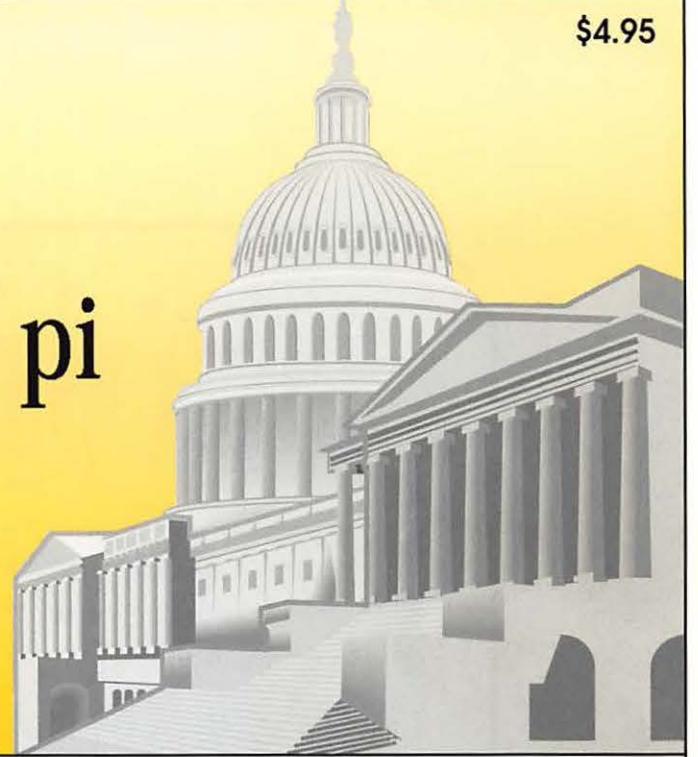


The Journal of Washington Apple Pi, Ltd.

washington pple pi

Volume 26, Number 1



WAP New Member Orientation Program —11

Calculating Pi: Redesigning the WAP web site—14

BTCS: Strange Window Behavior—28

Security in Depth: Or How to think about security—34

Unsolicited Commercial E-mail Blues—35

First Sips of Cocoa—50

An Overview of Knockout 2—63

WASHINGTON APPLE PI

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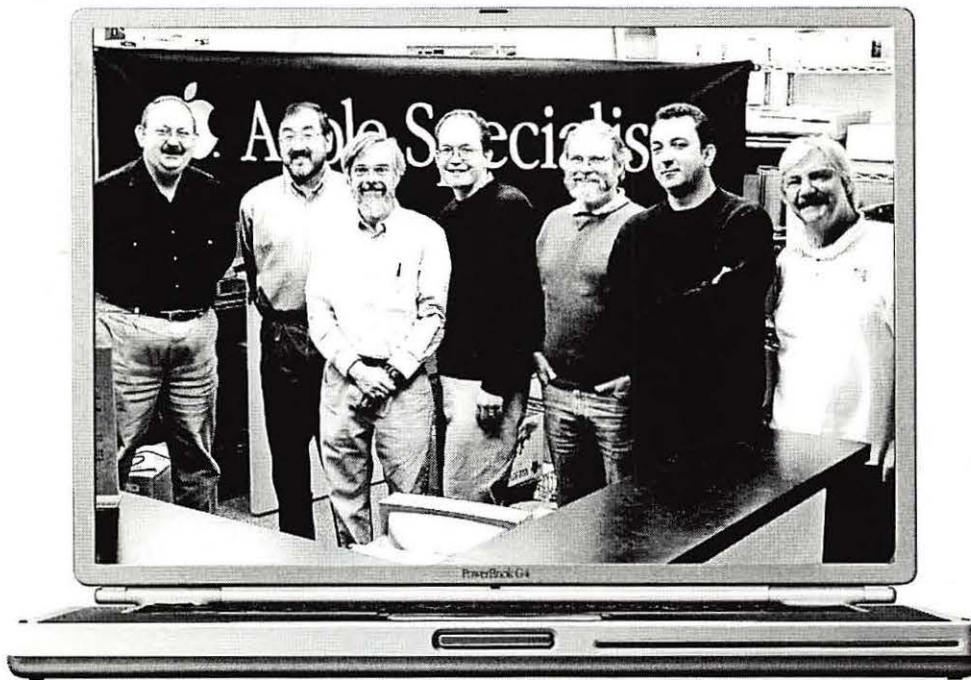
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March/April	Jan. 25
May/June	Mar. 25

Camera-ready ad copy

March/April	February 1
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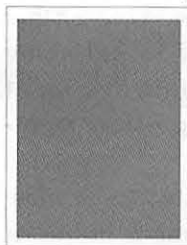
This issue of the Washington Apple Pi Journal was created on a G3, with proofing on an HP LaserJet 5000 N.

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.

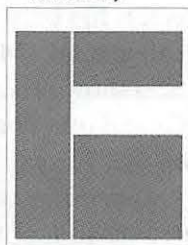
Cover Design: The WAP Journal cover design was created by Ann Aiken in collaboration with Nancy Seferian. The Capital artwork was illustrated by Carol O'Connor for One Mile Up, which donated it for use on our cover.

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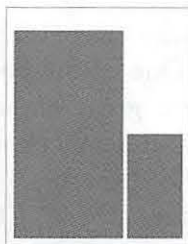
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Submission may be via email, or on CD when files are large.

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Tues. 7-9 pm—Clinic Night Only—
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Welcome To WAP

WELL ANOTHER Computer Show and Sale has come and gone. Thanks to Ned Langston and many, many volunteers, we had a great time and folks once again went home happy with holiday bargains. If you're a new member and missed this one, we will definately be having another CS&S in December 2004. We have traditionally had a summer event as well in June. But this go-round we are talking about something a little different.



Instead of having a "garage sale" style show, your board of directors has been talking about something that one might call a mini "MacWorld." We would invite Mac vendors to show off their wares, highlight some of the great SIGs and other benefits of being a WAP member and more.

If this is something you are interested in or have ideas about, please feel free to give me a holler at vppublicity@wap.org.

By the way, one of the big hits at the show were our new CDs. One of the best ways we can serve you and create a great niche for ourselves is to offer products and services no one else can. Our new "CD Full Of Browsers," "Pi Fillings" monthly CD, "Audio, Video, Print" CDs all sold extremely well. You can still get yours— just \$10.00 by calling the WAP office or at the next general meeting. We've also developed a set of Apple /// DVDs, are updating our Pi Fillings Goes To School and OS 9 CDs and are working to put all the back issues of the WAP Journal on CD too.

The bottom line for old and new members alike is that this is a great time to be a WAP member. Along with these new CDs, we've updated our web site, are working to bring you better monthly programs, a new and improved Internet service and much more. But we need your help! Volunteer jobs abound and your ideas are welcome. As a new member, take a look around and see what you like, then dig in. Oh and by the way—Welcome to WAP! ■

Getting Older and Hopefully Better

CAN YOU BELIEVE that we have now entered the year 2004! Where does the time go? The year 2000 seems that it was only yesterday. Remember how the PC computer users were worrying if their computers would work when the new century began! Remember waiting to see how Mac OS X would look and feel. Remember how exciting and fast the G4 computers seemed. Time certainly marches forward.

So too, does life around the Pi. Yet another Computer Show and Sale has passed. The board is preparing for elections to be held in a couple of months, the by laws have been rewritten and approved by the Board of Directors—and now they are posted on the Pi's web page for all our members to examine and hopefully approve at the January General Meeting.

These proposed bylaws represent major changes for the leadership of Washington Apple Pi, but they are changes which should allow the group to function and prosper in the years ahead while preserving the heart of the organization for our members.

The most obvious change is the way in which the Pi leadership is elected. Under these proposed bylaws, the members will elect the Board of Directors and then the board will select the Presidents, Vice Presidents, Secretary and Treasurer from among its ranks. Presidents cannot succeed themselves and they must have been on the board for at least a year. These policies have been implemented in several of the other larger user groups and they seem to be working well.

Changes have also been proposed for the Director positions. The term of office will be three years. After that time, a director must take a year off before running for election again. For this year's election, members running for office will run for a one, two or three year term. Each year, after this one, the general membership will elect 1/3 of the Board of Directors. Once again, in talking with other user groups, several have found that models similar to this have been beneficial in providing groups with a broader base of volunteers.

It is the hope of the current directors that having staggered terms, a rotation of people running for office, and specific officers elected from within the board will encourage more people to consider joining the leadership team while providing corporate knowledge to the board.

Some have questioned the three year term of office. It is interesting to note that current members of the board have been on it for an average of over 4 years, even with 9 members who have been



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on the board for two or fewer years. This leadership model should also help us to build stronger committees to help with tasks such as the Journal, computer shows, the web page, tutorials, office administration and the monthly and specialty CDs. Committee chairmen do not have to be directors.

Two other major changes to the bylaws includes the method of approval of the bylaws. The old bylaws did not make it clear who could vote to approve bylaw changes. It was possible for the Board of Directors to amend them and then simply publish the changes in the next Journal. The Board of Directors voted to require that all bylaws changes be voted on at a General Meeting. The other change we made was the definition of a quorum. The old bylaws required 100 members to be present at the General Meeting. That is a number that hard to achieve at many of our meetings, so the quorum will be constituted by the members present at the meeting.

These changes will make it more difficult to make wholesale changes to the organization without the consent of the members, and at the same time, it will not make low attendance at a general meeting an impediment to necessary changes.

Many members of the Washington Apple Pi Board and staff have worked together to craft these changes to the bylaws. It was difficult work with some points of disagreement and contention, but the leadership team has reached a consensus. We present the fruits of our labor to you, the general membership. We hope you will recognize the necessity and the value of what is presented here. We hope you will attend the January General Meeting when the vote for ratification of our proposed bylaws will be taken.

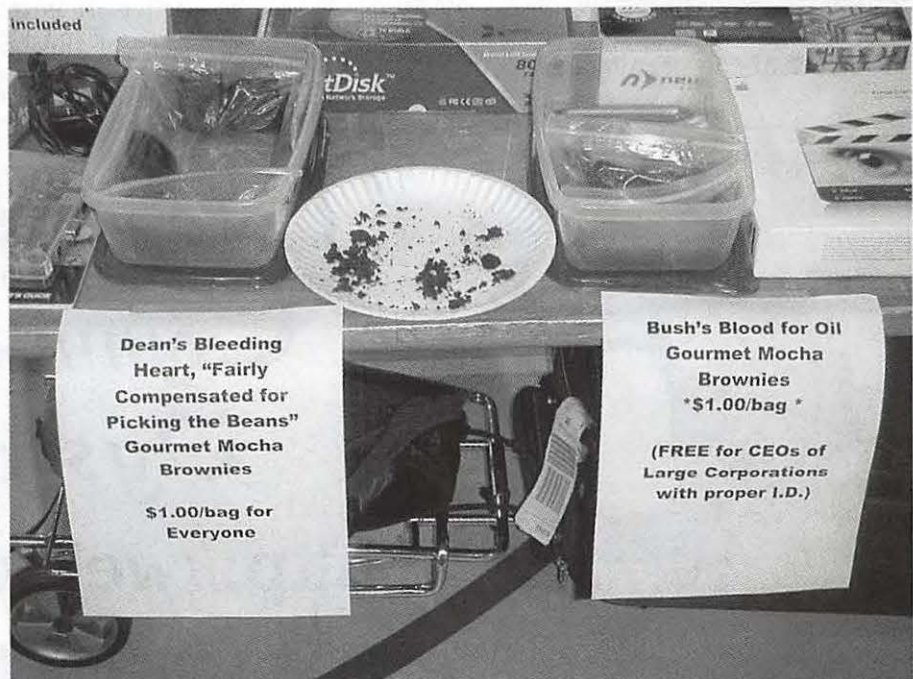
We think these bylaws will lead to a better Washington Apple Pi in the years to come while encouraging greater participation by more of our members in running our club.

I owe special thank yous to several members of the Pi Board and staff. First of all, thanks go to John Barnes who chaired the effort, who helped to build the consensus, and who was the

major author of the articles regarding club leadership and the election process. Thank you, Richard Rucker, for your review of the bylaws as the newest member of the Pi staff. Your comments and questions have helped us reexamine the finer details of the bylaws. Thank you, Lou Dunham for your serious and thoughtful input into the issues of committees and their functions. A special thanks to Jon Thomason for listening to the diverse opinions of many individuals and your skillful crafting of the Committees article that made it possible to finish the process. We also owe special thanks to Lorin Evans, our Past President, who has had the graciousness to allow us to advocate changes without squashing our efforts. His sage advice and attention to detail has been invaluable in the revision process.

I have about six months left in office. There is much to do, but at this point, one more of my major goals has been accomplished. It feels great! Now I need your votes at the January General Meeting. Let's finish this process and move on to new endeavors—ones that are easier to accomplish! ■

Pat Fauquet
President, Washington Apple Pi



Washington Apple Pi's Winter Computer Sale & Show featured these unusual "equal time" brownies, a precursor to 2004. (Photo by David Harris, taken with a Minolta DiMage X digital camera)

Summary of the 8 October Board of Directors Meeting

President Pat Fauquet called the meeting to order at 7:40pm.

Also present were:

John Barnes (Director, Acting VP/Programs)
Greg Bartolett (Member)
Lila Bednar (VP/Membership)
Craig Contardi (Secretary)
Gene Haddon (Director)
David Harris (Director)
Jim Little (Director)
Nancy Little (Director)
Dave Ottalini (VP/Publicity)
Jim Ritz (Director)
Steve Roberson (VP/Volunteers)
Dick Rucker (Member)
Dick Sanderson (Treasurer)

Treasurer's Report: We are behind last year's figures on many revenue categories, such as tutorials, special events, clinic donations, etc.

The Postal Service has refunded a portion of our postage costs retroactive to 1 January 2003, based on a re-evaluation of the ad content percentage in each Pi Journal. We are at 12.5% average ad content vs. 29% calculated by the printing company's subcontractor. Ads promoting our own products DO count in the total, but if cost information is omitted from Macworld bus trip publicity, it does not count as an ad.

Membership: Greg Bartolett spoke about the new version of the membership database for which he is the chief

architect. He is proposing several structural changes be made. Those that had worked with the original database were pleased with what they saw and therefore the board authorized Greg, the VP/Membership, and Steve Roberson (VP/Publicity) to transition over to the new database design at their convenience.

Jim Ritz asked if we are making serious progress to improve the membership turnaround time; not doing so will result in fewer renewals and more frustrated members even if they do renew.

As discussed at the September meeting, the board voted to establish a three-week grace period on termination of services (TCS, wap.org webmail, explorer) for lapsed members. The board also voted to purchase Filemaker Pro server if a donation source cannot be found.

DVD Burner: Pat Fauquet announced that she has purchased the DVD burner on her own. If the board chooses to rescind its previous plan to buy it as a club asset, Pat is willing to charge the Pi a fee for each disc produced henceforth. The board reiterated that the purchase was a Pi commitment, and voted to reimburse her right away.

Store Liaison: Apple Tysons will be closed for renovations for about a month in October and November.



Once upon a time, computer shows were dominated by men, but the Washington Apple Pi Winter Computer Sale & Show had some items aimed at a more feminine audience, such as this mink coat. A portable computer accessory? (Photo by David Harris, taken with a Minolta DiMage X digital camera)

SIG/Slices: John Barnes has prepared a letter terminating the Slice relationship, awaiting Pat's signatures. The Pi will keep the commitments up to the present (i.e. annual remuneration), but henceforth all slices are disassociated. They may become "regional SIGs" in the near future. The board voted yea, with one nay, to disband Slices.

Garage Sale: Need to find out if Ned Langston will coordinate the December Computer Show & Sale as he has in the past. If not, a volunteer will be needed. [The board later found out that Ned will step up to do it.] We need a Santa; John Barnes respectfully declined :-)

Cafepress: Only one sale this month. Publicity/Advertising will be picking up this month with mailing to membership.

TCS Committee: There was a recent problem with mail server uptime due to UPS problems; the UPS have since been replaced.

Tutorials: Low turnout, probably due to late Pi Journal publication, which is the greatest advertising source.

General Meeting: November Meeting will be "Panther-palooza". We will try to get a reseller to sell copies there.

Bylaws: The board agreed to discuss Articles 7-10 tonight.

VII - changed elected officials to at-large board with officers appointed by board. (no vote taken)

VIII - established term limit of one year for president, and a requirement for a full year experience as director to be president. (passes)

IX - elections. (no vote taken)

X - SIGs/Slices : removed article 5 (no vote taken)

Agenda items tabled: Corporate memberships and Pi Bylaws changes other than articles 7-10. The board agreed to continue bylaws discussion on the TCS.

Pat adjourned the meeting at 10:35 pm. ■

Summary of the 12 November Board of Directors Meeting

President Pat Fauquet called the meeting to order at 7:38 pm

Also present were:

John Barnes (Director, Acting VP/Programs)

Lila Bednar (VP/Membership)

Herb Block (Director)

Craig Contardi (Secretary)

Gene Haddon (Director)

Jim Little (Director)

Nancy Little (Director)

Jim Ritz (Director)

Stephen Roberson (VP/Volunteers)

Richard Rucker (Member)

Dick Sanderson (Treasurer)

Lou Dunham (TCS Committee)

Ned Langston (Member, Garage Sale Czar)

(Lawrence Charters was confirmed to be in the same zip code as the board meeting, but only appeared when it was time to provide the Web SIG report.)

The minutes from the October 2003 board meeting were reviewed and approved as written.

Treasurer's Report: Dick Sanderson reported he went through the balances on all accounts for the last three years (01-03). We are presently fairly for all balances combined. Membership figures are close to static or slightly downward.

Tutorials: The late release of the most recent Pi Journal hurt tutorial business significantly, but just today there were seven students for one class.

Office Staff: Herb Block stated that trash in bags needs to be marked as such; otherwise it is sometimes being mistaken for donated equipment. Dave Ottalini replied that anything addressed to him is for the December Garage Sale.

Secondly there is a need for greater coat storage via a

“30 machines were repurposed in the past month. The reclamation volunteers really get a lot of joy out of their efforts. Suitable organizations could do a better job of identifying exactly what they need their machines for.”

coat rack or wall hooks. Dave Ottalini suggested that the Pi library could serve as cloakroom, but there is already other stuff creeping in there. There is someone else willing to come in to help in the office, but she needs specific tasks to do. Several members recommended she sort membership applications alphabetically, inventory the club's software, help enter member data into Filemaker, or make the new/departing member survey phone calls. Dick Sanderson and Jim Ritz said there are enough people doing filemaker updating.

Election: Craig Contardi volunteered to review the election rules to ensure the Pi can use electronic voting and still meet all the journal deadlines.

Facilities: Reclamation project is “out of control” per Nancy. Jim Ritz reiterated the standing policy of accepting only G3-series and later machines, and believes it is being enforced. Machines accumulating in the break room and library are evidence to the contrary, according to Nancy.

Pi Fillings: The office sold a Fillings CD this month. Next on the agenda is a «CD of Browsers». Dave Ottalini talked about his «The Apple /// in Ten EZ lessons» project. Using iDVD, the ten lessons became ten chapters divided over two DVDs. Dave asked for a suggested sale price: \$30 for the pair was well-received. To save postage we will ship in two-disc packaging. Nancy has been helping Dave Ottalini scan the 1982 Pi Journals, with plans to work backward from there. Future topics for Fillings CD include AVP (Audio Video Photography) and an effort to resurrect Pi Fillings Goes to School. Dick Sanderson said that the board will need to make a decision on establishing CD-a-Month subscrip-

tions and retail sales. Lila suggested posing the matter on the TCS BOD thread.

Budget: A major perturbation this fiscal year will be the loss of the chartered bus trip to Macworld New York, and the money it makes. The Pi needs to find an activity or activities to replace it, or it will be nearly impossible to operate in the black based on current expenses.

Macworld Boston Trip: Jim Ritz said that anything we organize would have to be air-based given the greater travel distance to Boston than New York. John Barnes suggested engaging a travel agency. Jim offered to contact his IDG POC to see if they could assist in any way.

Store Representatives: Nancy Little said that the Gaithersburg CompUSA has no Pi liaison, and only the Apple rep there is amenable to our marketing efforts (e.g. passing out Pi literature). Herb Block agreed to be the store rep.

Membership: Filemaker Corp. has generously donated a copy of Filemaker Server to the club for our membership database. Ned Langston has recently asked three dentists who use Macs in their practice why they are not WAP members. None see the value-added of a user's group; clearly we need to break through this mindset.

John Barnes suggested that the holiday season might be a good opportunity to sell memberships via active marketing.

SIGs/Slices: John Barnes reminded the board that the old bylaws allowed us to disband Slices without a referendum vote. He then announced that he was visiting Riderwood (a community for seniors) on November 13th to pitch the idea of establishing a “Riderwood SIG”. Raul, the owner of Absolute Mac, wants to host an upper Montgomery Regional SIG and also perhaps a music SIG. Dave Ottalini stressed the need to recruit full Pi members from both groups, but the policy shall remain that membership is encouraged but not required to attend.

Ned Langston suspects he will not be available for whatever the June activity is in lieu of a garage sale. “garagesale@wap.org” is the one and only address to reach Ned about such matters. Hal Cauthen arranged for the Zoning permit last year that allowed the post-

ing of advertising signs; we need to see if he will do it again. To stave off the loss of vendors, maybe we need a push to brick & mortar local vendors to buy a couple tables each for visibility/publicity.

Program: "Pantherpalooza" has three speakers, but still needs administrative assistance.

Meeting Door prizes: we are low, so if anyone has "white elephant" software please donate it to «the cause». Store reps should ask their clients about item donation

Publicity: Dave bought an ad plugging the garage sale in the Blair HS play.

Tuesday Night Clinic: Jim Ritz reported that it continues to see decent levels of traffic.

Reclamation Project: 30 machines were repurposed in the past month. The reclamation volunteers really get a lot of joy out of their efforts. Suitable organizations could do a better job of identifying exactly what they need their machines for.

New Member class: John Barnes said there were three attendees at yesterday's session. They ran the gamut from laptop lovers to Color Classic lovers.

Journal: 29 Nov deadline for the Jan/Feb Journal.

CafePress: There will be a half-page ad in the Nov/Dec journal. There has been a light flow of sales but we need to stay in this for the long haul. Pat Fauquet reported that CompanyStore.com will start doing user group items in black, which is a CafePress shortfall. For the calendar being sold, Dave Ottalini asked for other people's picture submissions.

TCS: Lou reported that the new Blue & White G3 machine is working very well as a mail server. We have identified another machine flooding our site with ICMP flood denial-of-service attacks via a TCS Explorer account, and have taken steps to shut it down. We are also switching from Heller to Speakeasy for our business DSL service. [NOTE: This decision was later reversed at the December board meeting in response to a favorable offer from Heller to remain their customer].

Dick Sanderson asked why our phone bill went from

"Dave Ottalini talked about his «The Apple /// in Ten EZ lessons» project. Using iDVD, the ten lessons became ten chapters divided over two DVDs. Dave asked for a suggested sale price: \$30 for the pair was well-received."

\$600 to \$800; Jon said that only the first three numbers need long-distance authorization, and we should be able to drop LD on the other 24 lines.

Tutorial: The hard drive was replaced in one of the classroom machines, with a 6GB capacity due to short notice.

Library: We have a benefactor to take our library and pay shipping. We will just need to box it all up. This is crying for a work party. We also need to decide if there are any items we do not want to part with (i.e. inaugural MacWorld magazine). Brian Mason was nominated to coordinate and schedule the party.

BoD Vacancy: With Hal Cauthen's resignation, we have a VP/Programs vacancy. John Barnes resigned his director position and was selected VP Programs. Dick Rucker was appointed to the director slot vacated by John.

Bylaws: The board decided to publish a full-page ad in the Jan/Feb Journal announcing the proposed bylaws via URL link, in lieu of burning pages for just PROPOSED bylaws.

The Board voted, with one dissention, to buy 50 copies of the All-Panther Macworld newstand issue, and to spend \$200 on CafePress items for PantherPalooza (no dissenting votes on that).

The meeting was adjourned at 10:20 PM. ■

iMovie SIG October 9 meeting

AT OUR LAST meeting of the iMovie SIG, the group, about 20 of us, met on the second Thursday, 9 Oct., at Fairfax Public Access (FPA), in Merrifield.

The agenda was in two parts: first, we talked about how the group wanted to continue, then Cyrus Creveling gave us an excellent tutorial on the 'how's and why's' one would assemble a portable field shoot kit.

Regarding how the group wanted to continue, several options were considered and discussed, but what was decided was to reconstitute and shift the emphasis from iMovie to Final Cut (Express/Pro); and to hold future meetings in Northern Virginia, generally at FPA, on the second Thursday of the month, at 730PM. The meetings will continue to be open to all.

It was suggested and agreed that we'd encourage membership for both WAP and FPA at future meetings.

While the focus in the future will be on making the transition from iMovie to Final Cut Express/Pro, all agreed that we will continue to examine and explore all aspects of video making, from story-boarding to set up to lighting/sound, etc.

Cyrus then gave a demo of his portable field kit—his is a big duffle bag, and as we watched him pull out item after item I was reminded of the little Volkswagens that drive up the the center ring in the circus, from which an astounding number of clowns pour out! Similarly, Cyrus showed and explained the use of varieties of fasteners, different tapes, various electrical cables and connectors, spare batteries, and tripods. He had prepared a pre-shoot checklist, and explained why an advance visit to the site of the shoot was a good idea, had a form to aid him in filling out a shot list— all the things one should do to really 'get it right.' ■ —Hal

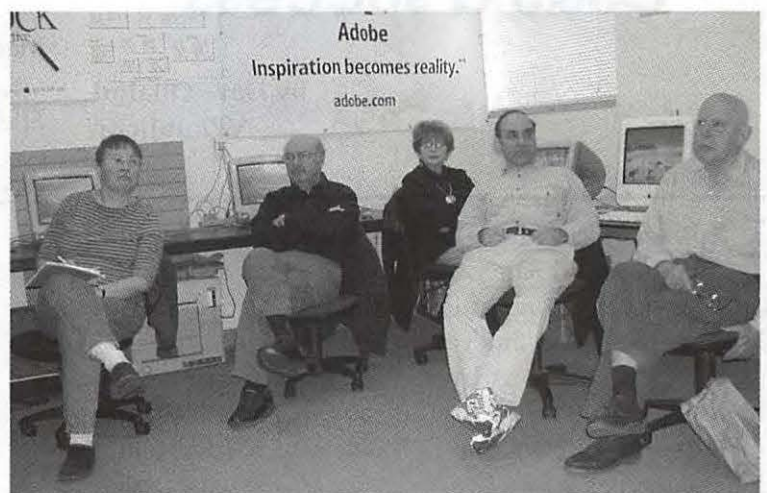
WAP New member Orientation Program

by John Barnes, VP programs

THE PI HAS RECENTLY introduced a sessions of orientation sessions to welcome new members. They are designed to provide an overview of the club's many facets and to give new users an opportunity to practice using our electronic communication tools. Making the acquaintances of a few Pi "faces" is another benefit. The sessions take place in the Pi classroom and are offered at a variety of times. There are weekday daytime sessions, weekday evening session, and weekend daytime sessions.

Each session draws three to five attendees. The sessions start off with an Apple Keynote presentation outlining the Pi's activities. A tour of the Pi Web site provides reference points and a more in-depth look at some activities. The Special Interest Groups are discussed in some detail. The Pi calendar and the Electric Pi are identified as primary information sources.

"Members Helping Members" is spotlighted through the Tuesday Clinics and the Pi's online electronic forums, the TCS. The last hour of each session is devoted to TCS practice. Members are taught how to sign on, set their preferences, and browse the TCS message boards. As a final exercise they are asked to post a note of their own choosing as a means of get-



New members spend a Saturday morning learning about Washington Apple Pi people and programs. (Photo by Gene Haddon, taken with a Nikon CoolPix 885 digital camera.)

ting into our online community.

A brief break between the presentation portion and the practice session provides a chance for some informal schmoozing and light refreshment. Pi volunteers drop by to help the newcomers with practice and to fill them in on points that the presentation may not have emphasized enough. These people provide, as mentioned earlier, a "face" to the Pi. The front desk team and Dick Sanderson have been particularly active contributors.

We have been finding that many of these people have misplaced their Pi account information and Nancy Little and Dick Sanderson have been kept hopping to provide them with usernames and passwords.

The participants have been very enthusiastic about these introductions to the Pi. We hope to carry this activity forward and perhaps expand it in the months to come. Keep an eye on <http://calendar.wap.org> for dates and times of upcoming sessions. Email questions or suggestions to newmembers@wap.org. ■

Vendors who helped make the December CS&S a success

by Dave Ottalini
VPPublicity

ONE OF THE reasons our December Computer Show and Sale was such a success was because of all the companies who helped support our hourly give-aways and freebie offerings.

In fact, this was by far the best response we have ever had from a wide range of vendors that included Mac magazine publishers to software and hardware vendors.

Those attending seemed to especially like the freebies this year - we went through some 10 cases of magazines, for example and virtually all the other CDs,

handouts and give-aways. The University of Maryland provided some wonderful bags that promoted its bookstore as well as the upcoming Maryland Day open house on April 24th.

Below is a list of the vendors who helped us. We hope you'll check out their products and support them. And if you do order their products, be sure to say thank you for supporting Washington Apple Pi.

The listing is in no particular order:

The MUG Store	Tee's; Mouse Pads
http://www.applemugstore.com/	
MacDirectory Magazine	MacDirectory Magazine
http://www.macdirectory.com	
The University of Maryland	Bags
http://www.umd.edu	
iSkin	iSkin Products
http://www.iskin.com	
Aladdin Systems	Product Demo CDs
http://www.aladdinsys.com	
TekServe	Product Catalogs
http://www.tekservice.com	
Griffin Technology	PowerMate USB Controllers
http://www.griffintechnology.com	
MarWare	iPod SportSuit & CEO Glove
http://www.marware.com	
PowerOn Software	NOW Up-To-Date/Contact
http://poweronsoftware.com/	
SmallDog Electronics	Catalogs and Handouts
http://www.smalldog.com/	
MacTech Magazine	MacTech Magazine
http://mactech.com/	
MacGoldBook	Online Mac Discount Book
http://www.macgoldbook.com/	
FileMaker, Inc.	Demo FileMakerPro CDs
http://www.filemaker.com/	
Digital Juice	AV Products Catalog
http://www.digitaljuice.com	■

TCS Room Cleanup 2003

EACH YEAR THE Pi's TCS Committee manages to collect, usually through no effort on their part, a wide assortment of "things" intended to help them support the club's telecommunications infrastructure. These things range from donated hardware and software to random, unidentifiable, but techno-looking gadgets that people think the Crew might need ("I don't know what it is, exactly, but maybe it can speed up the modems, maybe") to one of the largest collections of stuffed, papier-mâché, wooden and plastic penguins in all of Rockville. Eventually there comes a point at which someone says, "We should clean up this place!" and a weekend cleanup project is born.

This year, the project erupted, with little advance planning, a week before the Winter Computer Garage Sale, and a great deal of "stuff" was carted out into the meeting room at the Pi's plush offices in Rockville. An extensive sifting process then ensued as the wheat was separated from the chaff, the working monitors separated from the dead ones, the identifiable gizmos from the entirely alien, and the useful cables from the, um, useless. Here you see two views of the pre-sifted collection, one from the "beige monitors and computers" end and one from the "pile of penguins" end. ■



(Photos by David Harris, taken with a Minolta DiMAGE X digital camera)

Calculating Pi: Redesigning the Washington Apple Pi Web Site

by Lawrence I. Charters

Fellowship of the Redesign

THE WASHINGTON Apple Pi site premiered with a new look and feel in September 2003 after a lengthy incubation. The Pi site, like most busy World Wide Web sites, has been in a constant state of evolution since it first appeared in the last millennium. In the spring of 2003, we decided on a more serious and studied redesign effort. Dozens of people were consulted on what was needed, what was desired and what was possible. Numerous proposals were suggested, and half a dozen people mocked up a few working pages, while a couple others drew out sketches.

It soon became clear that virtually everyone is, quite legitimately, qualified to be a Web critic. Novices have concerns about ease of use. Pros have concerns about efficiency, conformance to standards, and subtle elements of style. Alpha geeks are eager to use the very latest versions of server and browser technologies. All told, there were several hundred suggestions (dating back to early 2002), with a great many of them in conflict.

In the end, the redesign was mostly the product of two people: Sheri German and Lawrence Charters. Many others reviewed the site in various stages, and made valuable suggestions, but these two individuals wrote all the underlying code and pages.

Significantly, they've never met. Nor have they ever had a conversation on the telephone. All the work was done through electronic mail (several hundred messages) and joint remote editing of HTML pages on the Pi server.

In the dazzling bright world of the 21st century, you

"It soon became clear that virtually everyone is, quite legitimately, qualified to be a Web critic. Novices have concerns about ease of use. Pros have concerns about efficiency, conformance to standards, and subtle elements of style."

really can undertake a major collaborative effort without ever meeting your collaborators or holding a face-to-face meeting. Through E-mail, you can talk about children, the weather, work demands, politics, the decline of English, good movies – and redesigning Web sites – and get real work done.

The Two Towers

While the World Wide Web isn't that old (the first Web server in the U.S. debuted in December 1991, in an all-text format), it is more than old enough to have gone through several generations of technology, developers, designers, advocates, critics, and gurus. In that short period of time, one lesson has come through loud and clear: redesigning a Web site is one of the most dangerous things you can do.


To artists, a redesign is an opportunity to be artistic. To technologists, it is a time to show off technology. To managers, it is a time to exert management – especially on those unruly, undisciplined, and frequently non-communicative artists and technologists. (Being called "non-communicative" by a manager is one of the more interesting ironies of modern society.) To critics, it is a time to complain. To organizations, it is often a time to shine – or die.

Redesigning a Web site can kill an organization. The dangers are numerous, but here are the more common ones:

- The redesign takes up too much time and

money, killing the organization. Some businesses have invested so much in their Web site designs that they lacked the capital, and energy, to continue in business, and folded;

- The redesign is so cutting-edge that it is unusable. Several dozen sites were so enthralled with the PNG graphics format when it first came out that they redesigned their entire sites with nothing but PNG images. Unfortunately, the vast majority of Web users at that time were not using browsers capable of viewing PNG graphics so, despite the clear technological advantages of the PNG format, the sites (and the organizations) died: nobody could see them. This problem is not unique to PNG; countless other sites made similar errors by investing heavily in some non-standard technology, and suffered a similar fate;
- The redesign is so "heavy" it is unusable. "Page weight" is one of the most commonly ignored factors during a redesign, yet it is also one of the most critical: if a page is so loaded with graphics or text or tables or animations that it loads very slowly, impatient Web viewers won't try very hard to visit. A common mistake is for a designer to fall into fantasies of greatness: "Well, CNN [or Disney, or Toyota, or IBM, or some other household name] has pages *just* as graphics intensive." But unless you are as famous as Paramount Pictures or Apple Computer, visitors won't stick around, and nobody will see the site;
- The redesign is simply annoying. "Annoying" is subjective, and can take many forms. One common error is thinking, for example, that purple text on a black background looks very edgy and state-of-the-art; to most people, it is simply hard to read and annoying. Some designers think "mystery meat" navigation – where the user is forced to hunt and click on various unlabeled oddly-shaped graphics to find their way around – is cutting edge, but most visitors find it simply annoying. Other designers believe an opening page which tells you to wait while a massive Flash animation downloads is state-of-



Washington Apple Pi, a community of Apple and Macintosh users. Since 1978.

Washington Apple Pi is an international user group, with a history spanning three decades to the dawn of personal computing. "The Pi" continues to serve users of the very first personal computers as well as users of the most modern, advanced systems through its meetings, magazine, computer bulletin board and Internet services.

January 18, 2001

About Washington Apple Pi

[Pi Leadership Contacts](#)
[Event Calendar](#)
[Next General Meeting](#)
[Past General Meetings](#)
[General Meeting Map](#)
[Tutorial/Office Map](#)

Pi Membership Benefits

[Pi Membership Application](#)
[Tutorial Descriptions](#)
[Pi Fillings CD-ROM](#)
[Pi Fillings Goes To School CD-ROM](#)
[Online Product Order Form](#)

Tour the Pi

[TCS Bulletin Board](#)
[Explorer Internet Service](#)
[Tuesday Night Clinic](#)

TCS Member Help

- TCS (bulletin board) configuration
- Explorer Internet configuration
- E-mail configuration
- Web browser configuration

Pi Community

[Member Web sites](#)
[Columbia Apple Slice](#)
[Friedrich Apple Slice](#)
[Apple II Information](#)
[Apple III Information](#)
[iMac Information](#)

electric pi: online journal

[electric pi table of contents](#)
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[Online Index 1994-1999](#)

Pi Information

[Pi User Group List](#)
[User Group Specials](#)
[Family Activities](#)
[Technical Information](#)

Pi Photo Archive: 20 years of Pi

Apple will be on hand January 27, MMI

Washington Apple Pi anxiously expects Apple for the January General Meeting. They haven't exactly expressed their expectations for the meeting, so we won't exaggerate or fixate on the 24th letter of the alphabet. Maybe they'll tell us something about Element 22 in the Periodic Table. [Jan. 27, 2001]

Office: Mac 2001

Released in October 2000, the latest version of Microsoft Office for the Macintosh features an expanded entourage with Word, Excel, PowerPoint and something new. Microsoft will demonstrate their latest wares at the [February General Meeting](#). [Feb. 24, 2001]

Nominations Due

It may seem a long way away, but the May elections are fast approaching. Send your nominations for Pi officers to secretary@wap.org. Due date: February 24, 2001.

Summer Computer Camps

Summer computer camps will be offered for youth, parents/teachers and seniors this year. Details will be posted soon. [July-Aug. 2001]

MacWorld New York Bus Trip

Washington Apple Pi will sponsor another bus trip to MacWorld Expo New York, this year on July 19. Again, details will be posted soon. (We have [photos](#) and [more photos](#) of last year's trip.) [July 2001]

Untangling the Mac OS X Desktop Application

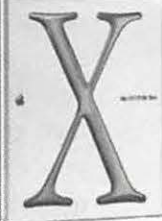
The Pi's own Jon Thomason takes on the Desktop application of the Mac OS X Public Beta. Find out where the Mac OS tradition and the NeXT tradition collide—and what can be done about them. A [public letter](#) to Apple, reprinted from the November/December 2000 Journal. [Nov. 2000]

Pi Winter Garage Sale

Yes, the last Garage Sale of the 20th century is over, and as soon as the Webmaster stops goofing off, we'll post pictures. Stay tuned. [Dec. 2000]

User Group Specials Page

A new page highlights a variety of special [industry deals](#) available to members of Washington Apple Pi. [Oct. 2000]



MMI: A software odyssey.

The opening page of the Pi Web site as of January 18, 2001. Note the classic Washington Apple Pi logo (reversed from that shown on the Journal), the text section describing the Pi as part of the banner, and the colored boxes for different sections of the Web site.

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the-art; most people, again, think it is simply annoying. Generally speaking, almost any site that was "redesigned" with animations, graphics and funky text simply to look "cool" will be found, in the end, to be annoying. Annoying sites die, though probably not fast enough;

- The redesign banishes text in favor of graphics. This is actually fairly subtle; what's wrong with graphics? The answer is: graphics should not replace text. If your opening page gives the name and purpose of your organization, and you decide it would look better done up as a nice graphic with state-of-the-art typography, you've rendered it invisible. By far the vast majority of most Web visitors come to any given site via search engines, and search engines can't "see" graphics; they only index text. Even Google's famed graphics search engine actually indexes the names of graphic files and their text ALT tags. By redesigning a site with little or no text, the site vanishes from search engines – and people stop coming to visit;
- The redesign throws everything away, and starts over. This is *the most common* fatal mistake. If you start from the premise that a given Web site has content, and the content has attracted visitors, or customers, or fans, or users, then throwing the content away is obviously a bad idea. Browser bookmarks no longer work, links from other sites break, and search engine entries are useless. For all practical purposes, the site has died – and yet managers, interested in exerting "management control," or designers, interested in exerting "artistic freedom," make this error more often than any other.

Obviously, a redesigned Pi Web site should be an improvement on the old. We needed to avoid coming up with something that was annoying, or that depended on some technology not generally available, or that sucked up so much time and resources that it became an oppressive burden, impossible to complete. After stripping away all the usual methods of killing a Web site through redesign, we came up with two main goals: **preserve content**, and **improve accessibility**.

What, exactly, does "content" mean? Simply stated, the Washington Apple Pi Web site is huge. While Apple and IBM have Web sites that dwarf the

Pi's, in fact the average Web site is four pages, or less. The Pi Web site, in contrast, has thousands of pages, some of them written nearly a decade ago (the original site ran on a PowerBook 140). It serves as a "site of record," telling the world not only what the Pi is currently doing, but what we did ten years ago, or even 25 years ago.

Every month, the most commonly viewed pages on the Pi site are the opening pages, contacts pages, and forthcoming events pages. But the most heavily visited sections of the Pi site are those devoted to reprints from the *Washington Apple Pi Journal*, or photo essays and meeting reports from past meetings and events. While the average Web site gets only around 5,000 "hits" a year (yes: per year); the Pi Web site gets far more traffic every day.

"Accessibility," the other main goal, has many different meanings. In the simplest sense, it means: can someone actually view a page before expiring of boredom? Despite predictions that "everyone will have broadband" in the 21st century, most Internet users aren't even sure what "broadband" means, and still use dial-up modems for access, so the redesigned site needed to load as rapidly as possible, even over a modem. We also had to assume that some Pi members would stick to older browsers, slower machines, and small monitors. While we didn't make any special effort to handle PDAs or the needs of the visually impaired, we also tried not to do anything that was obviously incompatible with such access.

There was another kind of access almost as important: access for content providers. Over 100 different individuals have written pages for the Pi site, ranging from SIG (Special Interest Group) pages to documentation for various Pi activities to configuration pages to meeting notes. We wanted to come up with a template that would take care of the look, feel and basic navigation, and leave the content providers – Pi members who volunteered (or were volunteered) to handle specific sections – to worry about the content itself.

Return of the King Content

Of course, there were some other considerations, too, with perhaps the biggest being "branding." When you look at a Web page on the Pi site, is it obviously a Washington Apple Pi page? This seems a trivial question, but Washington Apple Pi has, since its founding, been misidentified as being in Washington State. The Pi site has tried to over-

come this by having a red, white and blue color scheme, and by using the Capitol dome in the logo. Yet we still receive E-mail from vendors asking "where do you meet in Seattle?" and "Can you arrange a visit to Microsoft for us?" One vendor representative, after doing a demonstration at one of our General Meetings, was even quoted on his firm's Web site as saying he was treated warmly by the "fine folks at Washington Apple Pi in Seattle." He flew from San Francisco to Dulles and back and thought he was in Seattle?

Our challenge, then, was to see if we could enhance the "branding." Inspired in part by the vividly colorful interface of Mac OS X, we experimented with using more saturated colors to emphasize the red, white and blue color scheme. (Evergreen green, in particular, is *out*.) This requires a fair degree of subtlety, since thousands of organizations in and near Washington, DC, drape themselves, and their Web sites, in the US flag. We didn't want to appear to be a political party, or a lobbying group, or a Beltway bandit vying for a government contract.

While we were working on the idea,

WASHINGTON APPLE PI

Home | Calendar | Store | Webmail | TCS Forums | Contact Us | © 1977-2003 Washington Apple Pi

- ▼ About the Pi
- ▼ Member Benefits
- ▼ Tour the Pi
- ▼ Pi Online Journal
- ▼ TCS Member Help
- ▼ Pi Community
- ▼ Pi Information
- ▼ Pi Photo Archive
- ▼ FAQ (Infrequently)

Washington Apple Pi, Ltd.
 12022 Parklawn Drive
 Rockville, MD USA 20852
 301-984-0300
 Contact: webmaster@wap.org
 This entire site ©1978-2003
 Washington Apple Pi, Ltd.

Web Standards

This site has been constructed with the goal of complying with Web standards. What this means is that code is checked against the W3 validation services for markup as well as CSS. Also, universal accessibility features are built in to provide the information to as many people as possible, including those with disabilities. We still have some work to do...

W3C XHTML 1.0
 W3C CSS

Welcome to Washington Apple Pi

Washington Apple Pi is an international user group, with a history spanning three decades to the dawn of personal computing. The "Pi" continues to serve users of the very first personal computers as well as users of the most modern, advanced systems through its meetings, magazine, computer bulletin board and Internet services.

Hot off the Presses!

- ❑ [Winter Computer Garage Sale 2003](#) December 13, 2003 will feature the East Coast's largest Macintosh and Apple event held that day (that we know about). Get the commemorative poster! Get a few bargains, too. We have [pictures](#) (lots and lots of pictures) of what it was like last December. [November, 2003]
- ❑ [The Apple /// In Ten EZ Lessons](#) Over two decades in the making, this DVD set contains a massive compilation of all things Apple ///, including a video tutorial on how to use this groundbreaking machine. [November 2003]
- ❑ [Washington Apple Pi Goodies](#) You can now get Washington Apple Pi T-shirts, golf shirts, baby clothing, mugs, clocks, teddy bears, caps, bags and more, with Pi logos, 25th anniversary logos or TCS logos. [Sept. 2003]
- ❑ [Are You Ready for Some Football?](#) The famed TCS Football Pool has returned. See how good you are at predicting the future. Pi membership required. [Sept. 2003]
- ❑ [Volunteer Opportunities](#) The Pi is looking for people interested in computer recycling, with accounting experience, graphic artists, editors, office volunteers, and other talents to help with current and future projects. [Sept. 2003]
- ❑ [Pi 25th Anniversary Party and Meeting](#) It all started long, long ago, in a different century. [Movies](#) available now. [June 2003]
- ❑ [TCS 20th Anniversary Open House](#) We have the photographic evidence that a good time was had by all. Plus: a poster we forgot to distribute. [June 2003]
- ❑ [Now Appearing on the TCS](#) Results of the TCS football pool, more than you probably want to know on Windows viruses and worms, and other mysteries and wonders. Pi membership required. [Sept. 2003]

Articles, nouns, verbs from the Journal

- ❑ [Evaluating an iBook Under Field Conditions](#) Taking an iBook places you probably haven't dreamed of going.
- ❑ [Bring Standards to Your Web Pages](#) Living in a dream house is possible through the magic of Web standards.
- ❑ [Blackout](#) What to do after the lights come back on.
- ❑ [Macworld CreativePro July 2003](#) Having fun on the Pi's day trip to the Big Apple.
- ❑ [Macworld CreativePro in Pictures](#) Washington Apple Pi attends the first ever Macworld CreativePro.
- ❑ [Leadership Retreat](#) No, they weren't running away, but the Pi leadership did spend a day at the historic Army-Navy Country Club.
- ❑ [Protect Your PC: Helping Microsoft](#) Washington Apple Pi offers suggestions on how Microsoft can help protect PCs. We do it as a public service.
- ❑ [Basic Webmail How-to](#) Read your Pi E-mail from anywhere on the planet, using just a browser.

PHP and MySQL

- ❑ Three articles explore bolstering your [Mac's Web server with PHP and MySQL](#), progressing into [adding forms with GoLive](#), and exploring [database-driven Web sites](#).

User Group Specials Page

- ❑ A variety of special industry deals available to members of Washington Apple

The opening page of the Pi Web site as of December 11, 2003. The Pi logo has been modified to make it more horizontal, the description of the Pi has been removed from the banner and placed in the text, and the side navigation has been collapsed into expandable buttons.

another group in the Pi was investigating the idea of a new logo. This actually caused us some momentary panic: do we proceed with our existing logo, or wait and see if someone comes up with a new one? Since creating a good logo is a complex task that can take months, and sometimes years — you need something that can be blown up large on a poster, but also look good on a business card — we decided to “proceed until apprehended.”

Through the judicious use of server side includes (SSI) and cascading style sheets (CSS), we also had a fallback strategy: we could change — everything — with relative ease. Server side includes allow you to define a portion of a Web page — typically the banner, side navigation, and footer — as independent pieces of code that are never actually part of the Web page code itself. The server, in response to requests from visiting browsers, assembles the page dynamically, from component parts. External cascading style sheets use a similar idea to control the look of text and layout on a page, without actually being part of the page code. If the Pi were to adopt a new logo tomorrow, we would (after first grumbling about all the work involved) change one simple text file, add one new graphic element — the new logo — and all the pages would magically change in an instant.

When the new design premiered in September 2003, the planning paid off. The content was still there, but it certainly didn't look the same, and under the hood there were vast differences. Content was still king, but with a new wardrobe.

Fourth book in the trilogy

There is still much work to be done, thousands of pages, in fact. Many of the Pi pages were created so long ago that no special HTML editing tools existed, so they were written with TeachText, and are by no measure compliant with the new, improved, Web Standards-compliant design. Converting thousands of pages over to the new design will take lots of volunteer time. Some pages, such as photo galleries of various Pi events, may never be converted; they work fine as is and, except for not following the new layout, there is no compelling reason to spend the time to convert them. On the bright side: for those pages that are converted to the new design, CSS and SSI technology will make future redesigns very easy.

At least one huge section, “Electric Pi,” the reprint section of the *Washington Apple Pi Journal*,

requires special attention. This is essentially an entire Web site within the Web site. Do we simply use the main site design for this section, or do we come up with a separate design that gives it a distinctive, but related, feel? We're still debating this issue ourselves, and may not even have an answer, much less a design, by the time this article appears in print.

We've tried, in this article and the companion article, “The Revolutionary Pi,” to give some idea for the challenges, considerations, technology and techniques involved in undertaking a major Web site redesign. This effort involved a large cross-section of Pi members, with varied interests, different types of expertise, and occasionally differing goals. Eventually, it all came together.

Even if the two main designers, living less than ten miles from one another, never managed to meet.

Resources:

Tyrantula is an interesting, free tool that allows you to look at the underlying structure of a Web page, doing a text analysis, content analysis and descriptive analysis, plus information on the host software. You can also view the source code (color coded), and get statistical information on each individual graphic on the page. It is Mac OS X-only: <http://www.animalaesthetics.com/tyrantula/>

Free Ruler is a free, on-screen, floating ruler that can be set to inches, picas, centimeters or pixels. It is an almost indispensable tool for checking on the width of a Web page, since Web users are willing to scroll vertically, but hate to scroll horizontally. During the redesign of the Pi site, we wanted a design that would just as well at 500 pixels across as it would at 900 pixels across, and Free Ruler helped us check our work. It is Mac OS X-only: <http://www.pascal.com/software/freeruler/>

BLT (Braxton's Link Tester) is a great tool for “auditing” Web sites: you point it to a Web site, and it checks all the links, reporting back missing pages, graphics and other elements. As of this writing, the current version (version 0.2) works fine with Mac OS X 10.2, but will not export results under Mac OS X 10.3. The author has said he'll look into it when he has a chance. It is free and, as mentioned, Mac OS X 10.2 only: <http://www.braxtech.com/blt/>

“To artists, a redesign is an opportunity to be artistic. To technologists, it is a time to show off technology. To managers, it is a time to exert management...”

Macintosh standards-compliant browsers

Netscape browser archive (Netscape 7.02 is the last pre-Mac OS X browser from Netscape):

<http://wp.netscape.com/download/archive.html>

Current Netscape browser:

<http://channels.netscape.com/ns/browsers/>

Camino browser (Mac OS X only):

<http://www.mozilla.org/products/camino/>

Firebird browser (Mac OS X only):

<http://www.mozilla.org/products/firebird/>

Mozilla browser: the last Mac OS 9-compatible version, 1.2.1, is available here:

<http://www.mozilla.org/releases/old-releases-1.1-1.4rc3.html>

Current versions of Mozilla (Mac OS X-only) are available here:

<http://www.mozilla.org/releases/>

Safari browser (Mac OS X only):

<http://www.apple.com/safari/>

OmniWeb browser (Mac OS X only):

<http://www.omnigroup.com/applications/omniweb/>

Microsoft Internet Explorer (Microsoft seems to love ugly URLs):

<http://www.microsoft.com/mac/products/internetexplorer/internetexplorer.aspx?pid=internetexplorer> ■

The Revolutionary Pi

by Sheri German

UNLESS IT'S a tavern or bakery preserved in Williamsburg, no building can escape modernization forever. The Pi Web site "building" is no exception. Though its structure has served the organization well over the years, the "Web Standards" revolution made the idea of a redesign seem more compelling than the previous daydreaming and thoughts of "some day." When Lawrence Charters, long time Pi Webmaster extraordinaire, asked me to take a look at the current pages, I enthusiastically took on the challenge to tear down the structure of the site and give the content a more modern look.

Lawrence and I exchanged a flurry of emails so we could come to consensus on some key issues. Would we eschew tables in favor of Cascading Style Sheets Positioning (CSS-P)? How far back did we want to go in browser support? What color scheme did we want to use? Should we keep or scrap the current logo? How many images did we want to include? What would we do with all of the text on the opening page? In this article, I hope to share our thinking about how we answered these and other questions.

Creating Blue Prints

Lawrence put copies of the important Pi pages on a testing server and I flipped through enough of the pages to sort out ideas and develop recommendations. Lawrence was firm about Netscape 4.x support, and I assured him that that would be easy to provide. Other than his wish to accommodate this older browser, however, he gave me license to go as modern as I pleased. All the way, I asked? He gave an enthusiastic "yes!"

At the outset, then, we decided on "Web standards," XHTML, Cascading Style Sheets for design, and minimal images for low page weight. I chose a nifty little navigation system devised by Al Sparber's Project Seven to give both some "gee whiz" factor and to solve the "links out of control" problem. We also decided to keep the red, white, and blue Pi color scheme, modify the logo somewhat (but keep its essential character), and attempt to keep as much of the voluminous text on the opening page as possible. Let's look with a little more



Washington Apple Pi, a community of Apple and Macintosh users. Since 1978.

Washington Apple Pi is an international user group, with a history spanning three decades to the dawn of personal computing. "The Pi" continues to serve users of the very first personal computers as well as users of the most modern, advanced systems through its meetings, magazine, computer bulletin board and Internet services.

The old Pi Web site banner included the traditional logo, with text to the side describing the Pi. The logo itself was a mixture of black, brown, tan, white and red.

depth at how we accomplished all of this.

The Bulldozers Arrive

If you read my article "Building Your Dream House" in an earlier *Journal*, you would know a little about Web Standards. In a nutshell, Web Standards attempt to bring some sanity—if not the promise of some consistency—to the Internet Web experience. Care in the choice of browser-crashing bells and whistles, consideration for the disabled, concern for page weight and download times, separation of design and content, and, when followed to the letter of its laws, full use of Cascading Style Sheets for page layout, are all aspects of the Web Standards revolution.

The development of HTML stopped with 4.01, and XHTML is now the markup language that the W3C (World Wide Web Consortium) promotes. Though many, and probably most, Web pages still use HTML 4.01 or even HTML 3.2 (Lawrence tells me there are Pi pages with HTML 2!), we decided to go with XHTML as a way to "future proof" the Pi Web site. There are not that many differences between HTML and XHTML, but XHTML offers a bridge to its more complex markup sibling XML, and provides support for alternative browsing experiences with devices such as PDA, cell phones, and assistive technologies. Some of the requirements of XHTML are that all tags are lowercase, and all tags must be closed, even the `
` or `` tag. These now must be written as `
`, or for better compatibility with old browsers that don't understand this, `
` (with a space before the closing slash). It was pretty easy to tear down the old HTML pages and build a new XHTML foundation.

After donning its new XHTML outfit, the opening page of the Pi Website proudly passed an XHTML validation test at the W3C (World Wide Web Consortium.)

While many consider such validation something akin to a vanity license plate, Lawrence correctly pointed out that such testing keeps our markup pure and honest. Mistakes do creep in, but intermittent testing can show us our errors so that we can clean up our markup. Clean markup will ensure that our pages run in the future as less forgiving, strictly standards compliant browsers dominate the scene.

Decorating the Foundation

Now that we had our markup in place, we needed to work on our new look and feel. One of the most dearly held principals of Web Standards is the separation of presentation and content—or to put it another way, design and information. The new pages themselves are very spare and contain only the essential XHTML markup. Where the earlier site was littered with such anachronisms as the deprecated `font` tag, the new site only includes essential information such as `<h1>` for heading level one, `<p>` for paragraph, or `
` for line break.

Before:

```
<h1><font COLOR="#FF3300">Welcome to Washington Apple Pi.</font></h1>
```

After:

```
<h1>Welcome to Washington Apple Pi</h1>
```

Solving our Netscape 4 Problems

Colors, fonts, font sizes, and other presentational information are all written into two external style sheets. One of these style sheets is linked in the head of the pages, and it contains all of the information that the CSS-



The new Pi Web site banner has essentially the same logo, but drawn out more horizontally, and done in shades of blue, white and red. On the right, a small photo of Pi members (from a Tuesday Night Clinic) has been added.

challenged Netscape 4 versions can understand. The other one is "imported" into the head of the pages, and it contains all of the presentational information that a fully standards compliant browser can understand. Since Netscape 4 doesn't understand the @import directive, it merely ignores the more comprehensive style sheet and takes its orders from the first (linked) one. We solve our Netscape 4 support problem while at the same time providing all the glory of full CSS for those who have Web Standards supported browsers (i.e., Mozilla, Camino, Safari, Netscape 7.x, etc.). We go one step further, too. Even someone with Netscape 1.x should be able to access the information on the page. The design won't be pretty, but it won't crash the browser, either.

[We are well aware that Netscape 4, in all its many various versions, remains wildly popular with the pre-Mac OS X crowd. If you are using Netscape 4 and would like to update your browser to a Web Standards supported one, but are reluctant to leap all the way to Mac OS X, see the section on browsers in the References at the end of this article.]

The beauty of writing the design information into an external style sheet is that one need only write the declaration once, and it then cascades throughout the site to style every single instance of a particular tag. For instance, we added this information to our style sheet for the paragraph tag when it appears in our main content area:

```
#maincontent p {
  line-height: 1.7;
  font-family: "Lucida Grande",
  Verdana, Arial, sans-serif;
  font-size: 14px;
  color: #333333;
  margin-right: 60px;
  margin-top: 0px;
}
```

Now, rather than have to include font tags every

single time we create a new paragraph on a page, we need do nothing at all. The style sheet will automatically add all of the color, size, and other presentational information to each and every one of the paragraphs within our main content area. We could also create a separate paragraph style for a different area of the page. For instance, in our sidebar section, we have a sidebar paragraph style.

The other advantage of Cascading Style Sheets is that there are capabilities in them that plain old HTML does not have. For instance, CSS allows for leading (or line height) between lines of text. CSS allows for creating the look of a button for links with the use of text only. CSS allows for layering of elements. CSS allows for conditional hiding of various elements on the page. There's much more, but let's look at that last feature next.

One of the largest problems with devising a new design for the Pi site was the "links gone out of control" problem, especially on the opening page. Al Sparber at Project Seven created a wonderful navigation system that enables the expanding and collapsing of categories of links. After Lawrence organized the links into the categories he wanted, I put them into CSS button groups. Al's script uses two CSS classes, one called "hideit" and one called "showit" to enable clickable buttons that hide and show all of the sublinks in a particular category. CSS has a "display" feature that includes a choice of "none." The "hideit" class calls on "Display: none;" to hide the sublinks upon clicking the button. Now you see them; now you don't!

The other beauty of this system is its accessibility. Unlike some scripts that crash older browsers that don't "get it," this system is completely harmless. Netscape 4 doesn't understand what's happening, and so merely presents the page with every link and sub link showing. The entire navigation set is presented, and stays presented, in its fully expanded state.

Our next choice involved using CSS-P (Cascading Style Sheet Positioning) for layout. Traditional Web pages use table cells with no borders to create layouts.

A layout table might have a cell at the top to house the banner, a tall left-side cell to organize the navigation, and one or two cells on the right to support the content. The CSS-P we used, however, made table hijacking unnecessary. Instead, we give coordinates, the sound of which might remind one of a bingo game at the local church. Let's look at how it works.

First we prepared the page with `<div>` or divisions. Here is our essential structure:

```
<div id="logo">
</div>
<div id="sidebar">
  <div id="navbar">
</div></div>
<div id="maincontent">
<div id="footer"></div></div>
```

We have a logo area for our banner, a sidebar area for navigation and sound bites, and we have a main content area for the meat of the page. Once the page is divided into these sections, all we need to do is set the coordinates in the style sheet. For instance, here is the information for the logo division of the page:

```
#logo {
  margin: 0px;
  padding: 0px;
  position: absolute;
  left: 0px;
  top: 0px;
  width: 100%;
}
```

First we tell the browser to forget its default margins. Most browsers have margins such as you have in your word processing documents. We wanted our banner to start right at the edges of the browser window, so we set the margin and padding to 0. We then told the browser that we want the logo area itself to hug the very top and left of the screen. We also set the width of the logo to 100% of whatever size window each person has open.

Here are the coordinates for the sidebar. Our "Bingo game" tells the sidebar division to start 150 pixels from the top and 10 pixels in from the left. The overall width of the division is 210 pixels.

```
#sidebar {
  position: absolute;
  width: 210px;
  left: 10px;
  top: 150px;
}
```

The lovely thing about all of this is that if we want to change the entire look of the site some day—or even to decorate for the holidays—all we have to do is create a new style sheet. Every page in the site will obey the new design with one flick of the switch.

A Few Good Images

Well, how about images? All of this talk of technical matters leaves the impression that we didn't agonize over the use of images. We knew one thing for sure: we didn't want to load the pages with big images that would increase download times for our large population of dialup connection users. Our button techniques certainly contributed to the illusion of many images, but we did have to consider the "branding" of the Washington Apple Pi.

The Pi already had a very nice logo, but it did need modification to fit in with our purposes. The original has tan and white colors, and Lawrence really wanted to bring it more in line with our red, white, and blue color scheme. The first iteration did adopt blue for lettering, but the continued use of tan in the Capitol building troubled us. A little Adobe Photoshop and Adobe Illustrator magic gave us some blue tinting that we decided was just the right touch.

The next task was to explore the possibility of reducing our banner height for inner pages. It is quite all right to take up some valuable screen real estate for the banner on the opening page, but could we come up with a shorter version for content pages that needed all of the space they could get? After some experimentation, we accomplished this too, and a new "inner page" template was born.

Content is King of the House

Design problems were now solved, and it was time to look at our content. Contrary to what many designers believe, most people visit Web sites to find something or gather information. Beauty is nice, but not at the expense of the content.

Our biggest content problem was the sheer volume of text on the opening page. Random ideas and information needed some kind of organization to help the reader find things easily. To that end, the trusty and ser-

viceable unordered list tag came to the rescue. I created a simple blue custom bullet image to use over and over again every time the style sheet recognized a list item.

And here we see yet another benefit of style sheets. By loading one style sheet that is used over and over again for use with each page, and with each style sheet writing information for each tag or selector so that each declaration can be used over and over again, the demand on server bandwidth is vastly reduced. "Write once, use many times" is the CSS mantra. In the case of our little bullet, download once, and use many times.

Turning on the Utilities

After all of our wringing of hands, it was time to use the templates on real pages. Lawrence wanted to use Server Side Includes (SSI) in our template so that if we made changes to any component, we would only have to upload one document. I separated each division of the page into its own separate document: the logo (or banner) area, the navigation/sidebar area, and the footer area. There were now three includes linked on the template page, as well as two style sheets. Now all Lawrence had to do was bring in content from each page of the old site into the "maincontent" division of the new template. Each page now had links in its head section to five external documents.

Now if we decide we want to decorate for the holidays, all we have to do is adorn our banner with a few snowflakes or snowmen and upload it to the server. The banner is referenced in our logo include. Each page has a link to this logo include, and so will automatically adopt our new winter banner with almost no effort! We could also change anything in our style sheet and watch it cascade throughout the site with the upload of one small text file!

The possibilities are virtually unlimited. The position of the navigation (now on the left) is not hard coded into our page. It is only an attribute in the style sheet. We can easily change the position to the right side of the page by changing a few coordinates. Again, this change would reverberate throughout the site with the

upload of one tiny text file. Between SSI and CSS, we created the lazy—and busy—person's Web pages.

The shot heard around the world

I must confess that Lawrence and I were rather satisfied with the result. We took a Web site that had evolved somewhat haphazardly over the years and gave it organization and class without demolishing its essential personality. It was time to move from its incubation period on the testing server to full implementation for the entire world to see on the live server. One morning I woke up and found the revised opening page and some inner pages appearing in my browser. Shyly, and with no fanfare, "new" the Pi site made its modest coming out.

Most people find the new site easier to use as well as visually more appealing. The pages use modern, compliant code that should stand for a long time to come. The efficiency of components makes updates and modifications a snap to render. Future updates to the Pi's gateway to the world can be made without demolishing any content. Our new foundation makes it just too easy...

Resources

Designing a site with the CSS-P method, http://www.macromedia.com/devnet/mx/dreamweaver/articles/dw_extreme_css.html

Al Sparber's Project Seven
<http://www.projectseven.com/>

The new Washington Apple Pi design is on the Pi Web site:
<http://www.wap.org/>

You can see the older design on the Internet Archive's "Wayback Machine" site (and yes, the URL is murderous):
<http://web.archive.org/web/20010118200200/http://www.wap.org/> ■



The new Pi Web site banner for interior pages has essentially the same look as the opening page, but it is narrower and the photo has been removed. The intent is to remind people they are still on the Pi site, but without the added overhead of the full opening page identification.

Why Can't I Send (Receive) my E-mail?

by John D. Barnes ©2004

Panic

I'VE LOST COUNT of the number of times that I've received this call at hours of the night that sometimes verge on the indecent. The user is distraught because they want to get to bed and the reply to a friend's message that they have carefully crafted doesn't want to go anywhere. The user in question may or may not notice that their e-mail client application is spinning its little wheel and they are usually baffled by the message that comes up after a minute or so of apparently aimless activity. Figure 1 shows one example of such jargon-rich "help."

Let's remember that minutes or hours before this very same user had successfully carried out a series of transactions with the very same e-mail server (or servers). No settings have been changed; the computer has been running the whole while. Now, when it is time to send the replies to those earlier e-mails the system has suddenly turned balky. It's enough to make some people believe in Black Magic.

The Real Question

In most such instances the user should really be asking a totally different question: "Why have I lost my connection to the Internet?" Users tend to think of e-mail as something unto itself, failing to recognize that it is but one of many applications that use the underlying services provided by their networking hardware and software. When the underlying services go to pot so do the applications that use them. This most especially includes one's Web browser in

"The user is distraught because they want to get to bed and the reply to a friend's message that they have carefully crafted doesn't want to go anywhere."

addition to one's e-mail client, AIM, iChat, and whatever other applications use the Internet.

In order to confirm that the connectivity issue does not involve e-mail alone, simply launch your Web browser and point it at Google or some similarly reliable site. It may take a minute or so, but your patience is likely to be rewarded with a dialog box similar to the one in Figure 2. If that happens it is time to determine whether the problem is at your end or with the ISP's routers or servers.

If the user is running a dial-up connection to the Internet, fixing the connection may be a simple matter of disconnecting and redialing it. The ISP (Internet Service Provider) may have terminated the connection after an extended idle time. The *Internet Connect* (Mac OS X) or *Remote Access* (Mac OS 8.x, 9.x) applications provide session statistics in their status dialogs. If the timer is counting, the user is connected.

The advent of "always-on" high speed Internet



Figure 1 – An error message from Apple Mail, caused by a failed attempt to send mail. Unfortunately, it doesn't say why it failed.

seems to bring with it more or less frequent mysterious disconnects. The technical term for this is something like "loss of synchronization with the DSLAC." That's what the tech support guy may tell you after you have waited on the line

for 15 minutes or so and he has punched up some buttons to look at your connection.

Tech Support may give you a recipe for curing the problem that reads something like the following:

1. Shut down everything including the DSL or Cable modem, any router that is on your LAN, and your local host computer
2. Restart the modem, waiting until the flashing lights settle down
3. Ditto the Router.
4. Ditto the computer.
5. Retry whatever you were doing.

This should fix problems with short-term loss of connections. You will get no joy if your ISP is off-line for some reason or the problem lies at your end of the line. Occasions on which you apply this procedure should be very rare. If this is not the case you have a real problem and need to take more vigorous steps to address it.

Detailed analysis and troubleshooting of Internet connections is a craft requiring a good deal of practice and training mixed with intuition. This article can only give you a few insights into the causes of erratic behavior and a couple of simple ways to ameliorate it. This is offered in the hope of demystifying broadband outages and helping users to cope with the realities they entail.

Dealing with the Diagnosis

Now that we have identified a possible problem with the Internet connection as a credible source of the user's e-mail frustration, let's see how to go about nailing the issue down.

Let's deal first with "ADSL" setups. These send their signals over the same phone lines that the user employs for ordinary purposes - voice, fax, analog computer



Figure 2 - An error message from Apple's Safari Web browser, caused by a failed attempt to access a remote Web site using a network that is disconnected.

modems, alarm systems, etc. The nature of the signals that travel along the wires is such that the signal attenuates rather rapidly as it travels further from the phone company's central office. This simple fact of physics puts quite a few people in our area (the DC metropolitan area) beyond the range that can be served by DSL. This problem is usually addressed very early in the installation process because the broadband provider can measure the distance to the central office electronically and determine whether it is technically feasible to serve your phone number.

In order to see whether the incoming signal is any good a tech-savvy user should carry the modem and a laptop to the Network Interface Box (NIB) and plug into the jack on the consumer side of the box. This allows access to the DSL feed as it comes from the central office. It also eliminates any router issues, so that the settings needed to access the modem become crystal clear. A solid signal here means that the broadband provider is doing its job properly. A missing or erratic signal at this point is good grounds for a call to the ISP's service desk.

In a great many cases the problem is caused by conditions within the user's site. Phone lines that have a lot of junk attached to them will generate noise that interferes with the ability of the DSL gadgetry to communicate with its host. "Junk" in this case may include cordless phones working through base stations, alarm systems, modems, etc. Some houses have installed more telephone instruments than the lines are designed to support. The effects of these conditions usually show up within a very short time of the broadband installation. Broadband performance is very erratic and dropped connections occur early and often. The solution may be as simple as removing a couple of devices from the phone line and

improving the filtering or it may be as drastic as requiring a dedicated line or a (probably costly) "Pro Install" from the broadband provider.

The folks from the telephone company have meters that measure noise that is injected back into a line from the devices that are connected to it. This is a pretty effective tool for assessing the severity of the problem. Your ISP also has means of determining the signal quality on a DSL line. The user can sometimes self-diagnose the problems by unplugging devices from the phone lines. It is possible that removing some combination of devices will cause the noise to go away and lead to improved stability in the DSL connection. Phone jacks that support multiple lines need special filtering.

Figure 3 depicts one scheme for separating the noisy stuff from the ADSL Line. This scheme comes close to the ideal of connecting cleanly and directly to the NIB. This design greatly simplifies troubleshooting and maintenance. If the stuff on the analog side generates too much noise and the user can afford it perhaps the best solution is to have a separate line for the computer, isolating the digital networking completely from the analog equipment.

Users with cable modems should be immune to problems attributable to injected noise, but cable providers do seem to exhibit occasional losses of service. Of course bad weather or poor wiring outside the site may cause loss of service for either cable or DSL.

Learn to Read the Modem Lights

ADSL and Cable modems mediate the flow of information between the wires that carry the ISP's signals and those that connect to the computer's network ports. These modems can therefore be seen as special purpose microcomputers. They typically have a number of LED indicators on their front panels. Study the instruction manual that comes with your modem to learn what the lights mean and what their reset sequence looks like. It is a good idea to place these devices where you can see the indicators and where you can easily reach their power switches. Try unplugging the cables while the modem is active in order to see what malfunctions affect which lights.

A clear understanding of how the lights indicate the status of the connection can save a lot of guesswork and poking around later on. If the "DSL"

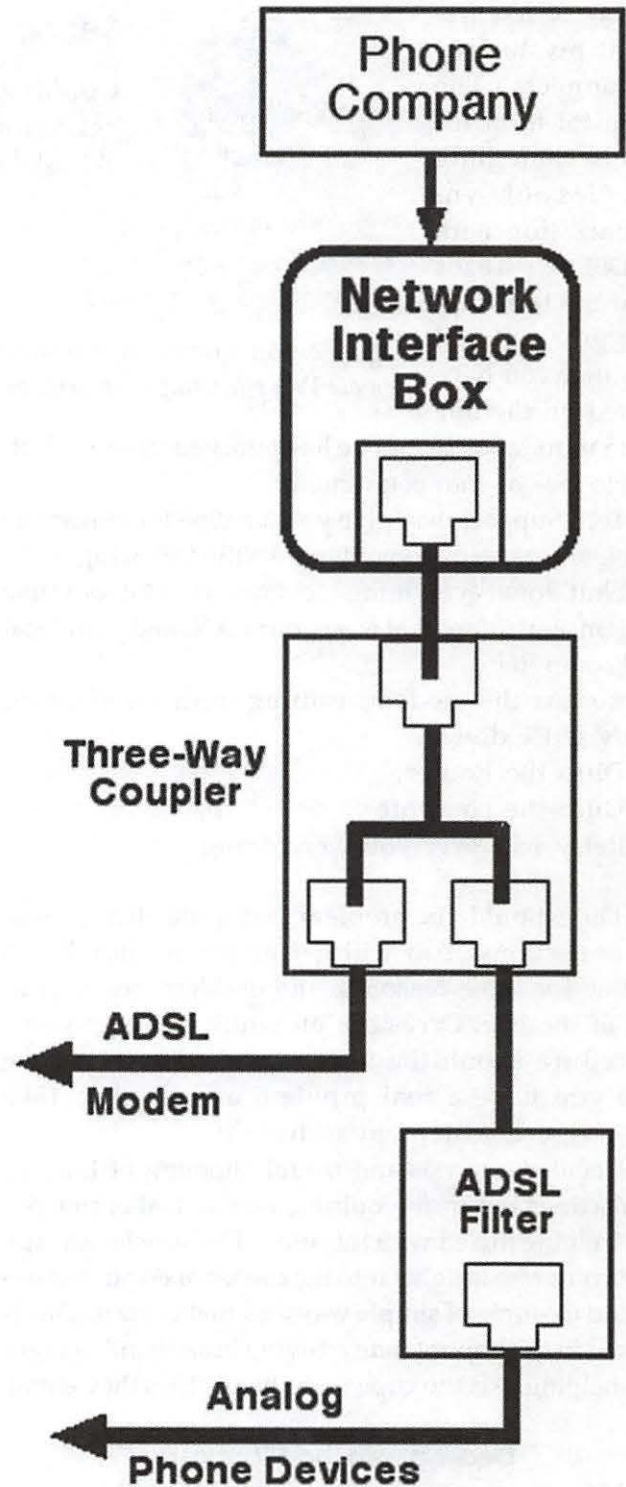


Figure 3 – Block diagram showing one recommended method of connecting residential DSL into your home. By adding a three-way coupler to the Network Interface box, you can separate your digital modem signal from the analog phone signal used by your telephone.

or "Cable" light suddenly goes out after glowing steadily for a long time you can bet that you have trouble. Don't try to send or receive data unless the indicators show a proper status.

When loss of synchronization occurs, don't panic. The settings on your computer have nothing to do with the matter. On a Mac simply recycling the modem (power it off, wait 10 seconds or so, and power it back on) may solve the problem. I have occasionally had to recycle the router, my 4-port switch, or in very rare cases, the computer.

Assessing Performance

The simplest test for an intact connection is to "Ping" the router address of your ISP. The act of "pinging" involves sending out some information to a specific address on the Internet and then monitoring the reply that comes back. You will need the router address that serves your connection. Just ask for it from your ISP's tech support desk. Once you have the address in hand you can use one of several simple tools to send out the "pings" and monitor their return. *WhatRoute* is a simple network analysis tool that has both Mac OS X and Mac OS 9 versions. Mac OS X users will find that the built-in *Network Utility* (in the Utilities folder) provides what they need and a bit more.

The activity lights on your modem may flash when the pings are taking place. If the router does not respond to its pings you may have a problem that requires tech support from your ISP. After all, your network was working fine just a short while ago and you have not messed with any settings. Right?

Once you have a connection that seems stable it is time to see how well it performs. A connection that has some interference on it may give throughput that is well below specifications. A visit to <http://infospeed.verizon.net/-speedtest/speedtest500k.asp> or <http://blt.speakeasy.net/> can be a big help in this. The speeds that the test site reports back should be reasonably close to the nominal values. Speeds considerably lower than nominal are cause for concern about noise.

Conclusion

This article might equally well have been titled "Why is the Web Down?" or "What Happened to My Internet?" I chose to focus on e-mail because that seems

"A clear understanding of how the lights indicate the status of the connection can save a lot of guesswork and poking around later on."

to give people the rudest shock. I get very few calls saying "Why was I unable to read my *Washington Post* online today?" Apparently people in that situation are willing to put the problem aside and get on with something else.

Broadband Internet service is a fairly demanding technology. Installing it and using it effectively is considerably more complicated than plugging a phone jack into the wall. I have tried to describe situations that ordinary consumers should learn to recognize and understand. Curing problems requires the user to acquire technical skills and a knowledge of details that are beyond the scope of a simple article like this one. There are some detailed case studies on the Pi TCS and the Pi does have some technicians with field experience. Check the Pi Hotlist for "home networking" if you need to call in outside help. In the end a person who has some grasp of cause and effect ought to be able to manage their interaction with the Internet capably.

It would be awfully nice if someone would come up with an automatic network monitoring application that displayed something like an easily visible traffic light icon to let users know how well their Internet connections are performing. Until that happens, remember that DSL is a lot like the little girl who had a little curl right in the middle of her forehead. When she was good she was very, very, good, and when she was bad she was horrid. ■

A retired government scientist, John runs JDB Science LLC, a freelance enterprise for scientific work and Macintosh user assistance. Contact him at jdbscience@mac.com

Apple Firsts

Edited by Dave Ottalini
Thanks to: Glenn Schunemann
MacTerp Listserv at the
University of Maryland

APPLE COMPUTER may not own the computing world but it owns more firsts than you can shake a proverbial stick at - or maybe even two. Take a look:

Apple was the first personal computer company to use a Mouse

Apple was the first personal computer company to ship use a color screen

Apple was the first personal computer company to make a portable

Apple was the first to ship a personal computer with a Floppy Drive

Apple was the first to ship a personal computer *without* a Floppy Drive

Apple was the first to ship a personal computer with a CD drive.

Apple was the first to ship a personal computer with a DVD-R drive.

Apple invented the Trackpad (PC users were using a trackball or red nubby)

Apple Invented Firewire

Apple was the first to offer wireless networking in a personal computer

Apple invented True Type fonts (now a PC standard)

Apple was the first to release a PDA (remember the Newton?)

Apple was the first to allow use of multiple monitors

Apple was the first to use icons or pull-down folders

Apple was the first to do away with CRT's and use only flat panel displays

Apple was the first to release a 64-bit processor in a consumer machine. ■

Best of the TCS: Strange Window Behavior

**OUTSTANDING
DISCUSSION**

<http://tcs.wap.org>



BB: AFTER UPGRADING to 10.3 I've noticed that, when I open a folder that's inside another folder, the child folder opens but then the window showing the parent folder pops back on top of the window showing the child folder. This happens when the windows are set for list view; I haven't tried it with other view settings.

I haven't changed my mouse click settings or anything like that since installing 10.3, but is there something I can do to keep the display of the child folder on top without having to click in its window again?

JT: I guess that raises some questions about how exactly you open the folder. Do you double-click on the icon? Do you select it first? Do you use a keyboard shortcut? You mention that you have not changed your mouse click settings. Does this suggest that you use a mouse with extra programmable buttons?

BB: Usually I select the parent window (by either clicking in it or on its top bar), then double-click the child folder icon without pre-selecting it, but the same thing *sometimes* happens when I pre-select the child folder icon, then double-click. I seem to recall that it *doesn't always* happen if I pre-select it, but my memory is a little hazy about that. It doesn't happen when I use command-O, as I recall. I am using a standard Apple-supplied single button mouse.

JT: The clear buttonless kind: Apple Pro Mouse? Try twisting the adjustment knob at the bottom and see if it adjusts the click sensitivity. This sounds to me at the moment like you're getting extra hair-trigger clicks.

BB: You know, I never knew about that adjustment. It's been turned all the way counterclockwise (looking at it from the underside) since I got it. So far, with it set at the middle setting things are looking much better. Haven't seen any extraneous window-to-front events since re-adjusting the setting. Many, many thanks for the pointer. ■

Twenty Years of Macintosh

Plus Macworld San Francisco Review

Washington Apple Pi General Meeting, Saturday, January 24, 2004, 9 a.m.

Maps and details - <http://www.wap.org/>

Macintosh Computer Security for Mere Mortals

Washington Apple Pi General Meeting, Saturday, February 28, 2004, 9 a.m.

Best of the TCS for November

edited by Richard "Dick"
Rucker
richard.rucker@wap.org

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



The following discussion took place just before Thanksgiving and can still be found at this location on the TCS:

Menu >> Computing >> Repair & Maintenance >> HD repair advice

TCS message #505 from Richard Rucker:

TidBITS #707 dated 24-Nov-03 has an informative review of the latest versions of five hard disk repair utilities for Mac OS X. The author is David Shayer who "was a senior engineer on *Norton Utilities for Macintosh*, versions 3.0, 4.0, and 5.0. Before that he worked on *Public Utilities*, a disk repair program that won the *MacUser Magazine* Editor's Choice Award, and on *Sedit*, a low-level disk editor." I quote all that because the guy writes like he knows from experience.

His article is so well written that I highly recommend it. It can be found at <http://www.tidbits.com/>, and his conclusion is worth remembering:

"So what, in my professional opinion, should you do if your disk starts acting up?

"First, try Apple's free *Disk Utility*. It may fix only a limited set of problems, but when *Disk Utility* finds a problem, it's invariably correct, and it applies fixes only when it's absolutely certain it knows the correct fix. I've never seen *Disk Utility* accidentally make a problem worse, something the other utilities can do, even if only very occasionally.

"If *Disk Utility* doesn't succeed, let *DiskWarrior* do battle with your damaged directory. It was our overall winner, and it deserves its excellent reputation. *DiskWarrior* can also show you a preview of the repairs before you accept them, which lets you check that a damaged file or folder really was fixed before *DiskWarrior* makes the fix permanent.

"If *DiskWarrior* fails, give *Norton Disk Doctor* a try, since it can address some problems that *DiskWarrior* misses. After that, try sacrificing chickens. Seriously, if the combination of *Disk Utility*, *DiskWarrior*, and *Norton Disk Doctor* can't repair your disk, you can either restore your data from backup, or, if that's not possible, decide if the data is sufficiently important to pay DriveSavers for recovery.

"I still think the most important data protection utility you should own is a backup program. But sometimes a good disk repair program can save the day by repairing minor damage quickly so you don't have to run through the time-consuming process of reinitializing your hard disk and restoring from backup."

#507 from Rick Zeman:

I have a quibble between the order of *Norton Disk Doctor* and *DiskWarrior*, but that's just style. One thing that few people mention is running Apple's *Disk Utility* after a repair with the other two to make sure that IT thinks your drive is okay, too.

#508 from Richard Rucker:

The reason that *DiskWarrior* nosed out *Norton Disk Doctor* in Shayer's review was that in 15 different error tests run, *DiskWarrior* fixed 12 errors successfully, *Norton Disk Doctor* fixed 11 successfully, and *Disk Utility* fixed 4 successfully. The good news about *Disk Utility* was that it never screwed anything up in making what few repairs it attempted.

The one test the *DiskWarrior* did well on, and *Norton Disk Doctor* didn't, was damage to the map at the end of a node in the catalog b-tree. "*Disk Utility* and *Norton Disk Doctor* realized there was a problem, but couldn't fix it... *DiskWarrior* fixed the catalog node map properly."

#509 from Jon Thomason:

I'm more interested in which tests *Norton Disk Doctor* did well on that *DiskWarrior* didn't, and specifically how it would happen that the problems would still exist to be fixed after *DiskWarrior* was finished reconstructing the directory from scratch...

But in general, if Apple's tools can't fix something in place, I'd copy off everything I can, then maybe give *DiskWarrior* a crack at a complete rebuild, -then- copy

off everything again and separately since new stuff is available and old stuff might be newly lost.

Depending on what I see in those two snapshots, either I'm comfortable with what I see or I'm not, and I either call it a success or do a "format and reinstall." I can't think of anything that *Norton Disk Doctor* could add after that had all happened.

And if it happens a second time it's *definitely* time for a reinstallation. Corrupted data is corrupted data, but corrupted software is a disease that will definitely lead to more damage. Get out of that cycle up front.

#512 from Richard Rucker:

Taking the second question first, David Shayer "created an HFS+ disk image, copied an assortment of files and folders to it, and then used a low-level disk editor to damage various directory data structures. [He] then duplicated the damaged disk image, and let each utility try to repair its own copy. Each utility repaired an identical disk image, with identical damage."

The cases where *Norton Disk Doctor* did well and *DiskWarrior* did not were these:

(1) "I changed a thread record to be an unknown type of record, which creates two problems. A thread record that the file system relied upon was missing, and the system was confronted by a record with an illegal type. *Disk Utility* and *DiskGuardian* detected the corruption, but couldn't fix it. *DiskWarrior* fixed the problem but lost some of the data in one file. Only *Drive 10* and *Norton Disk Doctor* managed to repair my damage properly."

(2) "HFS+ volumes are enclosed in a 'wrapper,' which is actually a plain old HFS volume...[to preserve backwards compatibility]. For my next test, I damaged the catalog b-tree header node in the wrapper. *Disk Utility* and *DiskGuardian* didn't notice anything wrong. *Drive 10* and *DiskWarrior* detected the corrupt wrapper, but didn't fix it. *Norton Disk Doctor* identified the damage and fixed it properly."

The reason for giving *DiskWarrior* a crack at the problem after *Disk Utility* is that the latter attempted to fix only a few problems relative to either *DiskWarrior* or *Norton Disk Doctor*. But the latter two were faced with a few cases that they couldn't crack either. For example:

"Finally, I decided to recreate the worst damage I've ever seen on a Macintosh hard disk. Starting with the badly



As usual, the Winter Computer Show and Sale ("the Garage Sale") had some interesting vendors, such as this one with a working NeXT station (the chess game looked eerily familiar to Mac OS X users), digital artwork, and some computer-powered Christmas trees. (Photo by Craig Contardi, taken with an Olympus C5050Z digital camera)

“If *Disk Utility* doesn’t succeed, let *DiskWarrior* do battle with your damaged directory. It was our overall winner, and it deserves its excellent reputation. *DiskWarrior* can also show you a preview of the repairs before you accept them, which lets you check...”

fragmented disk above, I corrupted and overwrote various parts of the catalog and extent b-trees. In some nodes I corrupted the node header (not to be confused with the header node), in some I munged the data records, and in others I zapped the record offset map. A few lucky nodes suffered all three types of damage at the hands of my disk editor.

“Only *DiskWarrior* was able to bring the disk back to a usable state, although 35 files were either lost or partly damaged. That 35 files were lost or damaged is not an indictment of *DiskWarrior*; the program couldn’t have done any better, considering how much vital information had been destroyed. None of the other utilities managed to repair the disk successfully.”

So give Apple’s reliable *Disk Utility* a crack at it, then *DiskWarrior* if necessary, but if that doesn’t work, it’s a probably a good time to just wipe the slate clean and start over. To prepare for that eventuality, a good backup strategy is required.

#515 from Jon Thomason:

I read the referenced article, a little while after I posted my previous message — thank you for the prompting! It’s an excellent read. One stand-out lesson for me was the difference between hard and soft block errors on a drive, and what to do about them on ATA drives now that SCSI’s “low level format” is gone. [See note 3 at the end.]

> The cases where *Norton Disk Doctor* did well and *DiskWarrior* did not were these

OK, the second one, your Mac won’t notice or care whether it’s fixed or not, so that’s good. The first one sounds rather more compelling, but not quite as likely to happen as are many of the things that only *DiskWarrior* can fix.

Or to answer my earlier question, running *Norton Disk Doctor* after *DiskWarrior* won’t fix the first problem; the damage will have been done and set in. The second one is arguably not a problem in the first place, but *DiskWarrior* can detect it and if it says the HFS wrapper is damaged, you can use *Norton Disk Doctor* to fix that.

Then not spelled out in the article, but met with a conclusion that matches Abe’s concerns as well as the consensus around here, it’s also not helpful to run *DiskWarrior* after *Norton* has had a chance to make stains permanent.

> So give Apple’s reliable *Disk Utility* a crack at it, then *DiskWarrior*, if necessary, but if that doesn’t work, it’s a probably a good time to just wipe the slate clean and start over. To prepare for that eventuality, a good backup strategy is required.

Amen.

#513 from Dan Wages:

I have *DiskWarrior* which works with Jaguar. Does the same version work with Panther, or does it have to be updated?

#514 from Paul Chernoff :

DiskWarrior will fix a *Panther* system, but it must be booted from *Jaguar* at the time of repair (like from the CD-ROM). The current version of *DiskWarrior* will not work if run from *Panther* itself, but a *Panther*-compatible update is in the works.

#516 from Jon Thomason:

I would disagree with Paul on this. Unless you have a catastrophic error that you need to recover now, I’d hold off on using *DiskWarrior* on a disk maintained by *Panther*. *Panther* actually uses a different format by default, and *DiskWarrior* either works with a lightly-tested precursor to that format or simply pretends it’s a stock HFS Plus disk and ignores vital clues.

Note 1 on Alsoft’s *DiskWarrior* for *Panther*: As Paul wrote, this is in the works, but was not available for pre-ordering as of this writing (Thanksgiving day).

Note 2 on Micromat’s *TechTool Pro* for *Panther*: *Drive 10* is a product from Micromat, the developer of the popu-



The Winter Computer Show and Sale featured this woman. Her sign says "Impulse Selling now going on. Let's Negotiate." (Photo by Craig Contardi, taken with an Olympus C5050Z digital camera)

lar freeware *TechTool* and its big brother, *TechTool Pro*. *Drive 10*, which was derived from *TechTool Pro 3* with some new routines to deal with hard drives hosting OS X, did not hold up very well in competition with *DiskWarrior* and *Norton Disk Doctor*. However, Micromat has since released *TechTool Pro 4*, "a completely new program, built from the ground up for Mac OS X. The program was completely created in Cocoa... and features a new, easy-to-use aqua interface and streamlined window for easy navigation."

Let's hope that David Shayer puts both new programs through his demanding tests and reports back with the results.

Note 3 on "the difference between hard and soft block errors on a drive, and what to do about them on ATA drives now that SCSI's 'low level format' is gone:"

"*Hard errors* are caused by physical damage to the disk surface. Dropping the disk and manufacturing defects are the most common causes of hard errors. Although there's no way to repair hard errors, they can be "fixed" by "sparing" the bad sector. Disks maintain a small number of spare sectors in reserve; when a hard error occurs, the drive controller maps out the bad sector and uses one of the spare sectors in its place.

"How are these bad sectors spared? SCSI hard disks provide a SCSI command - "reassign" - to spare a bad sector. A low-level format also spares any bad sectors. On pre-SCSI disks, a low-level format was the only way

to fix bad sectors.

"Many modern disks, including many internal ATA, FireWire, and USB drives, automatically spare sectors with hard errors the next time the sector is written. That's helpful, but if data is stored on that sector, programs may be unable to read it successfully, causing problems and making it difficult to spare. Erasing the disk with Apple's *Disk Utility* spares any bad sectors if you select the "Zero all data" option.

"What about soft errors? In addition to the 512 bytes of data stored in each sector, a few additional bytes hold an *error correction code (ECC)*. When the sector is written, the drive's controller computes and records the ECC. When the file system later reads that sector, it checks the ECC to make sure the data hasn't been corrupted. If the ECC doesn't match the data, it's called a *soft error*. The disk surface is fine, but the data on that sector has become scrambled.

"Soft errors can be caused if the disk is jarred while it's writing or if power is lost while writing, either of which can leave a sector half written. Large magnets (such as can be found in electric motors) next to hard disks also tend to have bad effects on the data. As with hard errors, most modern disks repair soft errors automatically the next time the sector is written." ■

Security in Depth: or how to think about security

by James Kelly

A FREQUENT question that arises between Macintosh and Windows users is "Is my computer secure?" "Is my computer more secure than the other guy's computer?"

The purpose of this article is to suggest a different way to think about computer security.

First, we should understand that security is a relative state not an absolute state. None of us has enough money to become impregnable. Instead the precautions we take should be within our budgets and make it difficult enough to be victimized that the bad guys pass us by.

What I'm referring to here is the concept of the "low hanging fruit." The thinking goes that with a limited amount of time, the bad guys will first pick those they see as "low hanging fruit." The "low hanging fruit" would be those people that haven't taken the most basic of precautions to protect themselves.

Ok that's nice, so what should we do? We should take every little precaution we can take, so as to raise the bar of difficulty and discourage the bad guys.

The analogy I like to use is parking at the shopping mall. We are all aware that shoppers have their cars broken into while doing their Christmas shopping.

I'm hoping we all lock our cars right? Ok, but do you park in a well traveled area of the parking lot? Do you avoid displaying wrapped presents on the back seat inviting thieves to break in? Do you use Lowjack in case your car is stolen? Do you hide the vehicle id number in your windshield to keep thieves from obtaining a copy of your car keys from the dealer? What other barriers can you throw in the way of the car thief?

By thinking about and implementing all the little barriers we could erect against the bad guy we are practicing Security-in-Depth.

"The thinking goes that with a limited amount of time, the bad guys will first pick those they see as 'low hanging fruit.' The 'low hanging fruit' would be those people that haven't taken the most basic of precautions to protect themselves."

Lets think about our Macs now.

1. Do you use a dsl/cable router (Linksys, Netgear) to provide basic protection?
2. Do you use the built in firewall of MacOS X? (You can use this or a third party product called Brickhouse:

_hill/brickhouse.html" http://personalpages.tds.net/~brian_hill/brickhouse.html

3. Do you use virus protection? While the number of viruses on the Mac

Platform are few give it a thought at least. If you have a dot mac account you can get it for free.

4. Do you have a small network at home with one or more Windows boxes? If you do, you should keep them up todate using Windows Update from Start>Windows update or using Automatic Updates (Start>Control Panels>Automatic Updates and here I check the radio button that says "Automaticly download the updates, and install them on the schedule I specify" and I pick Every day at 3am)
5. If you remotely access your mac via ssh, do you use firewall rules and tcp-wrappers restrictions limiting that to only those connections you usually connect from like your office subnet?
6. Do you run software update under MacOS X regularly?
7. Are you careful who you give your email

address out to? Many websites sell the email addresses they harvest to spammers.

8. Have you learned how to utilize the mail filtering capabilities in Mail.app? Have you turned off html rendering in Mail.app? (Mail menu>Preferences>Viewing and uncheck "Display images and embedded objects in HTML messages") Many spammers hide html in ordinary text spam to verify your email address. Also never NEVER reply to spam.
9. Do you send email with sensitive data in it? Consider using PGP to encrypt the email. See:

<http://www.pgpi.org/products/pgp/versions/freeware/mac/8.0/>

<http://www.cryptonomicon.net/howto/pgp.html>

10. If you use a wireless network at home, are you using wep encryption?
11. Do you change your wep keys every month?
12. Do you turn off your wireless access point when you go out of town?
13. Do you keep up with wireless technology and look for a more secure replacement for wep?
14. Most important of all do you ask the question "If I don't know how to securely do something, how do I find out how to do it securely, or do I really need to do it in the first place?"

The above list is not exhaustive by any means. Its just a start.

What precautions can you think of to add to this list?

Again the idea is not to look for one silver bullet solution, but to do all the little things you can do. Once you do all those little things you'll find you have made yourself a tough target. ■

Unsolicited Commercial E-mail Blues

http://www.nccaiim.org/Newsletter/2003_09_Feature_article.htm

by Alice Marshall, Presto Vivace, Inc.

LIKE EVERYONE else, I have been annoyed by spam ever since I got e-mail. But somewhere around the end of last year it assumed the proportions of a biblical plague. And judging from the anti-spam articles that quickly surfaced in the technology press, I wasn't the only one fighting the flood.

My fight against spam began with simply forwarding the offending material, with complete header, to the Federal Trade Commission, uce@ftc.gov. I soon began to forward it to my Internet service provider along with ever more desperate pleas to do something.

Much of the spam I received was of the usual variety of get-rich-quick schemes and dubious health remedies. But there was also a great deal of porn, sent in html so the reader was given a graphic preview of what was being offered. This included pornographic depiction of teenage girls. The use of minors in the production of pornography is a federal offense. For this writer, the idea of children trapped in such a situation is horrific. And so I printed out several copies of the offending e-mail with complete header information and sent it to the Center for Missing and Exploited Children. I also looked up the domain registry and mailed copies to the Attorney Generals in New Jersey, Georgia and Nevada as well as the FBI field offices in those states. One Attorney General wrote back to say my letter had been forwarded to the Federal Trade Commission, who handles consumer matters of this kind. Well really, it is not as if I had patronized the site and found it insufficiently disgusting.

I don't know why it isn't possible to prosecute a spammer for the distribution of pornography involving minors. Why would you would need specific anti-spam laws to do that? Nor do I understand why those promoting obviously fraudulent get-rich-

“Nothing in this writer’s research has explained why VISA, Mastercard, et al, tolerate spammers. Without credit cards spamming would not be possible. So why do these companies traffic with such operators? We need to make this a customer relations issue.”

quick-schemes cannot be prosecuted under existing anti-fraud laws. At least one Attorney General has taken the same view. Last January New York Attorney General Eliot Spitzer obtained a judgment against the appropriately named MonsterHut for deceptive practices because MonsterHut told recipients that they had opted in e-mail solicitation and fraudulently offering op-out services. This caught my eye because MonsterHut had been one of the operators plaguing me. Spitzer also charged Howard Carmack, the notorious Buffalo Spammer, with identity theft and forgery. May others follow his excellent example!

Nothing in this writer’s research has explained why VISA, Mastercard, et al, tolerate spammers. Without credit cards spamming would not be possible. So why do these companies traffic with such operators? We need to make this a customer relations issue.

One of the great champions in the fight against spam is the Spamhaus Project, located in London. (<http://www.spamhaus.org>) They maintain a registry of known spam operators (ROSKO). ROSKO maintains a search engine that allows to you identify your spammer by their domain name. Even though these operators are changing identities frequently, somehow ROSKO has traced down which alias belongs to which operator. It turns out that 90% of spam comes from a group of 150 operators most of whom, according to the Guardian, live in the same town in Florida. (Florida, always Florida) If we could shut these folks down, we could bring this plague down to manageable proportions. Although Virginia and some other states have anti-spam laws, many states do not and a federal law is needed.

Spamhaus also maintains a Spam Block List. This is a list of domain names of known spam operators that Internet service providers, corporate network admin-

istrators and others use to filter e-mail before it ever gets to your inbox. As much spam as you receive, it would be far more without the Spam Block List. Be grateful for our good friends at Spamhaus.

Reading about spam, you begin to appreciate the tremendous work done by anti-spam activists. When spammers move from one site to another, they often leave behind file-transfer protocol logs on the old source server. Sometimes anti-spammers can use these to shut down the new site before it even gets started. By doing so they drive up the cost of spamming. Obviously such a victory requires great vigilance on the part of anti-spammers.

There are several bills before Congress; most (including H.B. 2214 and S. 877) put the onus on the recipient to opt out of spam. Bulk e-mailers would have to put “advertisement” in the subject line and give an opt out address. Forging a return address would be a federal offense, (this last part could be a burden to those, such as homosexual and lesbian teenagers, who need anonymity). There is also a proposal, S. 1231, which would set up the e-mail version of a do-not-call list.

There are some, including J.P. Gownder of the Yankee Group, who think we should just give up on a legal solution. “It’s internationalized and it’s potentially completely decentralized,” he told NewsFactor. “I think the regulatory approach is probably not the right approach,” (er, um, isn’t car theft internationalized?)

The European Union, Australians, and just about everyone else, are taking the opposite approach. They are proposing laws that forbid commercial e-mail unless the recipient had requested it, popularly known as opt-in. It is difficult to think it is coincidental that the country with the most spam operators is considering the most spam friendly laws. Nor does this writer think it will enhance our already declining national prestige if we continue to be known as the world’s leading exporter of spam. Of the cyber variety.

Of course, there are technical approaches. My e-mail has a spam filter, which I have set to “training.” I find it catches too many false positives to automatically bounce. Spam-filters use a combination of searches in the subject line and text to identify offending material. But, like my filter, they can pick up too many false positives. The extreme approach is the use of White Lists, which require the user to identify those e-mail addresses they want to receive, and bounce everything else. Not an option for those of us in marketing. There is also the “challenge” approach which requires the sender to respond to a “challenge” before their e-mail is accepted. Also not practical for anyone in marketing.

"I don't know why it isn't possible to prosecute a spammer for the distribution of pornography involving minors. Why would you would need specific anti-spam laws to do that?"

My hope is that we will follow the lead of the Europeans and Australians. But that will only happen if we make this both a political and customer relations issue. As a professional flack, I can only say, that if your business model requires you to rig the political system in your favor, you do not have a sustainable business model. ■

Alice Marshall is the owner of Presto Vivace, Inc., a public relations firm for technology companies. Her web site is <http://www.prestovivace.biz>

This article was based on information from the following sources:

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Canning Spam, Jon Udel, Info World, July 21, 2003

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Text as it appeared in the September 2203 issue of the Capitol Image, Newsletter of the National Capitol Chapter of AIIIM <http://www.nccaiim.org/>

Feature Article: September 2003

Router Setup Suggestions

by Bill Kingsley

WHEN THE man from Comcast departed, he left my Mac attached directly to the Comcast-supplied cable modem. Although this was working OK, the other LAN-attached computers, printers, etc were without Internet connectivity. Also, the one Internet connected Mac was exposed to whatever mischief might occur by way of the broadband connection. This mischief turned out to be considerable, as revealed by the router log that was produced later.

So I went to my near-by computer store and bought an SMC Barricade (SMC7004VBR) router and installed it between the one Mac and the cable modem. This router provides Ethernet switching capability through four Ethernet LAN ports, and connects to the cable modem (WAN) for Internet communications. Connecting one of the switched LAN ports to a 4-port Ethernet hub allowed sufficient expansion to include all the on-site devices.

The SMC router is smaller and less expensive than several other such units that I have used, and it provides excellent security (firewall) functionality. It also keeps a log of intrusion attempts, which is comforting to see, even if pretty much useless as far as any remediation goes.

The setup procedures for this kind of router-firewall are not immediately obvious—even to those that *don't* consider manual reading a sign of weakness <grin>. So I'm happy to provide a few guidelines here that may be helpful for people new to cable broadband. Perhaps some of these suggestions will be of use for xDSL users, also.

1. Hardware Connections

If a cable modem is already installed, remove power and disconnect the cable modem from the computer; then connect the router in its place. Cat-5 or Cat-5e Ethernet cable is currently the best choice for 10baseT and 100baseT Ethernet connections. The router will be connected to the modem when setup is complete.

2. Communication With The Router

a. In the router manual, find out what is the factory supplied router internal IP address. It will look something like: 192.136.0.1. Also, find out what the factory supplied router access password is. It will be "Admin" or some other easily guessed word.

b. Power up the router first, and then the computer and launch a browser [see note]. Make sure that any proxy, such as Privoxy, is turned off and any proxy settings in the Network Pane of System Preferences are removed or disabled. Otherwise the browser may be unable to communicate with the router.

c. Enter the factory router IP address into the browser as you would a web site. Example: <http://192.136.0.1> and key return. This should take you to the router access web page, resident within the router firmware, and you should see a login window.

d. Enter the factory password in the designated space and key return. You should now have access to all of the router parameters.

3. System Parameters

a. First thing you want to do is change the router password to prevent unauthorized access via the easily guessed factory password. Find the password change section of the router parameters and enter a new password.

b. You likely will want to set the router to accept and maintain its clock according to the time set in your computer. There should be a set of parameters that address the "how" and the "from where" the time will be obtained by the router.

c. Most routers have an option to permit or deny remote management. For security purposes, I suggest that you set this parameter to *not* allow remote management, unless you yourself have a compelling need to access the router from an external location.

4. WAN Parameters

a. There are two modes for external IP addressing of your router by your Internet Services Provider (ISP). You may choose dynamic addressing or static addressing in the Wide Area Network (WAN) parameters. In the usual home network, your ISP will be using dynamic addressing, and you must then select (enable) that mode via DHCP. There will be a parameter selection to specify DHCP protocol.

b. The ISP will provide at least one, usually two Dynamic Name Server (DNS) IP addresses. These addresses may be made available automatically by the ISP, and so you may not need to specify them. But if you must do so, you will find parameter space to enter them in this format: 68.150.132.2 and 68.150.137.2 (examples only).

c. All modern personal computers have a unique, built-in Media Access Control (MAC) address. It will look something like this: 00:0a:95:87:78:63. You will be well advised to set your router to "spoof" your computer's MAC address, so your cable ISP will not be confused. This process, sometimes called "cloning" is simply that of transferring your computer's MAC address to the router. The ISP will see the router presenting the same MAC address as your computer has previously provided, if there has been previous communication prior to installing the router. In the Network Pane of System Preferences, find out what is the MAC address of your computer. Carefully copy this MAC address to the appropriate space in the router parameters. This parameter probably will be located in the WAN section, but it may be elsewhere, and it may be in a subsection labeled "Advanced."

d. Most routers have an option for "invisibility", meaning that they can be set to not respond to a "ping" contact or to port scanning. The option to "discard ping from WAN" (or similar wording) may be located in the WAN parameters, or it may be in the Firewall parameters. It is important to enable this option for security.

5. LAN Parameters

a. The router and any computers, printers or other devices that are LAN connected must have IP addresses assigned to them. There is no reason to change the factory set IP address of the router; leave it as is. There likely will be parameters for assignment of fixed IP addresses (within the router's fixed IP address range) to the LAN attached devices. It is possible that you may need to ensure that certain special-purpose devices always have the same IP address, in which case you can manually assign fixed IP addresses. But in most network environments it is simpler to let the router assign all the non-routable, internal addresses via DHCP. In this normal situation, set parameters to:

- Enable the router's DHCP server function
- Leave the router's IP address range unchanged
- Allow the life of IP address leases to last "forever"
- The subnet mask should be set 255.255.255.0. In the case of some routers it is taken for granted, not parameterized for user entry, in which case you can ignore it.

6. Network Address Translation

a. The router may support a virtual server function whereby computers elsewhere on the Internet can access your computer for services, such as web pages. These services require that specific ports be left "open" to the Internet, and thus pose a security risk. For the normal home network, this virtual server function should be disabled. Usually this may be done simply by not entering any MAC and port addresses to be left open.

b. Some routers allow ports to be opened to public

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access with specified protocols to support special applications. One such application is telephony, i.e., voice over IP. Most home users do not run such special applications, and so should not designate any ports or protocols for this.

7. Firewall

a. The Firewall Parameters may have a section devoted to protecting users from adult sites and adult message content. These parameters may include restrictions for particular computers on the LAN, as designated by MAC address, and also by time of day, etc. These are most generally applicable in a

home having young children; settings for use should be obvious.

b. The Firewall Parameters should include an option for "invisibility," i.e., no response to ping and port scanning. This option always should be enabled for security.

c. These parameters may permit specification of a "Demilitarized Zone" or DMZ. This allows designation of one particular computer on the LAN to be opened up to all comers, i.e., has no restrictions or protection. When properly used, the DMZ-designated device executes software to perform firewall functions, and subsequently to route appropriate traffic to the applicable destinations on the LAN. The DMZ should not be enabled in the usual home computer environment.

d. Arguably the most important firewall function for security is that of "Stateful Packet Inspection" or SPI. This is sometimes labeled "Advanced Protection." I do not recommend routers that don't offer SPI. If SPI is presented as an option, it should be enabled.

e. The router may support Virtual Private Networking (VPN), accomplished via PPTP or IPSec security protocols. These are applicable to corporate networks and to home users that are connecting to corporate systems. If you are a retired senior citizen, leave these disabled; otherwise, consult your office network staff for instructions.

8. Cut Over To Operation

a. After all of the above parameter changes have been entered, log out of the router web page; then power down the computer, and router. Connect the router to the cable modem via the router's uplink WAN port using Ethernet cable. All internal, LAN-resident devices that are to communicate with Internet sites or with each other should be connected to switched LAN ports on the router. If there are more LAN-resident devices than there are switched router ports, then an Ethernet hub may be connected to one of the switched ports. The

"The SMC router is smaller and less expensive than several other such units that I have used, and it provides excellent security (firewall) functionality. It also keeps a log of intrusion attempts..."

hub will serve to fan out that port to permit additional connections.

b. Then do the following in this order:

- Power up the cable modem only and wait 30 seconds for it to stabilize.
- Power up the router and wait 30 seconds for it to finish negotiation with the ISP server. This negotiation will involve arrangement for a DHCP lease.
- Power up the computer, launch your browser and confirm that you can communicate with Internet web sites via cable.
- Power up any additional LAN devices one at a time and verify their Internet connectivity via the router and cable modem.

c. After a few hours, log into the router from your browser and inspect the logs to confirm that intrusion attempts are being blocked and see what errors, if any, may have been posted.

d. Once proper router operation is confirmed, I am told that it is a good idea to turn off the software firewall provided by OS X (System Preferences:Sharing:Firewall), as it provides no additional protection beyond that offered by the router.

Note:

If your router will not communicate with your browser, you might try downloading the old Mozilla 1.2.1 browser and run it in OS 9 (Classic). This Mozilla has excellent compatibility with routers, etc. (This hint courtesy of Jon Thomason) ■

Interview with Aaron Adams, "Switcher" (Part 2)

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The following is a continuation of excerpts from an interview conducted July 5, 2003; The first part appeared in the November/December 2003 *Washington Apple Pi Journal*

CC [Craig Contardi]: How did your co-workers react to your newfound fame?

AA [Aaron Adams]: I never said much to my co-workers about it because I don't have that giant ego. It was an ad in *Sports Illustrated* that let the cat out of the bag. A co-worker spotted an issue with my ad, and the gentle ribbing began. Actually it really started even before then, when I brought my first iBook into the office. Everybody teased me about it, but they *couldn't resist wanting to see it*. I describe it as akin to the "adult" section in a video store. Lots of people act clearly like they want one, but are afraid to take the leap for fear they'll be "caught".

CC: It's too sexy...

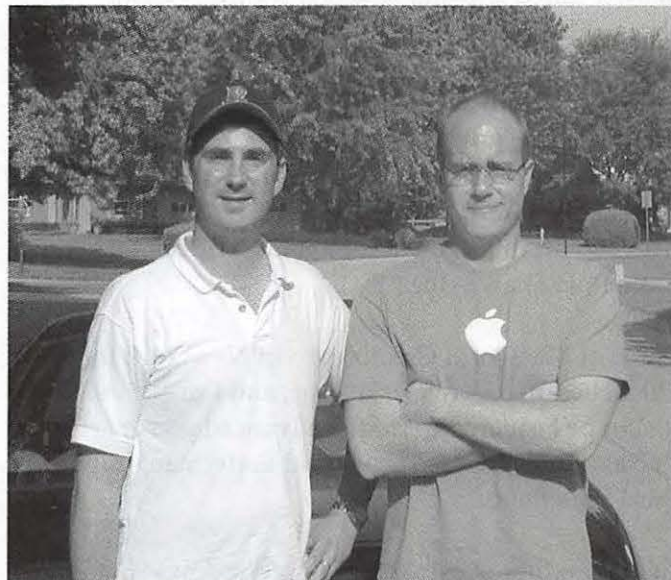
AA: Todd [Aaron's friend, who accompanied him to this interview - ed.] saw my PowerBook and decided he needed a Mac of his own. I paid \$3000.00 for mine and there's no doubt the price takes your breath away. That's what I tell people; At the register it'll hurt, but you'll see what your money bought when you get it home and start using it.

CC: If someone is not interested in any of the various aspect of Apple's "Digital Hub", should they still get a Mac just for the stability of Mac OS X?

AA: Simplicity, as much as stability, is the main strength and main reason for going Mac. You can setup a Web server in three clicks under Mac OS X; I think even my

mom could do that. On Windows XP it's a little more involved, therefore a little more overwhelming. Installing and deleting applications is painless with a Mac; Drag and drop is all it takes most of the time. You need to use that Add/Remove Programs wizard for Windows, and oftentimes it asks the user if it's OK to delete a particular DLL because "it may be used by other applications". Every time I have to deal with that I think to myself, why is it asking *me* if it's OK to delete this DLL? That is not fair to ask a novice user, and it's clearly avoidable based on Apple's approach.

Here's another great story I like to tell. I have a Zip650 USB external CD. When I plugged it into a Windows machine, it went through device driver loading and after 14 steps I finally could use the device. Under Mac OS X, I plugged it in and nothing happened. At first I think this is a sign of failure, but it turns out that it was recognized right off the bat with no additional drivers. It was just waiting for me to insert a disk, and then it worked like a charm. The story is basically the same for media card readers, and any devices I put in the PC Card slots in my Titanium PowerBook. Every digital camera I have tried to use with iPhoto comes up automatically, and I've tried a bunch. One day when I'm on my deathbed, I'm going to regret the time I wasted, over the course of my life, looking for Windows drivers on the Internet. I only use and know Windows because it's really hard to make a living as a Mac systems ad-



The author with Aaron Adams (right) near Dayton, OH, July 2003.

ministrator, especially in Dayton. Most governments and companies have bought the lie that they need to mandate Microsoft SQL Server and other Microsoft products in a contract proposal, even though Linux/MySQL/PHP would work as well for a lot less money.

Before I rip Microsoft too much, they do some things better than Apple. They generously seed all their certified professionals with beta versions of all their software. All they ask in return is some feedback. In contrast, Apple is not likely to let Todd and I have a preview copy of Panther because the bar for that is set at being a paid member of the Apple Developers Network; we are members of the Apple *Consultants* Network. Our job is to evaluate products and recommend the best solution to our customers. We really need to evaluate Panther for ourselves before we can recommend it, but most likely we will have to wait until the public release date. Apple also needs to do a better job pre-announcing what's in the "goody bag" that consultants get every quarter. Had we known Keynote would be in a pending consultant package, we would not have gone out and bought it ourselves at retail price.

CC: How did you get hooked up with Shawn King [Host of Your Mac Life]?

AA: He actually got a hold of *me*. Shawn sought out a bunch of Switchers and Apple seems to like to refer me to journalists; I guess they think I can speak intelligently. Shawn called me and asked if I'd mind being on the show. I had only heard it once before, and that was a while back. He interviewed myself and others on the July 3, 2002 show; Since then I think I've been mentioned each and every week, sometimes for no good reason. Someone else was doing the YML Forums page and Shawn asked me to pitch in. I redid it to base it on PHP BB. I still don't know a lot about PHP, but I do know more than Shawn does!

I'll be at Macworld CreativePro in New York this year [2003] because Shawn asked me, and I'm excited about it. I hope I can make it to the advanced server seminar. I've also got tickets to see David Letterman; it'll be my third time there.

CC: My father-in-law is running Windows 98 and he's deathly afraid of re-installing the operating system. He just lives with system crashes two or three times a week.

AA: A lot of the world is in that mode; they see crashes as part of computing. I could not disagree more.

CC: What's the biggest weakness of using a Mac?

AA: The one weakness in Mac OS X is speed. They've done a great job improving it from 10.0.4, but at the same time it has a way to go in raw speed.

CC: Do you use any of the iLife suite (iPhoto, iMovie, iTunes, iDVD)?

AA: I don't use iMovie a lot, as I do not have a video camera. However over this past Christmas I used a still digital camera to take a time-lapse of assembling a 3000-piece Star Wars Lego project. I'm still working on making an iMovie out of those stills. That was 7 months ago and I've still not finished it! I have iDVD 3 but I don't think I've burned a single DVD; I just don't videotape much since I don't own a camera.

Regarding iTunes, I'm a really big fan and customer of the iTunes Music Store.

CC: What's your opinion about the artists that have resisted letting their music be included on iTMS?

AA: I'm tired of all the arguments against selling singles. I've said this on the record before but it bears repeating: My parents had several huge stacks of 45 RPM singles in their basement. Elvis, The Who, The Beach Boys and lots of other artists all did very well financially releasing tons of singles. They were also more widely heard as a result of the radio airplay. Why do some modern bands think they're any different or better? People may not want a whole album; they may just want a track or two for their portable music player. Bands have the choice of making something on a song or two or making *nothing* by only selling by the entire album. It's their choice, and they're stupid if they choose the latter. I own multiple copies of Pink Floyd's Dark Side of the Moon because I like the entire album.

CC: How much music have you bought off the iTunes Music Store

AA: I've bought around \$50 of iTMS songs, most of which were songs I had downloaded off the Internet beforehand. I think \$1 a song is reasonable. For my

iTunes library, the song source breakdown is 80% CD rips, 20% downloaded. Some of the original downloads were really artifacted and AAC [Advanced Audio Coding, Apple's chosen format for music sold on the iTunes Music Store – ed.] is better quality, certainly “good enough” for casual listening. I also do like the legal clarity of buying them, and want to see the iTMS succeed. I think it's a viable way to sell music once bands see the results for themselves.

CC: Do you have any brothers or sisters?

AA: I have a brother, but I don't think he's ever used a computer in his life to be perfectly honest.

CC: I have a brother who enjoys giving me grief about being a Mac person.

AA: Oh, I have plenty of friends that are like that. I said it in my commercial and it's still true: I have not found anything I can't do on a Mac that I could do on a Windows machine. I could care less about games; if someone does, they are better off with a dedicated console like an Xbox or Nintendo. The last game I played was Windows Solitaire.

CC: Which model iPod do you have?

AA: My iPod is 15GB; I had a 10GB that I sold to a Windows friend and you can't wrestle it out of his hands. Ironically, he still rants against Apple. It's that attention to detail, all the little things Apple does makes them stand out from *everyone* else. Our company just got in a shipment of brand new Dell laptops, and they are no smaller than the Gateway laptops we still have from *eight* years ago! What an utter lack of progress that reveals. Look how much smaller the Titanium PowerBook is than the PowerBook 520 series, a comparable time shift as there is between the new Dell and used Gateway laptops. PowerBooks also have a much more solid, professional feel, not “plastic-ish”. In the back of my mind it's almost like the Dells are meant to be *disposable*.

CC: Do you have a “Steve Story?”

AA: I've actually got two. After last year's keynote, Steve Jobs came to the front of the stage to mingle. I was right there and said to myself, “He just used my

face in his presentation, he can afford two minutes to talk to me”. He was very nice to me, told me I looked good in the commercial, and asked what it was like to be famous. We chitchatted for a short while and then he was mobbed. Todd Wilder (Apple Retail PR Exec) invited me to the SoHo Apple store opening party later that day. I went in and had a few flutes of beer, met Avie Tevanian, and was trying to find Phil Schiller [VP for Marketing – ed.] I spontaneously decided to approach Steve again. He was in the midst of a crowd, with his back to me, so I walked up and *touched him on the shoulder*. There was a collective gasp from everyone in the reality distortion field, and they all froze. Steve turned around and I thanked him again for putting me in the commercial; he said you're welcome and was not at all taken aback.

When all is said and done though, what does someone like me have in common with a man who affects the lives of thousands of people every day, has countless millions in the bank, and is hardly ever without his handlers? It makes it hard to maintain small talk. But I had the compulsion to ‘meet’ him and was fortunate enough to seize the moment not once but *twice*.

Avie Tevanian [VP for Software – ed.] recognized me, and I commented how impressive it is that Apple can do what all the flavors of Linux cannot; put a happy face on Unix and make it easier to use. I think Linux users are trapped in a technical bubble with no way out. I tried Linux before becoming a Mac user, but when I wanted to do system tuning and other really technical stuff, I was treated like a child on the Usenet newsgroups by the Linux cognoscenti. That's why I get really steamed by people that try to push Linux as a Windows alternative when the Linux experts are not willing to coddle the newbies from time to time.

CC: Tell us a little more about your machine ownership history.

AA: I bought a 500mhz iBook running Mac OS X 10.02 and was frankly very happy with it. Mac OS X was slow but showed lots of potential (where it was going, what it was going to do). I kept it for a little more than a year, bought a 17” iMac to replace it, and realized I missed not having a laptop. I sold the iMac on eBay and bought the 1Ghz PowerBook. I don't miss the 2” of

screen real estate going from a 17-inch screen to a 15-inch, it's worth being able to fold it up and go. What I'm really waiting on is the G5 in a laptop.

That reminds me of something else. Benchmarking is a stupid idea to convince people your computer is faster. Apple has a lot more competitors than it has allies. It's like painting a bulls-eye on yourself; you'll be attacked from all sides about how the tests were fixed, and it'll only be a matter of months before technology advances for Intel chips to the point where they surpass the G5. It *has* raised the attention the G5 has received, but it really only ticks off/alienates the more technical users with a conspiracy theory about unfair testing. It turns out Intel's Hyperthreading Technology was turned off for the Intel-based machine, but Veritest [the independent testing company – ed.] said that having hyperthreading on resulted in slower benchmarks. The compiler Apple and Veritest used was gcc, which is not necessarily the best one available for Intel processors. In fact the gcc compiler on one chip might be more optimized than the other. There are just too many variables affecting the end result.

CC: While these machines were announced in June, the top of the line dual-processor model is two months away from being available. That has got to *kill* the G4 sales

AA: No kidding. I also noticed that the least expensive G5 costs more than the entry-level G4. People do look at those numbers when it's time to buy.

CC: What do you think are the most effective 'Switcher' ads, including of course your own ones?

AA: I'm possibly the most self-deprecating person I know, but nonetheless I think I'm exactly what Apple was looking for as a spokesman. Patrick Gant's "Blue Screen of Death" angle was nearly perfect from Apple's point of view. Also Dave Haxton's ad, which I mentioned earlier was not used a whole lot. All these folks are technical people who have used both Windows and the Mac, and can make an intelligent decision. Janie Porche's story about digital camera woes under Windows was right on the mark. On the other hand, I felt there were quite a few, especially in the second group that came after my contemporaries, that were there for "color". They looked good on TV and told an entertain-

ing story but not much else. Gianni Jacklone was definitely there to attract a certain demographic. Richard Ziskin, the umbrella guy, had that great line about hoping it rained every day. I won't name any that I felt were flawed; Okay, I think I can get away with making this observation about Ellen Feiss's ad, when she says, "The PC ate my paper... it was a bummer". Where's the proof of her actually using a Mac now? It's nowhere in the ad that I could tell.

I think the "second-rounders", in other words those who were part of the second series of commercials both filmed and aired, knew the buzz generated by the campaign, knew what to expect and most importantly knew what Apple expected. Apple's goal beforehand, or so I was told, was to just shoot a lot of film and see what ended up coming out the other end. The second-rounders learned from the experiences of the first. Jeremiah Cohick did his happy face, did his bit for the camera, and was great. The first round got three months of exposure, but the second round has been on the website ever since. Nobody has clued me in to what's next from Apple.

CC: What can you say about the financial arrangements?

AA: Apple asked me not to talk about how much I was paid. I can say it was on a per-use basis, with differing royalties depending on the media (print, TV, website).

CC: Does that mean you're a member of the Screen Actors' Guild?

AA: [laughs] I did not think I had become a member of SAG since I never signed up or got a membership card, but they sent me a letter from them with pension and health care benefits! It would look good on my resume though.

CC: Did the Switcher ad campaign win any awards?

AA: I'm not sure, beyond Advertising Week picking me as Ad of the Month for June 2002 [feigns enthusiasm]. I was pretty excited about that, but never got an invitation to any ceremony. Life is pretty much the same as it was before I did the ad.

Here's a question you didn't ask me: Would I do it all over again exactly the same way, or would I change

anything? The truth is, I don't know. A couple of times I laid awake at night and reflected on the fact that my giant head took up an entire page in Time Magazine, that I was on during Friends, the NBA and NHL play-offs and Drew Carey. I've been seen by millions of people. Could I have done more with that or not? There's always that little doubt in the back of your mind whether I made the most of it.

CC: Do you think your 15 minutes are up?

AA: Everybody uses that cliché. Did my 15 minutes really *start* yet? You see commercials of people selling cars and stuff, and if you saw that person in the mall the next day would you remember him? Has he really made an impression on you?

CC: But do we know his name?

AA: You're right, they know my name.

CC: Using your name is asking for credibility from the viewer.

AA: I guess that's true. There's been a whole lot of good that's come out of it, and I've done a whole lot of things that wouldn't have been possible without the exposure. As I said a moment ago, I don't know what I would do differently than I did.

CC: Thanks for taking the past ninety minutes to share your story.

AA: You're welcome. I've enjoyed it. ■

Craig Contardi is currently the Secretary of Washington Apple Pi. He is married, with three children between the ages of 3 and 8.

How to crack Mac OS X passwords

by James Kelly

AS WE ARE all aware, Mac OS X is based on BSD. Mac OS X is an UNIX-like operating system (much like Linux and the various other BSD variants FreeBSD, OpenBSD, NetBSD).

So what does that mean?

It means that your Mac is a multi user operating system. While at the present time, only one user can use your Mac at a time sitting in front of it, many users can login via an SSH session and use your Mac simultaneously. If one of those users has an easy-to guess password, the entire system can be vulnerable to being hacked.

Why would we want to crack Mac OS X passwords? Cracking the passwords on your Mac is a way to test the passwords to be sure they are not easily guessed or cracked.

What is a bad password?

- Empty or no password
- Password the same as your username
- Anybody's name, real or imaginary
- The name of the operating system you're using
- The hostname of your computer
- Any phone number
- Auto license plate number, particularly vanity plates
- Any part of your social security number
- Anybody's birth date
- Other information that is easily obtained about you
- Any word in any dictionary. Hackers have dictionaries for languages like Klingon, Urdu, Hindi etc.
- Passwords of all the same letter
- Simple patterns on the keyboard, like QWERTY
- Any of the above spelled backwards
- Any of the above preceded or followed by one or two digits.

What do you mean by cracking a password?

“Why would we want to crack Mac OS X passwords? Cracking the passwords on your Mac is a way to test the passwords to be sure they are not easily guessed or cracked.”

Most password crackers work on what is called a dictionary attack. It takes a list of known bad passwords and hashes them and compares them to the hashes in the target machine's password file. It's more like automated password guessing.

So how do I crack Mac OS X passwords?

1. Install Developer Tools on your Mac.
2. Surf to <http://www.openwall.com/john/>
3. Download John the Ripper 1.6 (Unix - sources, 486 KB) it should automatically decompress.
4. If the package john-1.6.tar doesn't compress, open Terminal and cd to your desktop by
5. do:

cd Desktop
6. then do:

tar xvf john-1.6.tar
7. then do:

cd john-1.6
8. then do:

cd src
o enter the source file directory.

9. then do:

make generic
10. after the compilation finishes you should do:

cd ../run
11. once compilation is complete there should be a binary called "john" in the directory john-1.6/run
12. to start your cracking fun, once you are inside the run directory do:

```
sudo nidump passwd / > mymacs.passwd
```

This will create a password file for your mac. You'll have to enter your administrative password.

13. to actually start cracking you do:

```
./john mymacs.passwd
```

14. wait a long while, this may take some time, days or weeks even. The cracked passwords will be in a file called "john.pot"

Since this will take a while you might want to run it in the back ground with a low priority:

```
nice -n 20 ./john mymacs.passwd &
```

15. John the ripper comes with a sample password file password.lst a list of about 2,290 really bad passwords to use in testing. You can supplement this list with others from the cdrom the site owner is selling which contains dictionaries in several languages.

If you want to keep your kids from cracking the passwords on your Mac do the following:

1. DO NOT give them Administrative accounts on the mac.
2. change the permissions on the nidump utility:

the default permissions are:

```
-r-xr-xr-x 1 root wheel 24024 24 Sep 02:50 /
```


usr/bin/nidump

you might want to remove read and execute permissions from anyone but root.

As root do:

```
sudo chmod g-xr /usr/bin/nidump
```

then

```
sudo chmod o-rx /usr/bin/nidump
```

The above commands in Terminal will keep anyone but root from executing the nidump utility. You of course will have to have the root account enabled to do this. I would suggest consulting <http://www.macintoshhints.com> for instructions on how to enable root.

To Find out more:

"Mac OS X Security" by Bruce Potter, Preston Norvell and Brian Wotring, New Riders Publishing 2003

"Mac OS X Maximum Security, A hacker's Guide to Protecting your Mac OS X Workstation and Server" by John Ray and William C. Ray, Sams Publishing 2003

"Using John the Ripper to Crack Unix Passwords"
<http://www.astalavista.com/library/auditing/password/JohnTheRipper.shtml>

"Cracking Unix password files for beginners," by Caboom
<http://www.158inc.com/documents/johntheripper.html> ■

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OS 10.3 Tips Software Update Preference Panel

by Dave Ottalini

SOMETIMES too much of a good thing can drive you crazy. Software Update is a great utility that will check Apple's website at a predetermined time to see if there's anything new. If there is, you'll be alerted and given the option to download the software so that it can be installed. This is Apple's preferred method of getting updates to you now, although there will still be times you'll have to go to Apple.com for specific program updates.

That all said, I found that when I went from Jaguar to Panther, Software Update kept insisting I needed a Superdrive update. I'd already done it but gave in and let it be downloaded anyway. Of course I was told that I didn't need it. Once I could handle, but it would not stop. Every time Software Update ran, it insisted I needed the Superdrive Update.

What to do? This is OS 10.3, right? Apple's best and most sophisticated operating system. So I did what we all do - I asked for help. In this instance on the University of Maryland's MacTerp listserv discussion group. Apple's Aaron Davis had the answer right away, of course. Highlight the offending update. Now goto Update in the Apple Menu (at the top of the screen) and then click on "ignore update." I got a new window telling me this particular update would never come back again if I said "yes." I felt no remorse in clicking in the affirmative and the problem was solved. ■

January 2004

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5 Power User SIG	6 Clinic	7	8 Columbia Slice (Call) Teen SIG	9	10 Graphics SIG Frederick Slice
11	12	13 Clinic	14 WAP BoD	15 i Movie SIG	16	17 Annapolis Slice
18	19	20 Clinic	21	22 Teen SIG	23 Retired SIG	24 <small>NoVa ComCol</small> WAP General Meeting
25	26	27 Clinic	28	29	30	31

February 2004

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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 Clinic	4	5 Columbia Slice (Call) Teen SIG	6	7
8	9 Power User SIG	10 Clinic	11 WAP BoD	12 i Movie SIG	13	14
15	16	17 Clinic	18	19 Teen SIG	20 Retired SIG	21 Annapolis Slice
22	23	24 Clinic	25	26	27	28 <small>NoVa ComCol</small> WAP General Meeting
29	30	31 Clinic				

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@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/apple2/forever.html

Apple III Information:

www.wap.org/apple3/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

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First Sips of Cocoa

by Dick Rucker

I HAVE AN itch that needs scratching. I want to learn how to build useful programs using *Cocoa*. For a non-programmer, that may be a naïve ambition, yes? Read on and see what you think. You might develop an inch, too.

I've dabbled with programming languages before, but more from curiosity than from any real need or desire to put them to use. But now, in one of my other hobbies — amateur radio — there are two applications I would like to have running on my latest Mac laptop, rather than on my aging Dell laptop. If I apply myself to learning how to program using Cocoa, might I be able to produce useful and pleasing applications for myself and perhaps other ham radio operators who are also Macophiles? That's the open question.

Recently, a message appeared on the Mac Programming board of the Pi's TCS forums that got me to seriously thinking this way. While I haven't gotten to Cocoa yet, I have begun to learn the basics of Objective-C, which is probably the best language to learn for a programmer new to Cocoa.

Why Cocoa?

Cocoa is summarized in one Apple document as "a collection of advanced, object-oriented, application programming interfaces (APIs), including some that have been developed specifically for Mac OS X." OK, let's take that on faith for now.

Bill Cheeseman in his book *Cocoa Recipes for Mac OS* answers the "Why Cocoa" question this way (I'm paraphrasing):

1) Apple has repeatedly urged developers of Mac OS X applications to develop them using the Cocoa frameworks. These are mature and powerful application frameworks based on more than ten years of NeXTstep and OpenStep experience. (That gets my attention.)

2) Experienced developers report that Cocoa frameworks reduce development time by a very substantial factor. This is partly because the frame-

works are so complete that they give you a vast amount of functionality without any effort on your part. (Speaks to me!)

3) Cocoa includes some powerful design patterns not found in many other development environments. (Sounds like a plus.)

4) Many of Cocoa's foundation classes abstract the operating system making it easy to deal with files and networking at a high level without losing access to any of the power of a lower-level approach. (If I build the two apps I have in mind, I'll need low-level access for serial port operations that are not supported by Cocoa frameworks.)

What makes me think I can do this?

My past programming experiences are pretty limited:

Mid-1980s: I took a course in *Pascal* offered by the *Washington Apple Pi* and taught by Bob Platt. In those days, having a portable Mac meant buying a padded carry-on bag into which one could pack a 128K Mac, mouse, keyboard, and power cable. Though Pascal was a great tutorial language, and Bob was an excellent instructor, and *Lightspeed Pascal* was an excellent programming environment for its day, I never did anything more than play with it.

Early 1990s: Bill Atkinson's *Hypertalk* was all the rage, and Dan Winkler and Scot Kamins wrote the very popular *Hypertalk 2.0: The Book*. I worked through that book one summer and it helped me to understand some new concepts such as *messages*, *message handlers*, and "the message path" that every message initiated by the user or the program follows to find its appropriate handler.

This was long before I had ever heard of object-oriented programming. I have since come to believe that Bill Atkinson was remarkably prescient about that. However, I never did anything more than play with HyperCard.

Another decade has now begun. It's time for me to get acquainted with more modern programming tools, especially now that I have two applications in mind to build and programming seems to be becoming more fun than ever before.

With that as motivation, I saw this last July on the "Mac Programming" board of the Pi's TCS:

FROM: Jon Thomason Mac Programming

This looks very promising.
http://www.macdevcenter.com/pub/a/mac/2003/07/22/cocoa_series.html

C is for Cocoa by Seth Roby:

"According to those other tutorials, to learn Objective-C you need to know C, and to learn C you need to wade through a sea of things that, quite frankly, won't help you at all as you start out in your Cocoa experience. But if that's the case, why do the tutorials require this as base knowledge d g e ? "

"This tutorial is different: here, you will learn all the C you need to know to learn Cocoa, and ignore the rest: these lessons will leave out the parts of C that, while useful, are not necessary to know in everyday Cocoa programming."

The first installment takes you from how to spell 'C', up through writing just a line or two that does very little on its own but shows the process. And if you buy my prescription at all, that's two out of four ideas needed!

<http://tcs.wap.org/topic?b=prog&top=30>

If this series continues, I'm sure it'll be one of the greats of its day. /;+/

With that encouragement, I decided to give it a try.

Since new ideas stick with me better when I can attach to them the names of real people and real events, here's what I've dug up so far in trying to understand where C, Objective-C, and Cocoa came from. After this digression, we'll close with a little more on Seth Roby's tutorial.

A language named "C"

The Objective-C language is an extension of another language simply named "C." Dennis Richie created C while he was working on the *Multics* project for Bell Labs. Multics was an early attempt at time-sharing expensive, and sometimes idle, mainframe-computing resources among a number of users at on-line terminals.

Project MAC at MIT was started at the suggestion of J.C.R. Licklider and resulted in the proposal to built

Multics. (At this point, I could digress into Licklider's seminal role in the creation of what is now known as the Internet, but I won't. I also don't know what "MAC" in the project's name stood for.)

Bell Labs withdrew as a Multics contractor in 1969 to begin its own time-sharing system development. Dennis writes: "By 1969, Bell Labs management, and even the researchers, came to believe that the promises of Multics could be fulfilled only too late and too expensively. Even before GE's 645 Multics machine was removed from the premises, an informal group, led primarily by Ken Thompson, had begun investigating alternatives."

Why did Dennis name his language "C"? Because he based it on the "B" language developed by another Bell Labs staffer, Ken Thompson, for Multics. "B", in turn, was a stripped-down version of the *Bootstrap Combined Programming Language (BCPL)* also used in Multics.

BCPL only allowed a programmer to write values that could be directly converted to binary values for storage in the computer's data registers and memory devices. Ken Thompson's B language was also "typeless" and was designed for another of his creations, the *Unix* operating system.

In 1969, Ken completed the first version of Unix on a DEC PDP-7 computer;

In 1970, he completed the B language, and; in 1971, he recoded Unix to run on the new DEC PDP-11 computer.

Meanwhile, Dennis Richie was busy developing his C language. Since the new PDP-11 computer provided several different fundamental representations to work with:

1 byte characters,
2 byte integers, and
14 byte floating point numbers,
one of his goals was to write a language that incorporated the notion of "data types."

By 1972, Dennis had produced a useable version of C.

In 1973, Ken Thomson proceeded to re-write Unix in C for the DEC PDP-11.

There must be something very special about an operating system and a language that have so successfully evolved together over 30+ years. At least Apple Computer has bet its future on them through its commitment to Mac OS X. The many flavors of Win-

dows seem to pale in significance. I'm thoroughly intrigued.

Why Objective-C?

To do this subject justice would require a dissertation on object-oriented programming (OOP) and this language's place within it. Short of that, let me just say that my introduction to OOP was an eye-opening book: Brad Cox and Andrew Novobilsky, *Object-oriented Programming, An Evolutionary Approach*, Addison Wesley Publishing Company, Second Edition 1986

Brad, who was the father of the original version of the Objective-C language, was driven then by a fundamental idea: that computer software was being designed and produced like handcrafts. That is, individual craftsmen doing their own things, perhaps very well, but with no means for combining their talents and products in a more industrialized manner. That meant that software development was a slow and expensive process and with only weak means to reuse anything in other products.

Brad thought software development would be better off copying the design and production methods of the makers of integrated circuit (IC) chips. He described in some detail how "software ICs" could be designed, produced, sold as parts, revised, and reused again to build bigger and better applications. He created the language Objective C to help fulfill his dream. Brad's Objective C was an extension of the C language onto which he layered the object-oriented concepts of Alan Kay's SmallTalk language.

Let's turn to Bill Cheeseman's book again and paraphrase a few key thoughts about Objective C as it exists today in the context of Apple's Cocoa development environment:

1) Objective-C is surprisingly easy to learn if you know C. (that's a plus!)

2) It has dynamic object-oriented extensions to standard C that make it possible to design applications in ways that are difficult or impossible using more traditional static programming languages such as C++. (that seems worth pursuing!)

3) "Developers learning Objective-C often report that they have experienced a magical 'Aha!' moment, when their understanding of the language gels and wide new horizons of possibility suddenly become visible." (OK, I'm sold. Are you yet?)

Seth Roby's "C is for Cocoa"

Jon Thomason's first TCS message summarized what's in the first lesson. As subsequent lessons have been placed on-line, Jon or someone else has posted the updates to the Mac Programming board of the TCS:

FROM: Jon Thomason Mac Program-
ming

>> The first installment takes you from how to spell 'C', up through
>> writing just a line or two that does very little on its own but shows
>> the process.

[cdevcenter.com/pub/a/mac/2003/07/22/cocoa_series.html](http://www.macdevcenter.com/pub/a/mac/2003/07/22/cocoa_series.html) http://www.macdevcenter.com/pub/a/mac/2003/07/22/cocoa_series.html

The second installment is online now, and shows how a series of lines can be grouped together to form a function: a unit of programming that you can reuse.

http://www.macdevcenter.com/pub/a/mac/2003/08/01/cocoa_series.html

This series is shaping up nicely. Is anyone here reading it as an introduction to programming from scratch? I'd be interested in your impressions. / ;+/

FROM: Jon Thomason Mac Program-
ming

I'd missed the third installment. The fourth is up, and they're still superb.

The third installment introduces an important programming concept: the "flow" of control in a program. How one gets from here to there, one step at a time, including how to decide which of two ways to turn at a logical intersection.

[ml" http://www.macdevcenter.com/pub/a/mac/2003/08/19/cocoa_series.html](http://www.macdevcenter.com/pub/a/mac/2003/08/19/cocoa_series.html)

The fourth installment shows how to do what com-

puters do best: to keep doing the same thing over and over again unflinchingly, and to know when to stop.

[acdevcenter.com/pub/a/mac/2003/09/09/cocoa_series.html](http://www.macdevcenter.com/pub/a/mac/2003/09/09/cocoa_series.html) http://www.macdevcenter.com/pub/a/mac/2003/09/09/cocoa_series.html

I should print these out for my wife. She was always better than me at math, anyway. Who knows what she could accomplish with C... let alone Cocoa! /;+/

FROM: Richard Rucker Mac Programming

The fifth was posted today. It covers pointers to allocated memory spaces in the heap and points out that Cocoa makes extensive use of them.

[.com/pub/a/mac/2003/10/07/cocoa.html](http://www.macdevcenter.com/pub/a/mac/2003/10/07/cocoa.html)
<http://www.macdevcenter.com/pub/a/mac/2003/10/07/cocoa.html>

I've been saving each build as a separate main.c file for later reference. So far, I have the following folders containing a corresponding main.c file:
main #7 - pointers

- main #6 - for loop
- main #5 - do..while loop
- main #4 - while loop
- main #3 - switch operator
- main #2 - ternary operator
- main #1 - basics

Each file is commented to remind me of the details of what was new at each step. At the bottom of each, I've included the "build and run results" in a final comment to show what that version does when run.

This is one of the best tutorials I've had the pleasure of working through.

Dick

The most recent lesson is entitled "The Double Life of Variables." It introduces the concepts of "the Stack" and "the Heap" as the two places where C functions and their variables reside in our computers. It then shows how a programmer writing in Objective C refers to items in either place and updates their contents. By the end of the lesson, the student will have built and successfully run a program referred to as "main #7" in the list above.

My next step: to start working through Seth's "C is for Cocoa" tutorials in Panther's Xcode instead of Jaguar's Project Builder. Want to join me? ■



Want a piece of computing history? The Winter Garage Sale featured this NeXT station, equipped with a 25 Mhz processor, one gigabyte hard drive, 20 megabytes of RAM, and NeXT System 4.2. Selling price: \$100. (Photo by Craig Contardi, taken with an Olympus C5050Z digital camera)

Mac OS 9 Web Browsers

A Mini-Review

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IN CASE anyone is still interested in OS 9 browsers, here's a mini-review:

At the suggestion of a member or two, I switched from Netscape Communicator 7.02 to Mozilla 1.2.1 as my browser. Though my home computers have all made the transition to Mac OS X, my office is still on Mac OS 9.2, and that means I can't try the wonderful new features of Safari or Mail. In the context of a TCS thread, someone suggested that I take the freeware Mozilla 1.2.1 out for a spin. It's said to be faster and more advanced than Netscape, and they are both builds of pretty much the same product.

The download was a little hard to find. After all, Mozilla, too, has made the move to Mac OS X, even though that means it must compete with Apple's own free browser and mail client. Mozilla has advanced to version 1.4, but there is no build of Mozilla that works for Mac OS 9 after 1.2.1. But, after some surfing, I came upon it at <http://www.mozilla.org/releases/old-releases-1.1-1.4rc3.html> near the bottom of a very long web page.

The transition was almost frighteningly easy. I clicked on the Mozilla installer, carefully searched the custom menu, and then let it do a standard installation. Bingo! It had captured and catalogued my email, email accounts (and I have an unusually complex array of pop3, imap, and smtp accounts), address book, and bookmarks. I was a bit surprised that Mozilla seemed to have a chat client that did not leave room for AIM, MSN, Yahoo, or the other major chat and IM clients. I never did determine whether I was using that incorrectly.

The start-up screen and top right icons are significantly prettier than Netscape, AOL, MSIE, and all the others I've seen ... if you like fire breathing Tyrannasaurus and all that. Okay, I admit I never quite finished playing with those before Mom took them

"In the context of a TCS thread, someone suggested that I take the freeware Mozilla 1.2.1 out for a spin. It's said to be faster and more advanced than Netscape, and they are both builds of pretty much the same product."

away.

Mozilla does "feel" a bit faster, though it was difficult to test Web page responsiveness in any meaningful way ... especially after my cable company doubled my download speeds in the middle of the test. Email and Web pages, when they came, came faster.

But, the bottom line is that I'm back on Netscape. There were a couple of undocumented problems with Mozilla. First, Mozilla could not retrieve my Netscape mail. I'm not sure whether this was an incompatibility with IMAP protocols, but another WAP member suggested (in grave, technical detail that flew right over my head) that Mozilla does not have access to proprietary formats for accessing Netscape and AOL email. I dropped my paid AOL account a while ago, but I still keep a couple of free Netscape accounts, and I much prefer an email client to a Web client in retrieving my email. While I use the accounts rarely, that was a factor for me.

Second, Mozilla just couldn't live up to its reputation for being more advanced, at least as to stability issues. I only reviewed this on a subjective basis, but I seemed to be crashing much more often, and there seemed to be particular problems accessing JavaScript. While that problem may be generated by Web sites using Microsoft's adulterated version of JavaScript, the bottom line is that Mozilla frequently hung or crashed the whole computer just after an attempt to access a new Web site. Similar problems were suspected in streaming video sites, including mainstream sites like pbs.org. I also seemed to crash fairly often when connected to

“The transition was almost frighteningly easy. I clicked on the Mozilla installer, carefully searched the custom menu, and then let it do a standard installation. Bingo!”

https (secure http protocol) Web sites. Generally, crashes and hangs became an issue.

While not decisive, another flaw of Mozilla taught me a bit more about my own — and probably others’ — ergonomic comfort as a computer user. When Netscape crashed, a little application called Talkback would appear after it was restarted, and the user could document the crash and dutifully send it across the Ethernet cable and into the wall. It may well have landed in cyber Erewhon, but there is something comforting and co-opting about such a crash report. When the user is made to feel like part of the solution, it is harder to be angry about the problem. Mozilla has a similar reporting mechanism. Indeed, it is Talkback. But, when you upgrade from Netscape 7.02 to Mozilla 1.2.1, the Talkback claims it is sending Mozilla’s crash messages to Netscape’s programmers. While I am quite sure that there is no difference in how responsive the programmers are to these reports so long after the product has been orphaned, it is too easy to feel frustrated that Mozilla seems to send your bug reports to someone else’s exterminators.

My next try will be <http://www.wamcom.org/latest-131/>, which was suggested in a private posting by yet another active WAP member. I see that the notes provide a spell checker, and I can sure use that. But, even more interesting, they refer to correcting a bug involving https page access. Let me hear from you on the TCS or at Richard@RSSternberg.org if anyone is interested in a mini-review of that freeware browser. ■

(Of course we are — .ed.)

How to Roll Your own Hard Drives

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Extra Hard Drives Can be Very Handy

I HAVE HAD several occasions to mount a naked hard drive mechanism into an enclosure of some sort so that I could plug it in to one or another of my machines. With hard drive capacity available for not much more than \$1 per gigabyte, extra hard drives can be handy things to have around. This article demonstrates how anyone who can use a screwdriver can install a bare hard drive into an economical case and thereby gain some extra storage at a moderate price.

Compact Portable Drives

Laptop computer users will find a compact external hard drive like the ones pictured in Figures 1 and 2 to be very handy in a number of ways. Both units are about the size of a fat checkbook, which means they do not take up too much room in a suitcase or in one’s laptop case. The black object in Figure 2 is a carrying case that provides a certain amount of padding that may protect the drive if it is not dropped too severely.



Figure 1 - Cooldrives Clearlight compact external 2.5 inch enclosure with drive installed.



Figure 2 - Hotdrive 2.5" Mobile enclosure.

Figure 1 shows a "Clearlight" enclosure that I found at <http://www.cooldrives.com/>. The unit in Figure 2 is a "hotdrive 2.5 mobile" model from the same source.

Figure 3 shows just how easy it is to install a drive mechanism in the enclosure of Figure 2. The pins on the drive slip into the connector on the end of the circuit board. The IDE to 1394 converter chips are on the back side of the PC board. The PC Board with drive mounted on it simply slips into the aluminum case and two tiny Phillips-head screws (Figure 4) hold everything together. This enclosure only accepts 9 mm thick drives. The one in Figure 1 will also accept the older 12 mm thick drives.

Figure 4 shows the ports for the interface cables and DC power on the "hotdrive" unit. The drive requires some help with DC power when connected to USB. The USB cable is special with two "A" plugs on the computer end and a min-USB plug at the drive end. These provide enough power if the unit is connected to a powered hub, as it was when I tested it. The kit comes with a small AC adapter that can be used in other situations.

The Clearlight model in Figure 1 has a selector switch that

allows the user to control whether power comes from the bus or from the AC adapter. This is especially handy with some older Macs that do not supply power through the FireWire port or where the ports are heavily loaded.

Those who have upgraded the hard disk capacity on their laptops can install the low-capacity drive they started with into an enclosure and put it to work for a number of useful tasks. Road warriors ought to have some kind of a convenient backup medium and an external boot device for emergency use. Laptops are vulnerable to theft and to damage from rough handling and accidents, so that extra care must be taken to keep them backed up.

I have a 2 GB drive that stores a Mac OS 9 system so that I do not need to have Classic and its applications taking up space on my iBook. I can launch Classic from the external FireWire drive whenever I need it (which is very seldom these days). Another 2.5 inch external drive carries my music collection so that I can save that space on my main hard drive. Altogether I must have 6 or 8 compact external FireWire drives that I use for different things.

Desktop Hard Drives

In the old days some people regarded tape as the medium of choice for backing up hard drives. The capacity of the tape was much greater than that of most hard drives and the storage was very compact. However, the tape medium was pretty unreliable for long-term storage and we were thankful when magneto-optical storage came along. At prices in the \$1 per gigabyte

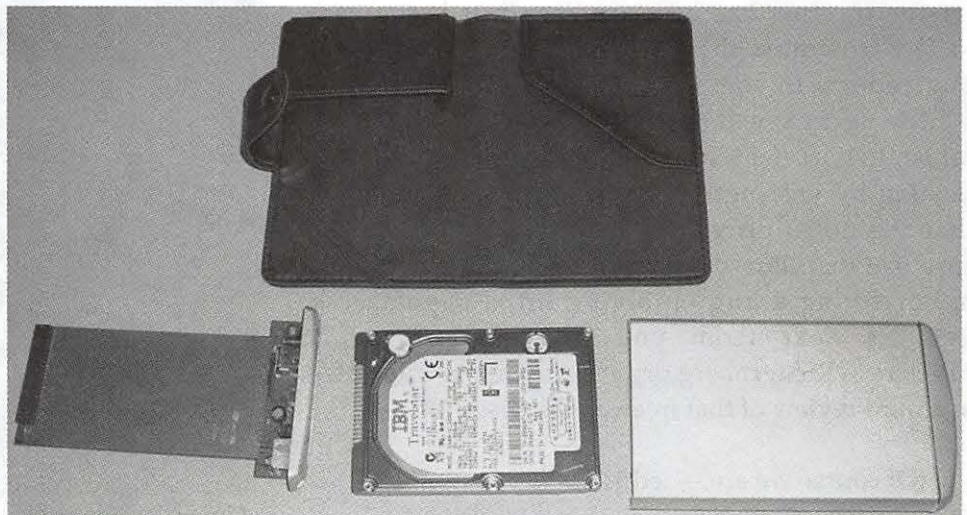


Figure 3 - Hotdrive 2.5" Mobile enclosure, disassembled.



Figure 4 - Rear view of Hotdrive 2.5" Mobile showing external connections.

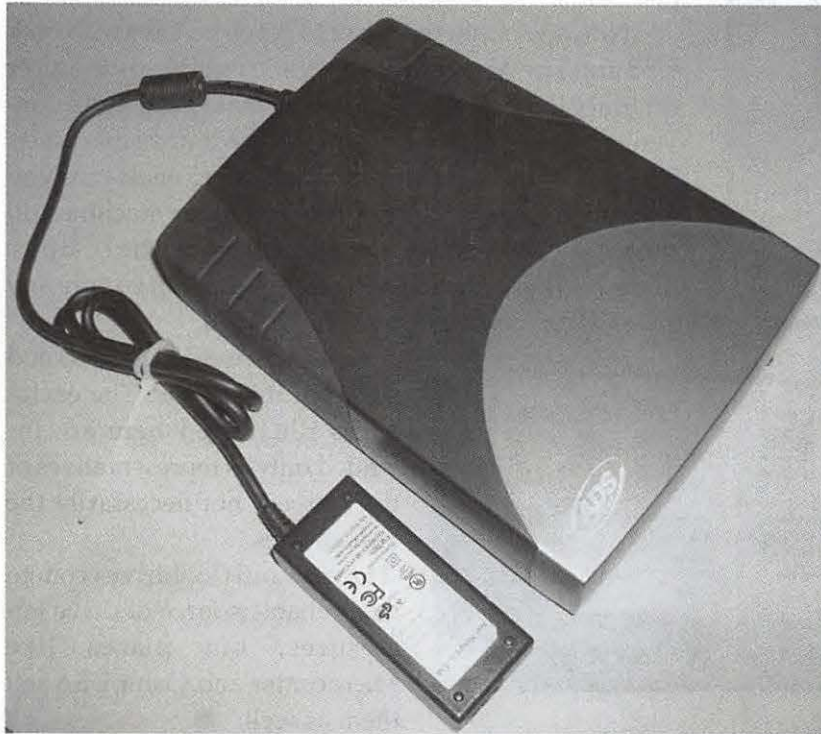


Figure 5 - ADS Technologies enclosure for 3.5" hard drive.

range modern hard drives seem to offer an excellent combination of durable storage and easy access.

Just as we used to keep our 68K and early PowerPC desktop computers backed up on SCSI drives in the old days we can now treat our Power Mac G3, G4's and G5's to the same tender loving care at a more modest price. While there is room for extra drives in the internal bays of newer machines, there are still good reasons for pulling an external FireWire drive out of the drawer and cabling it in.

Multimedia projects take up lots of drive space and it is nice to archive them in a convenient form if one wants to work on them later. A hard drive in an easily disassembled enclosure is nearly the functional equivalent of a large removable drive.

Two examples of 3.5-inch drives in user-accessible enclosures are shown in Figures 5 and 6. I think the built in fan provided in the ADS Tech-

nologies unit (Figure 5) is a distinct advantage, as the unit in Figure 6 runs rather warm to the touch. As can be seen from Figure 7 the USB port on the ADS

Technologies (Figure 5) unit allows for the use of an ordinary A to B cable.

The USB capability of the ADS Tech unit has proven useful in backing up data from a Windoze laptop that I scrounged up for research purposes. I expect to use it quite soon for some maintenance work on an iMac that lacks FireWire.

The exploded view of the Ice-Clear unit shown in Figure 8 reveals once again the basic simplicity of these kits. The interface electronics are on the assembly in the center of the picture. One needs only to connect the ribbon cable to the drive pins and the power connector to the appropriate jack. Once the drive is seated over the holes in its mounting base it can be screwed down. The shield assembly at the right of Figure 8 can be screwed to the rest of the assembly and the clear plastic case can be fastened on with a few more screws.

Most of my 3.5 inch drive mechanisms are not in an enclosure at any given time. Since it is awfully tedious to mount one drive after another to examine its contents, I keep a catalog of the files on the drives. The shareware *DiskCatalogMaker* by Fujiwara Katsuya is a great tool for this purpose.

General Observations

Before anyone goes trucking off to buy an enclosure, let's note that high capacity external drives are now quite cheap. If one needs a single drive for simple everyday backing up it might be best to buy a preassembled unit because the price is often less than the combined price of an enclosure and a drive mechanism. Some manufacturers package hard drives in the kinds of user-accessible enclosures described above. It might be worth seeking these out if you think that your later needs will be served by the "one enclosure holds all" model.

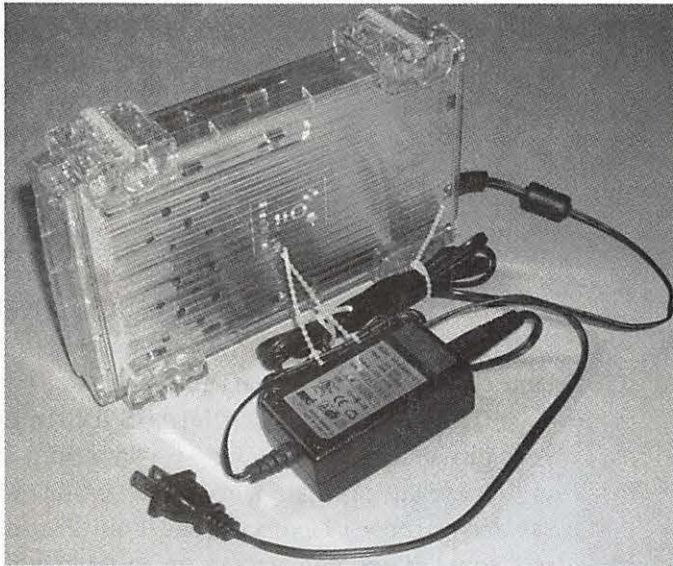


Figure 6 - Cooldrives ICE-clear 3.5" drive enclosure.

If, on the other hand, you find that you have a hard drive that needs a home, by all means put it into an enclosure so that you can use it. As drives get bigger and bigger you can put your archived stuff on the current drive and swap it out for a new large economy size at a very modest price. The one enclosure for several drives approach makes for more compact storage because one does not need to save all of those power bricks and cords.

Nowadays you will want to get enclosures with both USB and FireWire capability. While FireWire is the nicer interface, having the USB option makes life more convenient with some older iMacs and Windoze machines. You will want to be sure that whatever enclosure you use can get adequate power. Some older machines do not supply adequate power, particularly on the USB bus. Some add-on cards for older laptops do not supply any

bus power at all.

I have not specified models and prices in this article. The enclosures illustrated here are intended only as representatives of their breed, not necessarily the best choices.

I have found Cooldrives.com to be a reliable source of drive enclosures, but places like Microcenter and CompUSA sell them as well. ■



Figure 7 - Cooldrives ICE-clear 3.5", view from rear.

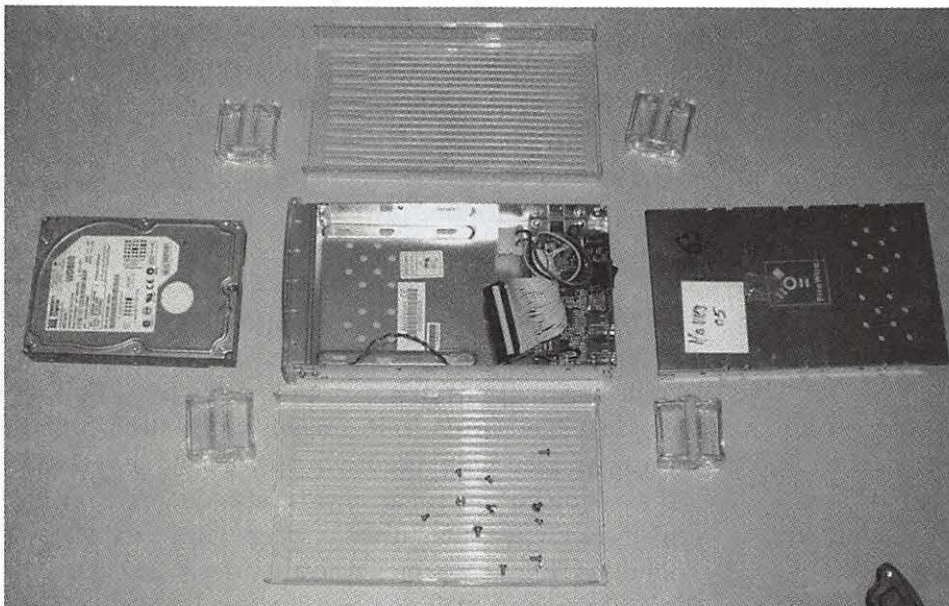


Figure 8 - Cooldrives ICE-clear 3.5", disassembled.

A retired government scientist, John runs JDB Science LLC, a freelance enterprise for scientific work and Macintosh user assistance. Contact him at jdbscience@mac.com

[Editor's note: John took the photos himself, with an Olympus C5050Z digital camera. When asked how he managed to get a nice, smooth, neutral background, he replied that he used good lighting and a large piece of light blue cardstock.]

Archiving Genealogy Information in a Generic Fashion

by Richard T. Robusto,
Las Vegas PC User Group,
Submitted via APCUG

MOST OF US in the genealogy field find ourselves with large amounts of information on our relatives. It challenges us to find a way to preserve it in a manner that in the future, near and distant, our descendants will be able to access this data in a timely and understandable manner.

When I first started my genealogy project, I had the mistaken idea that I could put away the program and all the data files so that it could be accessed years from now. Boy, was I naïve. I was using Windows 98 at the time. Later I upgraded to Windows ME and then to Windows 2000. At this point the program would not work at all with the new system. Of course, I got the updates and finally got it working, but it really got me to thinking that there had to be a better way to preserve information so that it can be used in years to come without difficulties.

Of course, the first thing that comes to mind is that you should have a printed copy of everything. This I did on good acidfree paper. There are different results that can be achieved. For instance, you can print out a fan type chart. I did that first. It took close to 65 pages of standard letterhead size paper. Then these had to be meticulously trimmed and taped together making a large five foot square. Another method was to print out a horizontal "format" chart. This involved the same number of sheets and after assembling them together, made a chart that was three feet wide by twelve feet long. This requires an empty wall in order to display it. As far as preserving them, it poses quite a problem. How long would something of this nature last rolled up and packaged? As we all realize, time is our enemy.

In 1999, My wife and I took a trip to Italy with my son and his wife. We went to the mountaintop village that my parents came from in the early 1900s. We went

into the commune (town hall) to get information about the family, birth and death dates, etc. It turned out to be quite interesting in the information that we were able to acquire. When we went into the commune and asked, they took down a ledger about 10 by 18 inches with about 20 pages of paper inside. When they opened the book and turned the yellowed pages, you could hear the sheets crinkling, almost as if they were leaves from a tree. The thought that went through my mind is that we didn't get there any too soon. I am sure that in a few more years, those sheets will deteriorate and be unreadable. On top of it all, I was not able to find any digital or photographic record of the information that was in that ledger. Coming away from this experience left me with the resolve that records need to be digitized and photographed as much as possible. I know that this is happening in some parts of Italy, but in this rural area, it is a long ways away.

So the problem of archiving has to be faced. Sure, we could leave all the information on an individual hard drive with the program itself. But the future holds many uncertainties. Will this drive be able to be accessed with Windows 4000 or Linux Extradense 4500? Sure, everyone says that it can always be brought up to date with current technology. But what if this item were to be put in a safe place where no one saw it for a long time. It would become a relic and probably unusable.

In trying to solve this dilemma, I have tried one or two things which I would like to discuss. The first is the FlipAlbum which can be used to produce what is called an "E" book. This can be any number of pages and can be put in the order desired. To set this up, I captured the pages out of my genealogy database converting them into bitmaps. I also added all the necessary photos, being able to superimpose descriptions over any part of the photos. When they were finalized and put in the proper order, then the FlipAlbum can be shown on any computer. The program puts a small file in the beginning of the book so that it can be shown on any computer without the necessity of having the program installed. The pages can be set and automatically timed to be seen as a slide show or can be turned manually as desired. The advantages are that it can be viewed on any computer and there is no limit to the number of pages that can be inserted. There is also a provision to add MP3 music playlist, plus it will accept most standard images and multimedia formats. The pages can be viewed in centerfold and double page mode to view photos better. Included also is the ability to print the

entire album or individual pages or photos.

I have constructed a couple of FlipAlbums with the first and second generation of my genealogy. Next I intend to revisit the project and add every page from the genealogy that I have and make a complete FlipAlbum. When this is complete, then it is an easy matter to copy the discs so that the members of the family can have their own copy, assuring the permanence of availability of the information.

The second idea that I had was to take the same sheets that I had used in the FlipAlbum, and use them as individual files. Then, using a program such as Ulead DVD Picture Show, set them up as a slide show which can be shown on any TV using a DVD player. The files are big enough to fill the TV screen and, that allows you to read the text on the data sheets. The photos come out well as they fill the screen also. The only drawback with this is that the timing of the files has to be set for approximately 15 seconds so as to have enough time to read the data. Unlike the FlipAlbum, the timing cannot be changed once the disc is made. This program will also allow audio tracks to be added. I have an idea of narrating all the information as it is shown, but I haven't got that far yet. I found out that I do have to sleep somewhat at night. For the first ones I made I added a music background. I also made a cover sheet that is shown first with the name of the families and the author's name. The only disadvantage to this is that you are limited to the capacity of the disc which is 700 MB. But as soon as I acquire a DVD writer, then I will be able to incorporate the whole genealogy section into one disc.

I like the idea of making my own slide show with this DVD program. This can be shown a lot more universally without having the use of a computer. Plus the viewing is much more pleasant on a TV. And with the advent of HDTV, the views can only get better. And let's face it, the DVD image will be with us a lot longer than the current operating systems. So hopefully, many years in the future, our descendants will be able to see all this information and will appreciate the efforts that went into making these things as permanent as we could in this day and age. ■

Richard Robusto <ricmar2@cox.net>

From the December 2003 *Apple Pickin's*, newsletter of the Northwest Apple Pickers.

Choosing & Using Optical Media for Data Storage

by Bryan Villados, HMAUS member

ALWAYS THINK about data storage as long-term. Thinking along that line, there are two things you must consider when choosing a media type to store your data.

First, will there be a device available in the distant future which will read your choice of media? It's impossible to predict the future, but you can still use past events to make your decision. Storage media like Iomega Zip may be cheap and convenient today, but, based on experiences, I can almost guarantee you that the Zip drive will be a thing of the past very soon. Take a look around; do you see any Syquest drives? How about an Iomega Jaz drive? You get the idea. On the other hand, the CD-ROM technology that we know of today has been around since the late 1970s, when NASA first used this form of media to store data on their spacecrafts. I'm confident that there will be CD-ROM drives decades from now.

Second, will the media itself be readable in the distant future? General rule of thumb: If you use magnetism to store the data, you can use magnetism to accidentally erase the data. Media that relies on magnetism is vulnerable in today's environmental conditions. Media of this type includes Zip cartridges, 3.5-inch disks, and even fixed hard disk drives. Look around you—things like leaving a disk on top of a monitor can be hazardous to the disk. You want to choose a media type that takes quite a bit of effort to destroy, and also is durable enough to handle things like spilled soda or even scratches.

Physics of CD writables

The popular form of CD writables, or what we call "CD-R," is in the form of a 120mm completely round disk. Simplifying the physics, a CD-R is basically a piece of Plexiglass with a colored dye applied to one side, and an added layer of clear material

protecting the dye. If you want to write something on the disk, you apply a laser to the dye, so that it changes the dye's form. The change in the dye simulates a pit you'd find on a pressed CD. That's all there is to it.

Industry lingo

"Burning" is a term used to describe the CD writeable process. Literally, the laser burns a mark into the dye. A CD-ROM burner is the device that burns the CDs. "Pressed" CDs refer to CDs you normally buy that contain information, such as an audio CD or computer software like Adobe Photoshop and Mac OS X. They are manufactured using a process of pressing the data onto a thin aluminum wafer that is shaped like a CD, then is pressed between two pieces of Plexiglass.

CD-R refers to CDs that are write-once. Once data is written to a certain portion of the disk, you cannot change or erase the data.

You can use a CD-R multiple times, to fill the disk, if you choose the "session" option. Otherwise, if you close the CD-R, you can no longer write to the disk. CD-R capacity on a 120mm disk ranges from 650MB to 700MB, or 74 to 80 minutes, and can be written with speeds ranging from 1-times to 12-times on Apple-branded drives.

CD-RW refers to CDs that are write-many times. They're virtually identical to CD-R except the fact that you can erase a CD-RW disk completely, then use it again.

The problem with CD-RW is that, because you're using a laser to change the characteristic of the dye, that dye will break down after each write, resulting in data loss the more you write to the disk. This is why I discourage people from using CD-RW disks.

DVD usually refers to movies and other multimedia content you buy or rent. DVD-ROM refers more to computer data like software applications, but uses the same type of media. Both DVD and DVD-ROM are considered pressed CDs. In the near future you will see more and more computer software sold on DVD-ROM.

DVD-R and DVD-RW have the same functionality as CD-R and CD-RW. DVD-R/RW has a physical capacity of 4.7GB or 120 minutes. Like CD-RW, I do not recommend that people use DVD-RW.

Modern Apple CD-ROM hardware

Recently, Apple Computer has used several types of CD-ROM drives:

- CD-ROM: Reads pressed, CD-R, or CD-RW.

"Storage media like Iomega Zip may be cheap and convenient today, but, based, on experiences, I can almost guarantee you that the Zip drive will be a thing of the past very soon."

- CD-RW: Reads pressed, CD-R, or CD-RW. Writes CD-R or CD-RW.
- DVD-ROM: Reads pressed, CD-R, CD-RW, DVD-ROM, and DVD-R.
- SuperDrive: Reads pressed, CD-R, CD-RW, DVD-ROM, and DVD-R. Writes CD-R, CD-RW, DVD-R.
- DVD-RAM: Different from SuperDrive. Requires special caddy to write to DVD-RAM media. If you own this type of drive, I'd stop using it and upgrade to a SuperDrive or 3rd-party compatible CD-RW/DVD-R drive.

Finding the right brands of media

It's very important for you to find the brands/makes of media that work well with your Macintosh. Also, for most people it is equally important that the same media work well with your other disk players, such as your home DVD player or automobile CD player. Other computer platforms may make or break the media, such as your girlfriend's Dell Windows-based PC. Of course, if you're like Ted Kaczynski and you don't have any friends, then you don't have to worry about cross-platform compatibility!

You can always search for a good brand/make of media on a trial basis. However, if you just want me to tell you what to buy, here are my recommendations:

- Major brands: TDK, Apple, Pioneer, Memorex, Kodak, SONY. If I left out a certain brand, it just means I haven't tried the brand.
- Buy media that has a painted-on labeled surface. Buying media that does not have a label or has a transparent label is not recommended. Non-labeled media has a tendency to be a lot thinner than the major brands, and also becomes faulty with even the slightest

scratch. Pen markings on the labeled side can also be seen on the data side. HINT- If you can see the pen markings, so can the laser.

- Buy media that matches or exceeds your CD-ROM drive's specifications. If your drive can burn up to 12x, do not buy 4x media. However, it's okay to buy 40x media.
- For DVD-R people, buy media that is clearly marked "DVD for General." Do not, under any circumstances, purchase "DVD for Authoring" media. Also, only buy DVD-R media that is single-layered (sometimes identified as "DVD-5" but not always). Avoid buying dual-layered or DVD-9 media.

Proper care of your media

Here are a few tips on preserving your media so that it doesn't go bad on you in the long-term:

- Use acid-free markers when writing directly on the CD. Markers that contain acid will be more likely to eat through the Plexiglass and affect the data side.
- Do not stack your already-written CDs on top of each other, as in a spindle. The paint or markings on one disk may melt and stick onto the data side of the other disk. Also, having the disks spinning around on top of each other will potentially scratch the data side.
- Do not leave your CDs out in sunlight or artificial light.
- Do not apply any alcohol-based chemicals on the data side of the disk. Remember that Plexiglass is a petroleum product.
- When cleaning a CD, always wipe across the CD. Do not wipe around the CD.

Cross-platform compatibility

Remember that the Macintosh platform represents less than 10 percent of the entire computer population. I'm not mentioning this to make you feel depressed or anything, but it's a basic fact of a Mac Geek's life. If you work with other computing platforms, or with other people who use other computing platforms, you can do one of several things: dump your Windows friends for Macintosh friends, get a job where Macintosh computers are used, work with Macintosh-centric vendors like service bureaus, or cater to the other platform's needs. I recommend the latter. It's much easier to adapt yourself to others than to have others adapt to you, right? With that, consider the following tips to im-

"Remember that the Macintosh platform represents less than 10 percent of the entire computer population. I'm not mentioning this to make you feel depressed or anything, but it's a basic fact of a Mac Geek's life."

prove cross-platform compatibility:

Use CD burning software that can create hybrid CDs (a CD containing both HFS Extended and ISO-9660 formats). Mac OS X with its built-in authoring software can only produce HFS Extended disks, and Windows PCs cannot read them. Roxio Toast Titanium allows you to create a hybrid CD with ease. So I highly recommend purchasing Toast.

Make a habit of using filename extensions. Yeah, I know Macintosh people take pride in not relying on filename extensions to link documents with software applications. So swallow your pride and start using filename extensions. Filenames without extensions make the files useless or very difficult to work with for Windows users. Matter of fact, Mac OS X uses filename extensions more and more each day. So using filename extensions is a good habit to develop.

This article is based on notes from the CDRW/DVD workshop, presented at the HMAUS MacSpringFest by Bryan Villados. You can also find his PowerPoint slides (in Quick Time MOV format) at <http://www.macgeek.org/instruction/CDRW_DVD.mov> ■

From the October 2003 *Signal*, newsletter of the Honolulu Macintosh & Apple Users Society (HMAUS).

An Overview Of *Knockout 2*

by Bill Kingsley

SANTA DROPPED by a few days early this year, leaving off a most welcome package: *KnockOut 2* (KO), the Photoshop plug-in published by Corel. The purchase price recently was reduced—to just \$89—and it looked like a good investment. A note to Corel sales and also to technical support to enquire about compatibility with my *Photoshop Elements* (PE) went unanswered. The KO gift arrived, and the dilemma became: to open or not to open?

Washington Apple Pi mavens frequenting the Pi forums on the TCS suggested that KO likely is compatible with PE, and so I crossed fingers, broke the seal and fired up the installer. The install process stopped cold at the point where the user gets to “Accept” the fact that the publisher is always right, and the user always wrong, in all matters having to do with use or failure of the product. The “Accept” button was grayed out and stayed that way. WAP-member Rick Zeman suggested that I scroll to the bottom of the license document. This made no sense at all—one would only do such a thing if he actually wanted to *read* the offending text. But I did it anyway, and the button came to life! After that—a piece of cake. The installation put the plug-in code into the PE *Plug-Ins* folder as requested, and the PE-KO team became an operational unit.

What It's All About

One big problem that KO addresses is that of composition. If you are an amateur photographer like me, you have no photo studio, no lights on stands, and no movable scenery. You get no financial remuneration, and hence little obedience from your subjects. So you grab what shots you can as things seem to come together, and often as not, you end up with a poor composition. In particular, you often find that the person or object photographed is situated against an imperfect background: the “telephone-pole-coming-out-of-the-head”

syndrome.

Undesirable backgrounds often are made especially unsuitable by the fact that they are in sharp focus. Consumer-priced digital cameras have lenses of shorter focal length than that of their 35 mm and larger format counterparts. Depth of field is a property of focal length; long lenses have shallow depth of field, short lenses have deeper fields. Since our typical digital camera has a light sensitive component (“film”) that is smaller even than a 35 mm frame, the camera lens must be shorter—so the depth of field is great, and it often becomes impossible to throw the background out of focus.

KO's purpose is to facilitate the isolation of one area of a photograph from another, so that the two can be handled separately and perhaps one can be discarded in favor of a better substitute. There are other tools available to “lasso” a part of a photo in order to deal with it separately, but as we shall see, KO brings increased power and flexibility to this task.

Compatibility

KO is a member of that class of software applications known as plug-ins. That is to say, it does not operate in a freestanding manner, but rather as a *helper* module working with some host application. The Corel literature states that KO works with Adobe *Photoshop*, Corel *PHOTO-PAINT*, and Corel *Painter*. I'm happy to report that we now can add Adobe *Photoshop Elements 2.0* (PE) to that list.

KO permits the user to define three areas of an image: *foreground*, *background*, and *transition*. It is this recognition and support of a transition area that sets KO apart from other programs and the more common selection methodologies. Within the user-defined foreground, all pixels are of course designated as belonging to the foreground. And within the user-defined background, all likewise are treated as belonging to the background. But within the transition area, each pixel is examined and categorized by KO as belonging to foreground or to background according to its color. It is this analysis and categorization that I believe is unique to KO.

Package and Installation

The distribution package includes one CD-ROM, a card with installation instructions, another card bearing the software license key, and a thin but well organized manual. The manual provides quite complete, if

rather cryptic coverage of KO functionality.

The installation process for KO is the best kind—uneventful. Just launch the installer, remember to scroll to the bottom of that license prose, select the location for installation according to guidelines of the host application, and let it run. After installation, KO is invoked by selecting the appropriate menu item from the host application. In the case of PE, this is the *Filters* menu in which a *KnockOut* entry now appears.

The installation creates a new *KnockOut* folder within the *Plug-Ins* folder. This contains the plug-in itself along with a score of sample images and a few tutorials. A complete list of components installed and their locations is logged in the */Library/Receipts* folder.

Support

The user that is knowledgeable and experienced with *Photoshop*, or with whatever other host application is paired with KO, is unlikely to need much support. And that would seem to be a good thing. Corel did not respond to e-mail sent from elsewhere other than from within its web site—and was not very quick to answer one that was. I received a response to one simple question about ten days after submission.

Features and Functions

In order to perform the KO function, the user duplicates the entire subject image in a new PE layer, and in that layer the foreground, background, and transition areas are user-defined by means of the KO-provided tools. This definition is accomplished by drawing two more-or-less parallel lines around the foreground object. One of these lines will be just within the foreground, and the other will be just outside it. What is outside the outer line is background area; inside the inner line is foreground area; between the two lines is the transition area. The plug-in provides two pair of tools for this: inside and outside pencils, one for the foreground object and the other for its shadow, if any. After the three areas are established the “knock out” function is executed, and this removes all background pixels, leaving only the foreground object. When this layer is then loaded back to PE, both it and the underlying background layer may be separately manipulated. Using the PE tool suite, one may be emphasized,



Fig.1: *Original Snapshot*, taken with an Epson PhotoPC 850Z; June 2000

and the other de-emphasized. Alternatively, the new layer with isolated foreground may be moved to yet another PE image file containing a different background altogether.

The KO tool suite includes two powerful tools for rectifying any misidentification of pixels lying within the transition area. One of these is a “brush” which can be used to restore pixels that should not have been removed; the other is an “eraser” that will remove pixels that should have been taken out but were not. These tools may be used one after the other, over and over, until the user is satisfied or exhausted.

Using KnockOut 2

The following steps were taken in order to create three sample images that illustrate the KO functionality:

Select a photo

First off, I cast about in my stock of photos to find one that would be an appropriate demo subject, i.e.,

having an unfortunate background. (This search proved not at all difficult.) The selected photo is hopelessly afflicted by a busy, distracting background that includes brightly colored objects inconsequential to the scene. The subject is lighted by direct, on-camera flash; something to be avoided where possible, and the flash is overpowered by bright sunlight streaming through a window directly behind the subject. This lighting results in an underexposed subject with some washed out features.

Use KO to de-emphasize background

The following steps were taken to see how KO might be used to improve the existing background:

- The original JPEG was imported into PE, brightness and contrast were adjusted to compensate somewhat for underexposure, and the result was saved as a Photoshop file. That photo is shown in Figure 1.
- The image was duplicated to create a new, working layer, and this layer was transferred to KO.
- Two KO pencil tools were used to designate the foreground, background and transition areas. The subject (foreground) was then isolated by executing the "knockout" function, and touched up using the brush and eraser tools.
- After this isolation and repair, the working layer, now with foreground only, was returned to PE. (Note that the appearance did not change at this point; old backgrounds show through the transparent areas in new layers.)
- In PE, the old background was selected and brightness and contrast were reduced to lighten the colors and make the clutter less intrusive. In the color photo, this also had the effect of reducing the glare from sunlight. This is not so obvious in the black and white versions, where contrast is pumped up for publication. This operation on the original photo of course did not affect the foreground subject on its separate layer.
- Finally, the PE Gaussian blur filter was applied liberally, to give an out-of-focus effect to the entire background layer, as if a longer lens had been used. The result of these operations is seen in Figure 2.

A comparison of Figures 1 and 2 shows what KO can do. This is most obvious in the changed appear-



Fig.2: Same as Fig.1; after background de-emphasis in KnockOut 2

ance of the soap dispenser bottle to the model's right. But for this particular photo, the results obtained are only marginally successful. In my limited experience with KO to date, I have found that distracting backgrounds that can be darkened lend themselves to this technique much better than those where lightening effects are used.

Replace Background

Having failed to achieve good results by minimizing the existing background, I next decided to replace it with an outdoor scene. KO users typically would collect and maintain a variety of attractive scenes for such substitutions. Being new to this, and having no such library, I stepped out in my back yard and squeezed off a shot across a patch of lawn, aiming into the sun in order to approximate the same lighting condition as the photo used in Figure 1.

The processing to effect substitution went as follows:

- The back yard JPEG was imported into PE and saved as a new *Photoshop* file.

- This new background was resized to be larger than the subject foreground created previously, but to maintain the same resolution (375 dpi).
- The isolated subject layer from the first experiment was copied into the new, larger background file, and was repositioned to create the final composition.
- The new background layer was then cropped so that the right sides and bottoms of the two images coincided.
- Finally, the background layer was softened by means of the Gaussian blur tool, creating the results seen in Figure 3.

Although results are more appealing this time, the picture still does not look entirely natural, and the effects of initial poor lighting are visible. These problems are not the fault of the KO plug-in, of course.

KnockOut Challenges

It is not always easy to draw the selection lines that define KO's three areas. In a complex image with many colors, it is appropriate to draw the two lines as close together as possible; otherwise, accuracy in the transition area may be impaired. Using a mouse to draw these lines is rather like trying to use a bar of soap to paint a picture. (Santa has been tasked to come up with a USB drawing tablet before quitting for the year.)

Another issue has to do with lighting. If light striking the knocked out foreground is of a different color temperature than that of a new background, the scene may not have a natural appearance. More importantly, if the light is coming from different directions in the two areas, and shadows fall differently, the effect will be jarring.

Perspective also should be considered. Horizons and vanishing points may not be visible in the picture, but they do nonetheless exist in both foreground and background. The viewer will be aware of them, albeit perhaps subconsciously. The feet of a foreground subject may appear to "float" above the floor in a new background if the camera's height and the angle at which it is held are not very similar in both shots.



Fig.3: New Background Substituted; photo taken with a Minolta Dimage S304; Dec 2003

If lenses of different focal length are used for the two shots, the difference in the effects of apparent distance from the viewer may be noticeable also. This is not an issue of perspective, but rather the different amounts of magnification provided by different lenses.

Conclusions

KO excels at one thing: isolation of complex subject areas. Imagine a subject with long, brown hair, blowing in the wind, posed closely in front of an evergreen tree. The green needles and brown trusses are so intermixed in a single layer of the image that manual separation, one from the other, would be virtually impossible. With KO, the entire area in which needles and hair occur together would be included in the user-drawn transition

area. The plug-in would then eliminate all of the green background pixels, while leaving all of the brown foreground, and the two areas would be neatly and rapidly separated.

Suppose that the available light is not good, and the camera's flash has illuminated the subject head on. The foreground, too near the camera is over exposed, and the background is under exposed. With KO, the two areas can be isolated one from the other. Brightness and contrast can be separately adjusted in each area.

Finally, consider the situation where multiple, disparate objects are to be included in a single image. With some prior planning, it would be possible to make a number of photographs, perhaps one of each object, and use KO to isolate each on a separate layer. These layers could all be stacked on top of an appropriate background to create the desired montage.

These capabilities are useful for those of us that grab our shots how, when and where we can, sometimes in places that are far from complementary to our subject. ■

The Apple /// In Ten EZ Lessons

A DVD set compiled by Dave Ottalini for Washington Apple Pi
December, 2003

I HAVE A lot of Apple /// stuff. So much, in fact, that after all these years it has become something that collectors are actually interested in. Ultimately, it will all end up in a museum. But right now, I have started gathering up some of the best stuff to help the Pi and preserve Sara's legacy as the first computer Apple as a company ever produced.

The history of the /// has been retold many times and in many places. But suffice it to say that many of us thought it was given short shrift and could have been a much more successful computer for Apple if the company had just made it a little bit cheaper and a lot less crippled in some of its capabilities. That said, we still get requests for ///s today and in December, WAP sold the entire set of 250 Apple /// disks to one collector. He is, in fact, now going to help us turn them into a CD.

Which brings me to the current Apple /// offering—a set of 2 DVDs that include all the lessons from Kennen Publishing's "How to Use Your Apple /// In Ten Easy Lessons." This material was originally presented on videocassette and copyrighted in 1982. Washington Apple Pi was able to obtain the rights to this material after Apple discontinued the /// and sold copies of the training video for a number of years.

Using just iMovie, I imported the video, turned it into chapters and burned it onto two DVDs using iDVD. But there's much more on these disks than just the How To tutorial. Over the years, I recorded interviews and conferences, took pictures and wrote many, many articles about the ///. Some of that material was turned into special iMovies as part of the DVD set. You will find a tribute to On Three, the longest-lived of the Apple /// vendors. The owner, Bob Consorti, produced a number of wonderful programs and, in fact, wrote BOS /// under Pi auspices. BOS /// (Bob's Operating System) was an enhanced version of the Apple /// OS, called SOS. We still sell it today. The DVDs also include a slide show of all the On Three Magazine covers, an interview about



the Apple /// running horses (from the demo disk) and more.

This is the first DVD set ever produced by WAP! Even if you are not an Apple /// fan, these DVDs have lots of great material and information. If you are a collector of all things Apple, this is a must-have since no where else will you find the content that we have provided here.

In the future, look for a CD that contains our Apple /// public domain library and a legacy CD of more Apple /// material including all my articles about the /// going back to 1983, material from the old Threes Company BBS, pictures, music, source code and much, much more.

Here's what's on each of the DVDS - which you can order online at

www.wap.org/store or by calling the WAP office at 301-984-0300.

DVD # 1 includes Lessons 1-5 plus the following extras:

- The /// Horses
- A Tribute To On Three
- Information about Washington Apple Pi

DVD #2 includes Lessons 6-10 plus the following extras:

- An Apple /// Slideshow
- On Three Magazine Covers Slideshow
- Information about Washington Apple Pi

In addition, we have saved the photos and other materials on the DVD, along with some other Apple /// material - Washington Apple Pi's Apple /// Disk Library, the Apple /// emulation mode project and some other materials.

I want to personally thank all the great "Sarasaur" I have met and worked with over the years - there are too many to name but they include Bob Consorti, Lavona Rann, Joe Dombrowski, Darryl Anderson, Frank Moore, Bob Cook, Ed Gooding, Paul Campbell and many others I should have named. You are all remembered as members of the Apple /// Community who would not let what we considered to be an excellent computer die.

I hope you enjoy these DVDs and the legacy that they help preserve! ■

Special Offers— Apple User Group Bulletin

THESE SPECIAL offers are brought to you by the Apple User Group Advisory Board. You must be a current user group member to qualify for these savings. Not a member? Join a user group today and take advantage of all the benefits of user group membership.

For the necessary URLs, codes and/or passwords, go to the Washington Apple Pi, <<http://tcs.wap.org/>>. After you sign in using the login and password that were printed on your membership card, select the link for the Classifieds Conference and choose "More Member Specials. Full details for each offer can be found there.

Panergy Software

Do you need to view, print or convert Microsoft Office documents so you can use them with AppleWorks? There's no need to buy MS Office. You can do it easily with Panergy's suite. icWord, icExcel and OneClickConvert quickly display or convert an entire folder of documents in one quick operation.

User group members who buy the icWord and icExcel bundle for \$29.95 (US) will receive OneClickConvert, regularly \$29.95 (US), for free.

Product details. <http://www.panergy-software.com>

This worldwide offer expires March 31, 2004.

dvGarage

dvGarage is a company dedicated to training the next generation of media developers. We build cutting edge training for 3D, compositing and visual effects designed to augment TV, broadband, DVD production and film. Offerings include the 3D Toolkit, dvMatte Pro for Final Cut Pro and After Effects, the Composite Toolkit, the Maya Lab and

many other training and surfacing tools.

dvGarage is offering user group members an exclusive discount of 30 percent off any single order. This offer covers any combination of products.

<http://www.dvgarage.com>

This worldwide offer expires March 31, 2004.

Sybex Books

Sybex, an independent computer book publisher with over 27 years of experience and commitment, is offering Macintosh user group members 40 percent off list price for online purchase of the following books: Mastering Mac OS X, Third Edition, Mac OS X Power Tools, Presenting Keynote and iMovie 3 Solutions. Other titles are available at 20 to 30 percent off.

This worldwide offer expires March 31, 2004.

Customize with MacSkinz

MacSkinz is offering user group members 20 percent off their products.

MacSkinz are formed plastic "Skinz" that snugly fit over the top of your existing computer panels. They add a personal touch to the Macintosh computer and help to protect portables such as the iBook and Powerbook.

Regular price is \$30 (US) per iBook/PowerBook and \$50 (US) per G3/G4.

MacSkinz <http://www.macskinz.com>

This offer is good in the U.S. and Canada and expires February 29th, 2004.

Firewire media reader

Carry Computer, a leading worldwide OEM manufacturer of flash card readers and adapters, is offering user group members a special deal on the first and only 6-in-1, multi-slot FireWire Flash card reader. This reader is compatible with all popular memory card formats including Compact Flash Type I and II, IBM Microdrive, Smart Media, Memory Stick, SD and MMC. Compatible with Mac OS 9.1 and above, this reader allows you to quickly upload your photos, files and music at 400Mb per second! Works with iMac, iBook, PowerMac and PowerBook models. Normal retail price is \$69 (US). MUG member price is \$49 (US).

This offer is good in the U.S. and Canada and expires May 31, 2004.

Revolution development tools

language which make writing software quick and easy. With support for Internet protocols, databases, multimedia (including QuickTime), XML, UNICODE and more, Revolution has all the features you'll need. What's more, with Revolution Studio you can build applications for every major platform with the click of a button.

Revolution Express \$99 (US) - save \$50 (US) Revolution Studio \$199 (US) - save \$200 (US) "Revolution: Programming at the Speed of Thought" by Dan Shafer Volume 1: book and ebook - \$10 (US) off both versions.

This worldwide offer expires March 31, 2004.

Convert iCal files

Do you need to convert iCal files to Palm desktop (or Palm to iCal), translate comma- or tab-delimited files of dates to an iCal diary, translate 'plain-text' to an iCal appointment, sort your appointments or produce plain-text output? If you do, then you need iCalMaker, the text-based iCal file editor from MMISoftware.

User group members can receive a 30 percent discount - that's \$25 (US) reduced to \$17.50 (US).

This worldwide offer expires March 31, 2004.

MUG Store passwords

From iPods to iBooks, iMacs to the latest Power Mac G5s, the MUG Store has you covered with a great selection of new and refurbished Mac equipment. Right now you can buy an eMac for as little as \$688 (US), then add 256 MB of memory for \$30 (US) with the No Stinkin' Rebate MUG Store RAM offer. Remember that your user group gets one percent back toward anything the MUG Store sells every time a member orders from the MUG Store.

This offer is available to members of U.S. user groups.

Future Sonics

The entire Apple community has embraced Future Sonics and our Future Sonics' Ears(TM) (model EM3) professional universal fit personal monitors in so many wonderful ways. With iPods., iBooks., PowerBooks., desktops and other multimedia devices; we have really enjoyed hearing from everyone. Future Sonics is so pleasantly surprised by the overwhelmingly positive support by the people involved with Apple's products that we wanted to present

this special offer to say "Thank You!" Order a pair of our Future Sonics Ears(TM) (modelEM3) for just \$89. You'll save \$70 off our suggested retail price of \$159*.

A little history: Future Sonics Incorporated is the innovator and industry leader of personal monitor products and systems for major tours, venues, artists, engineers and houses of worship worldwide. As the creators of the first commercially available personal monitoring products and systems, their dedication to sonic quality, reliability and personal service continue to serve the industry's finest professionals with both their custom fit and universal fit products as they have since the early 1980's. With the focus on sound quality, reliability, hearing education and client services, Future Sonics continues to innovate and develop products offering the finest quality audio available.

*offer ends 1/30/2004. Some limitations may apply. Subject to discretion of Future Sonics Incorporated.

MacWarehouse: Brian Caputo Account Rep

MacWarehouse account rep Brian Caputo is pleased to announce a new MUG member discount from MacWarehouse in time for the new G5's. He's offering user group members a 5 percent discount off most Apple products (discounts may be higher on non-Apple products).

If you were thinking of buying the new G5, now is the time. The sooner you reserve your new 64 bit G5, the sooner you will be envy of your group--and you'll have paid a great price, too!

This ongoing offer is available worldwide. *For MUG Members ONLY*

Digi-Elements

Bring Sunny Skies to Photoshop

Have you ever wished you could add a cloud to a picture? Add water with reflections? Wouldn't it be great if you could do all that in Photoshop without learning 3D modeling?

Aurora 2 is a Photoshop plug-in that adds 3D clouds, skies, sun, moon, stars, water, and more in Photoshop. Aurora makes creating 3D nature easy and offers a lot of power.

Normally \$179 (US) for the download version, MUG members can get Aurora for only \$135 (US) -- that's 30 percent off. This worldwide offer expires March 31, 2004.

Nova Development

The ultimate Macintosh greeting card software al-

lows you to make beautiful store-quality greeting cards for every occasion in minutes! With millions of unique possibilities, 3,000+ greeting cards, 45,000+ sensational graphics, and over 500 color photographs to choose from, Greeting Card Factory for Macintosh is the easiest and most complete software of its kind.

Regularly \$49.95 (US), this product has a limited-time introductory special offer price of \$34.95 (US), a 30 percent discount EXCLUSIVELY for Macintosh User Group members. Limit one per household.

This offer is available to members of U.S. user groups and expires January 31, 2004.

The Omni Group

The Omni Group develops beautifully designed, powerful productivity applications. OmniWeb is a feature-rich web browser designed to put you in control, OmniGraffle is an intuitive diagramming and drawing tool, and OmniOutliner is an indispensable program for outlining and organizing information. Get all of these Mac OS X apps and more at a great price!

User group members are now eligible for a 40 percent discount on ALL of Omni's products. This worldwide offer expires January 31, 2004.

Freeverse Software

Freeverse Software is pleased to offer Mac user groups special discounts on the following titles:

- 3D Hearts Deluxe (retail box), the number 1 Hearts card game for the Mac.
- Burning Monkey Puzzle Lab (shareware), a wacky, falling piece game in the tradition of Tetris.

Demos can be downloaded from the Freeverse web site.

Place Your Order (Enter the appropriate discount coupon.) at <https://store.freeverse.com>

3D Hearts Deluxe special \$10 (US) off and Burning Monkey Puzzle Lab special \$10 (US) off, both using the special user group coupon numbers.

This offer is available worldwide.

Offer Expires: June 30, 2004

TimeSlice® Time & Billing from Modesitt Software

TimeSlice from Modesitt Software is an easy-to-use time-tracking and billing application for Mac OS 8.6

through Mac OS X. TimeSlice is used every day by small and large businesses, consultants and contractors to track billable time spent on clients, business projects, specific jobs and more!

25 percent off for user group members worldwide.

Regular price: \$49 (US),

special MUG price: \$36.75 (US).

This offer is available worldwide.

Normal Price: \$49

UG Price: 25% off

Offer Expires: February 29, 2004

Ultra Image from LumiQuest

Ultra Image is a suite of actions that automates image enhancements in Photoshop. Camera specific software enables the user to maximize image quality with regards to noise, color, sharpness and tonal range in seconds. Simply select one of the several subject-specific action sets and Ultra Image will automatically apply the right series of actions to maximize image quality. Images can then be quickly resized and prepped for web or print use. Ultra Image can be used as formatted or customized to the users' preferences.

This offer is available worldwide.

Normal Price: \$79.95

UG Price: \$59.95

Offer Expires: February 29, 2004

Dynamic Graphics • Training

Good design is not a fine art--it's a science. Dynamic Graphics Training teaches you the rules and helps you gain the confidence to produce great visual communication. Learn design, typography, print production and more in classes like Advanced Design, OS X Transition and Digital Photography, taught by experts in their fields. Two-day classes are regularly offered in many major U.S. cities.

For more information on locations, courses, dates, registration deadlines and catalog orders, call 888-698-8545 or visit online.

This offer is available to members of U.S. user groups only.

Normal Price: Varies

UG Price: 10% Discount

Offer Expires: March 31, 2004

liquidlibrary

Complete your design projects quickly and effi-

ciently 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.

To order, go to <http://www.liquidlibrary.com>, call 800-255-8800, or e-mail sales@liquidlibrary.com and use the special MUG VIP Code.

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.

This is an ongoing offer for members of U.S. user groups.

Normal Price: \$125

UG Price: 79.95

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

Offer Expires: No Expiration

Asante Technologies

Asante Technologies is the leading provider of Mac networking solutions. The company's products are known for their ease of use.

Asante is offering great discounts to MUG members on wireless routers, switches, and more. For example, the FriendlyNET FR3004FLC DSL/cable modem router with built-in 4-port 10/100 switch, serial port, and LPT port is \$59 (U.S.), regularly \$99 (U.S.), and the AeroLAN 1211 802.11b Wireless pc Card for

laptops is \$49 (U.S.), regularly \$95 (U.S.). To get the discount, MUG members should obtain the special order URL and/or Asante contact information.

There is a limit of one of each item per person within the U.S. and Canada while supplies last.

Price: Varies

UG Price: Varies

Offer Expires: While Supplies Last

Macaroni

Macaroni: Automated System Maintenance for Mac OS X

Why should you have to remember to clean up your Mac once a week, or once a month? Shouldn't a computer be able to remember for you?

Macaroni is a tool which handles regular maintenance for Mac OS X, including Unix and Mac OS X maintenance tasks, and offers special scheduling features for Powerbook and iBook users. Normally, these tasks run on a regular schedule, in the middle of the night. However, if you don't leave your Mac on all night, they never run. Your Mac won't wake from sleep to handle this.

Macaroni solves the problem. If a scheduled maintenance task is not run when it's normally scheduled, Macaroni automatically ensures that it's run at the next opportunity, whenever the Mac is on.

The normal price of Macaroni is \$7.99. MUG users can get a 10% discount by entering the MUG Discount Code.

Normal Price: \$7.99

UG Price: Save 10%

Offer Expires: No Expiration

WiebeTech

WiebeTech produces FireWire storage devices which are small, lightweight, transportable and available in bus powered configurations. WiebeTech also produces FireWire DriveDocks, which allow direct attachment from FireWire to hard drives. These products are available for notebook and desktop drives.

WiebeTech is pleased to offer permanent discounts to MUG members. Discounts vary widely by product, but are always better than retail prices.

For example, MicroGB+, FireWire portable storage enclosure, is available for \$84.96 (regularly \$99.95) and FireWire DriveDock with AC adapter, is available for \$117.56 (regularly \$139.95).

This is an ongoing offer with no expiration date. Offer is open to MUG members worldwide. Shipping costs will be higher outside the U.S.

Normal Price: Varies by product

UG Price: Varies by product

Offer Expires: No Expiration

MacAddict Magazine

User Group Offer

Special MacAddict Subscription and Renewal Offer for MUG members

MacAddict for only \$20.95...that's 78% off the basic rate and \$3.05 off of the lowest published rate!

Award-winning MacAddict magazine launched in 1996 as the ultimate hands-on guide to anything and everything 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 complete multimedia experience: a monthly print magazine; a companion CD-ROM packed with software, demos and updates; and the MacAddict.com Web site

Normal Price: \$26.85

UG Price: \$20.95

Offer Expires: No Expiration

Audible.com

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

No Expiration

Mac Design Magazine

Mac Design Magazine MUG Offer

Special subscription rate for MUGs. Subscribe to Mac Design for just \$12.00 (normally \$19.95).

Mac Design is the only major graphics magazine that teaches users the ins and outs of fast-paced design. Each issue features the hottest design tips, hidden shortcuts, and step-by-step tutorials for working in today's graphics and multimedia applications. Mac Design also provides readers with the industry news and product reviews they need to stay current.

For more information, visit Mac Design's Web site at <http://www.macdesignonline.com>

Offer valid for U.S. subscriptions only. This is an ongoing offer with no expiration date.

Normal Price: \$19.95

UG Price: \$12.95

Offer Expires: 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)

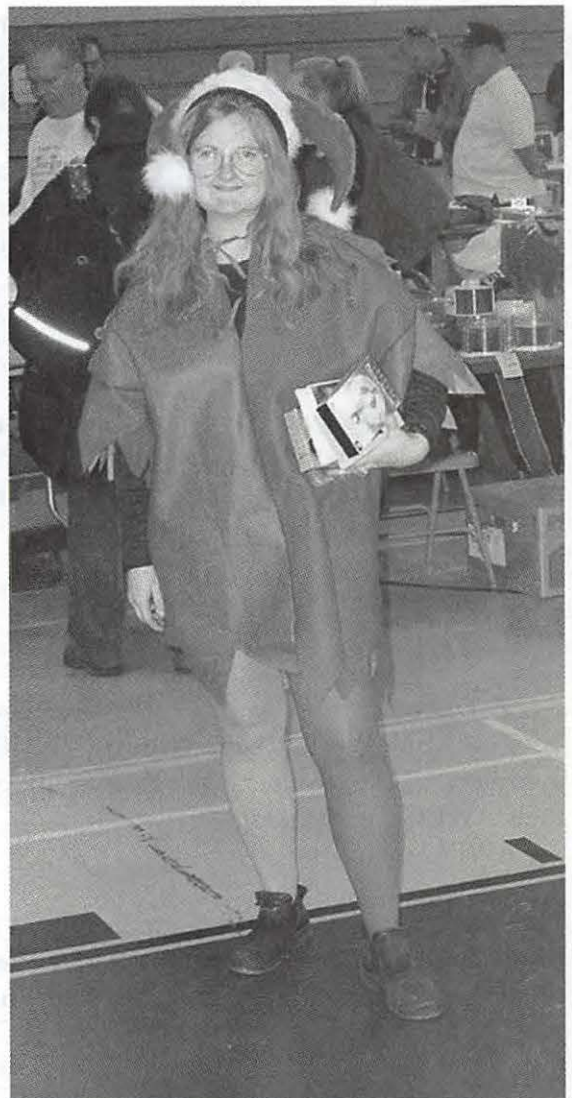
UG Price: \$31 (Box & CD) / \$23 (Download)

Offer Expires: No Expiration

macHOME Magazine

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



A Christmas Elf visited the Winter Garage Sale. It isn't clear if she is shopping for VHS videos or giving them away. (Photo by Craig Contardi, taken with an Olympus C5050Z digital camera)

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

Offer Expires: No Expiration

AppleWorks News

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

Offer Expires: No Expiration

AppleWorks User Group

\$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

No Expiration

MYOB

MYOB (Mind Your Own Business) MUG Special 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.

Visit our user group web site at <http://www.myob.com/us/usergroups> and download the MUG member order form (PDF format) or email us at usergroups@myob.com and we'll be happy to assist you. - Todd Salkovitz

MYOB FirstEdge

Normal Price: \$99

UG Price: \$74

MYOB AccountEdge

Normal Price: \$249

UG Price: \$149

No Expiration ■

An evaluation of the Maine One-to-One initiative prepared for the Maine State Legislature.

The Maine Experience— Executive Summary

ONE OF THE strategies Maine is using in preparing youth for the future economy is a state-wide program to provide every seventh and eighth grade student and their teachers with laptop computers, and to provide professional development and training for helping teachers integrate them into their classroom instruction. The goal of the Maine Learning Technology Initiative (MLTI), according to the Task Force on Maine's Learning Technology Endowment, is to: "...transform Maine into the premier state for utilizing technology in kindergarten to grade 12 education in order to prepare students for a future economy that will rely heavily on technology and innovation." (Task Force on Maine's Learning Technology Endowment, 2001, p. vi).

This report presents some early evaluation evidence on the effectiveness and impact of the implementation of the Maine Learning Technology Initiative (MLTI). The goal of the Year One evaluation, which is being conducted by the Maine Education Policy Research Institute (MEPRI), is to provide policymakers and practitioners with information that will assist them in determining whether or not, and to what degree, the vision and goals of the MLTI are being achieved. The Year One design is focusing primarily on the students who entered seventh grade in September 2002, and their teachers and schools.

The evaluation plan is using a mixed-methods approach to evaluation. Surveys, some of which are web-based, are being used as a primary means of gathering data from large samples of students, educators and parents. Case studies of representative schools and student groups are being con-

"The early evidence in the core area of Teachers and Teaching indicates that a majority of teachers report using the laptop in lesson development and classroom instruction."

ducted. Interviews, focus groups, classroom observations and analysis of school level documents such as memos to parents and school policies, including analysis of student work, are essential data collection strategies.

The MEPRI evaluation team has focused the Year One evaluation on obtaining answers to three key questions in three core areas. The core areas are Teachers and Teaching, Students and Learning, and Schools and Community. The three questions are:

1. How are the laptops being used?
2. What are the impacts of the laptops on teachers, students, and schools?
3. Are there obstacles to full implementation of the MLTI?

The early evidence in the core area of Teachers and Teaching indicates that a majority of teachers report using the laptop in lesson development and classroom instruction. Teachers are locating more up-to-date information, accessing information more easily and quickly, presenting lessons, and creating student assignments. These uses are having positive impacts on their teaching. Teachers are finding that their lessons are more extensive, use more up-to-date resources, and provide more opportunities to explore knowledge and information in more depth. They see the potential for using the laptops and technology in more sophisticated ways, but feel that some technical problems and the lack of technical support sometimes limit their use of the laptops. In addition, teachers feel they need more time and professional development for this to occur. This includes time to explore and learn how to use the technology, and professional development activities designed to help them integrate the technology more extensively in their curriculum development and instruction. Despite these concerns, teachers report that the

laptop program has had many positive impacts on their teaching. Overall, many teachers remain enthusiastic about the Maine Learning Technology Initiative and look forward to learning more through sustained training efforts.

With regard to Students and Learning, the early evidence indicates that the Maine Learning Technology Initiative has dramatically increased the use of technology within classrooms. Students have reported using their laptops to research information, complete assignments, create projects, and communicate with teachers and other students. As the students begin to use the laptops more within their classes, they report an increase in interest in their school work and an increase in the amount of work they are doing both in and out of school. The nature of student learning in classrooms may be changing because students have the tools to pursue, organize, analyze and present information more readily at hand. Although some students continue to experience technical problems, most are excited about using the laptops in their classes.

Although it is too soon to fully assess the impact of MLTI on the School and Community, early evidence indicates positive changes. Parents report that their children are more focused and more interested in school. Schools have faced some added expenses in the implementation of the program, but through creative solutions many schools are finding ways to minimize these costs, and possibly even save money as the laptops replace materials such as reference books and calculators. Finally, even more positive changes resulting from MLTI are anticipated by school principals and superintendents, although these impacts cannot yet be measured.

Thus, the evaluation team concludes that the evidence to date indicates that significant progress has been made in implementing the MLTI. And although it is early in the implementation phase of the initiative, the mid-year evidence indicates that the laptop program is having many positive impacts on teachers and their instruction, and on students' engagement and learning. Some obstacles still exist in fully implementing the program, but significant strides have been made in a very short time period toward achievement of the goals of MLTI. ■

From the September 2003 *GAB'er*, newsletter of the Greater Albany Apple Byters.

In the Henrico County Public Schools in Virginia

Richmond, VA — "With our iBook laptop program, instead of having one hour a week in a computer lab, our students now have the opportunity for continuous learning, 24/7. They're using their iBook computers on the school steps, on the playground, at home ... everywhere they go. The wireless world, along with the portability of the laptops, and the dynamic nature of the digital content are creating a synergy that will have a huge impact on schools and classrooms." - Dr. Mark Edwards, Superintendent, Henrico County Public Schools

THE HENRICO County School District is home to more than 44,000 students in 65 schools. Its diverse ethnic and socioeconomic population is drawn from high-density urban areas, rural regions, and high-tech suburban communities. Over 45 percent of the students are minorities. In the 2002-2003 school year, Henrico County Public Schools (HCPS) launched the second phase of its Teaching and Learning Initiative. The largest such technology implementation in the nation, the program has enabled the distribution of wireless iBook computers to every middle and high school student and teacher in the public school district. Thus, all HCPS students will have equal access to powerful digital learning tools, while teachers are creating an entirely new instructional paradigm for the 21st century. HCPS chose Apple's iBook computers for several reasons, says Dr. Mark Edwards, superintendent of the district. "We considered other companies for this initiative, but selected Apple because of its long-time commitment to education," Edwards says. "Plus, our analysis showed us that we'd be able to service and use the Mac platform much more inexpensively than with any other systems. Most importantly, we felt that the iBook laptops offered a toolset that would be ideal for our educational environment."

Phase One Targets High Schools

In 2001, 12,000 iBook systems with AirPort Wireless Cards were distributed—one for every middle and high school teacher, and one for every high school student in the district. Additionally, multiple AirPort Base Stations were installed in the classrooms in the county's eight high schools. The program's objectives were multifaceted, says Edwards. "We had a serious digital divide in the county, with hundreds of families that lacked access to technology at home," he recalls. "We also felt that we needed a device that would radically change our teaching model, moving us from the traditional, teacher-centered approach that required students to learn facts by rote, to an engaged, interactive, constructivist position. With the iBook laptops, we felt we could shift to the venue in which the students would be most comfortable, and where we'd see the highest yield of productivity and academic achievement."

Phase Two Reaches Middle Schools

The second phase of the laptop initiative began with the start of the Spring 2003 semester. At that time, another 13,000 iBook laptops with AirPort Wireless Cards were distributed to all middle school students in Henrico County for their use at school and home. In addition, AirPort Base Stations were installed in each of the middle school classrooms. "We feel like we started off on a different foot this year, thanks to the things we learned in Phase One," says Janet Binns, director of Public Relations for HCPS. "This year, when the students and their parents came to pick up the iBook laptops, we required the parents of every middle school student to attend a 90-minute training session. The classes are offered at Parent Resource Centers and Adult Learning Centers several times throughout the day, and through videos, CDs, and community access television. "In just a short period of time, the changes we've seen in teaching methodology since we began our iBook laptop initiative have been just phenomenal. We've moved from the traditional lecture model, where students take notes and regurgitate information, to a real constructivist type of learning model, where the kids collaborate; they problem-solve; they do research; and they actually construct knowledge. With all of the wonderful information available to them now, learning has taken on a whole new complexion." - Dr. Vicki Wilson, Assistant Superintendent, Henrico

"...our analysis showed us that we'd be able to service and use the Mac platform much more inexpensively than with any other systems. Most importantly, we felt that the iBook laptops offered a toolset that would be ideal for our educational environment.' "

County Public Schools

Henrico County's teachers have seen their students come to regard their iBook laptops as the one item they absolutely can't be without. In fact, says Assistant Superintendent Vicki Wilson, Ph.D., students with minor damage to their laptops can rarely be convinced to give them up for even the brief time needed for repairs.

"The amazing thing," Wilson smiles, "is that now kids will tell you 'my iBook laptop is my locker; it's my classroom notebook; it's my calendar; it's my backpack; and it's all of my coursework.' And since the teachers have their own web pages where they post all of the assignments and what will be done in class each day, the students really have everything in one place. It's phenomenal how quickly this has taken hold."

"My son Tyler uses his iBook computer for everything," confirms Dulcy Murchison, whose son Tyler attends John Randolph Tucker High School.

"The laptop has really helped him improve his organizational skills, since everything's right there on his computer. He's not rummaging through a backpack anymore, or looking for something. I can't imagine him ever going back to the old way of learning."

The wireless laptops are also bridging learning between the classroom and home, adds Dr. Mark Edwards, superintendent of Henrico County Public Schools. "One of the things that's so thrilling for us is to see students with their laptops open, in places you'd never see students with a book open," says Edwards. "It's commonplace for us to have children sitting in the

“The laptop has really helped him improve his organizational skills, since everything’s right there on his computer. He’s not rummaging through a backpack anymore, or looking for something. I can’t imagine him ever going back to the old way of learning.”

hallways, doing research together on a project ... then they take their laptops home, and they can finish up their work at the kitchen table or in their bedrooms. In this environment, learning doesn’t stop just because the teacher’s not around.”

Academic Achievement on the Rise

Wilson says a test of the iBook laptop’s value as an educational tool brought immediate success. Traditionally, Henrico’s high school students (as well as all secondary students in Virginia) have scored lowest on standardized testing in U.S. History. Thus, HCPS teachers elected to create their first digital content in that subject.

“We said, ‘Let’s pick the area where we’ll be most challenged,’” Wilson explains. “We built the course, used it last year, and indeed—our students’ scores went up dramatically. We also saw huge boosts in academic achievement in English, which was another subject where we’d focused a lot of attention around creating content for use on the iBook computers. It really proves that kids are digital learners.” ■

From the September 2003 *GAB’er*, newsletter of the Greater Albany Apple Byters.

New CDs A Hit!

by Dave Ottalini

WASHINGTON APPLE Pi is once again producing CDs! If you were at the December Show and Sale, you had your choice of the last two months worth of Pi Fillings CDs, as well as the "Disk Full of Browsers" and AVP (Audio-Video-Print) CD.

We had a goodly number to sell and thanks to your support, sell them we did! But we have more - just call the WAP office at 301-984-033 to order with a credit card. They're just \$10.00 each plus postage and handling. Watch for availability through our Webstore at www.wap.org as well.

The Pi now owns its own CD Burner - a unit that can not only make up to 25 copies of a CD or DVD at a time, but also print onto the disk! We're now in the "just-in-time" CD business. We can keep our disks updated and burn new versions quickly and easily. The burner will also be for available in the future for members when projects require more than just a few disks - watch for pricing on this new service.

We did not have the two-set Apple /// DVDs at the Computer Show and Sale, but they are also now available from the WAP office - \$30.00 for the set.

So what is on the AVP Disk? We'll give you the listing below. There is full documentation in the CD for you as well. If you are interested in multimedia on your Mac, this is the disk to have! And yes - there's software here for Classic and OS X users.

AVP: AUDIO/VIDEO/PRINT v. 1.1
A Washington Apple Pi "Pi Fillings" CD

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Helix Producer 8.5.1



We've had a great number of requests for articles on digital photography, but few have been written. We've also had requests for information on how photos end up in the Journal. This particular photo is of Richard Sanderson, at a recent Graphic Arts SIG. Richard has published dozens of photos in the Journal (dozens more decorate the Pi office). He has been taking photos most of his life, but believes he is "still learning" how. He is using a Nikon D-100 digital camera, a high-end "prosumer" camera that features an SLR (single lens reflex) style body, replaceable lenses, support for a wide variety of external flash units, and photos with extremely high resolution. Note the extra lens on the table top, and the large camera bag. This photo taken by Gene Haddon, taken with a Nikon Coolpix 885 digital camera.

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iCal Calling iTunes 3.5
iTunes Catalog 1.5
iTunes and Screensavers
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Trailerpark QT 1.1.6

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Cellulo 1.3.1
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Echidna Movie Viewer
Flash AV Player 2.6a
MacVCD 4.2
Movie Jukebox
SimpleView 2.2.2
Videodisc Pro Hybrid
Windows Media Player

Utilities

Burnz 1.0
CoverStar 1.0.5
DiskBlaze 2.1
DiskBurner 1.0
DVDRemaster 1.2
DVDxDV 1.067
iScoop 1.5
JewelCaseIllustrator
Laze E. 1.6
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Flipmovie 1.11
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BTV 5.4.1
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WuffCam

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Storing and Organizing Bookmarks in the Finder

by Jay Darmstadter

ON THE Macintosh, it's possible to create Web browser bookmarks in the Finder. Slightly more effort may be required to create a bookmark in the Finder than in a Web browser, but I feel the benefits are worth it. A bookmark created within a browser application will open its URL only in that particular browser. In other words, your Microsoft Internet Explorer bookmarks (called Favorites in MSIE) will not open a page in Netscape or Safari or Camino. A bookmark created in the Finder will open its URL in all the Web browsers you have. Maybe you wanna have the same page open in several browsers simultaneously to see how the page looks in different Web browsers. No sweat—if your bookmarks are stored in the Finder.

Other benefits of creating bookmarks in the Finder include having the ability take bookmarks with you if you are traveling without a computer but have access to somebody else's Mac. If your bookmarks are stored in the Finder, drag 'em to a memory stick, Zip, or burn 'em to a CD and take 'em with you. And organizing bookmarks within a Web browser application can be clumsy and inconvenient, but the Macintosh Finder is simple to organize.

There are other advantages, and they'll become apparent. Right now, let's get to the

nitty-gritty, the how-to-make'm part. If you're using Mac OS 8.5–9.2, you'll need to go to versiontracker.com or another software download site, obtain a free extension called DragClick, and drag it to your closed System Folder. When the dialog box asks if you wanna put DragClick in the Extensions folder, you do. Then restart the machine. If you're using Mac OS X, you're ready to go right now. Open any Web browser to a page you wanna bookmark. Highlight the entire URL. Drag it onto the desktop or into a folder. That's as complicated as it gets. The resulting icon is a bookmark. Double click it and it opens the page in whatever Web browser you have set as default, even if the default browser isn't running when you double click. "But wait!" you say. "The name is a bunch of gibberish!" Very likely true. So click once on the name and rename it something short and reasonable. The icon will open the URL regardless of what you name it.

Another way to create a bookmark in the Finder is to type a URL in any text editor, or find a URL you'd like to bookmark in an email or word-processed document somebody sent you. Highlight it. Drag it to the desktop or into a folder. Instant bookmark. Rename it something that makes sense. Double click it and the page opens in the default browser.

Now that you have a collection of bookmarks in the



November's Pantherpalooza drew a large, attentive crowd to see the wonders of Mac OS X 10.3 demonstrated, configured, and explained. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

Finder, let's see what can be done with them.

If you haven't done so yet, create a Bookmarks folder in your Documents folder. If you're using Mac OS X, drag your new Bookmarks folder to the dock. If you're using Mac OS 8.5–9.2, open the folder and select as pop-up window from the View menu. Either of these gives you easy access to your bookmarks at all times. If you put the folder in the dock, you might wanna change its icon so you can find it easily (see side bar on how to change icons). Bookmarks created in the Finder are documents. Create as many folders and sub-folders as you need within your Bookmarks folder to store and classify your bookmarks as you would any documents.

Wanna open the page in a browser that isn't the default browser? No problem. Open any browser to any page or a blank page, doesn't matter which. Drag your bookmark from the desktop or wherever it lives into the middle of the browser window. Alakazam! The page opens.

S'pose you wanna tell somebody by email to check out a fabulous website. Drag the bookmark into the text section of the email you're writing. It'll spell out the entire URL, regardless of how long it is and regardless of what you have named the icon. For some reason, this also works in Stickies, but not in AppleWorks or Microsoft Word. If you wanna put a URL into either of these word processors, you'll hafta first drag the URL icon to Stickies, then drag and drop from the sticky into the word processor. Odd—and annoying.

If you store your Bookmarks folder inside the Documents folder, it's more likely to be backed up, as many people don't bother to back up the System Folder, where bookmarks are stored for Netscape and other browsers in pre-Mac OS X systems.

Perhaps now you agree with me that creating bookmarks in each Web browser you use is not the best way to create bookmarks. Creating bookmarks in the Finder allows greater versatility and more efficient use of bookmarks than storing bookmarks within Web browser applications. ■

Sidebar

How to change Finder icons (This works with any version of the Mac OS since, well, before I ever used a computer)

Generic folder icons, or for that matter, almost any Finder icon, can be changed. Maybe the original icon is boring—the generic bookmark icon resulting from the process described in this article certainly isn't interesting. Maybe you have a classification scheme that requires different icons for different classifications. Maybe you're a Star Trek fan and you'd like all your icons to be symbols from the TV show. There are lotsa good reasons to change icons.

The icon to be changed I'll call the target icon. The icon that is the replacement I'll call the source icon. You'll need a source icon. You might find what you want on any of the websites that distribute icons, such as <http://iconfactory.com/>. Or, you can create your own source icon in your favorite graphics application. I make mine in the drawing or painting modes of AppleWorks.

After you've chosen or created a source icon, you'll hafta get it into the clipboard. If you're using an existing icon, do this: Click the icon once to hi-light it. Select Get Info from the File menu. Click once on the icon within the Get Info window to hi-light it. Select Copy from the Edit menu. Skip the next paragraph.

If you have created your own artwork for a source icon, do this: Select the artwork within whatever application created it, and choose Copy from the Edit menu.

Click once on the target icon (the one you wanna change) to hi-light it. Select Get Info from the File menu. Click once on the icon in the Get Info window to hi-light it. Select Paste from the Edit menu. Congratulations! You've changed an icon.

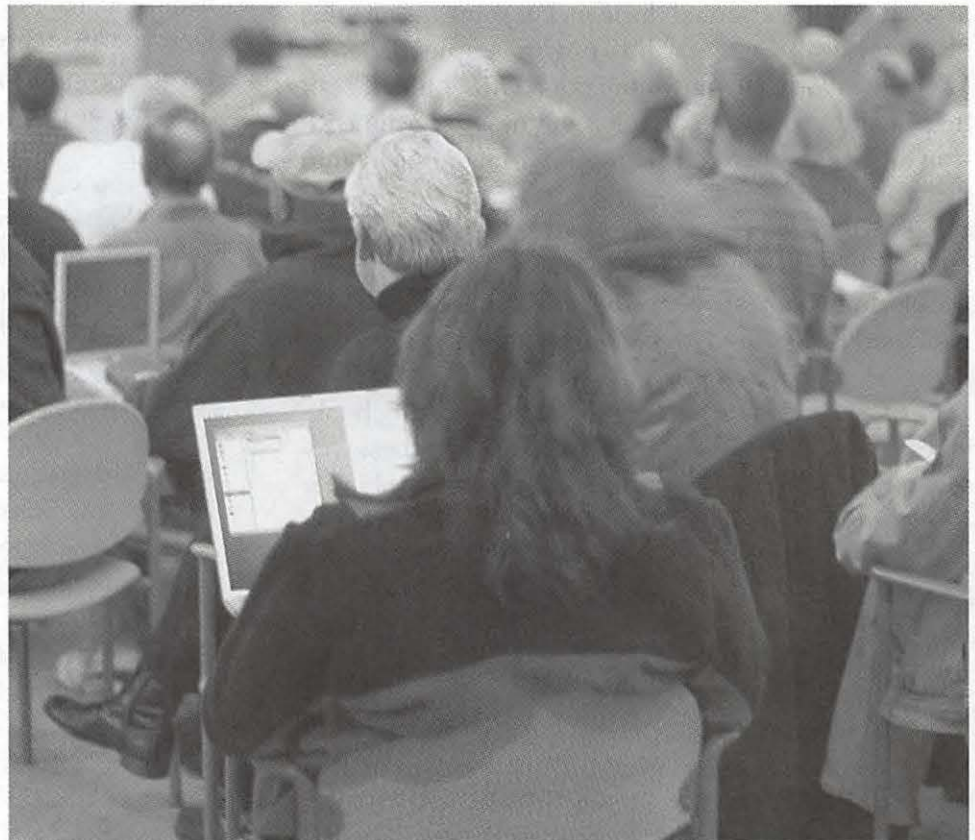
Nomia 1.2 by Sphera Software

Carol F. Bruml, Mouse Tales Editor

NOMIA 1.2, by Sphera Software, contains a variety of word-search type games, of varying sizes, some of which are timed and some of which are not. Each offers several levels of difficulty, though I saw little difference between “easy” and “hard” for the games in which I tried both. The interfaces are simple and intuitive; I never found rules for any of the games, but never felt I needed them. (If you want to know what a button signifies, hover the mouse over it, and it will tell you.) Quick Game is un-timed, on a 6 x 6 letter board. As you make words, the letters you use disappear and the tiles above them fall into their places. If you empty a whole column, the columns to the right move in. You can rotate the game to the right or left, in order to better visualize it, and you can switch positions of tiles, two at a time; however, there are only a limited number of times that you can use these options before they become grayed out. The object is to try to eliminate all of the tiles completely. I have not managed that. I liked this game a lot more than Boogled, and am prone to playing it if I have time to open Nomia.

Word Search is just like it sounds, except that you do not need to find words in a straight line. You can again use any series of adjacent letters, up, down, sideways or diagonal. You are not timed. Tiles do not drop or move. You cannot switch places of tiles. If I am going to do this, I prefer the extra interest of the dropping tiles in Quick Game. Boogled, similar to Boggle, opens a 4 letter x 4 letter array, and is timed. You can find words by drawing lines with your mouse in any direction, including diagonals, but all letters have to be

adjacent to one another in some direction. The games automatically end after 180 seconds, and the last ten are counted down with a clicking timer that I found very distracting. Bad enough to be timed, without having your concentration destroyed! Attack will remind you of Tetris, in a way. You start out with a 10 x 10 array of letters, and as you pick words from them, again in any direction, the letters in those words disappear. The trick here is that additional letters keep dropping down from the top, ever changing the supply you have to work with. The speed at which the new letters come is slow enough that the game can still be rather relaxing, once you get used to the constant change of letters. The rate at which they fall appears to be constant, but also never-ending. You can swap pairs of tiles and can use the “bomb” to remove single tiles altogether, but you lose points when you do so; I did not see a limit on how many times you can do these maneuvers. You can use words of as few as two letters and can use the same word more than once. Proper nouns are not acceptable. I think scoring is reminiscent of Scrabble, with higher scores for longer words; I did not notice if scoring differed depending upon which letters were used. I don’t think you can “win” this game; I think you play until you decide to



At November’s Pantherpalooza, a large number of people brought their laptops so they could follow along as the features in Mac OS X 10.3 Panther were demonstrated. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

end it. Attack is not timed. It is my favorite of Nomia's game options.

Full Game is like Quick Game, but with a bigger board, or Attack, without the dropping tiles. It is not timed. You start with a 10 x 10 array of letters and need to find as many words as you can within them. The letters in the words you complete disappear, and the tiles above move down. If you empty a column completely, the tiles to the right shift left to fill the space.

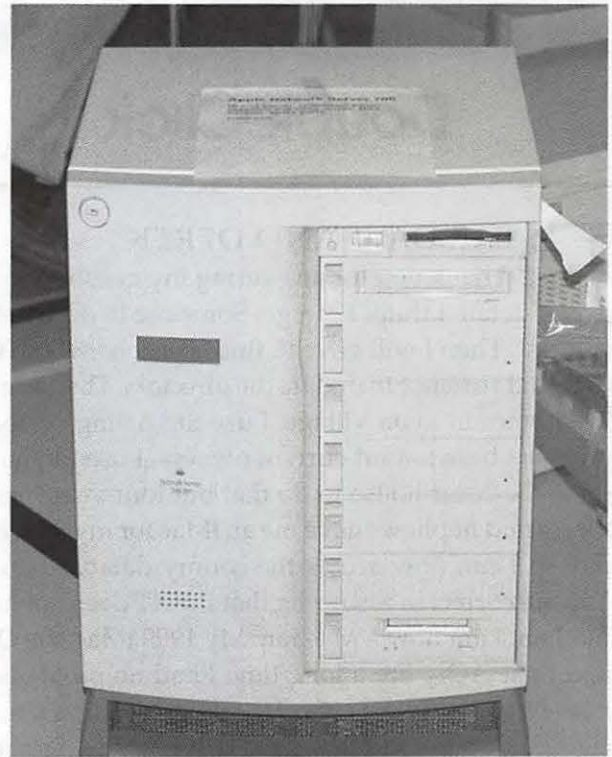
Web Game supposedly lets you download and play the latest game from Sphera's site, on the web. However, if I tried to open this game, I got an "address not found" message. The web site states that "Nomia will feature internet integration," so perhaps this is not available yet.

Time Trial gives you only 90 seconds to get as many words/points as possible. I don't particularly like the tension of playing against the clock, so I did not try this.

Nomia includes advanced game-generation features that I did not explore. These let you manipulate the rules, in order to play the type of game you want to play.

If you like word search puzzles, then Nomia is a good game for you, and the price is right. The interface is nicely drawn, the sound effects are appropriate and (usually) subtle enough not to be intrusive. I would probably give it four stars out of five, overall... and perhaps it deserves more. It did not grab me, but word search puzzles usually do not. —We thank Sphera Software for donating a copy of Nomia for review. One copy of either Scramble or Nomia (winner's choice) will be raffled at the December meeting. Nomia requires Mac OS X, 10.1.5 or higher. A license costs \$9.95. <http://www.sphera-soft.com/nomia.html> ■

Reviewed by Carol Bruml, editor of Mouse Tales, the monthly newsletter of the North Coast Macintosh Users Group of Ohio, December 2003 >
>> To visit your group on the web, go to: > <http://groups.yahoo.com/group/TMC-NLC/> >> To unsubscribe from this group, send an email to: > T M C - N L C - unsubscribe@yahoo.com >> Your use of Yahoo! Groups is subject to: > <http://docs.yahoo.com/info/terms/> >>



If you looked carefully at the Winter Garage Sale you could find this wonder: an Apple Network 700. Equipped with a blazing 150 Mhz PowerPC 604e processor and up to a gigabyte of RAM, it was doomed to failure because it used IBM's AIX operating system – a version of UNIX. And as we all know, nobody has ever succeeded in creating a mass-market computer based on UNIX. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)



Taken from high above the Winter Garage Sale from the Pi's Photo Blimp, the show featured a wide range of buyers and sellers. Most of the items offered for sale actually dealt with computers – but not all. (Photo by Richard Sanderson, taken with a Nikon D-100 digital camera.)

DoubleClick

DEAR DAVE AND DEREK:

Thank you for answering my question in such detail. I think I can get Someone to do what you suggest. Then I will have to find someone who has the time and patience to update the directory. There are over 700 homes in Lyon Village. I use the Arlington real estate data base to find current owners. I used to have to go to the court house to do that but four years ago my nieces and nephews gave me an iMac for my 80th birthday so I can now access the county database on-line. You are correct in assuming that the XT does not have a modem. I am now a Mac fan. My 1999 iMac has OS 8.6 and I use AOL. For a long time I had no problems but now I frequently get cut off. I called AOL and a technician guided me into the hard drive where he had me trash almost everything in a specific window. It hasn't helped. Would it help to upgrade my machine to OS X or anything above 8.6 and can it be done? Thanks again for your help.

—Ditty Boaz

Dave: Ditty, I'm going to be really upfront on this question. You need to get off AOL and find another ISP - Internet Service Provider. Derek and I have probably taken more questions from readers about AOL problems than anything else in this column. I'll remind folks upfront that I used to work for CNN - which is owned by AOL-Time Warner. But it has gotten to the point where I just can't recommend that anyone - at least on the Mac side - continue to use this product.

AOL, to their credit, has continued to support the Mac - there is even a new OS X version. But AOL, MSN and some of the other companies out there are leftovers from another decade and in fact, another world. AOL was great for folks who wanted to get their feet wet online, and later, the Internet. In fact, I got started using CompuServe, another similar service now owned by AOL. But the fact of the matter is, AOL is just another Internet Service Provider (ISP) just like any number of other companies. Most folks don't use the content that AOL provides "in house" because, quite frankly, you have the whole Internet to make choices from. You are not stuck using what AOL has decided to provide you. And its service is more expensive to boot.

So Ditty I think it may be time for you to look at Earthlink, Erols, Juno, Comcast, Verizon or some similar service that can get you on the Internet faster and more cheaply. And you won't have to worry about getting knocked off-line so often.

To answer your other questions, you could upgrade your Mac OS, but because I don't know how much memory or hard drive space you have, it's impossible for me to tell you if you can really do it. In all likelihood, you only have 256MB of memory, so that could stand to be increased - check prices at Memory-To-Go or other on-line source. You probably have a smallish hard drive, but I doubt there's much in there so you're probably OK on that front. If you need more information, bring your iMac to a Washington Apple Pi Tuesday Night Clinic and we'll take it through its paces.

Derek, it's so hard for folks to know where to turn these days for Internet service. Choice is great, but there are so many choices these days, it's become a headache just trying to figure everything out.

Derek: You're right Dave. In many ways our expanding society has made it harder to make decisions because there are two many choices and too many options! Another thing our friend Ditty may want to look at is whether or not Call Waiting could be a factor. Sometimes this is an issue. When a call comes in over call waiting, it could disrupt your online session. I know that many programs including AOL have the option of disabling call waiting, it may be something that isn't enabled.

Another possibility is AOL is disconnecting you because of the timeout. If you're using a different browser other than AOL's to surf the Internet it just may think you're not using it anymore and hang up on you. There are a couple of ways to prevent this. One is to get a program that will keep it open and another is to go to the AOL keyword Smile4U.

From there click on the smiley face to start its animation and that should also keep your connection open. (Note, I have never used this Smile4U command, so I can't vouch for the accuracy.) ■

DoubleClick

browsers.html for a great list of all the Mac browsers out there.

Derek, I remain a Netscape fan and use it as my primary browser. But anyone who does any webpage design knows that you have to look at your code in both IE and Netscape and probably others to make sure its going to look (and work) right. Microsoft has done some things to IE that ensures it won't display things "correctly" because the site was not designed to take its software oddities into account. Which browser to you prefer?

Derek: It is confusing. Us in the PC world though are less confused. We all almost completely use Microsoft's Internet Explorer. Looking at the statistics for the many websites that my company hosts, over 95% of the browsers used to surf our hosted sites are Internet Explorer on the PC side. I'm a fan of it. I like it. It works. It has great programming features, it's fast, and simple. I switched over to IE from Netscape years ago when Netscape's browser seemed to be more buggy than Microsoft's. Netscape didn't help it's cause when it came out with the not very well liked version 6. Today it's version 7.1 on the PC side. I haven't even looked at it. Why? Well, IE just works. It's a tool to do a job and there's nothing wrong with Microsoft's > version of the tool. Why switch?

Dave also mentioned that AOL's continued support of the browser is questionable. Since Microsoft and AOL settled their lawsuit in May, AOL gets a seven year royalty free use of IE and Microsoft's Media Player software. What's not to like?

But things aren't so clear cut. Microsoft recently lost a patent infringement case against it's IE browser that could potentially affect all browser maker including Apple. Things could get interesting. Check out, <http://zdnet.com.com/2100-1104-5063444.html>. ■

Washington Apple Pi thanks the Journal Newspapers for allowing us to reprint these articles.

DEAR DAVE AND DEREK:

I am so confused about all the browsers out there. I have Internet Explorer on my Mac and have seen others using Netscape but there seems to be two versions of it. And then there's something called "Mozilla." What's that? And some of my friends say they are using a new browser from Apple. Which one should I use? Help!

Russell in Silver Spring

Dave: Russell faces a problem we all do when there are too many choices out there and not always enough information to make an informed choice. Actually in this case, there are so many choices it really comes down to what you like or don't like about a particular browser. I'd try a few and use the one I liked the best.

Here's the scoop. All Windows machines and most Macs over the years have come from the factory with Internet Explorer. That's why IE was able to beat out Netscape after that browser had the biggest user base for years. Now MS says its going to stop updating IE for the Mac and is going to incorporate it into the next version of its Windows OS. Microsoft's decision came in part because Apple now has it's own browser - called Safari - that is included with OS X.

As Russell mentioned, Netscape has been issued in two versions over the years. Navigator is just a browser. Communicator includes an email client, web page design program and more. AOL owns Netscape (www.netscape.com) but its support for the browser is questionable - they even signed an agreement with Microsoft to keep using IE as AOL's browser. Go figure.

So what about the other browsers? The code for Netscape has become "open source" which means anyone can take it and change it. That's what Mozilla is - a version of Netscape. You can get more information at www.mozilla.org. There are many other browsers out there too. Opera, OmniWeb and Camino are some of the better known ones for the Mac but there are many more. Take a look at <http://darrel.knutson.com/mac/www/>

Washington Apple Pi Tutorials

January-March 2004

IT'S TIME for changes! About once each year the Tutorial Committee takes a hard look at the WAP class offerings and makes major revisions to the program. They look at requests made by members, the survey sheets submitted by members and at trends throughout the user group community. We have just completed that process and the classes offered beginning in February will reflect those changes.

The WAP tutorial room's computers are continually updated to keep the most current version of Mac OS X and Mac OS 9 on them. However, since all our instructors are current Macintosh users, they can easily point out the differences between various versions of the operating system.

Major revisions have been made in the way classes are being taught. Last year we had many classes with two or more sessions and students were asked to attend all the sessions in a set group of dates. For this year, each session is a separate class. If you can only schedule one or two classes in a series, you can easily sign up for the other classes in the series at a later date. If a class in the series had lots of new material and you wish to take it again, it is now possible to sign up for just that class again.

We have also introduced several new one and a half hour classes to enable you to focus on a specific topic such as Using the Mac OS X Classic Environment or Using the Address Book and iCal. These classes cost \$25.00 for members.

If you do not see a class for a subject that you would like to learn about, send a e-mail to tutorials@wap.org and let us know what you would like to see added to our course offerings.

Sign-ups

To sign up for a class, call the Washington Apple Pi office on Monday, Wednesday, or Friday from 10:00 a.m. to 2:00 p.m. Our volunteers will enroll you in the class

and they can take credit card payments by phone. You can also sign up by sending 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 for the class fee to 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 the cancellation. You will also be notified by e-mail when there are enough participants for the class to be held.

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.

Inclement Weather Policy

In the case in inclement weather, Washington Apple Pi classes are canceled if school is canceled or delayed for two hours in Montgomery County or Fairfax County Public Schools. If the schools in either county open one hour late, all WAP daytime classes will begin one hour late. If evening activities are canceled for the schools, all WAP classes are also canceled. If weekend activities are canceled for the schools, all Washington Apple Pi classes are canceled. Classes canceled due to inclement weather will be rescheduled. You will receive a phone call or e-mail with further information.

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

Mon., Feb. 9, 2004 from 9:30 AM to 12:30 PM or
Mon., Mar 15, 2004 from 1:00 PM to 4:00 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, the Menu Bar, Finder Windows, Tool Bars and Sidebars.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: None

Mac Basics 2 - Introductory Word Processing

Mon., Feb. 16, 2004 from 9:30 AM to 12:30 PM or
Wed, Mar 17, 2004 from 1:00 PM to 4:00 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: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Mac Basics 1

Mac Basics 3 - Folders, Views, Files and Finding Things

Mon., Feb. 23, 2004 from 9:30 AM to 12:30 PM or
Mon., Mar 22, 2004 from 1:00 PM to 4:00 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 com-

puter 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: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Mac Basics 1 and 2

Mac Basics 4 - If Something Goes Wrong

Mon., Mar 1, 2004 from 9:30 AM to 12:30 PM or
Wed, Mar 24, 2004 from 1:00 PM to 4:00 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: Pat Fauquet

Member Cost: \$35.00, Others: \$85.00

Prerequisites: Mac Basics 1, 2 and 3

Mac OS X New User Series

This class is being replaced by the four Mac Basics classes.

Mon., Jan 12, 2004; Wed, Jan 14, 2004; Mon., Jan 19, 2004; and Wed, Jan 21, 2004 from 9:30 AM to 12:30 PM

This course is meant for people who have their first computer or for those people who would prefer learn about the Macintosh at a slower pace. Emphasis is given to hands-on practice, frequent reviews and a slow class pace. Topics covered include simple word processing, printing, writing e-mails with the Mail application, an introduction to the Internet and emphasis on using the Finder and the Dock. While students who complete this course will be ready to take several other courses, you will need to complete the Mastering OS X series to enroll in the majority of classes being taught at Washington Apple Pi. This course consists of a series of four three hour sessions. Students are expected to attend all four sessions in the same series.

Instructor: Pat Fauquet

Member Cost: \$140.00, Others: \$190.00

Prerequisites: None

Understanding Mac OS X

Thursday, Feb. 5, 2004 from 9:30 AM to 12:30 PM or

Thursday, Mar 11, 2004 from 1:00 PM to 4:00 PM

This class is recommended for users who are upgrading their older computers to Mac OS X or for those who are buying a new Mac and who are planning to use their older software. The class will include an overview of Mac OS 9 and Mac OS X and the Classic Environment; an overview of Classic, Carbon and Cocoa applications; and an overview of the Users Folder and its Contents

Instructor: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: None

Mac OS X 1 - The Finder, Menus and the Dock

Thursday, Feb. 12, 2004 from 9:30 AM to 12:30 PM or

Mon., Feb. 23, 2004 from 1:00 PM to 4:00 PM or

Thursday, Mar 11, 2004 from 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 window. 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: Pat Fauquet (Mon., Wed) or Jim Ritz (Thursday)

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Macintosh Skills

Mac OS X 2 - Users, Saving, and Finding

Thursday, Feb. 19, 2004 from 9:30 AM to 12:30 PM or

Wed, Feb. 25, 2004 from 1:00 PM to 4:00 PM or

Thursday, Mar 18, 2004 from 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: Pat Fauquet (Mon., Wed) or Jim Ritz (Thursday)

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Mac OS X 1

Mac OS X 3 - Using the System Preferences

Thursday, Feb. 26, 2004 from 9:30 AM to 12:30 PM or

Wed, Mar 3, 2004 from 1:00 PM to 4:00 PM or

Thursday, Mar 25, 2004 from 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: Pat Fauquet (Mon., Wed) or Jim Ritz (Thursday)

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Mac OS X 1 and Mac OS X 2

Mastering OS X

This class is being replaced by the three Mac OS X classes.

Thursday, Jan 8, 2004, Thursday, Jan 15, 2004 and Thursday, Jan 22, 2004 from 9:30 AM to 12:30 PM or

Mon., Jan 12, 2004, Wed, Jan 14, 2004 and Mon., Jan 19, 2004 from 1:00 PM to 4:00 PM

This course is designed for people who have prior computer experience, either on the Macintosh platform or on Windows. The sessions are taught at a faster pace than the New User Series and additional material will be presented. The sessions cover basic and intermediate skills and troubleshooting using OS X. The use of the Terminal application and Unix commands are NOT covered in these classes. This course consists of a series of three three hour sessions. Students are expected to attend all three sessions in the same series. Instructor: Jim Ritz

Member Cost: \$150.00, Others: \$200.00

Prerequisites: Intermediate Mac Skills

Continuing Mac

These classes are for Macintosh Users with intermediate Macintosh skills. It is assumed that all students in these classes know how to use the menu bar; save documents in specific places; and understand how to copy, cut and paste in the Macintosh environment.

How to Open Almost Any File

Thursday, Jan 8, 2004 from 1:00 PM to :00 PM

All of us get files that we cannot open. In this course students will learn a variety of techniques to open those files and convert them to a usable format. They will also

learn how to prepare and send files so that others can read them.

Instructor: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Let's Burn Some CDs

Wed, Jan 28, 2004 from 1:00 PM to 4:00 PM or
Mon., Mar 1, 2004 from 10:00 AM to 4:00 PM

Learn the finer points of making music, data and video CDs in this three hour class. Learn all about Roxio Toast Titanium 6 and the Apple Disc Burner software. Learn how prepare data, optimize files and make labels too. This course is offered as one three hour session.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Getting the Most from Your .Mac Account

Wed, Mar 31, 2004 from 9:30 AM to 4:00 PM

Apple's .Mac accounts have so many uses and features. Are you getting the full value of your account? Come learn how to access your mail and address book and calendar from any computer, share your photos and files with family and friends and back up your important documents and files. Learn how to use Virex and keep it up to date. Learn about the dotmac.info web site and learn about the things hidden in your iDisk. Bring your digital camera full of images, a Zip 100 MB Disk or CD with digital images to use in class. This course is six hours long. It will be taught either as an all-day class or in two three hour sessions.

Instructor: Pat Fauquet

Member Cost: \$100.00, Others: \$150.00

Prerequisites: Intermediate Mac Skills

Maintenance and Troubleshooting for OS X

Thursday, Jan 29, 2004 from 9:30 AM to 12:30 PM

There are certain things that should be done to keep your Mac running in top condition. When a problem occurs, there are procedures you can use to fix the issue. Learn basic troubleshooting and maintenance in this three hour class.

Instructor: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

All About Printing

Wed, Feb. 18, 2004 from 1:00 PM to 4:00 PM

There can be more to printing than just pressing Command P. This class will cover how to download and install printer updates, how to set up and use multiple printers, using printer options available in various applications, monitoring the printing process and fixing printer problems. Paper and ink selection and how to get the best photo prints will also be covered.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Customizing Your Mac Environment

Wed, Mar 3, 2004 from 9:30 AM to 12:30 PM

In this class we discuss the various things within Mac OS X than can be used to customize your computer's appearance. Topics will include the Desktop and Screen Saver system preference and their use in customizing your Finder; customizing View preferences, toolbars and the dock; custom highlight colors and sounds, smart scrolling, font smoothing, icons, and additional software to enhance the user experience.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Getting Organized and Backing Up Your Data

Wed, Mar 17, 2004 from 9:30 AM to 11:00 AM

This class is an introduction to procedures that increase the efficiency of the Macintosh user's experience and in methods of archiving user data. We will discuss what a hard-drive is and how it stores information, where things are stored in Mac OS X, Mac OS X Libraries and what is stored in them, proper backup procedures and methods of performing backups.

Instructor:

Member Cost: \$25.00, Others: \$75.00

Prerequisites: Intermediate Mac Skills

Installing Updates, Downloads, and Software

Thursday, Feb. 26, 2004 from 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, install-

ing from CDs, custom Installations, uninstalling software, finding and installing application updates and finding and installing printer, scanner and other hardware driver updates.

Instructor: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

PDF files, Mac OS X Preview and Acrobat Reader

Wed, Mar 17, 2004 from 11:15 AM to 12:45 PM

This class will cover how to make pdf files in Mac OS X, how to use Mac OS X preview to search and read files, and how to use Adobe Acrobat reader to use text and images from pdf files.

Instructor: Pat Fauquet

Member Cost: \$25.00, Others: \$75.00

Prerequisites: Intermediate Mac Skills

Surfing with Safari

Thursday, Mar 4, 2004 from 12:45 PM to 2:15 PM
or

Mon., Mar 22, 2004 from 9:30 AM to 11:00 AM

Safari, Apple's Mac OS X browser application, has become the most popular Mac browser in less than a year. This class will include tips for customizing the toolbar, working with AutoFill forms and passwords, blocking pop-up windows, organizing bookmarks tabbed browsing, and using other program features.

Instructor: Pat Fauquet (Mon., Wed) or Jim Ritz (Thursday)

Member Cost: \$25.00, Others: \$75.00

Prerequisites: Intermediate Mac Skills

Troubleshooting Computer and Printer Problems

Thursday, Mar 4, 2004 from 9:30 AM to 12:30 PM
or

Thursday, Mar 25, 2004 from 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

Using iPhoto

Mon., Feb. 16, 2004 from 1:00 PM to 4:00 PM

Learn to use iPhoto to import, organize, edit and

share your digital images from cameras, scanners and Picture CDs. Learn how to make slideshows, books and prints. Bring your digital camera full of images or a Photo CD to learn how do these projects. This course is offered as one three hour session.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Macintosh Skills

Using Mail and the Address Book in Mac OS X

Wed, Feb. 11, 2004 from 9:30 AM to 12:30 PM or
Mon., Mar 22, 2004 from 11:15 AM to 12:45 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 e-mail, how to add e-mail addresses, set up e-mail to groups of recipients, and how to attach files.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Macintosh Skills

Using Palm based PDA and Phones with the Mac

Wed, Feb. 11, 2004 from 1:00 PM to 4:00 PM

Mac OS X, The Address Book, iCal and iSync heighten the Palm users interaction between their PDAs and computers. Student in this class will learn how to export their Palm Desktop data to iCal and the Address Book and then how to use iSync and the Palm Desktop software to sync and upload files to the phones and PDAs.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Using the Address Book and iCal

Thu., Mar 18, 2004 from 12:45 PM to 2:15 PM or
Wed, Mar 24, 2004 from 9:30 AM to 11:00 AM

Mac OS X includes iCal and the Address book. In addition to personal organization, these applications can be used to print a variety of items and they can be used to synchronize the information between various devices. This class will help you learn to use these data gathering programs more efficiently.

Instructor: Pat Fauquet (Mon., Wed) or Jim Ritz (Thu.)

Member Cost: \$25.00, Others: \$75.00

Prerequisites: Intermediate Mac Skills

Using the Mac OS X Classic Environment

Thu., Mar 4, 2004 from 12:45 PM to 2:15 PM or
Thu., Mar 18, 2004 from 2:30 PM to 4:00 PM or
Wed, Mar 24, 2004 from 11:15 AM to 12:45 PM
This class is for Mac OS X users who have many
Classic applications that they plan to continue us-
ing. Topic to be covered include memory, control
panel and extension management, finding and in-
stalling necessary updates and finding Mac OS X
applications that can replace older applications.
Instructor: Pat Fauquet (Mon., Wed) or Jim Ritz
(Thu.)

Member Cost: \$25.00, Others: \$75.00

Prerequisites: Intermediate Macintosh Skills

Advanced Macintosh Classes

These classes are intended for those users with ad-
vanced knowledge and skills. Students should have a
thorough understanding of the Finder and its opera-
tions, System Preferences, and basic troubleshooting
skills.

Installing Mac OS X on an Older Macintosh

Thu., Feb. 5, 2004 from 1:00 PM to 4:00 PM

This class will include lecture and a demonstration
of the installation process. Topics to be covered include
computer requirements for Mac OS X, preparing your
computer for the upgrade, installation of Mac OS X and
set-up and customization.

Instructor: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Advanced Macintosh Skills

Mac OS X - Airport Networks, Sharing Files and Shar- ing Printers

Mon., Feb. 9, 2004 from 1:00 PM to 4:00 PM or
Mon., Mar 15, 2004 from 9:30 AM to 12:30 PM

Apple's Airport Base Stations allow the user to eas-
ily set up home networks to share files and printers.
This class will cover the use of the applications provided
by Apple for setting up and using your network. We
will also discuss security issues, printer sharing, and
general guidelines for adding PCs with wireless cards
to an Airport network will also be discussed. This class
will NOT cover how to set up Macintosh wireless net-
works using third party wireless devices.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Advanced Macintosh Skills

Digital Imagery and Video

Digital Photography Clinic

Wed, Feb. 25, 2004 from 9:30 AM to 12:30 PM

This clinic is a follow-on course for users who have
taken an Adobe Photoshop Elements or digital photog-
raphy course at the Pi. Students will have the opportu-
nity to ask questions about Adobe Photoshop Elements
or iPhoto and they will learn new techniques. Bring your
camera and projects to class.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Mastering OS 9 or Mastering OS X

How to Fix a Bad Photo

Mon., Jan 26, 2004 from 9:30 AM to 12:30 PM or

Wed, Feb. 18, 2004 from 9:30 AM to 12:30 PM

Not all photos can be rescued, but using the levels
adjustment tool can do a lot to fix your photos quickly
and easily. You will also learn when and how to sharpen
an image and how to crop and straighten images effec-
tively using iPhoto and Adobe Photoshop Elements or
Adobe Photoshop. Bring your digital camera full of
images, a Zip 100 MB Disk or CD with digital images to
use in class. This course is offered as one three hour
session.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100

Prerequisites: Intermediate Mac Skills

How to Make Great Prints

Wed, Jan 28, 2004 from 9:30 AM to 12:30 PM

Bring your printer, its software and some digital
photos to class. We will explore how to get great results
and how to choose the best paper for your project. Bring
your digital camera full of images, a Zip 100 MB Disk
or CD with digital images to use in class. This course is
offered as one three hour session.

Instructor: Pat Fauquet

Member Cost: \$50, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Introduction to iPhoto

Wed, Jan 21, 2004 from 1:00 PM to 4:00 PM

Users of OS X can use iPhoto to import, organize,
edit and share their digital images from cameras, scan-
ners and Picture CDs. Come learn about this simple but
powerful application that can also be used to make
slideshows, books and prints. Bring your digital cam-

era full of images, a Zip 100 MB Disk or CD with digital images to learn how do these projects. This course is offered as one three hour session.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Selections and Layers in Photoshop Elements

Mon., Jan 26, 2004 from 1:00 PM to 4:00 PM

The ability to add layers to an image and then to work one each layer individually demonstrates the real power of Photoshop Elements. In this class we will use layers to adjust parts of an image and add elements such as type and a different background to images. Bring your digital camera full of images or a zip or CD with digital images to use in class. This course is offered as one three hour session.

Instructor: Pat Fauquet

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Web Pages with iPhoto, iDisk and .Mac Homepage

Thu., Feb. 12, 2004 and Thu., Feb. 19, 2004 from 1:00 PM to 4:00 PM or

Mon., Mar 29, 2004 from 9:30 AM to 4:00 PM

Calling all .Mac users. This is your chance to make easy web pages and share them with family and friends. Bring your digital camera full of images or a zip or CD with digital images and by the time class is over you will have not only a web page, but a web site! This course is six hours long. It will be taught either as an all-day class or in two three hour sessions.

Instructor: Pat Fauquet (Mon., Wed) or Jim Ritz (Thu.)

Member Cost: \$100.00, Others: \$150.00

Prerequisites: Intermediate Mac Skills

Productivity

AppleWorks Word Processing

Thu., Jan 22, 2004 from 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: Jim Ritz

Member Cost: \$50.00, Others: \$100.00

Prerequisites: Intermediate Mac Skills

Introduction to Spreadsheets

Thu., Jan 15, 2004 from 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 spreadsheet 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

Prerequisites: Intermediate Mac Skills

Putting AppleWorks to Work

Thu., Jan 29, 2004 and Thu., Feb. 5, 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 either as an all-day class or in two three hour sessions.

Instructor: Jim Ritz

Member Cost: \$100.00, Others: \$150.00

Prerequisites: Intermediate Mac Skills ■

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Classifieds

Classified advertisements can be placed by mailing copy to the business office of Washington Apple Pi, Ltd., 12022 Parklawn Drive, Rockville, MD 20852. Be sure to include your WAP membership number and indicate area codes with your phone numbers. Ads must be received by the ad copy due date listed in the calendar page for that month in order to be included in the appropriate issue. Any ads postmarked after that time will be included at the discretion of the editor. Cost is \$2.00/line (40 characters per line), maximum 12 lines. Members of Washington Apple Pi, Ltd., may place ads up to three lines at no charge. The editor reserves the right to refuse any ads deemed inappropriate.

For Sale

—Power Mac G-4, 450MHz, 18GB HD, 512 MBRAM, CD-ROM/DVD-RAM, Studio Display, keyboard, mouse, OS 9.2, \$400 OBO; HP Laserjet 2100M, \$200 OBO; 21" NEC XE21 monitor with video card, \$200 OBO, Lynn Trusal, 301-972-6137

—Computers on Demand

Used Macs, Powerbooks & Peripherals. We Buy, Sell, Trade, Repair & Upgrade all Mac Equipment. Call for Quotes. All Major Credit Cards Accepted (301) 718-0822

—**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 philm@erols.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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rates with valid Pi membership
(202) 530-0100

Help Wanted

—**Senior Software Engineer:** V-ONE Corporation is looking for a Senior Software Engineer for Mac Client. Please refer to our website at www.v-one.com, or e-mail HR at paige@v-one.com

—**Idactix, LLC Consulting -** Expert Mac solutions and troubleshooting. Services include networking, AirPort, FileMaker databases, AppleScripting, PC/Mac integration, and data backup. Prompt on-site service. 301-530-2607 or info@idactix.com.

—**Volunteers Needed:** Recording for the Blind and Dyslexic of Metro Washington is looking for volunteers who can read technical books (currently working on data structures in c++ for example). We are located in Chevy Chase at the Friendship Heights Metro, 5225 Wisconsin Ave. NW (at Jennifer Street- across from Mazza Gallery). We need computer literate folks willing to volunteer for 2 hours a week, to help read textbooks onto tape. The tapes are used by students borrowers. Interested folks can come by on Wednesday evening, January 20th, between 6-8pm for an open house orientation. Else, they can call Laurel after 3pm at 202-244-8990 and get more info. Evening sessions start at 5:30 and 7pm, Monday-Thursday. ■

Membership Application

New Member **Renewal**

Please print or type:

Name _____ Company _____

Address _____

City _____ State _____ Zip _____ Email _____

Home Phone _____ Work Phone _____

(Must have for the TCS)

Occupation _____

Please answer a few questions for us regarding your computer use. Check the computers/equipment that you use on a regular basis.

- | | |
|---|--|
| <input type="checkbox"/> Apple II or III | <input type="checkbox"/> PowerMac |
| <input type="checkbox"/> Apple II GS | <input type="checkbox"/> IBM, PC clone |
| <input type="checkbox"/> Apple III (SARA) | <input type="checkbox"/> PowerBook |
| <input type="checkbox"/> Pre PowerMac | <input type="checkbox"/> iMac |
| <input type="checkbox"/> Other _____ | <input type="checkbox"/> G3 or G4 |
| | <input type="checkbox"/> G5 |

WAP has many Special Interest Groups (SIGs) and Regional Groups (SLICES). Please check each group you would be interested in.

- | | |
|--|---|
| <input type="checkbox"/> Annapolis Slice | <input type="checkbox"/> Graphic SIG |
| <input type="checkbox"/> Columbia Slice | <input type="checkbox"/> NOVA/Educators SIG |
| <input type="checkbox"/> Delmarva Slice | <input type="checkbox"/> Game SIG |
| <input type="checkbox"/> Frederick Slice | <input type="checkbox"/> QuickTime SIG |
| <input type="checkbox"/> Disabled SIG | <input type="checkbox"/> Retired SIG |
| <input type="checkbox"/> Excel SIG | <input type="checkbox"/> Stock SIG |
| <input type="checkbox"/> FileMaker SIG | <input type="checkbox"/> Women's SIG |
| <input type="checkbox"/> Genealogy SIG | |

I can serve as a Hotline contact for _____

Enclose check or money order payable to Washington Apple Pi, Ltd. If you are using a credit card please remember that we only accept VISA and MasterCard.

Check/Money Order VISA MasterCard

Card Number _____

Exp. Date _____ Signature _____

(Required)

- Basic Membership—1 year \$49
- Student rate* for 1 year \$42

Indicate desired New Member Kit (1 only)

- Mac 1.44 k
- Mac CD

For other options please add correct amounts

- WAP Bulletin Board System (TCS)**with e-mail \$ 20
- WAP Bulletin Board System (TCS)**with Internet \$ 171
- 1st class mail (U.S.) \$17
- Airmail to Canada, Mexico, West Indies or Cental America \$20
- Airmail to Europe & South America \$38
- Airmail to Asia & elsewhere \$48
- Surface to Europe, Asia & elsewhere \$18

Total enclosed \$ _____

Please circle Yes or No for the 2 items below.

1. Please leave my name on the Pi mailing list. (The list never leaves the office and all mailings are supervised by the Pi staff.)

Yes No

2. My name, address & phone number may be published in the membership director.

Yes No.

*Please enclose photocopy of current student ID.

** Access to the TCS is contingent on WAP having a current home telephone number for the member.

Applicant signature and date

Pi Fillings: The X CD



Available at General Meetings for \$X, or \$XII via snail mail. Call the Pi office at 301-984-0300, or send an order by mail to: Washington Apple Pi, 12022 Parklawn Dr., Rockville, MD 20852