

WASHINGTON APPLE PI



Volume 26, Number 4

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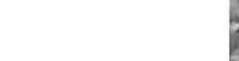
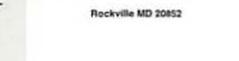
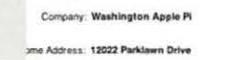
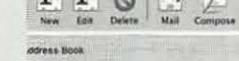
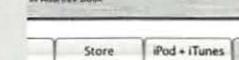
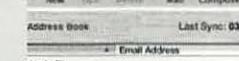
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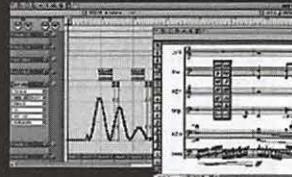
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Postal Information

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- Sept./Oct. July 25
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- Sept./Oct. Aug. 1
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Volunteer Needed!!!

Washington Apple Pi

This issue of the Washington Apple Pi Journal was created on a G3, with proofing on an HP LaserJet 5000 N.

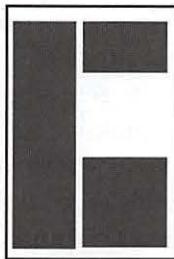
The page layout program used was PageMaker 6.5 the word processing program was Microsoft Word 5.1; the principal typeface is Palatino (10/12) for the articles; and Avant Garde Demi for headlines, subheads, and emphasis. Charlemagne Bold for drop caps.

Cover Design: The WAP Journal cover design was created by Ann Aiken in collaboration with Nancy Seferian. The Capital artwork was illustrated by Carol O'Connor for One Mile Up, which donated it for use on our cover.

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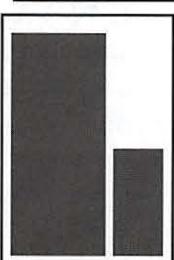
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Welcome To WAP

by Dave Ottalini



I'VE BEEN writing about your club, Washington Apple Pi, for quite some time now. We've covered a lot of ground, you and I. New member or old, we talked about the kind of club we have, what needs to be done, why we exist. Many of the things I have talked with you about in the past remain true today. WAP is an organization of volunteers. It lives and dies by your involvement. Without volunteers, this Journal wouldn't have articles. Without volunteers, the Tuesday Night Clinic would be dark. Without volunteers there would be no monthly meetings, tutorials, recycling program, TCS or SIGs.

I think you get the picture. As a new member or old, you are making a commitment when you enter our ranks. That means we hope you'll commit to giving us a little of your time, your experience, your love for the Mac. Your club, in return, makes a commitment to you. We are committed to helping you get the most out of your favorite computer. We'll teach you how to use it, repair and upgrade it as needed, help you meet other folks who have similar interests - whether it be iMovie or Final Cut, GarageBand or programming.

This is a great club - made better by your support and efforts in any number of ways. For me, writing this column has been a long-time labor of love. But even as your club's leadership moves and changes with the latest elections, its time for me to make some changes as well. While I won't be writing this column anymore, I'll continue to help the Pi on Tuesday nights, writing other articles and plugging away where needed.

So thanks for reading and —Welcome to Washington Apple Pi! ■

In With the New

by John Barnes

ON WEDNESDAY, June 2, the Pi Election Committee unsealed the ballot box server. The details of how the process worked and what it looked like as time went on are covered elsewhere in this issue of the *Journal*.

On June 9 the outgoing Board of Directors certified the results of the election and President Pat Fauquet passed the baton along to the new Board. I wound up as president, partly because I feel that I can provide the kind of leadership the Pi needs in this transition to a representative democracy. The process of sorting out the offices of Secretary, Treasurer, and the four Vice-Presidents was interesting. There was a certain amount of shuffling to accommodate personal interests and capabilities. The listings of names and offices can be found elsewhere in this *Journal*.

I think this group will function better as a team than if they had decided to stand for one particular office in a direct election whose nominations closed way back in January. They have the flexibility to mesh their individual interests and skills to make for a very effective

"The Pi has inherited a very considerable infrastructure from former times. We have office, classroom, and work space. The Pi is not something that is run out of someone's home. Our magazine has a potential circulation of something like 3,000 readers. Our telecommunications infrastructure has been undergoing steady improvements..."

collaboration.

The two main things that the Pi must focus on are communications and membership. These nourish all of the other aspects that make our club so precious. It is difficult to say which of these is the chicken and which is the egg.

The Pi has inherited a very considerable infrastructure from former times. We have office, classroom, and work space. The Pi is not something that is run out of someone's home. Our magazine has a potential circulation of something like 3,000 readers. Our telecommunications infrastructure has been undergoing steady

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improvements in capacity in recent months. These things are expensive and we need revenue from membership dues to sustain them.

Unless we have excellent communication we cannot engage our membership's interest in the programs that add value to a member's affiliation with the Pi. The *Journal* is our primary medium for announcing events. It is also a source of Apple Macintosh news and product reviews. There is a good sprinkling of "how to" material as well.

Our electronic communications systems, with their list servers, message boards, and Web pages keep members informed in what is virtually real time. Striking a balance between effective communication and "spam" is sometimes difficult. Too much incoming e-mail annoys people, but we do need provide timely notice of available activities and services. If you look at the article on the election you will see that there was a spike in the balloting each time an e-mail notice went out.

The election balloting was a great example of feeding information back to the Pi in a structured manner. We will be trying more of this in the future with surveys and questionnaires. Unfortunately the election also showed that only a minority and a rather small minority at that, were interested enough to put in their ballots. We did not get complaints about disenfranchisement because of the electronic balloting. It is evident that different people prefer different means of electronic communication.

The message board tool has been the one that has been most heavily supported over the years, but we need to recognize that "one size fits all" does not work with electronic communities. We need to reach out and bring missing members into the TCS community while still providing for those who do not find this environment to their taste.

It would be unfair to close without recognizing the many volunteers who brought the Pi through this past year. Dick Sanderson's crew wear their paper cuts from stuffing envelopes as badges of honor. By posting dues notices and handling the grunt work of posting the renewals and new memberships they have kept the hemorrhage in membership numbers within bounds. They are committed to the Pi, and they have ideas for making it better, as evidenced by the presence of several of them on the new Board of Directors.

The Front Desk staff has also been passionate in their commitment. Dick Rucker, and Nancy and Jim

"The election balloting was a great example of feeding information back to the Pi in a structured manner. We will be trying more of this in the future with surveys and questionnaires. Unfortunately the election also showed that only a minority and a rather small minority at that, were interested enough to put in their ballots."

Little are Board members who pitch in at the front desk.

My goal is to empower these volunteers to make the Pi a more vibrant and robust organization. I have to truthfully say that I really do not know what kind of an organization we are. Our charter says that we are a social and fraternal computer club. Some of our members seem to view us as a consumer cooperative. Others see us as a help desk with a low hourly rate. I do know that the Pi is powered by its volunteers and I see this new Board of Directors as possessing a lot of energy and creativity. I am confident that we have about as good a group of people as one could hope to get to face these challenges.

Over the last couple of months Pat Fauquet has been juggling Pi commitments and family commitments, most notably a project to build quite an elaborate new house. Graduations and other family activities have also been taking up a lot of her time. Our thoughts and prayers go with Pat as she enters a new stage of life. She has promised to stay active in the tutorials area. Perhaps lifting the burdens of the presidency will let this happen more easily.

I do not particularly look forward to taking over Pat's e-mail inbox. In that sense, what the future holds is unknown to me. Be that as it may, I ask that you e-mail me at president@wap.org whenever you feel the need to "go to the top." You may get quicker service and better answers from other people, but you do have an avenue of final redress. ■

Minutes of the 14 April Washington Apple Pi Board of Directors Meeting

PI PRESIDENT Pat Fauquet called the meeting to order at 7:35 pm.

Also present were:

John Barnes
Greg Bartolett
Lila Bednar
Craig Contardi
Lou Dunham
Gene Haddon
David Harris
Jim Little
Nancy Little
David Ottalini
Jim Ritz
Steve Roberson
Dick Rucker
Dick Sanderson
Jon Thomason

Treasurer's Report: Year-to-date revenue is down \$25,000.00 from the same time last year. There was a question about the appearance of a difference in depreciation methods this year to last. Pat mentioned there will be no special event (i.e. bus trip) revenue this year. We need something like the proposed D.C. Computer Expo to take its place on an annual basis. More than one attendee wondered out loud why the Pi was having such difficulties, at which point Dave Ottalini mentioned we have greater costs of doing business (Journal, office rent, meeting venue fees) than the other local computer users groups such as VMUG or CPCUG (Capitol PC Users Group). With regard to the chance of successfully holding a 'Macworld-like' show where IDG themselves cannot, Pat claimed that D.C. has great vendor presence.

John Barnes countered that they are only here to focus on selling to the federal government, and will not necessarily take the time to help us out. Discussion tilted toward considering whether user groups were still even a viable service in the age of the Internet and Apple Stores. This is a rhetorical question the board asks itself periodically.

Dick Sanderson also reported that Verizon had finally credited the Pi's telephone account for our long-ago request to remove long-distance service on all of the TCS access lines (which are purely for inbound use). Four lines not associated with the TCS remain Long-Distance-enabled.

Journal: Pat Fauquet reported that the May/June Journal was the smoothest one in four years, thanks to the quality and quantity of article submissions.

Election: There are at least five candidates for each class of board member, with six vying for the five Class A (initial 1-year) positions. One candidate opted not to submit the required disclosure statement and could not remain on the ballot.

Jon Thomason previewed the online voting webpage, which was universally lauded by those present.

Library Giveaway: Dick Rucker suggested that we pay airfare for the adopting museum curator to come and cull the library. The idea was not approved. Nancy Little will take one box to the post office and test out the cost. Book rate is a lot less than parcel post. Dave Ottalini will enquire if the Vintage Computer Museum is a 501(c)(3) charity, if so John Barnes offered to make a cash donation to them expressly for defraying library shipping costs.

Membership: Greg Bartolett stated that we get 3-4 new members a week at present. When the question of why people don't renew came up (again), Dave Ottalini repeated (again) that canvassing departed members results in the entire gamut of reasons. The membership database is now running on a permanent machine with OS X. Next is the Quality Assurance (QA) phase, where the likely users will 'bang' against it. He also recommended that we begin to send reminder emails at 75- and 90-day advance notice of membership renewals, and paper appeals 30 and 60 days after actual expiration if no renewal comes in for that member. The email will clearly spell out what services the membership renewal provides. This will help cut down on accidental downgrades of membership due to the default application

values (stuff like extra email addresses, TCS Explorer). Once a member renews, they get a confirmation email listing the levels of service that have been purchased. Greg was given a round of applause for his work.

TCS: Lou Dunham announced that Greg Bartolett has joined the crew. We now have the signed contract with Heller Information Services for their T-1 and modem pool service. Two uninterruptible power supplies (UPS) were acquired via a (figurative) fire sale. A security certificate has been purchased for encrypted wap.org email. The security certificate for the store might want to await some coding improvements to the store itself before adding it.

Jim Ritz asked on behalf of the office and Clinic staff for earliest notice from the TCS crew of the necessary changes to support the new Heller modem pool (phone number changes, etc.)

Pi Fillings: There are concerns about Mac OS 8.6-equipped machines not being able to get any use from recent Pi Fillings discs. Dave Ottalini agreed to burn a batch of 10 CDs with Mac OS 8.6-compatible software.

Budget: The continual decline in membership numbers is the larger problem, not any short-term deficits. John Barnes commented that the monthly income statement supplied for each board meeting is not arranged/organized according to the programmatic nature of the Pi, so it's of limited use.

Store Representatives: Several store reps commented on getting good coverage from stores with respect to Journal handouts.

Volunteers: VP Steve Roberson had nothing to report.

Pat has set up a WAP BOD area on BaseCampHeadquarters.com. Each current volunteer will need to document what they do, what they do but shouldn't have to, and what they should be doing but don't. Beth's Red Book is really limited to office procedures.

SIGs: The iLife SIG is flourishing, but the Graphic Arts and Retired SIGs have been 'rocky' of late.

Programs: April is iMovie-focused, moderated by Paige Counts. John suggested skipping Q&A for April to give Paige more time for her agenda. The Pi Picnic will be June 19th at Lake Accotink in Burke, VA; John Barnes submitted the contract to Dick Sanderson for the cost of renting a pavilion at the county park. John has used the Mid-Atlantic Macintosh User Groups (MAMUG) website to notify the officers of other MUGs about our Picnic and to invite them. It will be modi-

fied potluck (A-F side dish, etc.) Pat suggested contacting McDonalds for free ice, which they often offer to non-profits. The idea was floated of board members and volunteers visiting a variety of current trade shows and expos for ideas directly pertaining to our planned effort. The optimal month to hold our expo might be October or November, according to vendors and based on availability of hotel rooms.

Tuesday Night Clinic: The April 13th clinic brought in \$400 in donations.

Reclamation: More stuff is heading out the office door this coming Tuesday (20 April), the only delay being no truck to carry it all. Jim Ritz once again lamented the fact that vintage machines (pre-G3) are still being accepted from donors despite his guidance to the contrary. It was mentioned that this is a "difference of opinion" between the two driving forces of the Reclamation SIG.

Greg Bartolett mentioned that the Capitol PC Users Group (CPCUG), with its 501(c)(3) status as a charity, can very likely take all comers and grant donation receipts while we cannot. They even have a Mac SIG, so even the pre-G3 CPUs might be acceptable to them.

Café Press: Until we come up with a new logo, no further mass purchases.

The board went into executive session by consensus to discuss a closely-held matter.

Advertising: John passed around the incumbent advertising form and stated it was flawed. It was recommended that a commission-paid Advertising Manager position be created. The board agreed. It will be necessary to draft an employment contract for such a position; Dave Ottalini and Dick Rucker will do so.

Dave Ottalini recommended that we send a zero-dollar advertising bill to Heller for their back-page ad arrangement, in order to further formalize the agreement between us and them.

Deferred until the end due to printing problems, the minutes from the March 2004 board meeting were approved for content with one correction. The version published in the May/June Journal will be substantially edited for clarity.

Pat proposed that the May Board of Directors Meeting be held on a different day than 12 May to accommodate her schedule. The board voted to meet Thursday 20 May.

The meeting was adjourned at 10:05 pm ■

May Board of Directors Minutes

MAY 20, 2004 Board meeting called to order at 7:36pm by president Pat Fauquet.

Present were: John Barnes Abe Brody David Harris Pat Fauquet Jon Thomason Herb Block Dick Sanderson Craig Contardi Steve Roberson Dick Rucker

Jim and Nancy Little arrived shortly after 8pm.

Minutes from the April board meeting passed as written, with one clarification (Ottalini CD)

Treasurer: YTD still positive. Starting with the next Pi FY (June 1, 2004), the treasurer will use the existing software to put our budget entries on the same sheet as the income statement. Depreciation remains a puzzling entry on a budget.

Pat stressed again the need for a membership drive.

Dick Rucker asked about, and was told, the nature of the multiple accounts shown on the Treasurer's Report.

Office Staff: Herb Block said they were "limping along", partly due to printer problems. Further discussion revealed that the problems are sporadic. The suggestion was to use one of the other printers on the office network, even if it means unlocking doors. Jon Thomason offered to reconfigure the network to determine if a flaky network switch might be to blame.

Election committee: as of today (5/20), we have 114 ballots cast. There have been just two requests for paper ballots.

Facilities: SIGs that meet in the Pi Office are reminded to clean up after themselves.

Fillings: Hopefully will be ready for the next meeting.

Budget: Jim Little repeated that we need to see what the financial software is capable of doing with balance sheets. He asked if we want to break out income any differently. He is fearful of the idea of raising dues. John Barnes feels it would have to be a significant increase (\$75) and that could drive a lot of members away completely.

Volunteers: A public recognition ceremony is forthcoming as part of the June picnic. Pat mentioned that other

"Programs: June is Picnic, July is digital photos with Penn Camera as corporate partner, August is Applescript, September is music. John Barnes wants input from membership and board members for October and beyond meeting topics."

volunteer organizations use logbooks and give awards based on hours donated. The board agreed to fund \$75 for certificates and the like. Volunteers are needed for the picnic (grilling, cleaning, etc.)

Store Reps: John Barnes and Dick Rucker have done a yeoman's job in getting Journals distributed.

SIGs/Slices: TeenSIG has two members; John Barnes will work with Kathryn Murray to purge the Slice references from the masthead (as slices are no longer part of the bylaws). Riderwood SIG is not going anywhere.

Programs: June is Picnic, July is digital photos with Penn Camera as corporate partner, August is Applescript, September is music. John Barnes wants input from membership and board members for October and beyond meeting topics.

TCS: Lou sent in a report in his absence.

Tutorials: Nancy is on, Pat is off July & August.

New Business: Pat Fauquet spelled out the necessary steps for the Pi certifying under the Apple Consultants Network. \$2200.00 initially (\$1500 for course, \$200 for test) and \$500.00 each year thereafter (ACN dues) would enable us to conduct application seminars at our expo. Pat said that there will be no problem getting vendors to pay to participate in an expo.

The meeting was adjourned at 9:12pm. ■

Love/Hate

At some level—positive or negative, and often both—Americans have an emotional reaction to the process of voting. Whether it's for President of the United States, for President of the Class of 2006, or for a seat on the Board of Directors of a computer hobbyists' club, there's something noble and something absurd about the pageant itself.

Then inevitably just as you think you've gotten past the latest one, the next is ready to begin. It always seems to start earlier than before. And according to Washington Apple Pi's corporate bylaws, *every* year is an election year.

Each year, then, the Pi election process lurches back into gear. The Board of Directors appoints a separate Election Committee, approves a detailed set of rules, and then gets out of the way. It's usually at this par-

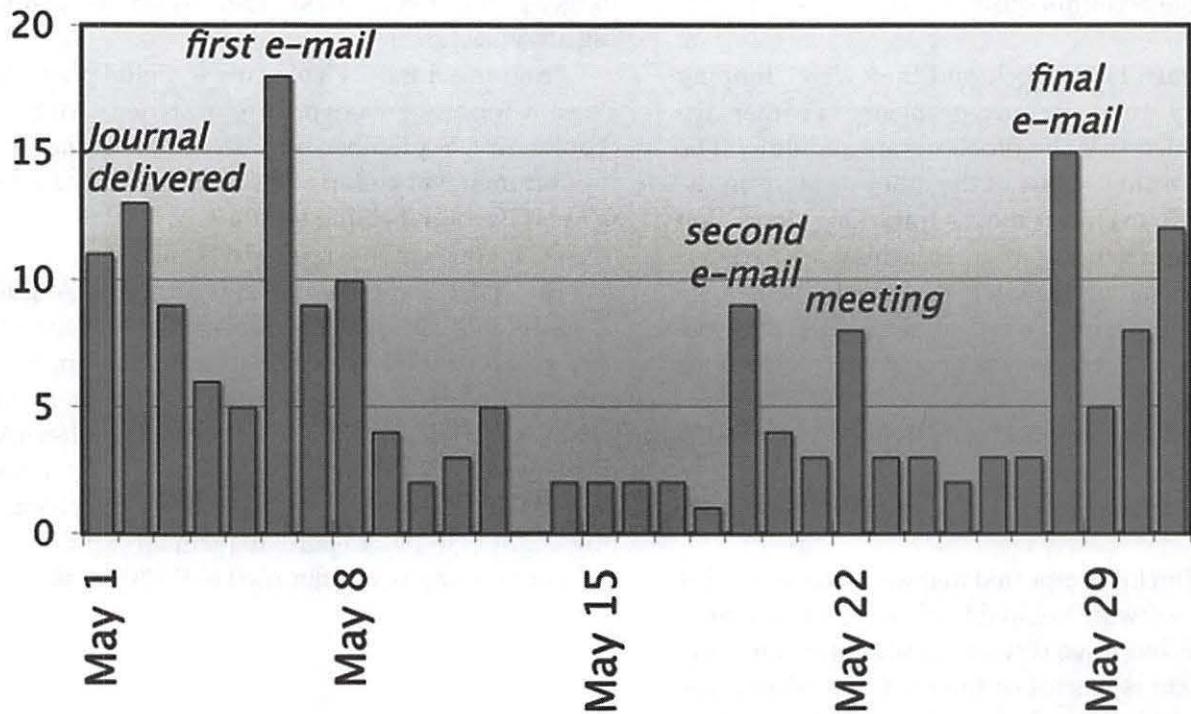
An iMac Named Chad

©2004 Jon C. Thomason

IN MAY 2004 Washington Apple Pi conducted its annual election for its 2004-2005 Board of Directors.

Only this year was different: this year we did it online. To some of you this change sounds obvious, and years overdue. But not everyone welcomed the idea, and some expressed questions and doubts. If you'll indulge me in a bit of storytelling, I'll do my best to describe how this took place and how it works.

Ballots cast per day



Votes rolled in throughout May, especially in response to e-mail announcements from the Pi.

ticular meeting, too late to do anything, that someone raises his hand and asks why we don't conduct our elections online.

The Problem

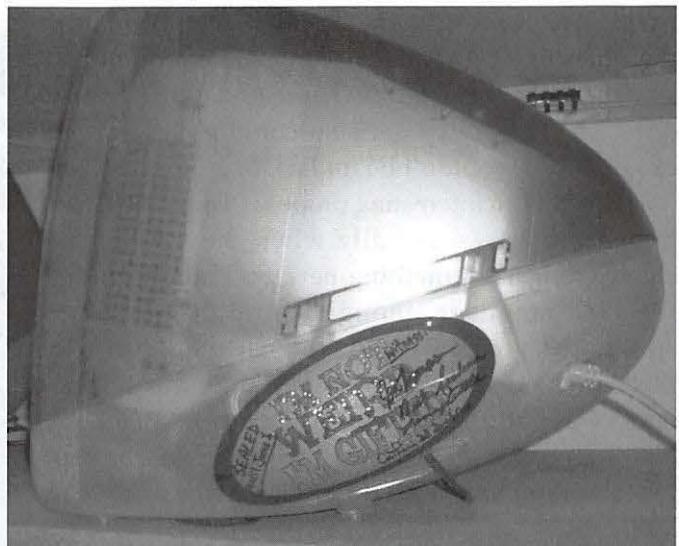
The case in favor of an online election is simply this: money. It costs money to bind a return envelope into each Journal, and to perforate a pull-out page, and to rent a post office box. And that's only the Pi's recent best practices—a bargain compared to what we were doing ten or twelve years ago when each election was guaranteed to be hotly contested. At least one year's election was even nullified and rerun, doubling all those costs.

Another argument for the plus column is less often discussed: our return rate from paper elections is just awful, and getting worse each year. The last two years we only barely met quorum requirements. You can debate among yourselves whether that's an inevitability of this increasingly isolated, self-service culture. Me, I think it comes down to situational appropriateness: if you're online and presented with a clickable link guiding you through voting, you might lend a moment of your time. But anecdotal evidence tells us you're likely to be reading your Journal on the Metro or on the toilet, two places where you won't be easily persuaded to tear apart your magazine and lick it.

There are also some valid arguments against electronic balloting. I won't presume to do them justice, but somewhere between perception and reality most of us believe there exists some gap between Pi members who have access to the Internet and those who do not. The actual size and severity of this gap remains an intractable and often divisive topic, which won't be settled here. And with that debate comes concern of whether a shift to voting online creates a *de facto* shift of representation across that mysterious gap.

Psst—Just Build It

Last year at this time, another volunteer confronted me with an odd request: put together an online voting booth. This wasn't official. He wasn't asking me to hop into the debate of whether the organization should conduct elections that way or not. Maybe I'd build it and it wouldn't ever see light of day—heck, that might even be my own *best-case* sce-



Without keyboard, mouse, or remote login capability, even its administrator can't get in. (Photo by Jon Thomason, taken with a Pentax Optio S digital camera.)



Chad the iMac ballot box sits at his post, guarded by trained attack penguins. (Photo by Jon Thomason, taken with a Pentax Optio S digital camera.)

nario. The point was, the software would exist by the time the next year's meeting came around and somebody new raised his hand to ask the annual question. The policy decision could either happen or not, but it wouldn't be for lack of a programmer.

This was an interesting proposal. I enjoy self-contained projects, especially when they give me a chance to learn something new. So I taught myself the PHP language, thought through the broad-strokes design, and waited to hear who the lucky Election Committee would be to own this hot potato. I was not at all keen to be stirring up somebody else's debate all year, so for proof-of-concept prototyping I hatched a different scheme...

Are We Ready

Years ago, TCS crew member Paul Schlosser hosted an annual football pool by hand. It was fun, and community-building. But as his Pi responsibilities increased, this sort of thing became too much effort to continue. Fellow crew member Nancy Seferian hoped that this friendly tradition could be rescued, maybe by turning to automation. Each year she'd ask me to create something that would fix this. I'd always want to help out, but realistically it was always too far down on the list of priorities of Pi development. I was also never really sure what exactly was needed or how the game was even played. Many years later, the subject had been essentially dropped.

This online election thing, I realized, provided a surprise opportunity. I guessed that Nancy would probably be on the Election Committee again. We could build a football pool for practice, testing a few pivotal concepts like integration with Pi account and password mechanisms. We'd have several months of user, compatibility, and deployment testing on the sly, and then this voting booth thing would be a snap. Key to the whole process: this would be done in the context of a game, not of a chore. That makes all the difference.

The Pi's 2003-2004 Football Pool was a hoot for many of us. It was hastily constructed during the pre-season, at first only recording people's picks. We played through its construction, not adding tallying and leader board features until several weeks into the season. Toward the end, as Super Bowl XXXVIII rolled around, I figure we had most of the kinks worked out. <wink>. See the season's champions in the accompanying sidebar.



A tamper-evident sticker will help assure this monastic discipline until June. (Photo by Jon Thomason, taken with a Pentax Optio S digital camera.)

Get Serious

With the football season over, we had a number of other tasks in the air including replacing the Pi's entire network and most servers, negotiating for exciting TCS Explorer changes mentioned elsewhere in this issue, and hosting the General Meeting program in March. Once that meeting was behind us, I turned my full Pi attention to online balloting.

Target Audience

We collect statistics on TCS usage, telling us which web browsers participants use to access the service so we can best support and improve it with them. By this time, 55% of user sign-ins used Safari, 25% used Mozilla or Netscape 7, 10% used Internet Explorer for Mac, and a trivial number still used struggling "version 4" browsers from the 1990s.

Now, bear in mind that this data comes from a self-selecting group of members who feel sufficiently comfortable online today. These numbers are not gathered or expected to represent all members. Assuming there does exist a significant access gap, these numbers probably under-represent our members' lingering attachments to Netscape 4. Then again, some might argue that when necessary, our offline members will use whatever browser is installed at their library or community center, or friend's house, or office... be that Internet Explorer for Windows or one of the Mozilla-based browsers.

Season To AFC-NFC Pro Bowl			
1 - David Ogburn	154 of 265	58.11%	
2 - Greg Bartolett	9 of 16	56.25%	
3 - Blake Lange	107 of 194	55.15%	
4 - Paul Schlosser	146 of 266	54.89%	
5 - Kristen Dunn-Thomason	117 of 214	54.67%	
6 - Jon Thomason	121 of 222	54.50%	
7 - Nancy Seferian	84 of 157	53.50%	
8 - Lou Dunham	143 of 268	53.36%	
9 - John Barnes	16 of 30	53.33%	
10 - Frank Zappacosta	108 of 204	52.94%	
11 - Kevin Parker	56 of 106	52.83%	
12 - Rick Zeman	140 of 266	52.63%	
13 - Brent Malcolm	110 of 210	52.38%	
14 - Doug McNeill	96 of 186	51.61%	
15 - Pat Fauquet	80 of 160	50.00%	
16 - Neil Laubenthal	28 of 56	50.00%	
17 - Lawrence Charters	118 of 239	49.37%	
18 - Richard Rucker	15 of 32	46.88%	
19 - Albert Lubarsky	86 of 184	46.74%	

WAP Football Pool 2004 final standings. Congratulations, David! Not to mention Kristen...

What these numbers do tell us, specifically, is that a compelling majority of members now use web browsers that are capable of a much higher quality of interaction, in a way that's nicely standardized and easier to support. It would be foolish to spend the majority of development effort fixated on the foibles of the lowest common denominator, given that the end result would lead to a negative experience for the broad majority. It's important to this experiment that the experience be a positive one for as many members as possible.

With that said, it would be inappropriate to draw a line in the sand and decree that members who use six-year-old browsers on eight-year-old machines to access the ten-year-old Web have no vote in a 25-year-old organization. They may not be able to access much of their favorite content on the Internet anymore, as each site around the world evolves with demand, but as we've discussed there's something unique about elections. Every member deserves a vote, and this year it's especially important that a member have every chance to express a vote *against* the Internet and integrated Pi services online.

Viewing those statistics, it became clear to me that our voting site should be con-

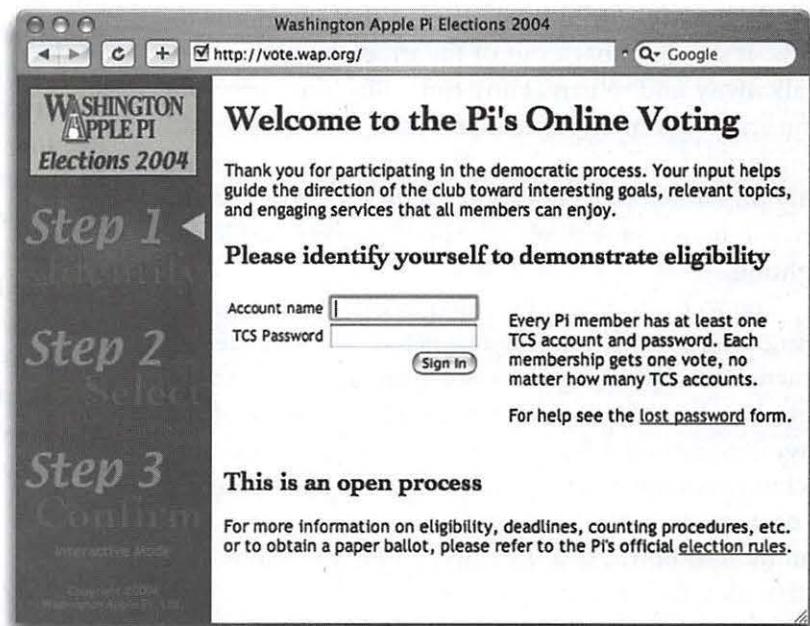
structed in two parallel implementations, showing identical information in a slightly different way. Members with modern software should be presented with an "Interactive" mode, which makes voting as simple, failsafe, and pleasurable as possible. While members on limited or known bug-ridden platforms should have available an alternative, catch-all "Universal" mode doing its job with no special bells and whistles.

Of course, the Election Committee would also need to decide what if anything to do about traditional paper ballots. But my charge was to assume there would be no such thing, and to do my best to make them unnecessary. A paper ballot is a tool for members who don't use the Internet, not a crutch for programmers who do.

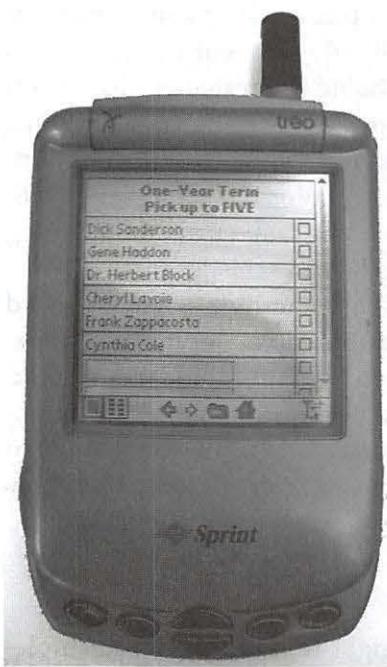
Design

I gave a lot of thought to the design and implementation, struggling to satisfy all sides of the Pi's own political climate and thus avoid a potentially divisive situation. Coincidentally, the national press began ramping up attention to the heightening controversies of electronic voting in California, Florida and Maryland, and toward the upcoming 2004 presidential election.

I vote in a Fairfax County, VA, school auditorium following a two-step process. First I line up at a front desk, where someone checks my identification and



Modern web browsers receive the full treatment in the Interactive mode.



Limited browsers get full functionality but no frills in Universal mode.

places a mark next to my name on a list of registered voters. Then I'm ushered to the next available booth where I make my selections, review them, and lock in my vote. This double-blind separation between the registration desk and the voting booth helps ensure that my vote is counted anonymously and equally. More elaborate schemes could provide further assurances, but their complexity might increase the

chance of error and eventually reduce voter turnout.

Using this real world procedure as a model, I designed our site to show a three-step process and to walk the user through each one. Step One, "Identify" asks for a name and password and determines eligibility. Step Two, "Select" presents a list of candidates and write-in fields to choose. Step Three, "Confirm" shows exactly how the system interpreted that input, for review. It's easy to back out of the process or to simply walk away and return at any time. But upon pressing Confirm, your attendance is recorded in one table and your ballot in the other. Your "I voted!" sticker appears only on screen, so its effect on suede is temporary: the reverse image effectively disappears given sufficient lighting.

The web site is implemented in the PHP programming language. It follows respected software design practice of separating behavior from appearance: the data is collected and processed independently of the page content and design. Object-oriented programming techniques allow the pages to be constructed differently in each mode, while their exact written content remains common to both. As a user first enters the site with a particular web browser, the software senses which mode is appropriate to display. If it can't reliably guess from the circumstances then it presents a menu. The

user can override the recommendation and switch modes if necessary, but I don't imagine anyone would.

The MySQL database schema consists of two tables: one for attendance, the other for ballots. The two are unrelated; you can't match an individual member to her ballot or vice-versa. You can, however, tell exactly when a given member voted and using which account name. That's important for when two separate family members attempt to vote, and the second needs to be told he's become ineligible.

Dry Run

Come the middle of April 2004 I could no longer hide behind fun and football. I presented the site to the Election Committee and the Board of Directors, including fake data for a mock election. They had many good suggestions and identified a couple unanticipated compatibility issues, greatly improving the site. Then we put it up for a second week, in public with different data and a new mock election. This time the test was more of my deployment technique than of the code. Here again there were many good suggestions, and the site benefits from those earliest and lowest-risk ones such as wording improvements.

It's worth noting that both mock elections were, as announced, being closely observed. I was talking to the server all the time, measuring its reactions to things, and watching results come in. Helpers were encouraged to vote multiple times, through a loophole that was opened until halfway through the public test. This helped our few testers explore a large variety of browsers and scenarios, before finally testing for certain that one member only gets one vote. In the end, I became very confident in the accuracy of the server and in its fairness to a variety of user actions.

I do have the results from both races, by the way, in case anyone wants to know if Mojo Jojo made the cut for rookie Powerpuff Girl, or who beat out Ms. Krabappel for Springfield Board of Education: Apu or Moe. Ask me on the Open Forum board of the TCS, at <<http://tcs.wap.org/topics?b=talk>>.

Signed, Sealed

May Day approached. The official election ran from midnight May 1 to midnight June 1, and during that time the machine was entirely out of my clutches.

It takes a leap of faith to know that the server is doing its job, since I couldn't talk to it until June. If Apple released an emergency security update that affects it, we'd be out of luck.

The server was a standalone Bondi-colored iMac, donated to the Pi's reclamation program and set aside for this temporary assignment. Its name was Chad, and its only job was to host this site and collect ballots. It performed no other tasks, hosted no other services, and only interacted briefly with its neighboring machines in order to check passwords.

Digitally, Chad sat behind a hardware firewall and offered no services other than Personal Web Sharing. Specifically, upon completion of testing, Remote Login (SSH) services were disabled. I couldn't get its attention if I wanted to, or in an emergency.

Physically, because it was a revision B iMac, it had a hinged side panel that covers all the access ports. Only power and Ethernet were connected—no keyboard or mouse. The access door was completely covered by a tamper-evident reflective sticker bearing several witnesses' signatures. Come June 1, the Election Committee and I would examine the machine, open it up and analyze its contents together.

Is He Kidding

I found myself feeling silly on several occasions, especially early into this process, having to explain why I was being so meticulous about setting up one simple web site. After all, I build and deploy more complicated things all the time, and this was taking my attention away from some other things people want me to do. Surely this was overkill.

But I was exonerated in the last few days before the voting booth "went live"—as well as across several days thereafter. At that point other people began thinking it through, snapping to attention, and asking probing questions about my anticipation of specific edge cases. These weren't only the usual curmudgeons and naysayers I'd been anticipating from the beginning, but also friends who had been ribbing me earlier for taking the task so seriously.

By that time, of course, my hands were tied: the software was complete and hardened through a formal (for us) quality assurance process. I had locked myself



Your vote has been cast

Thank you for participating in Washington Apple Pi's election process.

Step 1 Identify

Step 2 Select



Confirmation code: 2e52c390af5f297eccf40b3ce0ba0e66

Your vote is stored anonymously, using this code only for processing.

Voters received a special "I Voted π" sticker after completing online voting

out and the rest was on autopilot, armed only with the unflatteringly paranoid, detail-minded prep work which I've done my best to outline above.

Last Word

As you've read elsewhere in this issue, the Pi's 2004 election is complete. Participation was up: we passed our quorum requirement within seven days. By halfway through the month we'd matched the entire number of ballots cast in 2003. Three e-mail reminders via the Pi Announcements mailing list each prompted a strong wave of returns.

The debate between clicks vs. stamps will continue, but thanks to your refreshingly positive response to this experiment the organization remains intact, with a full roster of seats filled for the upcoming year. Congratulations, Washington Apple Pi! ■

Jon Thomason, a professional computer programmer, has been involved in Pi telecommunications since he was a teenager. Jon's writings appear regularly on the Washington Apple Pi TCS, <http://tcs.wap.org/>.

March Programming SIG Report

by Steve Roberson

THE MARCH MEETING of the Programming SIG was hosted in Great Falls, Virginia, courtesy of Jack Edwards. The Programming SIG continued its work on the Raffler. For those who don't know, the Raffler is a Cocoa based application of our own design written in objective-C that is used for drawing raffle winners at the Washington Apple Pi general meetings. Led by Aaron Burghhart, the SIG added the ability to save and load files to the Raffler.

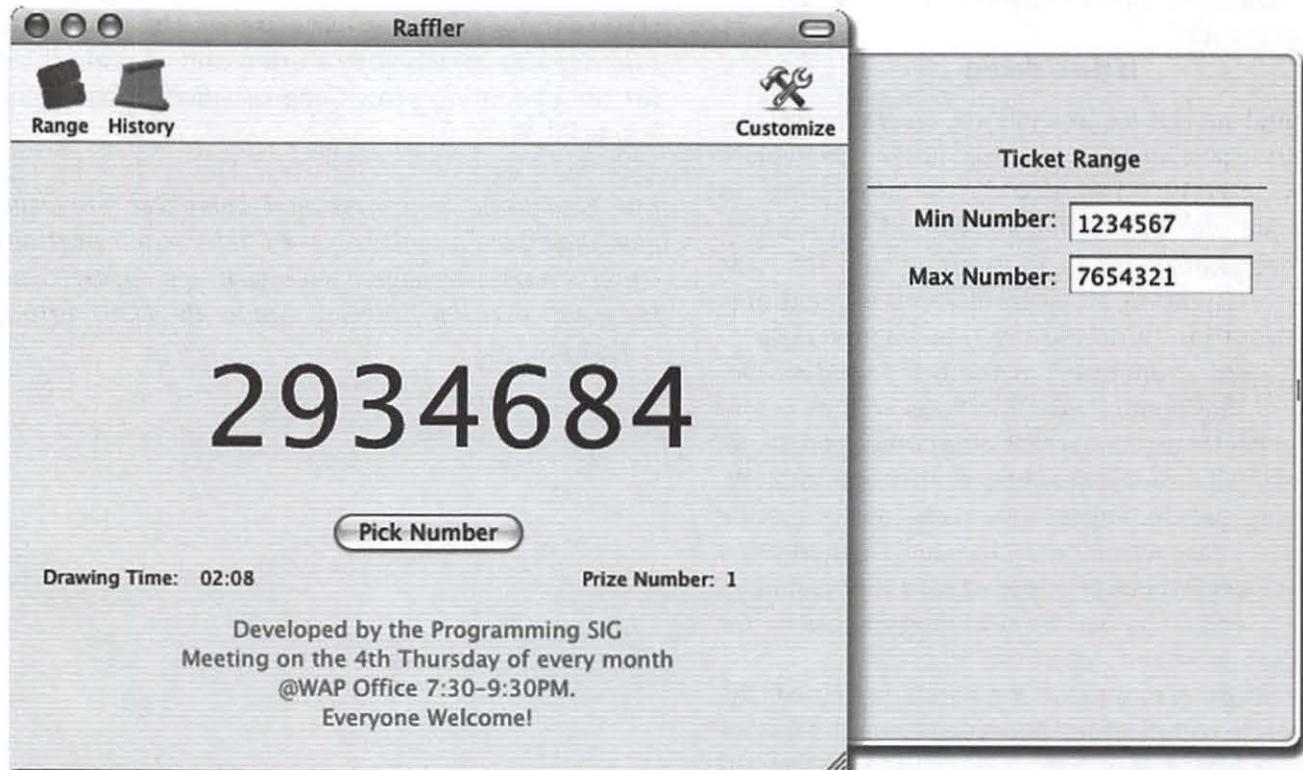
By declaring a protocol and adding just a couple of methods we were able to add saving and loading of all the instances of our winner object, the array that we store the winners in as well as the values that the user enters (the minimum raffle number and the maximum raffle number). At first glance it may seem we'd need to be organized to save and load all

"The Programming SIG continued its work on the Raffler. For those who don't know, the Raffler is a Cocoa based..."

those elements but it turns out that Cocoa will do much of the work for you.

The work we did could be divided into a couple of steps. We taught our winner object how to save itself, and we created a temporary dictionary of all the elements that we wanted to save. The fun part comes when we ask Cocoa to store the dictionary. All we do is ask for the dictionary to be stored, and all the elements inside it (max, min, the array of winners), and all the elements inside those elements (all the various winners inside the array) are saved as well. It's worth noting that only the data associated with the objects is stored. The methods of the various classes are not stored in the file.

The Programming SIG is considering changing the time of its meeting. We may hold them the afternoon following general meetings. Meetings are open to anyone, experienced or not. Please visit the Programming Board on the TCS or e-mail s.roberson@wap.org for more information. ■



Apple Stockholders' Meeting, Cupertino, CA, April 22, 2004

by Bob Whitesel

Introduction

SINCE I CAN bike there from home, I couldn't pass up the opportunity to see what went on at our favorite computer company's annual meeting. I took my digital camera in hopes of capturing first hand photos. But, security was airport-tight. The photo included with this article shows how successful I was on that score.

For those who have never visited Apple's headquarters in Cupertino, a brief description is in order. Stevens Creek Boulevard is a six-lane street extending from near downtown San Jose (Woz Way and Adobe headquarters) up the gentle eastern slope of the Santa Cruz Mountains to the foothills where Cupertino is located. Stevens Creek Blvd. is the "main drag" of west San Jose, complete with a mile long "auto row." The Junipero Serra Freeway (Interstate 280) from San Jose to San Francisco runs roughly parallel to Stevens Creek. At the crossroads of modern Cupertino (intersection of Stevens Creek and De Anza Blvds), Stevens Creek and I-280 are 4-5 large city blocks apart. Apple's headquarters buildings occupy a large chunk of land near the De Anza Blvd/I-280 over-crossing. Easily visible from both the I-280 freeway and the surface street, I judge the complex very attractive.

The Meeting

The whole of the stockholders' meeting took only an hour; most of it spent with Jobs and Co. responding to about twenty questions from shareholders present.

At 10:04 am, after a few sentences of welcome from Steve, Nancy Heinen, Sr. Vice President, General Counsel and Secretary, conducted the business portion. She stated that 84% of the outstanding shares were represented, either in person or by proxy. Thus, a quorum was assured.

"...the opportunity to see what went on at our favorite computer company's annual meeting. I took my digital camera in hopes of capturing first hand photos. But, security was airport-tight. The photo included with this article shows how successful I was on that score."

The proposed board of directors was elected by a preliminary count of more than 82%. Appointment of KPMG LLP as auditor was approved, preliminarily. Finally, despite a persuasive—to me—presentation by a representative of the United Brotherhood of Carpenters and Joiners on the need for a "Commonsense Executive Compensation Proposal," Ms. Heinen announced that this stockholder proposal had failed. She did not give any numbers to support that claim. That portion of the meeting was concluded at 10:17.

The Q&A period followed. Steve was joined by Fred Anderson (retiring CFO), Peter Oppenheimer (incoming CFO), Jon Rubenstein, Tim Cook, and Phil Schiller. Many educators were present. Throughout the next 40+ minutes I sensed large differences in perception on various issues between the questioners and Apple staff. A summary of the Q&A follows.

1. Q: Product announcements and shipping dates—why doesn't Apple coordinate these so that sufficient product is available to meet demand?

A: This is the goal but it is frequently not achieved because it's difficult to schedule "innovation."

2. Q: Mac market share?

A: There are 25 million Mac customers. The priorities are: keep the installed base happy, grow the base, and add market share. Apple chose to invest in the iPod instead of low-end desktops. Only Apple and Dell make money selling PCs. No one wants Gateway's market share at Gateway's profits.

3. Q: Domestic/international markets?

A: Apple closed the manufacturing plant in Sacramento because it became a "one product shop." The jobs went to another location in southern Calif., and the company saved \$3 million per quarter. There is a new focus on Japan. Example: Apple Stores will open this year in Tokyo and Osaka.

4. Q: Resellers—why is Apple putting resellers out of business?

A: The "indirect" channel is important to us, and we don't see significant changes.

5. Q: Desktop business—the G5 is a good performer but doesn't seem to be selling well.

A: Apple is counting on the Xserve and "pro" product line. Staff has gotten good feedback from attendees at the NAB (National Association of Broadcasters) in Las Vegas this week. [NAB members tend to use very high-end workstations for video editing.]

6. Q: Please develop a voting machine for California; it's badly needed (comment: true, indeed!)

A: We have no plans to get into that business.

7. Q: Openness—I appreciate Apple's openness with regard to this meeting. I was excluded from a semiconductor company's meeting last week, and I think no one was excluded today.

A: Thanks. Q: You're welcome.

8. Q: Apple and Real Networks—wha' happened? A: Real Networks operates a music download system that competes with iTunes. iTunes consistently has 70% of this market each week. We judge it's not worth the effort to make iPod support Real Networks. (Steve could then have described why the link with HP makes sense but didn't.)

9. Q: Discounts to shareholders?

A: In the old days Apple's margin was close to 100% on each sale. Now those margins are very thin. So, in effect, everyone is getting a discount. (Comment: Yeah! Right!)

10.Q: Apple Stores #1—paying their way?

A: Yes, indeed! There are 76 stores open today, with 88 expected by the end of this fiscal year. Internationally,

Toyko and Osaka, then London will be opening. Many people have reported that their purchase was a very satisfying experience.

11.Q: Apple Stores #2—I went to the Apple Stores in Palo Alto and San Jose and had bad experiences at both stores.

A: I'm sorry to hear that because we do train our people extensively. Please write to me (sjobs@apple.com) and tell me about it.

12. Q: Mac OS X—with its Unix base many of my particle physicist colleagues are moving to Mac OS X on the G5. Yet, I see Apple losing ground in the higher education market??

A: Revenue in the higher education market is up sharply this year. Mac OS 9 to Mac OS X is the third U.S. operating system transition. The fraction of Apple base customers using Mac OS X has gone from 0 to 40% in four years. (Previous transitions were: Apple II to Mac, and PC-DOS to Windows 95.) MS will attempt to go from Windows to Longhorn in the near future. ("We wish them luck.")

13. Q: Safari development—I can't pay my utility bill with Safari. I have to back off and boot Internet Explorer??

A: Apple works on these issues with developers. Frequently, it's the people developing websites at the host that cause the incompatibility.

14. Q: Dividends?

A: Apple has no plans to pay dividends. Profits are invested in Apple Stores, etc. Our plan is to grow stock value instead.

15. Q: Education—many school systems are switching from Macs to PCs. Some of the reasons given are lack of software compatibility or availability and the switch to Mac OS X. What efforts are being made to get software producers working for Apple again? By the way, I like AppleWorks very much. Please keep it!

A: First of all, we have to get all these machines upgraded to Mac OS X. Then, we think that software compatibility/availability will be less of an issue. To lessen the impact of these transitions we are told that it's easy to hook a Mac running Mac OS X to a PC server.

This all concluded by 11 am. Steve Jobs thanked everyone for coming, and it ended.

I had a distinct sense of déjà vu. The exchange seemed so similar to Q&A sessions during past Pi general meetings when an Apple rep was present. Although the company reps in this case were clearly the "top bananas," I sensed the stockholders present were no more convinced by the answers they received.

Afterwards, I stopped at the Company Store, which is open for retail customers, and did my usual drooling routine. Playing with a new iMac I learned, as I suspected after MacWorld in San Francisco, that the version of Safari that ships with Panther contains bug fixes not passed down to the version which runs under Jaguar. The very helpful store clerk also told me that upgrading to the current version of Panther is not nearly as risky as before, i.e., archive and install is no longer so strongly recommended. I also learned that

the old trick of starting up from the Mac OS X CD and dragging a copy of the system folder to a spare disk doesn't always pick up all the files OS X needs. He recommended a downloadable utility, whose name I can't now remember, as a better option. [Carbon Copy Cloner, perhaps? - ed.]

The verdict on stockholders' meetings? At least I got some exercise riding my bike! ■

Bob Whitesel joined WAP in 1995 when he lived in Fairfax. He and his wife, Heidi, moved back to the San Francisco Bay Area in May 2003 to spend at least a couple of retirement years near West Coast family.



Apple stockholders leaving the company's annual meeting at 4 Infinite Loop, Cupertino, California. (Photo by Bob Whitesel, taken with an Olympus D510Z digital camera.)

Getting In To Digital Photography

Washington Apple Pi's July General meeting will feature Chris Butcher from Penn Camera. Chris will lead us through the digital photography workflow from snapshot to family treasure. The perspective will be that of the casual consumer photographer. The emphasis will be on consumer choices for things like cameras, scanners, printers, etc. The main software focus will be iPhoto, with an excursion into PhotoShop Elements if time permits.

Saturday, July 31, 2004



WAP is pleased to welcome Penn Camera to the ranks of Apple resellers. Be sure to inquire about their Apple line the next time you visit one of Penn camera's six stores in the DC area.



Northern Virginia Community College
Annandale Campus
in the Cultural Center
8333 Little River Turnpike
Annandale, VA 22003-3796

**Admission is free.
Everyone is welcome!**

For more information:
<http://www.wap.org/meetings/>
E-mail: vpprograms@wap.org

Parking is available in the Cultural Center parking lot. See the web site for details, directions, maps and up to date information.

April 24th 2004 General Meeting — iMovie

by John Barnes, VP Programs

"Hal Cauthen's short video contributions, while motivated by a wide variety of events, were especially effective in showing somewhat more advanced techniques."

THANKS TO THE efforts of Paige Counts, Hal Cauthen, and a small group of helpers from the iLife SIG, Pi members were indeed treated to a Fun, Fantastic, and Free morning at the movies. A couple of challenges that came up before the event that were almost deal breakers, but everyone soldiered through. Paige showed her resourcefulness by putting the entire content of the program, both movies and explanation, onto two DVDs that could run continuously in case Paige got called away for her daughter's impending surgery.

That did not happen and Paige was there, but able to relax (mostly) while the video ran. Fortunately she had a backup copy of the DVD and was able to quickly resume the show when her first copy conked out.

Altogether there were 20 videos ranging in length from 30 seconds to 5 minutes plus. The content ran the gamut from family flicks short enough to send in e-mail to a documentary on urban living and land use. The videos showcased a great variety of techniques for enhancing the audio and video, with liberal use of the Ken Burns Effect to provide a sense of motion using still images.

Vice President for Programs John Barnes (left) looks on while Pi President Pat Fauquet briefs the crowd on Pi activities at the April General Meeting. (Photo—right, by Hal Cauthen, taken with a Vivitar ViviCam 3735 digital camera.)



Pi Board members Gene Hadden and Jim Little staff the check-in table at the April General Meeting. (Photo by Hal Cauthen, taken with a Vivitar ViviCam 3735 digital camera.)





Pi member Paige Counts explains the idea behind the April General Meeting program. (Photo by Hal Cauthen, taken with a Vivitar ViviCam 3735 digital camera.)



Pi member Paige Counts, who organized the April General Meeting, enthusiastically tells everyone why they should love iMovie. (Photo by Hal Cauthen, taken with a Vivitar ViviCam 3735 digital camera.)

Paige contributed several short videos that focused on documenting events with friends and family. One of these fused her grandchild's first day of school with the activity elsewhere on that fateful day, September 11, 2001. Together with other events such as camping trips, vacation jaunts, and children's parties these represent a cross section of family life captured with an

obvious affection and turned into enjoyable souvenirs by a finely tuned creativity.

Hal Cauthen's short video contributions, while motivated by a wide variety of events, were especially effective in showing somewhat more advanced techniques. A Disneyland video stringing together short video clips with a continuous sound track provided one example. The titling trick used in a couple of short newsreels from Pi garage sales was also very interesting. Hal has a good knack for finding music to match the pace of his videos.

Dixie Johnson contributed a short story about a hiking trip where one of the hikers fell and injured her leg. A tumble effect from the "Still Life" software package mimicked the falling action and the use of a "Star Wars" style title provided a little comic relief.

John Barnes submitted a 5 minute 19 second video that he had done for his local community to highlight the need to preserve environmental and architectural amenity in the face of ongoing mansionization. This used stills, composite stills, videos, and a voice-over script accompanied by light classical music.

Paul Silverman contributed the photography and David Rubenstein contributed an original score to "Canyons and Casinos." With spectacular Canyon landscapes and Las Vegas nightlife this blending of stills and video was the most spectacular feature of the event.

Bob Mulligan contributed two works that made extensive use of the Ken Burns effect. A stunning collection of flowers and butterflies led off the show and his "Jump!" closed it out (see sidebar; the "Jump!" clip is on the iMovie SIG section of the Pi Web site at:



Paige Counts, on DVD, introduces one of the iMovie clips she selected for the April General Meeting. (Photo by Hal Cauthen, taken with a Vivitar ViviCam 3735 digital camera.)



Vice President for Programs John Barnes waits for tickets to be drawn at the end of the meeting door prize drawing. In the background you can see the "Raffler" program, written by the Programming SIG for the end of meeting drawings. (Photo by Hal Cauthen, taken with a Vivitar ViviCam 3735 digital camera.)

[http://www.wap.org/imovie/\).](http://www.wap.org/imovie/)

Paige did a poignant salute to her daughter, Amanda, who was to graduate from college on the same weekend. The content consisted of pictures from childhood into young adulthood that anyone would treasure.

A scheduling snafu has us in the Faculty Dining Room in the food services building at NVCC. With only 72 chairs for about 80 members the setting got a bit cozy.

"Altogether there were 20 videos ranging in length from 30 seconds to 5 minutes plus. The content ran the gamut from family flicks short enough to send in e-mail to a documentary on urban living and land use. The videos showcased a great variety of techniques for enhancing the audio and video..."

We were, however, spared the usual noises that distract us in the Forum. All in all we had a most enjoyable event. Let's look forward to some more contributors the next time we schedule this. ■



President Pat Fauquet draws a number from the hat (well, bowl) for the end of meeting drawing. Regrettably, none of the numbers belonged to the photographer. (Photo by Hal Cauthen, taken with a Vivitar ViviCam 3735 digital camera.)

April General Meeting Sidebar:

The "Jump!" clip

At the April General Meeting, an iMovie clip by Bob Mulligan called "Jump!" was shown. The clip showed how, starting with little more than a still picture, imagination and iMovie, you can create something amazing. The finished clip is on the Pi Web site at:

<http://www.wap.org/imovie/>

Frame 1

The opening scene of the movie "Jump!" pans upward while showing an embankment and a body of water. This clip ends looking up to a bridge. The titles helped to distract attention from the scruffy view of rocks and weeds.

Frame 2

This image pans across the bridge and ends showing a boy who looks like he is ready to jump (he was!). An extra "still" clip was made of the boy and that dissolved to another boy in the water looking up. This action was repeated a second time. As yet the movie does not show what they are looking at.

Frame 3

This image of the second boy in the water is also a "still" clip. It was shown twice to make a visual dialog with the boy on the bridge. The viewer still does not know what they are saying or looking at.

Frame 4

Here is the third boy of the movie, in mid-jump. Other images showed two other boys, one on the bridge, one already in the water, watching the jumper. This image is the finish of a pan movement downward from the boy on the bridge. The animations stop for a half sec-

ond "still" clip and then this same image shows again for the start of a long zoom out to show the (one) still photograph in its entirety from which all this was created.

Frame 5

The end of the one-minute movie. Now the eye can see what was happening. The final long outward zoom shows the entire still photograph and three boys having (daring!) fun on a summer afternoon. The music was a selection from a free play disk distributed by Apple and fit the animated "action" just fine. A little tweaking of the duration of some of the clips was done here and there to make the sound timing exact. The closing title placed here faded out with the image to end the movie.



Frame 1



Frame 2

Journal Errata

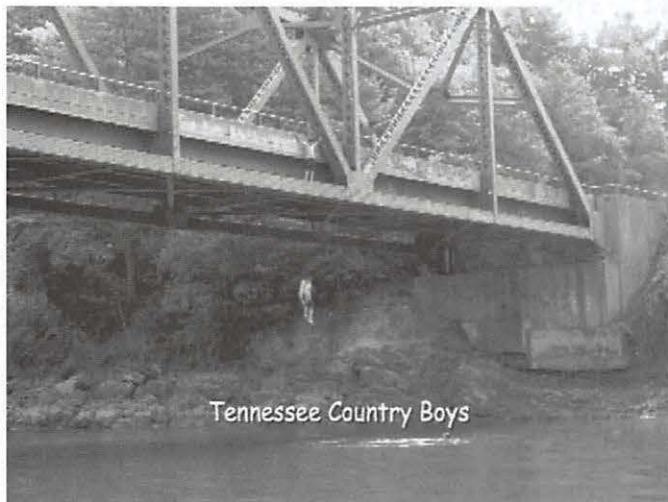
Errata: In the May/June issue of the *Journal*, several errors were made in a photo caption on p. 16. The original caption read:

Pi Webmaster Lawrence Charters talks about the Pi's electronic services at the March General Meeting as Jon Thomason, author and software architect for many of these services, "drives" the machine connected to the projector. Note Jon's bug-eyed fish-shaped "lunchbox" at the edge of the table, used for transporting various pieces of electronic gear.

Frame 3



Frame 4



Frame 5

The corrected caption should read:

Pi Webmaster Lawrence Charters delivers an oration from Cicero, in Latin, at the March General Meeting as Jon Thomason, author and software architect for many of these services, plays *Burning Monkey Solitaire*. Note Jon's bug-eyed fish-shaped "cooler" at the edge of the table, used for transporting Diet Dr. Pepper. The *Journal* regrets the error and hopes the bug-eyed fish does not mind.

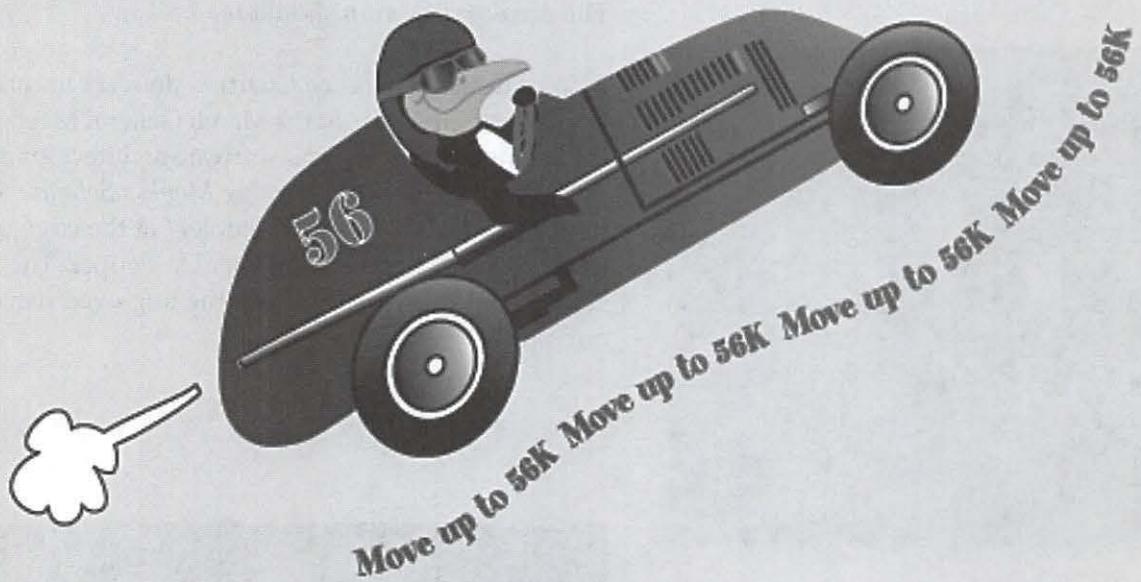


Steve Roberson, Vice President for Volunteers, plays "Stump the Expert" (otherwise known as the Question and Answer session) at the May General Meeting. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

The Pi's best-kept secret gets better!

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Since 1995 WAP's TCS Explorer project has delivered the lowest cost, most Mac-friendly Internet access in the Washington, D.C. area. Now we're taking it up a notch. Starting immediately, subscribers should use our new **56K modem** lines located around Northern Virginia, Maryland, and the District—served by a high-speed network wired straight into the heart of the Internet.

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"Two Thumbs Up!"

—The TCS Penguins

<http://www.wap.org/config/>

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May General Meeting Report: Microsoft Office 2004 for Mac

by John D. Barnes

MICROSOFT HAS been touring the Macintosh User Group Community to promote their Microsoft Office 2004 for Macintosh product.

Time magazine noted that Mac Users are very fortunate to have a state of the art Office Suite that is miles ahead of its Windows counterpart. This is all courtesy of Microsoft's separate Office for Mac division, and on May 22, 2004 they brought their road show to Washington Apple Pi. Microsoft representative Dennis Cheung ably guided the audience through the feature sets of Word 2004, Excel 2004, PowerPoint 2004, and Entourage 2004. Approximately 75 Pi members gathered in the NVCC Forum to give Dennis a good reception.

The meeting also featured live balloting using our electronic ballot box for the Pi Board of Directors election. A number of people who had experience some difficulty doing this on their own were able to exercise their franchise in this way.

Word 2004

In Microsoft Word the new features display a strong emphasis on collaborative effort within work groups. A notebook view featuring ruled pages, tabs, and a structured arrangement is touted as a major feature. It looks to be a considerable improvement over multiple sticky notes. Audio notes are a new feature.

Change tracking and reviewing, an improved navigation pane, and the use of real-time MSN Messenger instant-messaging tools all target the professional market.

The reference tools and styles management have been dressed up somewhat.

Excel 2004

Major enhancements to Excel include much improved page layout and preview, better control over charts, and improved help for spreadsheet functions.

PowerPoint 2004

PowerPoint, long the industry standard for presentation software, has added some extra touches to make things a bit nicer for presenters. The library includes more animation effects, additional transitions, and new template designs. This may help ameliorate the dreadful sameness that PowerPoint presentations have begun to take on. "Presenter Tools" such as a timer and notes display that are visible only to the presenter should be useful for keeping things on track.

The formatting palette seems to group related things more wisely and to provide a more intuitive interface. This should be a big convenience.

Entourage 2004

Dennis touted a number of improvements in the Entourage page layout. A three-column view, with the folder list, message list, and preview pane in separate



Jim Ritz looks on with a perplexed expression as Hal Calthen uses his iSight-equipped iBook at the May iLife SIG meeting. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

columns was cited as an especially attractive feature. The kind of "grouping" of messages that has been available since the release of Mac OS X Panther has also been included in Entourage 2004.

Whether the mail search tools that are available in Entourage are better than the somewhat deficient ones in Mac OS X Mail remains to be seen.

Entourage basically integrates the Mac Address Book, Calendar, iSync, iChat, and the Mail app into a single application. This may be a benefit for some corporate types, but it seems unlikely to matter much to home users. It does seem that home users are slow to catch on to the integration that the Mac contact management tools provide, and this may explain why quite a few Mac users swear by Entourage. It is not clear whether these databases conform to any of the commonly accepted industry standards.

The Test Drive

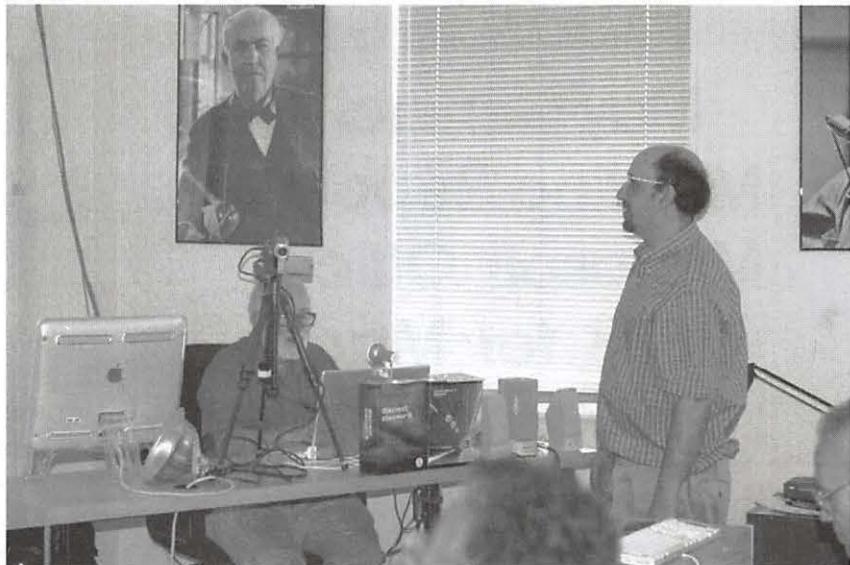
The feature summary given above was about all that Dennis could cover in 1 1/2 hours.

Microsoft offers a 180 MB download version of the office 2004 Suite as a "Test Drive." The free test drive is available on the May WAP Disk of the Month for those whose bandwidth does not permit such large downloads. Send a message to frontdesk@wap.org for further information.

Be sure to give the Test Drive a work-out if you have any interest in buying or upgrading.

Professional version delayed

Dennis told us that the packaging to bundle Virtual PC and Office 2004 into the Office 2004 professional product was not ready as of May 22nd. It may be available by the time you read this, so be sure to check it out at <http://www.mactopia.com/>. This Web site also gives



Phil Shapiro appears to be telling Thomas Edison everything there is to know about Discreet Cleaner 6 and Discreet Combustion 3 at the May iLife SIG meeting. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)



Jon Thomason, often a critic of Microsoft's programming and business practices, was the ironic winner of a brand-new Microsoft Office 2004 at the May General Meeting. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

many more details of new features for the entire suite.

The Standard Edition Office Suite costs \$399 for the full version and \$239 to upgrade an eligible product. Be sure to scout around a bit for savings from different resellers. A Student/Teacher full version is available through educational outlets for \$149, but this version



Dennis Cheung, a member of Microsoft's Macintosh products team, demonstrates the Project Center portion of Microsoft Office 2004 at the May General Meeting. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

does not provide for any future upgrades.

In the preceding summary I have only tried to capture the tour of features that Dennis Cheung presented. Someone else is going to have to do the comprehensive review of the product. I long ago gave up using complicated software bundles to do the kind of simple work that comes my way.

Giveaways

Jon Thomason was the lucky winner of the full version of Office 2004 that Microsoft left as a raffle prize. Pat Fauquet won the handsome tote bag, but put it back in the pot for someone else to win. The Pi also received a full copy of the software for use in its teaching program. ■

Monster iSpeaker Product Review

by John Barnes

I HAVE OFTEN been frustrated by the tinny sound coming out of my Apple laptop computers when I am doing demos at meetings. All of the add-on speakers that I have found to date have been bulky and cumbersome to use. The people at Monster Cable have stepped up to the plate with a well-conceived and well-executed product. Their iSpeaker is a pair of flat panel speakers that fold into a package the size of a 3 or 4 CD case when stowed for travel as shown in Figure 1. The tiny polyurethane feet at the lower right corner of the case help to reduce sliding when the unit is set up on a flat surface.

Figure 2 shows the device unfolded for use with a standard 3.5 mm stereo cable connecting an iPod and the iSpeaker. In this configuration the audio output is robust enough to be useful in a small classroom or at a trade show booth. Power comes from four 4 AA cells. Alkaline batteries are said to yield up to eight hours of playing time. The iSpeaker ships without an AC adapter, but there is a 6 VDC power input connector that heavy users might want to drive with a DC power supply from somebody like Radio Shack. Wiring up a jack for a more muscular battery pack might be another option. I'm not sure what the amperage ought to be for such a unit. It can't be very high if 4 AA cells can handle the task. The "power-on" LED that is just visible as a bright dot near the edge of the right speaker panel in Figure 2 is a nice touch, as is the slide switch that allows the unit to be switched off when needed.

There is no volume control; that is handled at the sound source.

At a price of \$49.95 at the new Apple outlet in Montgomery Mall, I found this unit to be an attractive and useful add-on for my original style iPod and the various laptop and desktop computers in my collection.

I am pleased with the sound output and with the construction. The design is certainly more convenient than the clunky Labtech speakers that I have been us-

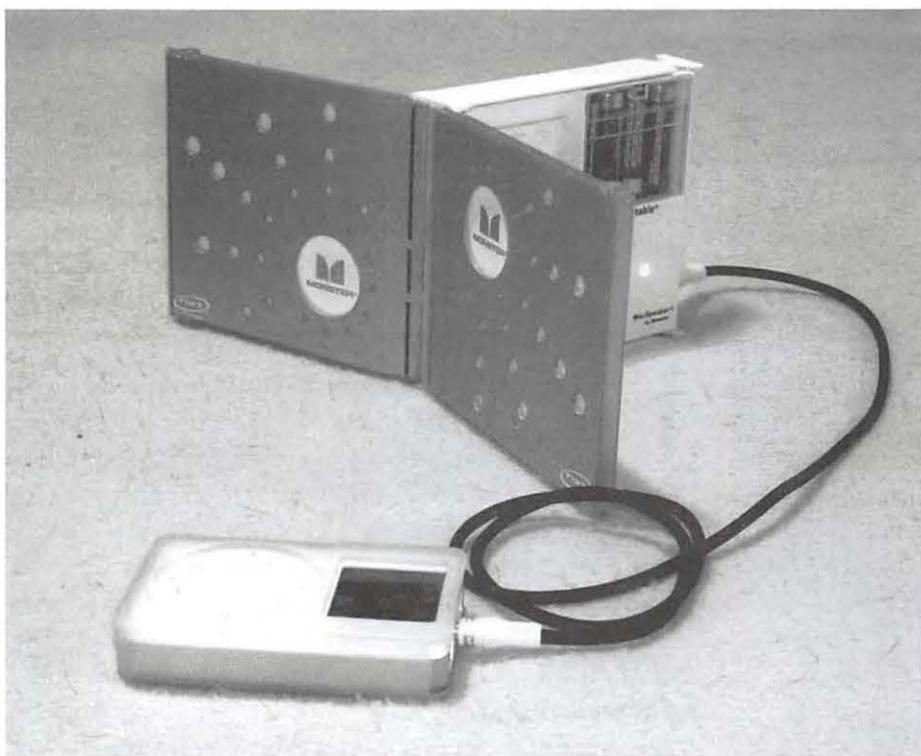


Figure 1 - [Choose from file P516402G.jpg or P5160404G.jpg] iSpeaker folded for travel and storage. Lateral dimensions are about the same as those of a CD jewel case. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)



Figure 2 - [P5160396G.jpg] iSpeaker and iPod deployed for listening. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)

ing. Users with a dock-style iPod may favor the Altec Lansing inMotion product because of its built-in dock, but the iSpeaker costs 1/3 as much and delivers quite decent sound.

The only "wish list" item that I have is for some sort of convenient way to store the stereo cable right in the unit. Toting around all of the disparate pieces is something of a nuisance.

The bottom line is that the Monster cable iSpeaker is a product that will find a lot of friends among people who need to ramp up the sound from various devices that provide stereo output to a standard 3.5 mm mini jack.

■
URL: <http://www.monstercable.com/computer/productPageComputer.asp?pin=2184>



Address Book



AppleWorks



ColorSync



DVD Player



Finder



iCal



iDVD



Image Capture



Internet Connect



iPhoto

AppleScript & You

Simple Tricks for Automating Your Workflow

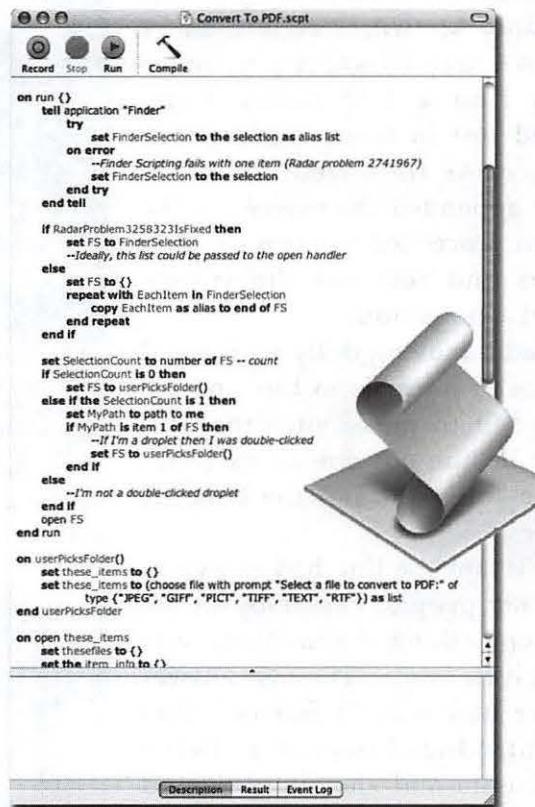
Ben Waldie, President and Founder of Automated Workflows LLC, will demonstrate the benefits of using AppleScript for workflow automation in the Macintosh environment. The presentation will include a brief overview of AppleScript technology, a list of benefits, return on investment information, some basic script writing, some AppleScript demonstrations, and a question and answer session. In addition, demonstration scripts will be provided for distribution to attendees.

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**Saturday, August 28, 2004
9AM - 11:30AM**



```
on run {}
    tell application "Finder"
        try
            set FinderSelection to the selection as alias list
        on error
            --Finder Scripting fails with one item (Radar problem 2741967)
            set FinderSelection to the selection
        end try
        end tell

        if RadarProblem.32583231sFixed then
            set FS to FinderSelection
            -- Ideally, this list could be passed to the open handler
        else
            set FS to {}
            repeat with EachItem in FinderSelection
                copy EachItem as alias to end of FS
            end repeat
        end if

        set SelectionCount to number of FS -- count
        if SelectionCount is 0 then
            set FS to userPicksFolder()
        else if the SelectionCount is 1 then
            set MyPath to path to me
            if MyPath is item 1 of FS then
                -- If I'm a droplet then I was double-clicked
                set FS to userPicksFolder()
            end if
        else
            -- I'm not a double-clicked droplet
        end if
        open FS
        end run

        on userPicksFolder()
            set these_items to {}
            set these_items to (choose file with prompt "Select a file to convert to PDF:" of type {"JPEG", "GIF", "PICT", "TIFF", "TEXT", "RTF"}) as list
        end userPicksFolder

        on open these_items
            set theseItems to {}
            set the_items info to {}
        end open
    end tell
end run
```



Parking is available in the Cultural Center parking lot. See the web site for details, directions, maps and up to date information.

Montgomery Mall Gets an Apple Store

by John Barnes

ON SATURDAY, May 8th 2004, Jim Little, Nancy Little, and myself provided the nucleus of a Pi presence at the Grand Opening of the new Apple Retail Store in Westfield Shoppingtown Montgomery, more commonly known as Montgomery Mall. We arrived shortly before 8 am to find a few hardy souls camped out in front of the store entrance. As time went on a few people appended themselves to the line and proceeded to open up their laptops and test out the store's Airport connection.

I had a moving dolly with 4 1/2 boxes of Pi Journals in tow and we proceeded to make sure that everyone in line got one as an introduction to the Pi and the benefits it offers.

By 10 am the line had grown to about 400 people. Passersby in the Mall kept asking if something was being given away. The best answer that we had was "T Shirts." One lady introduced herself as being from Russia and she simply could not understand what the fuss was about. Of course in the old days Russians would queue up at the mere hint that toilet paper was available in a store.

The idea that so many people

would express such an affirmation of faith in a computer platform just went right by her. Of course there were those in line who wanted some assurance that iPod minis were available in the store. I had no way of knowing this. I don't count this as an affirmation of faith in Apple.

The folks who weren't interested in the Apple platform were nonetheless impressed that a mere store opening could generate such a buzz.



By the dawn's early light - first arrivals. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)



Entranced by the mini iPod display. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)

"By the time I left it was around 1 pm. I estimate that 600 people or so had passed through the doors. I contacted the store to confirm this number, but they were unable to comment on the matter. They sent me into a telephone maze at Apple Corporate headquarters..."



By 8:30 or so the line was getting a little longer. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)

The younger generation was, on the whole, unaware of the Pi. Older folks knew who we were. Some had even been members once upon a time. A small, but select, coterie are still members.

Once the store opened, at 10 am, the line started to shrink. The gentleman at the door would admit 30 or so people at a time to avoid overcrowding in



Nancy Little photographing the line while a mall employee completes the final cleanup. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)



By 9:00 am the line was pretty respectable. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)



Around 10:30 am the end of the line was creeping along toward the store entrance. Note the people standing in line reading copies of the Pi Journal. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)



At its maximum length, just after 10 am, the line ended at about the entrance to the Abercrombie and Fitch store. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)

*"...a Pi presence at the Grand
Opening of the new Apple
Retail Store in Westfield
Shoppingtown Montgomery,
more commonly known as
Montgomery Mall. We arrived
shortly before 8 am to find a few
hardy souls..."*

the store. I stayed at the end of the line passing out Pi Journals to new people as they joined the line. By about 12:10 I was at the front of the line and I went into the store. I had given away something like 400 copies of the March/April and Jan/Feb Journals.

By this time a couple of stalwarts like Abe Brody and "Jade" had ensconced themselves for longer visits to the store.

I will say that there were more Apple goodies in the store than I am used to seeing in one place. There seemed to be examples of virtually every Macintosh computer model as well as the iPod appliances. There was a rich array of accessories and a quite comprehensive assortment of books, software, and gadgets.

By the time I left it was around 1 pm. I estimate that 600 people or so had passed through the doors. I contacted the store to confirm this number, but they were unable to comment on the matter. They sent me into a telephone maze at Apple Corporate headquarters, but that was a waste of time.

The floor area seems to be a bit smaller than the Clarendon Store and considerably smaller than the one at Tyson's. I did not notice a "theater" space and the "Genius Bar" seems a bit small. The store is, however, offering quite a number of free events for the public. Go to <http://www.apple.com/retail/montgomerymall/> to get a list of activities.

I seldom find excuses to visit Montgomery Mall, but this store could prove to be an ice breaker. I'm going to drop in on a few of the educational sessions and I hope that the Pi can work up some sort of an alliance for training and membership referrals. ■



For a while people kept intermittently adding on to the end of the line. (Photo by John Barnes, taken with an Olympus C5050Z digital camera.)

Why You Should Have a .Mac Account

© Pat Fauquet

THERE ARE REASONS why I buy Macintosh computers instead of Windows machines. There are reasons why I belong to Washington Apple Pi instead of Capital PC User Group and there are reasons why I choose to pay \$99 to Apple Computer each year for my .Mac Account.

My reasons for using Macs and belonging to the Pi are pretty obvious, but this .Mac thing deserves a little explaining. The \$99 that I spend on .Mac is money that is returned to me many times over the course of the year in the special benefits that Apple gives to .Mac members. These benefits include essential software, enhancements to software that came with my computer, free training, free and reduced price software from third party vendors, Web page space and an e-mail account that can be accessed in many ways.

Back when Apple Computer introduced .Mac it was called Mac.com and it was a free benefit offered to all Macintosh users of Mac OS 9. It included a 5MB mailbox and 20MB of space on a special Apple server. Tens of thousands of us signed up for these free accounts and a few of us figured out how to use that space to upload and share computer applications, first run Hollywood movies and homemade porn videos. Things were out of hand.

About two and a half years ago Apple announced major changes to this formerly free service. It would now be called .Mac, it would have more disk space, more benefits and freebies, more email addresses, but there would now be a \$99 annual charge for the services.

Early users were up in arms. How dare Apple charge for something that had been free! Many Macintosh owners let their accounts lapse while others of us quietly paid our money and waited to see what it would bring.

Apple was soon adding benefits to the accounts, making sure that we were getting our money's worth

in many different ways and adding special features that were compelling reasons to pay the annual fee.

In teaching a class entitled "Getting the Most from Your .Mac account at the Pi, and in talking to members and students in other classes, it is apparent that few .Mac members realize the breadth of what is being offered to them. A quick visit to the Web site brings up an ever-changing page of features, offers and training for the .Mac member (Figure 1.) The leftmost column contains links to various .Mac Services.

The Mail link takes you to your mailbox (Figure 2). What appears in your mailbox depends on what preferences you have set for this service. The default way of interacting with Mail is to use the Mail application that is a part of Mac OS X. The account preferences are set to .Mac which is essentially an IMAP style of account. This means that your mail is left on the server instead of being stored on your computer. While .Mac includes a 15MB mailbox, this is not much room if you leave old mail on the sever or if you receive lots of pictures and files from friends and family. It is possible to purchase more mail space from Apple. It cost \$10 to have a 25MB mailbox, \$40 to have a 50MB box, \$50 to have a 100MB box and \$90 to have a 200MB mailbox.

Since with an IMAP style account your mail is on Apple's server, you can then go to the .Mac Web site using any Web browser on any computer that is connected to the Internet to log in to read your messages and write new e-mails. If you need additional e-mail addresses, they are available for \$10.00 each per year and up to 10 additional addresses may be purchased. These additional email accounts are limited to 5MB each.

Of course, being able to write mail anywhere supposes that you have access to your Address Book while online (Figure 3). While addresses are shown in a single line format, clicking on an entry will take you to another page where all the information for that entry can be accessed. Note that you can edit entries, make new entries and delete entries online. The Address Book on your computer is synced with your Address Book online when you use the iSync application which is a part of

the .Mac software suite to move a copy of your address book online. While your address book is available from within the Webmail portion of the .Mac site, you can also link to it from the .Mac Welcome page. This can be especially helpful when you are away from home and your own computer.

The other things that I miss when I am away from my own computer are my Web bookmarks. If you are using Apple's Safari Internet browser, your Bookmarks can be stored on the .Mac server so that you can get to them anytime, anywhere, on any Internet connected computer, in any browser. Clicking on the Bookmarks link on the .Mac Welcome page will open a small Web page from within your current browser (Figure 4). Note that while using this feature, you can not only access

The screenshot shows the .Mac website homepage. At the top, there is a navigation bar with links for Store, iPod + iTunes, .Mac, QuickTime, Support, and Mac OS X. Below the navigation bar, there is a large banner for "Apple's Panther Training Free for .Mac Members". To the right of the banner is a "What's New" section listing recent updates like "Movie and HomePage contest at dotmac.info (Feb 18)", "Free Puzzle Game (Feb 4)", "Discount on Pop & Drop (Feb 4)", "Backup 2.0.1 (Feb 4)", "Keynote Discount and Themes (Jan 21)", and a link to see all latest updates. Below the banner is a section for "Exclusive 25 Percent Discount for Nanosaur II: Hatchling" with a thumbnail image of the game. To the right of this is a "Learning Center" section with links to "Getting Started with .Mac", ".Mac How To's", ".Mac Presents", "Apple Training", and "iTunes Movie & DVD". At the bottom right is a "Get .Mac for Free!" section with a link to refer a friend and save 20 percent off their next year of .Mac. The left side of the page has a sidebar with links to Mail, Address Book, Bookmarks, HomePage, iDisk, iCards, Backup, iSync, Virex, Member Benefits, Support, .Mac Downloads, .Mac Newsletter, Feedback, .Mac FAQ, and Education Institution Customers. There is also a "Sleepy Sands Gifts" advertisement.

Figure 1.

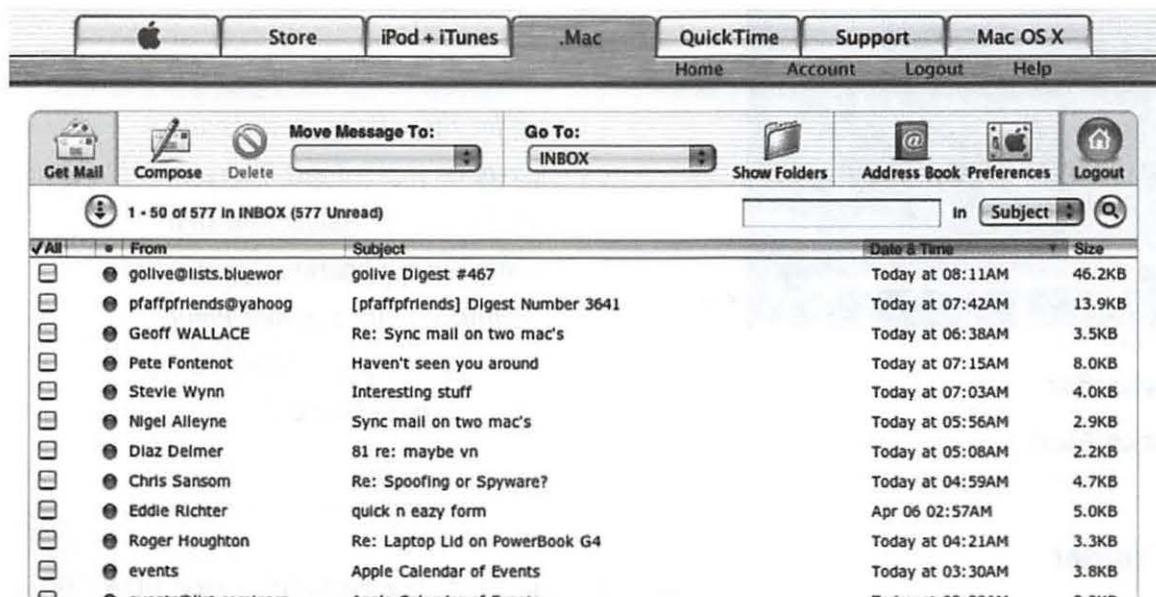


Figure 2.

This screenshot shows the .Mac Address Book application window. The top menu bar includes Apple, Store, iPod + iTunes, .Mac, QuickTime, Support, and Mac OS X. The toolbar below has buttons for Address Book, New, Edit, Delete, Mail, and Compose. The main content area shows a single contact entry for "Washington Apple Pi". The contact details include the name, email address (washington.apple.pi@wap.org), phone number (301-984-0300), and a note indicating it is 1 of 1 in the Address Book. Below this, there's a detailed view of the contact's information, including first name, last name, nickname, title, company (Washington Apple Pi), home and work addresses, phone numbers, fax, and a home page URL (www.wap.org). The interface uses a dark grey theme.

Figure 3.

your bookmarks, you can also add new bookmarks and even Collections and also delete bookmarks. Be sure to re-synch your computer and your bookmarks on your .Mac account when you return home.

The other thing I need to access away from home is my calendar. If .Mac users are using

iCal, it is possible to publish your personal calendar to a Web page for family and friends to view (Figure 5). If they are iCal users, you can also invite your friends and family to subscribe to your calendar using the "Send Publish email . . ." command (Figure 6) found in the Calendar Menu within iCal. It is also possible to add the Washington Apple Pi Tutorials and Events calendars to your iCal application. To do that, go to <http://calendar.wap.org/> and click on the calendar names in the upper left corner of the calendar. Be sure to set a refresh period for the calendar to be able to see newly added events and classes (Figure 7).

The Address Book, Safari Bookmarks and iCal use iSync (Figure 8) to interact not only with their counterparts on the Web, but they can also interact with your other computers you own, your cell phone, PDA and even your iPod to keep addresses, calendars, to do lists and bookmarks available. To sync with a Palm OS PDA or telephone, you will also need to download the iSync Palm Conduit. Be sure that the conduit is compatible with your version of iSync or you will never get your computer and Palm device to see



Bookmarks Bar

Bookmarks Menu

Mac

untitled folder

"Tens of thousands of us signed up for these free accounts and a few of us figured out how to use that space to upload and share computer applications, first run Hollywood movies and home-made porn videos. Things were out of hand."



Figure 4.

ware to your PDA. For PocketPC based PDAs, there are several syncing pieces of software available. Check VersionTracker.com for specifics.

So far no viruses have been discovered that affect Mac OS X. Of course that could all change tomorrow,

so using a virus detection application is a good idea. A subscription to Virex is included with a .Mac account (Figure 9). Antivirus software must be updated regularly to ensure that it can detect and remove new viruses. While many people own antivirus software, few keep it up-to-date. One of the best features of Virex is that it includes an auto-

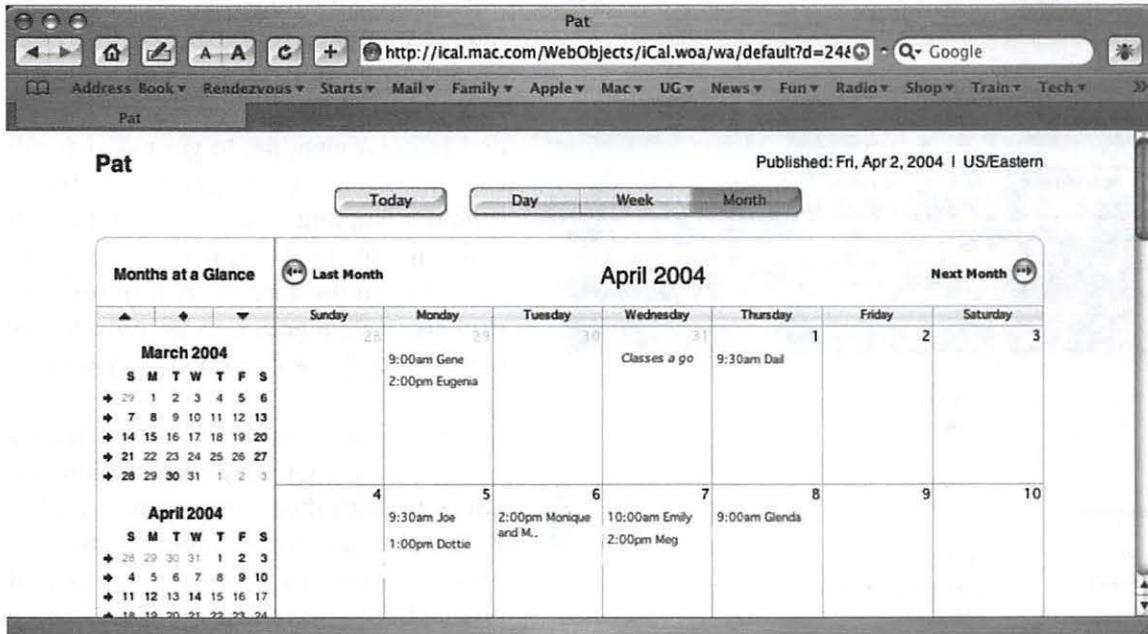


Figure 5.

each other! When using the iSync Palm conduit, the Palm Desktop Address Book, Calendar and To Do List are disabled and replaced by Apple's Address Book and iCal which includes To Dos. The Palm software is still used for the memos and for uploading additional soft-

update feature that puts it in charge of keeping the virus definitions current instead of relying on the user to remember to find, download and install the necessary updates.

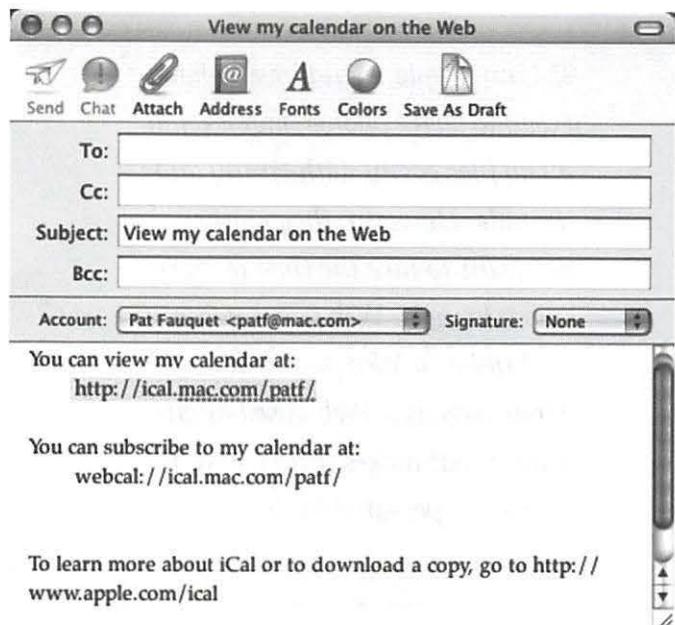


Figure 6.

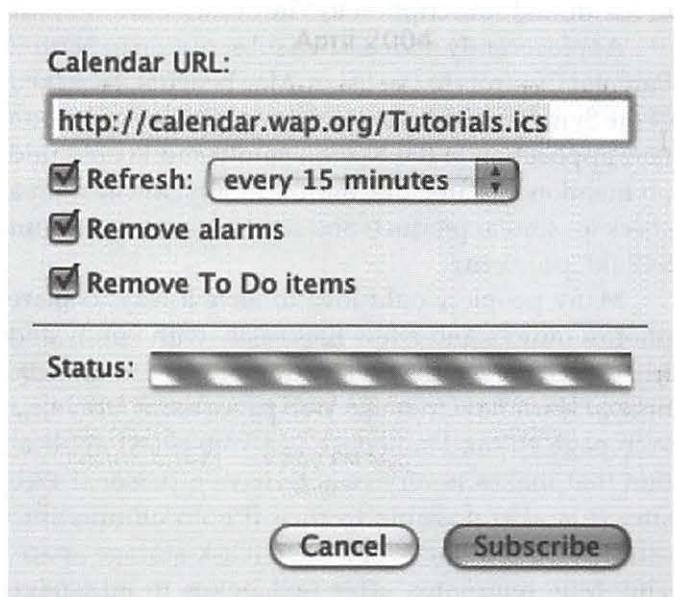


Figure 7.

The other important task that every computer owner should perform on a regular basis is that of backing up important documents and photos. In discussing proper back-up procedures with computer owners, I find that few users have a comprehensive backup plan. While some people make CDs of their files occasionally, few think about the possibility of fire or theft. While the hard drive in your computer is made of metal, CDs are plastic and they would melt into useless blobs long before a fire would make your hard drive unrecover-

"The \$99 that I spend on .Mac is money that is returned to me many times over the course of the year in the special benefits that Apple gives to .Mac members. These benefits include essential software, enhancements to software ..."

able. Also, many computer owners report that burglars often remove CD collections along with the computers that hold the original files.

A comprehensive backup plan includes at least three components. Your most important files should be backed up daily. These would include your address book, calendars, password keychains and Quicken or other financial data files along with current projects that you are working on. Apple's Backup (Figure 10) application can be scheduled to make daily backups of these kinds of files to Apple's servers via your iDisk. While the default amount of backup space sold with a .Mac account is 100MB, this amount of space is adequate to allow you to save quite a number of files in addition to some personal Web pages to share photos, movies, music and a few files with friends and family. Additional space can be purchased. The 100MB can be increased to 200MB for \$60, to 300MB for \$100, to 500MB for \$180, and to 1GB for \$350 more each year.

A more complete backup can be made to either CDs or DVDs and Backup will determine how many CDs or DVDs are needed and let you know when to insert them and how to label them. Remember that a typical CD holds around 650MB of data while a DVD burned as data holds 4.7GB. Just remember that backup CDs and DVDs should be stored in another location or in a fire-proof box that is safety rated for media instead of paper since plastic melts at a far lower temperature than paper combusts.

If you have an additional hard drive, it can also be used for backing up data on a scheduled basis (Figure

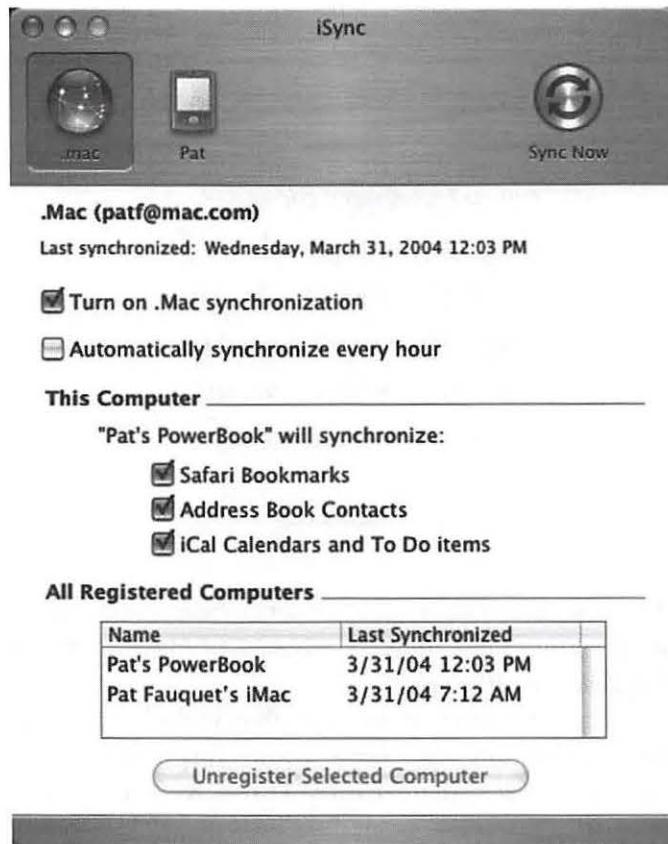


Figure 8.

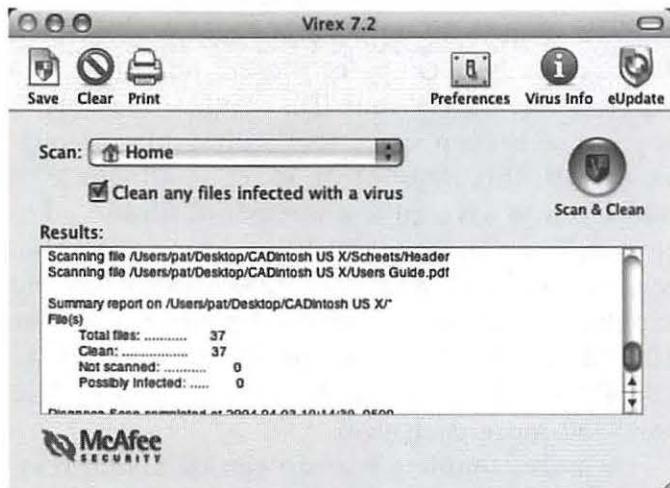


Figure 9.

11). Backup determines which file have been changed and backs up the changed files then next time it is used. Backups to additional drives can also be pre-scheduled.

Just the Virex and Backup applications pay for your .Mac account each year. Retrospect Express costs \$49 and does not allow you to perform backups to remote servers. It must be upgraded each time there is a major upgrade to the operating system (Mac OS X 10.2 to 10.3,

"Many people would love to have a way to share photos, movies and a few files easily with family and friends. However, they really do not want to take the time to learn how to make Web pages using html or a Web page editor.

Homepage is a Web-based application that makes it very easy to have a personal Web site."

for example). The manufacturer requires that you repurchase the program each time you need to upgrade it. An annual subscription to Virex costs \$49.

Apple recently added a free subscription to Norton Parental Controls to the list of .Mac benefits. I checked of the Symantec Web site for pricing. This seems to be a new application in the Norton family and I could find no mention of Parental Controls at all. However, in a check for similar products and services, most cost about \$49.00 per year.

Many people would love to have a way to share photos, movies and a few files easily with family and friends. However, they really do not want to take the time to learn how to make Web pages using html or a Web page editor. Homepage is a Web-based application that makes it very easy to have a personal Web site. It is also possible to turn iPhoto albums into directly from iPhoto your .Mac iDisk storage space. The .Mac templates offer text boxes to add page titles, explanatory paragraphs and picture titles along with visitor counters and a way for people to send you a quick note. There are also templates to share videos, resumes, newsletters and invitations along with files.

Your stored files can be accessed directly from your Web site or Mac and even Windows users can get to them using the iDisk Utility that can be downloaded from the Apple Web site. This same tool can be used to access files you have stored in the iDisk portion of your .Mac space. You can have a public area that can be totally open or it can be password protected. If you have a Mac at home and use a PC at work, you can

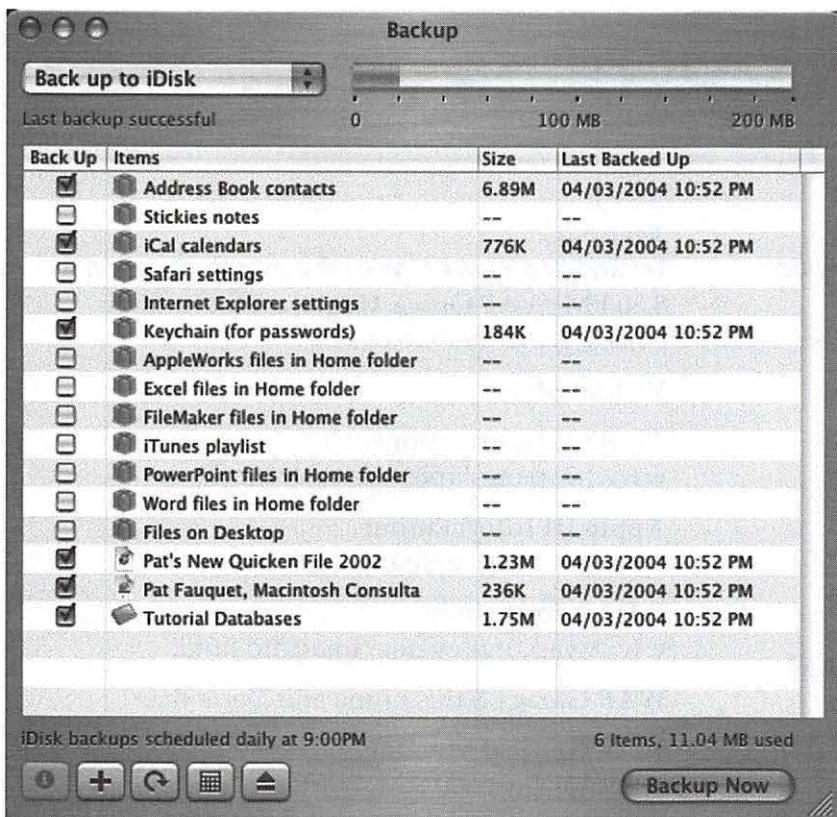


Figure 10.

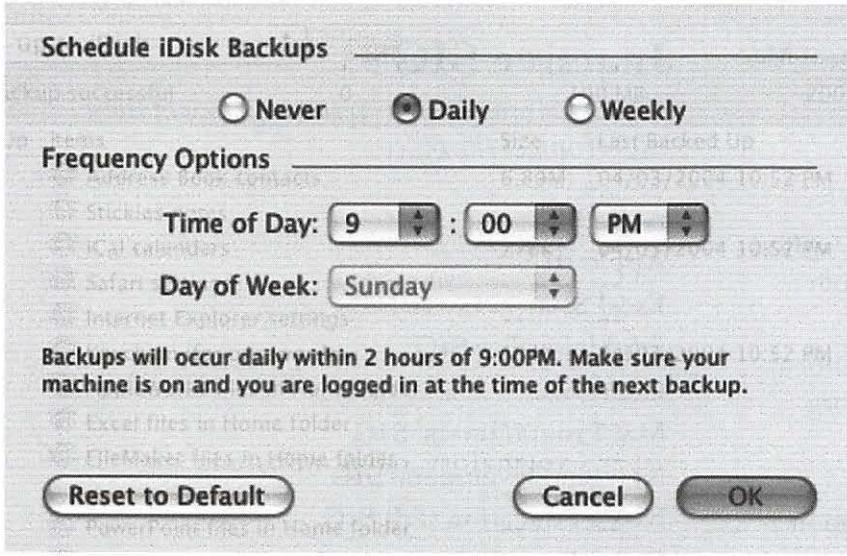


Figure 11.

store files on the iDisk so that they can be accessed at work or away from home.

The Membership Benefits link in the left column leads to a page that lists all current offers available to .Mac members along with their expiration date if there is one. These benefits include free software and training, discounts on Apple and third party software and a number of training opportunities.

The final link in the column is a link to a special support area. Help available here includes a status report on the .Mac servers, links to FAQs for various .Mac topics and a special discussion board that is monitored by Apple employees and is a place where .Mac members can help each other.

Clicking on the link to Mail yields many areas, including New to .Mac Mail? Web Mail How-To, video tutorials, links to the Mail discussion board, Frequently asked questions and a place to provide specific information and then ask a question. A note indicated that every effort is made to send an email reply within 24 hours.

While a .Mac account may not fill everyone's complete needs, the variety of products and services will include something for everyone. The cost of \$99 per year may seem high at a first glance, but selecting the things which you presently need and adding those things that sound interesting will probably lead most Mac users to the conclusion that their money buys lots of services and benefits. ■

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

Columbia Slice

1st Thursday; 7:00 PM. Call for location
BBS (410) 964-3706
www.wap.org/columbia/default.html

DataBases (Mac) SIG

Volunteers needed to restart this SIG

Frederick Slice

General meeting time, 2nd Saturday; 10:00 AM;
United Methodist Church; 22 Main Street in
Walkersville.
www.wap.org/frederick/default.html

Genealogy SIG

Volunteer needed to restart SIG.

Graphic Arts SIG

2nd Saturday of the month, 10AM-12 noon, at Mac
Business Solutions, 9057 Gaither Road,
Gaithersburg
www.wap.org/gasig/default.html

iMovie SIG

2nd Thursday of the month, 7:00 PM, WAP office.
Contact: Hal Cauthen at ChgrHorse@aol.com

Power User SIG

1st Monday of the month, 7:30 PM, WAP Office
Contact: John Barnes at [jdbsci@speakeeasy.org](mailto:jdbsci@speakeasy.org)
www.wap.org/power/default.html

Retired SIG

3rd Friday of each month; 9:30 AM till 12 noon
normally at the WAP office. Each meeting will
have a topic, but be run informally.
www.wap.org/retired

Teen SIG

1st and 3rd Thursdays of the month, 6:30 PM to
8:30 PM, WAP Office. Contact: Will Byrd at
emacs_groks@yahoo.com

Virtual SIGs:

Apple II Information:
www.wap.org/ape2/forever.html

Apple III Information:
www.wap.org/ape3/default.html

iMac Information:
www.wap.org/events/imacinfo.html

WAP Garage Sale— June and December

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

Inactive SIGs

*If you are interested in restarting any of these
SIGs contact the office.*

AOL SIG

Apple III SIG

Excel SIG

FileMaker Pro SIG

Game SIG

Mac Programmers' SIG

Newton Developers' SIG

NoVa Education (Ed) SIG

QuickTime SIG

Stock SIG

Telecomm SIG

Women's SIG

Notice: Plans change! Anyone with calendar information please call the Calendar
Editor, WE NEED A VOLUNTEER, or the WAP Office (301) 984-0300.

Broken Windows

by John Gruber

[Editor's note: the following article uses language and phrases not usually permitted in the *Washington Apple Pi Journal*. In this case, however, we have made an exception because of the exceptional merit of the article.]

AS BACKGROUND, note that 2003 was an exceptionally bad year for computer security, and 2004 will be far worse. Virtually all of the problems, last year as well as this year, have dealt with "other operating systems," chiefly the various forms of Windows and the software hosted on Windows. This year, however, there have been some genuine, if overblown, security concerns with Mac OS X, prompting three security updates from Apple from early May to early June. These updates patched vulnerabilities before there were any known exploits, but that didn't prevent certain publications and individuals from claiming there were "profound problems" with Mac OS X.

This article is reprinted from John Gruber's Web site, **DARING FIREBALL**, with permission:
http://daringfireball.net/2004/06/broken_windows/

Friday, June 4, 2004

Here's a billion-dollar question: Why are Windows users besieged by security exploits, but Mac users are not?

For the sake of this discussion, let's consider the realm of "security" to encompass any sort of software running on your computer, which software you wish weren't there. So we're not just talking about viruses/worms/Trojan horses — we're talking about crapware of any sort, including adware and spyware.

Adware is software that displays advertisements, typically in pop-up windows. Web surfers have been cursed by pop-up ads for years, but it's common knowledge that they're pretty much just a problem for Windows users these days, because every modern browser other than Internet Explorer has a pop-up blocking feature. If

you have adware installed on your computer, however, even switching to a pop-up-blocking browser won't make them stop — the ads are coming from hidden applications running on your computer. Spyware is any sort of software that secretly records information about you — anything from the web sites you visit, to logging all the keystrokes you type. Obviously, there's a fine line between spyware and Trojan horses.

What's remarkable is this: Crapware is a problem of epidemic proportions on Windows, but it is almost completely non-existent on the Mac.

How big a problem is it on Windows? EarthLink offers a free program called Spy Audit (see references) which scans your PC for various forms of crapware; in March, they published a report showing that after scanning over one million PCs, Spy Audit had identified nearly 30 million instances of "spyware", nearly 28 instances per PC scanned.

Now, obviously, these results are bit self-selecting, in that the people who suspect their PC has been infested by spyware are a lot more likely run Spy Audit than those running clean systems. And EarthLink is counting cookies from known adware-tracking web sites as instances of "spyware", which I find tenuous — but still, they also found 5 million adware applications, and over 350,000 Trojan horses and "system monitors."

A similar audit of Macs might well find nefarious cookies, but would it find adware or spyware? Any at all? If there exists any such software for the Mac, I haven't heard of it.

NO PLACE TO HIDE

It's not like Mac OS X is impervious to crapware. Adware, for example, is just software that displays ads. Anyone with an Intro to Cocoa book could put together an application that displays ads in a pop-up window.

One difference between Mac OS X and Windows, however, is that Mac OS X doesn't offer nearly as many places for nefarious software to hide. A major aspect to the scourge of crapware is that it's extraordinarily difficult to find and remove it. This isn't just about "typical" users; even expert Windows users get hit by crapware and can't figure out how to get rid of it.

E.g. Dave Winer, who last week installed the “free” version of Kazaa and ended up with “Popups all over the place. Tons of virusware installed.” Winer spent an entire day digging out.

Or, e.g., Paul Thurrott, long-time author of the WinInfo web site and numerous books about Windows. Last week, Thurrott was hit by a Trojan horse:

On Sunday night, while preparing for a trip Monday to New York, the notebook I had planned to bring was suddenly struck by the most malicious software (malware) I’ve ever encountered. This Trojan horse got through my defenses despite the fact that I was running the Release Candidate 1 (RC1) version of Windows XP Service Pack 2 (SP2) with the firewall turned on. It was infuriating, and after hours of investigating, deep cleaning with various antivirus and spyware products, and consulting with my technical guru (Storage Update’s Keith Furman, a lifesaver), I finally gave up. As I write this commentary, I’m heading to New York by train, using a different machine, and my infected laptop is home, awaiting a complete wipeout. I never did completely clean up the machine, and I’m still frustrated by the defeat.

Given Thurrott’s consistent record as a bona fide asshat regarding all things Mac, could this rate any higher on the schadenfreude-o-meter? Hours of work to remove a Trojan, all in vain, and resigned to a “complete wipeout”?

There are all sorts of ways that Windows executes software that don’t have equivalents on Mac OS X. Services get installed in the Windows Registry, and the Registry is an opaque labyrinth.

This just isn’t a problem on the Mac. Even if you ended up with piece of crapware installed, there simply aren’t that many places where it could hide. Assuming the crapware needs to launch itself automatically, it’s either going to be installed in one of the various /Library sub-folders, or it has to be listed in your user account’s Startup Items in the Accounts panel of System Preferences.

ZERO TOLERANCE

You could argue that many Mac OS X users have no idea where their Startup Items are listed, or about the contents of the various /Library folders — but plenty of Mac users do. Certainly a Mac user with the same expertise as Winer or Thurrott would know about these locations.

We all benefit from the fact that the Mac community has zero tolerance for *vulnerabilities*. Not just zero tolerance for security *exploits*, but zero tolerance for vulnerabilities. In fact, there is zero tolerance in the Mac community for crapware of any kind.

If some “freeware” software for the Mac surreptitiously installed some sort of adware/spyware/crapware, there’d be reports all over the Mac web within days. Uninstallation instructions would be posted (and thus made available to all via Google), and the developer who shipped the app would be excoriated.

Zero tolerance, on the part of the user community, is the only policy that can work. It’s similar to the “broken windows” theory of urban decay, which holds that if a single window is left unrepaired in a building, in fairly short order, the remaining windows in the building will be broken. Fixing windows as soon as they are broken sends a message: that vandalism will not be tolerated. But not fixing windows also sends a message: that vandalism is acceptable. Worse, once a problem such as vandalism starts, if left unchecked, it flourishes.

This theory was made famous in a 1982 article by James Q. Wilson and George L. Kelling in *The Atlantic Monthly*. They wrote:

That link [between maintaining civil order and preventing crime] is similar to the process whereby one broken window becomes many. The citizen who fears the ill-smelling drunk, the rowdy teenager, or the importuning beggar is not merely expressing his distaste for unseemly behavior; he is also giving voice to a bit of folk wisdom that happens to be a correct generalization — namely, that serious street crime flourishes in areas in which disorderly behavior goes unchecked. The unchecked panhandler is, in effect, the first broken

window. Muggers and robbers, whether opportunistic or professional, believe they reduce their chances of being caught or even identified if they operate on streets where potential victims are already intimidated by prevailing conditions. If the neighborhood cannot keep a bothersome panhandler from annoying passersby, the thief may reason, it is even less likely to call the police to identify a potential mugger or to interfere if the mugging actually takes place.

It should be obvious where we're heading with this.

My answer to question posed earlier — why are Windows users besieged with security exploits, while Mac users suffer none? — is that Windows is like a bad neighborhood, strewn with litter, mysterious odors, panhandlers, and untold dozens of petty annoyances. Many Windows users are simply resigned to the fact that their computers contain software that is not under their control. And if they'll tolerate an annoying application that badgers them with pop-up ads, well, why not a spyware virus that logs every key you type, then sends them back to the creator? (That's a real virus, by the way, Korgo, which hit Windows at the end of May and is spreading quickly.)

The Mac is like a good neighborhood, where the streets are clean and the crime rate low. You don't need bars on your windows in a good neighborhood; you don't need anti-virus software on the Mac.

Windows apologists have long argued that the only reason the Mac has been so strikingly free of security exploits is that it has such a smaller market share than Windows. This argument ignores numerous facts, such as that the Mac's share of viruses is effectively *zero*; no matter how you peg the Mac's overall market share, its share of viruses/worms/Trojans is significantly disproportionate. Or that the logical conclusion of this argument — that because of Windows's monopoly market share, malevolent hackers would logically *only* write software to attack Windows — would be to extend the argument to all software, malicious or not, and it's quite easily disproven that "all software" is targeted only for Windows. Or that, despite the Mac's relatively small market share, a successful virus/worm/Trojan attack against Mac OS X would likely garner significantly more notoriety and fame; consid-

ering the recent publicity given to non-exploited Mac OS X vulnerabilities, it's reasonable to expect that an outright exploit would result in an avalanche of tech media hysteria.

The reason this argument is so popular with Windows apologists is that it's a convenient bit of rhetoric. They say it's so, we say it's not. You can't get past this argument, because *it can't be disproven* without the Mac OS actually attaining a Windows-like market share.

So, let's concede the point, just for the sake of argument: *OK, fine, if the Mac had the same market share as Windows, the tables would be turned and there'd be just as many Mac security exploits as there are Windows exploits today.*

Now what? Given that the Mac is never going to attain a monopoly share of the operating systems market — that merely expanding its share to, say, 10 percent would be universally hailed as an almost-too-good-to-be-true success — isn't it thus only logical to conclude that the Mac is forever "doomed" to be significantly more secure than Windows?

While we're conceding for the sake of argument, let's address that other popular canard of Windows apolo-gia — that on the whole, Windows XP is just as good, if not better, than Mac OS X. *OK, fine. XP is as good as OS X; Windows Movie Maker is as good as iMovie; Photoshop Album is better than iPhoto; etc.*

But is it fair to judge Mac-v.-Windows under factory-fresh conditions? Wouldn't an accurate comparison be better made a few months down the road — after a nice sampling of the hundreds of new Windows viruses discovered each week get a chance to find a home on the Windows box? In the hands of a typical user, a six-month-old Mac is almost certainly in similar working condition as when it left the store; a six-month-old Windows PC, on the other hand, is likely to be infested with multiple instances of crapware. And if it's not, it's likely because the poor sap who bought it just got done reinstalling from scratch.

You can argue about why this is so, but you don't need to. You can't argue with the facts. Anti-virus software vendor Sophos reported yesterday that it found 959 new

viruses, last month alone. How many of those do you think were for Mac OS X? Any at all?

Arguing that it's technically possible that the Mac could suffer just as many security exploits as Windows is like arguing that a good neighborhood could suddenly find itself strewn with garbage and plagued by vandalism and serious crime. Possible, yes, but not likely. The security disparity between the Mac and Windows isn't so much about technical possibilities as it is about what people will tolerate.

And Mac users don't tolerate shit.

References:

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<http://www.earthlink.net/spyaudit/>

Earthlink report on spyware:

<http://www.earthlink.net/spyaudit/press/>

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<http://archive.scripting.com/2004/05/27#servesMeRight>

Paul Turrott's WinInfo site:

<http://www.winnetmag.com/windowspaulthurrott/>

Paul Turrott's publications:

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James Q. Wilson and George L. Kelling, "Broken Windows"

<http://www.theatlantic.com/politics/crime/windows.htm>

Sophos on 959 new viruses in one month:

<http://www.informationweek.com/story/showArticle.jhtml?articleID=21401332> ■

OUTSTANDING
DISCUSSION
<http://tcs.wap.org>



There's Safety in Diversity, but not in Microsoft

by Richard A. "Dick" Rucker

German Teen Admits Making the 'Sasser' Internet Worm:

A teenager in Germany confessed to creating a computer worm that has crashed computers around the world in the past week... German authorities and officials at the Microsoft Corp., whose Windows operating system was targeted by Sasser, [were tipped off] by acquaintances seeking a \$250,000 reward [offered by Microsoft].

The worm appeared a week ago and moved quickly across the Internet. Software experts have estimated it infected as many as a million computers, causing them to crash repeatedly.

— Washington Post, Sunday, May 9, 2004

First, what's a computer worm? Here's how Wikipedia <<http://en.wikipedia.org>> distinguishes a worm from a virus:

Computer virus: executable program code that, like a biological virus, makes copies of itself and spreads by attaching itself to a host document or application.

Computer worm: a self-contained and self-replicating computer program that does not need a host to propagate itself.

In other words, in order to launch a virus attack on your computer, you must take some action, such as double-clicking on a document or an application, to launch the host and activate the virus. On the other hand, all you have to do to provide a worm an opportunity to do its dirty work is to leave your computer running and connected to the Internet, but without adequate protection

against invasion from the outside.

Your computer's odds of being invaded greatly increase if you're running software on any one of Microsoft's Windows operating systems that run on computers with a word size of 32 bits: *Windows 95*, *Windows 98*, *Windows Me*, *Windows 2000*, *Windows NT*, *Windows Server 2003*, or *Windows XP*.

While writing this article, I consulted Symantec's latest *Security Response* page at <<http://securityresponse.symantec.com/>> It listed as the then current top threats:

	<u>discovered</u>
W32.Sasser.B.Worm	May 1, 2004
W32.Sasser.Worm	April 30, 2004
W32.Beagle.X@mm	April 28, 2004
W32.Netsky.AB@mm	April 27, 2004
W32.Beagle.W@mm	April 26, 2004
W32.Netsky.Y@mm	April 20, 2004
W32.Netsky.X@mm	April 20, 2004
W32.Netsky.P@mm	March 21, 2004
W32.Beagle.M@mm	March 13, 2004
W32.Netsky.D@mm	March 1, 2004
W32.Netsky.C@mm	February 24, 2004
W32.Netsky.B@mm	February 18, 2004

All these troublemakers are worms. The prefix "W32" means that the named code package can infect *any* Microsoft Windows operating system that is written for a 32 bit word machine, while *none* can infect any of the following operating systems: Linux, Mac OS 9 or Mac OS X, OS/2, UNIX, or Microsoft's 16-bit-word Windows 3.x.

That same page also listed as the latest threats:

W32.Gaobot.AJD (worm)
W32.Donk.Q (worm)
W32.Sasser.F.Worm
Backdoor.Sinups (Trojan horse)
W32.Cycle (worm)
W32.Sasser.E.Worm

It's interesting to note that none of the most recent threats or top threats are viruses; nearly all are worms. Perhaps

that's an indication that a growing number of users have finally wised up to the fact that it is very risky to open up an email attachment of unknown origin or content.

It's also interesting to check this Symantec page frequently; though the names change almost daily, those that appear are invariably plagues that make their attacks via one or more Microsoft products: an operating system, a mail application, or an Internet browser.

Clicking on a name in a list will provide you with an in-depth profile of that code package. Quoting from the introductions to some of these profiles:

W32.Sasser.B.Worm "is a variant of the W32.Sasser.Worm. It attempts to exploit a vulnerability described in Microsoft Security Bulletin MS04-011. This worm spreads by scanning randomly selected IP addresses for vulnerable systems."

W32.Gaobot.AJD is a worm that spreads through open networks and six (!) different Windows vulnerabilities described in as many *Microsoft Security Bulletins*. "The worm also spreads through *backdoors* that the *Beagle* and *Mydoom* worms and the *Optix* family of backdoors install on Windows machines."

What's a "backdoor"? According to Wikipedia, it "is a method of bypassing normal authentication or obtaining remote access to a computer; it is intended to remain hidden to casual inspection. The backdoor may take the form of an installed program (e.g., *Back Orifice*) or a modification to a legitimate program."

W32.Donk.Q is a worm that "spreads through open network shares and attempts to exploit the Microsoft vulnerability described in Microsoft Security Bulletin MS03-026."

Backdoor.Sinups is a *Visual Basic Script (VBS)*-based "backdoor Trojan horse. This Trojan gives an attacker full control of a computer that runs a Microsoft IIS Web server."

What's a "Trojan Horse"? Wikipedia says it is a "malicious computer program that pretends to have some innocent purpose but, when run, has an entirely different effect." Since it can't spread by itself, it needs to entice its victims to download and then activate its file.

Golo.A@mm "is a mass mailing worm that sends itself to all email addresses in a compromised user's *Microsoft Outlook* address book."

W32.Netsky.AB@mm "is a worm that scans for the email addresses on all non-CD-ROM drives on an infected computer. The worm then uses its own *Simple Mail Transfer Protocol (SMTP)* engine to send itself to the email addresses that it finds. The email's Subject, Body, and attachment vary. The attachment has a .pif extension."

The reason for providing its own SMTP engine is that Microsoft has recently upgraded its Outlook mail program to be less vulnerable to threats that attempt to hijack its SMTP code.

W32.Beagle.X@mm "is a mass-mailing worm that attempts to spread using mail and file-sharing networks. The worm also opens a backdoor on an infected computer."

Mass mailing worms and Trojan horses are the favorite tools of spam-authors who prefer to use the computers of unsuspecting others, which are connected to the Internet without proper protection against invasion, to do their dirty work.

What about attacks on Macintosh computers?

It is reported that only a handful of viruses ever existed for Mac OS 9, and *none* have been reported so far that are directed specifically at Mac OS X users. So far, I've not seen any reports of worms that have successfully attacked Mac OS X systems. Until recently, I could have made that same statement about Trojan Horses that target Mac OS X users.

Note the distinction between attacks on *users*, versus attacks on *systems*. Viruses and Trojan Horses require human users to do something not hygienically wise, such as downloading an "interesting" file from a questionable source just to "try it out." A relatively new company at selling protection software to Mac users, *Intego*, has recently become notorious for hyping Trojan Horse threats supposedly directed at Mac users.

Here's what Pi member Jon Thomason had to say on the TCS about the latest one:

[Menu >>](#)

[Computing >>](#)

[Internet Software >>](#)

New Report: Mac Trojan Horse

FROM: Jon Thomason
Wednesday, May 12, 2004

I find this part particularly compelling.

"Macworld has been able to acquire the file from Limewire...and has received confirmation from Internet security company Intego...that its contents appear to be malicious."

"Intego was initially criticized for exaggerating the threat of...the concept Trojan Horse identified last month."

Now, <ahem> I guess they've <cough> allegedly shown us!

I also like this statement: "The file unzipped, and to my delight the Microsoft icon looked genuine and trustworthy." :) I may be a misguided buffoon in 80% of my dealings in real life, but I feel I have enough basic sense not to just download random software that I've never heard of out of the LimeWire pool, and not take a moment to check it out with its ubiquitous parent company.

Folks, for the love of pete, don't take any wooden software. The file sharing networks are rife with trojan horses not because they're populated by pirates in the first place (though that's obviously part of it), but because there's no way of knowing where any of that junk has been. On the Windows side of the aisle, they've gone well past this sort of obvious goading fraud and proceeded into more believable hacks, taking legit software and monkeying with its gears.

Intego touched off a war here, and they should be ashamed of themselves as they start cashing all those tasty checks. Their claims about Mac OS X being unsafe don't even have measurable merits of their own after they've diverted attention away from the operating system itself and onto end-user confidence games.

We will never run out of con games: on any OS, or without computers at all. /jt/

P.S. This guy really thought he'd scored a copy of Word 2004 - at 108KB? Wow! It's literally an AppleScript that says 'do shell script "rm -rf ~"', with a pretty green icon attached. If this guy really fell victim, I'm a supermodel.

Nuff said!

However, worms are different: if the computer system itself is vulnerable to attack from the outside, say via the Internet, then the worm can find its way into your machine all by itself. There are significant differences between the way Microsoft has gone about producing its products and the way Apple has chosen to do it when designing Mac OS X that make worm attacks far more likely to succeed on the former.

That's where software firewalls and hardware security routers come in. To find out more about these for the Mac, get thee to the TCS <<http://tcs.wap.org/>>, and particularly these message boards in the Computing Conference:

[Internet Software](#)
[Home Networking](#)

Another threat to Mac users may be *macro-viruses* written to run within an open Microsoft Excel or Word document. These may be capable of running within both the Windows and the Macintosh versions of these programs. I write "may," because I have not run across any examples.

What's a "macro-virus"? According to Wikipedia, "a macro-virus exploits applications which allow their associated documents to contain executable code known as a *macro*. For example, a spreadsheet program may enable the user to embed 'macro' commands in a document to automate certain operations; this makes it possible to use that same facility to program a virus into the spreadsheet that can attack users of that program."

Focusing on the Root Problem

Got the message by now? If you are a user of a W32 operating system, mail application, or Internet browser written by Microsoft, consider your computer, your software, and yourself as prime targets of malicious software writers.

By having a growing list of vulnerabilities in its current software designs, which Microsoft continues to issue patches for on almost a daily basis, plus having the added attraction of being the market's dominant provider of operating systems and Internet software, Microsoft products have become irresistible targets for the world's malicious software authors.

This situation suggests that the world's overwhelming dependence on Microsoft is imposing high and often unrecognized costs of operation, especially from Microsoft's own customers.

Why should Microsoft's software be so vulnerable to such attacks?

The following is excerpted from a longer message thread on the TCS:

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Arlington Schools & Mac

FROM: Paul Chernoff
Friday, Mar 19, 2004

On the subject of viruses, I personally have a hard time accepting that the operating system is the culprit. I understand that there are just a lot more virus writers that target the Windows platform and that's why we don't see as many on OS/X.

FROM: Jon Thomason
Saturday, Mar 20, 2004

Others are fully capable of expanding on the merits of open peer review toward validating/legitimizing any claims of security. [And Jon will argue this point, too, later in the article - ed.] So I'll focus on architecture.

In court briefs, Microsoft is adamant that its "operating system" spans beyond the traditional internal resource management, to include web browsers, media players... I'd stipulate also e-mail clients and word processors.

These applications are intentionally deeply integrated together through a vast and undocumented complex of hooks, or API's, in order to function as a single integrated package from the only vendor who knows where these hooks are and how to use them. They used to make a big deal out of this, as it explained why e.g. Microsoft Word would always by definition be the [only] word processor that fully leverages the Windows platform and vice-versa. They've stopped making a big deal out of this, at least publicly, because it suggests criminal intent in this country's corporate laws. And because of true security ramifications.

The trouble is, these separate components are all riddled with exposed private hooks in order for this integration to work. Just because they're proprietary and undocumented doesn't mean that smart people won't find them eventually. So smart people find these secret on-ramps, one by one, and announce their findings on the Internet. Then bad people take advantage of their findings by writing code that does something these hooks never intended or anticipated.

It's not the operating system, it's the design philosophy. And of course the legendary rush to market. For nearly its entire existence, Microsoft has been creating its own private software empire to build upon and leverage throughout the system. As if they had a special clubhouse, wherein everyone who knew the secret handshakes could reach in and access untold hidden capabilities of every host machine. In a lot of cases, they don't even use (or test) the openings they've built in - some of these hidden API's are what we call dead code, left in just in case a future Microsoft product might need such a feature.

This design approach might have been largely unexploited and uncontroversial, except for the explosive growth of the Internet, which caught them off guard. On the one hand, they found all these new opportunities to explore. On the other, they'd left all these

exposed nerve endings wholly unprotected.

Consider what they used to call ActiveX: this was their instinctive response to the Internet at first. Fundamentally, it was a new name and promotional blitz for the existing OLE technology that allowed Office apps to intermarry. But they thought it would be good to be able to download such software from the Internet and run it natively. As they pointed out, this would be faster than Java, and would allow for spell-binding expansion of their Office suite. They failed to mention, almost seemed to fail to realize, that it would also by nature hand full control of each user's machine over to complete strangers. (When called on this, they backpedaled and rushed to add and enforce an extra layer of code "certification" - as an intractable patch-work afterthought.)

A lot of time has passed since then. Microsoft has learned a lot, and so have we. But the pressures of time-to-market haven't changed, and it'll be a long time if ever before they're able to go back and childproof all those exposed outlets they'd put in throughout their heyday. If they were to do it right, treating security as a design principle, they'd have to restructure and (at least internally) document and unit test all of the hidden features that make each of their deeply integrated products work together. They wouldn't just have to secure Windows, but in fact rewrite every application they produce. Supposedly they've begun that process with .Net. But it'll take untold years.

Guess who'll be footing the bill for that rebuilding effort. And ask yourself whether a substantial investment in today's Windows will really be applicable to anything should such a redesigned/rewritten/safe Windows start to catch on.

So yes, the problem is intrinsic to both the architecture and implementation of Microsoft Windows. And no, the market dominance (what

biologists refer to as a susceptible monoculture) doesn't help. Windows can be improved, but it will take many years. Whereas the Internet today has a very immediate problem with a very simple solution: reduce the percentage of vulnerable Windows hosts in the global IP space, and the worms which thrive on the ubiquity of a single operating system will be unable to spread at these painfully astronomic rates.

Naturally, if Mac OS X represented 90% or more of the Internet IP space, and a vulnerability were found for that operating system, that weekend we'd see an explosion of Mac OS X virus troubles until the exposure was patched in a majority of machines. But A) the platform does not in fact command such a dangerous market presence and hopefully no operating system ever will in the future, B) the open source code review process assures that vulnerabilities are minimized and patches are near-instantaneous, and C) we could be running schools and businesses in the meantime if we weren't focusing on such nonsense.

Windows is – today, at least – inherently, desperately, unpatchably more vulnerable than is any other operating system in common use on the Internet. This has everything to do with the history of software design/implementation at Microsoft since the 1980's, and it has very little to do with market share.

Market share is merely the catalyst that turns these flaws into an incalculable financial and human burden on our governments, schools, and businesses. /jt/

Lawrence Charters added:

FROM: Lawrence Charters
Saturday, Mar 20, 2004

> On the subject of viruses, I personally have a hard time accepting
> that the operating system is the culprit.

But it is. Roughly 90% of all Windows worms and viruses take advantage of the fact that OLE and, later, Active X, require no checks for interprocess communications. Java is confined to a "Java virtual machine" and can't escape outside; JavaScript is confined to a specific browser session; AppleScript is confined to a user and a session; Apple Events require the built-in agreement of two or more applications to talk to one another in a closely-defined fashion; UNIX scripts are limited to user and session.

OLE and Active X allow virtually any Windows process to talk to any other Windows process, or to the operating system itself. No other operating system permits such unrestricted "freedom," and the hundreds of patches to OLE and Active X over the past ten years have merely placed roadblocks to specific pathways; the highway is still there.

The Slammer worm, on the other hand, simply attacked an open port that should not be open. Straight out of the box, Mac OS X has nothing externally visible; straight out of the box, every version of Windows since Windows 95 looks like a Chinese menu of available open ports.

For the writer to say that he "personally [has] a hard time accepting" this is to confess that he personally hasn't looked very hard.

Incidentally, Microsoft briefings encourage their associates to stress the point that "there are more virus writers out there simply because Windows is more popular." By this standard, of the 60,000 viruses available on Windows, Mac OS X should have between 3,000 and 6,000. The actual number is zero. Half a dozen white papers have been written about Mac OS X viruses in a "lab" environment, but none of them passed peer review. In other words, the claim was false.

Jon replies to messages from Lawrence Charters (LC) and Richard Sternberg (RS):

FROM: Jon Thomason
Saturday, Mar 20, 2004

LC> No other operating system permits such unrestricted "freedom," and the hundreds of patches to OLE and Active X over the past ten years have merely placed roadblocks to specific pathways <LC

Actually Mac OS 9 permits more such cross-connectedness than Windows 2000 does. Windows NT and above at least have some memory protection in place, enough to require communication via messages, interfaces, and shared library linkage. Whereas Mac OS 9 allows any running software to rewrite any section of memory, patch any operating system API, access any hardware, write any disk block...

The difference is that Mac OS 9 isn't intertwined around a promiscuous e-mail client and web browser which invite in just any unwashed code to run directly.

But that's Mac OS 9 (and Windows 9x), and we're talking about Mac OS X and NT+. Mac OS X rigidly defines the application's allowed scope, based on conditions such as user permissions and manual authorization to perform additional tasks. This is enforced by the open source kernel, not by some bolted-on API layer, so these restrictions actually have teeth.

There's that, and that the PowerPC call stack builds upward while the Intel x86 call stack builds down. Down makes it easier to leverage a buffer overflow to perform remote intrusions, should a program fail to make all the proper checks.

RS> I recall studying the importance of disallowing inter-process communications. It was a fundamental notion that nothing running on the computer ought to be allowed

to talk to anything outside itself except to make calls to peripherals or to access the memory assigned to it. <RS

Yah, I remember one crazy brilliant former Pi member explaining to me a golden rule of secure microkernel design: "assume the application is white noise." I was of course writing 8-bit software then, so had no concept of mainframes.

And as you say, this was well-established best practice and good sense, years before the personal computer revolution. Apple and Microsoft threw this stuff out the window for personal standalone machines. But once these machines were connected together in large numbers, Apple was already trying to steer those groups of machines onto Unix. Or onto something; they had many false starts.

Microsoft just shrugged it all off and kept running. They even sabotaged an opportunity to fix it: their OS/2 partnership with IBM that led to NT. They simply didn't value consumer safety. They only valued being first to market with all the gee-whiz bells and whistles. They really seemed to believe that they could close the barn door later, once they had wrapped up market share. Well, they can't. And even the press and ordinary people realize that now./jt/

Are Open-Source Software, Open Standards between Platforms, and Greater Choice in the Marketplace an Answer?

John Gilroy, the PC expert on WAMU's *Computer Guys* radio show, which airs the first Tuesday of every month at noon, also writes a regular Q&A column in the *Washington Post*. This is what was printed in the May 9, 2004, edition of

Ask the Computer Guy

by John Gilroy

Q: Is open-source code the answer for security?

A: This reader asks a question on many people's minds: When anybody can inspect and edit the source code of a program, will bugs be found and fixed more quickly than they are in proprietary software? To me, the more useful argument is not open-

source versus proprietary, but one versus many operating systems.

Instead of today's monoculture, we would be safer to employ diverse systems that exchange information based on accepted standards. That works for the Web; why not word processing or spreadsheets, too? Washington Post, Sunday, May 9, 2004.

Gilroy's answer is a good one, and the questioner also raises a good point.

Open-Source Software

Quite a bit of Apple's Mac OS X operating system is based on *open-source software* that Apple refers to as "Darwin."

What's "open source" software? According to Wikipedia, "Open source refers generally to any computer software whose source code is either in the public domain or, more commonly, is copyrighted by one or more persons/entities and distributed under an open-source license..."

An essential idea behind the movement towards open-source software is to make the source code of software products publicly available to anyone interested in studying it and possibly using it. Certain restrictions apply to its use in other products, depending on the type of open-source license agreed to in each case.

What's "source code"? According to Wikipedia, "Source code... refers to any series of statements written in some human readable computer programming language." The point here is that anyone who is motivated enough has the opportunity to subject it to peer review and to discover exactly how some piece of software is constructed to make a computer do what it does. That's a powerful notion when it comes to uncovering security weaknesses and fixing them.

Jon Thomason explained how Apple's decision to embrace open-source code is paying off from the security point-of-view. You can see the message thread on the TCS here:

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Security: Challenge and Response

FROM: Jon Thomason

Wednesday, Dec 17, 2003

You may have read in the past couple weeks about a security issue with Mac OS X involving the DHCP protocol, managed directories, and the possibility for someone on your local network (not from across the Internet) to trick your machine into giving them administrator privileges. I'll touch on that, and mention another.

THE SMOKING GUN?

There are two things that make the DHCP/LDAP issue unique, relative to the many security updates that Apple has put forth to date. First, not to split hairs, the DHCP issue is not the result of a programming error – it's the result of a conscious decision about default settings, made before wireless networks and frequent roaming. The common usage has changed, so the defaults must now too.

[<http://docs.info.apple.com/article.html?artnum=32478>](http://docs.info.apple.com/article.html?artnum=32478)

Let me be clear: the way things are today, this is now an exploitable problem, and thus a serious issue needing to be addressed. My point is that it's not a programming error, so –this one– is a different beast from the buffer overflow patches that get corrected every few weeks in things like our optional web and remote login services. Not –at all– like the seemingly endless vulnerabilities that keep getting discovered in Microsoft's platforms and give rise to rampant, costly, high-visibility epidemics affecting everyone who uses the Internet.

YELLOW JOURNALISM

The second difference is in how this was reported... [see the TCS thread for the rest of Jon's argument on this point.]

THE BOTTOM LINE

In short, it would be silly to compare this to Microsoft's security apparatus of proprietary review and delivery often months after a weakness is exposed.

Instead, the course of this discovery took place in the typical Linux style: less than 24 hours after an obtuse warning hits the Web, the issue is already heavily researched, well-documented, patched, and solved by diverse individuals coming together from around the world.

And to go one step better: watch for Apple to distribute their own official fix within the next day or two, using their breezy and reliable Software Update mechanism for real people without engineering degrees to apply by themselves.

Just so you follow: this is how the open source movement directly benefits you. It's not the only way, but it's a tangible way, and it helps keep you safer.

INVINCIBILITY

Is Mac OS X 100% secure? of course not. It's Unix, and all the terms we now use to discuss computer security originated over decades of cat-and-mouse games on the Internet – most of that time primarily on Unix systems. But it does benefit from lessons learned in every minute over those years, and from every individual who's ever examined the source code for education, work, or fun.

Is it more secure due to lower market share? Ulanoff [the author of the article that Jon labels yellow journalism] is willing to grant us that consolation, but I don't buy it.

First, did I mention the decades of public scrutiny and source code auditing in individual and formal settings? Clearly far more people are thoroughly versed on the strengths and weaknesses of the BSD [a particular version of UNIX] source code than have viewed any snippet of the Windows source code.

We just observed its market share is sufficient to launch a global bounty hunt for bugs – and sufficient to benefit from their immediate capture and fix. The metrics change for open source: greater attention makes

you stronger.

Second, the Internet's malcontents aren't motivated by market share so much as by making a splash: what's yet another widespread Windows worm..., when cracking the veneer of Mac OS X could provide you a far more visceral payoff?

No, the greater security of Mac OS X is due to good design, good components, and an overall healthy attitude toward acknowledging bugs and releasing fixes. Actual problems are rare and compartmentalized. None of these internal bugs could be weaponized and turned into a global epidemic as with Windows worms, because they can't be triggered machine-to-machine without explicit help.

BENEDICTION

So embracing Ulanoff's question, not his answer: how cocky are we, Mac elite? Do we simply enjoy using our computers more than having them use us? Or are we sneering at the ill-informed and making up crazy claims of 100% security?

One would hope that we're realistic in our expectations, and that we recognize the nature of the magic behind our good fortune. Others would be well-served to investigate this as we have, but they'll do so in their own time if at all.

For the time being, let's simply go forth and stay attuned to those periodic Security Updates that Apple releases. /jt/

Marginalization is becoming Threat to Greater Security

Reports continue to come in from Mac users who are finding that the designers of some web sites disregard the standards of good website design and so deny them access to those sites. While this is probably due to laziness or ignorance on the part of those designers, and not malicious intent, the effect is to increasingly frustrate existing Mac users and to perhaps drive away other potential customers of Macintosh systems. For details, see: <<http://www.macintouch.com/marginal01.html>>

A similar story can probably be told about users of other Internet software not written by Microsoft, but I have not researched this aspect.

In early April, I heard two tax advisors being interviewed on FM radio (WMAL); one was from the IRS and one was a professional tax advisor. They were giving advice to listeners on the use of computers to prepare their tax returns for 2003. Everything they had to say was based on their understanding of tax preparation software that runs on Microsoft's Windows OS. They professed not to know anything about tax preparation software that runs on any other operating system.

When they were discussing how the IRS's program for on-line filing of tax returns using an Internet browser works — see <<http://www.irs.com/>> — the IRS representative stated that only browsers that run on Microsoft's Windows would work with IRS's service provider sites. The professional tax advisor questioned that, but said he really didn't know.

In fact, I have successfully filed my federal and state returns the last two years using a Macintosh-specific Internet browser, Apple's *Safari*, running on Mac OS X. The tax-filing service provider I used (*TaxAct*) is one of the many tax-filing service providers reached via the IRS's website.

Though I haven't checked out all of these service providers, would more than a few be so dumb as to restrict their potential customers to Windows machines when there is no technical reason to do so? I am told that it is easy to write platform-agnostic software to securely exchange data and services over the Internet, so long as website designers avoid non-standard, Microsoft-specific, hooks and tricks.

This is just but one example of where the marginalization of operating systems and productivity software produced by anyone but Microsoft is so counter-productive for everyone.

One more thing...

My Macs are protected from invasion from the outside by a security router from Netgear, Inc., and I depend on *Virex* to daily scan my home folder for any threats. I also manually ask *Virex* to scan any file or folder that I might have a question about before I open it.

I never open any files or launch any applications from unknown sources or of unknown content. Suffice it to say, I have yet to be troubled with any kind of virus, worm, or Trojan horse, though I have raised questions on the TCS about suspicious router or modem activity from time to time. In every case so far, those turned out to be friendly.

A great tool for helping me observe and control what accesses to the outside world are attempted by software running on my computers has been this shareware utility: *Little Snitch* — <www.obdev.at/products/littlesnitch/>

If you want to know about what a "hardware security router" does and where to get one, consult the TCS. Several informative message threads on this subject have been archived there over the last couple of years. Here's a recent one:

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router brand to get

So far, in many months of checking, *Virex* has not found a single threat on any of my machines, with one exception: it is a virus-like test file that *Virex*'s manufacturer put on my hard disk to demonstrate that *Virex* is doing its job.

Virex is available at no extra charge from Apple if you are a ".mac" subscriber. For details, see <http://www.mac.com/>

If you want to know more about *Virex* for the Mac and how various Mac gurus are using it to good advantage, I have found Adam C. Engst's *TidBITS Talk* a dependable source: <subscriptions@tidbits.com> ■

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Hands-On Report— iPod Mini

by Bill Fox, Macsonly.com

"Our iPod Mini is still as good as new, with nary a scratch on its sleek anodized case despite being carried virtually everywhere we have gone ..."

ON FRIDAY, February 20th, we stood in line at the Tysons Corner Apple Store until the appointed hour of 6pm for an opportunity to be among the first to buy a retail edition of Apple's brand new iPod Mini. Despite the many online and print media whines that they were overpriced at \$249 and sales would bomb, we believed otherwise and thought they'd go fast and be hard to get. After using an original 5-GB and then 10-GB and 30-GB iPods we were certain that the iPod Mini would be our perfect digital music player. After we took home our silver iPod Mini, we were quickly convinced of this (see our highly enthusiastic February 23rd review).

Our New England Editor, Dana Baggett, while not particularly a digital music buff, takes hour-long early morning walks in his rural Maine neighborhood to start the day. Dana's walking companion was recently sidelined with an injury so he decided to get a 15-GB iPod to listen to audio books during his morning constitutional. Our enthusiastic endorsement along with the iPod Mini's lighter weight and \$50 cheaper price tag convinced him to get a Mini instead. With the nearest Apple Store a 5-hour drive away and the online Apple Store out of stock, Dana opted to get a silver one from an online retailer—one of the last as the first 100,000 manufactured completely sold out right afterwards.

Our iPod Mini is still as good as new, with nary a scratch on its sleek anodized case despite being carried virtually everywhere we have gone since February 20th. This includes more than a half dozen cross-country flights as well as tooling around town in various cities to work. It still pumps out great digital music from our collection that grew by over 25% during the Pepsi/iTunes free song promo.

Unfortunately, Dana was not as lucky. After about a week's use, just an hour a day during his morning walks, his iPod Mini occasionally began to emit static. The frequency of static rapidly increased and the sound became distorted as well. If he lightly tapped his Mini's case, the sound would improve somewhat or get worse.

After consulting with an AppleCare technician, Dana was shipped a cardboard coffin and he sent it off to be repaired or replaced. This was a little over two weeks ago. Dana was hopeful to get it back repaired or replaced right away as the warranty proclaims. AppleCare immediately gave him a replacement order with the Apple Store but after a week the order still showed a 3-5 week wait.

Then, last week it became apparent that the static problem in Dana's iPod Mini was more widespread and may, in fact, be caused by a design or manufacturing defect or both. There are claims of a poor design in the connector between the headphone jack's mini-board and the main electronic board and poor soldering of the pins in the connector (see this web site).

The jack board is solidly connected to the top of the iPod Mini's case while the main board is "loose" in the case. The connector between them is solid rather than flexible so it would receive stress from any movement of the main board. It is not clear from the articles or pictures that we have seen that the main board can actually move around inside the case. However, our unopened iPod Mini's aluminum case can be flexed a bit on the front and back with a little finger tip pressure just below the top in the area of the connection at issue. Doing so produced no static.

We are hopeful that the boards' solid connection is not an inherent design flaw and that either only a few had a poor soldering job or that there is some other isolated problem. CNet reported that Apple is looking into the issue and provided this Apple quote: "Apple is aware of a few isolated reports online of iPod Mini audio static."

Meanwhile, yesterday Dana received notice that his replacement iPod Mini has shipped. This may indicate that Apple has either fixed the problem or has confirmed that it is an isolated problem. At least it means that a continuing supply of new iPod Minis still exists and Apple is allocating some for repair/replacements.

Our iPod Mini continues to work fine. ■

Congratulations!

On Wednesday, June 2, 2004, the Washington Apple Pi Board of Directors confirmed the results of the May Pi elections. The newly formed Board for 2004-2005 elected the following officers:

President — John Barnes

Secretary — Bob Jarecke

Treasurer — Dick Rucker

Vice President Programs — Abraham Brody

Vice President Volunteers — Cheryl Lavoie

Vice President Publicity — Craig Contardi

Vice President Membership — in process

Officers serve for one year. Officers are also directors, with staggered terms:

Barnes (expires 2006), Brody (2007), Contardi (2006), Jarecke (2007),

Lavoie (2005), Rucker (2007)

Directors:

William (Bill) Bailey (term expires 2007)

Cynthia Cole (2005)

Catherine D.S. Diebold (2007)

Bill Diffley (2006)

Gene Haddon (2005)

Nancy Little (2006)

Jim Little (2006)

Richard Sanderson (2005)

Frank Zappacosta (2005)

Making a QuickTime iChat

by Phil Shapiro

ON MAY 15, 2004, the iLife SIG in Washington Apple Pi held a meeting at Mac Business Solutions, in Gaithersburg, to learn more about the videoconferencing capabilities of iChat AV. By pre-arrangement, several local people and one long distance person videoconferenced with our group.

We used a PowerBook 17-inch, which has strong horsepower, to capture some of the videoconferences to QuickTime, using Snapz Pro X 2, from Ambrosia Software. Rich Jaeggi, who works as the director of the New Technology Center at For Love of Children, a nonprofit in DC, videoconferenced with us from his home in Silver Spring, telling us how Washington Apple Pi has been able to assist him with the work he has been doing with teens.

We used QuickTime Pro to add a JPEG photo behind the QuickTime movie captured from the videoconference, copying-and-pasting the JPEG photo using "Add Scaled," from the Edit menu of QuickTime Pro. This process scales the duration of the photo to the same duration as the QuickTime from the captured videoconferencing session. (Friendly tip: First choose "Select All" in the JPEG photo before copying it. Make sure the QuickTime you're copying into is also fully selected before pasting.)

The next step is where the magic happens. Your QuickTime movie now has two layers, but you'll only be looking at the JPEG photo. To bring the other QuickTime in front of the photo, choose "Get Movie Properties" from the Movie menu of QuickTime Pro. Then choose the first Video Track from the left drop down menu. Then choose the Layer for this track in the menu on the right. Use the nearby arrows to change the number for this layer to something small (such as 0 or -1). The smaller the layer number, the more forward it will be in the QuickTime.

Close the window and the motion QuickTime that was invisible becomes visible in the top left cor-

ner your QuickTime. Would you like to move that motion QuickTime and also resize it? I'm so glad you asked. You can do that by choosing Get Movie Properties from the Movie menu of QuickTime Pro. Choose the first Video Track. Then choose Size from the right menu. Click the Adjust button. Your QuickTime movie will now have handles on its four corners and a circle in the middle. The handles let you resize and rotate the movie. You can also place your mouse onto the movie and drag it anywhere on top of the JPEG photo.

When you've placed the movie where you want it, and resized it to the size you want it, click on the button that says Done. Then press the spacebar and watch the motion QuickTime play on top of the JPEG photo (or any other graphics you would like to create for the background.)

Don't forget to save your QuickTime with a new name.

If you'd like to learn more about this kind of thing, Apple explains how to do the above in one of the tutorials on their web site at:

http://www.apple.com/quicktime/tools_tips/tutorials/mediaskins/

What we learned from this experiment: It's probably best to not compress the audio when capturing an iChat AV videoconferencing session. We compressed the audio at 22 Khz with a codec of IMA 4:1. The Snapz Pro X 2 compression preferences only show up at the very end, after the video has been captured and you're ready to save the QuickTime. (We missed seeing the preferences and adjusting them to our liking.) If we had used 44 Khz with no audio compression, the file size of this QuickTime would have been larger, but the viewing/hearing experience for this QuickTime would be much better. We may be taking a second stab at this to have Rich Jaeggi deliver much of the same information with uncompressed audio in the captured iChat AV videoconferencing session, videoconferencing between Rich Jaeggi's home and Phil Shapiro's home.

The actors in this play are:

Rich Jaeggi, who appears in this QuickTime, can be reached at rjaeggi@bigacorn.com

Hal Cauthen who took the background photo and helped organize this meeting can be reached at hal.caughen@wap.org

"The next step is where the magic happens. Your QuickTime movie now has two layers, but you'll only be looking at the JPEG photo. To bring the other QuickTime in front of the photo, choose..."

Phil Shapiro who married the QuickTime and the JPEG photo can be reached at pshapiro@his.com

Justin Swain, whose PowerBook was used to do much of this, can be reached at videoproducer@att.net

Gracious thanks are owed to our host, Sonny Tohan, who provided the meeting room for the iLife SIG meeting to take place. Sonny Tohan, at Mac Business Solutions, in Gaithersburg, has been a longtime supporter of Washington Apple Pi. ■



You can see this videochat on the Pi Web site at: <http://www.wap.org/imovie/videochat.html>

How To Protect Your Images By Embedding Copyright Notices Inside JPEG files

by James Kelly

FIRST OF ALL JPEG stands for the Joint Photo graphic Experts Group. JPEG is an industry group that has created the JPEG image format standard. Refer to <http://www.jpeg.org/> for more information.

The purpose of this article is to showcase two tools you might use for embedding your copyright notice inside the file format of JPEG files. I've chosen JPEG files since they are the most commonly used file format in digital cameras.

Digital cameras embed several types of data inside the images you take such as camera manufacturer, the date the picture taken, aperture and shutter speed and focal length. These are called EXIF tags and are also called "metadata". Mac users that remember the resource forks in classic Mac files will also remember the term "metadata".

To quote the official EXIF site <http://www.exif.org>, "EXIF stands for Exchangeable Image File Format, and is a standard for storing interchange information in image files, especially those using JPEG compression. Most digital cameras now use the EXIF format."

Let's first of all examine an open source tool called exiftags and examine one of my pictures, trees.jpg, to see what my camera has hidden inside this image.

Step 1. Download the file exiftags-0.98.tar.gz from <http://johnst.org/sw/exiftags/> to your desktop. Stuffit should launch and decompress the file to a folder.

Step 2. If you haven't done so already download and

"Digital cameras embed several types of data inside the images you take such as camera manufacturer, the date the picture taken, aperture and shutter speed and focal length. These are called EXIF tags and are also called 'metadata'".

install the Apple Developer Tools. You will have to go to the Apple developer site and sign up for a free account in order to download the tools. If you purchased Panther, it should already be on one of the cds.

Step 3. Launch /Applications/Utilities/Terminal
Step 4. Type: cd Desktop
Step 5. Type: cd exiftags-0.98
Step 6. Type: make && sudo make install
Step 7. Enter your password

You have installed two applications, exiftags and exifcom. The first, exiftags, will display your pictures EXIF tags; the second allows you to add EXIF comments where you will store your copyright notice. I suggest once you've completed Step 7 you type (in Terminal) "man exiftags" and "man exifcom" to read the online man pages for these applications.

To look at my picture's EXIF tags lets try just exiftags without any command options:

```
jamesk @ /Users/jamesk/Desktop@Xmac->exiftags trees.jpg
```

Camera-Specific Properties:

Equipment Make: OLYMPUS OPTICAL CO., LTD
Camera Model: C40Z,D40Z
Camera Software: QuickTime 6.4
Maximum Lens Aperture: f/4.8

Image-Specific Properties:



Figure 1.

Image Orientation: Top, Left-Hand
Image Orientation: Top, Left-Hand
Horizontal Resolution: 72 dpi
Vertical Resolution: 72 dpi
Image Created: 2003:12:07 15:49:06
Exposure Time: 1/500 sec
F-Number: f/5.6
Exposure Program: Creative
ISO Speed Rating: 100
Exposure Bias: 0 EV
Metering Mode: Pattern
Light Source: Unknown
Flash: No Flash
Focal Length: 19.80 mm
Color Space Information: sRGB
Image Width: 2272
Image Height: 1704

Now let's try the command with the -v or "verbose"

flag:
jamesk @ /Users/jamesk/Desktop@Xmac->exiftags -v trees.jpg
Other Properties:

Resolution Unit: i
Chrominance Comp Positioning: Co-Sited
Exif IFD Pointer: 302
Compression Scheme: JPEG Compression (Thumbnail)
Horizontal Resolution: 72 dpi
Vertical Resolution: 72 dpi
Resolution Unit: i
Offset to JPEG SOI: 1504
Bytes of JPEG Data: 6855
Chrominance Comp Positioning: Centered
Exif Version: 2.20
Image Generated: 2002:08:08 20:14:41
Image Digitized: 2002:08:08 20:14:41

Meaning of Each Comp: Unknown
Image Compression Mode: 2
File Source: Unknown
Scene Type: Unknown

Boy that's a lot of information!

Now let's add a "Comment" with my copyright notice:

```
exifcom -w "copyright James Kelly" trees.jpg
```

Now let's look at the tags again to see the new "Comment" field:

```
jamesk @ /Users/jamesk/Desktop@Xmac->exiftags trees.jpg
```

Camera-Specific Properties:

Equipment Make: OLYMPUS OPTICAL CO., LTD
Camera Model: C40Z, D40Z
Camera Software: QuickTime 6.4
Maximum Lens Aperture: f/4.8

Image-Specific Properties:

Image Orientation: Top, Left-Hand
Image Orientation: Top, Left-Hand
Horizontal Resolution: 72 dpi
Vertical Resolution: 72 dpi
Image Created: 2003:12:07 15:49:06
Exposure Time: 1/500 sec
F-Number: f/5.6
Exposure Program: Creative
ISO Speed Rating: 100
Exposure Bias: 0 EV
Metering Mode: Pattern
Light Source: Unknown
Flash: No Flash
Focal Length: 19.80 mm
Comment: copyright James Kelly
Color Space Information: sRGB
Image Width: 2272
Image Height: 1704

I've made the new copyright Comment bold just so you can see it clearly.

So why would I want to do this command line style?
Because by doing it command line you can add a copy-

right notice to an entire folder of images in one shot: cd to the folder of images and do:

```
jamesk @ /Users/jamesk/Desktop/test@Xmac->exifcom -w "copyright James Kelly" *  
overwrite comment in jpeg.jpg? (y/n [n]) y  
overwrite comment in jpeg5.jpg? (y/n [n]) y  
overwrite comment in jpg1.jpg? (y/n [n]) y  
overwrite comment in jpg2.jpg? (y/n [n]) y  
overwrite comment in jpg3.jpg? (y/n [n]) y  
overwrite comment in jpg4.jpg? (y/n [n]) y
```

Be sure to answer y each time it asks if you want to overwrite the comment field. Now let's look at the comment in file "trees copy 1.jpg" to see if copyright notice is as we wish:

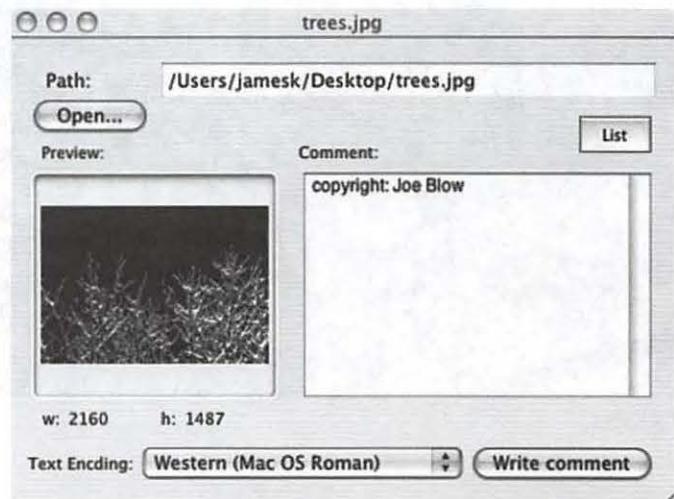


Figure 2.

```
jamesk @ /Users/jamesk/Desktop/test@Xmac->exiftags "jpeg.jpg" | grep Comment  
Comment: copyright James Kelly
```

Wuhu! It works!

Ok now let's look at the application "JPEG Comment". JPEG Comment embeds a comment inside the file but not in the EXIF tags as noted above.

You can find this application here:

<http://www.win.ne.jp/~juan/misc/jpegcom/index.html>

<http://www.versiontracker.com>

Let's open my trees.jpg file (see Figure 1 on page 61):

Drag the image over JPEG Comment's icon to open it (see Figure 2 above):

select Text Encoding "Western (Mac OS Roman)", enter your comment in the comment box and click "Write comment". The comment you entered will only be visible if you reopen the image in "JPEG Comment". The previous application exiftags can't see it because the comment isn't in the EXIF tags but is embedded at the end of the file.

Now in case you were thinking that this was absolutely secure, I've reopened the file trees.jpg in a hexeditor to show you the new comment "copyright: Joe Blow"

(See Figure 3, below.)

As you can see the determined image thief can find and modify your copyright notice you added using either exifcom or JPEG Comment, it just requires determination.

Wrapping up, Adobe Photoshop has the ability to add copyright notices using image watermarking which uses steganographic technology. I'll leave discussion of that to those more knowledgeable than I. ■

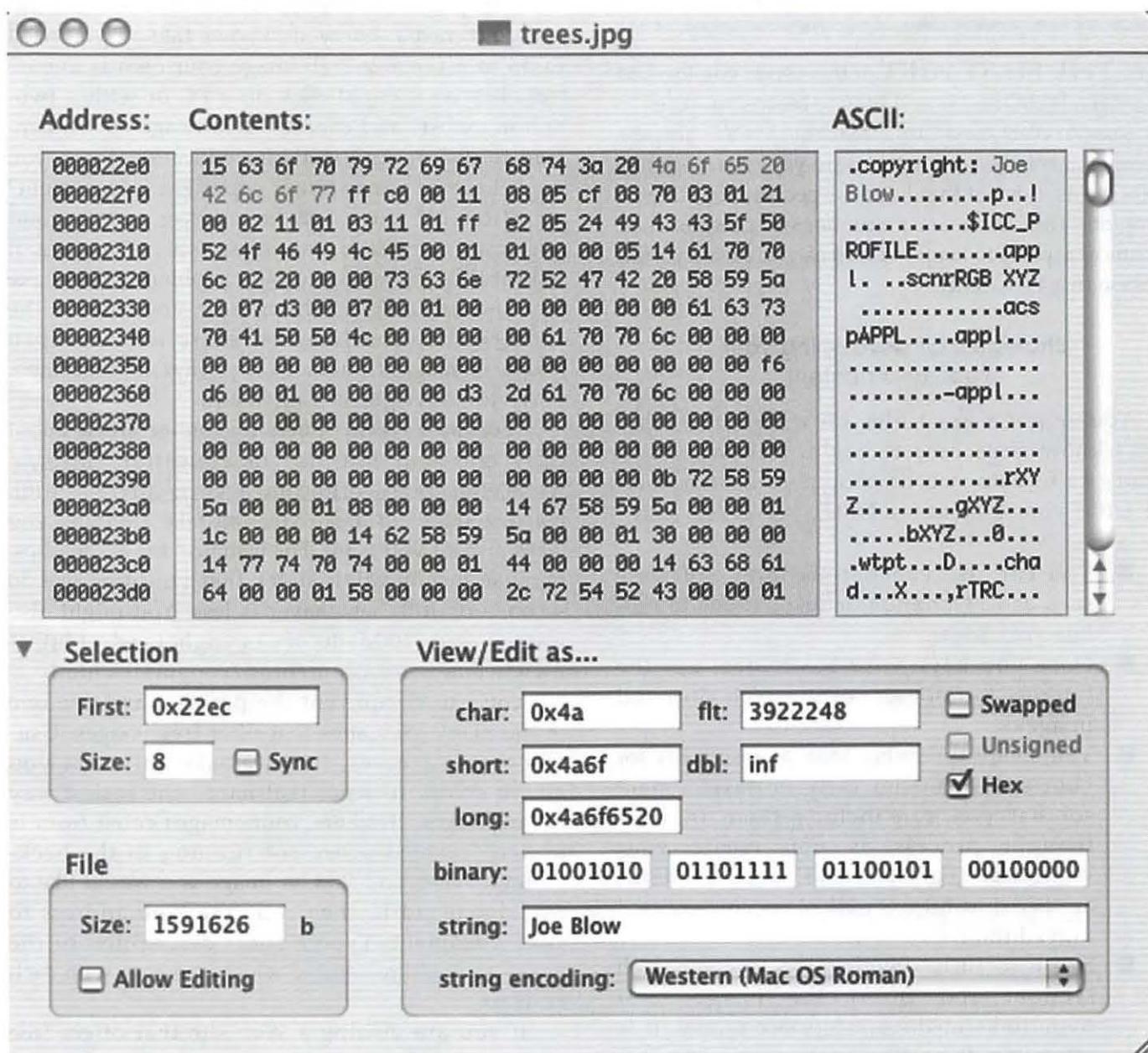


Figure 3

WebQuest!

Part II: Tips to help you create an original WebQuest

by Sheri German

IN THE FIRST PART of this series you learned what a WebQuest is and how to reconstruct our sample WebQuest "Time Machine MTV." You are, however, probably eager to create your own original WebQuests. It is not that hard—especially if you use a template—but there are a number of "gotchas" and technical aspects to keep in mind as you develop your "lesson in a Web page."

Strategies for developing your WebQuest content

You've got a great idea for a WebQuest, but don't know quite how to begin. Here are a few strategies to help you develop a great lesson for (or with) your kids or students.

- You can use concept-mapping software such as Kidspiration or Inspirations to outline your ideas.
- Once you have your basic idea, use the Internet to find supporting Web sites and images.
- You should probably look at standards for your subject matter early in development so that you can include them in your thought process as you create your WebQuest. (For Maryland, these standards are listed at <http://mdk12.org/mspp/vsc/index.html>.)
- Begin to fully develop the text for each section, and insert the images and hyperlinks in the appropriate places. It is often less distracting to type your text in a plain text editor, and then copy/paste it

into the appropriate section of the WebQuest template later.

- Once you know what you're expecting from the students, you can develop your rubric.
- Don't forget to add the proper citation for your images and other assets (such as audio files or video.) Here is a good guide to help you properly cite your Internet references: <http://gateway.lib.ohio-state.edu/tutor/les7/guide.html>

Images for your WebQuests

Web pages are pretty dull unless there are images and media. Everyone knows that all you need to do to make any Web image your own is to control-click on it (right-click on a PC or with a two-button mouse) and choose "save image" or "download to disk." And if it's for educational use, you don't have to worry about copyright issues, right?

Wrong! If your WebQuest never goes beyond your own computer, and no one sees it but you, it is probably not going to be a problem if you take any and all images. The minute you upload the WebQuest to the Internet, share it at an open house, or make it public in any way, you become a party to copyright infringement.

"Educator World" offers this online article about copyright and fair use in education: http://www.education-world.com/a_curr/curr280.shtml. Fair use does not mean you can take anything you want and all you want. For instance, for audio clips, fair use in education states that you may use 30 seconds or 10%, whichever is less. You might also want to read "10 Myths of Copyright Law" at <http://www.templetons.com/brad/copymyths.html>.

You can circumvent the problem and use one of the many Web sites that offer free images. Usually in these cases, the site asks only that you give it credit. It is not that hard—the easiest way to keep track of where your images come from is to keep a word processor running in the background. When you find an image you would like to use, download it, then copy the Web address to your document. Type a short description of the image so you'll remember which one goes with each address.

If you are visiting a Web site that offers free images, look for a statement of use. Free for personal or educational use usually means that you

can use the image on your personal Web page or in a school project. You cannot resell the image or use it in a commercial product without paying for the right to do so. I mention this because I have heard of students creating project CDs that they then sell to their peers—and then get caught using copyrighted images!

Web sites that offer free images

Here are some good places that teachers and students can find free images for use in their WebQuests. "Pics for Learning" is a particularly good education resource.

Free images of composers: <http://www.8notes.com/pictures/performers.asp>

Pics for Learning: <http://www.pics4learning.com/>
Image Library: <http://www.multimedialibrary.com/FramesML/>

Free Stock Photos <http://www.freestockphotos.com/>

Free Foto: <http://www.freefoto.com/index.jsp>

MorgueFile Free Stock Photos: <http://www.morguefile.com/ver3/>

Geek Philosopher: <http://www.geekphilosopher.com/MainPage/photos.htm>

Free Graphics: <http://www.freographics.org/>
Free Holiday clipart: <http://www.myfreeclipart.com/>

Web graphics: <http://www.htmlgoodies.com/freeimages/>

Education Clipart: <http://school.discovery.com/clipart/>

Evaluating Web Pages

Another important part of the WebQuest is developing a good list of links for the guided research. There is no quality assurance department running around the Web putting stamps of "accurate information" or "a load of garbage" on Web pages. How can you find the best information on a topic? When assessing Web pages, ask yourself lots of questions.

1. Who is the originator of the page? Is it personal? Is there a tilde in front of the name? You'll often see personal sites on geocities or yahoo. Does this mean that the information is not valuable? It is possibly excellent information, but you do need to ask more ques-

tions about such pages.

2. Look for what the URL tells you. What is its domain? .gov? .edu? .com? .org? Government and education sites usually take extra care in assuring that their information is accurate. Organizations are often experts in a topic, but you do need to be careful that there is not a particular bias.
3. Have you ever heard of the group who sponsors the pages? We all have heard of "The Washington Post" or "The Kennedy Center." We have our personal views on the legitimacy of any information we glean from such entities.
4. Is there a date on the page that indicates if it is current? If you are investigating copyright and fair use in education, you do not want to rely on a page that is dated from 1997. Look for "last updated" on the pages you are considering using.
5. Does the author have credentials? (Check the "about" or "resume" sections to find out more about the author.)
6. Are there related links or footnotes? Check to see if other reputable sites link to the pages. If you are researching dance and go to "The Maryland Council for Dance" Web site, you'll see a long page of other dance links. These links are included after the board studies them to make sure they are appropriate. This should give you a good sense that MCD is a central dance site, and its information is probably pretty accurate.
7. Use Google for a link search. (Type link: then the address of the page.) If lots of other sites link to a particular site, it often indicates that the pages are considered a good source of information on a particular topic.
8. Are there lots of dead links on the pages? This indicates that the information is probably old, the site owner is not working on keeping the site up-to-date, and you should probably be wary of the information you find here.
9. Is this source as good as what you would find in the library? Find the best links on a topic. Otherwise, it is probably more productive to stop in at your local library.
10. Evaluate the page's purpose. Is the page objec-

tive? Or is the page a barely disguised attempt to advertise? If so, be careful about using the link for your WebQuest's guided research.

Here are some respected academic research sites to help you find great links for your WebQuests:

- Librarian's Index to the Internet:
<http://lii.org/>
- Academic Subject Directory:
<http://www.academicinfo.net/>
- Scholarly Resource Internet Collection:
<http://infomine.ucr.edu>

Roadblocks on the Super Highway

Making a WebQuest is pretty easy when you use a template, but there are some common problems that many beginning Web page developers experience.

- Always make sure that your images and other media are in the same folder with your HTML pages. You wouldn't leave the eggs in the refrigerator when you bake the cake that you'll take to Grandma's birthday party. A Web page is a kind of recipe that includes ingredients that you can't leave behind when you put the WebQuest up on the Web. You want to mix all of your ingredients in the same bowl—and bake them together.
- The images that appear on your pages when you look at your WebQuest are linked to the page; they are not actually embedded in the page like images that you bring into Microsoft Word. You must maintain the integrity of the link by not moving the image-to-page relationship. You must always include the images when you transport your WebQuest by floppy, CD, or jump drive. You must always include them when you move your files onto a Web host.
- Make sure you don't disturb the links at the top of the page (the intro, task, process, etc.) These are internal links that go to specific spots on within your page.
- If you want to prepare your text in a word processing program first and then copy and paste it into the WebQuest template, use a plain text editor like BBEdit or Notepad. If you must use Microsoft Word, make sure you

do a "save as" and choose plain text as the option in the popup menu.

Sharing your WebQuest

After much care and hard work, you've done it. You've created a great WebQuest that helps students or families productively use the Internet to learn more about a subject. What are some ways you can share your WebQuest?

- Washington Apple Pi offers limited Web space for all members.
- Washington Apple Pi Explorer members have roughly 100 megabytes of Web space as part of their Explorer subscriptions.
- Your ISP probably offers free space for members to post personal Web sites.
- If you're a teacher, you can probably upload your WebQuest to your school's Internet or intranet server.
- If you're really ambitious, you can purchase a domain name and professional hosting space for your WebQuest. There are many very inexpensive Web hosts out there. Two of my favorites are www.pair.com (domain and hosting for a year are about \$75) and www.golivehost.com (php/MySQL hosting costs about 119 for a year.)
- For the low tech among us, there's always "sneaker net." Put your WebQuest on a floppy, CD, zip cartridge, or jump drive, slip on your sneakers, and walk over to each computer you wish to copy the WebQuest to.

I hope this series has given you some ideas for creating great WebQuests for, or with, your family and students. If you do create an original WebQuest, I would love to hear from you. Drop me a line at germans@trinitydc.edu. ■

iBreeze by MacMice

Review by John Barnes

WHEN I FIRST put my hand on the underside of my Titanium G4 PowerBook I became concerned that the unit could get overheated to the point where things might suffer damage. That is the reason I leaped for my credit card as soon as I heard about the iBreeze from MacMice.

This device consists of an acrylic plastic sheet cleverly shaped to allow air to flow to a pair of small muffin fans that direct their air stream onto the back side of the PowerBook or iBook computer situated on top of the iBreeze.

Figure 1 shows my iBreeze placed upside down so as to reveal the fans and the various other elements. The unit draws its power from the USB cable attached to a USB port on the laptop computer as shown in Figure 2. The extension cable, which must be supplied by the user if needed, is for those cases where the USB supplied by MacMice is not long enough to reach an open port, as is the case in Figure 2.

Figure 2 also shows that the transparent USB connector has an LED in it that indicates when the USB bus is supplying power. It is not easy to tell when the fans are in action be-

cause they are so quiet. The slight breeze wafting out from the underside of the laptop is the major clue.

The iBreeze does its job of cooling the laptop case quite well. It is hard to say what effect this has on the guts of the computer. One can only hope that cooling the case allows the internal heat to dissipate more rap-

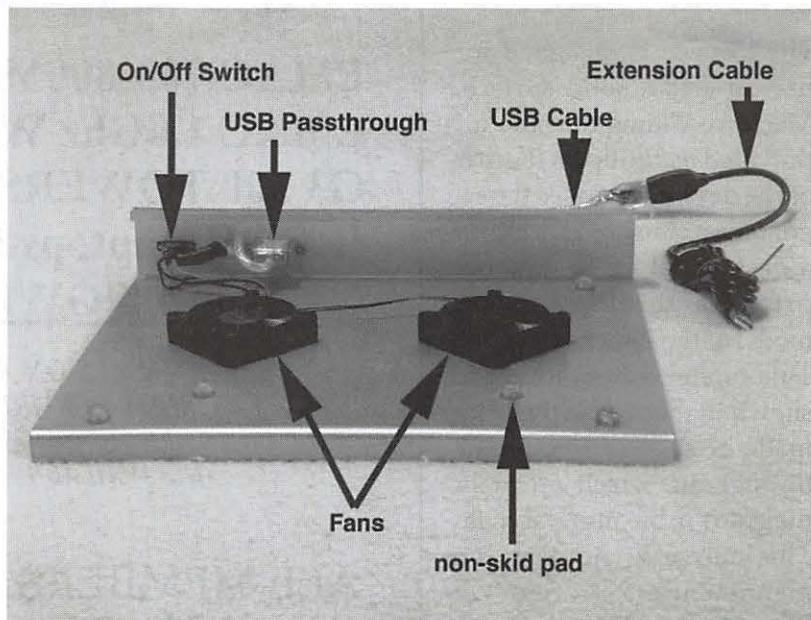


Figure 1 - Underside view with iBreeze components labeled. (Photo by John Barnes, taken with a Canon C5050Z digital camera.)

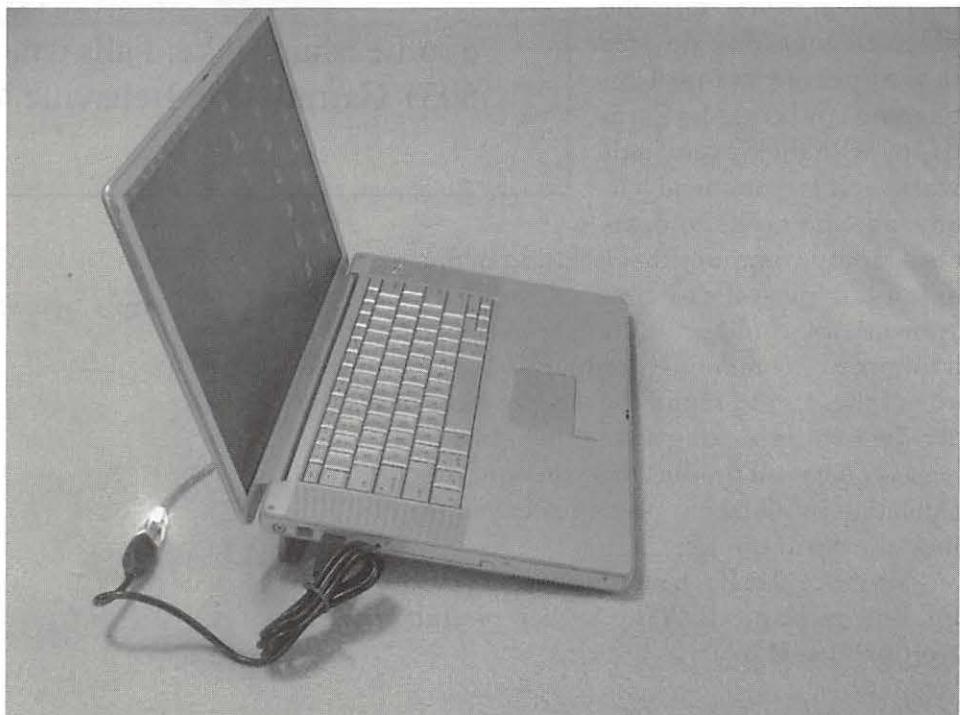


Figure 2 - iBreeze in use with 15 inch Aluminum PowerBook. Note the light at the junction of the two USB cables. This indicates that power is being supplied by the USB bus; it does not mean that the fans are running. (Photo by John Barnes, taken with a Canon C5050Z digital camera.)

idly. I don't use the iBreeze when my sessions are short, as when I am traveling or doing incidental work away from my desk. I do use it if I am running demonstrations or putting on a show.

The iBreeze is designed for use on a flat, solid surface. MacMice claims that the tilt provided by the lip on the rear of the device improves the ergonomics of using a laptop on a desk or table. The quoted price for the most recent model of the iBreeze is \$29.99. This model differs from the shown in this article by being made of clear acrylic plastic throughout, which probably makes it a bit more stylish. This may also simplify the manufacturing process. On May 17th the company's web site stated that the device was temporarily out of stock.

I find the iBreeze to be a nicer solution to the overheating problem than some of the passive convection devices that appeared before USB became universal. I am happy with the way my unit works and I recommend it to anyone who needs to operate a laptop computer that is sitting in one place for extended periods of time. A quick Google on "powerbook cooling" or "notebook cooler" reveals a number of competing products. I have not tested any of these and I found the iBreeze more or less by accident while seeking something else.

If you have a product that you think deserves consideration by all means post a review on the Pi's TCS message board service.

MacMice also has a number of other products that fill some niche needs. A trip to their products page is worthwhile. ■



EMAC 700-800MHZ Starting From \$499
EMAC 1.0Ghz With Combo Drive \$599
G3 500 TOWERS Starting From \$499
IBOOK Laptops 500-600Mhz From \$499
G3 Bronze POWERBOOKS From \$399

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AND AVAILABILITY ARE SUBJECT TO CHANGE.*

**ALL MEMBERS APPLE Pi EARN A 10%
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7516 Leesburg Pike, Falls Church Va 703 821-1400
5031 Garrett Ave. Beltsville MD. (301) 937-8440

URL: <http://www.macmice.com/ibreeze.html>

ProCamera 101 - The art of the interview (Lighting and Composition)

by Grant Peacock

THIS ARTICLE ILLUSTRATES the general principles of lighting and composition, all for the purpose of capturing a memorable interview. In future articles, we will deal with capturing high quality sound.

For the beginning pro, it may seem that any given video situation involves an almost overwhelming array of choices and problems to be dealt with. When you consider how interrelated they all are, confusion may set in. I have seen quite experienced professionals lead themselves down blind alleys and get totally confused. Backing out of this, with others watching impatiently, can be uncomfortable! Let's break all of this down into steps, laying out a logical plan for dealing with a particular interview shot.

The premise we will work with here is that you've been asked to record an interview for a local history project. The subject of your interview is an elderly gentleman who was witness to great changes in the neighborhood over the past many decades.

(In our scenario, video editing will be done later, which at once simplifies, and complicates things. More on this in a future article. This point is just to get you thinking.).

You are told that to keep consistency with other segments of the show, you should get ready for the traditional sit-down interview, also known as the *off-camera interview*. The terminology is self-evident when you see the main or 'master' shot:

Figure 1: The off-camera look...

Rather than attempting to show both sides of the conversation, we focus on the person whose story it is we are telling. It is very common for the person asking the questions never to appear on screen. Notice that the person is looking not into the camera, but to one side of the camera lens - i.e.: off-camera.

You'll also notice that the placement of the head and shoulders in the frame is not random - the person is quite evidently situated on one side of the frame (or viewing area), and they are looking into the available space. This space is going to need treatment - through appropriate lighting and background - to be supportive of the content of the interview, but not be unduly bright, distracting or otherwise ugly.

What we see here is a very typical news style interview, but also quite recognizable in traditional documentaries - you may have observed just this sort of shot in your favorite program on 'The History Channel.'

Our objective has now been defined - we need to get a pleasing and interesting shot of this person, with the appropriate placement of lights, camera, and background.

It makes sense to commence with something that cannot easily be changed once we are committed, so why don't we first get control over that background?

The background

Here are some simple 'rules of the road' for you to follow.

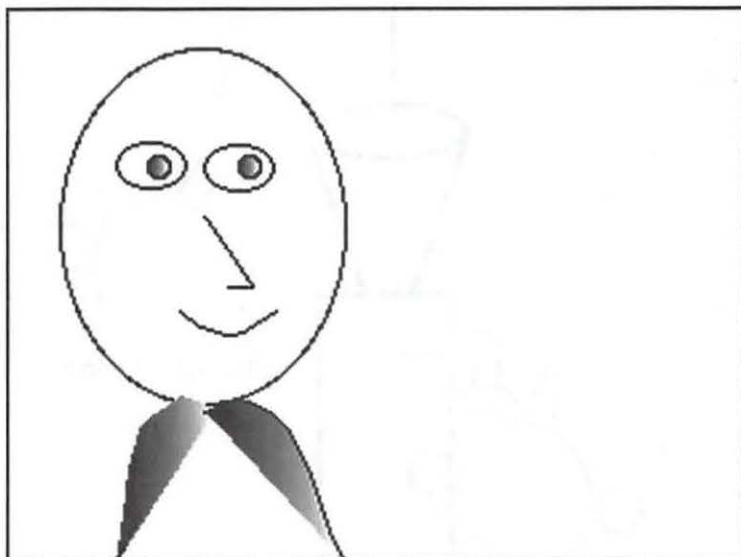


Figure 1.

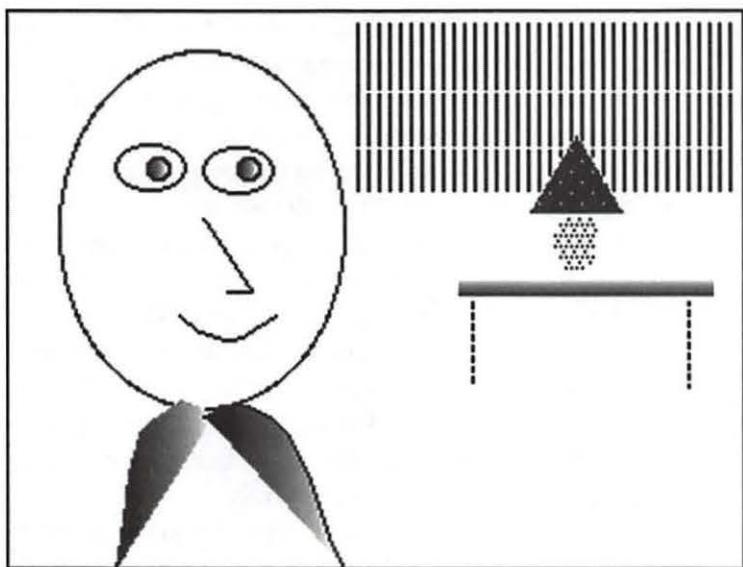


Figure 2.

- avoid bright backgrounds
- don't shoot towards windows - almost always, you want windows *behind* the camera. In this way, you are working with the available light (to illuminate our subject), instead of against it. It may be the only light you need.

- choose a background that adds to, or reinforces the content conveyed in the shot. You can imagine that for our candidate interview here, a bookcase would be a great choice (keeping in mind the historical concept).

- choose elements in the background that will nicely occupy the available space - or *look space* - that leads out in front of the face. In the above-framed shot, it will extend from the rightmost of the person's face (camera point of view), across to the right margin of the screen.

Figure 2: Off-camera composition, now with basic background elements arranged.

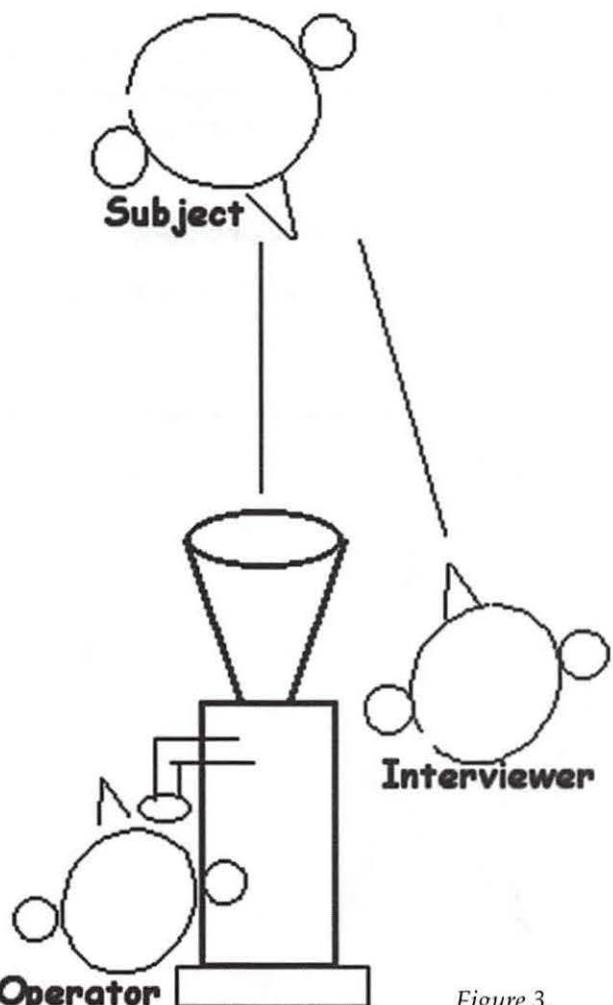


Figure 3.

We're having some good luck. Our subject happens to own a nice set of books arranged on a wall shelf, and it was relatively easy to move a coffee table and lamp into the scene. We now have made some progress. The bookcase lends the appropriate context for our interview, and we put a small dimmer on the power cable for the table lamp, bringing the brightness down so that it is not too distracting as the background element. (If you have not tried this before, you will be surprised at how low you have to take the dimmer to get an acceptable brightness in the viewfinder. I carry a spare 25 watt lamp on locations, making it easier to get larger fixtures dialed in appropriately - we simply unscrew and replace the higher powered lamp).

Try this for yourself, and you'll start to see the balanced composition coming into play. We have now placed the camera and subject relative to the background. We can now show the position of these elements, and the person conducting the interview, with an overhead look..

Figure 3: Overhead view - camera, camera operator, subject, and interviewer.

We have not yet touched upon two impor-

tant elements here - what are the distances between (1) the camera and the subject, and (2) the subject and the background?

Without getting too involved, too early, I would recommend that you try to get the subject as far from the background as possible, balanced with your interest in moving the camera well away from the subject. Why would you do this?

Increasing the distance from the subject to the background (our table, lamp, and bookshelf in this case) enables us to 'push' the background out of focus. At upcoming classes at Washington Apple Pi in Rockville MD, we will demonstrate this. (For you unable to attend, we will have images available for future release, either through the Web site or via DVD/CD formats). You can best arrive at an understanding of this design concept simply by trying it and examining the results - but I can tell you that bringing the subject into sharp focus against a soft background is one of the easiest creative tools you have for concentrating audience attention on the person being interviewed. (Professionally, it is often used as an emergency measure for dealing with distracting but out-of-control background elements - people staring back into your camera, unduly bright lights, etc.).

In this way, space is your friend. The larger the room, the more you can play with these distances. Moving the camera back from the subject means that you will be shooting the interview on a more fully zoomed, or 'long' lens - at the telephoto end of the lens's zoom range. Again the subject becomes isolated from the background. In this case it is the depth of field being used to bring the subject's face into sharp relief against a soft, perhaps textured background. As with distance-to-background, you will best arrive at understanding by trying different camera positions and looking at the results.

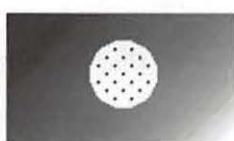
'Light her up!' Placement and purpose of the lights...

A mantra of one of the most creative camera people I know (Dave Lent of Dave & Co., Bethesda) is: *The Best Light is No Light*. While this statement is probably easily misunderstood, I think what Dave is trying to make us think about is the fact that light should only be added if necessary.

Commercial video production, especially in the news format, relies on certain expectations from the cli-

Bookcase 

Background elements



Table, Lamp

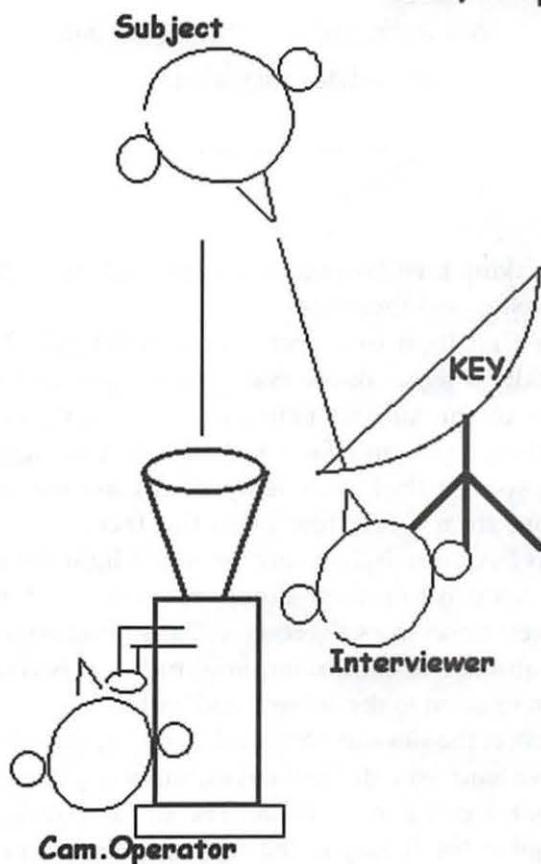


Figure 4.

ent, and also that progress be made as efficiently as possible after entering a room that we have not seen prior to the shoot.

What this means, unfortunately is that people hired to light and then shoot an interview will rely on a somewhat methodical approach to lighting in a time-effective manner, with results known to be acceptable to the client. It is safe, but does not allow for experimental work that might lead to some creative breakthroughs. Nowadays the more freeform, creative approach tends to be restricted mostly to the dramatic, comedic or amateur production formats.

Let's take what we can take from this, by building a very traditional lighting plot that virtually guarantees good results. In your own time and place, you should go ahead and play with 'the rules', bending, and

"For the beginning pro, it may seem that any given video situation involves an almost overwhelming array of choices and problems to be dealt with. When you consider how interrelated they all are..."

then breaking them as you see fit. Just make sure that you have learned them first!

Our first light to discuss is the *Key Light*. This is typically a light source that is physically large in relation to the subject being lit. If the subject in our case is a person's face, we'd be best to light it with a source that is at least 2 feet across, and not more than a few feet from the face.

Why? A large light source is a *soft* light source. 'Large' is open to interpretation, of course, but as a source gets closer to a subject, as well as getting brighter (in the absence of controlling brightness), it becomes larger in relation to the subject, and softer.

Think of the sun - on a bright clear day, all cast shadows have hard, well defined edges, surfaces glare, and faces look harsh and dramatic. The sun is physically huge, but *relatively* tiny to the subject - it is almost an apparent point source of light (it is 93 million miles away!). On a completely cloudy day, what has happened? The source (sun) is now being totally diffused through a cloud layer.

I smile on days like this - my job is easy when I am working with an on-camera reporter. With thoughtful placement against a background that is somewhat less bright than the subject's face, our lighting is pretty much done. We are not looking for electricity.

The soft light source has benefits for the type of interview we are doing:

- faces tend to look more attractive with soft lighting treatment
- soft lighting is easier for the subject to tolerate
- soft sources are less dramatic than hard sources - appropriate for what we are trying to achieve with this interview (compare with dramatic content, for example).

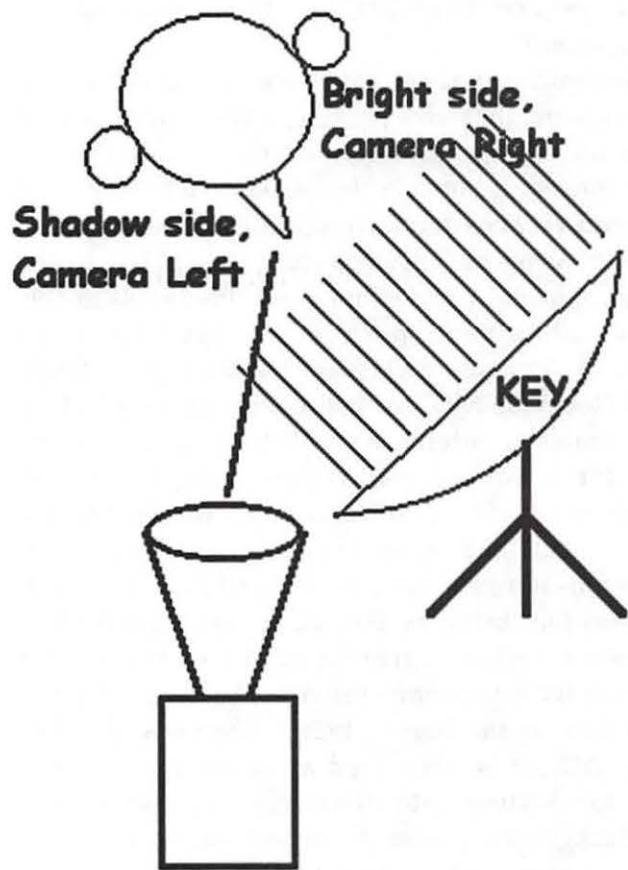


Figure 5.

Designing a soft light is really a subject in itself, but for now, think about the creative use of white card (bouncing a light into it), another table lamp, white sheets - these are all readily available tools for changing a perhaps naked light source into a softer source. Commercially setup soft lights typically use a collapsible fabric grid that has a powerful lamp inside it. It is something like putting a light inside a tent, and being on the outside to utilize the illumination that results.

In commercial work, I typically use a 1,000 or 2,500 watt tungsten lamp inside a fabric 'soft-box' - it may sound like a lot of power, but once two or more layers of heat resistant fabric are attached to the front opening (with Velcro), this 'lighting weapon' is essentially reduced to a nice and useful glow.

Be careful if you are replicating these effects with household materials!

Figure 4: Overhead view of interview plan, soft Key

"The premise we will work with here is that you've been asked to record an interview for a local history project. The subject of your interview is an elderly gentleman who was witness to great changes in the neighborhood over the past many decades."

Light placed and background elements showing.

The soft light has now been placed (Figure 4). Note the position of the soft light - it is not a coincidence that it is on the same side of the lens as is our reporter. One way to describe this is 'off-camera key lighting'. It is positioned so that the side of the face most strongly illuminated is the one slightly away from the camera.

To make this easier to understand, and also the motivation for doing this - draw an imaginary line from the camera lens to the tip of the subject's nose. If we take the camera view, the right side of the face/right cheek is turned somewhat away from the lens, the left side turned towards it. Does that make sense?

Here is a closer look:

Figure 5: Off-camera key lighting is providing brighter, and shadow areas on the subject's face. The shadow area is closest to the lens.

I recommend that you establish a position for the key light, examine the results, and then experiment with moving it in an arc towards the camera (which would be clockwise as we look down from above) and away from the camera. What happens? Try moving it in and out. Finally, make arrangements to put a dimmer on it, and play with this variable too. A dimmer will allow you to feather the light's brightness way down, move it in closer to the face and therefore turn it into a still softer light source (remember the distance effect?).

So, where are we now?

We have:

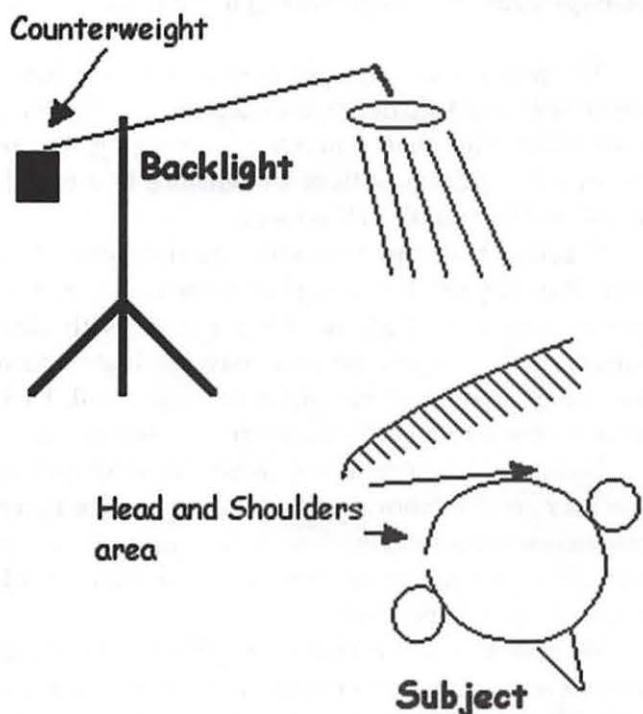


Figure 6.

- established a useful and pleasing background
- chosen the distance between lens and subject
- chosen the distance between subject and background
- placed the interviewer the interviewer is placed
- established pleasing lighting on the face.

Good enough. Are we done? Well, the answer to that all depends... Let's finish this exercise with an introduction to the *Backlight*.

The *Backlight* is arguably the most important light you can use, but also the most easily misused. It is set behind the subject, aimed at the back of the head and shoulders. Gently does it! Incorrectly placed lights will be in the shot, will cause lens flare (that objectionable halo effect caused by a light shining directly into the lens) or will be too obvious - perhaps spilling down and across high cheekbones, and causing distracting shadows on the chest area.

This light is typically a small hard light source, suspended out on a sidearm from its light stand. Look at Figure 6. The hatch area shows the targeted area of the subject - head and shoulders. The light is above our subject's head, aimed down at it and the shoulders. The sidearm helps in getting the stand safely out of the shot.

Figure 6: The *backlight*. A bit harder to master, but

perhaps your most important lighting trick.

The purpose of this light is to give dimension to our subject, and help define them against a background with which they may otherwise be merging. We are creating the illusion of three dimensions in a two dimensional format (the TV screen).

Practice this and you will see the desired result. Raising the light higher lessens the risk of getting lens flare. Judgment is required with older subjects - thinning or no hair may motivate you to use a tiny amount of backlight, or none at all. Backlight against a totally black background is irrelevant.

Because this light involves slightly more equipment, you may need to innovate. Hardware stores are a great place to use your imagination - for example, C-Clamps will allow you to mount lights on door edges, bookcases, etc. But do be careful.

We now have a good basic setup for the off-camera interview. As you try to tweak your master shot, you will discover that moving one element may involve having to make compensatory moves in all the others. If confusion sets in, back up, and just change one thing at a time. Take notes. They will be valuable to you later on. If editing is to take place, try to be present when it happens. You will complete the learning experience that way. Good luck!

In a for-real shoot situation, negotiate with yourself and others for a final 15 seconds to step back and look at what you've done, before you roll tape. You'll be surprised at the very basic things that get overlooked in the heat of the moment. One cameraman in the West Coast market refers to this as 'Blessing the Shot.' It is your safety net, and a great idea.

ProCamera 101 is the first in an occasional series on the art of purposeful camerawork. In future articles we'll deal with individual aspects of getting great shots - and we'll address questions that inevitably come up. Your inquiries are all welcomed - please write to me at grantpeacock@mac.com. Let me know which areas you would most like to focus upon in the future. ■

Meet a Friend of Ours, the Lilipod

by Steve Roberson

IT WOULD ONLY be a matter of time before my iPod was sleeping with the fishes. That was the conclusion I came to during the summer of 2002. Yes, sleeping with the fishes, but not in the "Luca Brasi rubbed out by a rival mob family" kind of way. I meant literally at the bottom of some body of water.

You see my iPod had become a delightful companion while kayaking. Sea kayaking for those of you keeping score. I've gotten into the habit of listening to my iPod any time I'm paddling alone. Unfortunately I haven't had much in the way of protection for the little musical passenger. Sometimes I'd pop the iPod into a zip lock bag and I'd often wear a spray skirt but neither provides much in the way of protection for the iPod should I have to exit the kayak while capsized. I knew what I needed was some sort of watertight enclosure for my iPod.

I had seen some enclosures that were designed for weather radios or generic technology (a cell phone, PDA, etc). Most of those enclosures didn't have a way to connect headphones and use my iPod while it was inside the waterproof container. Obviously that was a requirement. I didn't want to just transport the iPod securely, I wanted to listen to the cute fella.

So I was more than a little excited when earlier this year I read about the Lilipod (<http://www.lilipods.com/>). This watertight enclosure was designed specifically for the iPod. I ordered one right away.

The first thing you notice is that there's an audio jack that hangs off the bottom of the Lilipod like a rubbery tail. You insert an iPod into the Lilipod upside down, plugging the iPod into the audio plug inside the case. Then you close the Lilipod and use the latch to insure the top of the case is firmly closed against the gasket in the bottom of the case. Plug in your earphones to the audio jack in the rubbery tail and you are done.

It's worth noting that there's foam inside this hard plastic shell. I would expect that an iPod could survive a significant fall while in a Lilipod but I'm not planning on finding out one way or the other.



A down side to using the Lilipod is that there's no way to connect the third generation iPod's wired remote control. Consequently you need to start your iPod, push it down into the Lilipod, adjust the volume to your liking and then close the Lilipod. If you'd like to skip a song, or adjust the volume you'll need to open up the Lilipod thus exposing your iPod to the elements. Personally I don't see this as a deal-breaker but it would have been nice to use the wired remote that came with the iPod.

So it may be watertight but does it float when it's loaded to the gills with 40 gigabytes of paddle-moving music? I knew the family saying, "keep your friends close but your iPod closer" but I had to do a real world test. With this article in mind I nervously put my fully loaded Lilipod overboard in Piscataway creek to confirm it's buoyancy. Yes, it floats, but barely. If you taste in music runs more towards heavy metal you might need to be a little more careful than most.

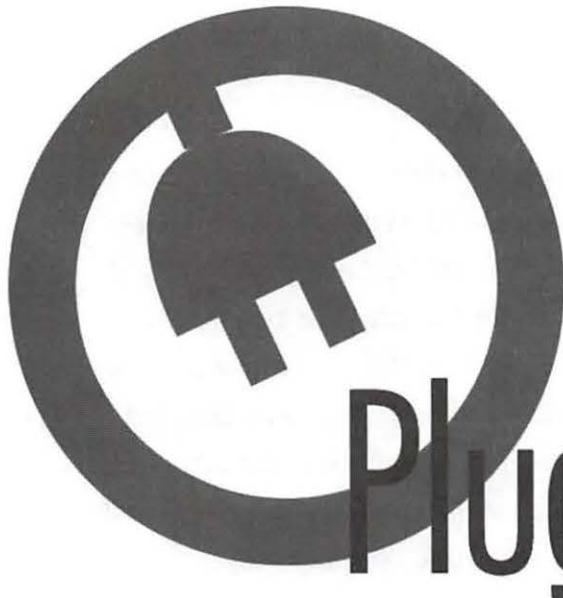
The Lilipod comes with a built in belt clip and a lanyard. I found an iPod loaded Lilipod to be a bit too heavy to comfortably wear around my neck with the lanyard but the belt clip works well. My PFD (personal floatation device, what, in less litigious times, we used to call a life preserver), has a roomy pocket in the front that accommodates the Lilipod. Conveniently the

I've gotten into the habit of listening to my iPod any time I'm paddling alone. Unfortunately I haven't had much in the way of protection for the little musical passenger. Sometimes I'd pop the iPod into a zip lock bag and I'd often wear a spray skirt but neither provides much in the way of protection for the iPod should I have to exit the kayak while capsized.

pocket has a grommet at the bottom to allow water to drain out of it if I were to take a swim. This grommet makes a nice place to run earphone cables through. It's worth noting that the earphones that Apple ships with the iPod are not waterproof but waterproof earphones are available.

There is a Lilipod available for the first and second-generation iPods as well as one for the third generation (dock connector) iPods. When this article went to press, both models cost \$39.99. At that price, it was an offer I couldn't refuse. ■





Plugged in PI

Washington Apple Pi is more than just the *Journal* arriving in your mailbox. It also offers exciting General Meetings and Special Interest Group (SIG) meetings, special events such as the semi-annual Computer Show and Sale, Internet ISP services (dial-up connections, E-mail, private Web space), has active mailing list discussions, offers one of the oldest, most active Internet forums on the planet (the ubiquitous "TCS"), and one of the oldest Web sites. **Plug in to the Pi.**

Pi calendar — <http://calendar.wap.org/>

Pi Web mail — <http://mail.wap.org/>

Pi store — <http://store.wap.org/>

Pi forums — <http://tcs.wap.org/>

Pi Web site

and portal — <http://www.wap.org/>

Review: Toast 6 Titanium

by Paul Gerstenbluth
 (ariefound@aol.com)
 (Washington Apple Pi Member)

Toast 6 Rules of the Road

ROXIO'S TOAST 6.0 has you burning quality music, movies and data onto your VCDs, SVCDs and DVDs in quick time order. In addition, your photographs can also be burned into Roxio's Toast folders for slideshows. Toast's interface is divided into four functions: Data, Audio, Video and Copy. Noted were significant additions to the Macintosh

Major new features

Plug & Burn™

Turns your DV (Digital Video) camcorder footage into a Video CD, Super Video CD, or DVD. Plug in your camera and your video becomes a finished disc.

ToastAnywhere™

You can share CD or DVD burners across a network. You connect Toast 6 Titanium for your users on the Internet. Your single DVD/CD burner can now serve an entire home or office.

Motion Pictures™

Turn your still photos into media shows using pan and zoom motion effects, cross fades, and soundtracks. Now you can create an exciting motion



picture with ease.

Deja Vu™

Back-up, protect, and secure your precious data. You can schedule regular automatic back ups.

Toast It™

Burn directly from the desktop with a single-click pop-up menu. Toast 6.0 is available immediately for burning your CDs or DVDs.

Working with Roxio's Toast 6.0

I use QuickTime Pro for editing my movies with sound clips. Toast's CD Spin Doctor 2.0 allows me to bring in sound from my turntable's LP (Long Playing) records. CD Spin Doctor 2.0 takes out the hisses and jumps from the LP records. I then import the LP records' AAF sounds into QuickTime Pro and lay down the new sound track. I appreciate CD Spin Doctor 2.0 utility that makes it easier for me to digitize LP records and cassettes. Within Toast's Audio tab, QuickTime formats (AAC, AIFF, MP3, WAV) is easily converted when you burn your audio CDs.

Toast Motion Pictures give you the opportunity to bring in your photos and create "movie motion." Then, you can save them as QuickTime movies.

You can make several movies to SVCD (Super Video CD) and with Roxio Toast you can burn the SVCDs. Each SVCD screen shows three photo buttons with right-hand arrows. I have already saved nine QuickTime movies to an SVCD disk.

Roxio's Toast Rules

The standard rates for burning: High VCD with 60 min., SVCD with 20 min. and DVD for 60 min. My computer projects dictate which Toast selection that I use.

Burning Mac/Window CDs are excellent for QuickTime movies, PDFs (Portable Document Format), text documents and photographs. This works well for items that will be used on Mac and Windows platforms.

Super VCDs. What works for me is using SVCD exclusively for QuickTime movies that play on most new DVD players. The quality is fair to good on standard CD burners.

I can burn my movies from good to better quality

when using my new Pioneer DVD burner. You can use large size photos to capture quality photos for editing in Photoshop or Photoshop Elements.

DVD. Quality blank DVDs for DVD-R cost about \$1.50 per DVD. The viewing quality is excellent and looks great on DVD players hooked to large screen televisions. Also, I can play my one-time recorded DVD-R in my computer's DVD/CD drive.

Pro Reaction

Roxio's Web site provides an FAQ (Frequently Asked Questions) and a searchable database of support articles. Toast's hard copy manual is informative and has good illustrations. Toast is intuitive and easy to use. It pays to study the Toast manual and learn the expert qualities of Roxio's Toast.

I appreciate the new compression and 128-bit encryption options for Mac computer DVDs and CDs. Also, Toast can import footage directly from your DV camcorder with the simple Plug and Burn feature. Toast handles the hard, tedious work of importing, converting, and encoding content for burning to CDs or DVDs.

Con Reaction

Toast burning is slow on Mac G3 computers and can take all night for copying my DVD movies. Recommend a Mac G4 or G5 computer for faster Toast burning.

Final Reaction

The \$99.00 price gives you the ability to make quality CDs, SVCDs and DVDs. The Roxio Toast program is an excellent buy for your computer dollar. System Requirements: Toast 6.0 runs only in OS X 10.2 or greater.

Paul Gerstenbluth is President of the ARIE Foundation and is a Macintosh consultant. The ARIE Foundation's mission is to provide VA hospitalized patients with hobby materials and Powerbooks that help in their stay and recovery.

Brood Mac OS SIG



The **Brood X Mac OS X Special Interest Group** had a great meeting this year, operating continuously from 8 a.m. to 3 a.m. every day from May 20 to June 20, 2004. Tens of billions attended, making this our most successful meeting since 1987!

When the Brood X SIG first formed in 1987, Mac IIs were all the fashion, and this year we moved up to the Power Mac G5. We had great fun creating a full iLife presentation (iMovie, iPhoto, iTunes, iDVD and GarageBand) documenting the SIG activities. And, of course, we had continuous karaoke.

After June 20, 2004, the SIG will go into hiatus until May 20, 2021. The 2021 SIG topic will be: handling the UNIX time overflow on September 30, 2034, and its implications for both Mac OS X and the Brood X emergence of 2038. As always, all SIG members are expected to participate in continuous karaoke.

Check the Washington Apple Pi Web site for updates: <http://www.wap.org/cicada/>

Remember: Fly! Sing! Think Macintosh!

Free parking is available at the Pi office. See the Web site for details, directions, maps and up to date information.

Super Driving

What is a DVD

by Rich Lenoce, Vice President

THIS MAY SOUND like a silly question, but in reality there is a lot of confusion about DVDs particularly since Macs for the last five years have shipped with DVD recorders called Superdrives and iDVD software.

The acronym DVD stands for (drum roll please)... nothing! Originally, the DVD Forum, the DVD standards organization made up of the Hollywood Studios, Pioneer Electronics and Apple, named the format Digital Video Disk but when it became apparent that the format was going to go beyond playing movies and would be used for DVDRAM (storing files), DVD Audio, etc. the acronym no longer worked, so it's just called a DVD.

When using the term DVD we need to qualify that DVDs have a physical format such as DVDRAM (any pressed DVD with files on it), or DVD-R (recordable DVDs), and an application format such as DVD video for distributing movies, DVD-Audio, etc. This is no different than Compact Disks, which are available as CD-ROMs, CD-R, CDRW, and can contain a standardized application such as CD Audio.

Unlike the 700 mb CD, DVDs hold 4.7 gigabytes of on a single layer. Each side of a DVD can have two layers giving a potential of 9 gigabytes per side and 18 gigabytes per disk for a double-sided, double-layered DVD. A DVD player plays the second layer by moving the laser to a slightly different angle. When a DVD switches layers, there is a minor pause or stutter in DVD video. Currently, dual layer DVDs are limited to commercially pressed DVDs; recordable DVDs are limited to one layer and hold 4.7 gigabytes per side.

The DVD video disks we rent and purchase use a standardized hierarchical file structure providing random access to all features on a disk from a menu or series of menus or can play automatically depending on how they are authored or programmed. By standardizing DVD video, the DVD Forum insured that disks could be manufactured to provide universal playback

on players from different manufacturers. Though DVD video is a standard, its hierarchical or branching file structure offers tremendous flexibility, allowing for multiple menus, different types of audio (stereo, surround, Dolby, DTS), languages, subtitles, extras (graphics, animation, DVDRAM content), multiple titles and programs as well as multiple camera angles of individual scenes.

All of the files on an authored DVD video are referred to as a title set. Minimally, there are two basic types of files that can make up a set: files that provide information and navigation on the disk are called Information Set Files (.IFO) and the video files themselves called Video Object files (.VOB). Other files for graphics, commentary, surround audio, etc. can also be included. The video on a DVD video is not one single file but several VOB files—a movie, for example is broken up into several individual files that can play sequentially or accessed individually as chapters. The reason for multiple VOB files is that when the DVD standard was set, operating systems were limited to files sizes that could not exceed 2 gigabytes. Most DVD movies are 6-8 gigabytes in length so they must be broken up into several smaller VOB files; the IFO files provide the information about the sequence these files are to be played.

VOB files are encoded using the MPEG2 video compression standard. Compressed video must be used because uncompressed video is enormous. An uncompressed 2-hour movie would be 200 gigabytes in size, but MPEG2 compression reduces this to about 8 gigabytes for two hours of very high quality video. The person doing the compression sets the rate of compression based on the quality required or the amount of data needed to be stored on the disk. The more compression applied, the lower the picture quality and more data can fit on a disk. Up to 8 hours of high quality video and 30 hours of low quality video can be encoded onto a single disk. The optimum quality can be derived using a compression data rate of 9.8 mbps but most movies are encoded at between 5 and 6 mbps providing good quality yet keeping a movie to one side on two layers. At this rate, a single two and a half hour movie can fit on one side of a DVD with very high picture quality. Obviously, the compression rate used affects the price of the DVD: the more layers and disks used, the more expensive to duplicate and the higher the cost to the consumer. Once compressed, a chip in a

DVD player or software on a computer such as Apple's DVD Player decompresses the video turning it back into a picture.

Commercial DVDs are also copy-protected using methods to thwart theft, mass duplication and illegal importation. The first method, called CSS, puts an encryption key on each frame. A legitimate DVD player has the decryption key that unlocks the CSS on each frame so that files can be played back for viewing. Operating systems on computers don't have the key so therefore a digital copy can't be made because the file can't be unlocked. DVD video disks and players are also regionalized by continent or country. The United States is considered Region 1 and all players and disks sold here will work together. Taking a disk to another region (Europe, Asia, Australia, etc.) and attempting to play a Region 1 disk on Region 4 player won't work. For travelers, laptop software can reset the region to the country being traveled to, limiting that change to 7 or 8 times. However, DVD players don't have this feature. This protects illegal US copies of DVDs being sold beyond the region they were intended, theoretically reducing the black market of pirated disks. Finally, DVD video uses the same Macrovision analog copy protection used on commercial VHS tapes that causes distortion when an analog copy is made from a commercial DVD. Like VHS and audiotapes, if you own a copy of a DVD you are entitled to make a copy for your own use, but the DVD Forum in adding these protections to the DVD standard isn't making it easy. In addition, the Digital Copyright Protection Act makes it illegal for a manufacturer to sell software to break the copy protection on a DVD. That is currently being challenged in court.

There are other commercial DVD application standards such as DVDAudio, etc. There are also recordable DVD formats such as those used in Apple's Super Drive. The DVD Forum approved a recordable standard called DVD-R (a.k.a. DVD minus R) and DVD-RW, the re-writable version. DVD-R/RW is similar to CD-R/RW but can hold 4.7 gigabytes per side; dual layers are not supported. Most new DVD players sold today can play DVD-R. Not to be outdone, a second group of companies, which included Microsoft and Sony, created another standard called DVD+R/RW. This was created primarily as a backup medium and as a way not to pay the DVD Forum for the technology. On the PC side it is being

used by consumers to create video DVDs but DVD+R is supported in only about 40% of DVD players. Apple currently doesn't support this standard but it is supported in third-party applications such as Toast.

DVD technology is a "standard definition" video technology, meaning it is limited to the 525 line TV standard that has been in use for the last 60 years, not the 720 and 1080 line standards called High Definition (HDTV) that go into effect in 2006. DVDs are not high definition, so a new optical disk or DVD application standard will need to be developed. Don't worry!!! DVD is here to stay and any new technology will be able to play today's DVDs. However, there is a fight brewing in the wings between the DVD Forum and its proposal for a high definition encoding being placed on a standard DVD, and a new blue laser video disk technology that offers 25 gigabytes on a disk—enough to fit hours of extremely high quality HDTV. The fight is a big one as it's expected that the next generation of optical disk standards will be the last—whatever technology is adopted will stay for many years to come. It is expected to be the last, since some other yet-to-be-determined memory device with no moving parts (similar to Flash memory used in digital cameras) will provide the next wave of data storage. Or, movies may also fly across a new broadband Internet for rent or purchase like today's web pages, and never actually reside on a portable disk. At the moment, we sit at the edge between science fiction and tomorrow's realities. Seeing how a DVD works places a whole new perspective on the power of a new Mac; a machine where DVD authoring comes standard and free. The Mac Superdrive and iDVD 1.0 were released when there were less than 10 million DVD players in the hands of consumers. Today, there are an estimated 75 million players, and growing with the technology has meant Apple-made DVDs work on 90% of today's players. Whatever the next standards are for home video, you can be sure Apple will again be leading the revolution. ■

From the May 2004 Connecticut Macintosh Chronicle, newsletter of the Connecticut Macintosh Connection user group.

DoubleClick for March 11

Dear Dave and Derek:

I recently upgraded to OS X "Panther" and since that point, I've had a number of kernel panics. I've never experienced anything like this before with the Mac so I'm at a loss to explain what might be happening. I have a G4 933 with 512 MB of memory.

Robert in Vienna

DAVE: I'm afraid Robert needs to do a little trouble shooting. Let's look at what may have happened around the time he installed Panther. I'd specifically look at the memory. He says he has 512 MB but did not mention if he'd added any of that when Panther was installed. In any case, it could be something as simple as making sure the memory cards are installed properly or it could be he is using off-brand memory that Panther and/or the OS doesn't like. It may even have gone bad - take a look in "System Profiler (Apple Menu-About This Mac- More Info). Take out the memory and see what happens. Did you add a second hard drive recently? Take it off line and see if that solves the problem. Make sure you've done all the required updates too. Beyond that, try repairing your permissions using Disk Utility and doing a little repair work with Disk Warrior. If nothing works, then a backup of personal files followed by a wipe of your drive and reinstallation of Panther may be in order.

Derek - Something like a kernal panic is actually pretty rare with the Mac but it does happen. As we've discussed before, it takes some sleuth work at times to figure out just what has gone wrong. I know that Windows machines can be especially challenging at times. I've had to do a complete reinstall of the OS in my wife's PC.

DEREK: Your thought process is right on Dave. The first thing is to determine is it hardware or software that causes the problem. Usually it's a software problem, but a memory error would cause these kinds of symptoms. Windows XP has greatly reduced any kinds of major errors on the PC. It is extremely stable and very forgiving of third party programs going out of whack. Any new installation though is always a potential risk because of some unknown incompatibility that

may arise with something in your system. We always recommend you make a complete backup (using Ghost or some other imaging tool) before you attempt to do a new install. This way you can always go back to the exact system you had before you tried to change and can try again. ■

DoubleClick

MY COMPUTER operates for about 45-50 minutes and then the monitor goes dark, the printer stops printing, etc.....thus I'm out of business. However, the cpu has to be turned off manually. We can't seem to locate the problem. A gut feeling, tells me it's something that heats up. Any help/suggestions you can offer would be greatly appreciated. This is very frustrating nad limits my working time.

*Carolyn
Bowie, MD*

DAVE: Carolyn doesn't tell us some really important things like what KIND of computer she has, including whether it's a laptop or a box/tower. Derek and I have seen these kinds of problems over and over however, so I'll throw out some general comments that I believe will fit most circumstances.

In fact, from what Carolyn is describing, I think she probably is right about the heat being a major factor. Feel the case, is it really hot? Can you hear the fan running? Do you smell something burning? You've got trouble. The fact that your computer is, in effect, turning itself off says that it is trying to protect you and the data on your hard drive.

If you do not feel comfortable doing some repairs yourself do not turn anything back on - but rather unplug it all and take the CPU (that is - your computer box) to the nearest repair shop. There are two likely culprits. One is that the fans are not working and thus heat is building up to an intolerable level. The second is that your power supply is burning out and that can be really dangerous.

If you have a laptop, I have seen situations where the tiny fans inside have burned out. You can't really tell anything is wrong until it is too late. Laptops get hot in any case, but if you smell anything strange, or the bottom of the laptop is even hotter than you're used to, it may also be time for a repair.

About.com has a section about troubleshooting heat-related problems in a PC (and that does include Macs!) at <http://peripherals.about.com/library/weekly/aa052802b.htm>.

Derek, heat is a mega enemy for computers, so it's really important that users stay on top of things. Most of the time, it's not an issue but then, it only takes one time for an overheated computer to do a literal melt-down.

DEREK: You're absolutely right Dave. In fact, last week one of my business customers called to say their server wasn't working very well - it would keep shutting down. They would restart it and it would shut down again. Finally it wouldn't turn on any longer. We went out and found the CPU fan had been unplugged. We inquired about it, and they mentioned "oh yeah, there was a horrible noise coming from inside the PC, so we unplugged that fan. That sure quieted it down." Yep. And it trashed their \$500 Intel Pentium 4 CPU in the process. You sure need to keep your computer cool these days. In fact, most of today's higher powered computers, come with multiple fans - some even with a direct vent fan from the processor to the outside of the case through a little "wind tunnel."

Some people have even gone so far as to install water cooling lines throughout the case!!!! Macs aren't immune from heat either as Dave mentions. In fact, Apple isn't a big fan of fans due to the noise they create. On one Mac they had some overheating problems because of it. If you look at our article on 2/12/04, we went through some links on these heat modifications. ■

DoubleClick for May 2

DEAR DAVE and Derek: What is going on with all these music services that let you download music? I've looked at a couple and while some seem easy enough to use, others make no sense to me. And I am not sure what player is compatible with what service. Some, like Apple's, require the iTunes/iPod combination. Others use MP3 players. Help!

Kathryn in Fairfax

Dave: Americans love choice but sometimes, one won-

ders if too much choice is a good thing. As with many new and emerging technologies, it takes time to see who the winners and losers are going to be. Right now, the biggest winner is Apple. The iTunes music store, the iPod and iPod mini are big hits now that they work for both Macs and PCs. Apple has a knack of finding technologies like downloadable music and turning them into something that is easy to use and marketable. Derek knows that USB and Bluetooth were both floundering PC technologies until Apple made them household words. Now it's music you pay to download legally that has been given an Apple twist.

Kathryn has seen, however, that success breeds competition in a big, and sometimes confusing, way. Some companies, like HP, decided to go with the iTunes store and sell a blue version of the iPod. Others, like Microsoft, Sony, Roxio (Napster) and others have decided to offer their own download service. But big or little, there will be a shakeout over the next year or two. In some ways, it will be fun to see who really wins and who loses.

Kathryn, I'd go with Apple right now - the iPods are bit pricey but they are hip - so much so that they are hard to find right now.

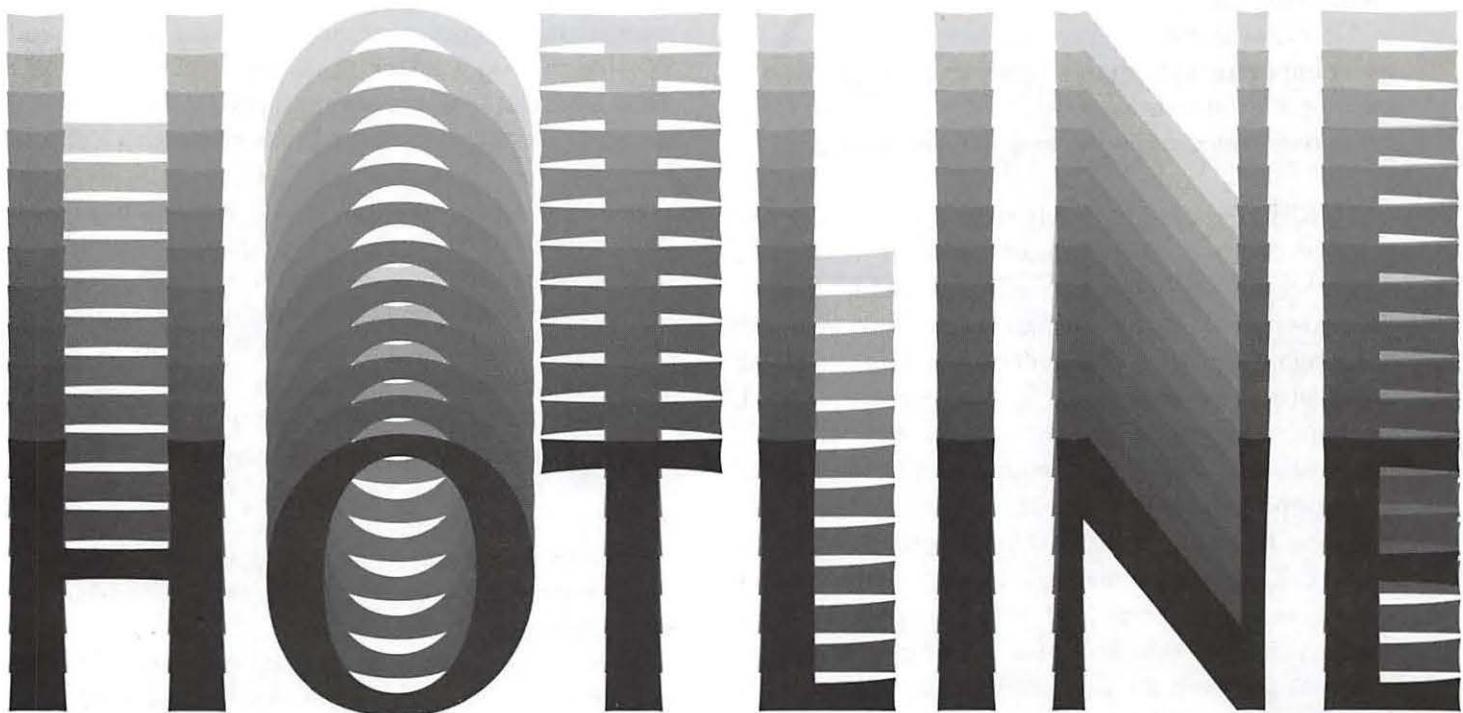
Derek, Apple holds a pretty good percentage of legal music downloads right now, but once Microsoft and Sony really weigh in with their services, do you think we'll see some shifting taking place?

DEREK: Dave... while I completely disagree that Apple had really anything to do with making USB and bluetooth household names, I do think their online music store iTunes, is the way to go. Their iPod works with both Macs and PCs, is simple to use, and has cool features. They really have taken the legal music system and made it popular. Although Apple wasn't really a pioneer in the portable music system. In this column we were talking about cool MP3 players years ago.

But that being said, they have perfected the selling of portable MP3 players! I think you'll see tons of online music sellers - even more than you do now soon. Just like you can buy your CDs in a gazillion stores, I think you'll also be able to buy your downloadable music in a gazillion stores. Why not? It is important as Kathryn points out to make sure your music you're downloading is compatible with your device. I suspect though that for the short term this will be an issue. Why? Just like in other industries, manufacturers will be giving away music players in hopes that you'll buy (and maybe have to) your music through their store.

While it may be a bit confusing at first, the good news is that the consumers will ultimately win. Having legal downloadable music is the way to go! ■

Where the heck is the Pi



Listing?

The Hotline listing, with the names and phone numbers of members who can provide help on a variety of computer issues, can be found on the TCS,

<http://tcs.wap.org/>

If you are having problems with your Pi account name or password, visit:

<http://tcs.wap.org/password>

for assistance.

Product Demos at the Banana Computer Company Store

by Phil Shapiro

(Scene: The product demo area at the rear of a Banana Computer Company store.)

MARK MARKETEER: Orville and Wilbur Wright! I'm so glad you guys could come in to give a product demo here at the store. What would you like to show?

Wilbur Wright - We'd like to explain about the principles of powered flight.

Mark Marketeer - That's cool, that's cool, but what we need today is a demo of GarageBand. You guys used GarageBand yet?

Wilbur Wright - I'm afraid we haven't used it yet.

Mark Marketeer - Oh, it's way cool. Totally intuitive. It's a loop-based music creation program. You guys flew loops didn't you? Listen, you're aviators. Just wing it.

Mark Marketeer - Pablo? Pablo Picasso? Is that you? We're so glad you came in to give a product demo at our store. Could you show Adobe Illustrator? You could? Way cool. Listen, sales surveys tell us that reds are what consumers are most interested in today. Can you demo Illustrator with like lots of reds?

Pablo Picasso: But I'm in my blue period.

Mark Marketeer - Yes, blue is great, it's totally great, but can you just do reds for us today? You're an artist, aren't you? Just wing it. Listen, if you can't do it, we can ask Van Gogh, who is standing right behind you. I don't want to give you an earful. Just do the reds, alright.

Mark Marketeer - Vinnie, wuzzup? Listen, you can't really be touching those white keyboards with your earth-soiled hands. You were painting sunflowers this afternoon? Far out. Listen, hands off the keyboards.

Mark Marketeer - I'm sorry sir, but we can't allow you shooting any video in our stores. Yes, I know

we sell camcorders. Yes, I know we sell video editing software. Yes, I know you'd like to put a QuickTime of your niece's first steps on your dot mac account. Sorry, Mr. Speilberg, I didn't recognize you at first. You must understand, it's company policy.

Hey, Wilbur, you've got to get that GarageBand demo going soon. We've got quarterly sales figures we've got to meet, you know. What? You want to fly the coop? You just got here, dude.

Vinnie, hands off the keyboards, please. Pablo, I've told you once already, no blues in your Adobe Illustrator demo.

Sir, please step away from that computer. That computer is for sales persons only to use for demos. You're typing in your password for your dot mac account? To upload a QuickTime from the Final Cut Pro demo you just attended? To teach your friends the techniques you learned today? I'm sorry, it's company policy that customers not touch that computer. Vinnie, hands off the keyboard.

Al, Albert Einstein? We're so happy you've come down to our store to do a product demo. Listen, sales surveys tell us that chemistry is the big seller these days. Can you do a chem demo, big man? You say physics is your thing? Chemistry, physics, it's all the same thing. Just wing it, Al. You can do it. Our customers will never know the difference. They hardly know anything about anything.

Vinnie, for the last time, get your dirty hands off that white keyboard.

Mr. Speilberg, I'm going to have to ask you to put away that camcorder. It's company policy. Pablo, you're thinking different. Please do not do that in this store. I've asked you twice already. Vinnie, that's it. You're out of this store. ■

The author has been a Banana user and trainer since 1986. He is reachable at: pshapiro@his.com

Special Offers for User Group Members

THESE USER GROUP discounts are brought to you by the Apple User Group Advisory Board. You must be a current Apple user group member to qualify for these savings.

The User Group Discount information can be found on the WAP TCS. Go to <http://tcs.wap.org/>. Enter the login and password found on your Pi membership card. Go to the Classified Conference, More Member Special section to find specific details for each offer.

Audio Hijack Pro We love it when MUGs help spread the word on our work - word of mouth is our best form of advertising. In conjunction with these infosheets, I'm activating a coupon for Audio Hijack Pro to take \$3 off for all your members.

Check the WAP TCS for specific details. Offer Expires: August 31, 2004

PDF2Office 25% off

I am very happy to tell you that Aladdin Systems has partnered with RecoSoft to offer you PDF2Office, the newest release of one of the most flexible utilities for Macintosh. PDF2Office converts PDF documents into fully editable MSWord, RTF, AppleWorks, HTML etc... files re-creating the original construct and layout of the document - forming paragraphs, applying styles, re-grouping independent graphics elements, extracting images, creating tables, processing headers/footers, endnotes/footnotes and columns/sections - automatically - without any intervention.

PDF2Office provides options for converting a range of pages in a PDF document into popular word processing formats as well as image types such as JPEG, Photoshop, PNG, TIFF etc... Furthermore, it offers the capability to extract images from specific pages within a PDF document.

PDF2Office also provides a powerful batch conversion facility for converting many files at once simply by targeting the folder they are in!

PDF2Office sports an easy-to-use interface which allows one to set the target type on a file by file basis. To facilitate the conversion process PDF2Office even

provides a layout preview and navigation of a PDF document within the application itself - allowing you to identify the pages to extract. PDF2Office allows one to unlock the contents stored in PDF documents - making it available for use by the most popular software titles. As PDF2Office is a standalone tool, it eliminates the necessity to acquire and install additional PDF editing software and tools resulting in huge cost savings in both time and expense.

You will love PDF2Office, but you don't have to take my word for it. If you need exchange files with other computer users like I do, I guarantee you will quickly see the benefits of using PDF2Office, and it will quickly be an indispensable tool for you too as it is for me. Get your copy today for only \$99.00 and save 25% right now!

Check the WAP TCS for specific details.

International User Group Bookstore

ENJOY A SPECIAL 20% DISCOUNT AT INTERNATIONAL USER GROUP BOOKSTORE On behalf of the Peachpit User Group Program, please visit the International User Group Bookstore, powered by Pearson Education, for a special 20% discount on selected titles through August 31, 2004.

Check the WAP TCS for specific details.

Que Publications

Dreaming of touring the world, seeing your name in lights and partying like a rock star? Who knows? It could happen. Let Que's "MacAddict Guide to Making Music with GarageBand" free your inner rock star and show you how to create, perform and record your own music.

Get 40 percent off the \$24.99 (US) book (free shipping for U.S. customers) using the special user group URL and coupon code.

Normal Price: \$24.99 UG Price: 40% off Check the WAP TCS for specific details. Offer Expires: October 31, 2004

Digital Element

Digital Element is offering Apple user group Mac Photoshop users a download bundle of all of their Photoshop plugins (Aurora 2.1, Verdant and Modelshop) for only \$199 (US), a \$300 savings. (Offer only for the Mac version and for Apple user group members.)

Normal Price: \$439 UG Price: \$199 Check the WAP

TCS for specific details. Offer Expires: August 31, 2004

Bonix Software

Looking for exciting ways to use your webcam? Create amazing stop motion animations or time lapse recordings with Boinx iStopMotion. Use Boinx iVeZeen to record video with your webcam. (The iSight is particularly well supported.) Apple user group members can get an exclusive 20 percent discount on Boinx iStopMotion and/or Boinx iVeZeen. iStopMotion is regularly \$39.95 (US) and iVeZeen is regularly \$14.95 (US).

Get free demos, more info and the free MiracleSight Screensaver and more at the special User Group Order URL.

Normal Price: \$39.95 and \$14.95 respectively UG Price: 20% off Check the WAP TCS for specific details. Offer Expires: August 31, 2004

macXware

macXware welcomes apple user groups with a 15 percent discount on any macXware website order using the special MUG CouponCode.

Current Titles

- MacFonts - 1000 TrueType Fonts & FontManager • MoreMacFonts - 750 New TrueType Fonts & FontManager • LogoCreator - Create Your Own Identity • MacBurn - CD & DVD Burning Software • MediaEdit Pro - Video, Audio & Image Editor • ScreenRecord - Capture On-Screen Actions • PhotoEdit - Photo Editor & Paint Tool • MacPac - Boost Your Mac Power

Normal Price: Varies UG Price: 15% off Check the WAP TCS for specific details. Offer Expires: December 31, 2004

Podshop

Like peanut butter and jelly, some things just go together. PodShop has designed the perfect companion for iPod, an acrylic stand/display that complements the look and feel. PodHolder is a beautiful and functional accessory built at the perfect angle, allowing one-thumb access to iPod while preventing scratches.

Regularly \$9.95 (US), PodHolder is available to Apple user group members for \$7.95 (US), a 20 percent discount.

Normal Price: \$9.95 UG Price: \$7.95 Check the WAP TCS for specific details. Offer Expires: December 31, 2004

The MUG Store

The MUG Store always has great deals for you. This Month's Highlights: • Refurbished eMacs starting at \$599 (US) • Refurbished iBooks with Combo drive starting at \$899 (US) • Refurbished iMacs starting at \$999 (US) • Refurbished PowerBooks starting at \$1,099 (US) But the Mug Store isn't just about refurbished Macs: We offer free freight, great deals on new Macs and other products, plus one percent back to your group when you buy from the store.

Normal Price: Varies UG Price: Varies Check the WAP TCS for specific details. Offer Expires: Ongoing

MacWorld Magazine

Macworld offers MUG members a special subscription offer.

Macworld magazine is the ultimate Mac resource! We pack each issue with industry news, future trends, practical how-tos, in-depth features, tips and tricks, and more &Mac220; we provide the tools Mac professionals and enthusiasts need. Best of all, you can depend on our unbiased, thorough product reviews and buying advice. Stay informed about what's new, exciting, and important. Become a Macworld reader.

Normal Price: \$27.97 UG Price: \$15 for 12 issues (new subscriptions only) Check the WAP TCS for specific details. Offer Expires: No Expiration

You Software

User group members can save over 40 percent on the award-winning You Control from You Software. The original founders of Now Software and Extensis are at it again with You Control, which has already received several awards including Best of Show at Macworld Expo and a MacAddict Editors' Choice.

You Control is a collection of 15 menu-based utilities that extends the functionality of Mac OS X, and from now until July 31, 2004, you can purchase it for only \$39.95 (US), \$30 (US) off the suggested retail price of \$69.95 (US)

Normal Price: \$69.95 UG Price: \$39.95 Check the WAP TCS for specific details. Offer Expires: July 31, 2004

4th Dimension

Tired of having your important information scattered around in Excel spreadsheets and text files? Organize it all in one place with 4th Dimension, the award-winning database program. 4th Dimension lets you easily store and track all types of data, print labels, create re-

ports, build charts and more. If you enjoy programming, use 4D's programming language to build any kind of application you want.

4th Dimension Regular Price: \$349 (US) User Group Price: \$99 (US) plus free books: Jumpstart 4D and Training Guide 4D v6.8: Getting Started.

Normal Price: \$349 UG Price: \$99 plus free books Check the WAP TCS for specific details. Offer Expires: July 31, 2004

MacWireless

The MacWireless Powerline Network Adapter allows you to route your network through the power lines in your home or office. With speeds up to 14 Mbps and ranges up to 600 feet, this is a great way to get your ethernet network to other floors or rooms in your building, without the need to run wires.

Buy a 2-Pack for the regular price of \$149.98 (US), then MacWireless.com to receive your MUG Member \$20.00 (US) discount.

Normal Price: 149.98 UG Price: \$20 discount Check the WAP TCS for specific details. Offer Expires: July 31, 2004

Software Cinema,

Software Cinema, the premier producer of training CDs for digital imaging and Adobe Photoshop, is pleased to offer a user group discount. For the first time ever, user group members can take a 25 percent discount on ALL of Software Cinema's titles. Each CD showcases real world tips and solutions from practicing, professional photographers and digital artists.

Normal Price: Varies UG Price: 25% discount Check the WAP TCS for specific details. Offer Expires: July 31, 2004

Phelios

Phelios.com, developers of a wide variety of downloadable games for the whole family, is pleased to offer a 30 percent discount on all Phelios games to members of Mac user groups.

Phelios games offer entertainment for everyone, from kids looking for educational yet fun games to adults craving some brain-teasing puzzle action or arcade-style amusement.

Normal Price: Varies UG Price: 30% Discount Check the WAP TCS for specific details. Offer Expires: December 31, 2004

AtomicBird

Macaroni handles regular maintenance for Mac OS X,

such as repairing privileges and Unix-style maintenance. Without Macaroni, some tasks don't run unless the Mac stays on all night. Others don't run automatically at all. Macaroni remembers for you and runs these maintenance tasks on a regular schedule, regardless of when your Mac is on.

Take advantage of the user group member special by using the user group discount coupon code when ordering. It's good for \$1 (US) off the \$8.99 (US) price.

Normal Price: \$8.99 UG Price: \$7.99 Check the WAP TCS for specific details. Offer Expires: July 31, 2004

Inventive, Inc

Inventive, Inc offers user group members a discount on the purchase of iClip, an OS X native, multi clipboard/scrapbook utility. List price \$19.95 (US). Your price \$14.96 (US).

iClip is a customizable utility that floats above your other applications, allowing easy access to its multiple "clipping bins." You can store, organize and access all kinds of data, including text, pictures, URLs, sound, movies and more. iClip is a versatile application that helps streamline your workflow so you can be more productive.

Normal Price: \$19.95 UG Price: \$14.96 Check the WAP TCS for specific details. Offer Expires: July 31, 2004

NetZero

MAC OS X and OS 9 users: get your first month of NetZero Platinum Internet service FREE. NetZero Platinum provides unlimited Web surfing, reliable Internet connections, compatibility with popular chat programs, easy access to search engines, news, shopping/financial services and no banner ads, all for only \$9.95* per month (US only). NetZero Platinum also includes POP and Web-based email with 10 MB of email storage.

*Additional phone and live technical support charges may apply even during free periods. Service not available in all areas.

Normal Price: \$9.95/month UG Price: First month free Check the WAP TCS for specific details. Offer Expires: July 31, 2004

NovaMind Mind Mapping

Produce stylish, information rich, vivid solutions for enhanced organizational skills, creative thinking and compelling presentations.

NovaMind Mind Maps are a compact, meaningful and powerful way to record and remember information,

excellent for problem-solving, planning, brainstorming and summarizing information.

Renowned as the most elegant, affordable and user-friendly, NovaMind is the preferred Mind Mapping program - available in 9 languages including Chinese and Japanese.

Normally \$79 (US), MUG members worldwide pay only \$51.35 (US) using the MUG discount code during online purchase to enable the discount.

Visit the web site for more info, to download the free trial and to purchase.

Normal Price: \$79 UG Price: \$51.35 Check the WAP TCS for specific details. Offer Expires: June 30, 2004

Take Control Electronic Books

Adam and Tonya Engst of TidBITS are continuing their fourteen years of supporting user groups with a special 10 percent discount for all orders in their new Take Control electronic book series. Take Control ebooks provide highly practical, tightly focused, inexpensive help from leading Macintosh authors. Titles are delivered in PDF layout with active links, and are optimized for viewing and printing.j

Current titles include:

- Take Control of Upgrading to Panther, by Joe Kissell
- Take Control of Customizing Panther, by Matt Neuburg
- Take Control of Users & Accounts in Panther, by Kirk McElhearn
- Take Control of Sharing Files in Panther, by Glenn Fleishman

Normal Price: Varies UG Price: 10% Discount Check the WAP TCS for specific details. Offer Expires: Ongoing

Design Tools

Free issue and 50% off a new subscription

You know that stack of magazines in your office that you wish you had time to read? And all those websites you need to scour for updates? If you prefer to spend your time being creative, get Design Tools Monthly instead. For the past twelve years, Design Tools Monthly has provided "the Executive Summary of Graphic Design News" to subscribers in more than 40 countries.

Regular price: \$229 (US), Mac user group members: first year for just \$99 (US), \$125 (US) outside U.S. and Canada. Normal Price: \$229 UG Price: Varies Check the WAP TCS for specific details. Offer Expires: July 31, 2004

MYOB

MUG members get the \$25 off the regular price of \$99 on First Edge or \$100 off AccountEdge.

Are you a Mac-based small business that has grown out of your computerized checkbook? Have you grown tired of creating invoices using InDesign or Word? If you think you are ready to move beyond your shoebox, MYOB has the right tool for you at a great MUG discount. MYOB US, Inc., the leader in Mac small business management, has just released MYOB FirstEdge, a new Mac only product that will help you run your business quickly and easily.

MYOB FirstEdge Normal Price: \$99 UG Price: \$74

MYOB AccountEdge 2004 Normal Price: \$299 UG Price: \$199

Normal Price: Varies UG Price: Varies Check the WAP TCS for specific details. Offer Expires: Ongoing

liquidlibrary

Complete your design projects quickly and efficiently with this exclusive offer for Mac user groups in the U.S. Get liquidlibrary for ONLY \$79.95 (US) a month (\$125 (US) value).

Get over 150 royalty free photos, illustrations and media elements on a double CD, along with time-saving ideas and inspiration in a 68-page monthly magazine. Plus, you get free online management of all your purchased content and discounted access to over 65,000 images at www.liquidlibrary.com.

Visit www.liquidlibrary.com/freesample and enter the special MUG VIP Code to get FREE access to 150 sample images. Take a look and you'll see liquidlibrary has all the tools you need to be the best designer you can be.

Normal Price: \$125 UG Price: 79.95 Check the WAP TCS for specific details. Offer Expires: No Expiration

O'Reilly

User group members can receive a 20% discount on any O'Reilly book purchased directly from O'Reilly's website, including upcoming additions to the Missing Manual series. Members are also eligible for a 20 percent discount on all O'Reilly conferences. To receive your discount, use the special MUG Discount Code.

This ongoing offer is available to user group members worldwide.

Normal Price: Varies UG Price: 20% off Check the WAP TCS for specific details. Offer Expires: No Expiration

Special MacAddict Subscription and Renewal Offer for MUG members

Award-winning MacAddict magazine launched in 1996 as the ultimate hands-on guide to anything and every-

thing Macintosh. Its mission is to provide readers with the most comprehensive range of Mac product and how-to information possible. MacAddict packs each issue with in-depth how-to articles, fact-filled features, expert reviews, and up-to-the-minute news and analysis. MacAddict is justly famous for its eye-catching design and irreverent wit. It is the only magazine for Mac enthusiasts and professionals that offers its readers a compete multimedia experience: a monthly print magazine; a companion CD-ROM packed with software, demos and updates; and the MacAddict.com Web site

Normal Price: \$29.95 UG Price: \$20.95 Check the WAP TCS for specific details. Offer Expires: No Expiration

Audible — Listen To The New York Times Every Morning

Audible, the source for great audio information and entertainment, brings you over 20,000 great audio programs. You simply download them and listen on your computer, MP3 player, Pocket PC, iPod or on CDs you burn yourself.

Listen to the best audiobooks from top authors like Tom Clancy and Stephen King. Or listen to audio editions of Macworld, The Wall Street Journal or The New York Times.

Join Audible now and you'll get A FREE one-month subscription to the audio version of The New York Times PLUS 3 bonus gifts:

- 10 FREE blank CDs—burn and listen to great Audible programs on any CD player.
 - A FREE subscription to the audio version of Macworld.
 - Six FREE issues of Macworld magazine—start or extend your subscription.
- You'll always save up to 80% off the retail prices of most audiobooks on CD or cassette.

Offer available to U.S. residents only. This is an ongoing offer with no expiration date. * For MUG Members ONLY *

Normal Price: Varies UG Price: Varies, plus bundle of additional benefits/services Check the WAP TCS for specific details. No Expiration

Spamfire

You don't have to put up with unwanted junk email. Spamfire from Matterform Media removes unwanted commercial and pornographic email from your in-box. It works with any POP3 email account and any email program (support for IMAP, Hotmail and AOL is still in development). Spamfire uses intelligent, fuzzy-logic filtering to identify spam and protect messages you want to

keep. Automatic internet updates ensure you always have the most advanced spam protection available. Spamfire works in OS 9 and OS X and is a Mac-only product.

Mac User Group members can purchase Spamfire for just \$23, more than 20% off the regular price.

Box & CD, regular price: \$39 (MUG price \$31) Download, regular price: \$29 (MUG price \$23)

Download is good internationally. Box & CD is available only in the US.

Normal Price: \$39 (Box & CD) / \$29 (Download) UG Price: \$31 (Box & CD) / \$23 (Download) Check the WAP TCS for specific details. Offer Expires: No Expiration

macHOME Subscription Offer for MUG Members Only

With over 11 years experience, macHOME is dedicated to providing smart, practical and easy-to-read Mac advice and information. macHOME offers insightful reviews, creative how-tos and straightforward buying guides.

MacHOME is pleased to offer Mac User Group members a 50% discount off of our regular subscription prices. For only \$14.99 new subscribers can receive 12 issues of macHOME—that's only \$1.25 an issue!

Don't waste another minute—take advantage of this special offer today!

Normal Price: \$29.95 UG Price: \$14.99 (New subscriptions only) Check the WAP TCS for specific details. Offer Expires: No Expiration

AppleWorks Users Group



Pi President Pat Fauquet talks about the latest edition of Pi Fillings, the Pi's CD-ROM publication, as Dennis Cheung waits to demonstrate Microsoft Office 2004 at the May General Meeting. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

Keeping Up with AppleWorks

User group members can now get the latest AppleWorks news sent right to their email mailboxes - courtesy of the AppleWorks Users Group (AWUG).

Just register for AWUG's free AppleWorks News Service and AWUG will send you occasional email messages with the latest AppleWorks news including announcements of AppleWorks updates and work-arounds for common problems.

To learn more and to register, visit AWUG's website at <http://www.awug.org> and click on "AWUG's AppleWorks News Service".

This is a free service for the user group community from the AppleWorks Users Group. AWUG respects your privacy - AWUG does not sell, exchange or distribute the email addresses of subscribers to their services.

UG Price: Free Check the WAP TCS for specific details.

Offer Expires: No Expiration

AppleWorks Users Group — Macintosh Batteries - Only \$7

Every Macintosh contains a small battery that your system uses to run its internal clock and to "remember" your printer and other system settings. You'll know when this battery runs down - your clock will not work correctly, your files will be dated incorrectly, and your Mac will repeatedly "forget" which printer you use and will default to its built-in settings.

Apple user group members can now buy replacement backup batteries for their desktop Macintosh systems directly from the AppleWorks Users Group for only \$7. (Batteries for Performa 630-series computers cost \$10.95.) Each battery includes installation instructions and the promise of "satisfaction guaranteed or your money back." AWUG's lithium batteries have a 10-year shelf life - if your computer is more than two years old, you should consider ordering a spare battery for the day your original battery fails.

These batteries are for desktop Macintosh systems only. AWUG does not supply backup batteries for PowerBook or iBook computers because those batteries are not user replaceable.

To qualify for this special discount price you must identify the name of your user group, the model of your desktop Macintosh and provide your shipping address and credit card information when you order. Please add \$2 U.S. s/h per order. (International orders by credit card only; international shipping additional.)

AppleWorks Users Group, Box 701010, Plymouth, MI 48170; (888) 781-AWUG; Fax: (734) 454-1965; email:



Pi President Pat Fauquet and Steve Roberson, Vice President for Volunteers, show off a Microsoft Office 2004 briefcase at the May General Meeting. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

orders@awug.org; <http://www.awug.org>.

Normal Price: \$10.95 UG Price: \$7 Check the WAP TCS for specific details. Offer Expires: No Expiration

\$5 Discount from AppleWorks User Group

The AppleWorks Users Group (AWUG) offers members of Apple user groups a \$5 discount on their AWUG membership.

AWUG members:

- Receive the AppleWorks Journal, AWUG's 24-page newsletter filled with helpful AppleWorks how-to articles, tips, ideas, projects and the latest AppleWorks news.
- Qualify for free AppleWorks email and telephone technical support from AWUG's 65 volunteer consultants.
- Have unlimited access to AWUG's extensive on-line collection of AppleWorks templates, graphics and utilities. (This service is free for the first year of membership and costs \$10 per year for renewing members.)
- Get special discounts on AWUG-recommended AppleWorks books, training materials and AppleWorks add-ons.

A one-year AWUG membership normally costs \$39.95, however Apple user group members pay only \$34.95 for a full year of the AppleWorks Journal (10 issues) and a one-year membership in AWUG. To qualify for this \$5 discount, you must indicate that you are a member of a local Apple user group when you join AWUG.

AppleWorks Users Group, Box 701010, Plymouth, MI 48170; (888) 781-AWUG; Fax: (734) 454-1965; www.awug.org

Normal Price: \$39.95 UG Price: \$34.95 Check the WAP TCS for specific details. No Expiration ■

Washington Apple Pi Tutorials

July-August 2004

Summer Schedules

WE ARE OFFERING fewer classes during the summer months as our tutorial staff anticipates vacations. Pat Fauquet will not be teaching classes in July and August as she will be packing, moving to her new home in Fairfax Station. She will return in September or as soon as she can find her way among the boxes.

Sign-ups

To sign up for a class send an e-mail to tutorials@wap.org. Include your name, address, phone number, WAP membership number and the name and date of the class you want to take. Then mail a check or call the Washington Pi office on Monday, Wednesday or Friday from 10:00 a.m. to 2:00 p.m. to pay by credit card. The address is Washington Apple Pi Tutorials, 12022 Parklawn Drive, Rockville MD 20852. Make the check payable to Washington Apple Pi and please send a separate check for each class you are signing up to take. Your credit card will be charged or your check will be deposited on the day of the class.

Cancellations

Class will be canceled if there are less than three participants signed up 3 days before the class. You will be notified by an e-mail message or a phone call no later than the day before the class regarding possible cancellations.

If you decide not to take a class, you must cancel your registration in a class 48 hours before its starts in order not to be charged for the class. In the case of illness or extreme circumstances, this policy can be reviewed. Send a message to tutorials@wap.org and include your phone number.

Introductory Classes

There are two distinct class series at this level. The Mac Basics classes are taught at a slower pace with class time devoted to practicing concepts as they are taught. The Mac OS X classes are for users with more computer experience. The pace is faster and each topic is covered in more depth. The four Mac Basics classes should be taken in order. The same is true for the three Mac OS X classes. It is suggested that everyone take the Understanding Mac OS X class before beginning the Mac OS X series, but the class is not mandatory.

If you desire classes for Mac OS 9 or earlier, please call the office to have your name placed on the list for those classes. You will be contacted when there are three or more people who desire to take the class. All classes at Washington Apple Pi are limited to no more than six students.

Mac Basics 1 - The Finder, Menu Bars, Windows and Toolbars

- Wed, June 30, 2004, 9:30 AM to: 12:30 PM
- Wed, Aug 4, 2004, 9:30 AM to: 12:30 PM

This is a hands-on class for the novice who needs help getting started with their computer. It is designed for the person with little or no background with computer use. The purpose of the class is to make a person feel comfortable and secure with their Macintosh. The subjects covered will include computer parts, cables, the Finder, Dock, Menu Bar, Windows, Tool Bars and Sidebars. This course is offered as one three hour session.

Instructor: Nancy Little

Member Cost: \$50.00, Others: \$100.00

Course Prerequisites: None

Mac Basics 2 - Introductory Word Processing

- Wed, Jul 7, 2004, 1:00 PM to: 4:00 PM or
- Wed, Aug 11, 2004, 9:30 AM to: 12:30 PM

This is a hands-on class for the novice who needs help getting started with their computer. It is designed for the person with little or no background with computer use. The purpose of the class is to make a person feel comfortable and secure with their Macintosh. The subjects covered will include how to format documents, how to save documents, how to spell-check documents,

and how to print documents.

Instructor: Nancy Little

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Mac Basics 1

Mac Basics 3 - Folders, Views, Files and Finding Things

- Wed, Jul 21, 2004, 1:00 PM to: 4:00 PM or
- Wed, Aug 18, 2004, 9:30 AM to: 12:30 PM

This is a hands-on class for the novice who needs help getting started with their computer. It is designed for the person with little or no background with computer use. The purpose of the class is to make a person feel comfortable and secure with their Macintosh. The subjects covered will include how to use Folders to keep your computer organized, how to use the Views options to enhance your user experience, and how to find files on your computer.

Instructor: Nancy Little

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Mac Basics 1 and 2

Mac Basics 4 - If Something Goes Wrong

- Wed, Jul 28, 2004, 1:00 PM to: 4:00 PM
- Wed, Aug 25, 2004, 9:30 AM to: 12:30 PM

This is a hands-on class for the novice who needs help getting started with their computer. It is designed for the person with little or no background with computer use. The purpose of the class is to make a person feel comfortable and secure with their Macintosh. The subjects covered will include common computer and printer problems and how to fix them, how to reset your user password, and how to start your computer from the Apple Restore CD that came with your computer.

Instructor: Nancy Little

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Mac Basics 1, 2 and 3

Mac OS X 1- The Finder, Menus and the Dock

- Thu, Jul 1, 2004, 9:30 AM to: 12:30 PM
- Thu, Aug 5, 2004, 9:30 AM to: 12:30 PM

This is the first in a series of classes covering Mac OS X. This class covers the menu bar, dock, and finder win-

dow. Students will learn their functions how to customize them fit the work style of the computer user. Everyone is encouraged to attend this class before continuing on in the WAP Tutorial Program.

Instructor: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Macintosh Skills

Mac OS X 2 - Users, Saving, and Finding

- Thu, Jul 8, 2004, 9:30 AM to: 12:30 PM
- Thu, Aug 12, 2004, 9:30 AM to: 12:30 PM

This class is intended for users who have a good basic understanding of Mac OS X. It will include in-depth coverage of the Users folder and what it contains, how to save and file documents, how and why to use file extensions, and how to find files by name, date, type and content.

Instructor: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Macintosh Skills

Mac OS X 3 - Using the System Preferences

- Thu, Jul 22, 2004, 9:30 AM to: 12:30 PM
- Thu, Aug 19, 2004, 9:30 AM to: 12:30 PM

In this class we will go through the System Preferences application, spending time on each item located in it.

Instructor: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Macintosh Skills

Continuing Mac

Installing Updates, Downloads, and Software

- Thu, Jul 1, 2004, 1:00 PM to: 4:00 PM
- Thu, Aug 5, 2004, 1:00 PM to: 4:00 PM

This class is an introduction to the types and methods of installing updates and software in Mac OS X. Discussion will include installing System Updates in Mac OS X, the use of .dmg and package files, how to deal with compressed and encoded downloads, installing from CDs, custom Installations, uninstalling software, finding and installing application updates and finding and installing printer, scanner and other hardware driver updates.

Instructor: Pat Fauquet (Mon, Wed) or Jim Ritz (Thu)
Member Cost: \$50.00, Others: \$100.00
Prerequisites: Intermediate Mac Skills

Using Mail and the Address Book in Mac OS X

- Wed, Aug 4, 2004, 1:00 PM to: 4:00 PM

This class covers Mac OS X's Mail and the Address Book. Topics discussed include the interactions between the programs and customizations and options that are available in them. Students will learn how to organize and archive email, how to add email addresses, set up email to groups of recipients, and how to attach files.
Instructor: Pat Fauquet (Mon), Nancy Little
Member Cost: \$50.00, Others: \$100.00
Prerequisites: Intermediate Mac Skills

Troubleshooting Computer and Printer Problems

- Thu, Aug 12, 2004, 1:00 PM to: 4:00 PM

This class will cover how to recognize potential problems, how to use the Mac OS X CD to repair directory problems and reset passwords, how to recognize and solve preference file issues and how to solve printer issues.

Instructor: Jim Ritz
Member Cost: \$50.00, Others: \$100.00
Prerequisites: Intermediate Mac Skills

Productivity

AppleWorks Word Processing

- Thu, Jul 22, 2004, 1:00 PM to: 4:00 PM
- Wed, Aug 11, 2004, 1:00 PM to: 4:00 PM

The word processing module of AppleWorks contains many powerful features. Learn how to format documents, make lists and outlines, add pictures, use the spell checker and thesaurus, set up tabs, and make templates. This course is offered as one three hour session.
Instructor: Nancy Little
Member Cost: \$50.00, Others: \$100.00
Course Prerequisites: Intermediate Mac Skills

Putting AppleWorks to Work

Wed, Aug 18, 2004 and Wed, Aug 25, 2004 from 1:00 PM to 4:00 PM

AppleWorks does far more than word processing. Learn how to use it to make flyers, databases, spreadsheets, slideshows, graphs and charts and mail merge letters. This course is six hours long. It will be taught as an all-day class.

Instructor: Nancy Little
Member Cost: \$100.00, Others: \$150.00
Course Prerequisites: Intermediate Mac Skills

Introduction to Spreadsheets

- Thu, Jul 8, 2004, 1:00 PM to: 4:00 PM
- Thu, Aug 19, 2004, 1:00 PM to: 4:00 PM

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. This course is taught in one three hour session.

Instructor: Jim Ritz
Member Cost: \$50.00, Others: \$100.00
Course Prerequisites: Intermediate Mac Skills ■

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—Computers on Demand

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—**AppleWorks Users Group Discount:** WAP members receive a \$5 a year discount on their AWUG (AppleWorks Users Group) membership and renewals as a benefit of their WAP membership. WAP members must identify themselves as such and then deduct \$5 from their \$39.95 AWUG membership dues when they join or renew. Contact the AppleWorks Users Group at Box 701010, Plymouth, Michigan 48170; (888) 781-AWUG; Fax: (734) 454-1965; email: <membership@awug.org> or website <www.awug.org>.

Services

—Mac Hardware, software, networks & training. Apple factory trained & A+ Certified. Marchetti Associates. LLC. 301-404-2210 or phil@marchettiaassociates.com

—Macintosh House Calls—Upgrades, Repairs, Maintenance, Tutoring.

Contact John Barnes at 301-652-0667 or jdbscience@mac.com. Discount for Pi members.

—Mac Tutoring and troubleshooting help. Washington DC area. \$50/hour. Phil Shapiro. Contact pshapiro@his.com

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