPNR solution with firewall rules invoked provide adequate security (I'm overlooking the extra machine running issue . . . I'll put Timbuktu on

the box and put it in a closet somewhere anyway so it will be out of sight). Given this situation . . . is the extra expense for the Sonicwall worth it? How would the answer change if I decided at a later date to put up a web server.

On a related issue . . . assuming I know what my IP is (either static or dynamic) . . . can you Timbuktu through a NAT device from somewhere else or does the NAT make this impossible. It would be nice to be able to get into my network from outside . . . does this close out any of the solutions I've come up with . . . or will it work with any of them.

I can almost guarantee we've been over most of the answers to these questions before . . . but that nobody has ever captured the discussion for a FAQ. My intention (once you all have helped me answer this question) is to write a short FAQ for the board lib here in case it comes up again. If there is enough information I may even make it a Journal article; although it would likely be too short for that.

Geek6: >So . . . what to do? Clearly the Sonicwall is the best solution. Obviously cost is an issue.

So let's focus on cost. You make the classic error of defining "cost" as "new funds applied to a problem." You tend to see IPNetRouter as the "cheapest" solution, failing to consider that (a) it is not a firewall, (b) it isn't exactly the easiest thing to configure, modify, and keep up to date, and (c) it requires that it run on an expensive computer, even if it is a computer that is "unused." I'd argue that IPNetRouter is actually the most expensive solution, and in terms of security, the second most insecure.

The most insecure solution that you listed is MacSense XRouter Pro. As far

as I can tell, it does nothing beyond address translation, and may even be less flexible (though easier to configure) than IPNetRouter. On the other hand, at least until Mac OS X is released, it may be "secure enough" for what you need, and is certainly less expensive than IPNetRouter. Honest.

I'll take that back: running Linux is both more expensive and more insecure than MacSense XRouter Pro. Running Linux with the idea of using it for security requires that you not only get Linux running properly (a major undertaking in and of itself) but that you also know how to set it up as a secure firewall; if you did nothing else for several weeks, I'm reasonably confident that you could do this, but I'd call that real, real expensive, too.

>IPNR provides a way to get firewall protection that should be equivalent to the Sonicwall

No. While a skateboard and the Space Shuttle are both vehicles, and both move, they are not "equivalent."

>can you Timbuktu through a NAT device from somewhere else or does the NAT make this impossible.

That depends. I routinely use Timbuktu to manage remote machines, and am inside a SonicWall firewall. I haven't tried going from somewhere else into my network past the SonicWall; I'm sure I could do that, too, though it would require spending time telling the SonicWall exactly what I considered naughty and nice.

How I would rate them:

* MacSense XRouter Pro: it does nothing but address translation, but that may be enough for most "home" networks. Address translation alone will thwart the most common attacks on home-based broadband networks, and this box is easy to configure and cheap.

* SonicWall SOHO: the second cheapest solution, it really is a firewall, and also does very nice network address translation for sharing a broadband link to multiple machines on a home (or SOHO) network. It is easy to configure and inexpensive to run; you can leave it on all the time.

* IPNetRouter: an expensive, and inconvenient, alternative to the MacSense box. Among other things, you must run it on a properly configured host machine, the machine must be on for your broadband access to work, and the host machine costs a lot more to operate than a MacSense box.

* Linux: very good for catching headlines in the Washington Post and the Wall Street Journal, Linux really is UNIX by any other name, with all the warm-fuzzy user interface features UNIX has popularized since 1965. It is not cheap, it is expensive to operate, but if you want a long-term hobby (much like, say, building your own sailboat), Linux is the way to go. Setting up a Linux box to be as secure as a SonicWall shouldn't take a UNIX guru more than a couple months (plus weekly maintenance).

*Mac OS is actually quite secure, as long as you take normal precautions such as renaming your hard drive to something besides "Macintosh HD," making sure you fill in a user name and password in the File Sharing control panel, turning off Guest access, etc. All rules are off, however, when Mac OS X arrive, but for the next few months, a MacSense box might be "enough" security for most mortals.

If I'm lucky, I may get a look at the Umax UGate Plus in the next few weeks. This is a combination NAT, switch, and firewall, all rolled into one. If it works, and is properly supported, and really does function as a firewall, this could be a winner.

AG: > I've listed the solutions below as culled from watching the TCS for years and soaking up all the varied experiences here.

Good summary! I'll just kind of respond to snippets in order...

> MacSense XRouter Pro: About \$170. Only provides NAT services; depends > mostly on non-routable IP range for internal network for protection.

It's not alone in this niche; there are other products from LinkSys, 3Com, and the like. I imagine we'll be seeing many others, since they're so easy for a company to build from minimal parts and using embedded Linux, etc.

> IPNR when setup as a firewall provides pretty good security > as I understand things but means another box is running.

IPNR security is comparable to that of an XRouter Pro or similar device. They're all trying to accomplish the same thing: provide NAT, and maybe offer some filtering and inbound port mapping because it's easy to enable in the software (er, firmware) as designed.

So the difference would basically be the other box running. And that's not generally a problem if you have the space. It's inconvenient during a storm or brownout (the standalone device would come back up on its own), and the Mac obviously draws more electricity, takes more space, generates more heat...

Read through the release notes on the various parts in this range. How well is the firmware (or IPNR) kept up-to-date when features, incompatibilities, security issues and bugs arise? Most of the differences are found here.

My own questionable crystal ball thinks that the track records of the

current such products will dwindle after a year or so. That they'll settle in to where there are no gross incompatibilities, and won't likely be updated much further. (More likely they'll be replaced by 100Mbit versions and such.) But I don't know this for a fact; it's a maturing market, and they're pretty much all using the same base software — they may all update in lock step.

IPNR is different in that it's cheaper for him to roll out/support updates, but a fair amount of his market will be lost to Mac OS X's underpinnings. SonicWall is different in that they control their own software completely, and that their updates are mostly feature-driven, be that to win contracts with libraries or cable companies or whatever, or to give you more controls.

> Cons: I don't know that much about Unix . . . and although I could set it up I am not sure I can adequately maintain the firewall for new attacks, known security holes, etc.

Good call. Time and effort aside, an inadequately-maintained Linux host is no more secure as a firewall than a crossover cable would be. In fact it's worse, since it's also a remotely-controllable workstation with complete access to your private network and all your bandwidth — not only can it fail to protect you from anything, but it can also be turned against you.

> I will be running OS X when available (or course).

You'll be running Unix. (And you may separately be experimenting with Linux and similar things on your network.) So you don't stand to gain much from the historically nearly-impenetrable network security of classic Mac OS. You'll be in better shape than if you were running any version of Windows we've yet seen — but you're by no means above hav-

ing to protect yourself.

> Clearly the Sonicwall is the best solution . . . but I figure it's probably overkill for this kind of situation (or is it).

A \$5000 firewall/router and support staff is probably overkill for this kind of situation. A \$400 device you can maintain on your own is just good sense.

> IPNR provides a way to get firewall protection that should be > equivalent to the Sonicwall at a lower cost (although it doesn't > include logging or attack notification as the Sonicwall does).

While I have the utmost respect for the work Peter Sichel has done, one thing he most certainly has not done is produce a stateful inspection firewall. He does filtering and inbound port mapping. He does just enough inspection to be able to fake a traditional FTP backchannel and to set up temporary incoming port mapping for RealVideo and QuickTime streaming. But basically in the end he produces the same stuff Linux/FreeBSD/etc. do, and by extension the same stuff that the various repackaged embedded devices do.

What IPNR is truly great for is having unlimited nodes on the cheap. Just like Linux/OpenBSD/etc. only (thus far) with a slicker management interface.

If you want a downloadable package with comparable security to the SonicWall, then grab yourself an Intel machine and check out <www.gnatbox.com>. This, like the SonicWall, is in a completely different category of security than all the other options you've listed so far.

> I just don't want to pay for an unnecessary level of security, and I'm not

a real network guy

You're not alone in this irony. It's like the late 1980's when people thought that only multimedia gurus needed sharp monitors — of course the opposite is the case. Motion video is best with a little blurring; it's the spreadsheets and newsletters that people squint at all day that need crisp resolution text.

Similarly, if you're not a real network guy who wants to spend his days drawn into cat-and-mouse games with a young hacker in Europe or Brazil, you should consider just spending the money it takes to make that go away.

> I'll put Timbuktu on the box and put it in a closet somewhere anyway so it will be out of sight

Theoretically, you've just taken IPNR and made it possible to turn against you like one can with Linux. It's got full reign of your network, can be accessed from outside and controlled into running any software one cares to deliver it. (In practice, there are fewer people actively doing that today with Timbuktu than there are with Linux — or so we can suppose.)

> can you Timbuktu through a NAT device from somewhere else or does the NAT make this impossible. It would be nice to be able to get into my network from outside.

This is what inbound port mapping is about, and it's the same whether you're running a web server, a mail server, a Timbuktu server, or whatever within your private network. The NAT router is told to pass along any web requests to a particular machine on the private network — and any Timbuktu requests to the same or a different machine. So that you don't run them on the router.

And this is where things get dicey. If you can access a Timbuktu server on the inside of your network from outside, so can some dark-bearded gent in a T-shirt in Iceland. And from there he can talk your internal machine into doing things on your network that his machine on the outside isn't allowed to do according to your firewall.

But to answer your question, I believe that all of the options you've listed so far offer inbound port mapping as a standard feature you can use for this.

> My intention (once you all have helped me answer this question) is to write a short FAQ for the board lib here in case it comes up again.

THANK YOU! That'll be a big help to all of us — many who don't know it yet.

> If there is enough information I may even make it a Journal article; although it would likely be too short for that.

If this topic turns out to be too short for a Journal article, we'll all have done something wrong. There are shelves full of books on this subject, and probably more of them are being written each day than are being read. :)

G5: You've got some good points . . . I was considering mostly 'new cost' since I already have a license for IPNR and a spare box to run it on. Takes more power to run than a Sonicwall for sure so maybe there's something there.

You indicate that IPNR isn't a really a firewall . . . but that seems to run counter to what is described by the author as some of it's capabilities and how I understand what a firewall is designed to do. It allows setting up rules for what kinds of traffic are allowed to pass through in what direc-

tions and to/from what IP ranges. That's what I understand a firewall does. Granted it doesn't have the logging capability of the SonicWall but (at least to the casual user) I'm not sure how important a lack that is. Still, when the extra power load, relative stability, ease of configuration and what not are considered . . . I guess the cost differential over say 2 years isn't all that much.

I wasn't really considering Linux much . . . it can be done; but it would take more effort than I'm likely willing to invest.

Thanks for confirming my suspicion on the XRouter that it doesn't provide any security other than NAT.

I've already done the basic drive name/username/password things . . . and have my file server set to disallow guest access.

I'll continue to collect impressions (I'm sure [AG] will weigh in) and post a combined summary with pluses and minuses of each option. In the end, I suspect that I will end up spending the bucks for the Sonicwall . . . just want to make sure it's really the right thing to do before I break down and do it.

—Added after I saw [AG]'s reply.

I see that [AG] has patiently explained to me how IPNR's firewall features differ from the Sonicwall's. I need to reread it a couple times so I understand what it means before I summarize things. Methinks that the differences are much easier to comprehend if you're a programmer than if you're mostly a non-programmer. I tried talking to the guys that maintain the Unix firewall at the Pentagon the other day . . . and pretty quickly they got way over my head since I don't deal with that stuff all day.

G5: Thanks . . . I knew you would have some concise observations and ideas. I'll continue to collect comments.

AG: > how I understand what a firewall is designed to do. It allows setting up rules for what kinds of traffic are allowed to pass through in what directions and to/from what IP ranges.

This process is called packet filtering. And it's an important part of what a firewall does. But it's only one part, operating on one level of a multi-tiered network architecture. A good firewall operates on two or three levels to make sure nothing funny is going on between the cracks, where there's more wiggle room and fewer people actively paying attention.

> Methinks that the differences are much easier to comprehend if you're a programmer than if you're mostly a non-programmer.

FWIW, many of the best programmers I know, even low-level C programmers, don't get this stuff either. It's certainly a rich field of study on its own. And that's kinda the point: security exploits are about sneaking around behind the expectations of system and server programmers as well as administrators.

G2: Thanks for the feedback on the combination firewall/router/modem. I've heard a lot about the Linksys model that does Network Address Translation.

I'm looking at this particular model because it is cheap and acts as a Firewall (via NAT), Router and modem.

It costs about \$104 (if I'm looking a the right model) and when you hang

an ethernet hub off this, I can't think of a better solution for the small home/office network.

What think ye gurus out there?

AG: > What think ye gurus out there?

See [above]. It's not a firewall, but you may not be looking for one.

G2: I've read all the posts regarding the current state of affairs with DSL/Cable Modems, Firewalls and routers. I must say to the TCS crew:

Thanks a lot! As usual and as can be expected.

....you have thoroughly parsed the information to make it clear as to the current state of affairs regarding firewalls, etc.

I will be very interested in hearing what [G6] has to say about the Umax product he will be looking at soon. I suspect this is a market that is exploding as we speak.

I too will be running OS X as soon as it is available in public beta or otherwise. With that in mind I will be going with the SonicWall SOHO, unless someone can talk me out of it.

I am currently running IPNR without any problems other than the fact that I run my favorite computer all the time. I have a 486 that I could use for Gnat (per [AG]'s advice), but I'd rather avoid the extra machine and heat, etc.

If anyone wants a full functional 486 system, let me know....

I have a few other Macs behind my IPNR system as well as a Windows 98 system and it works flawlessly. I just want to be ahead of the curve for OS X and setting up a "true" firewall for my home (private network).

Any additional advice is truly appreciated.

P.S. I have been running Bell (Hell) Atlantic for almost a year now. Although the initial setup was the typical nightmare, the service since then has been almost flawless. DSL seems to be a pain getting setup initially, but then it seems to work without problems.

Just my 2 cents worth.

G6: >I will be very interested in hearing what [G6] has to say about the Umax product he will be looking at soon.

I'm interested in hearing what I say, too: it hasn't arrived.

>I too will be running OS X as soon as it is available in public beta or otherwise. With that in mind I will be going with the SonicWall SOHO, unless >someone can talk me out of it.

Not a chance. While I can't address Mac OS X, Mac OS X Server (which is UNIX with a Mac overlay for some functions) works splendidly with the SonicWall. It also makes it much clearer that you need something like a SonicWall with Mac OS X Server; there are many more ways to trip yourself up, and many more things to do at a networking level. I've been known to use the SonicWall as a diagnostic tool to find out what the Mac OS X Server software is doing (did this kind of packet actually go anywhere?), and suspect [AG] has done so, too.

Just as an FYI, I recently decided to become a bit more active about people trying to attack my firewall/network. The SonicWall logs where the attacks are coming from, so I tracked down the appropriate network administrators for the various domains and told them what was going on. In about

30% of the cases, I couldn't find anyone. In about 50% of the cases, I could find an administrator of some sort, and set up some kind of dialogue.

Within this (large) subgroup, the network admin people report that the machine attacking me did so without the "owner's" knowledge. Virtually 100% of these were Windows machines that had been compromised with some virus or Trojan Horse that launched network attacks without the owner's knowledge or permission.

In short, half the attacks — and almost 100% of those that I can actually track down — are done by machines compromised without the owner's knowledge. Remember this the next time you read a news report about some hacker who develops hacking programs to "help improve" security. This is a lie: it is vandalism, pure and simple, a cross between spray painting vulgarities and setting fire to buildings.

And I still maintain that castration is the appropriate punishment.

AG: > I've been known to use the SonicWall as a diagnostic tool to find out what the Mac OS X Server software is doing (did this kind of packet actually go anywhere?), and suspect [AG] has done so, too.

Absolutely. In particular I've started watching more carefully for software that makes unanticipated calls home — software that contacts some outside server and communicates for whatever reason while we're not paying attention. These are predictably happening more and more often, and it's not easy to see when it's happening without something like the SonicWall logging connections to a Mac OS X system or something for processing.

G7: >P.S. I have been running Bell (Hell) Atlantic for almost a year now. Although the initial setup was the typical nightmare, the service since then has been almost flawless. DSL seems to be a pain getting setup initially, but then it seems to work without problems.

I'm glad that you have been having good luck, but I suspect you might be the exception. I read many complaints about BA DSL. Mine went fine for 8 months, and then all heck broke loose. Let us know if you can get PPPoE working with Mac OS X. I suspect BA will be very slow in providing any support for this platform.

SERMON..

...or How to Make Email Work for You

AG: Every once in a while I just spend so much time explaining something that I hope never to have to do so again. (Actually, I think I do that a lot.)

So with that in mind, I offer you a transcript of e-mail with my father-in-law who's concerned that the sermons he's taken to e-mailing people aren't coming through correctly on the other end. I hope the effort is more broadly useful.

If so, maybe a SysOp will save this into an appropriate board library?

P.S. Prior to our setting him up with an 8600 a couple years ago, this man couldn't even type — he wrote all his sermons by hand, and computers were for "other people". Now he plans his vacations online, installs software, and stays in touch with family and former parishioners around the globe.

K... and J..., here I think is an example of what happens to my sermons on email. Quotation marks get a long list of letters and symbols, the number 20 keeps appearing everywhere, contractions are also big problems, and the text is separated in strange ways. I would sure appreciate any help you could be in allowing me to send these in a far friendlier way. This is what came back to ME from an undeliverable address. I don't know whether others get something even this good. Thanks, M....

> Quotation marks get a long list of letters and symbols, the number 20 keeps appearing everywhere, contractions are also big problems...

Right. That's what's known as the "quoted-printable" encoding format.

Back at the dawn of time, computer screens were modeled after teletypes, all data being text and all text being displayed in a grid. Each letter or numeral was the same width as all the others, and exactly 80 of them would fit side-by-side on a line. There were some 96 letters, numbers, symbols and punctuation marks to choose from. And that was sufficient to express U.S. English thoughts on those sorts of displays and printers.

Fast forward through to the Macintosh and its so-called Desktop Publishing Revolution. Now that everybody's a typographer, we have six different kinds of apostrophes and quotes to choose from (not counting French ones) and who knows how many kinds of hyphens and dashes. We have letters with accents, and symbols for foreign currencies, that we all use day-to-day before even mentioning non-Roman languages and their own symbol sets.

In this situation we no longer express all our thoughts in 80 columns of

ASCII text. It's unnatural to do so. But here's the catch: we still try to communicate using the tools put together 30 years ago by people who did. The worldwide Internet e-mail system deals solely with this simplified junk.

Sooo, we begin the process of extending the standards. First, we add all sorts of contortions and conversions to transmit arbitrary documents through this system. So the actual word processing file you work on can be sent as an attachment — in which case it gets broken down and reassembled into a completely unreadable sequence of those familiar ASCII letters and numbers. So long as the person on the other end A) knows how the file was converted, B) has software to convert it back, and C) has software that can interpret and display the document as you sent it (e.g. a straight WordPerfect file), then this is one way to get across a document that's arbitrarily complex.

But we don't want to lose our common denominator — that universality that allows us to e-mail anyone anywhere, regardless of their equipment or ours. So we also define special backwards-compatible encodings that are said to "degrade gracefully" when the equipment or software isn't available to fully process the encoded document. So if I write the word "resume" with proper aigu accents on the 'e's, even though the e-mail system can't cope with the accents themselves my software can write "r=8Esum=8E" (I believe) and make sure the other side knows to decode this back to the real deal.

Similarly, if I use typographers' curled quotation marks and apostrophes, my software can encode those before sending them through the e-mail system where they aren't welcome or meaningful as-is. And to deal with the weird 80-column thing, I can

break down paragraphs into smaller parts and encode them with more equals signs so that the other side can decode/reassemble them back into their intended form.

As I suggested earlier, this is a gradual process. All software everywhere has to be updated, rewritten, or replaced in order to handle each new kind of encoding. So the software developers and the international academic and business standards organizations all come along at their own paces. As you know, AOL's software understands all this stuff — it was more or less born in a full graphical typography-friendly environment and lives worldwide. So AOL automatically decodes that stuff when it sees it, and automatically encodes that stuff when necessary. Netscape does too, as does Eudora, and pretty much all the popular e-mail software available for personal computers.

But some people still reach their e-mail through University accounts on the same honest-to-goodness 80-column ASCII terminals that they always did back when e-mail was just between schools, and worldwide e-mail was just a crazy futuristic idea. These people see the raw encoded text, and one could argue that they've made a conscious decision to continue to do so. At least we have graceful degradation, so that apart from a few extra equals signs for encoded symbols everything's still perfectly recognizable and readable.

OK, that's the history lesson, or maybe even the problem statement. The next question is what does one do about it. And again, the folks who think this stuff up for a global audience might offer that you just shrug it off. People who expect careful presentation in e-mail sent to them simply have to decide to use any of the readily-available software that offers such presentation as a feature. But

you as the publisher also have some options.

For one thing, you can go whole hog and send the actual document, bit-for-bit perfect, as an attachment. You could even convert it to an Internet-friendly (vendor neutral, or "platform-agnostic") standard interchange format such as a PDF document or even a GIF image. But don't. Let's not kid ourselves that the problem is worth losing the universality, where everybody can read our messages no matter what software they have — where the message is conveyed regardless and the presentation is the only part that may fail to translate.

Instead, if you'd like to start writing your documents for the least common denominator 80-column ASCII terminals, you might switch for this purpose from AppleWorks to a text-only editor called BBEdit Lite. I work in these text-only environments all the time, and I swear by BBEdit. (I actually own the \$129 full version with more gizmos and attachments than I could begin to use myself, let alone explain to anyone with any sense.)

But instead of switching over cold turkey, try this. Write your sermon in AppleWorks or wherever you feel comfortable. Then, instead of copying from there and pasting into AOL, run BBEdit Lite and paste into that instead. And use the BBEdit Lite menus to make the following quick conversions there.

Step one: convert all the dashes, quotation marks, apostrophes, etc.

Pull down "Convert to ASCII..." from the Tools menu and use the default settings.

Step two: convert all tab stops, if you've used tabs at all, to spaces.

Pull down "Detab..." from the Text menu and specify a tab width.

Step three: make sure paragraphs are separated by blank lines, like mine.

Pull down "Find..." from the Search menu, or press Command-F.

Search for "\r" (a backslash and a letter 'r', which is code for a return character) and Replace All with "\r\r" (two of them).

Step four: break all paragraphs into lines less than 80-columns apiece.

Pull down "Hard Wrap..." from the Text menu. Select Character Width

and specify the maximum line width — I recommend 72 for e-mail.

Take a look at what it's done. If you like it, select all, copy, and paste into AOL for delivery to everybody. Your original AppleWorks copy is still intact for printing and archiving; you just dumbed down a copy for e-mail.

And you've only scratched the surface of BBEdit Lite — feel free to tinker with all the other options and features to match what you're working on. FWIW, I started writing this message on my archaic, 80-column, text-only, Apple II-based bulletin board system where I received your message. After a few paragraphs in I copied and pasted into BBEdit where I finished the rest of my thoughts. I didn't even think about it; it's second nature now.

Note that if you have an exceptionally long sermon, AOL will automatically break it off into a file attachment when sending it to people. There you don't have much control over the universality. But it won't be a problem.

Anyway, I'm always amazed how long it takes me to answer my mail... :} ■



QuickTime 5—Long on Promise, Short on Details

by: MDJ, The Daily Journal for Serious Macintosh© Users

APPLÉ COMPUTER released the first public preview release of QuickTime 5, the next iteration of Apple's cross-platform media architecture widely adopted by both Mac OS and Windows applications. They did it at the second annual QuickTime Live! Product Showcase in Beverly Hills, California. The keynote speaker was Phil Shiller (vp of World-wide Product Marketing). The release comes 18 months after QuickTime 4's first preview release in April 1999, but unlike that beta, is not yet considered feature complete: some new tricks Apple promised at the conference are not yet in place, and the preview release is only for Mac OS systems, not for Windows (or even Mac OS X Public Beta).

If after reading this you want to download a copy, go to <http://www.apple.com/quicktime/preview/>. Apple's press release details a few new features, it mostly talks about updates to existing codecs (compressor and decompressor components), improvements that rely on a new QuickTime Streaming Server release, and the number of third-party developers supplying compression through a new "Software Update"-style automated system.

For developers, the release promises the ability to change the abysmal QuickTime Player interface, provide codecs through a secure automated procedure (as mentioned), and unspecified other application program interfaces that promise some new functionality, but Apple isn't quite

clear on what those functions may be. Let's try to sort through the muddled announcement in stages.

QuickTime Player Changes

Although QuickTime is a system-level media architecture, many people think of QuickTime Player as QuickTime. Movies in Web browser windows just seem like part of the Web, and most applications that use QuickTime use components like image converters or video digitizers. Lots of applications are capable of embedding or displaying movies, but most people who double-click movies or play them for playing's sake do so in QuickTime Player. It's also the primary interface to Apple's "QuickTime TV" channels, since even clicking on a QuickTime TV channel on Apple's QuickTime TV Web site opens the stream for viewing in QuickTime Player.

Therefore, it's no surprise that QuickTime Player 4 was widely and correctly reviled for placing form over function [see xx/xxx issue of Journal, " "]. Long-time Mac OS interface elements like a definite title bar, a collapse box, a grow box, and others were eliminated, replaced with a "brushed metal" appearance that didn't provide the same functionality. The volume control was a thumbwheel that mimicked a hand-held media player but was difficult to control with the mouse. The windows did not respect your choices for system font, highlight colors, or other Appearance settings.

"The release comes 18 months after QuickTime 4's first preview release in April 1999, but unlike that beta, is not yet considered feature complete: some new tricks Apple promised at the conference are not yet in place..."

Apple likes to make noise about how closely it listens to its customers, making changes like FireWire on iBooks per their demands. Therefore, in QuickTime Player 5, the volume control is an actual slider, like in the Sound control panel, surrounded by most of the same form-over-function mistakes.

The windows are still brushed metal and lacking the normal Mac OS interface controls. What's interesting is that they do have the Aqua controls from Mac OS X. The close box is a red circle, a "minimize" yellow circle next to it seems to do absolutely nothing (some reports say this widget should hide the video of a movie, leaving just the audio, but it didn't work for us and may be coming in a future release), and the maximize circle is a green circle next to the yellow one (they form a horizontal traffic light pattern—red, yellow, green). Mousing over any of these widgets reveals hints about their function—the close circle (it's not really a "box", is it?) gets a Windows-style "X" in it, the minimize circle gets a R-S, and the maximize circle gets a R+S. The maximize



control behaves like standard Mac OS zoom boxes, though—click it once to maximize the window, and click it again to return the window to its original, unzoomed size.

One interesting point, however, is that these windows behave like Aqua windows and not like Platinum windows—the traffic light controls light up if you mouse over them, even in an active window, and you can close inactive windows by clicking on their controls. The volume slider obeys Aqua rules, and the standard movie controller (seen in most QuickTime-friendly applications for movie control, along with the QuickTime Plug-in’s similar version for Web browsers) is Aquafied as well, with round slider controls and translucent blue highlighting.

The “drawer” at the bottom of each QuickTime Player 4 window that held favorites and QuickTime TV links is now gone. Instead, there is a “TV” button (hopefully one that will be localized to just a television icon) that replaces the window’s contents with what looks like the old drawer contents, including round-cornered wells for dragging and dropping URLs or QuickTime TV channels. Two tabs at the top of this display let you toggle between QuickTime TV channels and your own favorites. Unlike the QuickTime 4 version, a scroll bar at the side lets you see all the items no matter how your window is sized. However, since the contents replace any movie in the front window (clicking the “TV” icon again toggles back to the movie—and the movie’s window size if you resized the favorites window), you can no longer view your favorites and a movie at the same time unless you open multiple windows.

Another drawer in QuickTime Player 4 held extended audio controls (balance, treble, and bass) plus some extra movie controls for fast forwarding, double speed playing, and so on. That drawer is also gone. The tempo-

ral forward and reverse controls have migrated to the main window, surrounding the “Play” button, which is much more logical place for them. A new menu item in QuickTime Player 5 lets you show sound controls, but they replace the timeline indicator just underneath the movie—you can’t see these controls and the current movie place and selection simultaneously. (You can also bring up the sound controls by clicking on the graphic equal-

“Apple likes to make noise about how closely it listens to its customers, making changes like FireWire on iBooks per their demands. Therefore, in QuickTime Player 5, the volume control is an actual slider, like in the Sound control panel, surrounded by most of the same form-over-function mistakes.”

izer icon at the right edge of the timeline.) QuickTime Player 5 adds new video controls as well—brightness, tint, contrast, and color. These are displayed across the bottom of the video image itself with green letters and green bars, as if you were looking at the controls of a Sony television set. Click the words (“Brightness,” “Contrast,” etc.) to switch to the next setting, and click on the green bar to change the setting. Figure 1 (not

shown in journal version) shows a QuickTime Player 5 window with the video controls and Aqua window control roll-overs displayed. Ben Long, writing for MacInTouch, says that the video quality of movies is significantly degraded when the video controls are displayed, but we did not notice this with sample movies we played.

Other minor improvements include, as you can see in the figure, brighter buttons that look enabled instead of disabled. Pressing the “Play” button changes it to a “Pause” button, a clear indication that it’s active, something QuickTime Player 4 didn’t give. A new “Show Movie Info” window, with Command-I key equivalent, presents a static single-pane summary of all the components in the former movie info’s “Movie” section. Quick-Time Pro owners still have the opportunity to see and change parameters for every track, but that’s now (shades of Mac OS X) “Get Movie Properties” and has key equivalent Command-Shift-I. A new “QTV” menu replaces the “Favorites” menu, with separate sub-menus (ick) for QuickTime TV channels and your Favorites. An Apple logo in the lower-left of the window looks like it does something, but it doesn’t.

Some people have already complained that the QuickTime Player is not a Carbon application, but this kind of misses the point. The preview release is only for US English Mac OS systems, and does not install in Mac OS X. The only point would be to use the new QuickTime Player with Mac OS X Public Beta, but the beta already has its own Mac OS X-native QuickTime Player with most, if not all, of the same improvements. The QuickTime 5 Preview release consists of the normal files—extensions and libraries—that won’t work under Mac OS X anyway. In the future, Apple most likely will update both Mac OS 9 and Mac OS X versions of QuickTime simultaneously. That’s not



what this is, and right now, given the similar state of QuickTime in Mac OS X Public Beta, it's not needed. We find the improvements to QuickTime Player nice, but hardly overwhelming. Apple's interface designers have missed the forest for the trees, fixing small problems with the player instead of changing the overarching problem of a non-standard and less functional QuickTime interface. While this version addresses the most egregious problems—the ones people complained about the most loudly—most of the changes are rearranging deck chairs on the Titanic. The situation may look a little better but, overall, it has not improved.

QuickTime Architecture

QuickTime 5 naturally offers some new features and capabilities behind the scenes—it wouldn't be much of a release if all you got was a new QuickTime Player. Unfortunately, here's where the fog begins to set in. Look at this list of features and what we don't know about them:

- The "Hot Picks" guide that, according to Apple's press release, "highlights cool new QuickTime TV content," is really just a QuickTime movie—you can display it in your Web browser if you want.

- The ability to replace the brushed metal interface with a new one (called a "skin") could restore some of the missing standard Mac OS functionality—but that won't happen until the final QuickTime 5 release in 2001.

- The DV codec has improved performance, mainly for iMovie. We had noted in our own work recently that QuickTime Player 4 and other applications other than iMovie weren't capable of playing back uncompressed DV movies without major skipping. We tried again with QuickTime 5 and still found skipping, but not as severe. iMovie itself played the same clips

without skips even under QuickTime 4. Apple has not released more details about how the DV codec is "improved."

The QuickTime music architecture has been upgraded to a new synthesizer, still based on instruments from Roland, that supports both DLS and SoundFonts instruments. Apple says this may cause some games to skip some notes until they're revised, but documentation on how they should be revised isn't yet available. The new synthesizer allows the sound set to be customized on the fly for particular songs instead of being restricted to the Roland GS sound set.

Apple says QuickTime 5, even in the preview release, has "realtime professional video editing support for professional applications such as Apple's Final Cut Pro." This sounds impressive (especially by repeating "professional"), but the devil is in the details, and Apple hasn't published any. It could be as ambitious a brand-new effects architecture that could allow triggering effects like dissolves and wipes during movie playback. Or it could be as yawn-inducing as some standard effects that now render in realtime instead of frame-by-frame. Buzzwords have taken over the technology business so pervasively that there's just no way to tell what they mean anymore.

Apple's attempt to combat the outstanding reviews RealSystem 8 has received for its video quality is support in QuickTime 5 for Sorenson Video 3, the latest release of QuickTime's flagship video compressor. Phil Schiller demonstrated some Sorenson 3 movies in his keynote address, but you can't do the same — Sorenson Video 3 won't actually be included in QuickTime 5 until a later preview release. Apple's statement doesn't promise it will arrive before the final release in 2001.

Apple also promised MPEG-1 and MPEG-2 encoding and decoding, including streaming, in the next re-

lease of QuickTime. While Schiller says the engineering is complete, MPEG-2 is not included in the QuickTime 5 Preview release. According to Apple, streaming MPEG-1 is included, but there's no real human interface for it. MPEG-2 work is mostly completed, Schiller said, but not yet released due to licensing issues. Full MPEG-1 and MPEG-2 are supposed to arrive by the final version.

Other Codec Updates

Despite the limited information on Sorenson 3 and MPEG codecs, we know what's happened to some others. The Flash support built into QuickTime now supports Flash 4 content (not Flash 5, though, since that's too new). As promised at Apple's World-Wide Developer's Conference, the new version of QuickTime VR included in the preview supports cubic panoramas, meaning you can look directly up or down. Previous versions of QuickTime VR supported only cylindrical panoramas that limited vertical viewing angles. The concept is similar to iPIX's "spherical" panoramas, allowing a 360° view, and iPIX is quick to support the new features. Its new iPIX Builder 4.1 software can create either iPIX spherical panoramas or QuickTime 5 cubic panoramas—but following iPIX's revenue model, each panorama you create requires a software key that costs US\$50. iPIX also has a QuickTime component that lets you view iPIX panoramas just as if they were QuickTime VR panoramas. (New QuickTime VR panoramas will be backward-compatible with older versions of QuickTime VR, but will only support the old-style cylindrical panning in this environment.)

QuickTime 5 also has a SHOUTcast streaming audio player, allowing QuickTime to take SHOUTcast play lists and download the associated sound files for streaming MP3-quality playing.



Skip Protection

Another marquee feature of QuickTime 5 is the new "Skip Protection," described in the press release as "a collection of Apple-invented technologies that ensures a higher quality experience for watching and listening to Internet Streams. 'Skip Protection' protects against media 'skipping,' or dropping frames, caused by the unpredictability of Internet transmission." It almost sounds like a solution for an airline losing your luggage ("We're sorry, sir, but we sent your live streaming broadcast to Karachi by mistake"). It's not, though: Schiller actually unplugged the Ethernet from his demo machine for several seconds and the movie he was playing continued without a hiccup. How is that possible? QuickTime 4 uses the "connection speed" setting in the QuickTime control panel to determine how much data your connection can handle. The problem is that it comes close to saturating slower links—if you tell QuickTime you have a dual-channel ISDN connection, it sends about 15K per second of data down the pipe, and that's all dual-channel ISDN can handle. If other applications or other computers sharing the link use it while you're getting streaming data, the connection gets oversaturated and some packets never arrive. Oops.

There are essentially two ways to fix this. The first is to use a huge buffer and stream several seconds of data in advance. If QuickTime 5 picks a buffer size big enough to hold fifteen seconds worth of data, then while you're viewing any given part of the stream, you're actually downloading the portion you'll see in fifteen seconds. That way, if the connection drops or burps, you'll have a full fifteen seconds for it to recover before QuickTime runs out of media to play. As long as the connection recovers within that time, you'll never see a skip. The downside? It takes a lot of memory, and it introduces a delay in live broadcasts (you're essentially watching data you

downloaded fifteen seconds ago). On top of that, there would be a fifteen-second buffering delay, so the movie wouldn't start for fifteen seconds after you clicked "Play." An imperfect solution at best.

The other solution is the one we recommend—tell QuickTime your

"QuickTime 5 naturally offers some new features and capabilities behind the scenes—it wouldn't be much of a release if all you got was a new QuickTime Player. Unfortunately, here's where the fog begins to set in. Look at this list of features and what we don't know about them..."

connection is slower than it really is. You won't get the highest quality video that way, but QuickTime won't ask for so much data that your connection gets saturated. However, given the suggestions for QuickTime authoring, slower speeds are likely to get you smaller video, such as 160 X 120 instead of 320 X 240, so that's not the best solution either.

Apple's real answer seems to combine these ideas with a few more, and you have to read between the lines to find the clues. Along with the QuickTime 5 Preview release, Apple also released a QuickTime Streaming Server 3 Preview, featuring Web-

based administration, and quality of service enhancements "such as packet retransmission and reliable transmission of broadcast streams." Those last two terms are normally antithetic to streaming data—since streaming is time-sensitive, the way computers keep up with the constant influx of data is to ignore lost packets. If you take the time to retry sending a dropped packet, and it doesn't arrive before it's needed, you've got yourself a pause. If it arrives too late and the player has moved on, the packet is useless and wasting network bandwidth. "Reliable transmission" means that packets can be retried if they don't arrive, "packet retransmission" means the server knows how to do it. If you read carefully, you'll see that Skip Protection depends on using QuickTime Streaming Server 3 or Darwin Streaming Server 3. [In case you've forgotten: Darwin Streaming Server is an open-source, command-line utility that runs on several platforms, including Windows NT and Linux. QuickTime Streaming Server has a graphic interface and runs only on Mac OS X; previous versions required Mac OS X Server, but version 3's preview requires Mac OS X Public Beta. The streaming functionality is the same for both, but source code is only available for the Darwin server.] With the server knowing how to resend packets—and able to take advantage of changes in QuickTime 5—the picture becomes clearer. We have not examined the Darwin Streaming Server source code yet, but here's the basic idea. A bigger buffer has another disadvantage—if the net pauses for longer than the buffer can accommodate, you've essentially lost the benefit of a buffer unless you pause the stream for long enough to fill it up again. That's hardly "skip protection." To keep the buffer full, you need to download more information each second than you need to play the stream. For example, if you have a 56K modem connection that tops out in best cases at 5K per second, you probably



want the stream to require no more than 4K per second to play properly. The extra 1K per second of bandwidth, when available, can fill the buffer. So, in our previous example, QuickTime 5 might need to fill a buffer for only five seconds before it starts playing a streaming movie, because if it can download more information each second than it needs to play that second of the movie, the buffer will continually refill itself, even if it gets drained by a network pause.

Now reliable transmission makes more sense—if QuickTime 5 is downloading streaming packets ahead of what it needs for immediate playback, then it has the time to request that any lost packets be resent, or to ask the server to send packets reliably (where lots of ones are automatically resent). The result is a fast-starting streaming movie with no skips and far fewer dropped packets, made possible through a partnership between QuickTime 5 and the version 3 streaming server.

You may see the one drawback, though—the use of a buffer and advance information means a stream can't be truly "live." You'll be watching video that your computer downloaded several seconds earlier, potentially making it out of sync with a companion television broadcast, for example. But most examples of streaming media aren't for live events where a second or two of delay matters. Madonna's album in streaming QuickTime format, Apple keynote speeches, movie trailers, or even television broadcasts are typically not so time sensitive that a buffering delay will ruin the experience.

We set out to test this by viewing a QuickTime TV channel that we also have available via DBS satellite—Bloomberg Information Television, and we saw several things that confirm our hypotheses. First, although we had our connection speed in the QuickTime control panel set to 112K ISDN, the actual streaming movie

"This could be one of the best ideas to hit QuickTime in several years. For the first time, media and software developers can feel somewhat free to use new or private codecs and know that users have an easy way to get them. Of course, not all Macs have a live Internet connection, but it certainly frees Web developers to use QuickTime's completely open architecture to make movies with any codec at all."

QuickTime 5 picked for us was "Bloomberg TV US 56," probably indicating a 56Kbps stream. What's more, the stream was about six seconds behind the actual TV broadcast (and our viewing of that was itself delayed by at least two seconds for DBS MPEG decoding, and maybe another four seconds for satellite transmission). If the same signal left Bloomberg's broadcast headquarters both via satellite and via QuickTime Streaming, what we saw was probably twelve to fifteen seconds behind real-time. On the other hand, how many people turn on the same channel on both the TV and on the Internet? Very few, we'd bet, so few would notice the delay—or care. Apple's "Skip Protection" looks like

it will improve the overall streaming experience, with a trade-off of more delays over "live" broadcasts that won't matter much. In the end, this is probably a winning trade-off, and should go over very well.

Automatic Codec Downloads

Sometimes a good idea doesn't always work as well as it should. QuickTime is an open architecture, so any developer can write his own video or audio codec and use it to create or play QuickTime movies. That's good. Yet most movies continue to use the relative handful of built-in codecs. That's not so good. The problem is that if you don't have the appropriate codec installed, QuickTime simply can't play a video or audio track. It can't tell you what codec you need, or where to get it, because all it knows is a four-character identifier for the codec, and those usually aren't helpful (how many people would know that 'rpza' means the Apple Video compressor because its code name was "Road Pizza?").

QuickTime 5 attempts to solve this problem by piggybacking on Mac OS 9's Software Update facility, including automatic download of USB drivers. If you try to play a movie in QuickTime 5 that needs a codec you don't have, QuickTime will ask you if you want to look on the Internet for the codec you need. If it finds it, it will download it and install it so you can play the movie.

At first blush, this may seem a security risk, but it's no more of one than Software Update. QuickTime 5 only looks for codecs on Apple's server dedicated to the task, so you know you're getting the code from a safe place. (To fake your system, an attack would have to compromise the DNS system and redirect requests to Apple's Web site to a different server, a difficult proposition as most DNS servers are fairly well protected.) Therefore, to make their codecs work, developers have to register with



Apple, just as they do with automatic USB driver updates. They supply the code to Apple, and Apple delivers it through the automatic system.

This could be one of the best ideas to hit QuickTime in several years. For the first time, media and software developers can feel somewhat free to use new or private codecs and know that users have an easy way to get them. Of course, not all Macs have a live Internet connection, but it certainly frees Web developers to use QuickTime's completely open architecture to make movies with any codec at all. You can't see the Web page without an Internet connection, so why not just piggyback a small codec download, too? Codecs are Mac OS components that can be loaded and registered at any time, not just during startup, so you don't need to restart to use any downloaded codecs.

Developers, quite naturally, are pretty big on this idea. DDD, Pulse 3D, BeHere Sealed Media, On2, and iPIX have already pledged support for making their codecs (or at least playback-only versions) available through the automatic component download facility, and others are sure to follow. This is a real advantage over RealSystem 8, a closed system that doesn't allow any codecs apart from the ones RealNetworks chooses or licenses. Even Windows Media Player can't match that kind of flexibility, and it only works because the architecture is open. There's a lesson here. Both MacNN and MacWEEK.com have reports on third-party announcements related to QuickTime 5.

Home Previewing

You can download the preview release yourself as long as you have a PowerPC-based Macintosh with at least 32MB of RAM and System 7.5.5 or later. However, the preview is only a US English release, and Apple says it should be used only with US versions of Mac OS; we've already heard from one reader in France who found

localization-related difficulties after installing the preview on a French system. The installer removes QuickTime 4 components from your system, so you'll have to uninstall QuickTime 5 and reinstall QuickTime 4 if you want to revert to the last released version.

Some people have reported an alert after restarting, warning that some QuickTime components are out of date. The system then volunteers to connect to the Internet and find newer versions, but it fails when it tries. We saw this as well, and confirm that the problem is with the QuickDraw 3D component—for some reason, the preview installer does not replace it as it should. Trash it yourself (or from Conflict Catcher) and use the QuickTime 5 Preview installer to custom install just QuickDraw 3D and your problem should go away.

There will be much more news on QuickTime 5 over the next few months as documentation and new preview releases make their way to the public. Schiller said that QuickTime 5 will not be a monolithic release, but will be rolled out piecemeal over the coming year. A preview version for Windows should be available by year-end, and QuickTime 5's automatic update feature will be used to deploy new functionality, such as MPEG-2 encoding support, as it is finished. Apple also asks for your feedback on the preview, both in general and for bug reports.

What We Think

Despite a player interface that remains more style than substance, QuickTime 5 appears to be a suitable upgrade. Enabling easy access to third-party components is perhaps the best idea we've heard in years, and a real step above just another round of enhanced codecs. It may seem like a letdown to some—after all, QuickTime 3 introduced HTTP streaming, and QuickTime 4 introduced live streaming, but QuickTime

“Despite a player interface that remains more style than substance, QuickTime 5 appears to be a suitable upgrade. Enabling easy access to third-party components is perhaps the best idea we've heard in years, and a real step above just another round of enhanced codecs.”

5 doesn't have a significant new technology anywhere near that sexy. Nonetheless, incremental upgrades make the world turn more smoothly, even if they're not the biggest headline grabbers.

You shouldn't feel obliged to put the preview release on your system just to keep up—if you want one of the features described here, go for it, but don't feel you'll fall behind if you stick with QuickTime 4. But if you want to try the preview, you should find better streaming, a marginally improved QuickTime Player interface, and an easy way to use codecs you might never have heard of. We're sticking with it.

We would like to thank the editors of MDJ, The Daily Journal for Serious Macintosh* Users for permission to reprint this review. If you would like to read more articles such as this, subscription information can be found at: <<http://www.macjournals.com>>.

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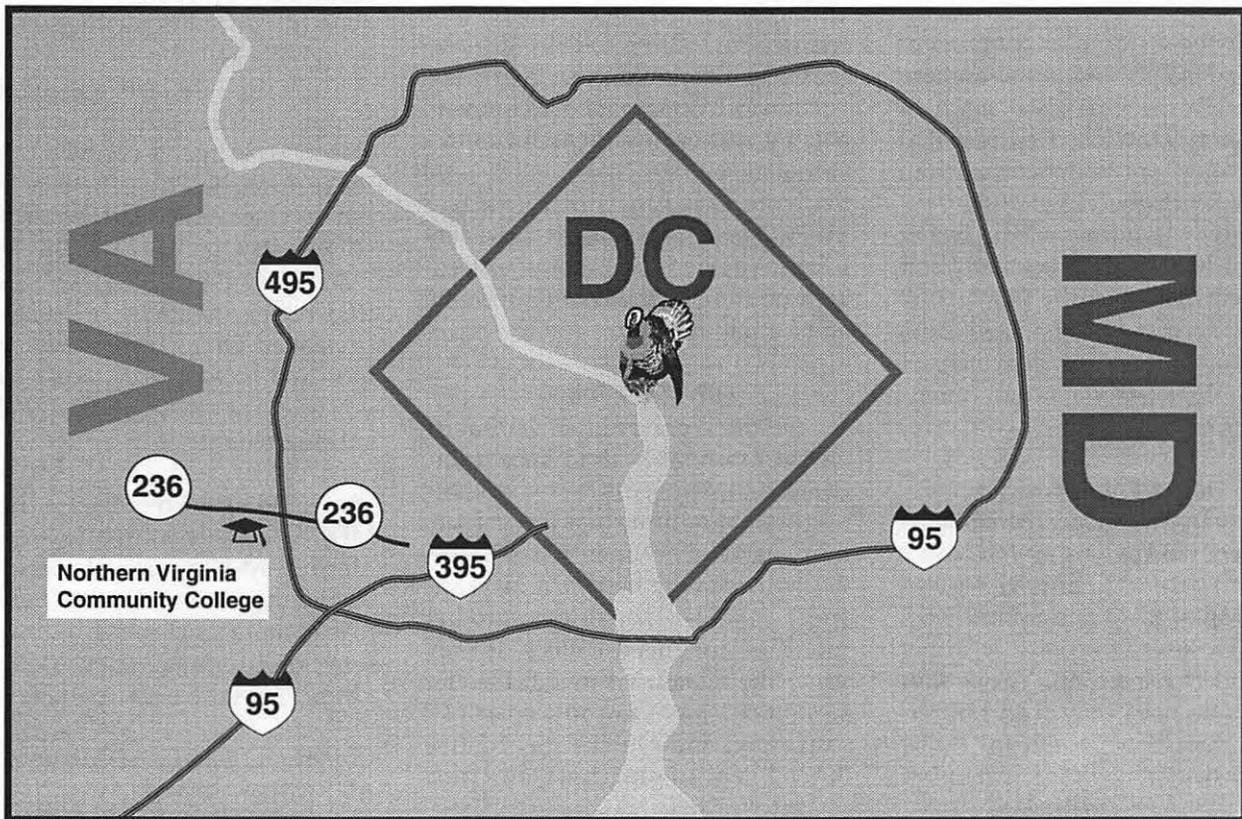
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DoubleClick

Accessing deleted e-mail

By Derek Rowan and Dave Ottalini

Question: At a recent discussion at work, we were informed that deleting e-mails does not really wipe them from our computers and that sophisticated specialists can retrieve old messages. My question is: How is this done and is there a way I can check my own computer to determine if deleted messages can be accessed?

Also, do Internet service providers retain copies of e-mails and Web sites that were visited? Thanks, - Rick

Derek: Rick, remember that any e-mail that you send or receive at work CAN be viewed by your employer. This has been affirmed in the courts.

Unfortunately, there is no way that I can provide an answer that will be certain to be applicable to your specific situation. I have no way of knowing how your system is set up or the internal practices of your Internet service provider. But we can talk in generalities.

First, depending on your e-mail system and your network, it is possible that your deleted e-mail is available for retrieval in the future. How? Well, that can vary, but one way is that your employer may be making a copy of all e-mail going in and out of your system. This is unlikely, however, considering: 1) The amount of disk space it would take; 2) The likelihood that someone would have noticed it by now, especially the system adminis-

trator; 3) Who has time to read it all? And 4) Who really cares?

Another way: Some operating systems (Novell Netware being a good example of this) maintain deleted files for quite a while before they are completely purged from the server. They can easily be retrieved at a later time using a graphical retrieval program.

This is done every day for innocuous reasons, such as someone accidentally deleting a document. Naturally, any capability can be used for evil as well as good.

On the other hand, is it really evil for an employer to make sure you are working during the times the company is paying you?

Your Internet service provider is another unknown. Many e-mail server programs have the ability to make copies of all e-mail passing through. All of them also keep good logs of the e-mail. Most just use the logs to see who sent a message, the date and time, and to whom. This data is usually used for troubleshooting and for when an Internet service provider comes under hacker attack. Otherwise, no one probably cares.

So, if you are worried about personal e-mail being viewed by your employer, then get a free Web-based e-mail account, such as one from Hotmail (www.hotmail.com) or Yahoo (www.yahoo.com).

Even then, remember that your employer may have the capability of tracking all of your Web-surfing habits. This can be done through a computer or software program called a Proxy Server. This device is used to talk to the Internet on behalf of all the users on your network. It can be used to speed up your surfing, and as a firewall. However, since all the traffic in your office flows through this system, it is also logged.

As I've mentioned in this column before, remember: The idea that you can remain anonymous while surfing the Web is largely illusionary.

Dave: You know, Derek, we all send and receive - personal e-mails at work.

It's no different than receiving or making personal phone calls. Our employers tolerate it so long as it doesn't get in the way of us doing our jobs. The phone calls may go through a central switchboard that could also be monitored. But just as with e-mails, who has the time? Unless, that is, you give your employer cause to be concerned.

Your Web surfing beyond what your job requires can also be monitored. So Derek's advice is right on the money. I would only add that if you worry about being monitored, don't send the e-mails in the first place. Frankly, most personal e-mails for most of us can wait till we get home.

Question: First, I would like to say thanks for the information that you provide in The Journal. It is really straight talk for everyone. I have a background in PCs, but can really get stumped sometimes.

I'm looking for information on current software available to help me recover data from a crashed or damaged hard drive. Several weeks ago, you mentioned the availability of some

software to assist in this type of recovery. Of course I didn't save the information. If you could provide this information, I would appreciate it very much.

Your evaluations on software and hardware are quite interesting and assist many individuals in upgrading and purchasing new equipment. Thanks again. Sincerely, - Pat

Derek: Well, there is lots of software out there for this purpose. Not to say "I told you so," but remember, you should never need this software.

Why? You should have a good BACK-UP of your system. We've talked about this recently and I can't stress it enough. It is much cheaper and faster to restore a crashed drive with a good back-up then sending it out to a professional data recovery firm.

Ok, I'm off the soap box now. What if you don't have the back-up? Or, more likely, you have a current back-up from YESTERDAY and the most important file of your life is on the computer TODAY, and then the machine crashes? Then it's OK to use these tools!

If your computer isn't crashed, remember the good old recycle bin. Novell Networks have a great

Recovering lost data

SALVAGE tool to recover deleted data from a long time ago (depending on the size of your server drive). If your hard drive is just inaccessible, such as the flashing question mark icon on a Mac or a Disk Boot Failure on a PC, then you may be able to recover it yourself. On the Mac you can use the disk tools floppy, find the system hard drive icon and run Apple's Disk First Aid. For the PC, of course, you own "Norton Utilities" and can try that.

If these work, great. If not, well, not so great.

If you have a true "crash," which historically meant that you have a true hardware failure, then you can't do much yourself. You need professional help. If you have a back-up, you can reformat your drive, test it thoroughly (I'd use "Spinrite," www.spinrite.com, for the PC), reinstall the operating system and then restore your back-up.

If you don't have a backup, there are a couple of data recovery places I would recommend. My company has used Ontrack Data Recovery (www.ontrack.com) three times, twice for clients and once for ourselves. What can I say? Now you know why I jump up and down about back-ups! They did the job all three times.

I've heard good things about Drive Savers (www.drivesavers.com). Another of the millions or so companies you'll find by doing a Web search on "data recovery" is CBL (www.cbltech.com). It advertises free evaluation and a no-data, no-charge policy.

Dave, don't you guys at Washington Apple Pi know of lots of hard disk utility software out there?

Dave: Actually, there are a number of Mac repair and recovery programs, one of which you'll recognize - "Norton Utilities" by Symantec. The latest version is 5.0 and will repair your Mac even if you don't boot from the Norton CD.

It can check, repair, optimize and wipe your hard drive and even recover lost or deleted files. Check out the Symantec Web site at www.symantec.com/u/ndex.html.

I use a couple of other programs too - "Disk Warrior" from Alsoft will build a new, optimized directory file for your Mac that helps prevent hard disk damage and it installs a monitor to

"Your Internet service provider is another unknown. Many e-mail server programs have the ability to make copies of all e-mail passing through. All of them also keep good logs of the e-mail. Most just use the logs to see who sent a message, the date and time, and to whom."

keep track of things to make sure problems get fixed when they occur. For more information, go to www.alsoft.com. The latest version is 2.02.

The other program is called "Techtool Pro 2" - an excellent utility repair program that offers three levels of repair options based on how detailed and technical you want to get. It will do all the checks and repairs for you with the click of one button, or you can choose a specific repair function - including optimization, file recovery and more. And unlike Norton, "Techtool Pro" also looks at all parts of your Mac's hardware - including RAM, ROM, the cache and more. "Techtool" is made by Micromat Computer Systems. A new version is expected for release soon - perhaps at MacWorld in New York City later this month. Check it out at www.micromat.com/mcs.

Of course, Pat, if your drive has crashed to the point that it cannot be seen by your computer, you may have to go to a commercial company that specializes in data recovery. They aren't cheap but they usually get the job done for you. Check in the Yellow

Pages or in the back of most PC or Mac magazines for advertisements.

Finally, I want to mention the Washington Apple Pi "Pi Fillings" CD that includes a number of utilities and upgrades that you might find useful. It's just \$10. Check out the Mac user group's Web site at www.wap.org.

Dave Ottalini is on the board of directors of Washington Apple Pi (www.wap.org), the Apple/ac user group based in Rockville, Md. He is employed as a senior producer for CNN Newsource, the affiliate service of Cable News Network.

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DoubleClick

Conflicted over upgrade options

Finding inexpensive site host

By Derek Rowan and Dave Ottalini
Special to The Journal

Question: I have a PowerMac 6500 with OS 7.6.1 and I am wondering if I should upgrade my America Online software from Version 3 to Version 4. I read somewhere about potential conflicts between my extensions and Version 4. Is this a big problem? Would getting a newer Mac OS solve this? Also, is the PowerMac 6500 going to run more slowly on AOL Version 4? I sent these questions in an e-mail to AOL but they never answered! Thanks for your help. - V. Mancuso

Dave: First off, yes, you should be running a newer Mac OS than 7.6.1. You need to upgrade to System 8, and preferably go up to 8.6 at this point. I think you'll be happy with the increased stability and performance of your Power PC 6500 (the newest version of the OS - 9.0 has some other issues I don't think you need to worry about right now).

That said, you will likely also have to increase your memory as well - the 6500's performance would be improved tremendously with an increase to, say, 64mb of RAM or 128mb. Prices are reasonable enough to make this a worthwhile addition. Doing this will make your experiences with the Internet - and AOL - much, much better. Check Deal Mac at <http://deal-mac.com/> for the best prices. OR you can wait till June's Washington Apple Pi Computer Show and Sale at Northern Virginia Community College.

The latest version of AOL is 4.0 for the Mac (5.0 is said to be in beta but I've seen no indication when it will be released) and when you upgrade your OS, you should go ahead and upgrade to the latest version of AOL. Version 3.0 may not work with System 8 in any case.

I did a search in www.macfixit.com for the term "AOL" and came up with any number of postings about problems folks have had in the past few years with AOL software on the Mac. Derek and I have talked about AOL problems in any number of columns in the past and I think we would both agree that the software can be challenging at times. (I must add at this point that the company I'm employed by, Time Warner, is going to merge with AOL sometime later this year.)

I suggest you check out the postings at MacFixit to see what problems other folks have been having - system crashes, trouble getting onto the Internet, etc. AOL has a lot going for it and lots of folks like it and use it (in fact, are using it more than ever before), but it can cause challenges, so you should do your homework a bit, read up on the problems folks are having and go from there.

One of the things I found, by the way, is that the browser of choice for AOL is "Internet Explorer" (even though AOL owns "Netscape"!), so you

should make sure you have the latest version of "IE" installed - it's Version 4.5 and is available from Microsoft's Web site or on CDs from MacAddict (among others). It will install all the latest extensions AOL needs to work properly with "IE."

Finally, if you are using AOL strictly to get onto the Internet, I suggest you consider using a company like Earthlink or Mindspring to get you there instead - they are Internet service providers whose sole job is to connect you to the Internet without the overhead that AOL provides. IF you like the AOL interface, etc., then definitely stay with it and enjoy it.

Derek: Hmmm ... upgrade or not ... those in the Windows world may agree with me when I say - don't. Of course, I can't offer this advice across the board. For the most part, though, upgrading just for the sake of upgrading almost always causes new problems with Windows or its applications.

OK, maybe I'm a little too cynical on this subject. It just seems that every time I try to upgrade something, it breaks something else. Is it a major problem? Not usually. At our office at HLP Associates, we call it the "PITA Factor." That stands for "Pain In The Rear Factor." I know the letters don't match - we are a family newspaper. Anyway, the PITA Factor usually discourages me from upgrading. In fact, the laptop I am typing this on right now uses the original Windows 95 and "WordPerfect 6.1." It just works. And it has worked flawlessly for years. I'm convinced that's so because I haven't tried to upgrade anything!

But we all know that we really have no choice in whether to upgrade or not. The best we can hope for is the ability to skip a couple of versions before having to upgrade! In the Mac

world, you'll find, too, that upgrading the operating systems isn't quite as bad as it is in the Windows world. For those who have Windows 95, and it is working fine, I wouldn't upgrade to Windows 98. Wait for the next version to see if it really does something more that you absolutely need, or there is a new piece of software that requires the new operating system.

Question: I am active in a neighborhood civic association in Arlington. We currently have a Web page and listserv provided at no charge through Rootsweb. This arrangement has served us well over the past several years, and the only marketing feature subscribers to the listserv are subjected to is a monthly newsletter from Rootsweb. However, our webmaster has told us that there are limitations on the size of the Web page which constrain our ability to post information and display graphics of interest to the community.

Are you aware of any other options - free or low-cost - for these services that would be suitable for nonprofit or civic organizations? We'd like to explore alternatives, yet don't know where to start. Current subscribers don't seem to mind a small amount of marketing, but most don't want to have their addresses distributed broadly, have lots of flashy advertisements on the Web page, or be subject to spamming. Your suggestions are most welcome. - DeAndra Beck, president, Ballston-Virginia Square Civic Association (www.bvsca.org)

Dave: DeAndra, a couple of things come to my mind, and I'm sure Derek will have more ideas. Do you have a member whose company has an Internet presence and would be willing to host your group? That might be the cheapest and easiest way to increase the offerings you want to make for your association.

I also did a quick search on the Internet and found a number of Internet service providers that offer inexpensive (\$10 or so a month) Web hosting - that figure is quite reasonable, I think.

Beyond that, you might do an inventory of what you are currently offering and see how it can be organized better or what can be deleted until you can make a decision about what direction your group decides to take.

Derek: Dave's right. A member with a Web site already could easily host your site. If they have their own server, they could do this at no cost. We at HLP host some Web sites for our staff's hobbies. Of course, since we offer commercial Web hosting, that isn't really a fair comparison. But none the less, it is very easy to set up another Web site if you are already hosting one.

Low-cost Web sites are easy to find, as Dave suggests. Another place to check is your personal Internet service provider. Just about all ISPs give you Web-hosting services as part of your monthly fee. Most people don't even use this space. I would check with your ISP or the ISPs of your board members.

Dave: Our readers provide wonderful feedback - and are never afraid to let us know what they think about some of the comments we make. Take Earle, for instance:

Just finished reading your Jan. 24 column about the ORB backup. My only comment for anyone considering this option is: NO!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

I have been through three drives and disks since August 1999 and still don't have a back-up. I just received drive No. 4 from Castlewood and I'm afraid to open it and try to install it. I have to admit Castlewood has been very

prompt in responding to my e-mail for help and when nothing worked it did not hesitate to replace the drive and disks.

What I have now is a \$230 paperweight (bought one extra disk). Since it is still shrink-wrapped and has all the software and manuals with it, I'm thinking about putting it on one of the auctions, such as eBay.

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DoubleClick Program may need updating

by Derek Rowan and Dave Ottalini

Question: My parents purchased an iMac DV. They love the machine and now use the Internet quite extensively. One of the things they had most been looking forward to was Internet banking.

Unfortunately, when we visited the Bank of America Web site we learned that customers with IBM clone machines can use either "Netscape" or "Internet Explorer," while Mac users are restricted to using "Netscape" only.

Originally, I had set my parents' iMac up with "Netscape," but we had to move to "Internet Explorer" because "Netscape's" tendency to crash was frustrating. I tried increasing "Netscape's" memory several times, but in the end it was easier on everyone if they changed programs.

I e-mailed the Bank of America customer support address to ask when they were planning to add the Mac version of "Internet Explorer." Here's where I am in need of your advice. A Bank of America support person e-mailed me back to say they weren't accommodating the Mac version of "Explorer" for security reasons. It seems odd to me that the PC version and the Mac version should differ so substantially, so I tried calling the number provided in the response e-mail.

After a frustrating series of conversations with their computer "experts," I'm no closer to understanding what's going on. They told me first that they could work with the Mac version of "Netscape" because it's a "Windows-based" application, while Mac "Explorer" is not. (Wrong. Neither are Win-

dows-based. Duh!)

Then, I was told that the Bank of America and Microsoft had invested significant resources in testing "Internet Explorer" overall and found that it wasn't secure enough to use for bank transactions. (Wrong. The person didn't realize they do accommodate the PC version). Finally, I was told by the supervisor of the online banking assistance office that she doesn't type on a Mac and that's why they don't support the Mac version of "Explorer." (No comment on that one.)

I know I fell into a raging sea of computer illiteracy and some pretty general incompetence by contacting these people. Is there, however, any support for their repeated insistence of security problems with the Mac version of "Internet Explorer"?*/hanks. - Terry

Dave: I think this is one of the most frustrating computer stories I've read in many a year. I double-checked the Web site with "IE 5.0" and, sure enough, after getting to B-of-A's online banking page I was told the only browser it supports for the Mac is "Netscape 4.0X." Of course, when I tried "Netscape Navigator 4.08," it gave me the same page. I decided to hit the "Back" button, and lo and behold, there was a new page at: <https://server44.bankofamericaonline.com/ogon/ogon.html>. It was the log-in page.

I ran back to "IE 5.0" - the latest (and brand-new) version, mind you - and could not get beyond that error page. However, "IE" did tell me that the page was secure.

I chose to look at that page's source (the HTML code which you can do from

any browser) and discovered that the IBM programmer - who was named - had last revised this page in 1997. That log-on page I got to in "Netscape" - again written by an IBM programmer - had not been updated for two years. "Netscape Navigator 4.08" has a copyright 1994-98. Thus, there's no support for anything beyond that one version. Bottom line: They've not updated in a long time.

I did not try to call Bank of America, Terry - you have already been though that. But I think what you've found is another classic case of folks who may be unwilling to serve all their customers because they refuse to shake their misconceptions and "think different." IBM makes the chips that power the Macs. Both Macs and PCs on the Internet use basically the same browsers that read and display the same HTML code. In fact, the latest versions of both browsers on the two platforms provide excellent security and are used daily by many, many folks around the world to conduct many forms of business - including banking.*/m not sure why you have had trouble with "Netscape 4.08," because I've found (with my older Mac - a Performa 6400) that it has been very stable. A reinstallation might be in order there. If your parents want to continue using Bank of America's online services, they'll have to go back to "Navigator." They might also consider another bank that is more friendly and flexible - a bank that is willing to treat all customers fairly and offer them the same level of services no matter what platform they are using.

Unfortunately, we as Mac users face this kind of discrimination because some, and I emphasize some, businesses are not willing to take one extra step to serve everyone. Those that do reap the rewards of loyalty and increased profits (end of editorial!).*/ Derek, any thoughts on this? I wonder if part of the problem is B-of-A has grown through mergers (it

bought NationsBank) so fast that it just hasn't caught up on the technology front.

Derek: Dave, you and I don't agree on the issue of whether Mac users face discrimination.

First, let's talk about the problem. Dave's right about how the system was written before the software in use today was out. Remember, though, that it is OK to have more than one browser on a computer. Sure, the site owners could change their system, but it is not that big of a deal for me to have different browsers. I would suggest, Terry, that you install "Netscape" and rename it "Bank of America Online Banking Software" instead of "Netscape Navigator." That way, it is clear what its use is for. It should work fine for only that purpose.

As to why Bank of America doesn't support "IE," that's a different problem. One possible reason may stem from the fact that there are three different kinds of encryption out there for browsers: 40 bit SSL, 128 bit SSL and SGC. It was determined from the banking industry that you must have 128-bit encryption when dealing with online banking. They want to make sure it is very strong. They won't let you connect with 40-bit. (I have no idea whether Bank of America is set up in this way, but it should be.)

If you downloaded "Internet Explorer" (especially in the older days) you got 40-bit encryption. There are updates for "IE" to make it 128 encryption, even for the Mac. Remember, 128-bit encryption is only available in the United States.

When that log-in system was written, 128-bit for the Mac "IE" probably didn't exist. So the programmer decided to disallow the Mac "IE" from entering. This protected the users from having their online banking information compromised, which is much better than upsetting some users because they couldn't get it.

SGC encryption is a solution to this problem (and this solution comes

from none other than Microsoft). Programmers decided that because of the online banking problem and the 128-bit export ban, they would develop 128-bit encryption that was just for the banking industry. So for 40-bit browsers, the industry has this special SGC which gives online banks 128-bit encryption. Of course, all this came out after that log-in page was written, too, and the bank would need a Web server that supported this.

For anyone interested, Microsoft's FAQ on SGC can be read at www.microsoft.com/ecurity/ech/gc/aq.asp. As far as companies not supporting the Mac, I agree. But as to the claim that they are discriminating against Mac users, I disagree. I'm getting on my soapbox now. The simple fact is that often times there is not enough money in it.*/ompanies are in the business of making money for their share holders. Period. If the costs to develop an infrastructure aren't less than the necessary income from the product that this infrastructure produces, it makes good business sense to not do it. Or, if you can make more money with the same investment in PCs, that makes more sense.

Case in point: My company does not support Macintoshes. Why? The cost of an experienced technician, spare parts inventory, advertising and marketing costs, certification costs and other necessary infrastructure are way more than the income I could derive from it, based on the number of potential customers. Especially in the short term. So, what's my solution to Terry's problem? Load "Netscape."

Dave Ottalini is a senior producer for CNN Newsource. Derek Rowan is president of HLP Associates Inc. (www.hlp.net). For questions about home computers, Dave and Derek can be reached by e-mail at doubleclick@jrn.com. ■

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Surfing the 'net: Ethnic Sites

by Janet Mobley, editor@ncmug.org

KEN MORGAN sent some Scottish and Irish sites. A very interesting site in Glasgow is John Smith & Son. Bookshops. It has many pages, but a fun page to open can be found at the following URL (one can navigate from there):

www.johnsmith.co.uk/special/old.pl

The above page features a stodgy scene from the mid 1930s with the clerks posing as customers. The main page is: <http://www.johnsmith.co.uk/index.pl?mode=js&custid=27901>

The publication of Bord Failte—Irish Tourist Board, Dublin, Ireland: www.irelandofthewelcomes.com/
E-mail iow@irishtouristboard.ie.

Oideas Gael (Ireland's premier Cultural Institute): www.Oideas-Gael.com

The National Gallery of Ireland: www.nationalgallery.ie

The Belleek Pottery & Visitors Centre: www.belleek.com

St. Patrick's Cathedral, Dublin is: www.stpatrickscathedral.ie

Kylemore Abbey & Garden: www.kylemoreabbey.com

Some of the Scottish sites I have found to look up my family history, clans and tartans are:

<http://www.tartans.scotland.net/>
<http://www.scotclans.com/>
<http://www.cs.vu.nl/~dick/tartan.html>
<http://www.scottish-roots.co.uk/>

The tartan pictured is above of the Farquharson clan to which my ancestors belonged. Check out the Highlander Graphics Software site at: <http://engage.webpromote.com/cgi-bin/signup.cgi>

If you are thinking of a trip to Europe to search out family origins, or just for pleasure, Julie Dinkins suggests you go to: <http://www.ricksteves.com/> to see the site of the popular BPS series that Rick Steves hosted. Julie also sent this site which is a good start to find out about any culture <http://www.about.com>

Julie also contributed URLs for sites about China where she'd like to travel.

<http://as.orientation.com/eg/country/cn.html>
<http://gochina.about.com/travel/gochina/mbody.htm>
<http://chinese.about.com/homework/chinese/>
<http://www.Zhongwen.com/>

If you have Native American ancestry go to: <http://nativeamculture.about.com/culture/nativeamculture/mbody.htm>
<http://home.about.com/culture/>

Cynthia Jameson is a devotee of Greek dancing and found the following interesting sites about the Greek culture:

<http://www.firstnethou.com/annam/dancehis.html/>
<http://www.mich.com/~tchristy/dance/index.html#index>
<http://www.sun.rhbc.ac.uk/Classics/NJL/novels.html>
<http://gogreece.about.com/travel/gogreece/mbody.htm>

Maybe you would be interested in making a wonderful German Stollen or Lebkucken for Christmas. Just go here: <http://germanculture.about.com/culture/germanculture/library/blxmas.htm>

German castles are beautiful and interesting and you can learn more about them at: <http://cugar.home.mindspring.com/neuschwandstein.html> where you will hear lively German music and see where Walt Disney got his inspiration for the Disneyland castle.

Hawaiian music, language, travel, food and culture can be found at the About.com site here: <http://gohawaii.about.com/travel/gohawaiisitesearch.htm?SUName=gohawaii&TopNode=99&terms=Hawaiian>

Alan Fibish helped me with some Yiddish words and I found a site with hundreds of Yiddish expressions. So schlep on over to: <http://israeliculture.about.com/culture/israeliculture/gi/dynamic/offsite.htm?site=http://www.ariga.com/yiddish.htm> and daily terms here: <http://www.koshernosh.com/daily.htm>

Scandinavian sites sent by Margaret Phinney will help you research your family in the north countries at: <http://digitalarkivet.uib.no/info-eng.htm>, and <http://digitalarkivet.uib.no/nyhistorie-eng.htm> and also <http://draug.rhd.isv.uit.no/rhd/folketellinger.html>.

One of my favorite travel destinations and cultures is Egypt. See the pyramid site from Nova at: <http://www.pbs.org/wgbh/nova/pyramid/> and Mysteries of the Nile at: <http://www.pbs.org/wgbh/nova/egypt/explore/>

There are certainly a lot of people in this area whose roots are in Italy. Northern California is so much like Italy that this was a natural place for Italians to settle. Look at the Italian/American site and listen to Italian dance music at: <http://www.italianamericans.com/> where you will find genealogy, a store, a place to send your favorite photos of Italy, recipes and more.

The French American Exchange can be found at this site: <http://www.faetours.com/> where you can look into study trips in various French locations.

I found this site listed on the Fourth of July in an article about the flag shop in Sonoma. You might want a flag of the country of your ancestors.

<http://www.flagemporium.com/> ■

From the August 2000 *NCMUG News*, newsletter of the North Coast MUG.

Guy's Picks—Have you seen these sites?

Applelinks- <<http://www.applelinks.com/>>
<http://www.applelinks.com/>

Perhaps the most polished of today's offerings, Applelinks dubs itself the "ultimate Macintosh resource" with enough hard news, soft features and links to other resources to keep any Mac aficionado busy. Software and hardware links and the Buyer's Guide make this potentially useful, provided you can get past all the slick formatting without getting drawn into the hype.

EveryMac - <<http://www.everymac.com/>>
<http://www.everymac.com/>

OK, so your staff is depending on LC 575s and Quadra 950s being held together by sticky tack and frazzled RGB cables?

Wondering where to get the support you need to keep everything up and running? Now you know where to go. Self proclaimed as "the complete guide of every Macintosh, Mac Compatible, and upgrade card in the world", free membership allows you to receive updates and participate in discussions.

Mac Fixit - <<http://www.macfixit.com/>>
<http://www.macfixit.com/>

Subtitled 'troubleshooting support for the Macintosh', this site is updated daily with 'Late Breakers' on solutions to technical issues, message boards, an archive of back issues, and a download library that contains all kinds of utilities to assist you in optimizing your Mac. Very current and very useful!

Macintouch - <<http://www.macintouch.com/>>
<http://www.macintouch.com/>

One of the grand daddy's of online Mac support, Macintouch offers exhaustive resources on all kinds Mac support issues, including FireWire and USB guides, an extensive section on wireless technologies, and OS 9. There's a rather rambling presentation of current Mac news and events, but the right hand-side quick jump menu keeps you moving and learning.

Macinstart - <<http://www.macinstart.com/>>
<http://www.macinstart.com/>

This puts a human face on tech support, mainly by adopting an e-zine format and including such serious issues as "Being a Mac Addict" and even worse "I married a Mac addict!" Fortunately there are also articles on the technical end of things ("Embracing OS X", "Dual Processor G4s") to complement the feel-good features.

Overall, though, this site is not designed for serious tech geeks.

Macenstein - <<http://www.macenstein.com/>>
<http://www.macenstein.com/>

Billed as a 'Mac only search engine', Macenstein is what it is: a searchable database of URLs on all things Macintosh. While it doesn't offer the common sense categories of a directory, it does present some pretty inviting topics such as Mac Press Releases, Downloads, Tools, and the Daily Mac News and Commentary.

Macintosh Crash Tips -
 <<http://www.zplace.com/crashtips/crashlinks.html>>
<http://www.zplace.com/crashtips/crashlinks.html>

Want to avoid the fluff and banner ads of other tech support sites?

Mac Crash Tips is just that: close to 100 links to such helpful material as a Troubleshooting Flow Chart, a Complete Conflict Compendium, Macintosh-System_Error Codes

Explained, and much, much, MUCH more! The links to Apple's Technical Info Library (listed under "From the Horse's Mouth") are all outdated, but other links are functional.

Macintosh Tips and Tutorials -
 <<http://home.earthlink.net/~ohora/index.html>>
<http://home.earthlink.net/~ohora/index.html>

Longtime Surfaquarium friend Cindy O'Hora maintains this short list of highly teacher-friendly materials on Macs and the AppleWorks (formerly ClarisWorks) family of word processing apps.

Teachers will especially enjoy items like the scavenger hunts and the purchasing advice is a great help for tech support staff. It's nice to know there are still home grown sites out there we can count on!

MacMgr.com - <<http://www.macmgr.com/>>
<http://www.macmgr.com/>

If you're working with a Mac Manager server for your network, you'll want to keep hold of this URL. Brand new and aspiring to be a clearinghouse for technical issues related to Mac Manager, the webmaster is seeking contributions from in-the-field 'Macophiles' who can share their experience and expertise with the online community at large. While it may not be developed to its potential, you can have an impact on its future!

The iMac - <<http://www.theimac.com/>>
<http://www.theimac.com/>

This no-nonsense daily listing of online articles and support links for iMac users is quick loading and easy to use. It's mixture of industry news and technical information (today's headlines include articles on Virtual PC and the new iBooks). A member of the iMac Web Ring, The iMac can also help you surf to many other sites for iMac fans.

Version Tracker -
<<http://www.versiontracker.com/>>
<http://www.versiontracker.com/>

Looking for updates for your Mac software? Come to Version Tracker, get a free subscription, let them know what titles you're looking for, and they will e-mail directly to you an-

nouncements of version updates as they are released! On the front page alone there are dozens of recent releases with links for quick access to the software you're looking for. How easy can it get?

ZDNet: Macintosh -
<<http://www.zdnet.com/zdhelp/filters/subfilter/0,7212,6002564,00.html>>
<http://www.zdnet.com/zdhelp/filters/subfilter/0,7212,6002564,00.html>

ZDNet opted for the look and feel of a web directory and then archived all kinds of hints, tips and tricks here for the Mac user.

Fully searchable, everything is covered here from Hardware and Operating System to Apple Script and Fonts. Lots of product information and technical support round out the

page, all backed up by the Ziff-Davis wealth of published expertise.

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155 Raffia Road
Enfield, Connecticut 06082-5679
860-763-8868

<<mailto:gbourassa@enfield.org>>
Apple Distinguished Educator Class of 2000



Giant and Safeway—computers for the students Sign up today!!

Apply for a Bonus Card at either of these supermarket chains and then supply the store with a school you want your receipts to count toward.

Here are two schools participating in the program. Their numbers are listed below.

*Pennington School
Pennington School in
Manassas, Virginia is a brand
new public school in the style of*

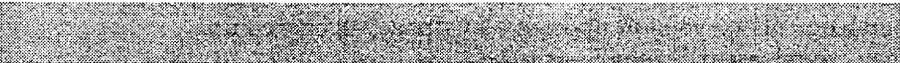
Marva Collins with high expectations for exemplary behavior and serious effort in academics. We are currently Grades 1-5 and will add another grade each of the next three years until we are educating students grades 1-8. Our student workstations are Apple IIgs and Macintosh and we could sure use some more technology money! If you wish to help our students:

The Safeway School Code

*for Pennington School is 3928
The Giant Bonus Card code is 3794*

And while you're surfing the net, please visit Schoolpop.com. If you just register in our name, we will get a donation even if you never buy anything through them.

*Henson Valley Montessori
School's
Safeway School Code is 0571
Giant School Code is 0534*



Mailing Lists are a Great Way to Stay Informed on a Whole Host of Different Topics; Here's a Beginner's Guide

by Chuck Joiner, HAC President

THE INTERNET gives us all opportunities to communicate and obtain information which were unheard of only a few years ago. Email, message boards, live chats, personal and commercial web pages, newsgroups, "push" technology... the list goes on and on. All you have to do is find the ones which work for you.

Email lists are one of my personal favorites. They allow you to focus on a specified subject, and tap the knowledge and expertise of a large number of people, at your convenience, and have the answers delivered right to your doorstep... er... email box. They also allow you to share your experience and expertise under the same terms.

For those new to the concept, they can be slightly intimidating. Let this article be your guide to understanding and getting the most out of email lists.

What Is A Mailing List?

A mailing list is just that: a list of people with similar interests who communicate via email. An email sent to the list will be delivered to everyone else who has joined (or "subscribed") to that list. Likewise, if you respond to a message from the list, your response will be forwarded to everyone on the list. Once subscribed,

the process is completely transparent.

Why Would I Want To Do This?

Because, with just one message, you can communicate to everyone else on the list. That can range from a handful of people to thousands, depending on the list. And that is much more efficient than emailing all those people individually, or trying to figure out which one(s) might be able to address your question.

How Fast Does This Work?

As with any email message, delivery depends on Internet traffic, your server, and the response of the email list server you are working with. However, you can expect comparable time frames to a normal email message; in other words, within minutes.

What Is A Digest?

With a normal email subscription, each message sent to the list by a subscriber is distributed to the list also as a separate message. For busy lists, this can become overwhelming! A digest is a special form of subscription to an email list. With a digest, you would only receive messages in a batched fashion, usually one per day. In that single message would be contained a copy of every message posted to the list for that day, along with an index

of their titles. For example, here is the index from Guy Kawasaki's Rules For Revolutionaries list (with the email addresses changed):

The Copyright Issue
by "Bill Coleman AA4LR"
<joe@smith.com>

Re: 50% For The Incubator?
by "Jorge Arenas" <tom@jones.com>

RE: RFR List Spin-Off Announce-
m e n t
by "Stacey Arbetter"
<jim@wilson.com>

You can easily see what the subject is, who the message is from, and whether it is a reply to an earlier message (as designated by the "Re:" preceding a subject. You then scroll down through the message, reading those which interest you.

The advantage to digests is that, instead of tens or hundreds of messages clogging your email box each day, only one arrives, and you can review all the information at one time, in one message. The disadvantage is that some of the immediacy of the lists is eliminated. If someone posted something to a list at 8 AM announcing a special TV appearance, or special one-hour only sale at noon, those subscribers with a normal subscription would receive the message minutes later. But those with a digest subscription might not receive it until 6 PM, or midnight, or even the next day, depending on when the list is set up to distribute the digest. Depending on the topic of the list, this may not be important, or it may be critical.

Not every list offers a digest option. It depends on how the "list mom" or list administrator has set up the list, and on the software being used.

Moderated And Unmoderated Lists

Moderated lists are those in which each and every message must be viewed and approved by one of the list moderators before being sent on to the entire list. Again, this is an op-

tion selected by those running the list. Advantages to moderated lists are high quality (no "junk" postings get through), and the reduction of off-topic postings, as well as the ability to edit content for the audience. Doing this is much more work for the list moderator, and can cut down on the immediacy of communications.

Unmoderated lists are just that—unmoderated. When someone posts a message, it goes straight to the entire list, unfiltered, regardless of content. Communication is swift and direct, but can sometimes wander off-topic or degenerate into flame wars. **Your Attention Please: What Is An Announce List?**

An Announce list is a special type of mailing list. You can subscribe to it just like any other list, but only designated individuals, usually the list moderator(s) can post to it. This type of list can be used by businesses, magazines, or others who deliver information on a regular basis to an audience who wants to hear from them. If you like getting daily tips from Macworld magazine, you can subscribe to that list. If you get tired of it, you can unsubscribe. You get to make the decision, not continue to be spammed by email you don't want.

Getting Connected: Subscribing To A List

Subscribing to a list can involve signing up at a web site, or simply sending email to a designated address. Web site subscriptions are as easy as selecting your options and filling out a form. Email subscriptions require a little more work, since you will first have to obtain the email address of the list, and then find out about its options.

Let's subscribe to a fictitious "I Love Apple" list. We find out that the address is `iloveapple@infatuation.com`. So we send a blank message (both subject and message body). Within seconds, a message comes back listing the commands available. These might include

"Subscribe," "Unsubscribe," "Subscribe Digest", and more. It might say that to subscribe, we need to send a blank message to `subscribeiloveapple@infatuation.com`. Or that we send a message to `iloveapple@infatuation.com` with the subject as SUBSCRIBE. (The exact nature of the response required depends on the list software.)

We follow the instructions exactly, send the message to the indicated email address with the designated subject if any, and bang! We're subscribed and start getting messages.

Security Issues

The above description is the simplest version of what you may find. As with so many things on the Internet, some people have found ways to abuse email lists, and list moderators have taken steps to protect both you and them.

If the above-described method is all that is required, what would prevent you from taking home the list of all the PC-loving people you adore at work, and subscribing them to "I Love Mac?" Other than job security, nothing.

Many lists now confirm that you really want to subscribe to the list. So, after you have subscribed to a list via web site or email, many times you get back a message indicating that someone has requested that your email address be added to their list. If you wish to confirm, you must reply, *from the email address being subscribed*, sometimes within a specified time period. Once you do so, your subscription is complete. If you don't, it is discarded by the list software. Since, in theory, only the person with the email address can respond from their own address, there is a level of security introduced.

Who Can Play: Posting To A List

Once subscribed to any email list, you will receive a welcome message

"Email lists are one of my personal favorites. They allow you to focus on a specified subject, and tap the knowledge and expertise of a large number of people, at your convenience, and have the answers delivered right to your doorstep... er... email box. They also allow you to share your experience and expertise under the same terms."

confirming the successful subscription and providing guidelines for content, options (such as digests, archives of past list postings, etc.), and instructions for posting to the list. Usually it is as simple as adding "iloveapple@infatuation.com" to your address book. Then, just address a message to the list using that address, type your message, and send!

It is important to note that only successfully subscribed members of the list and the list moderators can post to any given list. That's another feature which keeps the spammers out.

List Etiquette

The same etiquette issues which apply to any email communication apply to email lists. Some of the most important are:

- Postings should only be about the topic of the list.
- If you must post something other than list-oriented material, include "Off-Topic" in the subject. It will warn readers and save you from receiving lots of flame mail.
- Postings should be as concise

as possible.

• If you can't contribute something to the discussion, don't post. For example, if someone asks where they can buy Apple posters, and you don't know, there's no reason to reply with an "I don't know," message. It just clutters up the list, and you will be flamed.

• If you subscribe to a digest, and want to reply to a specific message, be sure to change the subject of your message to be a reply to the actual subject, rather than just hitting the Reply button and having a subject listing of "Re: I Love Apple Digest, July 4, 2000."

• Do not send attachments to the list unless they specifically say you can. Remember, you are going to be communicating with potentially thousands of people. Most of them probably don't want your file taking up space on their hard drive. Proper etiquette is to provide either a URL or an ftp link where people can see the file, or download it if they are interested.

• If your email software has quoting capabilities, be sure that you quote only the pertinent part of any message you're replying to.

• If you use an automatic reply option when you are away on vacation, be sure it does not send those messages to any email lists you subscribe to.

• Last but not least, if you want to leave a list, use the appropriate unsubscribe command. Do not, under any circumstances, post a message to the list asking how to unsubscribe. Nothing is more detested by list administrators and list subscribers alike. Most email lists have either command summaries or information on where to get commands at the bottom of each message.

Start Your Own List!

There was a time that operating a mailing list required a dedicated server, the appropriate software, and a great deal of time. Now, you can start your own list easily, with little or no expense.

Why would you want to do this?

Well, you might find it useful for your local church group, any club or organization you belong to, or even for your company, to allow easy communications between remote locations or individuals of a given speciality, or perhaps for something as simple as your own family which has moved from the area and wants to stay in touch. Once you get used to email lists, you'll find a wide variety of uses.

If you really want to have total control over everything and don't mind the investment in time or dollars, check out LetterRip Pro by Fog City Software (www.fogcity.com). This package lets you run a mail server from your desktop, using only a dial-up connection.

But if you don't mind a little advertising, you can run a sophisticated email list for free. There are several out there, but you should strongly consider MacLaunch (www.maclaunch.com), Topica (www.topica.com) and the one we use for the Group lists, eGroups. (www.egroups.com). The moderator tools are sophisticated but simple to use, set-up is a breeze, and best of all, it is free!

The Bottom Line

Email lists are a great way to meet and converse with other people around the globe who share your interests. You can participate in virtual time, on your schedule, in the most convenient fashion possible, since the information comes to you rather than you having to visit a web site on a regular basis. And if you have a favorite topic or want a little more control of the discussion, you can easily start your own list at little or no expense. If you haven't given them a try, now is the time to start! ■

From the July 2000 *Seeds*, newsletter of the Hershey Apple Core.

Mac Mailing Lists

With all that said, you're ready to see what's out there, right? Being a Macintosh enthusiast, you should consider checking out these great lists:

Apple User Group Members List—News straight from the mothership!
<http://www.lists.apple.com/augb.html>

Mac-L List—A great technical support list Send a blank message to macl@clio.lyris.net

The Power List—Another good tech support list; Woz has been known to post here!
<http://lists.lyris.net/powerlist/>

The Hershey Apple Core's Lists—one announce, and one discussion. Keep in touch with us, and your fellow members!
<http://www.hersheyapplecore.com/maillists/maillinglists.html>

Lists At The Macintosh Guy—Several high-quality email lists, including some which are machine and topic specific.
<http://www.themacintoshguy.com/lists/>

Find A List That Interests You

Your interests go beyond just the Mac. Find a list that matches your other passions.

Search the List of Lists
<<http://catalog.com/vivian/interest-group-search.html>>

PAML—The Publicly Accessible Mailing Lists Directory
<<http://paml.net/>>

Meta-List.net—multilingual search engine for mailing lists, with more than 200,000 on file.
<<http://www.metalist.net/>>



Macintermediates: Upgrading Your Older Macintosh Computer

by Thomas A. DiBenedetto
dibened@dreamscape.com

THE INTERMEDIATE SIG has been taking questions for the past three months about upgrading older Macintosh computers. The questions have been very general in nature, i. e., "Can I add a USB card to a PowerMac?" or, "My Mac is slow, can I upgrade the processor to a G3 or G4?"

If you attended last month's Intermediate SIG you would have seen Ben McGann upgrading my G3 Power Mac from 266 to 466 MHz by installing a Formac Zif upgrade card. This is a slightly more involved installation than I wanted to get involved with myself—so Ben graciously volunteered to install this upgrade for me. A User Group is a wonderful place to find friends and that little extra needed help with your computer.

I have started to compile a list of possible upgrades that could be accomplished on the Macintosh Performa computer series. The Performa line was Apple's attempt to enter the consumer market many years ago. Following you will find a list of 72 different Performa models that Apple designed over the years. These models are listed in Apple's Specification Data Base. Some of these models were marketed also in the Education division under different names. I never knew Apple had such a variety of Macintosh computers. No wonder Steve Jobs changed the direction of the Macintosh when he came back on board as iCEO.

This table lists the model numbers, maximum RAM and VRAM possible for each machine, processor upgrade cards, USB, FireWire and Ethernet card upgrades. This is not a totally exhaustive list of possible upgrades, but rather a starting point for your research on the Internet. I have not addressed motherboard upgrades here at all. This is an entirely different topic that might be addressed at a later date.

So why may you want to consider doing an upgrade to your Performa? Your computer might be a little slow by today's standards. You need to network your older Performa with a new iMac so you can transfer files easily. You want to use a new USB printer on an old Performa. You only have a little money at this time, just not enough to buy that new computer, but you would like to improve your computing abilities right now. These are just a few possible reasons for upgrading.

RAM

Random Access Memory (RAM) is the amount of memory your computer has installed either soldered on the motherboard or by the use of memory chips installed in RAM slots. Click on the Apple Menu and open up the window that says, 'About this computer.' This window will show how much built in memory or total memory is installed on your computer. Another way to access this information is to use the Apple System

Profiler found in your Apple Menu list. The Apple System Profiler will create a read-out of how much memory is installed on your computer, in which RAM memory slots the chips are installed and the type of chips you have, DIMMs, SIMMs. etc. This is very important information to know when you purchase new chips to upgrade your computer. This information, what kind of chip, is not listed on my chart. You can find this information in mail order catalogs, on Apple's Web site or going to the Web site

<<http://www.macresource.pair.com/mrp/ramwatch.shtml>> This site will also give you the price of RAM from several dealers. I always go here to check for the lowest price before I purchase. I never buy RAM through a mail order catalog. Generally, the price in mail order catalogs is too high.

Purchase as much RAM as you possibly can. You don't have to purchase all the RAM you want at the same time either. Since many computers have several RAM slots you could buy some RAM now and wait a few months and then purchase some more. Just fill up the slots as you go along.

The price of RAM fluctuates greatly as with any commodity. If you buy over several months you could benefit from dollar cost averaging, as if you are purchasing stock from the NYSE. Also look for special deals like free RAM with the purchase of a computer or warehouses offering great special prices because they are overstocked with a particular kind of RAM chip.

If you don't know how to install the RAM yourself, just bring your computer with you to the next SMUG meeting and I am sure one of the SMUG members will install it for you for free. Just think most retail dealers will charge you about \$30.00 just to install the RAM. So one year's membership in SMUG is equal to a free installation of RAM!



VRAM

Video Random Access Memory is the memory used by your computer to redraw your monitor screen. The more memory installed the faster graphics will appear on your computer monitor. Also the VRAM determines how many colors are supported by your computer, 256 colors, thousands or millions. If you can upgrade this chip on your computer it is worth while to do so. The Apple System Profiler will tell you how much VRAM is installed on your computer. Again ramwatch will give you the price for VRAM.

Processor Upgrade Cards

So let's make your computer go faster. Faster for raw mathematical calculations, faster for downloading software, and email or faster for processing graphic or video information. I have listed eight different companies that make processor upgrade cards. Not all of these companies make cards for Performa computers. In fact some companies, Formac, XLR8 and PowerLogix, don't make upgrade cards at all for the Performa series.

They do make upgrade cards for the PowerMac computer.

USB Upgrade Cards

You have this urge to go out and buy a new USB printer, scanner, external hard drive. You don't have a USB port on your Performa. So go out and buy a new upgrade card. Several are on the market. You can purchase cards from Belkin, OrangeMicro, and XLR8.

Fire Wire Upgrade Cards

New technology, FireWire, I have to have this product. You can add FireWire to your existing Performa.

Ethernet Upgrade Cards

You have a new iMac and an old Performa. You want to network these computers together to easily transfer files or share programs. Transferring files by modem to modem connection is too slow for you. You can add an ethernet card to your old Performa. Three companies make upgrades cards that will solve this problem for you.

As stated earlier this table is not

an all inclusive list of possible solutions. There are other options on the market to solve your upgrade problems or desires. This is just a starting point.

References:

Apple Spec Database; Apple Memory Guide May 2000; Apple Computer <<http://www.apple.com>>; Belkin <<http://www.belkin.com>>; Day Star <<http://www.daystar.com>>; Farallon <<http://www.farallon.com/products/>>; Lower End Mac <<http://www.lowend.mac>>; MacSense <<http://www.macsense.com>>; MicroMat <<http://www.micromat.com>>; NewerTechnology <<http://www.newertech.com>>; OrangeMicro <<http://www.orangemicro.com>>; PowerLogix <<http://www.powerlogix.com/home.html>>; Sonnet <<http://www.sonnettech.com/product/>>; XLR8 <<http://www.xlr8.com/ProductInfo/>>.

From the September 2000 *The Apple Tree*, newsletter of the Syracuse MUG.

Giant and Safeway—help contribute to school computer programs. Sign up today!!

Here are two schools participating in the program. Their numbers are listed below.

*Pennington School
Pennington School in Manassas, Virginia is a brand new public school in the style of Marva Collins with high expectations for exemplary behavior and serious effort in academics. We are currently*

Grades 1-5 and will add another grade each of the next three years until we are educating students grades 1-8. Our student workstations are Apple IIs and Macintosh and we could sure use some more technology money! If you wish to help our students:

*The Safeway School Code for Pennington School is 3928
The Giant Bonus Card code is*

3794

And while you're surfing the net, please visit Schoolpop.com. If you just register in our name, we will get a donation even if you never buy anything through them.

Henson Valley Montessori School's

*Safeway School Code is 0571
Giant School Code is 0534*

Conclusion to

**Capturing the Eyeballs
and E-wallets of Captive
Kids in School:
Dot.com Invades
Dot.edus.**

by: Dr. Nancy Willard,
Research Associate
Center for Advanced
Technology in Education
University of Oregon,
Eugene OR 97403

First portion published in
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A recent survey conducted by the Annenberg Public Policy Center revealed that many children think that it is OK to provide sensitive family information to commercial sites on the Web when enticed with the offer of a gift. (22) The vast majority of parents reported that they were concerned that their children would provide personal information while using the Internet. The Annenberg study concluded:

"For media and marketers, information about teens is an increasingly valuable commodity. For logical business reasons they will pursue knowledge about youngsters and their families as aggressively as possible.

The task for a civic society is to set up a counter balance their efforts that establishes norms about what is ethically and legally correct for media and marketers to do." (p. 34)

The report noted that "parents cannot develop norms about family privacy alone" because "they simply do not know enough about the Web to be aware of the way Web sites gather information and what to do about it." (p. 35) Schools and other community groups were encouraged

to contribute to the effort to teach children and parents about information privacy on the Internet.

It is impossible for schools to teach children about the importance of protecting their personal privacy on the Internet, when schools are entering partnerships that require students to agree to the collection of personal information as a condition for use of the technology resources.

The following are the most important paragraphs in this report!

Dot.com companies have an advantage in reaching children. The emergence of an understanding of the appropriate boundaries of personal privacy is clearly a developmental process, tied to the child's emerging cognitive development. Technically proficient children are using the Internet before they have the cognitive ability to appreciate the possible consequences of disclosure of personal information. Dot.com companies can use this to their advantage in seeking to mold the children's perceptions about personal privacy. They are able to accomplish this largely outside of parental influence because most parents do not know about the actions and intentions of these companies.

Dot.com companies are asking children to disclose personal information and then using that information to develop a close relationship with the child for the purpose of influencing consumer behavior. Such companies are working with child psychologists to gain better insight into the thinking of children to improve their ability to manipulate the child for commercial purposes. This is commercial exploitation. But the potential of injury to children from this kind of exploitation may be greater than simply damage to the pocketbook of the child or parent. Children raised in such an environment will likely fail to develop an understanding of the appropriate boundaries of personal privacy. They will be extremely vulnerable to all manner of manipulation

"Technically proficient children are using the Internet before they have the cognitive ability to appreciate the possible consequences of disclosure of personal information. Dot.com companies can use this to their advantage ..."

and exploitation, not only from corporate marketers, but also from scam artists, cults, and sexual predators. Essentially, stripped of its purpose, there is no difference between the strategy followed by the dot.com companies and that of sexual predators. ■

References

(22) Turow, J. (2000, May 16). *The Internet and The Family 2000*
http://apccpenn.org/finalrepor_fam.pdf.

(23) 45 CFR part 46

(24) 16 CFR part 312

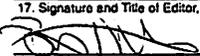
(25) The provision by a student of his or her name and address to a university to receive information materials or to a company when seeking internship opportunity are examples of legitimate educational purposes.

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About the author: Nancy Willard has a BS in Elementary Education, a MS in Special Education, and a Doctor of Jurisprudence with a practice in the area of computer law and copyright.

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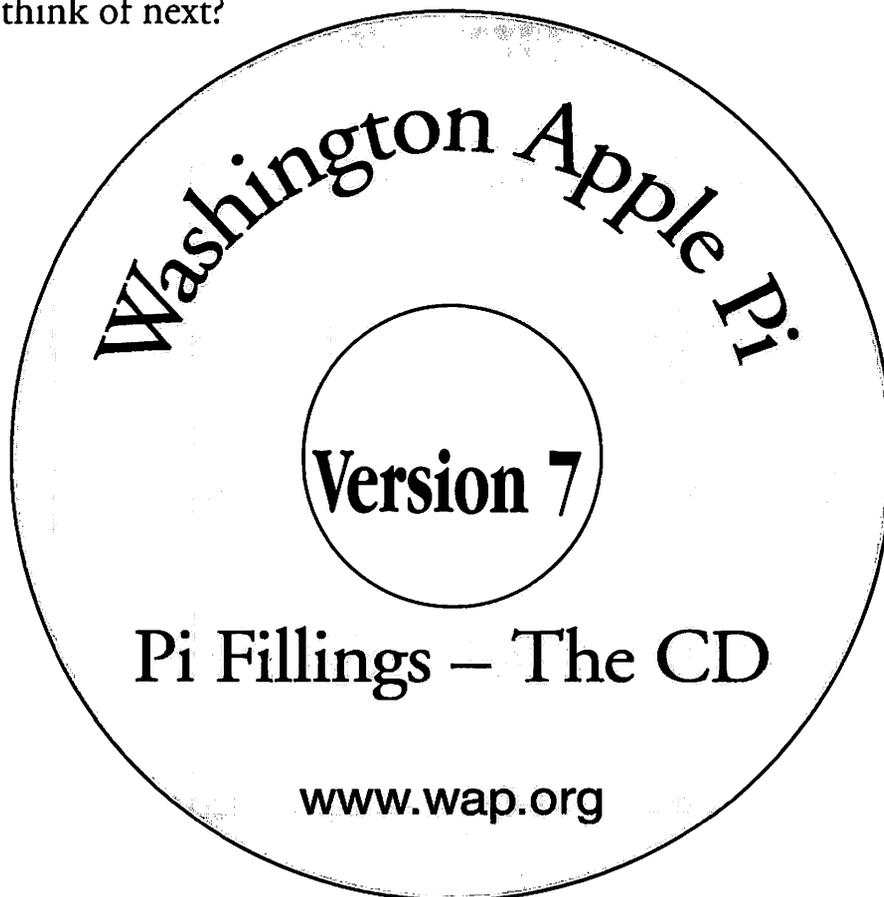
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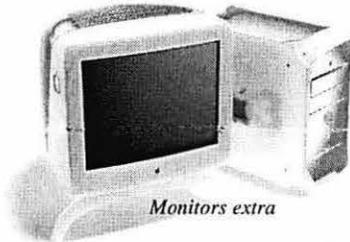
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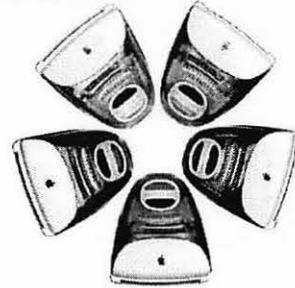
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