

Washington Apple Pi Journal

Volume 24, Number 4



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Things Change—5

Give a Market Share to a Friend —8

Volunteer Time—10

QuickTime 6 in Preview—16

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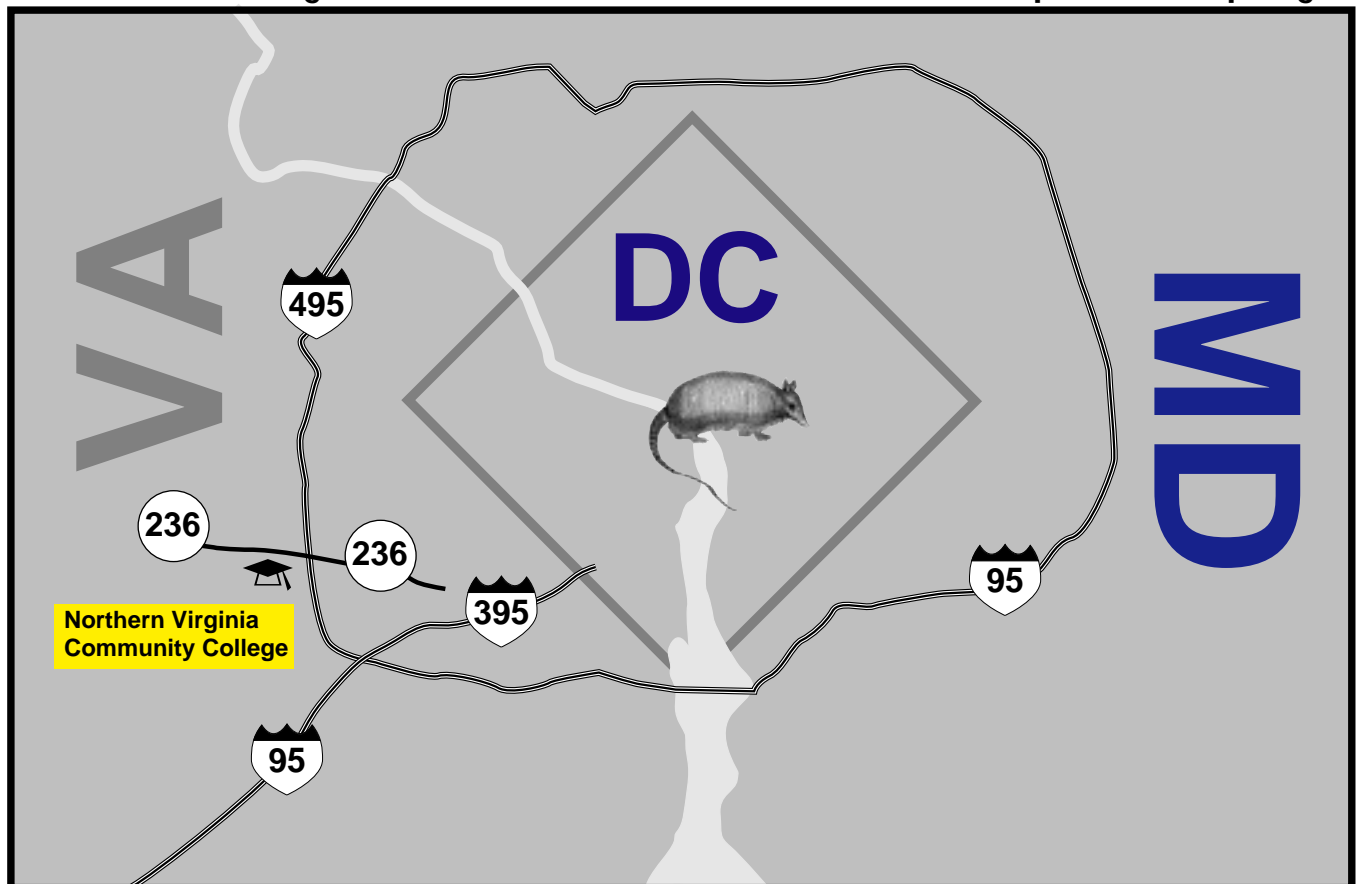


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Icon Guide



Macintosh



General Interest



Apple II, IIe, & IIGS



Apple III (SARA)

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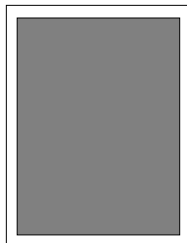
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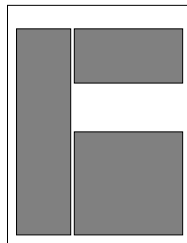
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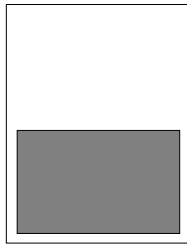
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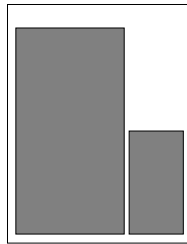
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Sixth Page	\$125	\$106	\$93	\$75

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The Washington Apple Pi Journal is published bi-monthly. The ad copy deadlines and ad space reservations are listed below for your convenience.

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Welcome to WAP!

By Dave Ottalini

I'M writing my column
from Berkeley
Springs, West



Virginia, where in a few days
someone will become the
proud owner of the Berkeley
Castle. It was built by a
wealthy businessman before
the turn of the last century for his 3rd wife. Its
most recent owner did a wonderful job of reno-
vating it.

The Castle wore many “hats” over the years
once it passed from family ownership. It was a
boys summer camp and a museum for example.
Most recently it was a private residence and con-
ference center.

Your computer club, Washington Apple Pi,
also has to wear many hats. It provides tutorials,
meetings, a magazine (which you’re reading
now!) and much more. But the club also offers
something important to every member—an op-
portunity. That opportunity is one of service. As
a current—or new member—there are many op-
portunities to volunteer and there are many jobs
that need to be done, big and small.

For example, we had no candidate for Presi-
dent this past election. No candidate for VP-Pro-
grams. Important jobs that are at the core of what
this club is and does. There are other jobs as well—
coordinator for the semi-annual Computer Show
and Sale, SIG and SLICE coordinator. The list is
long.

So look on your membership not only as a way
to learn about your Mac, but as a way to give back
a bit too by helping others. We can provide the
hats. You just need to provide a little bit of your
time to wear one.

Oh, and by the way —Welcome To WAP!

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Things Change

I HEAR THAT phrase so often, but some things don't change. The sun comes up, we get hungry, bills have to be paid and D.C., in the summer, gets hot. Add to that that Lorin Evans is the President of Washington Apple Pi. Well, that has changed. After 11 years of dedicated service to the Pi, Lorin has stepped aside and left it to the rest of us to find a way to fill his shoes.

So, just what do the President and Office Manager of the Pi do? Well, Lorin and Beth Medlin have done far too much for far too long and we have taken far too much advantage of a good situation. Beth and Lorin were a team. They ran the office, organized the Computer Shows and Sales, and did anything else that no one would do to keep Washington Apple Pi running.

Both Beth and Lorin came to the Pi about the same time, each for a different reason. Beth was hired to bring order to the front office of the Pi. Lorin, who was our Apple II Vice President, was asked by the directors to serve as President. Together they changed the course of the Pi, straightened out the finances, increased the membership and in the process they brought the Pi to a place of national prominence among Apple user groups.

As the years followed, things began to change

again. Fewer and fewer people volunteered to serve on the Board of Directors, we lost interest in having a real membership drive, and as people who had volunteered for many years got tired, Beth and Lorin had to take on more and more responsibilities.

Finally, Beth had to make a very hard decision. Washington Apple Pi could not afford to pay her the salary she deserves. We also cannot afford to provide medical and retirement benefits. So, effective January 1, she left our employ.

That left the Board of Directors and Lorin to take over Beth's duties. We have not done such a great job and we relied far too much on Lorin to run the day-to-day operations. Well, contrary to popular opinion, Lorin has a life outside of Washington Apple Pi and running an office is not something he enjoys doing. The board was helpful at first, but as time passed, Lorin was forced to shoulder more and more of the load alone. He said he was not good at and had neither the interest or the time to be both the President and the Office Manager, but only a few board members pitched in to take on long term office duties.

The board was even more unsuccessful at finding a replacement for Beth. We have not been able find someone who will do all that Beth did for what we can pay. We got behind on the paperwork (but not the bills). We have left the phone unanswered far too often and have been terrible at taking messages off the answering machine and returning phone calls.

Then we had an election. Everyone was sure Lorin would run for President again. He didn't. We thought



**Washington Apple Pi's
"24-hour General Meeting"**

Tele-Communications System

(301) 984-4070

Call (301) 984-0300 for registration, passwords

Also available (to subscribers) over the Internet - telnet://tcs.wap.org

he would stay on if he won the write-in vote. He won, but he declined. In June we had a meeting of the new board and almost half of the fifteen positions were left unfilled due to resignations after the election. By Maryland law we had to fill the position of President that night. We sat around and stared at each other, explained why each of us could not take the position of President and stared some more. Our choice was to disband the organization or someone had to step forward and serve as President.

Washington Apple Pi is too vibrant a group to close the shop. We have new members signing up ever month. Most of our members send in their membership renewals each year. Our programs like the Reclamation Project bring us local and national recognition. Our Tuesday Night Clinic is the model for programs being started by other groups. Our Pi Fillings CDs are sold around the world. Our two Computer Shows and Sales are well known throughout the region. Our MacWorld bus trip is being copied up and down the East Coast. Our Slices and SIGS are used as the models for other groups around the world. Our tutorial program also brings us new members and recognition. We have an award winning Journal. These are not the activities of a dying users group

It was never my intention to serve as your President. I love running the Tutorial Program and that is where I would like to stay. However, Washington Apple Pi needs a President. We have too many good things going on in the club to let it die so I will tackle the job for a year as we “grow” new leaders. So, now that my last child of five is leaving for college, our grandchildren are moving to the area, and my consulting business has really taken off, I have taken on a huge job that I cannot handle in the same way that Beth and Lorin did it. However, I don't believe it will be necessary.

Our board has 15 positions. It has been several years since we have had a full board. However, Lorin spoke to the members at the March General Meeting and we had more nominations for Director at Large that I can ever remember. But, we had fewer people run for specific positions than I can remember in recent elections. Since taking over as president two weeks ago, I have been working hard to make sure that every position is filled. I have accomplished that task and now the Board will begin the real work.

We will be meeting next weekend to divide up all the things that need to be done to run Washington Apple Pi. We will be meeting with program and committee chairmen to learn what other tasks need to be tackled and then we will be asking the general membership to serve on committees and work groups to do all that is necessary to run Washington Apple Pi without a paid Office Manager.

We already have people taking care of memberships and renewals, CD sales, the bus trip and the heading the committee for our December Computer Show and Sale. We have several members who have volunteered to come in and answer the phones and we even have a person who is going to organize clubhouse cleaning days.

Of course there are many more volunteers needed to back those people up and to take on further duties. We need to run a membership drive. We need people to write articles and reviews for the Journal. We need club liaisons to each store in the area that sells Macintosh computers. We need more Show and Sale volunteers. We need additional members for the TCS and Web Page groups. It would also be nice to have one or two social events each year.

It is difficult to move from a manager-run office to one manned by volunteers. But, I suspect we will be a better club for having done all the work ourselves. After we get everything back under control, and increase our membership, the luxury of an Office Manager once again would be really nice, but for now, in addition to being members helping members, our club needs to be made up of members who are involved in running the oldest and largest computer group in the world — Washington Apple Pi.

So where are Lorin and Beth? Well, Lorin plans to remain active in the Pi and its activities. In particular, he will help with the Reclamation Project, the Tuesday Night Clinic and CD creation. However this time he wants help — your help. Beth still is available to us as an advisor. In fact, she was recently at the office helping the Finance Crew learn how to do more with the books. We are sure to see her at future meetings and activities.

If you would like to help us make YOUR club even better send an e-mail to office@wap.org and tell us how you can help.

—Pat Fauquet



Guiding the Pi to our 25th anniversary

2002-2003 *Board of Directors*

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Give a Market Share to a Friend

by Lorin Evans

I AM NOT one of the bigger fans of the way Apple advertises its products and services. I do not understand allowing others to define Apple, the company, and the products it makes. But, that is just what is to be found in the print advertisements school decision-makers see in the magazines they read. Apple produces soft mushy ads about how great tools bring out the creativity in students, etc. while the PC industry infers that the school that buys one of theirs prepares graduates for the mainstream of computerdom. We have lived with the “Think Different” campaign for the longest time, actually since 1998. However you felt about the grammatical component in its title, you may now say good-bye to that slogan and the message it tried to deliver.

Hello “Switch”

Market research commissioned by Apple reveals that the vast majority of computer buyers who do not purchase a Macintosh do not even consider the Mac when making a purchase.



Computer Show & Sale — Mac shoppers seemed to be happy with the mix of offerings. photo D. Ottalini

New PC buyers who were interviewed do not speak of evaluating an Apple computer and rejecting it—it was never even considered. Well, Cupertino appears to have gotten the message that it needs to be more direct in its approach to the non-Macintosh community. After all, we are also told by those same market researchers that the personal computer market is reaching saturation; thus, replacement is the order of the day. Watch the math. If Apple could raise its market share by one percentage point, that means a 20% increase in sales. As one analyst offered, “When you are small, small swings have magnitude.” Or to view it another way, Steve Jobs told John Markoff of the New York Times: “Our relationship with Microsoft is really pretty good. What’s a few market-share points between friends? It wouldn’t matter to them, and we would be eternally grateful.”

www.nytimes.com/2002/06/10/business/media/10APPL.html

How does one reach people returning to the market to replace a computer in hopes of getting

them to consider a Macintosh, when they don't even see it in the first place? It is to address that 90% share of the market that caused Apple and their advertising agency Chiat/Day to heave 'Think Different' and birth 'Switch,' a \$50 million attempt to convert Windows users to the Macintosh platform.

What Do You Get?

Good question. Actually you get two things: slightly weird commercials and some great help. Let's take these one at a time.

"Steven" Need Not Apply

To be fair to Chiat/Day, we have only seen a few of the new commercials. I previewed them with some high school students. They found the soft opening to each confusing and did not understand the message until the end. But, you can make a case that they are the wrong test market – we were in a Mac lab. If you have not seen Switch advertisements on the tube, try sampling a few at <www.apple.com/switch>. I am reminded of the unfocused advertisement that introduced the Lexus automobile in the states. No pictures of the car, just feel good shots of rolling country roads and soft voice-over chitchat. Chiat/Day has time to refine the delivery and make it more apparent from the start what is going on. It would also help if they would change the mix of folks they are highlighting. So far, we have been treated to a Windows LAN administrator; an IT manager; two writers; a couple of media types; a public relations consultant and a programmer. I want to see 'ordinary' people, both adults and kids, who made the switch—people to whom mainstream America relates. But that is well above my pay grade. [BTW: Steven is the annoying kid in those Dell commercials.]

Know anybody who has switch and is articulate? Ask them to take their new Mac to <<http://www.apple.com/switch/tell/us.html>> and tell Apple what it feels like to go from a PC to a Mac? Who knows, we might actually get more interesting commercials.

Do you know someone who is wavering and just might make the move? Apple will send them a nice note on your behalf. Take a look at <<http://www.apple.com/switch/tell/afriend.html>>

"How does one reach people returning to the market to replace a computer in hopes of getting them to consider a Macintosh, when they don't even see it in the first place?"

Great Help

Ah, here is where Apple shines—especially for real users who really are thinking of switching, but need some hand holding. Here, also, is where user groups can get their hands on practical, hands-on material to assist those who have made the move or who need some encouragement to make the transition. Look at this useful stuff:

- need to refresh your cocktail party chit-chat about why others should switch? Try the Apple list of top 10 reasons <<http://www.apple.com/switch/whyswitch/>> and <<http://www.apple.com/switch/questions/>>
- know someone who needs to read it to believe it, look at the guide to switching <<http://www.apple.com/switch/howto/>>. It is Apple's step-by-step map to safely move important files and preferences from a PC over to a Mac.

Apple is trying to get people to see for themselves that a Macintosh is a better personal computer choice. Its own brick and mortar stores provide an ideal venue. Apple could make real a rumor that it will install a Windows operating personal computer in each store so people can compare for themselves. If you have ever tried to make MP3s, or create a DVD, or tried to mimic iPhotos on a PC, it shouldn't be a tough sell. If the stores have been diligent at developing a mailing list of the 'eligible,' this could get interesting. ■

Volunteer Time

WASHINGTON Apple Pi is a user group made of people just like you and I. They have a Macintosh and they have joined the Pi for a variety of reasons. We are a group of member helping members. Some people see our magazine, the web page, the office or the Computer Show and Sale and assume (wrongly) that we are a business.

No, our members are our staff. They run the office, write the magazine, edit the web pages, answer the phones and do everything else that does or does not get done to run WAP. In the past, we had the luxury of an office manager (Beth), however she finally had to leave us for greener pastures. So now it falls to the membership to make things happen.

In light of this, we will now have a new column in the magazine, on the web page and on the TCS to let you know about our needs and our successes.

Our Needs

Wanted: *People to staff the reception desk at Washington Apple Pi.* Hours: Monday Wednesday or Friday from 10:00 a.m. to 1:00 p.m. or 1:00 pm to 4:00 p.m. Volunteers will work in pairs answering the phones, taking messages and doing duties such as stuffing envelopes and photocopying. The commitment needs to be once a week or one every other week. If you would like to volunteer, send an e-mail to vpvolunteers@wap.org

Wanted: *Members to help with the Reclamation project.* Days and times to be determined by the volunteers. They will work, after training, to triage donated computers and accessories for further action. Work will include checking to see if the item is in working condition, doing minor repairs, reformatting hard drives, installing software, cleaning cases etc. to prepare items to be sent to new homes. The commitment needs to be once every other week. If you would like to volunteer, seen an e-mail to vpvolunteers@wap.org.

“In the past, we had the luxury of an office manager (Beth), however she finally had to leave us for greener pastures. So now it falls to the membership to make things happen. In light of this, we will now have a new column in the magazine, on the web page and on the TCS to let you know about our needs and our successes.”

Our Successes

Thanks to all the people who made our election happen. In particular, Nancy Seferian. Nancy has volunteered for many years. She created the penguins that grace the TCS pages, has served as the head of the TCS committee and can be found making trips to the office to ask how she can help and lending a hand anywhere and everywhere.

Thanks also to all the new members of our Board of Directors. They heard the call made by our past president, Lorin Evans (also a volunteer) at the March meeting and are now beginning in new or expanded roles at the Pi.

New to the board are: Vice President for Volunteer Services — Laura Leigh Palmer Vice President for Programs — Jack McCalman Secretary — Craig Contardi Director Carol Weikert Director Robert Carmen Director Cheryl Parker Director Len Adler Director Victor Nazarian

Returning after are long absence are Director Nancy Little Director Jim Little

Members continuing from the last board: President — Pat Fauquet Vice President for Publicity — Dave Ottalini Vice President for Membership — Jim Ritz Treasurer — Richard Sanderson Director David Harris

If you would like to help in a way not specified, send an email to vpvolunteers@wap.org and Laura-Leigh Palmer will help to get you involved. ■

How to Write an Article for the WAP Journal

by Dave Ottalini

WHETHER A short time WAP member or a longer-lived one like me, the WAP Journal has hopefully become one of your best “friends.” Every other month, the Journal brings you great articles, reviews and information about your club.

But unless you are one of a small group of people, there is one thing you won’t see in the magazine—an article by you. The Journal is driven by material written by volunteers. One of its biggest strengths over the years has been the wonderful contributions by members. The vast majority of material came from within.

Today, the mix has changed - it’s still 96 pages, but we are using more and more outside material, articles by folks who are not WAP members. The magazine is still a good one—our Editor Kathryn Murray does an outstanding job. But it could be so much better with contributions from our own folks. We’re all busy—believe me, I know that. Juggling your time between family and work is a never ending battle. But I’d like to put a challenge before you. Instead of watching TV for an hour this weekend, use the time to write an article for the Journal. Write 500 to 750 words. Tell us what you do with your Mac. Why did you buy it? What do your kids use it for. What is your favorite web site? I suspect that once you get going, you’ll find that the words come easily. After all, you’re talking about one of your favorite appliances, your Macintosh computer.

If every member of the club wrote just one article of 500 to 750 words, we would have more material than we could use in a year’s worth of magazines. And once you’ve written one, I suspect you’ll find that you can offer something more, a review, say, of your favorite program.

And if you have trouble putting together a complete article, how about doing this, write me three sentences each (where applicable) to the following questions and email them to dave.ottalini@wap.org and I’ll do the rest.

My Name Is: I’ve Been a WAP member since: I Work As A: I Have This Kind of Mac: I First Found Out About the Macintosh By / From I Bought a Mac Because: The Best Thing about my Mac Is: I would recommend a Mac to others because: I Use My Mac Primarily For: My Favorite Software Package is: It’s My Favorite Because: (If you have kids) My Kids like the Mac because: Their favorite games are:

That’s all there is to it! Answer the questions, send them to me and I’ll turn them into an article for you. You’ll get final approval before its submitted to Ms. Murray for publication. But better yet, just turn everything into your own article and submit it to our editor directly. You’ll get a thrill seeing your name in print and the knowledge that you’re helping make the WAP Journal a better magazine for all our members. ■

From the Editor

When I first started to work on the journal, almost 9 years ago, there was a real magic to it. At a designated time I would go to the TCS journal board and download articles. There would be short ones and long ones. Graphics were just beginning to be submitted--there weren’t many, but they were starting to break up the text. Maybe there wasn’t a complete set of articles to fill a journal on the TCS, but it was close. (At that time we were publishing a magazine every month, although the page count was less.)

Over the years this magic has slowly diminished. Certain dedicated individuals within the organization submit articles and very good ones. But people who are not the core WAP volunteers don’t submit articles often—don’t share the kind of information requested above. SIGs don’t submit their meeting minutes or reports which used to happen frequently.

We all can benefit from the shared understanding that we have of the Mac. Please take to heart Dave’s challenge and write for us and soon.

--Kathryn Murray
KAM129@aol.com

Random URLs III

by David L. Harris

ON THE PI'S TCS bulletin board system I randomly post URLs (addresses of Web sites) that intrigue me. If you have an Internet connection and a Web browser, you can go to any of these places yourself. If you have paid your \$20 additional for a TCS membership you can see the newest Random URLs on the "Explorer Service & Internet" board of the General Conference. The URL of the TCS is <<<http://webtcs.wap.org/>>>. If you already use the TCS you can probably skip this article, because you've seen them.

Here are some more URLs I've posted. They are all working at the time this article was written, but by the time you read it, who knows? Due to the limitations of printing them, some may wrap to a second line. Make sure you get the entire URL—they are surrounded by < and >. Some pages may require JavaScript be turned on in your Web browser; if it is, you may get extra cookies or advertising on those pages. Some of the descriptions are taken from the sources where I get the URLs. And I usually end my lists with humor (of sorts).

Here is the third edition:

Crafting

Many links on crafting subjects

< <http://www.crafting.info/> >

The Old West

The Old West of this *The BarB-Q was yummy this year.*

page is defined loosely as the legend and reality of 19th Century America west of the Mississippi and Missouri Rivers and anything and anybody associated with it, past and present. After all, the Old West is not really a time or a place but a state of mind.

<<http://homepages.dsu.edu/jankej/oldwest/oldwest.htm>>

CampusTours: Virtual College Tours

<<http://www.CampusTours.com/>>

CampusTours works with over eight hundred colleges and universities throughout the United States to promote, enhance, and build virtual college tours for prospective students and parents.

Graduate School Information

<<http://www.gradschools.com/>>

"Source of graduate school programs information. Find thousands of graduate programs by curriculum or by school."





John Barnes offered help to all comers



MacTreasures

<<http://www.mactreasures.com/>

>

We are your source for Apple(tm) software and hardware Treasures NOT found on retail shelves. Whether you are looking for titles for your old Apple II or your faster than fast G4, MacTreasures is for you! (They also have a Mac donation program.)

Email 911

Anti-spam help

<<http://www.email911.com/resources/antispam.html>>

Columbia Newsblaster

<<http://www.cs.columbia.edu/nlp/newsblaster/>>

With a team of researchers headed by Prof. Kathy McKeown, Columbia Newsblaster is an online project at Columbia University's Department of Computer Science in the School of Engineering and Applied Science. Newsblaster currently looks at news reports from thirteen sources, including Yahoo, ABCNews, CNN, Reuters, Los Angeles Times, CBS News, Canadian Broadcasting Corporation, Virtual New York, Washington Post, Wired, and USA Today. The product uses artificial intelligence techniques to cull through news reports published online and then sorts and summarizes these reports in five different news categories — US, world, finance, entertainment, and sports.

Free Translation

<<http://www.freetranslation.com/>>

"Free translation of web sites and text for Spanish to English, French to English, German to English and English to Spanish, English to French, English to German, English to Italian, English to Norwegian and English to Portuguese."

Museum of Ancient Inventions

<http://www.smith.edu/hsc/museum/ancient_inventions/home.htm>

Browse this fascinating display of ancient inventions and discoveries, sponsored by Smith College



Charge - The Experience of Epilepsy

<<http://www.charge.org.uk/>>

“A site to find out more about epilepsy, includes personal accounts of living with epilepsy.” Needs Shockwave player 8 and Flash player 5.

Nervy Girl!

<<http://www.nervygirlzine.com/>>

“The Thinking Woman’s Magazine, based on the revolutionary idea that young women enjoy thinking about issues beyond makeup and boy-friends, the volunteer-produced Nervy Girl! celebrates women’s accomplishments.”

Who’s Alive and Who’s Dead?

< <http://www.whosaliveandwhosdead.com/>>

“Who’s Alive and Who’s Dead: This page lists some famous people who are alive and other famous people who are dead.” ■



Tiny Boxes All In A Row

and learn about the courses they offer that inspired the museum.

The Ancient World Web

<<http://www.julen.net/ancient/>>

A compendium of resources related to ancient history to be found on the World Wide Web.

Illinois Railway Museum

America’s largest railway museum

<<http://www.irm.org/>>



Repairs and Upgrades at Your Service

Tuesday Nights & Keeping Your Computer Up To Date

by Pat Fauquet

IRECENTLY had the opportunity to spend a Tuesday night at Washington Apple Pi's Clinic Night. I don't get to go often enough because of family obligations, but the visit was a great opportunity to work with the technical members of our club, and it provided a time to answer several important member questions.

I had recently received a message from the www.smalldog.com electronic newsletter, TechTails. In part, Issue 112 contained this information:

Data Transfers

So you got your new Mac, collected your documents, and successfully transferred them with file sharing. But, what about all your old e-mail, your huge e-mail address list, and all those web page URLs your browser remembers for you? Here's where to find your mail and bookmarks in a few popular programs:

Netscape System Folder: Preferences: Netscape Users: <your user name> System Folder: Preferences: Netscape

Internet Explorer System Folder: Preferences: Explorer

Microsoft Outlook Express Documents: Microsoft User Data: Identities: Main Identity Documents: Microsoft User Data: Identities: <your identity>

Microsoft Entourage Documents: Microsoft User Data: Office 2001 Identities: Main Identity Documents: Microsoft User Data: Office 2001 Identities: <your identity>

Eudora System Folder: Eudora Folder

I passed the newsletter on to members of our Tuesday Night Clinic crew. As the information was

passed around, questions came up. A WAP member is using OS 8.6. When he tried to follow the path describe above; he was stopped immediately. He could not locate a Documents folder on his computer. There are many features that have been added in OS 9 to keep the average computer user more organized, and the article assumed the reader would be using OS 9.

In OS 8x, there is the ability to "turn on" a Documents Folder. To find this, go to Apple menu: Control Panels: General Controls. The Documents Folder is mandatory in OS 9.2. This does not mean that you have to place your documents in it (but you should). It means that programs such as Internet Explorer 5, Outlook Express 5, AppleWorks 6, Netscape 6 and even Acrobat Reader 5 must place your user-specific files such as mail, bookmarks, templates and lists of recently-used documents into the appropriately name folders inside the Documents Folder. They can no longer store those files in System Folder: Preferences. This works so much better—you might actually remember to back up these important items along with your documents when doing periodic backups.

While people with older Power PC machines can continue to use older system software, there are real advantages to being as up-to-date as possible. If your machine can handle OS 9, you should probably be there, and you should also be using the latest version of OS 9 that your machine can handle. In the case of computers without G3 or G4 processors, you can go as far as OS 9.1. If you have a G3 or G4 computer, you can update to OS 9.2.2. Unless you have one of the first Beige G3, iMacs or iTools, there is little excuse not to be moving on up to OS X. While those machines can use OS X, it will not be as speedy as it is on newer computers. Apple Computer and other software companies cannot make improvements to the overall computer experience for those who do not update. While there might have been an issue with a printer driver or software program when a system update is releases, those issues are almost always resolved within 30 days of an update.

Moving up to a newer operating system may require adding RAM or memory chips to your computer. While chip prices have increased in recent months, adding RAM to your computer will speed

it up and make it less crash-prone. If you are uncomfortable adding your own RAM and updating your system software, a trip to the Tuesday Night Clinic is in order. Pack up your computer, the RAM and the new OS disks if you are moving from OS 8 to OS 9 or OS 9 to OS X. Leave your cables, keyboards, mice, and monitors at home, as WAP has more than enough. Clinic hours are 7:00 p.m. to 9:00 p.m.

The Tuesday Night Clinic is staffed by WAP volunteers who are experts-in-working with Macintosh computers, or they are experts-in-training who will help you under the eye of one of our experts. They volunteer their time to help us raise money for WAP. You are asked to make a donation at the time that the service is performed. If you don't know how much to donate, check out the prices at your local computer store. You are certainly not expected to fork over \$75 to \$100 per hour, but if one of our volunteers spends an entire evening making your computer "better," \$20 is definitely too small a contribution. If you wonder what happens to the money, think of the cost of renting commercial space, maintaining a classroom and outstanding web site, and producing the WAP Journal. We are a nonprofit organization that can certainly use more money in order to provide more member benefits.

By the way, if my excerpt from the TechTails newsletter makes you want to read more, go to http://www.small dog.com/subscribemain_n.html for more info on TechTails and their other free electronic newsletters. ■

Pat Fauquet teaches many of the tutorials offered at Washington Apple Pi and hopes to be able to become a regular member of the Tuesday night crew after her youngest son leaves for college in the fall.

Here Comes MPEG-4

QuickTime 6 in Preview

by Dennis Dimick

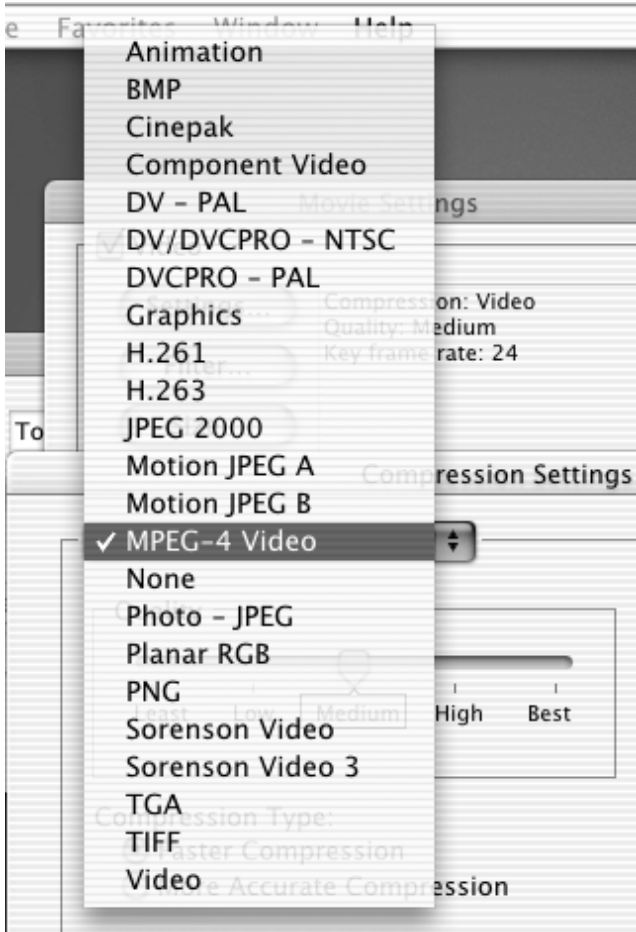
A NEW VERSION of QuickTime, Apple's multimedia software, arrives soon. Many Mac users may know QuickTime only as the thing that helps them play movies with their iMac. Yet, QuickTime may be a big reason Apple has held its own in a computer marketplace where cheapness and Windows seem to matter most.

QuickTime has given Apple's Macintosh a premiere spot in the multimedia authoring industry. As an under-the-hood software toolkit that allows video, images, sound, and graphics to all work together in time, QuickTime has become as important to desktop digital movie making as Adobe Postscript type and laser printers have been to desktop publishing.

But just as QuickTime has been a mainstay of multimedia and digital video authors, it has struggled to gain wide acceptance as a standard delivery format on the Internet. Apple's



Waiting for Network: This greets when you first open Apple's QuickTime Player 6, the integral utility and default movie player that comes with QuickTime. Apple's multimedia tools now expect an "on-all-the-time" internet connection.



New Choices: If you create Quicktime movies, you'll find an MPEG-4 compression option in QuickTime 6. MPEG-4 provides as fine quality as any option previously available in QuickTime. Besides letting you export movies to MPEG-4 format for use with devices other than typical desktop computers, QuickTime 6 also allows creation of QuickTime movies using a special Apple-created MPEG-4 codec, or compression tool, for creating movies meant for computer playback.

corporate propaganda speaks to QuickTime's great popularity, but most websites I visit with "movies" or "streaming" video and audio offer only "MP3" files, or formats incompatible with QuickTime such as "Real" video and audio and some format from Microsoft. Alas, even the media firm where I work doesn't support QuickTime files on its web servers.

A Look at the Future

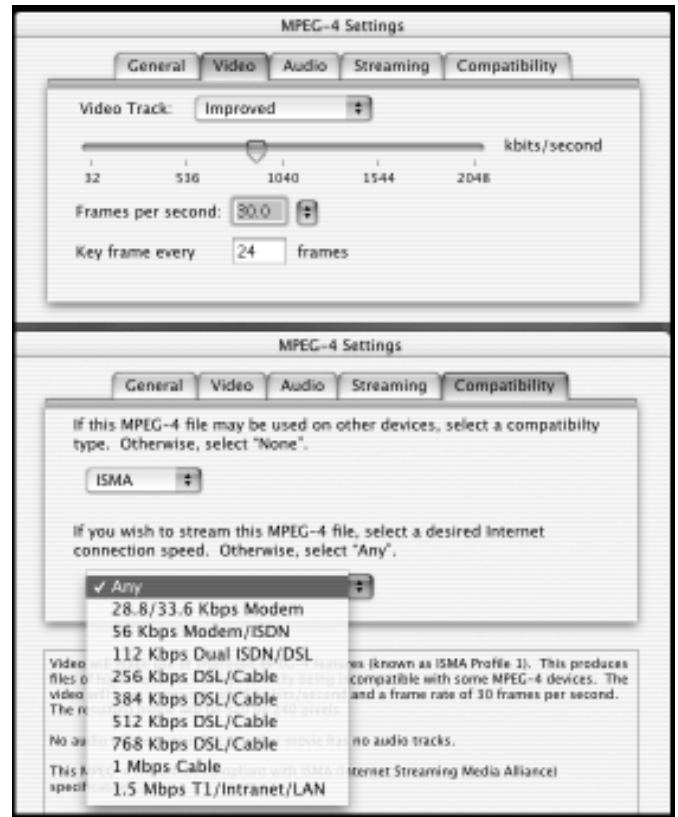
Now Apple has just released a "public preview" version of QuickTime 6, its next-generation multimedia software. If ever Apple has a chance to gain a

stronger foothold in internet-based media delivery, QuickTime 6 with its support for next-generation MPEG-4 audio and video could be it.

As we know, the MP-3 format has also taken computing by storm. Short for MPEG-3, it's a predecessor format to MPEG-4 used for compressing high quality audio files to small sizes for digital players and for the internet. (QuickTime 5 supports MP-3 playback but does not directly support MP-3 creation via QuickTime Player Pro.)

MPEG-4 offers a new and improved file format beyond MP-3 that supports creation and playback of high-quality video and audio. In fact, a few years back when MOEG-4 standards were set, they were based around Apple's QuickTime file format.

For users this means that MPEG-4 format files



Choices in MPEG: This composite of two screens from QuickTime MPEG export screens shows (at top) choices for file size, allowing you to determine on a sliding scale the rate in kilobits per second. This matters if you plan to deliver your files in "streaming" format. You can see (at bottom) a choice of compatibility options available if you plan to author movies for a variety of delivery speeds like cable and DSL.

“QuickTime has given Apple’s Macintosh a premiere spot in the multimedia authoring industry....QuickTime has become as important to desktop digital movie making as Adobe Postscript type and laser printers have been to desktop publishing.”

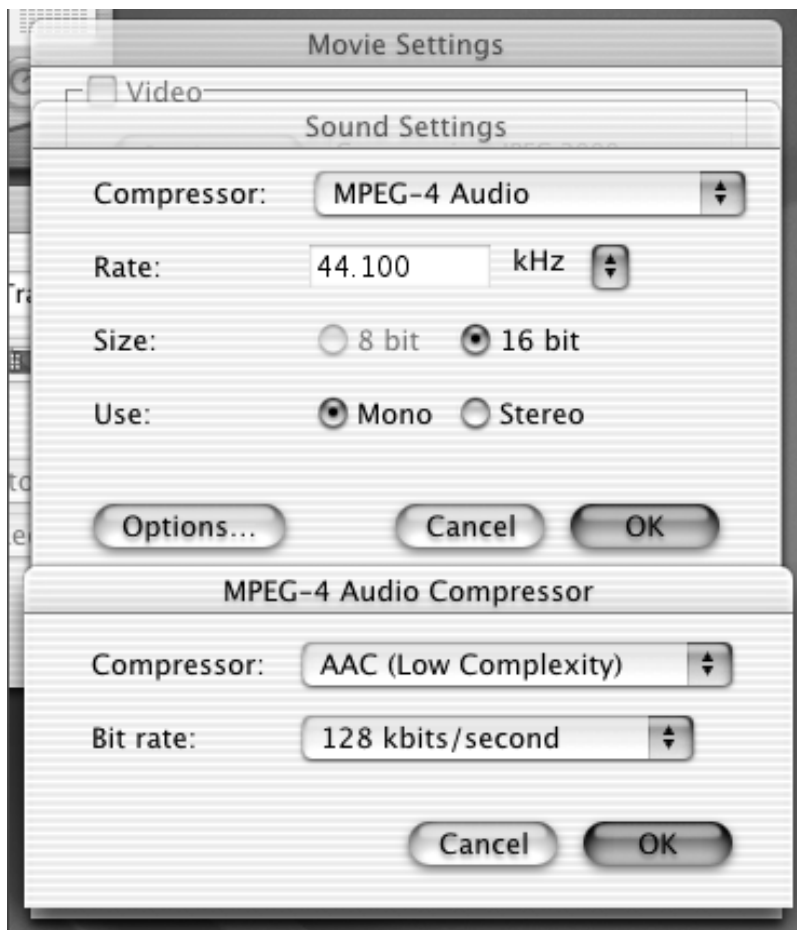
by nature will be QuickTime compatible, and MPEG-4 files created by QuickTime should play for anyone using other computer platforms or entertainment devices with MPEG-4 players. MPEG-4 is seen as a universal format that will play on wireless devices, set-top consoles and digital television.

We can only hope this scenario works as planned. Not surprisingly, Microsoft has not joined a consortium of firms agreeing on specifics of MPEG-4 implementation. It’s important to keep in mind what happened with Java: Sun Microsystems’ Java language was designed for compatibility across all computer platforms, yet Microsoft, in its quest to assure Java worked “better” with its own products, conjured ways to make Java incompatible with Java.

How QuickTime 6 Will Play

What will QuickTime 6 offer end users like us? This depends on how you use QuickTime files, and whether you have a dial-up or high-speed broadband internet connection. Added benefits you get from QuickTime 6 also will depend whether you only play QuickTime-based video and audio, or if you also use QuickTime Pro or other programs to create and publish QuickTime files to disk (like CD or DVD) or the internet.

In general, it appears QuickTime 6 expects an “on all the time” Internet connection; usually this means some sort of high-capacity connection such as cable modem, DSL line, or T1 line. When I first opened QuickTime Player 6, the “movie” window opened with this notice “to access online content, you must first connect to the internet...checking network.” I



Custom Audio: Creation of MPEG-4 audio also comes as part of QuickTime 6 Pro. When you convert an existing audio file such as AIFF, you’ll see these two screens when choosing audio quality and file size. Apple says the MPEG-4 audio options in Quicktime 6 are called “Advanced Audio Compression,” or AAC.

did not have a network connection, as I had not dialed it.

As to movie creation and playing, the MPEG-4 format appears to produce great-looking movies. My experience is anecdotal: I’ve downloaded and viewed the QuickTime 6 movies from Apple’s website, have compressed a few clips from my own DV footage and created slide-show type movies from still images.

In, general file sizes appear comparable or less than similar QuickTime movies produced by the “Sorenson” compressor, QuickTime’s previous “champion” format for high-quality video files. Audio MPEG-4 files also sound wonderful.

An important aspect about MPEG-4 in QuickTime may not be what you see, but what you



Just Like Cable TV: You'll benefit most from QuickTime 6's new viewing features if you have a high-speed internet connection. Upon opening QuickTime Player you'll be greeted with a screen like this, which leverages QuickTime's "interactivity." Click on one of the buttons at left and you'll be taken to a new "channel" of movies or music presented via Apple's website.

don't pay for. Before MPEG-4 in QuickTime, if you wanted to create optimum quality QuickTime movies using the Sorenson format, you had to pay \$500 for the "Pro" Sorenson compression add-on to QuickTime.

QuickTime 6 with MPEG-4 creation support will cost users the price of the "QuickTime Pro" upgrade to enable customized MPEG-4 video and audio compression options. (See my earlier Journal article at <http://www.wap.org> on the benefits of QuickTime Pro.)

The price of upgrading to QuickTime Pro 6 has not been established because Apple is still negotiating rates with the MPEG licensing authority. Apple has said anyone with existing QuickTime Pro 5 licenses will have to pay to upgrade; QuickTime Pro 6 may cost more than the \$30 previous "Pro" versions cost. Regardless, if you plan to create MPEG-4 movies in QuickTime you should be able to get very high quality files for much less cost than using the Pro variant of Sorenson format. That said, if all you

do is play movies that others create, the upgrade to QuickTime 6 should be free, at least it has been for all previous versions.

This is But a Glimpse

Besides MPEG-4, and support for all file types supported by earlier versions, QuickTime 6 will offer other improvements. These include "instant on" and "skip protection", features that improve delivery of video streams over the web. If you use Mac OS X you can export still images from QuickTime in the new JPEG 2000 format. QuickTime 6 also supports Flash 5, DVC Pro video in PAL format, and improved Applescript support.

Apple's been pushing hard for users to accept Mac OS X and company leader Steve Jobs has announced no more development of Mac OS 9. Yet the Apple website indicates that minimum standards for QuickTime 6 are a Power PC Mac and Mac OS 8.6.

By the time you read this Apple may have released the final version. Until then visit <http://www.apple.com/quicktime> to download QuickTime 6 Preview. It's free, and during the pre-release period you can use QuickTime Player 6 for modest editing, MPEG-4 movie compression and file export if you already have paid \$30 for QuickTime Pro 5. This is the best way to discover the potential appeal and possible impact of MPEG-4 on QuickTime and you. ■

Pi member Dennis Dimick has been following the growth of Apple's multimedia software since he started his movie-making career (a.k.a. hobby) with QuickTime 1.0 in the early 1990's. He can be reached via email: ddimick@aol.com.

OS X Windows

by Pat Fauquet © 2002

IN MANY WAYS, OS X is very similar to OS 9 and earlier systems from the user's point of view. However, everything is more colorful and has a cleaner look. Some items have moved to new locations, and usually the new location just makes more sense. Just as in the past, clicking on an icon opens a window or launches an application, and most applications open with an open window of some sort. The purpose of this article is to show you some of the features of the windows in OS X that you may have missed. The easiest way to learn the techniques shown in this article is to go to your computer, boot it in OS X, then follow along.

Begin by double clicking on the icon for your hard drive. You will see a window that looks much like this one (Figure 1). This window is in the Icon View. Sometimes the window will look a little different. It could be in the List View (Figure 2) or it might be in the Column View (Figure 3). If it is one of these views, go to the View menu (Figure 4) and select "as Icons."

If the window has lots more icons, you have not been doing much housekeeping. The first window of your hard drive should have only the icons shown here in it. The folder icons with pictures on them belong to OS X. The folders without icons belong to OS 9. Other things that might be in the window need to be put away. Applications or programs belong in one of the Applications folders. If you do not know which folder to put one into, go ahead and put it into the Applications folder for OS X (The one with the "A" on it). The Documents folder is NOT the one you should be using for OS X. It is the one used for OS 9. (I plan a future article on Documents folders.) For the moment, drag any documents out on to your desktop, then press on the "Home" button at the top of the window. Inside the Home window will be another Documents folder. Open it and then drag your



Figure 1.

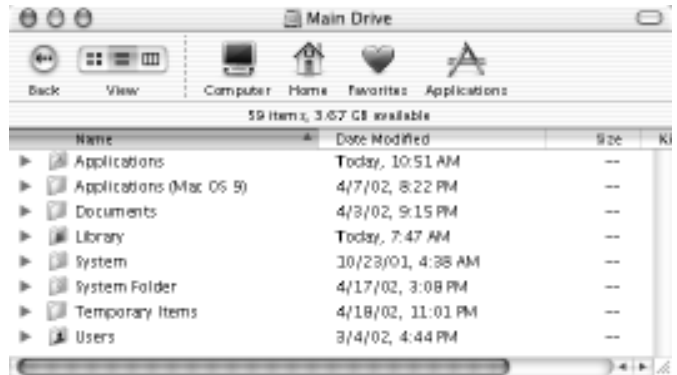


Figure 2.

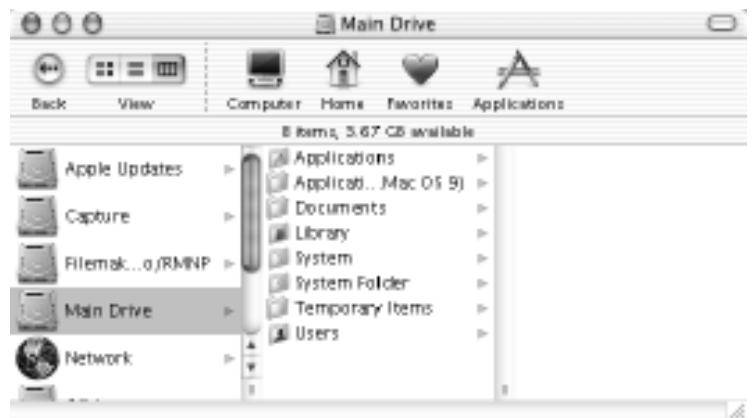


Figure 3.

documents into that window.

If you see items such as Installer Log File, and you never read those, it is all right to throw them into the trash. More technical people use those files to keep track of what files were installed by which

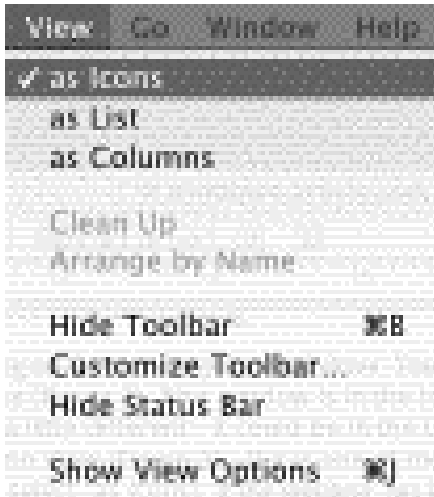


Figure 4.

program. The average user will never open them.

Title Bar

At the top of each window is the title bar (Figure 5). Its chief function is to serve as a handle to drag windows around the screen. If the

on the present condition of the window. Pressing the elongated dot at the right end of the title bar will hide the toolbar that is located under the title bar.

The miniature icon next to the window title is present if the window is the product of opening a hard drive, a CD or a folder. If there is no icon present, the window has been made by an application and is called a document window. If you click and drag the miniature folder icons, you can drag folders directly into the trash without closing them. If you press and drag on the miniature CD icons, you can eject the CD. If you click and drag the icon of a drive located in the computer, you will get a dialog box informing you that you will need an administrator password to make changes. If the hard drive icon is for a removable drive of some type such as a Zip



Figure 5.

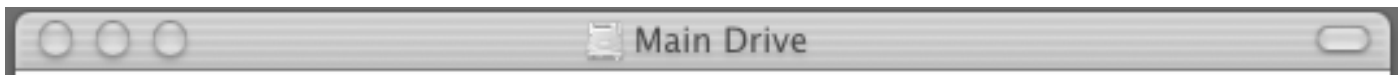


Figure 6.



Figure 7.

words in the title bar are black; the dots at the left end are red, yellow and green and if the bar is opaque, the window is active. If the

Disk or an external hard drive, you will “unmount” the device. Zip Disks will be ejected and external drives can then be disconnected without damaging their contents. If the icon for a folder, drive, or CD can be seen on the desktop or in a window, they can also be dragged directly to the trash.

Clicking the icon while holding down the Command key will show you the directory path of the item (Figure 7). The bottom icon on the list represents your computer. The next icon from the bottom represents the hard drive. Higher icons on the list tell you the name of the folders you would have to navigate through to see the folders that led to the icon for the window you are viewing. This list of icons can be used to move a folder closer to the “top” of the hard drive. Simply highlight the name of an icon lower in the list and that folder will open.



Figure 8.

title bar is translucent, the buttons are white, and the writing is in gray (Figure 6) the window is inactive. A window must be active to make a new folder in it. There can be only one active window at a time.

The red dot at the left end of the title bar is used to close a window. Clicking the yellow dot sends the window to the right end of the dock at the bottom of the screen. Pressing the green dot resizes the window. It could make it larger or smaller, depending

Tool Bar

Below the title bar is the toolbar. (Figure 8). This is a new feature in OS X, and it is very useful. I am finding that most new users of OS X are not using it



Figure 9.

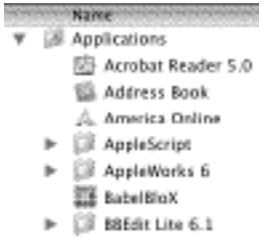


Figure 10.

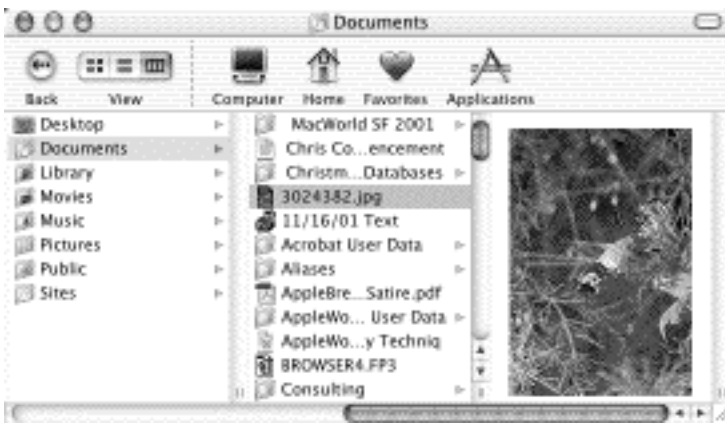


Figure 11.



Figure 12.

and not trying it out. The back button is grayed out when you first open a window. As you click on different icons, instead of opening in separate windows, the contents of the next window replace the original icons. To move back to a previous window, simply press the back button.

The View Button has three icons in it. The first one that looks like four squares is the Icon view. This is the most efficient view for windows to

bring up a list view. This is the least efficient way to view a window unless you need to be able to see information such as modification dates, or file sizes and I know you do not always need this information. When a window is in the list view, the words such as Name, Date Modified, and Size at the top of each column are actually buttons. They can be used to sort the list in alphabetical order, date order or file size. In the column that is being used to sort the list, there is a small triangle. If the triangle is pointed upward, the list is sorted A to Z or oldest to newest or smallest to largest. If the triangle is pointed downward, the order is reversed. Press the highlighted button to change the sort order. The column buttons can also be resized. Simply place the cursor over the

line dividing the columns and pause. You will see a cursor with arrows on either side of a vertical line (Figure 9). While this cursor is visible, press and hold the mouse button and you can drag the cursor from side to side to resize the column.

Beside each item in the list view is a small triangle. Its proper name is a "Disclosure Triangle" (Figure 10). Clicking on the triangle will reveal what is in the folder. This little triangle is the root of the problem in the List view. As you click more and more triangles, the list gets longer and longer and it becomes almost impossible to tell where things are located. Tell me it is efficient to scroll screen length after screen length trying to find that elusive file. Try to move a file to a new location, and tell me you can easily control where the file is going. Leave the list view for those few times you must see information such as modification dates or file sizes.

The final section in the View Button brings up the Column view (Figure 11). This view was used in the NeXt system software. It is far more useful than the list view, but it takes practice to use it properly and can lead to long downward scrolls if there are lots of folders inside other folders. The most important element in this window is the scroll bar at the bottom of the window. Clicking and dragging it to the left will allow you to trace the file's path all the way back to the drive it is located on. As you trace the path, the folders along the way remain highlighted. If the final file is a photo or movie, you will see a preview of it in the final pane. If the file is a word processing file, you will see the first few words

other window and how to keep it super organized. The middle section in the View button is used to

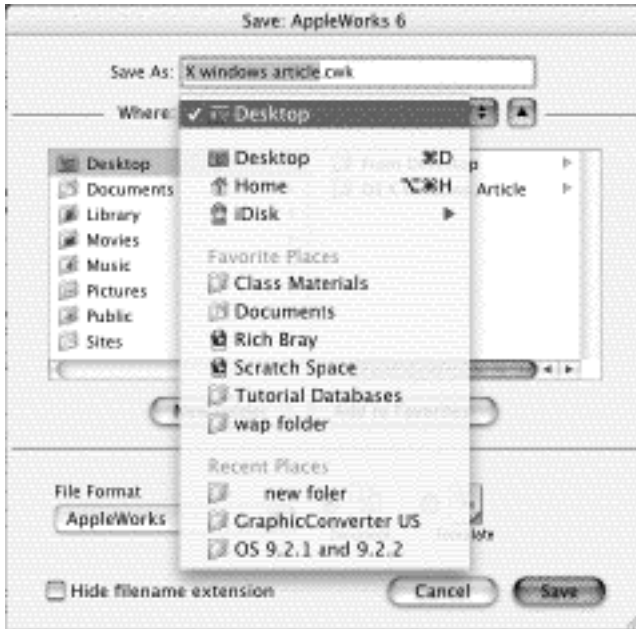


Figure 13.



Figure 14.

of the document.

Next on the Button Bar, after a dividing line, is the Computer button. Pressing on it will open a window showing all the hard drives or partitions of the hard drive in the computer. There will also be a Net-

work icon if AppleTalk is turned on and if there is a CD in the computer, it will also show up. This window was originally supposed to replace the hard drive and CD icons on the desktop. However, during the beta test period for OS X, Macintosh owners complained long and loud about the absence of the icons on the desktop, so they were placed there. If you would like a cleaner desktop, make sure you are in the Finder, then go to the Finder menu and pull down to Preferences. You will see the Finder Preferences window (Figure 12.) Notice all the things you can change here. Before you make lots of changes here, be sure to remember how to get back to them if you do not like the results!

Home Button

The Home Button leads you to the place where all your files are stored. If you are using the Multiple Users option in OS X, each user will have their own Home area where their own things are stored. The most interesting folder here is Desktop folder. First, it does not look like a folder, but if you double click on it, you will see a window that shows all the icons that are on the desktop. At first glance, it appears to be pretty useless, but if you have windows all over your desktop, clicking this icon will allow you to find, sort and make folders for the things on the desktop without having to close windows to see it. Give it a try! I find it to be most useful.

The Documents folder contains all the things you have stored in it from OS X. It is a completely different folder than the one contained at the first level of your hard drive. Make a habit of storing your files in this folder and feel free to make as many sub-folders as you would like to have to keep things easy to find. I have a folder for recipes, one for craft project ideas, one for Washington Apple Pi, yet another for my consulting business, plus many others.

The Library Folder contains your individual preference files and all sorts of other things that pertain to each individual user. This is not a file to play in. Do not move things in or out of the Library unless you really know what you are doing. It is an easy place to mess up your computer.

The Movies folder is used to store iMovie

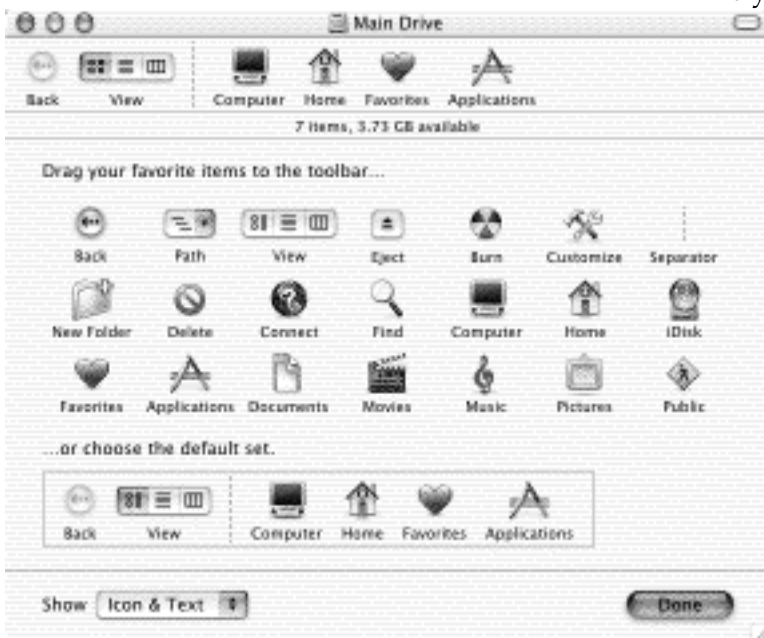


Figure 15.

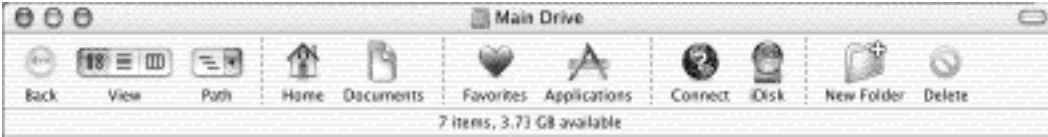


Figure 16.



Figure 17.

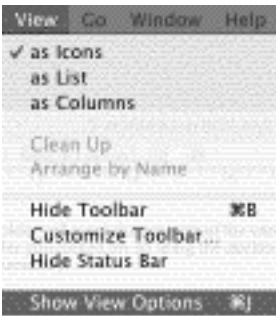


Figure 18.

Projects. iTunes files are stored in the Music Folder. The Pictures folder is used to store iPhoto files. The Public folder is the place to store things that you might want to give other users access to over a network. The Sites folder is used to store any web sites you may be

hosting on your computer. If you are not using some of these folders, just leave them in the window because they do not take up much hard drive space and you may need them later.

Favorites Button

The Favorites button leads to a window where you can store aliases of documents, folders and applications that you use frequently. If you drag an icon on top of the little heart, an alias will automatically be made. If a folder is in the Favorites window, it will also be available in the Save dialog box (Figure 13). This can be a real time saver as it makes it easy to get to frequently used folders quickly.

Application Button

The Application button leads directly to the OS X Applications folder. It is not necessary to open the hard drive, then open the Applications folder. From any window on the computer, simply pressing this button will take you directly to all the OS X Applications on your computer. As you become more profi-

cient in OS X, there is no reason why you cannot move your OS 9 applications into this same folder and do away with the OS 9 Applications folder.

tions folder.

Customizing the Toolbar When I looked at the OS X windows the first time I noticed that something very important was missing. Since I divide my hard drive into 6 to 8 partitions, even a 20 GB hard drive can seem rather small. It has always seemed important to me to know at a glance how much space is left. I also like to

keep track of how many files are in certain folders. I was able to find a command that put this information at the top of each window. If you have not located the command, how much time have you spent going through the various menus and system preferences to find out just what is available in OS X?

Go to the Menu Bar and locate the View menu (Figure 14). Pull down to "Show Status Bar." You will now have information about how many items are located in the window and how much room is left on your hard drive. Notice there is also a command to "Hide Toolbar." For those people who are grudgingly using OS X, here is the perfect way to make it more OS 9-like. For the rest of you, note that between those two commands is one that holds much promise.

Although the default toolbar in OS X is nice, there are a few things that I would like to be able to do from any window. OS X provides lots of items for toolbar customization (Figure 15). While I have returned my toolbar to the default settings while writing this article, I can now show you the things I like to have available in my personalized toolbar (Figure 16).

Because I became quite adept at command-clicking on the small folders in the OS 9 title bars to reveal the path to a folder, I really like the Path button. By dragging to a different level in the path, you can instantly jump to a folder higher up the path. Because I never use the Computer button, I eliminated it. I also added several dividers to isolate similar functions into the same area. Of course, when I finished adding my favorite buttons, the bar is too long



Figure 19.



Figure 20.

for most windows. However in OS X, the programmers are one step ahead of us. If the toolbar has more buttons than your typical window can accommodate, an arrow icon appears at the right end of the toolbar and pressing on it opens a drop down box that contains the excess buttons (Figure 17.)

I store everything I make in my Documents folder. So although I like the Home button to get me to my storage areas, I really appreciate the Documents button for its one click access. I also keep a Documents icon in my Dock. (I told you about clicking and holding on the Documents icon in the dock to have it reveal a pop-up window in an earlier article.)

We have both an Ethernet and AirPort network in our home. We have both available at the Pi Office also, so having a Connect button in the toolbar is very

handy. I frequently access other computers both at home and at work. We have a cable modem at home, and so having easy access to my iDisk is also very helpful. I also make lots of folders and frequently delete files, so buttons for those tasks complete my Toolbar.

Customize your toolbar to include whatever buttons you think you might use and occasionally revisit the Customize Toolbar command in the View menu to keep your toolbar working for you.

Window View

We need to revisit the topic of window views. Earlier I said that the most efficient way to view window is to use the Icon View. This not the way I see most windows being viewed. I am constantly

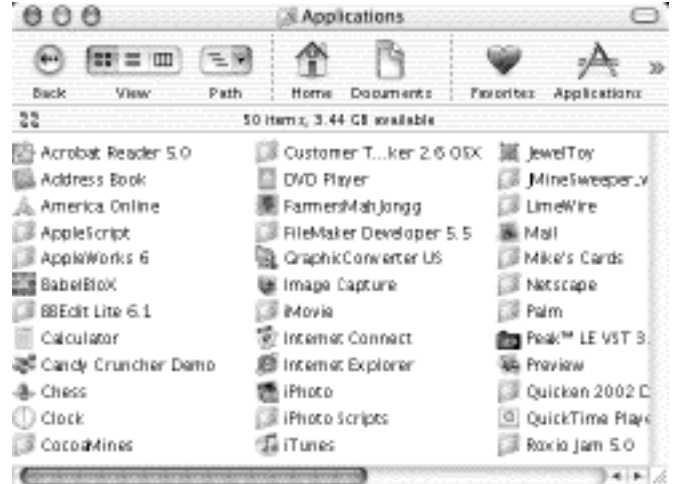


Figure 21.

amazed at the number of people who immediately turn all windows into List Views. When I ask why they do this, the most frequent answer I receive is that it is easier to see the contents of a window. To compound the problem, most users then begin using the disclosure triangle to reveal what is in other folders. Pretty soon the list view on their hard drive is the length of 15-20 screens, and they think this is efficient? Why would you want to scroll forever to reach something that begins with an “S,” much less a “W?” Now tell me how you can efficiently click the first letter or two of the name of an icon to jump directly to it. Tell me how you can easily drag a folder or document to a new home when it is difficult to move the icon to a different level in the path of the hard drive.

In OS 9, clicking on an icon always opened a new window and soon you had window clutter all over your desktop. The Window menu did not show up until OS 9.1, so there was no way to easily find a hidden window. Instead, users would simply begin closing windows, and that could take a while if many windows were open — unless you knew about the “magic” key. “Huh,” you say— “what magic key?” That is my name for the Option key. If it would make sense that there should be a way to accomplish something using a keystroke, try the “magic” key. Hold down the option key while clicking the close box of the active window. Notice that all the windows associated with the finder (or a particular application) close with one click.

“The purpose of this article is to show you some of the features of the windows in OS X that you may have missed. The easiest way to learn the techniques shown in this article is to go to your computer, boot it in OS X, then follow along.”

It would only make sense that there should be a way to open another window while closing the one you came from—try holding down the Option key while you click on an icon.

In OS X, clicking on a folder will cause the contents of the window to be replaced with the contents of the folder you clicked on, so using the disclosure triangle to prevent window clutter is unnecessary.

The next reason given is that the list view allows you to see more in a window. Wrong. The way to see the most items in a window is to change the size of the icons in a window and to have the window always display its contents in alphabetical order. These options are available in the View menu. Highlight “Show View Options” at the bottom of the menu. (Figure 18.) That will bring up the window shown in Figure 19. Before we continue, note the name in the title bar. Now go click on an icon to open another window. Notice that the name in the title bar of the “View Options” window changes as you change windows. This is new in OS X. In the past, you had to close the window before you could click on another window, and then you had to open the View Options window for the new window. I really like the new OS X way.

Go find a window on your hard drive that has lots of icons in it. No, viewing the first level of your hard drive in a list view does not count. For this exercise, use the icon view. A window with lots of icons might be the Applications window, or if you have had your computer for a while, it should be your Documents window.

Now, put this icon-filled window into the list view and count how many items you can see at one time without scrolling. Next, go to the view menu and choose “Show view options.” Choose the icon view button in the window, then go over to the view

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dialog box (Figure 20) and pull the slider for icon size to the left (smaller). Notice that at a certain point, the icons move into multiple rows (Figure 21). The icons are the same size as in the list view, but having multiple columns in the window means you can see more in a small space. By choosing “Keep arranged by Name” the list will be alphabetical. Opening further folders does require clicking, but clicking is much faster than scrolling through screen after screen of icons.

One trick that is often overlooked is that typing the first letter or two of an icon will cause the name to be highlighted. When you get close to a name, press the tab key and the next item, alphabetically will be chosen,

At the top of the window is a choice of changing only this window or making changes throughout your computer (global). Unfortunately, choosing “Global” only makes the change for future windows, not for those created in the past. But then who says every window on your computer must match. That is the point of the last set of options at the bottom of the window. You can use colors or pictures to be the background of icon windows. At first glance, one might expect the color to show up in column or list views, but this is not the case, it shows only in icon views.

There are lots of options for windows in OS X and just how you have windows displayed should be considered. If you are a list viewer, try some new options and see whether they don’t make you computer faster and easier to navigate. If you are really a frustrated OS 9 user, you can make OS X look and work almost like OS 9 if it makes you happy. ■

Cliff Diving: Moving to Mac OS X

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IN APRIL, the Pi Webmaster received an impassioned, well-written letter on problems related to moving to Mac OS X. The Webmaster was intrigued with the language (much better written than most E-mail letters), but puzzled by the context (what prompted the letter?), and so decided to investigate. It is an interesting tale, full of love and passion, seeming betrayal, rejection and reconciliation. Can movie rights be far behind?

While waiting for the movie deal, consider the sport of — cliff diving. Cliff diving got its big start in the 1950s when some Hollywood movies were filmed in Acapulco, Mexico, and included footage of young boys diving off the La Quebrada cliffs into the Pacific Ocean. For a few pesos, poor youngsters would fling themselves from the cliff, trusting to skill and luck that they wouldn't be smashed on the rocks below. It was a heck of a way to make a living.

And, for many, leaving behind Mac OS 8 or 9 and venturing into the world of Mac OS X is much like cliff diving. The comfortable Macintosh interface, developed in fits and starts over almost 20 years, is left behind, and the user finds themselves hurtling down the cliff, faster and faster, ready to either splash into Aqua (the Mac OS X interface) or smash, period. On the way down, some users have second thoughts — but gravity is implacable. The speed and momentum of the plunge increases with every second.

Here is the letter. While this is being published with the permission of the author, it has been edited to preserve anonymity. The writer even gave it a title:

Just one of those things

My love affair with the Mac began on a fine Fall day in 1984 when I got a call from the Apple Pi office that my new 128K Macintosh had arrived. I broke every speed law from Baltimore to DC driving my VW Rabbit down to Bethesda to pick up that wonderful white box. I joined the Pi after reading that they were doing a group purchase and I very much wanted to be part of the brave new world of computer graphics. I had seen IBM PCs become paperweights, I had discovered how much work it was to make a red square move an inch across the screen in BASIC, and I helped Control Data port mainframe educational programs over to TI (Texas Instruments) boxes. I was a humble graphic designer, not a programmer, and I said I'd buy a computer when I could take it out of the box and be doing something useful within a half hour. The Mac fulfilled that promise, and more, for 18 years.

Until three weeks ago. I had a perfectly fine G3 tower, running Mac OS 9.2, the last of a long line of Macs that had served me well and provided an income over many years. I had two video boards, twin 17 inch monitors, auxiliary hard drives, a scanner, laser and inkjet printers, a CD burner and lots of useful software. But I read articles in MacAddict and in the Pi Journal exhorting me to get with the new future of the Mac and upgrade to Mac OS X. So I prudently waited until the third revision of the OS then took the plunge.

There's no better word to describe the past three weeks. First, it was the inability of the software to recognize my hard drive as valid for upgrade. Then it stalled while endlessly "checking disk." Numerous calls [were made] to Apple where nice folks with Canadian accents tried everything, then referred me to product specialists, also nice, who urged me to tear my system apart, rebuild everything and call them back. Nothing worked, days went by...

I don't remember which dark hour everything snapped and I decided maybe everyone was right, I just needed a whole new computer (actually, it was when some senior tech guy at Apple said, yes, we support putting Mac OS X on a G3, but I have one at home, and I really don't think you'll be happy even if you can get it to work). So, in total frustration, I called MacConnection and ordered a new G4, along with USB, ADB and SCSI cards. Trying hard to summon the old excitement when a new Mac showed up, I unpacked the box and plugged every-

thing in. Mostly it worked. Except it needed endless software updates and expensive upgrades. More hours on Web sites, e-mails to tech support people and careful plugging and unplugging boards, cables, etc. Fortunately, I had backed everything up to CDs because I continually had to go find some file that was needed.

Then there's the whole essential mystery of Mac OS X. Does anyone really prepare you for the fact you'll have two (and 3 if you count Classic) operating systems on your computer? With duplicate filenames, folders and other confusing inconsistencies? How long should it take for you to search fruitlessly for the file you just created on multiple desktops? Or load the two versions of software you had to buy to replace the perfectly functioning earlier single version?

OK, fine. Bite the bullet as Pat F[auquet, Washington Apple Pi Tutorial Coordinator and Mac Guru] would say, spend the hours tweaking, reading obscure tech updates, adjusting to new behaviors; it will all lead to a better world. So today, I was that close. Yes, I was still waiting for the word on how to get the scanning software to work, but I had got Norton Utilities to install in Mac OS 9 (better read the FAQs on how long you have to wait if you've got a SuperDrive). So, after once again switching back and forth between the two OS, I restart and, poof! a kernal panic (whatever that is). Well, another two hours with tech support, another tear apart the computer (thank God it's not the skin lacerating 8500) session and finally, during the last futile attempt to get it to mount, the SOB has the nerve to TRY AND SELL ME AN APPLE CARE EXTENDED SERVICE CONTRACT! I mentioned that this might not be the best time to discuss this and he quickly beat the hasty, and by now very familiar, retreat into calling on the product specialist. I noticed that he switched on the soothing Loreena McKennet music while he went off to seek counsel. He returned and briskly told me to take it to an authorized dealer for service.

So here I am typing this on my old G3 which has been resurrected from backup CDs. Tomorrow I take the new G4 SilverSled in for repair and ruefully curse the day I set out loyally to do the Apple thing. The love affair is finally over. I really wanted to put one of those decals on my car. Sigh, just another pretty inter face.

Here is a user — an informed, devout Macintosh user — who decided to go cliff diving. While they had read up on Mac OS X, they had not, unfortunately, read up on cliff diving itself. Cliff divers tend to be dedicated, no-nonsense athletes, and when they go cliff diving, they cast off everything that isn't directly required. This usually means "leave behind everything but a skimpy swimsuit and a look of intense concentration." Our Mac user, on the other hand, tried to take with them everything they had acquired in almost 20 years of Mac use.

Let's examine the individual problems encountered:

- They decided to install Mac OS X on a beige G3. Apple says you can do so, and thousands of people haven't had any problems at all aside from performance issues ("It isn't as fast as my brother's iMac!").
- They had two video boards, and two 17 inch monitors. Mac OS X does support multiple video cards, with reservations; it is a good idea to see if the manufacturer of the additional video board has written a driver for Mac OS X.
- They had "auxiliary hard drives." Mac OS X supports the internal drives that came built-in to a G3, but as for all the things that someone may have added later — these are more problematic. "Problematic" is a technical term that means "It might work, but don't be surprised if it doesn't."
- They had a scanner, probably a SCSI scanner. Mac OS X doesn't support SCSI scanners. In fact, scanner support in general, at this writing, is fairly modest. If the manufacturer hasn't written a driver that not only supports the scanner, but also supports the method by which you have attached the scanner, you may be out of luck.
- They had a laser printer and an inkjet printer. Mac OS X has excellent support for PostScript laser printers; inkjet printer support is up to the manufacturer of the inkjet, and ranges from excellent to no support at all.
- They had a CD-ROM burner. Mac OS X supports burning CD-ROMs right out of the box — assuming you have an internal, Apple-supplied CD-RW drive. There is limited support for other, third-party CD-ROM burners.

Our intrepid cliff diver didn't even reach the water on their first attempt. They took the leap, but

got tangled in the vegetation hanging off the cliff. So they decided — and it wasn't a bad idea at all — to go out and buy a new cliff, a new Power Mac G4. But note that they also decided to drag some of the vegetation along with them: "I called MacConnection and ordered a new G4, along with USB, ADB and SCSI cards." What were the USB, ADB and SCSI cards for? Why, for adding all those (possibly incompatible) old peripherals formerly attached to the beige G3. The new cliff was soon as entangled in vegetation as the old one. It isn't clear if they ever tried to just jump off the cliff *without* dragging everything with them.

Still more problems were encountered:

- They needed "endless" software updates and upgrades. This isn't Mac OS X specific, and happens any time you jump several generations of technology at once.
- They encountered tech support people with Canadian accents. Canadian accents are cool, so we'll assume this isn't a problem, either.
- They were confused by the "two (and 3 if you count Classic) operating systems" on their computer. Many long-time Mac users have this problem, but new Mac users don't. We'll see why in a moment.
- They were incensed when an "SOB" (good call) tried to sell them an AppleCare extended service contract, in the middle of a tech support call. This is definitely a poor move, but it doesn't really have anything to do with Mac OS X.

Setting aside Canadian accents and tech support SOBs, and the cost and bother of updating applications, the most serious issue is the disorientation caused by "two (and 3 if you count Classic) operating systems" on one computer. When you are operating a Macintosh under Mac OS X and double-click on the hard drive icon, you'll see several folders:

- Applications
- Applications (Mac OS 9)
- Desktop
- Developer
- Documents
- Library

- System
- System Folder
- Users

For long-time Mac users, it isn't obvious what these folders are for, or where things should be put. Historically, Mac users were free to create folders at will, anywhere and everywhere, for any purpose or for no purpose at all, and fill them with random collections of files. Mac OS X, obviously, is different, but Apple's very pretty but very brief documentation doesn't really provide much in the way of clues as to how all of this is supposed to work.

Oddly enough, brand-new Mac users have no problems at all. They see that the Applications folder is for storing programs, and that the Documents folder will hold any documents that they produce. If they click on the Home button in the Finder, they'll be taken to their own folder in the Users folder, where there are ready-made places to put movies, documents, music, pictures and Web sites. Three folders, the Library folder, Desktop folder and Public folder, require a bit more explanation, but on the whole, new users have no problems at all keeping track of where they are and of where things need to go. They ignore the Mac OS 9 System Folder and Applications (Mac OS 9) folders completely, since they have no investment in old software and no need to use them.

Mac users who have used Mac OS 9.1, which also has separate folders for Applications and Documents, have relatively little trouble with Mac OS X. Like the new Mac users, they soon learn that everything works if you put your own creations in the Documents folder, your programs in the Applications folder, and clutter the desktop with whatever projects you are working on.

In fact, the *easiest* way to use Mac OS X is to never bother opening the hard drive icon. The Finder Toolbar has buttons for the Applications folder, and unless you go out of your way to change things, most applications will automatically store things in your user Documents folder. Stubborn Mac fanatics (like this writer) tend to override this and store things on the Desktop until they are finished, but that's personal taste.

In short: the key to using Mac OS X is to recognize that it really *is* new and different, and don't try

π

to force it to work like Mac OS 7.5, or 8.6, or even 9.1. It is true that you have a choice of three different “environments” for working: Mac OS X alone, Macintosh Classic operating within Mac OS X, or Mac OS 9.2 alone. Given that Steve Jobs has officially declared Mac OS 9 to be “dead,” the best course of action – and this is subject to limitations brought on by practicality and economics – is to do as much as possible purely within a Mac OS X environment, and to recognize that Mac Classic – and Mac OS 9 itself – are ephemeral, soon to fade away like snowmen in the summer.

After watching people cope with Mac OS X for more than a year, “old pros” that have adopted Mac OS X fall into three main groups:

■ Pleased and productive. This group has cast off, as much as possible, all ties to the pre-Mac OS X universe, and works virtually all the time using Mac OS X and Mac OS X-based applications and peripherals.

■ Pleased but occasionally goes slumming. This group works mostly in Mac OS X, but will occasionally boot Mac OS 9 (not Classic within Mac OS X) to work on a project that has no Mac OS X equivalent, such as creating PageMaker documents, or use a peripheral that doesn’t work with Mac OS X. With Adobe’s recent release of Mac OS X-native Photoshop 7.0, this group is shrinking rapidly into the previous group.

Σ Confused and often frustrated. This group tries to use Mac OS X as if it were Mac OS 9 (or earlier), and is reluctant to give up old programs, old peripherals, and old habits.

Into the “confused” group we can add a different Pi member, also anonymous, who purchased a Macintosh II (\$6,000) with 8 megabytes of RAM (\$8,000), a 13” RGB monitor (\$1,000) and a Hewlett-Packard color scanner (\$1,800) in 1987 (total cost: \$16,800). This individual recently upgraded to a Power Mac G4/800 with a billion bytes of RAM and a 20” monitor, for a total cost of around \$2500. They have no interest in their old Mac (“it’s collecting dust in the junk room”) but were *enraged* that they couldn’t use their \$1,800 scanner with their new Mac using Mac OS X. After a lengthy session of venting,

they reluctantly admitted they could buy a far better scanner for \$200 that *would* work with Mac OS X.

Also in the “confused” group we can add yet another Pi member who insisted on running a Mac OS 8-based spelling checker to check documents in Mac OS X’s spiffy Mail program. This caused constant, severe problems, as the spell checker wasn’t even fully compatible with Mac OS 9 (or Classic), much less Mac OS X. They were so used to using the spell checker for E-mail that they’d completely overlooked the fact that Mail includes a fully-functional, fully interactive spell checker.

If you are getting the impression that the only way to use Mac OS X is to leave everything else behind, that isn’t *supposed* to be the message. If you’ve sunk a lot of money into your old system, software and peripherals, leave them as-is; you can still use them just fine – when using Mac OS 9. But when you use Mac OS X, don’t let your “sunk cost” in older technology sink your ability to learn, use, and appreciate Mac OS X. Use Mac OS X the way it was supposed to be used – without the old peripherals and software – and see what you can do.

The letter writer followed up with another message. Here are some excerpts:

Thanks for your follow up (and your patience). A day’s passage reveals many things. The best I can say about my letter to you was that it was impassioned... obviously written in a state of frustration and disillusionment. I don’t seriously think I had any expectation of it being printed; it was just a sense of needing to share my experience with someone who must be the focal point of many different points of view on things Apple. After all, I’ve been a Mac believer for 18 years (and faced down three successive IT departments trying to kill me off) and my negative feelings were pretty strong.

However, I really want to take you up on your offer to tell me what I did “wrong” (actually, I think there’s no wrong, you just go with the computer or you go against the computer). I could write a long list of lessons learned already myself, the biggest one being Do Your Homework. I should have read all the messages in MacInTouch, MacOSX Hints, the Mac OS X site and Knowledgebase on Apple before even thinking about upgrading. Of course, I didn’t

know about all these sources when the troubles began. Even there, I haven't heard anyone caution about the limitations or consequences of Mac OS X on a G3. But hindsight is 20-20.

I know there are two types of people trying to update to OSX. There are people who know computers inside out and would read my comments and think "what an idiot." And there are those who may know less than me (it's possible) and might be facing their own digital hell. I'd sure like to make it easier for them.

The user makes several good points, though some cautions are in order. First, many of the Mac Web "news" sites tend to publish inaccurate information. The usual sequence: someone has a problem, they write to the news site explaining what they think happened, and visitors read that there is some flaw or bug or incompatibility with Mac OS X. In reality, many of these "flaws, bugs, and incompatibilities" occur because the report was made by someone who overreacted, or didn't correctly observe what had happened, or misrepresented what had happen. To cite one semi-infamous example, one Mac news site reported that a "serious bug" in Mac OS X was causing Word v.X documents to disappear. After some investigation, it became clear there was no such bug; the documents were being automatically saved in the user's Documents folder – but the user had never looked in the folder. They'd looked everywhere else, and reinstalled Mac OS X and Microsoft Office v.X several times, and managed to start a controversy – for no reason at all. When reading Web "news" sites, keep in mind the Latin injunction: *Quidquid latine dictum sit, altum viditur*.

Second, "Do Your Homework" may be good advice but "Leave behind the baggage" might be even better. Straight out of the box, with no extra software at all, a Mac running Mac OS X is far more flexible and powerful than any previous Mac operating system. TextEdit, for example, may be "just a text editor," but it supports speech synthesis, has a spell checker, and can produce superbly formatted documents that can incorporate movies, sound and graphics; only the most recent word processors can come close to its power and flexibility. Mail is probably a better E-mail client than most people have ever

"If you are getting the impression that the only way to use Mac OS X is to leave everything else behind, that isn't *supposed* to be the message. If you've sunk a lot of money into your old system, software and peripherals, leave them as-is; you can still use them just fine – when using Mac OS 9. But when you use Mac OS X, don't let your "sunk cost" in older technology sink your ability to learn..."

used before. Image Capture, iMovie, iPhoto, iTunes and Preview can do things you never dreamed of in that "old" operating system. So instead of "doing your homework" to try to figure out how to get the "old stuff" to work, learn what you can do with the new stuff. The "old stuff" probably won't look that critical or interesting.

Finally, a word about idiocy. "There are people who know computers inside out and would read my comments and think 'what an idiot.'" Yes, there are such people. But keep in mind the words of Hyman Rickover, who noted that most people "are the product of unskilled labor."

What ever happened to cliff diving, anyway? After getting exposed to the world through Hollywood in the 1950s and 60s, ABC's "Wide World of Sports" actually moved a bit outside of the US to Mexico and filmed some of the competitions. Now the local cliff divers have organized themselves into the Clavadistas Profesionales de la Quebrada. A separate professional organization hosts cliff diving competitions all over the world, including landlocked countries, such as Austria. Cliff diving isn't what it used to be.

And neither is Mac OS.

* *Quidquid latine dictum sit, altum viditur*: Whatever is said in Latin sounds profound. But, of course, sounding profound doesn't make it profound. ■

Ballet Animation in Prep

by Stuart Bonwit

I HAD BEEN thinking that it was time to make a new ballet animation with a new ballerina. My last ballet animation was made with *Swivel 3D Pro*. The ballerina can be seen in Fig. 1. As you can see, she is not particularly attractive and the joints look as if they were on a wooden marionette. This is a canned figure that came with the program. It was the “Barbie.” Her partner was the “Ken.” I changed her hair, made the headpiece, the tunic, and the tutu and did the animation all in *Swivel 3D Pro*.

I have since graduated to the modeling program *Ray Dream Studio 5* and the animation programs *Poser 3* and *Poser 4*. (All of these programs are now “out of print.”) My work at an earlier stage on the new ballerina can be seen in Fig. 2. Note that the tutu, the leotard, and headpiece are bright red in the original picture. Also note that this ballerina is considerably better looking than the first one! This is a canned figure that came with *Poser*. The leotard also came with the program. I made the headpiece and the tutu. The missing ballet shoes were modeled later.



Figure 1.



Figure 2.

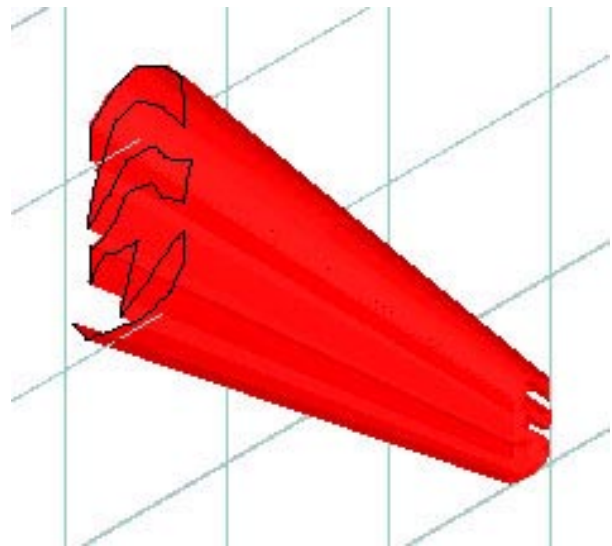


Figure 3.

(Interesting side story: We were at a group dinner recently. I was describing my latest venture into animation to my next seat neighbor. I mentioned that I had just made the tutu for the ballerina. A neighbor further down the table, apparently coming in late in the conversation, said, “Oh, do you sew?”)

The rest of this piece will describe in fairly low-tech (I hope) how this creature and the stage were created.

Ray Dream is a modeling program. Modeling is the creation of 3D objects. The program can also do animations. However, since I use figures and some objects from *Poser*, I do my animation in *Poser*. *Poser* is **not** a modeling program; you cannot create ob-

jects or figures in *Poser*. However, objects created in *Ray Dream* can be imported into *Poser*.

Poser is an amazing program with a wide variety of figures, human and animal, a variety of clothing for the figures, and a number of objects (props) - all loaded with the program on the hard disk. More figures and objects are available on the program CD. The clothing for the figures can be made to "conform" to the figures. This means that when the figure arms, legs, and body move about, the clothing comes along with them in a natural looking way. *Poser* does this by incorporation phantom body parts inside the clothing. These phantom body parts match the corresponding figure body parts and move with them.

In a previous animation my animated opera diva needed an appropriate gown. There was only one dress in the *Poser* collection that came close. *Poser* has no clothing appropriate for a ballerina. The software house Zygoté made the original figures for *Poser*. Zygoté also sells a very large number of figures, objects, and clothing that can be used in *Poser*. However, they have no ballet costume.

The tutu in Fig. 1 has as its "parent" the figure's hip. This means it is attached to the hip and moves with it. If the ballerina leans forward, her hip (that is, the portion of the body called the hip in *Poser*) rotates and the tutu rotates with it. One problem: the tutu is a solid block. It might as well be made out of concrete! When a ballerina moves about, particularly in jumps, the tutu should flit up and down and even flutter. Not with the concrete block! By comparison, the movie *Shrek* has animated clothing that flows and ripples most naturally. Jealous, jealous!! I created the tutu in Fig. 2 that is "flexible." It is made of 30 separate elements whose parent is the figure's hip and are free to move up and down independently. An element is seen in Fig. 3. It was created in *Ray Dream* starting with the zig-zag line and extruding a shape forward (perpendicular to the grid surface). The near end was squeezed down. This element was duplicated to make the 30 elements.

One may note in Fig. 2 that certain details of the figure's body shape are not quite appropriate for a ballerina. In *Poser* the figure's body can be corrected (er, changed). However, the leotard, which imitates the body's uncorrected shape, cannot. Sorry!

The more I thought of having to move (animate) 30 pieces of the tutu to simulate flexibility, the more



Figure 4.

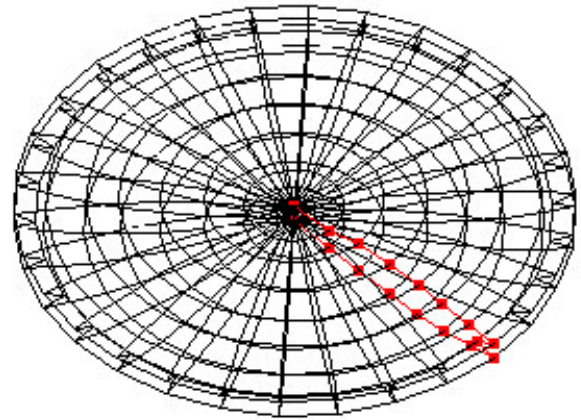


Figure 5.

I thought I'd never get done. (A common problem in animation!) So, I made a solid (concrete?) tutu seen (in a much later stage of development) in Fig. 4. This was made in *Ray Dream* as seen in Fig. 5. A cross-section was drawn: the dots in the figure. The cross-section was then swung around a vertical axis in the process known as lathing. You say, "What about a hole in the center for the ballerina?" In 3D modeling one of the laws of physics is disobeyed: two things *can* occupy the same space at the same time! In Fig. 4 the tutu has no hole, but you can't tell. And, besides, who will ever know?

I thought that, since *Poser* has "morphing," i.e. shape changing in animation, capability, I could *just* morph the tutu to exhibit flexibility. It turns out that all the morphing instructions in the *Poser* manual referred to morphing parts of human or animal fig-



Figure 6.



Figure 7.

ures.
There
was no
mention
of
morphing
props,
items in-
troduced
into the
anima-
tion that
are not

figures. The tutu is a prop; the ballerina is a prop. I created a near copy of the tutu curved upward as seen in Fig. 6 and “duplicated by symmetry” to make the tutu curve downward as seen in Fig. 7. With a single click I can make the tutu look like any of the three pictures. That sure beats having to manipulate the 30 elements mentioned above!

The shoes in Fig. 4 are canned in *Poser* as “dress shoes” and if nobody looks too closely, I say they are ballet shoes. The ankle straps are “texture maps” the making of which is enough for another whole story. The floor design is another texture map. It was made from a grid pattern I made for another purpose. I filled it in with a medium gray in a checkerboard fashion, duplicated it several times, and “tiled” it into the texture map.

The balcony view of the stage is seen in Fig. 8.

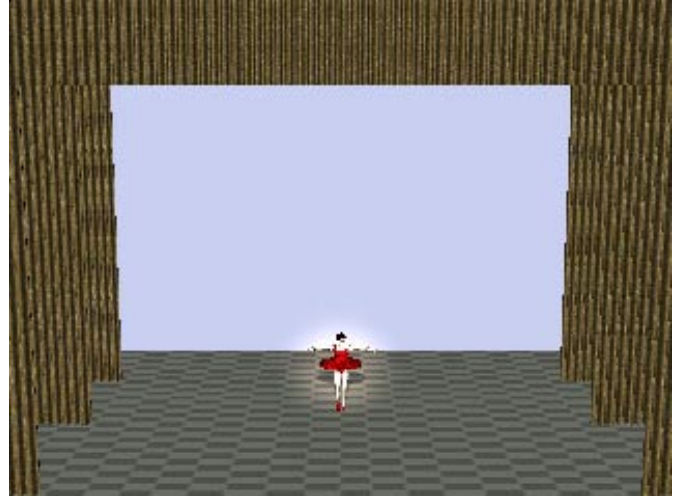


Figure 8.



Figure 9.

The curtains were made in *Ray Dream* similar to the making of the tutu in Fig. 3. A zig-zag line was drawn and the shape was extruded. A long extrusion produced a side curtain element and a short extrusion produced a top curtain element. The elements were duplicated to produce the width of the curtains. The stage lighting had a problem: the stage lights cast horrible shadows of the curtains across the stage. *Poser* fortunately has a solution: lights that cast **no** shadows! You may notice in Figs. 4, 6, 7, and 8 that a spotlight plays on the ballerina. It can follow her motions.

The house lights dim; the opening credits appear - Fig. 9. All I gotta do now is the animation! ■

Securing Your Mac

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THERE ARE two different kinds of computer security: physical security, and electronic security. Physical security includes such things as buying a decent, protective carrying case for your laptop, not leaving your laptop out in the rain, not positioning your desktop machine under a potted plant that needs watering, not positioning your desktop machine on the same bench that has an arc welder, etc. These are all good and important issues, but they won't be covered in this article.

Electronic security for a Mac has, traditionally, been quite boring. Back in the "good old days," before people invented Microsoft Macro viruses and worms, the only electronic dangers facing your Mac were custom-written Mac viruses. Five years ago, there were less than three dozen of them. In 2002, there are still less than three dozen of them. On the other hand, there are now tens of thousands of MS Macro viruses and worms. These viruses are considerably less destructive on a Mac than on a Windows machine (yes, they really can erase your hard drive, send all your credit card numbers to Korea, and send insulting messages to your boss – on a Windows machine).

While the results may not be quite as catastrophic, you can still waste dozens of hours trying to clean up a MS Macro virus infection on a Mac. Additionally, some old Mac viruses have recently started making the rounds again, probably when people transferred files from old, infected machines to new, Internet-connected machines. Accordingly, the first order of business is:

1) Buy a good, commercial anti-virus package. "Good" ones are updated monthly, to cope with the hundreds, if not thousands, of new viruses detected every month.

Before you claim you don't need an anti-virus package, you should know that *most* people claim they don't need an anti-virus package, before they come

"While the results may not be quite as catastrophic, you can still waste dozens of hours trying to clean up a MS Macro virus infection on a Mac. Additionally, some old Mac viruses have recently started making the rounds again, probably when people transferred files from old, infected machines to new, Internet-connected machines."

down with a virus. Grandparents who never visit porno sites, parents who never let their children use their machines, children who never let their parents use their machines – all are good candidates for getting a virus. The virus can come in the form of an "infected" attachment to an E-mail message, or a floppy disk returned by a teacher with homework assignments, or a CD-ROM burned by Aunt Martha with pictures of the twin's double-wedding ceremony, or – a common problem – a transfer of files from a quirky old Mac (quirky because it was virus infected) to a sparkling new iMac, iBook or Power Mac G4..

Can you tell if you are at risk? Consider your risk factors: do you have a child? Do you have a parent? Do you have relatives with computers? Have you ever met another living soul with a computer? Do you have an E-mail account? Have you ever taken a disk to a library or copy shop for printing or duplication? Have you ever accepted a homework assignment, newsletter contribution, or funny digital cartoon from someone? Do you own a computer? If you can say "no" to the last question, you don't need an anti-virus package, but a "yes" to any of the others means: get an anti-virus package.

Internal attacks from computer viruses and their cousins, computer worms, are the most common electronic security breaches, but they don't get the most press. External attacks are the darlings of headline writers and newspaper and magazine editors. While

it might be funny to know that Vice President Cheney's speech to the Cleveland Pipefitter's Union was trashed by a virus, it should be far more alarming to hear that someone broke into your bank's computers and copied off all the credit card account names and numbers. If you have a pre-Mac OS 9 computer, you can do an excellent job of securing it by doing the following four things (which also, by the way, apply to Mac OS 9):

2) Give your machine a non-blank user name.

While Mac OS X won't let you set up a machine without entering a user name, all Mac operating systems before it allowed you to leave the user name blank. The details differ depending on which version of Mac OS you have, but generally speaking, go to the Apple menu, select Control Panels, select File Sharing, and enter a user name. The user name can be yours, your pet's, or a favorite flavor of ice cream. The details aren't as important; just make sure it isn't blank.

3) Give your machine a non-blank machine name

Giving the machine a non-blank name is, technically, not so much a security issue as just good house-keeping. If you have only one machine, you may find it useful to use the same name for the machine and for the user. So if you entered "Smith, Robert" as the user name, you might wish to enter the same for the machine name. Or "Twiggy." Or "Blue iBook." Or almost anything. Note: on a given AppleTalk network, all machine names must be unique, so make sure that all machines have unique names, even if you never *plan* on networking anything.

4) Give your machine a non-blank, non-trivial password

Strange as it may seem, you don't even have to *remember* the password – all you need to do is enter something. You can even drum on the keys and enter nonsense as the password. Since you can sit down at the machine and change the password at any time to a known value, the important thing to do is to make it hard for someone *not* sitting at the machine to guess the password, and a blank password is the easiest one to guess.

5) Rename the hard drive from the default name.

Apple's Drive Setup utility names the hard drive

"Macintosh HD," and most Macs ship with the hard drive already named "Macintosh HD." Third-party disk formatting software might name the drive something else. In any case, rename the hard drive to something other than the default. If you ever intend to use the machine with Mac OS X, it would be best to stick with a single-word name without hyphenation, spaces or punctuation.

Now, why are these four measures useful? If you ever connect your computer to the Internet, either accidentally or on purpose, and someone else manages to "see" your machine, having a non-blank name and password makes your machine *far* more difficult to break into. The non-standard drive name, on the other hand, is more of an anti-Vandal effort. Consider: every single Windows machine in the world boots off the "c:" drive, making it relatively simple to guess where files are located on a Windows machine. If you rename your hard drive to something other than Macintosh HD, it is very difficult for a virus, a worm, or some external intruder to guess where things are located on your hard drive. A program that tried to delete everything in "Macintosh HD:Applications" will fail if the hard drive is named "Sweetums."

The next measure is particularly important for Mac OS 9 users:

6) Turn off file sharing.

File sharing on a Macintosh is easy: just turn it on. Unfortunately, few users do this correctly, and they end up sharing more than they intend, with more people than they intend. Many people also don't realize that only *one* Mac needs to have file sharing turned on in order to exchange files between the two Macs; turning on file sharing on both machines is unnecessary. There is also a performance penalty: almost all Macs are 20 to 40% slower with file sharing enabled.

So never turn on file sharing unless you actively need to share files on that particular machine *right now*. After you are done sharing the files, turn file sharing off. Learn how to restrict file sharing to just one folder; sharing the entire hard drive when you just need to share the latest bowling league results can be harmful to your computer's health.

Why is this a particular concern for Mac OS 9 users? Mac OS 9 has the ability to share files across the Internet. If the user turns on file sharing and checks

“The non-standard drive name, on the other hand, is more of an anti-Vandal effort. Consider: every single Windows machine in the world boots off the “c:” drive, making it relatively simple to guess where files are located on a Windows machine. If you rename your hard drive to something other than Macintosh HD, it is very difficult for a virus, a worm, or some external intruder to guess where things are located on your hard drive.”

the box labeled “Enable File Sharing clients to connect over TCP/IP;” anyone on the Internet can “see” this machine and try to break in. Earlier versions of Mac OS, limited unwanted visitors to your office or campus, but now the entire world can come and visit.

7) **Disable Web sharing.**

While relatively few people used Web sharing (available in Mac OS 8 and 9), it does offer another way for people to enter your computer. If you don’t use Web sharing (and the Web software isn’t particularly fast or flexible, in any case), use the Extensions Manager to disable both the Web Sharing control panel and the Web Sharing Extension. This will protect you from even accidentally turning on the Web server.

These seven steps should cover the majority of Mac users using Mac OS 7.5 to Mac OS 9, and connecting to the Internet via a dial-up modem. True, dial-up users are not the most likely victims of computer attacks, but such attacks happen far more frequently than people realize. Many people think their “modem is acting strange” and hang up, not realizing that the reason their “modem was acting strange” was that they weren’t the only one using it.

If you have an ISDN, DSL or cable modem Internet connection, or you are connecting multiple Macs to the Internet, or you are running Mac OS X, you need to look at additional security precautions.

How Strong A Password?

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WITH THE vast expansion of the Internet in recent years, along with home and office LANs (Local Area Networks), not to mention E-mail accounts, shopping via the Web, ATM accounts and other facts of life, there has come a corresponding demand for passwords. It seems that almost everything wants a password so – what is a good password?

Passwords come in two different flavors: PIN (Personal Identification Numbers, which need not be numbers), and user / password authentication pairs. A PIN is usually a single string of characters, most often numbers but sometimes including other characters, which confirms your identity. A PIN is usually used in combination with some other means of identification (a credit card, a Web cookie) that, combined, verify you are who you claim to be. A user name / password authentication pair is, as the name suggested, a pair of two entries you need to make: your account or user name, and the password for that name.

The constant demand for passwords can make life complex. Let’s start with a specific case: you have a brand-new flat-panel iMac running Mac OS X, and you have a Brand X E-mail account. You share your iMac with your significant other, and they have a separate log-in identity on the iMac. To read E-mail you must do the following:

- 1) Enter your Mac OS X user name. This can be your full name (**Julius Caesar**) or the “short name” (**Caesar**); either are valid;
- 2) Enter your Mac OS X password (**vici**)

(continued page 38)

(continued from page 37)

3) Launch Mail and tell it to get mail. You’ve previously saved your Brand X E-mail account name (**jcaesar**) and password (**vici**) so you won’t have to remember them.

You also like to shop on Amazon.com (account **jcaesar**, password **vici**) and eBay (**jcaesar**, password **vici**), and tend to use the same account name and password for all the other various Web sites that want you to register for something or enter a contest. Plus, your mac.com mail address is **jcaesar** with a password of **vici**, your dog’s name is **Vici**, and you have a personalized license plate that reads **VICI**. Your PIN number for all your credit cards, plus the pass code to your voice mail at work, is 8424, which happens to match the telephone keypad numbers for **VICI**.

To make matters interesting, you sold your old Mac, a beige G3, in order to get your new, flat-panel iMac. You don’t remember if you erased the hard drive after copying everything over, but no loss. True, you’ve used the same E-mail address and password for years, but you’ve never had any trouble.

Now, before you laugh this off as an extreme case, I’ve had the sad pleasure of helping two Pi members in the past two months cope with “identity theft” that really wasn’t identity theft so much as “poor password security.” Both these individuals – both of them – used their passwords on their car vanity plates. (Or, possibly, used the vanity plates as an inspiration for their passwords.) Both rang up significant credit card charges, not to mention a flood of junk mail, after someone (or several someones) managed to make a good guess at their user name and password and, as an added bonus, their credit card PIN number. While individual details vary somewhat, the “Julius Caesar” example shown above illus-

trates almost exactly the clever way these individuals managed to remember “all those passwords.”

In addition to **vici**, these would also be poor passwords for Julius Caesar: **julius, caesar, veni, vidi, gaius, 44bc, orange, dictator, marcus, antonius, marc, antony, cleopatra, cassius, pompey, senate, senator, cicero, gaul, rome, octavius, imperator, brutus, tribune, ides, march, toga, dagger, casca**, etc. Generally speaking, no matter how easy it might be to remember, passwords should not be words or phrases that can be easily associated with you, your family, your pets, or your life history. (So why is “orange” a bad password?)

In addition to avoiding the obvious, password length is important, as is composition. Using just the 26 letters of the alphabet, what kinds of passwords can you produce?:

- 2 characters = 676 combinations
- 3 characters = 17,576 combinations
- 4 characters = 456,976 combinations
- 5 characters = 11.8 million combinations
- 6 characters = 308.9 million combinations

While it seems that a six character password is quite safe, a Power Mac G4/400, running a password cracking program, could try them all in less than 30 seconds.

If you use both upper and lower case letters (52 characters), a six character password offers 19 billion possible combinations; this will keep a Power Mac G4 busy for about half an hour.

If you use upper and lower case letters, and throw in numbers, you have 62 characters to work with. A six character password offers 57 billion possible combinations, which will keep a G4 busy for around 11 hours.

If you throw in upper and lower case letters, numbers, and these symbols — !"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~ (plus the space character) — you

(continued from page 38)

have 96 characters to work with. There are 782 billion possible six character passwords, which will keep a G4 busy most of a day. Make it a seven character password, and you have 75 trillion possible combinations, which will tie up the G4 for almost three months. Add another character, and the G4 will be busy for two decades.

What would be a good password for Julius?

vote4mE!

And Julius should invent *different* passwords for various services, rather than use the same one for everything. ■

8) Buy a hardware firewall.

A firewall is a device that separates your computer or network from the outside world with a “ring of fire.” This is figurative, of course, but the idea is to allow into your network only those things from the outside world that you’ve explicitly requested.

Sadly, advertisers have hyped almost anything that does some sort of security as a “firewall,” so look for some technical details. If the manufacturer doesn’t mention the phrase “stateful packet inspection,” you don’t want it. “Stateful packet inspection” checks every packet of information coming into your network to make sure it is what you want, not only individually but in context. This prevents, for example, an external entity (either a hacker or a program designed to automate attacks) from sending you packets forged to make them look like you asked for them when, in fact, you hadn’t. (One popular way to disable a computer or network is to “return” a flood of ping requests that had not, in fact, ever been made. The computer or network gets so busy accepting “their” own ping requests that they are unable to do anything else. A firewall performing stateful packet inspection can prevent this.)

Software firewalls are a popular alternative to hardware firewalls, but are not good substitutes. A software firewall depends on the expertise of the user to config-

ure not only the firewall software but also the operating system correctly; an error in either configuration could make you more vulnerable to attack, not less. Software firewalls also tend to protect just one machine at a time, while a hardware firewall can protect an entire network at once. Because hardware firewalls are single-purpose devices, they also tend to be easier to configure, have better reporting mechanisms, and perform faster.

Two items of note: first, many “firewalls” are actually Internet sharing hubs or switches, and claim that NAT (Network Address Translation) is a “firewall” feature. NAT is certainly useful, but it doesn’t make these devices firewalls. Second, you may have heard that Mac OS X includes a built-in firewall. It does, and it works quite nicely. There are even shareware programs that allow you to configure it. Unless you know enough about UNIX security that you could configure the firewall *without* the shareware programs, it is best to leave the Mac OS X firewall alone. And no, it is not a substitute for a hardware firewall.

9) Visit Apple’s Product Security Incident Response page (<http://www.apple.com/support/security/security.html>)

Unlike certain other manufacturers, Apple has an excellent security reputation, so visiting this page every once in a while is no great burden. The page has phone numbers and E-mail addresses for reporting security problems, as well as links to Apple’s security updates (http://www.apple.com/support/security/security_updates.html) page. The security updates page provides details of all security releases, along with information on how to get them.

10) Sign up for Apples’ “security-announce” mailing list.

This is a remarkably low-volume mailing list that sends out produce security notifications and announcements from Apple. There aren’t that many, so it isn’t a burden to get them all. Sign up at the Web address listed in Step 9.

11) Regularly use the Software Update control panel

Included as a standard feature in both Mac OS 9 and Mac OS X, the Software Update control panel (or control pane, in Mac OS X) should be set to “Update

software automatically” and (in Mac OS 9) “Ask me before installing new software.” This will allow your computer to automatically reach out across the Internet, contact Apple, and see if there are any updates to your software.

By having your computer make these requests, automatically, you eliminate your frail, fallible human mind from the process. Once a week, or using some other schedule that you can set, your computer reaches out and discovers what new goodies might be available. Most of the updates are not security related – but the Software Update mechanism is one of the fastest, most reliable means of getting security updates, too. Since both Mac OS 9 and Mac OS X will frequently offer you updates you can’t use (such as CD-ROM disc burning software for a computer without a CD-ROM burner), instruct Mac OS 9 to “Ask me before installing new software.” Mac OS X never installs anything without asking first.

For the vast majority of Mac users, these are the only electronic security measures that you need follow. If you decide you want to set up an Internet mail service, or a Web server, or an FTP server, or run LimeWire (a particularly risky venture), or some other kind of Internet service on either a Mac OS 9 or Mac OS X machine, you’ll need to consider additional security measures. Even some innocent programs, such as screen savers, might require additional security measures (there are screen savers, for example, that reach out across the Internet every day and download a new picture; they could easily be compromised to download something else, instead).

Further Reading

If you feel the need to enhance your paranoia, or you own a Windows computer, there are lots of sources for information. One of the best is the National Infrastructure Protection Center (NIPC), which publishes a splendid, free newsletter detailing computer security issues, called CyberNotes. CyberNotes is available in Adobe Acrobat format from this address:

<http://www.nipc.gov/cybernotes/cybernotes.htm>

NIPC is a relative newcomer to the field of computer security, while the Carnegie Mellon CERT (Com-

“Unlike certain other manufacturers, Apple has an excellent security reputation, so visiting this page every once in a while is no great burden. The page has phone numbers and E-mail addresses for reporting security problems, as well as links to Apple’s security updates ...”

puter Emergency Response Team, <http://www.cert.org/>) dates back, in various forms, to 1988. They don’t publish a nice, neat newsletter like CyberNotes, but their Web site does give access to a vast encyclopedia of computer security knowledge. The CERT Advisory Mailing list is also a good way to keep abreast of computer security issues, though these rarely involve Macs of any flavor. One of the more interesting features is their Statistics page,

http://www.cert.org/stats/cert_stats.html

where you can see that six computer security incidents were reported in 1988, 132 in 1989 – and 26,829 in the first quarter of 2002. Since one incident can involve thousands or tens of thousands of computers, these statistics suggest that a major war is taking place on the Internet – and that is entirely correct.

The more you know about computer security, the more you will realize that a little paranoia is a good thing – and a well-protected Mac is not a great burden. But don’t get cocky: even Apple’s sprightly new Mac OS X has a known, fatal flaw: the clock. Mac OS X has an option to use a network time server, which allows the Mac to reach out across the Internet and use a highly accurate atomic clock to determine the exact local time and, unless changes are made, this will result in disaster.

On January 19, 2038, at seven seconds past 3:14 a.m., Mac OS X – along with every other UNIX computer – will overflow the system clock, and think it is Friday the 13th of January, 1901. Apple has less than 36 years to correct this problem. ■

Review: SmartSound Sonicfire Pro 2.0

by Paul Gerstenbluth
(www.Gerstenbluth.com)

“Adding Customized Music in your Movies with Sonicfire’s SmartSound”

IT WAS MY first time at New York City’s DV (Digital Video) Expo in February 2002. After each short 30 minute seminar on Adobe Premiere and Apple’s Final Cut, I finally listen to the music of Sonicfire’s SmartSound. I discovered that SmartSound lets me create and customize royalty free musical scores for my video projects.

The Sonicfire’s SmartSound seminar showed me how my movies can benefit from SmartSound’s musical accompaniment. And how easy it was to create music background and scores of any length for my nonprofit movie projects.

You have Choices Using Sonicfire Pro 2.0

- * Video Import: DV, AVI, MPEG, QuickTime
- * Score Videos Inside SmartSound - Automatically
- * Preview Ideas in Real Time with Your Video
- * Score Multiple Scenes & Events - Fast
- * Complete Support for DV Audio and More
- * Edit Your Own Music - Automatically
- * New Streamlined Professional User Interface
- * Include more Music & Sound Effects

Import Audio tracks

Audio tracks can be imported directly to the timeline or you can drag individual blocks to the timeline from the blocks window. Musical pieces are divided into small blocks. Just ask Sonicfire Pro to create a 32 seconds long piece of music, Sonicfire strings it together the necessary number of blocks in a way that makes musical sense.

SmartSound Sonicfire’s Maestro feature is the remarkable assistant that asks you to select the cat-

egory of music you want for your background. Then just add your preference style of music within jazz or classical the soundtrack’s length and a thematic variation. Maestro then helps you create a soundtrack that suits your needs.

Technical Stuff

The SmartSound Sonicfire interface is made up of several windows. Starting with a timeline for assembling and editing tracks, a blocks window for displaying all of the blocks making up the audio track, and ending with a video window for viewing and playing imported video.

There are several steps to building a track in Maestro. The first step is to select how the music will be used. Your choices include a wide variety of uses such as action, background and drama. The second step is to select the style. Then selects the source from which the final track will be drawn. The third and final step is for you to set the duration for your movie track.

More Sonicfire Pro is Better

Add Sonicfire Pro Bundle to your musical CD library. Additional music for your movies includes Dimensions, Edge Vol 1: Techno/Dance, Maximum Action, and Scoring Essentials. Visit the website at <
<http://www.sonicdesktop.com/sonicfire/> >



A short musical sampling of Dimensions includes:

Four Seasons. One of the most famous pieces in all classical music. Vivaldi's most famous work is performed here with a string quartet.

Hot and Spicy. Hot and spicy, this full brass band with Latin percussion will heat up any audience. It's

Cool. Way cool, easy feel jazz with trumpet, sax, piano, bass and drums.

Nightlife. Infectious pop rock with a memorable melody and driving, steady beat and much more.

A short musical sampling of Edge Volume 1: Techno/Dance:

Bedlam. Grungy synth and distorted guitar hammer it out in this raw techno track.

Berlin Nights. You're cruising fast through downtown Berlin in this slick techno piece.

Blade Groove. The fashion runway models have everyone's attention when this track is set into motion.

Laser Dance. The far reaches of space and the techno world are explored in this epic like track.

A short musical sampling of Maximum Action:

Alternative Grunge. The hottest trend in contemporary pop.

Harley. This driving and slightly rebellious gives a non-verbal narration of movement, risk, and taking on the world. Its masculine presence is ideal for motorcycle rides cross-country, racing against the clock, and taking control of the situation.

High Velocity Sports. Daredevil excitement at edge-of-the-envelope G-forces is what you'll experience during these quick-darting accelerations near warp speed.

A short musical sampling of Scoring Essentials:

Alien. Strong, haunting violins and piano combine with unexpected effects to create a piece that is beyond this earth.

Bright Future. Enthusiastic and motivational. A colorful combination of energetic melodies, bold harmonies and lively rhythms creates a bright, optimistic music track.

Cyberfuture. A compilation of futuristic energy and traditional jazz, this upbeat piece is perfect for computer command centers, network graphics and



internet connections.

Destiny. Expansive, flowing and futuristic. Evocative of both the new millennium and the timeless past.

Final Notes

You have two ways to create sound tracks. First, with a hands-on timeline interface. Second, with Maestro that automatically builds tracks to order based on the music style you selected and the time duration needed for your movie.

SmartSound Sonicfire Pro helps you to automate the creation of custom music tracks for your video and multimedia projects. I found that SonicFire Pro worked best for me since I had limited experience editing sound tracks even though Sonicfire is designed for veteran moviemakers.

Sonicfire Pro with Dimensions and Edge Vol 1: Techno/Dance \$349 Mac.

For \$150 more you receive three additional CDs in the Sonicfire Pro Bundle Music for your movies includes Dimensions, Edge Vol 1: Techno/Dance, Maximum Action, and Scoring Essentials priced for \$499 for the Mac. ■

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

Twiddler2: for Those With Too Much Time on Their Hands

By Jim Hebblethwaite

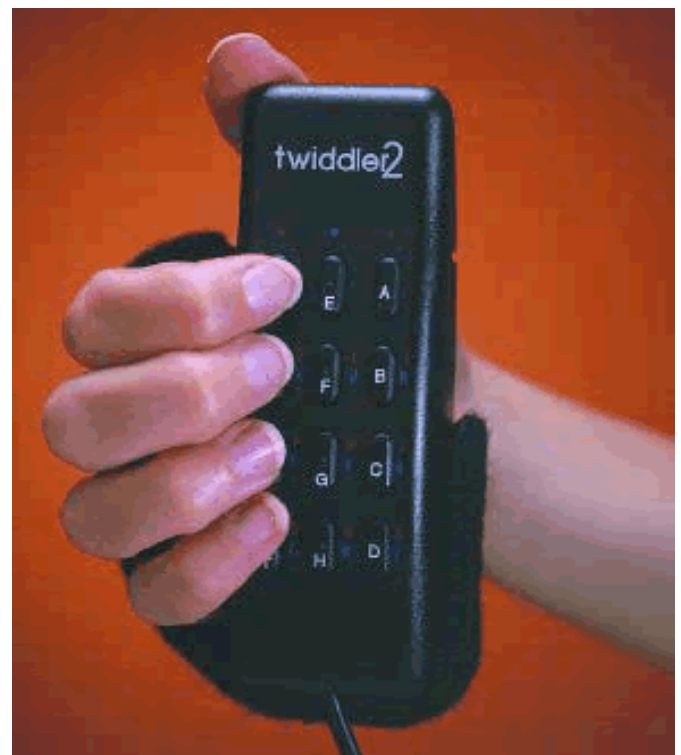
FULL DISCLOSURE compels me to reveal at the outset that I like gadgets. That you're reading this magazine hints already that you at least tolerate gadgets. So I hope that you can empathize as, disclaiming any vending intent, I declare what follows to be, at worst, the ravings of a harmless gadgeteer.

More than a year ago, while glancing at an article about wearable computers, I focused on a paragraph devoted to a one-hand, strap-on "keyboard." This was the Twiddler (since replaced by the Twiddler2), which, as I found out later from its Web site, resembled a small black symmetrical sweet potato attached to a long black vine and studded with 17 eyes. Now, to conform to popular usage, let's add a "k" to "eyes" and subtract an "e" to get "keys" and call the vine a "cable." (Or we can just say that the device resembles an electric hair clipper with enough controls to sculpt hair topiary.)

Having acquired the device, you will need to learn an utterly new technique in order to operate it. One key per character is pressed for letters "a" through "h," but one chord (a combination of two or more keys [Yes, music theory says that a chord is three or more notes, but this is only a bastard offspring of music theory.]) is pressed per character for all remaining characters and for actions (e.g., TAB). What really happens here is that a character or action is generated not when you press a key but when you release the key after pressing it. To generate a character/action with a chord, you release any key of the chord after pressing and holding both (or all) of the keys of the chord. Whew!

Fortunately, this is not as difficult as it may sound, but if you count it as a disadvantage, then there's one more that I should add to this short list: less speed. The manufacturer only claims a top speed of about 60 wpm versus about 150 wpm for world-class traditional-keyboard (you know, the kind that shows up in the oral tradition or, more recently, in songs by the likes of Woody Guthrie) operators. This may very well be true simply because of the lack of Twiddler2 mavens.

Now, on to the positive aspects. Though there are still a few seldom-used chords that I haven't learned, I almost immediately started learning chords by touch in conjunction with the chord decoder in the owner's manual. This is much easier to do than it is with a traditional keyboard. All the keys are within easy reach of the fingers, yet they are not so close together that they cause confusion. The 12 finger keys on the front are arranged in three columns of four so that each finger can easily reach three keys. In addition, the thumb has charge of a Trackpoint mouse equivalent as well as the NUM (for numerals), SHIFT (for uppercase), ALT (for computers that run "another" platform), and CTRL (also used with "another" platform) keys.



Hand-in-hand with the ergonomic advantage of tight key spacing there is the shape of the Twiddler2. Because of the more curled position that it puts the fingers in, it is conducive to the type of finger action customarily used in playing a string instrument (pressing rather than whacking). I know of no studies to back this up, but my best bet is that the Twiddler2 could alleviate hand and arm problems that arise from using a traditional keyboard.

That the Twiddler2 requires only one hand is an additional advantage, whether you have one hand or more than one. If you have more, I leave it to you to figure out what to do with the remaining hand(s). Though the instruction booklet, assuming two hands, advises deciding which hand to use (not necessarily the dominant one) and staying with it, I prefer to use each hand every other day.

If you ever need to take notes unobtrusively at a lecture by an evil dictator (Are there any nice ones? Maybe 0.03% of them) or maybe just by your boss, try the Twiddler2 connected to a PDA. You could easily conceal the Twiddler2 behind your back or under a jacket. Women have been known to carry more complex accouterments, so I leave further options to them.

For compatibility and, in particular, Mac friendliness, I give the Twiddler2 a rating of "very good." To back up a little: I would give the Twiddler, at most, a "good" because it required special driver software to work with a Mac. The Twiddler2, however, requires no software except when used with a PDA. Its cable terminates (why did I try to key in "terminator"?) in a PS/2 plug for computers running that "other" platform. If you get a USB adapter, then you can just plug-and-play the Twiddler2 in any recently made Mac (or recently made "other" computer). Alternatively, there is now a variant of the Twiddler2 that terminates in a USB plug. I'm uncertain about older Macs; there may be a PS/2-to-ADB adapter that will work with them.

Finally, my subjective impression is that the Twiddler2 is heaps of fun to play (that is, operate). I said "play" because, as I hinted at before, it often seems that I'm playing a mute string instrument rather than operating a keyboard.

If you want to find out more about the Twiddler2, try its Web site: www.handykey.com. Who knows? You may end up Twiddling the rest of your life away. ■

Twiddler2, \$219 (USB version)
Handykey Corp.
1565 Adams
Denver, CO 80206
(303) 331-0800
<http://www.handykey.com/>

Burning Music and Data CDs in OS X: A basic step-by-step tutorial

By Glenn Brynjulson

FIRST THINGS first: If you want to burn a CD, you have to buy some blank CD media.

Buy the media that matches your needs. CD burners generally come in two flavors: CD-R and CD-RW. CD-R is a write-once media. Once it is burned, that's it; no more changes can be made with Apple's current software. This is good for permanent files and backups that you don't want to alter (or have others alter). These discs are very inexpensive, so go with a good brand like Sony, Maxell or Verbatim.

The other media type, CD-RW, allows you to modify the media after it has been written. It is good for files that need to be updated periodically (such as a family history or an electronic photo album). This media is more expensive, but good quality media can be had for less than \$1 per disc. If your computer has a CD-R drive, don't bother with the CDRW media. CD-RW drives can handle both media types. Now, on with the tunes.

iTunes

The Apple ad says it all: "Rip. Mix. Burn." The first step in creating a copy of a song is to digitize (or "Rip") it. For music already in digital format (on CD), this is pretty easy.

Rip 1.

Place the audio CD into your computer's CD unit. It will mount with the

name "Audio CD."

2. Launch iTunes. Your CD will most likely show up with generic names for the songs. Notice the "Import" window (the musical notes) in the upper right corner.

3. Before you "Rip" the song(s), check your sample rate under the iTunes:Preferences menu selection. The Importing tab sets the sample rate. Set it to High quality or do a Custom setting to max out the sample rate at 320 kbps. The higher you set it, the better the sound quality will be.

4. If you want the entire CD digitized, click that "Import" button now. Otherwise, you can pick and choose the songs to import by unchecking the tracks in the Song list. Any song not checked will be skipped. You can preview a track before digitizing just by double-clicking on the song title (i.e. Track 01). Again, click on "Import" when your selections are complete.

5. You may want to change the "generic" song titles, if you plan to listen to the music as MP3s on your computer. This will help you organize your music later on. Change the titles by clicking on them, doing a "slow" double-click and typing when the "edit frame" pops up around the title. It's just like changing a document name on the desktop..

6. You can remove your audio CD when you hear the chime.

Mix 1.

Organize your songs into a playlist that you want for a CD. First, create a Playlist by selecting File:New Playlist. This creates a new "folder" in the Source column.

2. Drag songs from your iTunes Library to your playlist. This can be songs from one or from any number of CDs you have digitized. In iTunes, all the songs on your system are stored in the iTunes Library, and they will stay there unless you manually delete them. The beauty of this system is that you can have a song in many playlists, but there is only one copy of the song on your hard drive.

Burn 1.

Put a new, empty CD-R or CDRW in your CD unit. The computer will ask you what format you want.

2. Change the format from standard to iTunes (audio). Give it a cute name, if you want. Notice that the "Import" icon has changed to a "Burn CD" window (now

"The other media type, CD-RW, allows you to modify the media after it has been written. It is good for files that need to be updated periodically (such as a family history or an electronic photo album). This media is more expensive...."

closed) in the upper right.

3. Select the playlist you want to burn to CD from the menu at the left.

4. Click on the Burn CD window in the upper right. The window will open and iTunes will tell you to click again to burn the CD. Do it. The burn sign will begin to rotate. Cute, isn't it?

5. When iTunes chimes, you should have a playable music CD. The instructions for iTunes work for iTunes in OS 9, also.

Creating a backup of an existing CD

Let's face it: CDs get scratched, and usually that's the end of them. So, sometimes, it's a good idea to have a backup CD when a program runs straight from the CD. Many kid's games do this. Creating a backup of a program CD is a little trickier than a music CD, but still workable in OS X. This method has worked for me on both Classic and OS X program discs.

1. Put the disc to be backed up in the CD unit.

2. Launch Disk Copy (It's in your Utilities folder). From Disk Copy's Image menu, select New Image from Device. You need to open some disclosing triangles until you find "CD_ROM_Mode_1." Select it.

3. Click the Image button.

4. Give it a file name, if it will help you locate it later. Select the format "DVD/CD Master." Click the Image button, and the program will write the image to your hard drive.

5. To burn this newly created file back to CD, select "Burn Image" from the Image menu. Select your file

“Burns don’t always work the first time; flaws in the media or a power bump at the wrong time can ruin a new CD.”

(which now has cdr.dmg appended to the name) from the pop-up box. Click the Burn button.

6. Insert the blank CD and click the Burn button.
7. When the computer chimes, the disc is done.

Creating a new CD

Creating one from new content is very simple.

1. Put a new, blank CD in the CD unit.
2. A dialog will appear. Give the CD a name, if you like, and leave the format on the standard ISO format. Click the Prepare button.
3. After the CD has mounted, drag and drop (or copy and paste) files you want to store on the CD to the CD icon.
4. When you are satisfied with the new CD’s contents, select File:Burn Disc... and click the Burn button.
5. There is no step 5.

Caveats

It is a good idea to test whatever CD you burn. Put an audio CD in a CD player, or remount your fresh photo CD to ensure all the photos are there, and open a few. Burns don’t always work the first time; flaws in the media or a power bump at the wrong time can ruin a new CD. Not all CD players can read CD-R or CD-RW discs, especially older equipment. Your best bet is to go with good quality CDs to start with, and if a CDRW won’t work in a particular machine, try a CD-R, as they seem to be readable by more devices.

Remember, also, that some very mature equipment can’t read CDRs at all. ■

From the April 2002 issue of the newsletter of Apple Core of Siouxcia.

Making Cross Platform Autostart CDs

by Jayson Lee

IT’S great that we can all burn inexpensive CDs these days. But what if you’re producing a presentation on CD for others, and you want them to go directly to the file you intended when they mount the CD without having to dig around the CD for it? Furthermore, what if you want to make this work on a CD for both Mac and Windows?

Fortunately, with a little help from a few small addons, you can create this professional user experience for all your homemade CDs right on your Mac. First off, this automatic starting function on the Mac is called autostart, appropriately enough. In Windows, its called autorun. Same difference.

To make a CD autorun in Windows, you’ll need a couple of additional files that are readily available on the internet. One such resource is available at www.phdcc.com/shellrun. They provide a freeware version that will do the trick. For additional features, you can also buy their retail version. The freeware version contains a simple .exe file that you’ll need to include with your other files for the CD. To configure the autorun function, all you’ll need to do is create a text file called autorun.inf (or download the example on their web site and modify it) to specify which file you want the computer to run at start up. Then put both files in the volume or partition you will burn onto the CD.

While there are multiple solutions for creating an autostart CD for the Mac, the most popular choice is to use Toast (the retail version, not the stripped down version that may have come with most CD burners). Create a separate volume or partition contain all the files you want to burn onto the CD. In Toast, specify Mac/ISO Hybrid as the format. Then drag the content to be burned into the Toast window. Click “Data” and you’ll see a selection for “Autostart.” Select it and type in the name of the file that you want the CD to start when it mounts. Click “OK” and burn the CD.

You’ll now have a CD that will start automatically when the user loads it in either a Mac or Windows computer. ■

From the April 2002 issue of SNAC TIME, newsletter of the Southern New Hampshire Apple Core.

Hotline

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

Name	Telephone	Heading	Subjects
Apple General			
Bob Sherman	305-944-211	Communications	DBMaster
Ron Evry	703-490-153	Hypermedia	Hyperstudio
Bernie Benson	301-951-529	Miscellaneous	Ile Card for the LC
Harvey Levin	301-299-938	Programming	Apple Script
Eric Sheard	908-782-649	Spreadsheets	Advanced Visicalc (eves) 908-782-6492 (days) -2242
Allan Griff	301-654-151	Spreadsheets	Apple Works
Eric Sheard	908-782-649	Spreadsheets	Visicalc (eves) 908-782-6492 (days) -2242
Ken DeVito	703-960-078	Telecomm	
Apple //			
Bernie Benson	301-951-529	Accounting	Apple SSC (Super Serial Card)
Neil Laubenthal	703-691-136	Apple IIGS	General
Allan Griff	301-654-151	Apple Works	General
Ken DeVito	703-960-078	Apple Works	General
Paul Campbell	313-255-649	Apple Works	General
Ray Settle	410-647-919	Apple Works	General
Allan Griff	301-654-151	Apple Works	General
Ken DeVito	703-960-078	Beagle Buddies	
W. T. Cook	410-995-035	Beagle Buddies	
Don Avery	202-362-178	Beagle Buddies	
Dale Smith	301-294-228	Communications	
Allan Griff	301-654-151	Database	Apple Works
Morgan Jopling	410-721-787	Database	Apple Works
Milt Goldsamt	301-649-276	Database	Apple Works
Guy Durant	202-575-041	Epson Printers	
Ron Evry	703-490-153	General	
Harold Polk	301-662-639	General	
Ken DeVito	703-960-078	General	
Guy Durant	202-575-041	Hard Drives	
Guy Durant	202-575-041	Hardware	
Ron Evry	703-490-153	Hypermedia	Hyperstudio
Bob Sherman	305-944-211	Laser Printing	
Ron Evry	703-490-153	Word Processing	AppleWriter
Allan Griff	301-654-151	Word Processing	
Apple // e			
Morgan Jopling	410-721-787	Upgrade	
Apple // GS			
Rich Sanders	703-450-437	Drawing/Graphic	Deluxe Paint II
Dick Grosbier	301-898-546	General	
Eric Grupp	410-315-833	General	
Seth Mize	410-766-115	General	
Rich Sanders	703-450-437	Word Processing	Multiscribe GS
Apple // GS			
Ken Carter	301-834-651	General	
Apple ///			
Dave Ottalini	301-681-613	General	
Paul Campbell	313-255-649	General	
Seth Mize	410-766-115	General	
Robert Samboli	203-853-251	General Repair	
Steve Truax	304-263-574	Integ. Packages	3 Easy Pieces
Dave Jernigan	540-822-513	Integ. Packages	3 Easy Pieces
Paul Campbell	313-255-649	Repairs	
Dave Jernigan	540-822-5137		3.5" Super Drive
Dave Jernigan	540-822-5137		SCSI Drives
Steve Truax	304-263-5749		Stemspeller
Dave Jernigan	540-822-5137		Stemspeller (before 9 PM)
Carey McGleish	813-332-8836		Word Juggler (evenings)

Name	Telephone	Heading	Subjects
Cross Platform			
Ken DeVito	703-960-078	Transfers	MS/DOS-Apple-Mac
IBM/Compatibles			
Etana Finkler	301-891-282	Illustration	General Can call until midnight
Tom Cavanaugh	801-627-888	Printers	General
Internet			
Dan White	301-843-328	General	
Walt Francis	703-278-004	General	
Will DeKrone	410-626-771	General	
Curt Harpod	301-762-088	Programming	JAVA
Craig Contardi	410-796-456	World Wide Web	Netscape Navigator
Seth Mize	410-766-115	World Wide Web	Sailor
Jaque Davison	703-644-735	World Wide Web	Web Site Builder
Macintosh			
Robert Samboli	203-853-2512		General
John Engberg	301-262-9347 or 301-604-834		Basics
Tho. Snowberger	410-757-465	Contact Management	How Contact/UTD
Bill Waring	410-647-560	Database	Filemaker Pro
Bob Wilbur	703-426-055	Database	Filemaker Pro
Rick Shaddock	202-321-211	Database	FoxPro
Harvey Levin	301-299-938	Database	Helix
Bob Wilbur	703-426-055	Database	Helix Express
Dick Nugent	703-425-105	Database	FileMaker Pro
Elizabeth Mang	703-750-271	Database	Pro-Cite
Bob Wilbur	703-426-055	Database	General
Blake Lange	301-942-918	Desk Top Pub.	PageMaker
Eric Grupp	410-315-833	Desk Top Pub.	Quark Xpress
Paul Schlosser	301-831-916	Desk Top Pub.	Quark Xpress
Ron Johnson	410-315-876	Drawing/Graphic	Adobe Illustrator 3.0
Nancy Seferian	202-333-012	Drawing/Graphic	Aldus Freehand
Bob Wilbur	703-426-055	Drawing/Graphic	Canvas
Lloyd Olson	410-544-108	Drawing/Graphic	Claridraw
Etana Finkler	301-891-282	Drawing/Graphic	Freehand Can call until midnight
Nancy Seferian	202-333-012	Drawing/Graphic	General
Neil Laubenthal	703-691-136	Drawing/Graphic	General
Etana Finkler	301-891-282	Drawing/Graphic	General Can call until midnight
Bob Wilbur	703-426-055	Drawing	General
Blake Lange	301-942-918	Drawing/Graphic	Illustrator
Etana Finkler	301-891-282	Drawing/Graphic	Illustrator Can call until midnight
Blake Lange	301-942-918	Drawing/Graphic	Photoshop
Dave Jernigan	540-822-513	Foreign Language	FlashWorks
Dave Jernigan	540-822-513	Foreign Language	Greek Tutor
Dave Jernigan	540-822-513	Foreign Language	Hebrew Tutor
Dave Jernigan	540-822-513	General	

Telecommunications		
John Barnes	301-652-066	Telecomm. AOL
Dale Smith	301-294-228	Telecomm. TCS
Nancy Seferian	202-333-012	Telecomm. TCS
Paul Schlosser	301-831-916	Telecomm. TCS
David Harris	703-845-133	Telecomm. TCS

July 2002

Washington Apple Pi Office
 12022 Parklawn Dr, Rockville, MD, 20852
 M-W-F 10 a.m.—6 p.m.; Tue 7 p.m-9 p.m

Tutorial calendar dates:
<http://calendar.wap.org/>
 Tutorial class descriptions:
<http://calendar.wap.org/classes/>

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 Clinic	3	4	5	6
7	8	9 Clinic	10 WAP BoD	11	12	13 Graphics SIG
14	15	16 Clinic	17 Excel SIG	18	19	20 Annapolis Slice
21	22	23 Clinic	24 Retired SIG	25	26	27 NoVa ComCo1 WAP General Meeting
28	29	30 Clinic	31			

Web address: www.wap.org
 e-mail address: info@tcs.wap.org

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

August 2002

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6 Clinic	7	8	9	10 Graphics SIG
11	12	13 Clinic	14 WAP BoD	15	16	17 Annapolis Slice
18	19	20 Clinic	21 Excel SIG	22	23	24 NoVa ComCo1 WAP General Meeting
25	26	27 Clinic	28 Retired SIG	29	30	31

Meeting Notices

Annapolis Slice

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

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

Apple III SIG

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

Columbia Slice

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

DataBases (Mac) SIG

Volunteers needed to restart this SIG

Delmarva Slice

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

Excel SIG

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

FileMaker Pro SIG

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

Frederick Slice

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

Game SIG

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

Genealogy SIG

Volunteer needed.

Graphic Arts SIG

2nd Saturday of the month

Linux SIG

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

Mac Programmers' SIG

Volunteers needed to restart this SIG

Newton Developers' SIG

Volunteer needed

NoVa Education (Ed) SIG

Call SIG chair for times & locations.

QuickTime SIG

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

Retired SIG

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

Stock SIG

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

Telecomm SIG

Call SIG chair for times & locations.

WAP Garage Sale— June and December

WAP General Meeting

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

Women's SIG

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

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

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

Name	Telephone	Heading	Subjects	Name	Telephone	Heading	Subjects
Joan Jernigan	540-822-5137	General		Mark Pankin	703-524-0935	Spreadsheet/Chart	Excel
Dan White	301-843-3287	General		Dick Byrd	703-978-3445	Spreadsheet/Chart	Excel
Dick Grosbier	301-898-5466	General		Rick Shaddock	202-321-2115	Spreadsheet/Chart	Excel
Russell Robinson	301-739-6030	General		Tom Cavanaugh	801-627-8889	Spreadsheet/Chart	Excel
Eric Seidel	540-667-5289	General	Networking	Bill Waring	410-647-5605	System	General Mac Help
Eric Seidel	540-667-5289	General	Hardware	Lloyd Olson	410-544-1085	System	Mac OS
Robert Samboli	203-853-2512	General Repairs	Older Mac through SE30	Neil Laubenthal	703-691-1365	System	Mac OS Modems General
Neil Laubenthal	703-691-1366	General		Henry Miller-Jones	703-478-3725	System	Mac OS
Tom Cavanaugh	801-627-8889	General		Bernie Benson	301-951-5294	Telecomm.	Modems Hayes Smartmodem
Tom Witte	703-683-5877	General		Henry Miller-Jones	703-478-3725	Telecomm.	ProTerm
Bob Wilbur	703-426-0556	General		Henry Miller-Jones	703-478-3725	Telecomm.	General
Jim Kelly	301-926-2946	General	Applescript	Henry Miller-Jones	703-478-3725	Telecomm.	MacTCP, Free PPP
Henry Miller-Jones	703-478-3725	Answering Syst.	Mac Commcenter, FAXciliate, GV	Dave Jernigan	540-822-5137	Utilities	Conflict Catcher, Retrospect, Stuffit Deluxe, Tech Tools
Henry Miller-Jones	703-478-3725	General	Fax Software	Henry Miller-Jones	703-478-3725	Utilities	General
Joan Jernigan	540-822-5137	Hypermedia	HyperStudio	Jaquie Davison	703-644-7354	Virtual Reality	Alien Skin Texture Shop
Jerry Iler	410-987-5432	ISI	General	Jaquie Davison	703-644-7354	Virtual Reality	Bryce 2
Bill Geiger	703-237-3614	Integ. Packages	ClarisWorks	Jaquie Davison	703-644-7354	Virtual Reality	Specular Logomotion
Sandy Kowalczyk	410-268-3149	Integ. Packages	ClarisWorks	Jaquie Davison	703-644-7354	Virtual Reality	Virtus - 3-D
Ray Settle	410-647-9192	Integ. Packages	Clarisworks	Jaquie Davison	703-644-7354	Virtual Reality	Virtus Walkthrough Pro
Henry Miller-Jones	703-478-3725	Integ. Packages	ClarisWorks	Dave Jernigan	540-822-5137	Word Processing	Word Perfect
Joan Jernigan	540-822-5137	Integ. Packages	ClarisWorks	Charles Schindler	410-437-4625	Word Processing	Word Perfect
Jim Ritz	301-770-1405	Integ. Packages	MSWorks	Eric Grupp	410-315-8334	Word Processing	WordPerfect
Ray Settle	410-647-9192	Integ. Packages	MSWorks	Bob Wilbur	703-426-0556	Word Processing	WordPerfect
Tim Childers	410-997-0066	Integ. Packages	MSWorks	Walt Francis	703-278-0044	Word Processing	General
Dave Jernigan	540-822-5137	Mail List Manager	My Mail List Manager	Tim Childers	410-997-0066	Word Processing	Hebrew
Sandy Kowalczyk	410-268-3149	Miscellaneous	HyperCard	Tom Cavanaugh	801-627-8889	Word Processing	MS Word
Blake Lange	301-942-9180	Miscellaneous	Hypercard	Joan Jernigan	540-822-5137	Word Processor	Claris Works
Tom Witte	703-683-5877	Miscellaneous	Hypertalk	Dave Jernigan	540-822-5137	Word Processor	Word Perfect
Jeff Dillon	301-434-0405	Miscellaneous	MX-80	Henry Miller-Jones	703-478-3725	WWW	Netscape Navigator
Dave Jernigan	540-822-5137	Miscellaneous	Online Bible Mac	Craig Contardi	410-796-4562	WWW	WWW Netscape Navigator
Dave Jernigan	540-822-5137	Miscellaneous	Soft Windows Mac	Macintosh & Apple			
Rick Chapman	301-989-9708	Miscellaneous	Hypercard	Ginny Spevak	202-244-8644	Miscellaneous	Dvorak Keyboard
Tom Witte	703-683-5877	Miscellaneous	Hypercard	Mike Spevak	202-244-8644	Miscellaneous	Dvorak Keyboard
Peter Combes	301-445-3930	Multi Media	Director	Bob Sherman	305-944-2111	Telecomm.	General
Peter Combes	301-445-3930	Multi Media	Language	Dale Smith	301-294-2287	Telecomm.	General
Stuart Bonwit	301-598-2510	Multimedia	Quicktime	John Barnes	301-652-0667	Telecom	AOL
Tom Witte	703-683-5877	Multimedia	Quicktime	Dale Smith	301-294-2287	Telecomm.	TCS
Joan Jernigan	540-822-5137	Multimedia	HyperStudio	Nancy Seferian	202-333-0125	Telecomm.	TCS
Frank PappaJones	703-922-3855	Music Notation	Finale	Paul Schlosser	301-831-9165	Telecomm.	TCS
Henry Miller-Jones	703-478-3725	Networking	AppleTalk	David Harris	703-845-1337	Telecomm.	TCS
Jerry Iler	410-987-5432	Older Claris	General	Networking			
Henry Miller-Jones	703-478-3725	Online Services	AOL, CISI	Douglas Ferris	301-924-4180	Networking	Novel
Jerry Iler	410-987-5432	OB180C	General	Douglas Ferris	301-924-4180	Networking	Windows
Lester Morcerf	410-987-0685	Performa 550	General				
Tho. Snowberg	410-757-4656	Performa System	General				
Rick Shaddock	202-321-2111	Pers.Contact Mgmt	ACT				
Bill Geiger	703-237-3614	Personal Finance	Manage Your Money				
Clarence Goldberg	410-263-5189	Personal Finance	Quicken				
Henry Miller-Jones	703-478-3725	Personal Finance	Quicken				
Bob Wilbur	703-426-0556	Personal Finance	Quicken				
Tom Cavanaugh	801-627-8889	Printers	General				
Walt Francis	703-278-0044	Printers	General				
Michael Hartman	301-942-3717	Programming	C				
Michael Hartman	301-942-3717	Programming	General				
Harry Erwin	703-758-9666	Programming	General (e-mail at herwin@gmu.edu)				
Joshua Juran	301-231-8622	Programming	Perl, C, C++, Pascal				
Michael Hartman	301-942-3717	Programming	Pascal				
Charles Schindler	410-437-4625	Spreadsheets	Excel				
Lloyd Olson	410-544-1085	Spreadsheets	Excel				
Walt Francis	703-278-0044	Spreadsheets	General				
Roger Burt	301-424-6925	Spreadsheet/Chart	ClarisWorks				
Bob Wilbur	703-426-0556	Spreadsheet	ClarisWrks				
Dave Jernigan	540-822-5137	Spreadsheet	ClarisWorks				

We're updating the hotline!!

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

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

Central Office Tour: Where Does That Wire Go?

Photos by David Ogburn

WHEN YOU fire up your modem and “dial in” to the Internet, what happens after the phone line disappears into the panel in your wall? If you are one of the fortunate who can get DSL service, you might know that DSL requires you to be within a certain number of feet of a “CO,” or “central office,” but what does that mean? Does a



“central office” look like a YMCA gym, or the local Department of Motor Vehicles, or the bridge of the Star Ship *Enterprise*?

Washington Apple Pi member David Ogburn took these digital photos of the inside of a Verizon central office. While the details may differ somewhat, most telephone central offices throughout North America look much the same.

These are the cables carrying the copper wires from your home into the cable vault below the central office and up to the distribution frame. (See below left.)

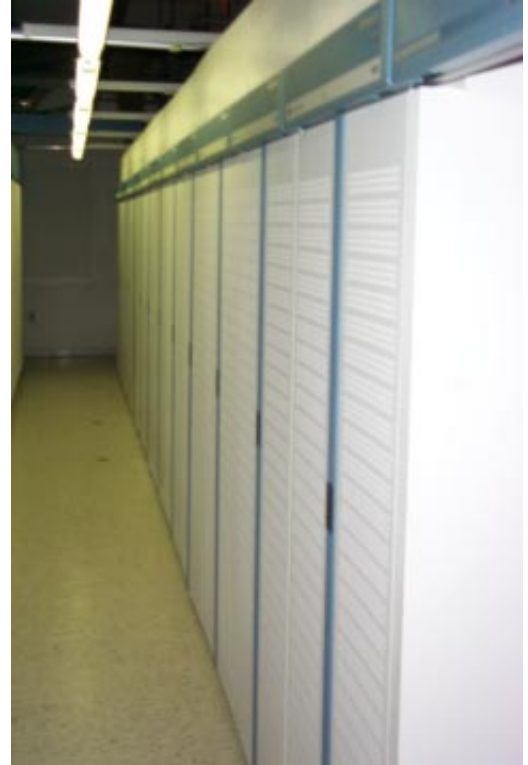


The wires are separated into the copper pairs that provide your telephone service and run into the back of the distribution frame.



This is the front of the distribution frame where the copper pairs are connected one-by-one to the Central Office switch.

This shows an entire row of the distribution frame.



This is one row of the central office switch, a Lucent 5E. Each cabinet holds a number of cards, each containing a Motorola processor.

This bay contains the multiplexers for Litespan equipment. Litespan permits your phone service to be provided over fiber optic cable to equipment cabinets near your neighborhood that contain matching multiplexers and a crossconnect box to connect your service to the copper pair that serves your house.





This is multiplexing equipment that provides high-speed data service over fiber optic cable.

Below is the multiplexing equipment for an OC 192 circuit that can carry 9.6 GB of data per second. This equipment costs approximately \$250,000.



This is a fiber cross connect point where the data from the multiplexers leaves the central office on fiber trunks.



Volunteer to help WAP through this time of transition. Your efforts can make a big difference as we move forward with a new board and new opportunities for future programs.



This is bank of DSL multiplexers. Each box (there are three in each of these racks) provides 48 DSL circuits. DSL must be provided end-to-end over a copper pair.



Local exchange carriers like Verizon are required to provide collocation space to permit CLECs (competitive local exchange carrier) to locate equipment in the central office. This is a row of collocated CLEC equipment (see left).

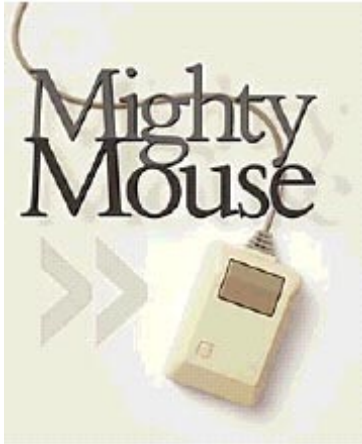
CLECs preferring more security for their equipment can lease caged collocation space in the central office (see above).



STANFORD

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M A G A Z I N E



Mighty Mouse

In 1980, Apple Computer asked a group of guys fresh from Stanford's product design program to take a \$400 device and make it mass-producible, reliable and cheap. Their work transformed personal computing.

CLICK: The Macintosh mouse, circa 1985.

Kevin Candland

by Alex Soojung-Kim Pang

Sidebar: By Design

Related Site: Making the Macintosh

DEAN HOVEY was hungry. His young industrial design firm, Hovey-Kelley Design, had been working on projects for Apple Computer for a couple of years but wanted to develop entire products, not just casings and keyboards. Hovey had come to pitch Apple co-founder Steven Jobs some ideas. But before he could get started, the legendary high-tech pioneer interrupted him. "Stop, Dean," Hovey recalls Jobs saying. "What you guys need to do, what we need to do together, is build a mouse."

Hovey was dumbfounded. A what?

Jobs told him about an amazing computer, code-named Alto, he had just seen at Xerox's Palo Alto Research Center (PARC). In early 1980, most computers (including Apple's) required users to memorize text commands to perform tasks. The Alto had a graphical user interface—a symbolic world with little pictures

of folders, documents and other icons—that users navigated with

a handheld input device called a mouse. Jobs explained that Apple was working on two computers, named Lisa and Macintosh, that would bring that technology to market. The mouse would help revolutionize computers, making them more accessible to ordinary people. "When I walked out that door," recalls Hovey, '78, MS '85, "I was ready to change the world."

Just one problem: a commercial mouse based on the Xerox technology cost \$400, malfunctioned regularly and was nearly impossible to clean. That device—a descendant of the original computer mouse invented by Douglas Englebart at the Stanford Research Institute in the early 1960s—was a masterpiece of high-concept technology, but a hopeless product. Jobs wanted a mouse that could be manufactured for \$10 to \$35, survive everyday use and work on his jeans. "We thought maybe Steve wasn't getting enough meat in his diet," says Jim Sachs, a founding member of Hovey-Kelley, "but for \$25 an hour, we'd design a solar-powered toaster if that's what he wanted." The toaster probably would have been easier. Jobs wanted Hovey-Kelley to take a piece of technology developed by some of Silicon Valley's greatest minds, dramatically improve its reliability and cut its price by more than 90 percent.

They did. The mouse's evolution "from the laboratory to the living room," as one of its designers puts it, is not well known—even some Apple fanatics aren't familiar with it—but it reveals something of the personalities of its designers, the Stanford program that trained them and even the history of Silicon Valley. Everyone knows that the University has helped shape the region, but the influence is often described as a function of great individuals like Frederick Terman, specific inventions like the klystron or an accident of geography. The story of the mouse demonstrates the impact of a particular academic program—product design—on the Valley.

When Hovey-Kelley was asked to design the Apple mouse, the firm was a two-year-old start-up. Hovey and David Kelley, as well as most of the firm's other

early members, had met as graduate students in Stanford's product design program. An interdisciplinary program that combines mechanical engineering, art and, often, math, physics and psychology, it was founded in 1958 by Robert McKim. McKim, '48, was an industrial designer rebelling against the "styling illness" he saw as common in his field. He wanted his students to go deep, to think about aesthetics, technology, users and economics. "Bob McKim was trying to create little Leonardo da Vincis, people who were skilled in many things and diverse enough to create a whole product," Hovey says.

The post-Sputnik years were a good time to be a rebel with a cause at Stanford; federal research money flowed freely and ambitious administrators like then-provost Terman, '20, Engr. '22, and engineering dean Joseph Pettit, Engr. '40, PhD '42, could afford to support unusual departments. "There is always room in a university for one maverick program," McKim says. Its oddball status allowed the program to move into promising new areas quickly. The invention of the microprocessor in 1974 opened up new ways to combine electronics with mechanical design, even novel ways of thinking about the relationship between a product's form and its function. McKim's colleague Larry Leifer, '62, MS '63, PhD '69, started a "smart products" course to explore this territory; Kelley, MS '78, and Sachs, MS '79, were among its first teaching assistants.

McKim won not only the support of his superiors, but also the affection of his students. "If McKim had been a Nazi artist, I'd be a Nazi artist now," Kelley says. McKim's engineering-school colleagues, however, didn't necessarily share his passion. "My peers thought I was pretty strange," McKim says. "And the design division was kind of strange, and loved being strange."

That strangeness led in some surprising but fruitful directions. In the 1960s, McKim participated in studies of the impact of psychedelics on creativity, co-



ON THE BALL: The first prototype.

Courtesy Dean Hovey

authored a book called *Altered States of Consciousness* and founded a medical instruments company. This blend of entrepreneurialism and counterculture might have been unusual in academia, but it brought the product design program in sync with the emerging personal computer industry, whose leaders also mixed cultural radicalism with high tech. Both groups shared a faith that scruffy genius could succeed where conventional expertise failed, both preferred late nights in the machine shop or lab to meetings, and both saw themselves as outsiders, whether from the conventional design world or from corporate America.

THAT PREFERENCE for late nights came in handy in the spring of 1980, when Hovey-Kelley's offices fairly hummed with activity. Hovey, the mouse project's informal head, says he "hacked together" the first conceptual prototype in a weekend—using the ball from a bottle of Ban Roll-On deodorant and a butter dish purchased at the Palo Alto Walgreens ("the mouse parts store," he calls it). That wasn't the only unusual source of components: one morning, his wife discovered that their refrigerator no longer worked because portions of the motor had gone into a mouse prototype. Not to be outdone, Kelley took the stick shift off his BMW when he was experimenting with mouse shapes. "We all did the same thing," explains Sachs, who with Rickson Sun focused on the electrical and optical components. "We sacrificed circuitry, we sacrificed anything. The idea of [formally] designing something and having everything fabricated to your specifications was simply too long, slow and expensive." Better to "take apart something else, or find something similar, and glue it together or cut it in half."

This approach was a textbook example of "rapid prototyping," or building something quickly to test one's ideas, relying more on models and materials than

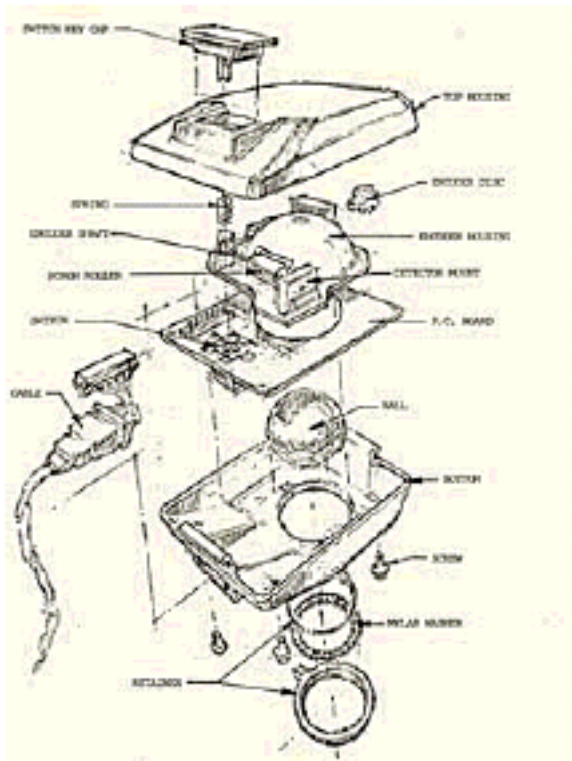


THREE TO ONE: Apple decided that the mouse for the Lisa should have fewer buttons than the Xerox PARC mouse. Courtesy Dean Hovey



Courtesy Douglas Dayton

formal specifications. A cornerstone of the product design program, it was a method well suited to imagination-rich but cash-poor freelancers and start-ups. And it encouraged ferocious concentration. Explains Hovey: “When you’re in one of those modes where you’re building something and you need a part, you figure, ‘Either I can stop and wait, or I can go forward and wreck [the refrigerator]. But it’ll be \$20 to fix it—it’s no big deal.’ When you’re in the midst of the passion of designing, you just do it.”



INSIDER'S VIEW: A sketch midway through the design process. Douglas Dayton

The designers also drew insights from unexpected directions. The company had set up shop in a \$90-a-month office on the second floor of a downtown Palo Alto building (and as Kelley recalls, “we were scared to death, paying \$90 a month”). The aging building’s uneven floors helped Hovey reach the first breakthrough in simplifying the mouse’s design. He was trying to eliminate the precision part that the Xerox PARC mouse used to push the ball onto the table. As Hovey watched balls roll off his gently tilted table, he realized, “That’s exactly what I want it to do: I want it

to roll without slipping.” The ball didn’t need to be pushed; it could float. “We’d barely [need to] touch it to get the information about where it was moving,” Hovey says.

Sachs, who had taken some electrical engineering classes as an undergraduate, designed an optical encoder system that used rollers, light-emitting diodes and phototransistors to track the ball’s motion; this reduced the number of moving parts in the mouse and lowered the cost. Sun, ’78, MS ’78, added an idler wheel with a spring-loaded roller to make sure the ball and encoders kept in contact.

By late spring, “we had solved a number of problems,” Sachs says. But the designers worried that “we had created something that required such precision it probably couldn’t be mass-produced.” As students, the group had often been assigned difficult, even dangerous, exercises: build a Rube Goldberg-like device, design a one-wheeled vehicle for a race down Sand Hill Road. The mouse had evolved into a similar bundle of odd challenges. Electronics were normally expensive and high-tolerance, or inexpensive and low-tolerance; the mouse would have to be cheap and precise. Even the cord posed problems: electric cords were normally either flexible or strong, but the mouse cord needed to be both.

The designers needed something that could keep these contradictory demands from breaking the mouse. Jim Yurchenco proposed connecting the electronics and optics to a single plastic platform, which could keep them in correct alignment and protect them from shocks. Yurchenco, MFA ’75, had studied sculpture as a graduate student, and his experience with crafting three-dimensional shapes made him the obvious person to design this platform, nicknamed the rib cage. (Most of the mouse parts had in-house nicknames—the exterior cover was the fur, the cord the tail—but rib cage was the only one that stuck.) Yurchenco did most of the work in his head—a tour de force of 3-D visualization abilities, according to others on the project. Not only did the tiny parts have precise specifications, but Yurchenco had to make it possible for assembly-line workers to snap them onto the rib cage. The rib cage pushed the state of the art in tooling and injection molding. “There were a lot of very small features that had to be crammed into a very small space,” Yurchenco says, “and building a mold to do that was

complex. Nobody had actually done this before.” But once the mold was made, the rib cage could be mass-produced, to exacting tolerances, for pennies a unit. Yurchenco also designed a ring on the bottom of the mouse that users could remove to take out the ball and clean the rollers without touching the electronics.

The group turned its attention to the exterior design in the summer. Kelley and Douglas Dayton made prototype shapes out of wood or plastic, ranging from square mice to wedge-shaped mice to one complete with “two little eyes like a mouse,” Kelley remembers. “Apple rejected it completely.” After conducting user tests, Dayton, MS ’79, and Apple designer Bill Dresselhaus, MS ’74, produced the final exterior design. Apple also decided to reduce the number of buttons from three to one after discovering that users had trouble remembering which was which. The mouse was finished in early 1981. Naturally, the designers showed it to Bob McKim, who declared it “an elegant solution, very ingenious.” Looking back, he observes that the mouse project was “a stretch” for his former students, “but not too much of one. There is such a thing as the interesting project that’s a little bit beyond your capability, but not so much beyond that you fail.”

Fail? Hardly. The Apple mouse transformed personal computing. Although the expensive Lisa flopped, the Macintosh, released in 1984, made the graphical user interface the industry standard. Microsoft responded with Windows, and its own mouse—also engineered by Jim Yurchenco. “We made a mouse mass-producible, reliable and inexpensive,” says Sachs, “and hundreds of millions of them have been made.”

The mouse established Hovey-Kelley’s reputation, and its influence continues to resonate in the successor company, IDEO. “The most sought-after projects in the company are the ones in areas where we don’t have a lot of experience,” says Kelley, who now divides his time between IDEO and Stanford, where he is an associate professor in the product design program. (Sun, Yurchenco and Dayton also are still with IDEO; Hovey and Sachs have since founded other companies.) The mouse, Hovey says, “had the right balance of mechanical design, ergonomic design, software design and electronic design that really mapped well with the generalist, mini-da Vincis that Hovey-Kelley had. Even down to the tactile aspect of the click, it was a perfectly scaled project for a Stanford product de-

signer.”

THE CLICK? What’s so important about that? From a mechanical point of view, the button was simple, but Hovey-Kelley’s attention to it is illuminating. The feel of the mouse shaped the experience of using the Lisa and Macintosh, and the button defined the experience of using the mouse. A rugged detector and encoding system, a rib cage to hold the electronics and mechanical parts together, and a removable cleaning ring were all necessary to make a mouse that would work. Paying attention to the subtle ergonomics and aesthetics of the button was necessary to make a mouse that would be used. Getting the button right—giving it an audible “click” to tell users how far to push, figuring out how far it should depress, making it responsive but not so sensitive that it could be accidentally activated—meant getting the mouse right. It was part of what Sachs calls “the Zen of the product,” the hard-to-describe qualities that shape the experience of using a technology. We normally think of technologies as mere applied science, reducible to drawings and parts lists; but as Sachs explains, every device has a ghost of “intangible intellectual property about how something works that you simply can’t document, or things where language fails us. The Zen of the product is something you can’t write down.”

That might help explain why the story of the Apple mouse isn’t widely known. It would seem to have all the ingredients of a good Silicon Valley story— young protagonists, innovation to burn, a wildly successful product, a Steve Jobs cameo—but product design just isn’t something journalists or historians tend to write about. It’s supposed to be invisible: the work



MOUSE CLUB: Clockwise from top left, Jim Yurchenco, Jim Sachs, Douglas Dayton, Claire Hahn, David Kelley, Dean Hovey, Liz Hovey and Meg Dayton on a Hovey-Kelley company retreat at Lake Tahoe in 1980. Courtesy David Kelley

designers do belongs to their clients. It's the reverse of fashion, in which the designers are household names and the producers are anonymous. Companies may actually forget that they were clients—in fact, the first patent Apple filed on its mouse mistakenly assigned sole credit to an Apple employee. But it's more than that. Even in histories of Apple, "the mouse gets lost and is just sort of there," Sachs says. "Those of us involved in the design actually smile at that, because our objective was to make it seamless and invisible," he says. "The fact that the mouse was unobtrusive and natural is the result of a lot of work." Few users ever notice the heft of the cord, or the effect the connector linking the cord to the mouse has on the mouse's agility, or the silence of the ball as it moves across the desk. But they're not supposed to. It's the peculiar fate of good design to erase traces of itself; bad design is far more noticeable (remember the first iMac mouse?). As proud as the designers are of the mouse's popularity, they're even prouder of its invisibility.

Alex Soojung-Kim Pang is a research affiliate at the Institute for the Future in Menlo Park, a visiting scholar at Stanford and author of the forthcoming *Empire* and the Sun: Victorian Solar Eclipse Expeditions.

By Design

Graduates of Stanford's product design program have developed everything from medical instruments to surfboards to toothpaste tubes. Some of their greatest hits:

Apple II and Macintosh, Jerry Manock, '66, MS '68. Manock's case designs for the Apple II (introduced in 1977) and Macintosh (introduced in 1984) helped break the mold of anonymous beige computer boxes and define Apple as a company that used creative design to make computers friendlier. Manock also introduced David Kelley to Steve Jobs, establishing a relationship that would lead two years later to the Apple mouse.

Fountains at Bellagio, Mark Fuller, MS '78 and Claire Tuttle, '77. Jim Sachs recalls that fellow student Fuller "was always playing with water." Fuller founded WET Design in 1983 and has made a career building computer-controlled water fountains. The Fountains at Bellagio in Las Vegas, designed by Fuller, Tuttle and their colleagues in the mid-1990s, behave less like traditional fountains than something out of



Ira Kahn

Fantasia: their 1,000 "water expressions" and 4,000 lights are choreographed to Aaron Copland, "Singin' in the Rain" and Lionel Richie.

More recently, WET Design created the cauldron for the Olympic torch used at the 2002 Winter Games in Salt Lake City.

IDEO. It's not a product per se, but arguably IDEO is the most important thing to come out of the product design program. When it started as Hovey-Kelley, no single firm reflected the program's philosophy and approach; its growth and success did a great deal to confirm the viability of Professor Robert McKim's vision. The 1991 merger of David Kelley Design and three other design firms led to the creation of IDEO. Its products include the Apple Duo Dock, Oral-B Squish Grip toothbrush, Palm V, Steelcase's New York showroom and the new Handspring Treo communicator.



The Gillette Co.

Koosh, Scott Stillingner, '73, MS '73. Toy designer Stillingner came up with the Koosh while trying to develop a ball that his small children could catch easily and play with without getting hurt. The first Koosh was a bunch of rubber bands tied together into a small ball; the name comes from the sound the ball makes when it hits a person's hand. Stillingner co-founded OddzOn Products in 1987 to market the Koosh and develop new toys (often designed by other product design alumni). Oh, yes: the children are now undergraduates at Stanford.



Courtesy Hasbro

Xtracycle, Ross Evans, '97. While a student, Evans worked on ways to modify a conventional bicycle to increase its carrying capacity and utility on bumpy roads, making it a more serious competitor to the automobile. In 1998, he started a company that has sponsored programs to train mechanics in Latin America and Africa to build versions of the Xtracycle from local materials. —A.P.

□ □

Mac Lingo 1

A MacNovice Column by Ralph J. Begleiter
Updated by Dave Ottalini

EVEN AFTER years of using a Macintosh, I still talk with MacNovices who are puzzled by the “computerese” which surrounds the Mac. Remember that many Mac users are not only novices to the Macintosh, but to computing in general. And the growing complexity of the Macintosh system has even some old hands foundering on the shoals of the “lingo.”

So here’s a MacNovice’s guide to “MacSpeak.”

- Application - As with almost any other job, using your Mac involves using the appropriate tools for each task. An application is merely a computer program containing the right collection of tools for the job you want to accomplish.

If you’re writing, you’ll need the “word processing” tools which are contained in a computer application such as Apple/ClarisWorks, Word or WordPerfect. If you’re making pictures, you’ll need the picture-making tools contained in applications like Adobe Illustrator or Quark Express.

- Initialize - No sooner do you insert a brand new blank disk into your Mac (internal on older systems or external add-ons in newer ones) than you are greeted with a message asking you if you want to initialize the disk. How should you know?

Initializing a disk is nothing more than *preparing it for use by your Macintosh*. This includes: *complete erasure of the disk, division into sectors* (much like painting parking stripes on new *asphalt*), and *giving the disk a name*. (On other computer systems, this is referred-to as “formatting” a disk.) Without initializing, your Mac can’t recognize a disk or use its available space. (If you ever tried to *start up* your Mac with a blank, uninitialized disk, your Mac would reject the disk and ask for another.)

Warning: Whenever you initialize a disk, you erase it completely, so never initialize a disk containing any data you want to keep.

- System File - Every Macintosh needs a system

file to operate. It’s not really important that you know what’s inside the **system** file, but it contains such computer resources as the fonts used on the desktop, the dialog boxes you’ll see for many standard Macintosh functions, and even the “bomb” messages you get when something goes wrong.

The system file is stored inside the “System Folder” on a disk. It must be present for the Macintosh to operate, so don’t trash it. It *is* possible to OPEN the **system** file, to extract system sounds and certain other Macintosh resources, but my strong advice to MacNovices is to leave the system file alone.

There are *other* system files in your system folder. Some have simple and familiar names, such as Extensions and Control Panels. Others have unfathomable names such as General and Finder or MultiFinder. Many are located within special folders inside your System Folder. All of these files are basic to the Mac’s operation, providing the computer with many of the familiar features which make it a Mac. (The Control Panels folder, for example, could include a LaserWriter driver which gives the Mac everything it needs to know to print documents on your LaserWriter printer. Similar “printer drivers” are installed for other kinds of printers. The Scrapbook contains not only the images and text you store in your Mac’s Scrapbook, but also the computer code which operates the Scrapbook itself.)

- Finder/MultiFinder - These are the names of the computer programs which run the Mac’s familiar electronic desktop, containing the trash can, as well as icons for your disks, folders and documents. They’re called Finder because they help you find electronic files stored on your disks, and help the Mac take care of housekeeping chores such as organizing Files into folders, erasing disks, emptying the trash can, etc. (As simple as these tasks may seem, they still require a computer application (program) to accomplish.)

You’ll find the MultiFinder only if you’re running System 6 on your computer. It allows *other* computer applications to run while the desktop remains visible on your screen. Under System 7, 8 and 9, the Finder remains visible all the time.

- Apple Menu - This is the menu without a name

at the top left-hand corner of your Macintosh screen. It's got only the icon of an apple. Beneath it are found all of the *desk accessories* you have installed in your System 6 file, or, under Systems 7, 8 and 9, it includes any documents or applications you've installed in the Apple Menu Items folder within your System Folder. The apple menu always appears in the same place on the screen of all Macintosh applications. It also usually contains one menu choice called "About (name of application)..." This choice often presents you with a brief screen message containing the name of the application you are using, its version number, and perhaps information about its creators. In the Finder, this menu choice also contains useful information about how much of your computer's memory space is free.)

- Window - For all intents and purposes, the Macintosh introduced the concept of computer screen windows to popular usage. Windows are essentially *subscreens* which appear on your Macscreen. Each one contains certain information distinct from what's inside another window. On the Mac, windows may be changed in size and shape by the user, allowing a flexible display of information according to an individual user's wishes.

The best illustration of windows is in the Finder, where disks and folders each have their own windows associated with them. When you OPEN a disk icon, you see a window displaying the contents of that disk. When you OPEN a folder, you see a window displaying the contents of that folder. You may change the shape and size of each window to suit your work habits.

Windows have now been widely adopted on other computers as well, because they help users compartmentalize their information into manageable batches.

- RAM - This acronym stands for Random Access Memory. It's the memory space built into the hardware of your Mac which the computer uses to store information temporarily. (*Disks are* where most information is stored *permanently*.) You need to know very little about the RAM in your Mac, except how *much* of this space you have. (Some applications won't operate without adequate RAM space.) The computer uses RAM invisibly to shuttle tiny bits of information in and out of its memory whenever it needs them. This information ranges from computer

program instructions to the data *you* enter. Eventually, you'll want to learn more about RAM, because managing it skillfully can make your computer work more efficiently.

- ROM - Another computerese acronym, standing for Read Only Memory. In hardware terms, ROM is very similar to RAM. It's made of the same sort of computer chip. But ROM doesn't allow information to be shuttled in and out. *It's permanently* endowed with certain very basic instructions your Mac needs. Every Mac's ROM, for instance, contains the basic information about how to operate the disk drives, how to startup, etc. Except for being able to know what it is when you read about it, you'll *never* need to know anything more about ROM.

Next month, we'll explore some more MacSpeak, with the goal of helping MacNovices clear away the underbrush of lingo surrounding their Macintosh computers. ■



Copmuter Show & Sale—the other dock.

Using AppleWorks to make a Poster

By Len Adler

IENJOY USING Appleworks 5 to create documents, especially when other people will see my work, or when it makes a message public. Recently I had the chance to promote collecting and reselling prerecorded videos at a church book corner. Here's how this poster was designed and printed:

Please donate pre-recorded videos to the Book Corner ! Bring us tapes or movies you no longer watch. Help the Alliance Book Corner raise

Starting soon, with your help, we'll have:

Video Movies for Sale

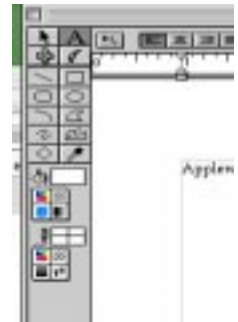


Open the AppleWorks Application and select draw, when the choice comes from the Command+N action.

Create the text by clicking on the "A" tool, and sliding it to the right so that the size of the text field is outlined. Enter the text, and highlight it. Then hold down these keys to rapidly increase the size of it: shift+_command () + >.

"Recently I had the chance to promote collecting and reselling prerecorded videos at a church book corner. Here's how this poster was designed and printed..."

Since I wanted to have graphic samples of pre-recorded videotapes, I went on the Internet to get them. I went to a search engine, such as Google, and entered "African Queen" in the field, since that is a classic, recognizable old video. Then I



made an outline around the picture I want to copy, and select "copy."

I did this, adding the six or so movies to the poster. The icon of the videotape comes from the ssection of AppleWorks under File, Library, and AV and Technology. Just copy, paste where you want it, and resize it by its handles.

You might want to fill in the background with a bright color if you're printing it in color. For that, select the original text box you created with the "A", then click outside it. Click it again, and four dots or handles will appear on the corners. Find the paint can, hold the mouse

down to select a color in the box below, and it will appear in the background. You're done! Save it, and print! ■

Bio: Len Adler, is a social worker who has been enjoying Macs since 1992, when he bought a Classic II. He works with homeless veterans at the Washington Veterans Affairs Medical Center. He is an active member of WAP.

Review: iMovie 2 "The Missing Manual"

review by Paul Gerstenbluth

"Save Huge Amounts of Trial-and-Error iMovie 2 Learning."

Quick Rewind to MacWorld 3 Years Ago

I had the opportunity to meet Mr. Pogue at MacWorld over three years ago. Dave was at the Oreilly.com book's kiosk telling his adventures of getting information from Apple's Steve Jobs on the release of date and information on the new iMovie 2 program. David Pogue was not happy on Apple Computer's negative release of information. Dave was amazed that Microsoft was very "Mac friendly" in releasing information on Microsoft applications for the Macintosh. Dave was still upbeat on iMovie and promised that any and all updates would be available at the Oreilly.com's Missing Manual website.

Fast Forward to the iMovie 2 Review

If you are trying to learn iMovie 2, this is the book for you. Writer David Pogue has an entertaining way of writing that makes it very easy to get through his book.

This Missing Manual is notable for its consistent quality of presentation and content. The book is well written, contains good technical information and is easy-to-follow for all levels of Mac users.

Mr. Pogue delivers value in iMovie 2: The Missing Manual. Composed in Pogue's friendly style, I found this book a valuable treasure. I consider the Pogue book an excellent buy for anyone starting out in editing home movies on the Mac.

Quick Table of Contents

Part 1 - Capturing DV Footage (How to buy and use camcorders for new moviemakers.)

Part 2 - Editing in iMovie (Heart of the book with seven chapters.)

Part 3 - Finding your Audience

Part 4 - Beyond iMovie 2

Part 5 - Appendixes

Interesting Pages to Develop Your Movie Skills
Page 242 - Importing Quicktime and exporting from Quicktime Pro conversion to DV Stream.

Page 255 - Still Pictures and Quicktime Movies

Page 308 - Posting a movie on your website using FreeServers.com

Pro Reaction

iMovie 2 "The Missing Manual" has a good table of contents and index. Excellent screenshots of iMovie 2 dialogue screens. Good "thumb index" like dictionary indexes. Also, Colophon: How I Wrote this Book" was interesting.

This Pogue book is easy to read and helps the reader in learning how to use iMovie 2 by providing highlighter tips and screen shots of iMovie 2 windows and messages. The instructional text is broken up with useful sidebar titles for quick references for the Mac user. iMovie 2 "The Missing Manual" is a handy reference book for new and veterans movie makers.

Con Reaction

iMovie 2 "The Missing Manual" is missing a Quick Table of Contents. (Page 3 -could have been Quick Table of Contents.) Missing was the CD-ROM with this book. I rather pay the \$5 then download its contents from his website. Also, missing was a readers Level: Beginning to Intermediate. Finally, missing from the book was the mention of Adobe Photoshop Images for editing your movies that sells for under \$100.

Final Comments

David Pogue is a seasoned veteran of "How to" Mac computer books. Mr. Pogue is a Personal Technology columnist for the New York Times.

I find that iMovie 2 "The Missing Manual" an excellent book without the smart comments and cliché headlines of most Dummy Series books.

David Pogue does a good job covering the basic videography to the newest iMovie 2 editing options. If you use iMovie you need this book and the software that it allows you to download from Pogue's Web site.

Author: David Pogue January 2001, 0-596-00104-5, Oreilly.com books, 420 pages, \$19.95 US \$29.95 CA

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

Random URLs 4

by David L. Harris

ON THE Pi's TCS bulletin board system I randomly post URLs (addresses of Web sites) that intrigue me. If you have an Internet connection and a Web browser, you can go to any of these places yourself. If you use the TCS you can see the newest Random URLs on the "Explorer Service & Internet" board of the General Conference. The URL of the TCS is <http://webtcs.wap.org/>. If you are a long-time TCS user you can probably skip this article, because you've seen them.

Here are some more URLs I've posted. They are all working at the time this article was written (you might have to try different Web browsers), but by the time you read it, who knows? Due to the limitations of printing them, some may wrap to a second line. Make sure you get the entire URL—they are surrounded by `<` and `>`. Some pages may require JavaScript be turned on in your Web browser; if it is, you may get extra cookies or advertising on those pages. Some of the descriptions are taken from the sources where I get the URLs. And I usually end my lists with humor (of sorts).

Here is the fourth edition:

Records Online

http://www.netronline.com/public_records.htm

"The public records portal for seekers of local governments' data online, to include property taxes, deeds, plat and parcel maps, and GIS maps for use by the public and... all others needing access to public records."

TerraFly

<http://www.terrafly.com/>

Associated with the School of Computer Science at Florida International University, the High Performance Database Research Center (HPDRC) released TerraFly in November 2001, a Web-based application that allows users to view Geographic Information Systems (GIS) images... Through a rather sophisticated Java applet, users have a bird's eye view of the images... enabling users to view the images continuously

and seamlessly, giving the user a feeling of "flying over" the photographed land areas... Users of low bandwidth or active memory should be wary; the applet demands a lot from your computer.

Skyscrapers

<http://www.skyscrapers.com/>

"The World's Database on Skyscrapers and Tall Buildings."

Home Repair

Check this site for manuals, parts and accessories, or for help from the Repair Guru:

<http://www.repairclinic.com/>

The Internet Broadway Database

<http://www.ibdb.com/>

Created by the League of American Theatres and Producers' Research Department, The Internet Broadway Database provides an array of information about past and current Broadway shows.

Louis Armstrong Discography

<http://www.satchography.com/>

Fans, researchers, and casual listeners can use the site to access comprehensive information on Armstrong's recordings, sessions, and the composers.

Digital Atlas of the United States

The Digital Atlas of the United States is a continuing public education project of Professor William Bowen and the Department of Geography at California State University, Northridge. The Digital Atlas is a great collection of information in a graphical map format of the United States that includes, a United States atlas, Citizenship, Ethnic and Racial Groups, Poverty, Income, Adult Education Attainment, Population and Census maps:

<http://130.166.124.2/USpage1.html>

The Great Wall of China, A Virtual Tour

<http://www.chinavista.com/travel/greatwall/greatwall.html>

National Parks of the Southwest

<http://www.swparks.com/index.html>

Roadside America

"Homepage for Roadside America, your travel guide to offbeat attractions, tourist traps, weird vacations, and roadtrips. Let the Travel Brain do the driving!"

<http://www.roadsideamerica.com/> ■

Keep Color Consistent from Pixel to Pixel

by Kris Fong

What You Need:

- Any Power Mac
- CoLoRSync (built into Mac OS 8.5 and later)
- Imaging peripherals (optional), such as scanners and printers

SOMETIMES IT'S obvious—skin tones shouldn't be green, polar bears don't come in blue, and Apple doesn't make a Lemon iMac. Other times it's not—just how red, orange, or pink is salmon anyway? When it comes to color, what you expect to see isn't always what you get in the final print. And even when colors look right onscreen or in print, the colors may not be entirely accurate. Color can shift when you snap a picture with your digital camera, manipulate the image on your Mac, and print out the photo on your printer—but it doesn't have to.

Since Mac OS 8.5, Apple has built ColorSync, an industry standard color manager, into the Mac OS. ColorSync contains a set of tools that helps keep color consistent in a digital file as it travels between your Mac and its peripherals, making sure those pics of dear ol' dad don't come out looking like portraits of Papa Smurf when you print them. But like pots and pans to the noncook, ColorSync won't do you any good unless you know how to use it use it correctly.

That's where we come in. Here, we show you how to keep the color in your photos and graphics looking as you intended, no matter what type of scanner, camera, or printer you have hooked up to your Mac. We show you how to color calibrate your monitor and create a profile, and how to implement the ICC (International Color Consortium) profiles of any imaging device with your Mac OS using ColorSync.

Our methods should satisfy the average Mac user—however, graphics pros working in color-criti-

cal situations should consider purchasing a full-fledged color management package, such as GretagMacbeth ProfileMaker Pro (\$3,500, www.gretagmacbeth.com) or one of the ColorVision (www.colorcal.com) or ColorBlind (www.itec.net) packages, for absolute color accuracy.

Understanding Color

Before you can manage color, you need to understand how color appears across your devices. Your Mac and its peripherals operate in one of two color spaces (a group of colors used to represent the full color spectrum)—either RGB or CMYK. All image-capture and display devices use RGB (Red, Green, Blue—primary colors) to produce images, including monitors, digital cameras, scanners, video cameras, and even television sets. In other words, when you see an image from any of these devices that contains millions of colors, you're really seeing an image projected by three (RGB) colors of light. Don't believe us? Turn on your TV, stick your eyeball up close to its screen, and take a good look—just don't stay there for very long.

Colors that are tangible in the real world, as opposed to color produced from non-tangible RGB light, are in CMY (Cyan, Magenta, Yellow). Printers use CMYK inks to produce color photos—printer manufacturers add Black (K) ink to reproduce true black in prints instead of settling for the dark muddy brown that printers otherwise produce from mixing CMY inks. Your clothing and the magazine you're holding right now are CMYK.

Not all devices display color equally, which is why it's important to calibrate all components in your system and profile them so they interpret color values similarly (see "Profile on Profiles," TK, for more about ICC profiles and how your Mac uses them). For example, your monitor may not display that candy-apple-red Mustang with the same boldness as the LCD screen of the digital camera that captured it, and when you finally go to print the image, the red Mustang mysteriously may mutate into orange in the output. Calibrating your Mac and peripherals will ensure that your prized Mustang doesn't turn into a pumpkin at midnight in the end,

Also important to note: Images on your screen are affected by ambient room light and reflections.

Your best course of action is to work in a dark environment, away from overhead lights and windows. If that's not possible, consider buying a monitor hood (check out PhotoDon, a Web site that sells customized hoods, www.photodon.com), which effectively shields your monitor screen from glare.

Use ColorSync to calibrate your monitor and build a profile for system use.

Calibrate Your Monitor

Color displayed on a monitor screen can shift over time. Make it a point to calibrate your monitor once a month, and more often if you work in publishing. Here's how to calibrate a monitor and save a profile with ColorSync.

1. Configure the Monitor Calibration Assistant

Under the Apple menu, select Control Panels, and then Monitors to open the Monitors window. Mac OS X users: Select System Preferences from the Dock and then click Displays. Click the Color button—in the window that appears, click Calibrate to open the Monitor Calibrate Assistant window. Check the Expert Mode box and then click the right arrow in the lower-right corner. Note—If you have an iBook or PowerBook, jump ahead to Step 3.

3. LCD monitor users, jump ahead to Step 4.

2. Adjust the Brightness and Contrast

First, the Assistant will help you adjust your monitor's contrast. Using your monitor controls, turn the screen contrast to its highest setting—this sets your monitor to display a full range of tones, making blacks dark and whites bright. Then adjust your monitor's brightness control so the square pictured is solid black and the oval is barely visible. Click the right arrow when you're finished.

3. Adjust the Gamma

Now adjust your monitor's gamma—a numerical parameter that describes the relationship between pixel values (color) and luminance (intensity of light). Adjusting the gamma affects the overall color brightness in your display and can keep images from looking washed out. In this panel, you can also adjust the ratio of red, green, and blue in the display.

Starting with red, sit back about four feet from your monitor and adjust the slider so that the solid apple image melts into its striped background. Repeat with the green and blue sliders. When you're finished, click the right arrow.

4. Set a Target Gamma

The next panel allows you to adjust a target gamma for your monitor. Macs have used a standard 1.8 setting for years—while this setting is normally the one most Mac folks use, you can change it. Setting the target gamma higher than 1.8 gives richer color. Setting it lower washes out color. If you work predominantly in the digital medium, as in Web production, set your gamma to 2.2. Otherwise, keep it set to the default 1.8 and click the right arrow.

5. Adjust the White Point

ColorSync allows you to adjust your monitor's white point anywhere between 4,500 to 9,500 degrees Kelvin, letting you customize how the color white appears in your display. Kelvin is a measurement used to gauge color temperature—daylight measures about 5,500 degrees Kelvin, tungsten light (lightbulbs) measures about 3,200K, and light reflected from snow can measure 8,000K. Most Macs have a default 6,500 degree setting. Where you set the target white point is a matter of personal preference. Setting the temperature lower makes whites on your monitor appear warmer, or more orange. Setting the temperature higher makes whites appear cooler, or more blue-toned. Move the slider in either direction, using the white window background as a reference, until you're satisfied with the whiteness. Then click the right arrow.

6. Create Your Profile

Give your profile a name by typing it in the field. Then click Create It to have ColorSync save your new profile. Your system will then put it to use to drive your monitor. If you want to change the profile being used in your system or revert back to the default, simply open the ColorSync Control Panel and select it different profile under the Display dropdown menu.

Setting Peripheral Profiles

You established your monitor's profile, so now you need to calibrate your input (scanner, camera) and output (printer) devices, so your system can match colors embedded in an image and reproduce them uniformly. Device manufacturers typically ship each product with its own ICC profile. Again, if your line of work relies on color accuracy, get a dedicated software/hardware color calibration pack-age. For everyone else, it's OK to use the manufacturer-provided ICC profile. Here's how to set up these types of profiles in ColorSync for system use.

1. Open the ColorSync Profile Panel

To use a manufacturer's specified ICC profile, select Control Panels from the Apple menu and then select ColorSync to open its window. Mac OS X users: Select System Preferences from the Dock and then click ColorSync. Click the Profiles tab, and then select Profiles For Standard Devices in the main drop-down menu. Under the Display profile, your newly created monitor profile will appear listed by name. Under the Input and Output selection set your Mac defaults to the Generic RGB Profile.

2. Select the Input Profile

To select your scanner or digital camera's profile, click and hold the Input drop-down menu to view its contents. The ICC profiles of all your manufacturer-calibrated devices will be listed in this menu if you properly installed the drivers. Find the appropriate one and select it. If you use a scanner and a digital camera interchangeably to input Images, make sure you change the Input profile accordingly to match the device you're currently using.

3. Select the Output Profile

To select your printer's profile, click and hold the Output dropdown menu to view its contents. Depending on the type of printer you have, you may see a number of different profiles for your specific printer, each paired with a particular paper medium, such as heavyweight matte paper or glossy photo paper. Choose the profile that corresponds to the type of paper you want to print on—just remember to always change the Output profile accordingly whenever you switch paper types.

4. Save Your Changes

Finally, close the ColorSync window (click the window's upper-left corner square). This opens a dialog box, which asks you if you want to save your changes. Click Save. That's it—your pics should no longer cause you any grief from unexpected color shifts.

By the way... Profile on Profiles

An ICC profile is a cross-platform, industry standard file format containing information about the color space, or range of absolute color values, of a device or image. A profile can be used to translate a device's color data to another device so that the latter device reproduces the same colors within its own color space. For an image to retain color consistency from one device to another, your Mac compares the profile of, say, an input device (like a scanner) with the current monitor profile and makes adjustments so that the image's color values are retained when the image travels from the scanner to the monitor display. When you print out the image, your Mac compares the monitor profile with the current printer profile and compensates for any color discrepancies to ensure that the printed photo matches the coloring of the original scan.

All imaging input and output devices use ICC profiles to interpret how they display color and handle color from device to device, across any platform. Calibrating a device (such as a monitor, scanner, or printer) generates these profiles and puts them to use in the Mac OS via ColorSync. Most devices ship with an ICC profile that has been calibrated by the manufacturer—these do a fine job of keeping colors consistent. But for greater accuracy, you need to manually calibrate these devices with a color-management package. ■

From the April 2002 MAUGER, newsletter of the North Jersey Mac Apple User Group, Inc.

Printing Digital Photos, Part 1

by Alex Hoffman <ahoffman@mac.com>

I RECENTLY bought a new Nikon Coolpix 775 digital camera for my wife. We were about to get married and I thought we'd enjoy taking lots of pictures of the wedding weekend and the honeymoon week. I was right: we took more than 1,000 pictures over nine days.

<<http://www.nikonusa.com/coolpix775/>>

Although I'm most interested in putting together a CD showing off most of our pictures (hundreds, I tell you) for our guests and friends, my wife prefers old-fashioned photo albums and wants to print some of the pictures.

This situation prompted the question of the best way to print digital photos. While we might want to print only 50 to 100 pictures now, eventually we'll have many more. Should we buy a photo printer, or should we send them out to be printed by a photo service? If the latter, which one? Since these aren't just everyday snapshots, I decided to investigate both options.

Buying a Printer

Although I had no doubts about the quality of prints coming from digital photo labs, I wasn't so sure about the photo quality of any printer we could afford. I've used inkjet printers for years, and have never been truly happy with the quality of their photo output.

However, I've never owned a "photo printer," a printer whose quality is supposed to be good enough to approximate a photographic print. I've also never used real photo paper, which is specially coated to make such high resolution printing possible. Unfortunately, this paper is expensive: around \$0.30 for a 4" x 6" piece, and \$0.50 for an 8.5" x 11" piece. I also know that while inkjet printers are relatively cheap, ink cartridges are expensive and printing photos uses

an enormous amount of ink per page (text covers about 5 percent of a piece of paper, but photos typically cover 90 to 100 percent of the page).

Expensive ink cartridges, plus the cost of photo paper, made me rule out buying a photo printer. I didn't see any monetary savings, and I am still distrustful of the quality. This doesn't mean you can't get good results, especially if you plan to print relatively few pictures. But since we already own a black-and-white laser printer, we didn't see a compelling reason to add a photo printer.

Digital Photography Labs

In the past, I've read about different digital photo labs, but I never paid full attention. I understood a few of their major issues and that their services cost a lot more than normal film developing. But one of the major benefits of digital photography, in my mind, is that you print only a small percentage of your pictures, which leads to overall savings. So I decided to try some of the photo labs listed in Yahoo, the most popular of which were Shutterfly, Club Photo, ImageStation, Ofoto (owned by Kodak), dotPhoto, Snapfish (owned by District Photo), PhotoAccess, eFrames, and searsphotos.com.

<http://dir.yahoo.com/Business_and_Economy/Shopping_and_Services/Photography/Digital/Labs/>

I added Walmart to the list, since it has such a huge retail presence, and I also added Apple's iPhoto-based service, which uses Kodak's Ofoto for prints. After a quick run through their sites, I developed some criteria for comparing the services: cost, ease of uploading, quality of the Web site, and range of products offered. I naively assumed that quality would not be an issue, thinking at the time that their output would be highly similar.

<<http://www.shutterfly.com/>>
<<http://www.clubphoto.com/>>
<<http://www.imagestation.com/>>
<<http://www.ofoto.com/>>
<<http://www.dotphoto.com/>>
<<http://www.snapfish.com/>>
<<http://www.photoaccess.com/>>
<<http://www.eframes.com/>>
<<http://www.searsphotos.com/>>
<<http://www.walmartphotocenter.com/>>

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

I should have known better. First, working in information technology (including supporting ad agencies) drilled into me a long time ago that color correction is a huge issue. Second, I know that traditional photo labs aren't identical (a roll of film that comes out poorly is not necessarily your fault). I knew better, but my optimism about the possibilities of digital imaging blinded me at first. I quickly learned.

Cost

All of these services offer the same basic print sizes, 4" x 6", 5" x 7", and 8" x 10". Some offer wallet and larger sizes as well, but for price comparisons, I stuck to the three basic sizes. For the most part, the prices are roughly the same as well (most also offer 3" x 5" prints at the 4" x 6" price.)

Size Cost

4" x 6" \$0.49

5" x 7" \$0.99

8" x 10" \$3.99

However, there were few standouts on price.

On the negative side, searsphotos.com charges three times as much for 4" x 6" prints if you want to do even the simplest of image manipulation (including cropping and red-eye correction). Snapfish charges 20 percent more than the others (\$0.59), and both are clearly set up for film developing. Although I did send a few samples to Snapfish to be developed, both companies failed the price test and were eliminated from competition. The searsphotos.com price was so out of line that I didn't even include them in the quality test. (The searsphotos.com service also limits files to 500K, clearly hurting their print quality, while Snapfish's ordering Web pages are horrendous.)

On the positive side were PhotoAccess (\$0.45, \$1.09, and \$2.95), Walmart (\$0.26, \$0.96, \$2.98) and dotPhoto (\$0.29, \$0.95, and \$2.95). Though Walmart also offers packages (one 8" x 10", two 5" x 7" prints, and 16 wallet-sized prints for \$9, for example), dotPhoto beats everyone on price and pricing options, offering subscription and bulk pricing. For \$5 per month, you can order up to 26 4" x 6" prints (\$0.19 per print), or you can pay \$10 per month for 60 prints.

Both plans offer lower prices on other sizes as well. Amazingly, any prints you do not use in a given month do carry over to the next month. The only downside is that dotPhoto requires one year subscriptions. dotPhoto also allows you to purchase prints in bulk, where you pay up front for many photos, and have two years to use up your credit (\$70 for 400 4" x 6" prints, \$35 for 50 5" x 7" prints, and \$50 for 25 8" x 10" prints). If price is your main criterion, no one comes close to dotPhoto.

Shipping costs vary by the size of your order and your chosen transit method. There wasn't much variation here, other than from Club Photo, which offers free standard shipping using the U.S. Postal Service. Walmart offers the option of picking up prints at a Walmart store free of shipping charges, but takes an extraordinarily long time to make them available if you do. Apple seems to be at the high end here, but not by enough to eliminate them from the running.

Ease of Uploading

The most obnoxious part of using online digital photo labs is uploading multiple photos at once. Every site allows you to select files to upload manually, but this process involves clicking a Browse button and locating the files on your hard disk. The process gets old fast when repeated more than a few times.

Fortunately, most of these services offer alternatives. For some, a standalone application can send multiple image files. Others use a plug-in for the Windows version of Internet Explorer. Requiring easy uploading from a Mac knocked a few of the services out of the running including eFrames, Walmart, dotPhoto, and ImageStation.

The remaining services—Apple, Club Photo, Ofoto, PhotoAccess, and Shutterfly—each have a Macintosh application onto which you can drag the photos you want to upload. Apple is the only service to offer a Mac OS X-native application, but because iPhoto runs only under the new operating system, Mac OS 8 or 9 users are out of luck. Of the others, only PhotoAccess even mentions that they're working on a Mac OS X version. All four of the other companies' applications do run under Classic.

Web Site Evaluation

Each of these sites relies on the picture album metaphor for organizing pictures. You can name photos and add new ones as often as you wish. ClubPhoto charges customers more to keep their photos accessible online, with two packages (\$25 and \$35 per year) that also include discounts on all orders. Regardless, charging to keep photos from disappearing after just 30 or 90 days seems out of line.

A great thing about digital photography is that you can edit and crop your photos before you print them. Any digital photo lab for consumers must make this process practical, especially for users who lack image editing software. The remaining contenders differentiated themselves in this round.

PhotoAccess offered the most minimal editing capabilities. Its upload application can rotate pictures, but the Web site offers no further editing possibilities, most notably no red-eye reduction. ClubPhoto also lacks red-eye correction, although its Web site can brighten or darken each picture.

Ofoto's image uploading program can fix red-eye and crop images. Their Web site offers further capabilities such as adding borders to your pictures; however, this becomes Ofoto's most distressing feature, because the border covers most the image, rather than resizing the image to fit within the border. Ofoto can also print the images in black and white, sepia tones, or sepia-like tones (in red, green, or blue). Last, it can "fix lighting," which lightens dark images and darkens washed-out images.

Shutterfly's Web site offers the most options, though its software does nothing but upload photos. At Shutterfly, you can add borders to images (which are automatically resized), fix red-eye, switch to black-and-white, change the color saturation, soften or sharpen the focus, or change the color tone. Shutterfly's site is also the easiest to navigate, especially when looking at albums with many photos in them.

Apple uses a completely different model, with iPhoto handling all the organization and editing of your photos. Its editing capabilities are limited to rotating images, performing red-eye reduction, cropping (with a nifty aspect ratio tool), and conversion to black-and-white, although all Macs now ship with Caffeine Software's free PixelNance, which extends

iPhoto's editing capabilities nicely. There are no tone controls (for sepia-like prints) or any of the other effects offered by the others. Although iPhoto is far easier to use than any of the Web sites, it doesn't offer as many features, and nothing at the level of Adobe PhotoDeluxe. That said, I expect that future versions will address most of my concerns in short order.

<<http://www.adobe.com/products/photodeluxe/>>

<http://www.caffeinesoft.com/products/pnh/pnh_index.html>

Finally, although I didn't test this feature, each Web site lets you share your photos so that other people can order their own copies of your prints. Apple's solution here is that iPhoto makes it extremely easy to turn photos into a Web-based photo album at homepage.mac.com, but the free space Apple provides limits the number of high resolution photos you can share. Services which remove photos after a short amount of time limit the usefulness of their sharing functionality.

Range of Products

Most of these services don't stop at printing photos. A few also sell digital camera and digital video equipment, though not at competitive prices. Mousepads, customized greeting cards, and mugs are the rule, and most offer picture frames as well.

Shutterfly offers only the basic items that they all share. Ofoto adds a huge range of frames and photo albums, along with Archive CDs priced starting at \$10, based on the number of photos). Club Photo offers \$8 Album CDs, which contain up to 60 photos, and Archive CDs (also starting at \$10, based on the number of images), which contain all of your photos. Other products from ClubPhoto include frames, food (really!), checks, stamps, Post-It note pads, puzzles, posters, stuffed animals, aprons, t-shirts, jewelry, and even a night light. PhotoAccess extends the basics with t-shirts, sweatshirts, hats, puzzles, aprons, playing cards, canisters, tote bags, slides, and even customized wrapping paper. Most interestingly to me, PhotoAccess is the only service to offer "digital prints" whose proportions match that of most monitors, televisions and cameras.

Only Apple's service offers an impressive hard-

cover book (measuring 11.5 by 9 inches). The linen cover comes in your choice of black, burgundy, light gray, or navy, and you can choose six formats when designing your book and laying out the photos. Unfortunately, the price is high (\$3 per page with a 10 page minimum and a 50 page maximum) and the paper/print quality isn't amazing (something like magazine quality). That cost quickly adds up, especially for larger books, even though you can have multiple photos per page. Although others haven't experienced the same problems, I had troubles - particularly when rearranging pages in book mode - building books larger than about 12 pages. Rearranging photos in organize mode and designing the book left-to-right worked better.

iPhoto is actually a front end to a Web service called myPublisher. Although ordering directly from myPublisher offers a few more options, including leather covers and dust jackets, iPhoto makes the process of building and ordering a book vastly easier. For all the trouble I had with iPhoto, I can't imagine trying to use myPublisher's Web site for a real project, which requires uploading photos individually from a browser.

<<http://www.mypublisher.com/>>

Shutterfly also offers a book to its customers, albeit a very different one. The Snapbook is a spiral-bound book with a translucent plastic cover containing up to 40 pages, available in a 4" x 6" or 5" x 7" size (priced at a maximum of \$25 or \$30, respectively, depending on the number of photos, up to 40). You can choose from a handful of designs, but unlike Apple's books, they offer only one picture per page. Although I like Shutterfly's Web site, I had a few problems putting my book together. Still, the Snapbook's price is compelling, especially given that the largest Snapbook costs less than buying the pages individually, and is the same price as a 10-page book from Apple.

<<http://www.shutterfly.com/snapbooks/>>

After examining all of the companies' Web sites and ordering prints from each, I couldn't name a clear winner. Different services had different strengths, whether price, variety of products, site design, or ease of use. However, as soon as I received my first set of prints, I realized that there was a lot that I hadn't considered properly. In the next installment of this article, I'll detail my mistakes and the surprising final result. ■

[Alexander Mishra Hoffman is an IT Manager in New York City, a Red Sox and Pats fan, and a newlywed.]

From *TidBITS* #616/11-Feb-02

Printing Digital Photos, Part 2

by Alex Hoffman
<ahoffman@mac.com>

AFTER BUYING a new digital camera and going on my honeymoon, I have more than 1,000 pictures, about 100 of which my wife wants to put in photo albums. Therefore, I decided to investigate which online digital photo lab was the best. In part one of this article, I evaluated 11 different services in terms of cost, ease of use, and range of products. When I began this project, I thought I could look at the companies' Web sites, order some samples, and see which services were better than others. That was enough to eliminate a number of the services from the running, although I included almost all of them in the quality tests that came next.

<<http://db.tidbits.com/getbits.cgi?tbart=06717>>
<<http://www.shutterfly.com/>>
<<http://www.ofoto.com/>>
<<http://www.dotphoto.com/>>
<<http://www.photoaccess.com/>>
<<http://www.apple.com/iphoto/>>

I initially thought the print quality from the different services would be roughly the same. Not only did that not prove to be true, examining the prints afterward revealed a few flaws that I could have corrected before sending off the files. Pay attention to the areas I failed to take into account, and you'll get better results.

Cropping

My first mistake was to ignore the issue of cropping. Most digital photographs use an aspect ratio that matches computer monitors and televisions, featuring a 1.33:1 ratio between width and height. Standard photograph sizes, however, don't match that aspect

π

ratio, taking their cue instead from 35mm film, which uses a 1.5:1 ratio. Prints measuring 4" x 6" (1.5:1) and 5" x 7" (1.4:1) are wider and shorter than digital images; 8" x 10" (1.25:1) and 11" x 14" (1.27:1) are narrower and taller than their digital counterparts. Only PhotoAccess offers prints whose ratio matches that of most cameras and monitors and do not have to be cropped, but of course they may not fit properly in traditional photo albums and frames.

There are three solutions to this problem. The first is to resize the picture disproportionately, but that's unacceptable in almost all cases, as it would make people look as though they were reflected in fun-house mirrors. The second is to shrink the photo proportionately, which works fine, but means the image won't completely cover the paper. The picture ends up looking like a letterboxed movie, not using the very top and bottom of the print for narrow sizes, or putting white borders on the left and right for wider sizes. That's the safest option. Third and finally, you can crop the photo, which eliminates some of your image. That may be fine if you're doing the cropping yourself, but it can be disastrous if a service does it automatically and gets it wrong.

Naively, I assumed that the first photo service I used would be smart enough to compensate for the aspect ratio differences. But because the process is automated, the results weren't great. I should have manually cropped each photo. Most sites offer cropping tools, and I also had the option of cropping the photos before uploading them. If done on the services' Web sites or with their uploading software, as they recommend, cropping takes less than 30 seconds for each photo. Had I taken the time to do this, I would have been much happier with my initial prints.

Shutterfly and Apple stand out as having the most versatile cropping options. Customers get total control over what is printed. Other services feature less control, with Ofoto simply offering the option to print extra borders to fix the shape, or to crop the image automatically by keeping the center and cutting off the edges equally. Shutterfly's upload application and Apple's iPhoto let you crop your images to a specific aspect ratio to fit the different photo sizes perfectly. Once a photo is uploaded to Shutterfly, you can change the cropping even if you

"My first mistake was to ignore the issue of cropping. Most digital photographs use an aspect ratio that matches computer monitors and televisions, featuring a 1.33:1 ratio between width and height. Standard photograph sizes, however, don't match that aspect ..."

cropped earlier.

Cropping also affects how large you can have a photo printed. When you remove portions of a photo, you're reducing the image's overall number of pixels. If you crop too much of the image, there may not be enough information to make a picture look good at larger sizes. Cameras with more than two megapixels of resolution can produce decent-quality photographs at sizes up to 8" x 10", but if you crop too much, you may not be able to print at the size you want. Fortunately, all of the services I tested give some kind of warning about which images will print well at what sizes, though some are more obvious than others.

Gamma

Digital color is tricky to do right. Different monitors display colors differently, as do different cameras, scanners, software applications, and operating systems. This happens because they all have slightly different assumptions about which combinations and intensities of red, green, and blue should be used to represent any given color for each pixel. One aspect of this situation is gamma correction, which controls the overall brightness of an image.

<<http://www.bberger.net/gamma.html>>
<<http://www.photo.net/photo/fixing-gamma.html>>
<<http://www.cgsd.com/papers/gamma.html>>

Macs are usually set to a gamma of 1.8, and PCs are set to a gamma of 2.2, which explains why an image created on the Mac will look darker and will

have more contrast when viewed in Windows, and images created in Windows may look washed out on the Mac. Since most computers run Windows, photo services seem to try to match their output to a 2.2 gamma setting to provide what most of their customers expect. Unfortunately, that meant almost all of my test prints came back looking darker than I expected, and pictures where the color was just right on my computer weren't as good in print.

Apple's ColorSync technology helps resolve the variations in colors that result when an image is reproduced using different devices, applications, materials, and printing processes (and is used by iPhoto when printing directly from your Mac), but it doesn't help with any of the photo services. I learned from the president of Ofoto that they often try to achieve a similar goal by examining a JPEG image's EXIF (Exchangeable Image File Format) information. Ironically, iPhoto strips out EXIF data whenever you modify an image, preventing Ofoto (which prints pictures for iPhoto) from using this technique when printing from iPhoto.

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

This area is where Apple has the opportunity to stand out, and part of why Apple was wise to introduce its own photo printing service. Because Apple knows that all the photos it gets are coming from Macs, it alone has the potential to calibrate the output to match typical Macintosh monitors. Unfortunately, this isn't yet the case, although there is hope for the future: Ofoto's president seemed receptive to the idea of applying a common correction to all prints ordered through Apple. Right now, however, the only way to do this seems to be editing the images in a separate application such as Photoshop or GraphicConverter, which realistically is more than what most users want to deal with. And even using Caffeine Software's free (and utterly cool) PixelNance to edit every photo may be more trouble than most people want to take.

<<http://www.adobe.com/products/photoshop/>>
<<http://www.graphicconverter.net/>>
<http://www.caffeinesoft.com/products/pnh/pnh_index.html>

I've spoken with a few of the services, and none of them yet have an answer for this problem.

Shutterfly was also responsive to the issue, and is considering offering a setting for platform in the customer's profile. Unfortunately (a word that pops up a lot with this topic), they can't promise anything.

The Most Important Test: Quality

I sent the same six files to every service so I could examine the results. It turns out that for any given picture, these different services sometimes deliver rather different results. And none of them quite match what I wanted to see, in part because of gamma issues and in part because the brightness of my PowerBook G4's beautiful screen simply cannot be duplicated on paper.

After I received the first (less than satisfying) set of prints from the services, my goal became to figure out which service delivered the best results. With all these prints, surely I would be able to compare the quality of the different services! To help, I enlisted my wife, my mom, and a few friends. I simply asked everyone to select the best version of each picture, and tallied the rankings using broad categories of good, medium, and bad.

Every service delivered prints which offered plenty of detail and were printed on glossy stock, just like the ones I've received from the drugstore all these years. The problem was always the color in the prints. In addition to being darker than what I expected, some came out a little more golden (making everyone look like Oscar statuettes), or a bit more brown (giving my palest friends a nice tan, and my Indian wife and in-laws a dark muddy complexion). One horrible set from dotPhoto (which lacks a Macintosh application for uploading, but which I've left in the competition because of its inexpensive pricing plans) made everyone green (or, to use iMac colors, a sage that's somewhere between seasick and Kermit the Frog). Still others looked washed out. In every set, details of my wife's black coat and our friend's tuxedo were lost due to color problems.

As surprising as I found this to be, there was a greater surprise in store. For the same picture, with the same digital file, prints from Ofoto, Apple, and ImageStation (all of which are actually printed by Ofoto) are often quite distinguishable from each other. It wasn't just Ofoto—I accidentally placed the same order twice at dotPhoto, and the two sets of

results couldn't have been more different. One was by far the worst set overall, while the other came close to being the best set. Why was this? Even though the original files are digital, most of the processes used by these services are chemical and analog (the same RA4 process used to develop and print conventional pictures). Plus, although at least Ofoto recalibrates its equipment multiple times each day, temperature and humidity variations lead to slight, but noticeable, differences.

In fact, the big problem was that print quality from all the services varied widely. Each service had its share of good, medium, and bad results. None of the batches clearly stood out as being the best. Having finished what felt like our one millionth examination of the results, my wife asked which service I planned to use for my next order. Based on the vast range of quality, I couldn't give her an answer. No service was definitively the best.

Overall, I am rather disturbed by these results. I truly wanted someone to offer the best pictures. I even wrote a draft of this article assuming that Apple's service through Ofoto would take care of the gamma issues, but the prints did not show that. The only results that matched the color I saw on screen were in the book I printed from iPhoto (which uses a laser printing process which does not bring out the detail that the photographic process shows off so well). I wanted Shutterfly, with its beautiful Web site, to be the best, but its results were no better than the others. I was also rooting for PhotoAccess because it offered prints in sizes comparable to the images' actual ratios, but it too failed to offer consistent quality.

No One Is Picture-Perfect

No single service stood out. Apple's iPhoto makes ordering the easiest, but offers the fewest additional products. dotPhoto offers the best price, but is a pain to use and delivered the worst results. Ofoto prints the quickest. PhotoAccess offers 1.33:1 aspect ratios and the widest range of merchandise, but its output (like the others) ends up too dark. Shutterfly has the best Web site, great customer service, and has supported Macs the longest, but they suffer the same color problems as the other services.

Almost every service offers free prints when you

"In fact, the big problem was that print quality from all the services varied widely. Each service had its share of good, medium, and bad results. None of the batches clearly stood out as being the best. Having finished what felt like our one millionth examination of the results, my wife asked which service I planned to use for my next order. Based on the vast range of quality, I couldn't give her an answer. No service was definitively the best."

sign up, leaving you to pay only for shipping. That certainly makes it worth trying multiple services. Due to the ease of ordering prints through iPhoto, and because I think the Apple/Ofoto combination is most likely to adjust its output for Macintosh users, I plan to order most of my prints from Apple in the future. However, when I need a product that Apple does not offer (such as mousepads, mugs, or other extras), I won't hesitate to order from Shutterfly or PhotoAccess.

Despite the uneven results I experienced, I still think it's worthwhile to use an online service to print your best digital photos. The alternative, which I touched upon in part one of this article, is to print the photos yourself on an inkjet printer. I received a lot of feedback from TidBITS readers about this topic, pointing out the cost savings for large prints plus the capability to produce comparable results in image quality. With some help from a reader who has a lot of experience printing photos at home, I intend to explore printing at home in a future article. ■

[Alexander Mishra Hoffman is an IT Manager in New York City, a Red Sox and Pats fan, and a newlywed.]

From *TidBITS*#617/18-Feb-02

Pi Tutorials Make Way for Camps

SUMMER IS upon us and the Washington Apple Pi Tutorial Room is filled with teens and adults who bring their lunches, cameras, hard drives and sometimes even their own computers. Instead of spending three hours trying to absorb new applications and concepts then heading home and hoping to find time to practice, they spend an entire week learning several new programs and concepts while working on projects ranging from slideshows, videos and prints, to newsletters, brochures and web pages. Along the way they learn new photography skills, graphic techniques and about Internet resources for further information.

We have already had the first week of Photo and Video Camp for Adults and four more weeks of camp will follow. If you have been considering signing up for one or more sessions, the time is getting short and some sessions are almost full. Send a message to tutorials@wap.org to check on session availability.

With camps filling the weeks and many of our instructors heading to New York for MacWorld, the only class to be offered in July will be Photoshop 2 on July 31 from 6:00 p.m. to 9:00 p.m.

The first two weeks of August are also filled with camps, but we will hold the Movin' Up to OS X, the Brush Up Your Mac Skills classes and the Digging Deeper classes. Pat has family members moving into the area in August and may be called on for grandmotherly duties so additional classes will be scheduled as soon as her family plans firm up. Jim can often be found on the road to Pennsylvania these days since his lovely wife has retired. Be sure to check the WAP Activity Calendar at calendar.wap.org for further class information. Click on the name of the classes on the calendar to see complete details.

September will bring a return to regularly scheduled classes and to a wide variety of new courses as

we update the course list. Let us know if there is a piece of software you would like to see covered in our classes. —Title: Photo and Video Camp for Teens Date: Monday, July 8, 2002 to Friday July 12, 2002 Time: 9 a.m. - 5 p.m. Calendar: Pi Tutorials Calendar Contact: Pat Fauquet

Complete Description

Join other teen members of Washington Apple Pi for a week of fun and learning. The emphasis will be on digital still photography and digital video. Campers will use digital cameras, video cameras and scanners to make slide shows, videos, QuickTime videos, video CDs and DVDs. They will use iPhoto, iMovie, iDVD, Adobe Photoshop Elements, Adaptec Toast and Jam and other software to produce and edit their projects. In addition to post-production work, composition, lighting and sound will be emphasized. OS X will be the primary operating system for camp. It is not necessary that OS X be your primary operating system as skills in using OS X will be emphasized in camp. Camp will be held in the Tutorial Room of Washington Apple Pi, 12022 Parklawn Drive, Rockville Md 20852, from 10:00 a.m. to 3:00 p.m. each day. Students are encouraged to bring any digital cameras, digital video cameras and portable FireWire drives that they own to camp with them. The camp will be conducted by Pat Fauquet with special sessions provided by other experts in lighting, sound and composition. Campers can either bring their lunch or they can order lunches to be delivered by local restaurants There will be a maximum of 8 campers. Campers are expected to attend all five days of camp and there will be no reduction in fees for partial attendance. A minimum of four campers will need to register for camp to be held.

Prerequisites: Four Part New User Series or Brush Up Your Mac Skills

Cost: Current Members: \$300 Others: \$400

Instructor: Pat Fauquet

—Title: Print and Web Camp for Teens
Date: Monday, July 22, 2002 to Friday, July 26, 2002
Time: 9 a.m. - 5 p.m. Calendar: Pi Tutorials Calendar
Contact: Pat Fauquet

Complete Description

Join other teen members of Washington Apple Pi for a week of fun and learning. The emphasis will be on using software such as AppleWorks, Print Explosion, Print Shop, and Adobe GoLive and Acrobat to make projects for print and the Web. Campers will learn how to make flyers, invitations, banners, newsletters, greeting cards, scrapbooks and web pages to convey their message. Special emphasis will be given to composition, the audience and new technologies. OS X will be the primary operating system for camp. It is not necessary that OS X be your primary operating system as skills in using OS X will be emphasized in camp. Camp will be held in the Tutorial Room of Washington Apple Pi, 12022 Parklawn Drive, Rockville Md 20852, from 9:00 a.m. to 5:00 p.m. each day. It will be conducted by Pat Fauquet. Campers can either bring their lunch or they can order lunches to be delivered by local restaurants. The cost of camp will be \$300 for WAP members and \$400 for nonmembers for the week. Membership in Washington Apple Pi is \$49 per family per year. An online application is available at <http://store.wap.org/signup.html>. There will be a maximum of 8 campers. Campers are expected to attend all five days of camp and there will be no reduction in fees for partial attendance. A minimum of four campers will need to register for camp to be held.

Prerequisites: Four Part New User Series or Brush Up Your Mac Skills

Cost: Current Members: \$300 Others: \$400

Instructor: Pat Fauquet

—Title: Print and Web Camp for Adults Date: Monday, July 29, 2002 to Friday, August 2, 2002 Time: 10 a.m. - 3 p.m. Calendar: Pi Tutorials Calendar Contact: Pat Fauquet

Complete Description

Join other adult members of Washington Apple Pi for a week of fun and learning. The emphasis will be on using software such as AppleWorks, Print Explosion, Print Shop, and Adobe GoLive and Acrobat to make projects for print and the Web. Campers will learn how to make flyers, invitations, banners, newsletters, greeting cards, scrapbooks and web pages to convey their message. Special emphasis will

be given to composition, the audience and new technologies. OS X will be the primary operating system for camp. It is not necessary that OS X be your primary operating system as skills in using OS X will be emphasized in camp. Camp will be held in the Tutorial Room of Washington Apple Pi, 12022 Parklawn Drive, Rockville Md 20852, from 10:00 a.m. to 3:00 p.m. each day. It will be conducted by Pat Fauquet with assistance from Jim Ritz. Campers can either bring their lunch or they can order lunches to be delivered by local restaurants. The cost of camp will be \$250 for WAP members and \$350 for nonmembers for the week. Membership in Washington Apple Pi is \$49 per family per year. An online application is available at <http://store.wap.org/signup.html>. There will be a maximum of 8 campers. Campers are expected to attend all five days of camp and there will be no reduction in fees for partial attendance. A minimum of four campers will need to register for camp to be held.

Prerequisites: Four Part New User Series or Brush Up Your Mac Skills

Cost: Current Members: \$250 Others: \$350

Instructor: Pat Fauquet

—Title: Photo and Video Camp for Adults Date: Monday, August 5, 2002 to Friday, August 9, 2002 Time: 10 a.m. - 3 p.m. Calendar: Pi Tutorials Calendar Contact: Pat Fauquet

Complete Description

Join other members of Washington Apple Pi for a week of fun and learning. The emphasis will be on digital still photography and digital video. Campers will use digital cameras, video cameras and scanners to make slide shows, videos, QuickTime videos, video CDs and DVDs. They will use iPhoto, iMovie, iDVD, Adobe Photoshop Elements, Adaptec Toast and Jam and other software to produce and edit their projects. In addition to post-production work, composition, lighting and sound will be emphasized. OS X will be the primary operating system for camp. It is not necessary that OS X be your primary operating system as skills in using OS X will be emphasized in camp. Camp will be held in the Tutorial Room of Washington Apple Pi, 12022 Parklawn Drive, Rockville Md 20852, from 10:00 a.m. to 3:00 p.m. each day. Students are encouraged to

bring any digital cameras, digital video cameras and portable FireWire drives that they own to camp with them. The camp will be conducted by Pat Fauquet with special sessions provided by other experts in lighting, sound and composition. Campers can either bring their lunch or they can order lunches to be delivered by local restaurants. There will be a maximum of 8 campers. Campers are expected to attend all five days of camp and there will be no reduction in fees for partial attendance. A minimum of four campers will need to register for camp to be held.

Prerequisites: Four Part New User Series or Permission of the Instructor

Cost: Current Members: \$250 Others: \$350

Instructor: Pat Fauquet

—Tuesday, August 13, 2002 and Thursday, August 15, 2002 9:30 a.m. -12:30 p.m.

Brush Up Your Mac Skills — Mac OS 8 and 9, Session 1

This class is for the new Macintosh users with significant prior PC experience. It is also recommended for Macintosh owners who have never taken a computer course or who need a general review of Mac skills. Students learn how computers work and Macintosh terminology. The Finder will be fully covered including the Menu Bar, Apple menu, Application Switcher, the Help application, Sherlock, error messages, dialog boxes, and view options. Moving items between applications and basic system will also be included. This course is a prerequisite for many of our other courses. Students are expected to take both sessions of the class in the same series.

Prerequisites: Four Part New User Series or Permission of the Instructor

Cost: Current Members: \$70 Others: \$120

Instructor: Jim Ritz —Tuesday, August 13, 2002 and Thursday, August 15, 2002 1 p.m. - 4 p.m.

Digging a Little Deeper—OS 8 and 9, Session 1

This class will follow up on the concepts taught in Brush Up Your Mac Skills. It includes more advanced Macintosh skills and terminology, the custom installation of software updates, error messages, hard drive organization, archiving and backup strategies. Extension management, virus protection, system enhancements, Disk First Aid, dealing with sys-

tem crashes and advanced Sherlock searches will also be covered. All students are expected to attend the both parts of this class in the same series.

Prerequisites: Brush Up Your Mac Skills

Cost: Current Members: \$100 Others: \$150

Instructor: Jim Ritz

—Wednesday, August 14, 2002 9:30 a.m. - 12:30 p.m.

Movin' On Up to OS X

This one session class is for experienced users of OS 9 who have OS X installed on their computer. Instruction will include an introduction to the Finder, the Print Center and Software Update. This class is required or permission of the instructor must be obtained before taking other OS X classes.

Prerequisites: Four Part New User Series or Brush Up Your Mac Skills

Cost: Current Members: \$50 Others: \$100

Instructor: Jim Ritz

Class Notes: Classes are held in the Tutorial Room at Washington Apple Pi, 12022 Parklawn Dr., Rockville, MD. The member price applies to current members. Expired members and others must pay the higher price. If are not a member, but would like to join, please use the form at <http://store.wap.org/signup.html>. The renewal form is at <http://store.wap.org/renew.html>. The cost of membership is \$49.00 per year. It includes a subscription to our bimonthly magazine, the Washington Apple Pi Journal and access to our Web bulletin board, the TCS. Sign Ups: To sign up for this class send an e-mail to tutorials@wap.org with the class name, date and time, your name, address, e-mail address, phone number and WAP membership number.

Future Notification: To receive e-mail notice for future classes and activities, go to <http://www.wap.org/lists/pi-announce.html> and sign up.

Cancellations: Class will be canceled if there are less than 3 students signed up 3 days before the class. In the case in inclement weather, classes are canceled if school is canceled or delayed for two hours in Montgomery or Fairfax county. Classes will be rescheduled.

Tutorial program

This past spring we had an unsuccessful attempt at a new scheduling scheme that did not work, we are now trying to schedule tutorials at least a month in advance. You can check the calendar at <http://calendar.wap.org/> for class dates. Click on the name of the class for full details. Please check it frequently as we add classes several times each week. You can also reach the calendar from the link on the main page of the WAP web site. Our problem lies in trying to determine when there is sufficient demand to schedule a class and then get enough members to commit to a time and date so that the class will be held. If the class you want does not appear on the schedule, please send an e-mail to tutorials@wap.org. Be sure to include your name, email address, phone number, home address and the name of the class you want. Also, let us know if there are any dates that would not work for you.

Since Beth is no longer our office manager (but thankfully she is still a member) and since we still do not have a new office manager, Jim Ritz and I have been scheduling classes, signing people up, finding students and while trying to develop new classes and teach the old ones. If you receive an e-mail or phone call about a class, please respond and let us know if you can or cannot come. If we do not have three responses, we must cancel classes (even at the last moment). The tutorial program profits help to defray the expenses of running our club.

OS X

OS X is now the primary operating system on all new Macintoshes and has been installed on all Macs sold since late last spring, so we now have enough interest and knowledge to begin classes. There is now a separate Four Part New User Series. We will also begin scheduling a class for experienced users who want to move up to OS X. There will be a separate class for people who do not have it installed on their computers and later there will be a Troubleshooting OS X class. Digital Video Classes Rick Feldman will be our new Final Cut Pro teacher. For the moment we will continue with the old course description, but we expect to offer new courses as demand increases. Pi member, Grant Peacock, presented a session on lighting video scenes last spring. He has agreed to begin teaching three classes on various aspects of video camera work. Much of this information can be applied to digital cameras. Check the course listings for more details.

iPhoto This great free application from Apple was introduced at MacWorld San Francisco. Some info about it has been added to the "Improving Digital Photos and Scans" course, but there is a class devoted just to it also. (See page 80 for description.)

Evening Classes Are Now Available

Any number of people have expressed an interest

Washington Apple Pi Summer Computer Camps 2002



Washington Apple Pi will be doing several different Camps this year. Depending on interest, there will be camps for **students, teachers and seniors**. Contact the Pi tutorial program for details, tutorials@wap.org.

in having more classes in the evening. Both John Barnes and Jim Ritz have been kind enough to offer to teach evening sessions of their classes.

- On the Road with Your Mac
 - Microsoft Word for Office 2001
- Spreadsheet - Why Do I need to Use One?
 - Microsoft Excel for Office 2001
- Brush Up Your Mac Skills
 - Microsoft PowerPoint
- Exploring AppleWorks
 - E-mail with Netscape Communicator
- Ride the Internet Wave
 - E-mail with Microsoft Outlook Express
- Web Pages with Apple's iTools
 - E-mail with America Online
- The Mac—Digging a Little Deeper
- Using Shareware and Freeware that no Mac should be Without
- Beginning AppleScript - Teaching your Mac to “Stay” and “Sit”
- Intermediate AppleScript - Teaching your Mac to Fetch the Newspaper

Teachers Key

—**John Barnes** teaches on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays either in the Morning or Afternoon AND Monday, Wednesday, Thursday and Friday Evenings

—**Mahmoud El-Darwish** teaches only in the evenings

—**Pat Fauquet** teaches on Mondays, Wednesdays, and Fridays either in the Morning or Afternoon.

—**Blake Lange** teaches only in the evenings

—**Jim Ritz** teaches on Tuesdays or Thursday either in the Morning or Afternoon AND Wednesday and Thursday Evening

—**Paul Schlosser** teaches only in the evening

—**Barrett Thomson** teaches only in the evening

Price Key for Single Session 3 hour Tutorials

(G) General Level: Standard Members: \$35.00, Associate Members and Non-Members: \$50.00

(M) Middle Level: Standard Members: \$50.00, Associate Members and Non-Members: \$75.00.

(H) Higher Level: Standard Members: \$75.00, Associate Members and Non-Members: \$125.00

** Multiple Session classes are double or triple the fees depending on the number of sessions.

Teachers

Washington Apple Pi is always on the lookout for new tutorial instructors, however there are certain

qualities we look for in our instructors. We do not want people who need a specific outline to follow each class, we do not want people who are uncomfortable about coming from behind a teacher's desk or podium and teaching in the middle of a circle, we do not want teachers who have a limited knowledge base.

What makes tutorials at WAP special is that they are taught by computer instructors who know are knowledgeable about a broad range of computer related topics while also being extremely knowledgeable about the Mac operating system and the course which they are teaching. They are flexible in their approach to a topic and can adjust the class to fit the needs of the six or fewer students they are working with. They are ultimately patient, can adapt to their surroundings and can bring information from a broad array of computer topics to the subject at hand. They can also troubleshoot problems. If you think of yourself as being that type of teacher, whether you have formal educational training or not, please send an e-mail to Pat Fauquet at tutorials@wap.org. All applicants will be asked to teach a class or two to make sure they can fit into the tutorial program philosophy before they will be considered as permanent instructors. We are particularly in need of teachers for evening classes. Our instructors are paid only for contact time with Pi students. Time spent in developing course materials, books needed by the instructor, and other materials are provided by instructor.

CLASS DESCRIPTIONS NEW OS X CLASSES

Four Part New User Series: Write It! Save It! Print It! for OS X Finding Your Way around the Finder for OS X Surfing 10 for OS X Simplify Your Computer Life for OS X

See the regular class descriptions for what will be covered. There are no prerequisites for these classes. It is suggested that student enroll in all four sessions in order to have a complete overview of basic Macintosh operation.

Instructors: Pat Fauquet

Prerequisites: None

Cost: Current Members: \$35 per session for a total of \$140, Others: \$50.00 per session for a total of \$200.

Let's Install OS X

The most trouble-free way to move up to OS X is

to back up all important documents, reformat the hard drive and then do fresh installs of OS 9.2.1 and OS X. Back up your data and bring your computer and OS 9 and X system disks and leave class with your new operating system installed! Bring your data files to begin adding them back to your computer. This class is intended for machines that meet the requirements set out in the ReadMe file included on the OS X install disk. Please make sure your computer meets those requirements before signing up for this class. If you do not feel comfortable performing these operations, we have our Tuesday night clinic. Members using the clinic are reminded that it is customary to make a donation to Washington Apple Pi to help run our club.

Instructors: Pat Fauquet and Jim Ritz

Prerequisites: Brush Up Your Mac Skills or Permission of the Instructor

Cost: Current Members: \$50, Others: \$75

Movin' On Up to OS X

This one session class is for experienced users of OS 9 who have OS X installed on their computer. Instruction will include an introduction to the Finder, the Print Center and Software Update. This class is required or permission of the instructor must be obtained before taking other OS X classes. Instructors: Pat Fauquet and Jim Ritz Prerequisites: Brush Up Your Mac Skills or Permission of the Instructor Cost: Current Members: \$50, Others: \$75

Multiple Users, Networking, AirPorts and OS X

If you have multiple computers in your home or small office and want to use OS X, this class will help you set up your network. Both ethernet and AirPort networking will be discussed. We will set up both network types in class. Instructors: Pat Fauquet and Jim Ritz Prerequisites: Movin' on up to OS X or Permission of the Instructor Cost: Current Members: \$50, Others: \$75

OS X: I Am Having System Problems, Now What?

This is an introductory course is troubleshooting system problems in OS X. It does not include issues dealing with UNIX and Root account access. Learn how to troubleshoot common system problems and what to back up when it is time to reinstall the OS X. Instructors: Pat Fauquet and Jim Ritz Prerequisites: Movin' on up to OS X or Permission of the Instructor Cost: Current Members: \$50, Others: \$75

iPhoto—So Easy!

Apple has made a digital photo applicaion for the

rest of us! Come learn how to organize and edit your photos in this great free application available only to OS X users. Learn upload your photos to web pages, make photo scrapbooks and order prints online. Instructor: Pat Fauquet Prerequisites: Four Part New User Series or Permission of the Instructor Cost: Current Members: \$50, Others: \$75

Digital Video Camera Topics

Video Camera Fundamentals Irrespective of the camera you use, the basic skills needed to get great footage are the same. Bring your camera along if you have one. We will begin by discussing the needs of the two different components of successful video - the image and the sound to go with it. This is an overview course that will get you a good understanding for : framing a shot, shooting for the edit, lighting principles (available light and supplied light), microphone choice and placement. The instructor will be using a standard broadcast television camera to demonstrate these principles, but you will find the information translates easily to the equipment that you decide to use for your next shoot. If there is sufficient interest from the class members, we will look at how a story is built with a sequence of shots. You will be supplied with a recommended reading list to take you to the next level by way of self-development exercises. This class will be taught in the evenings. Instructor: Grant Peacock Prerequisites: None Cost: Current Members: \$50, Others: \$75

Inspiring Lighting

We will quickly review the very basic lighting concepts introduced in Camera fundamentals' and then move straight into setting up lighting exercises. Think of this as a problem solving clinic, and one where you will begin to develop a good relationship between what your eye (brain) reads and what the lens (video camera) interprets the scene to be. You will be surprised how simple it can be to create beautiful and interesting images with your video camera. The course assumes that you will want to make at least a small investment in some basic lighting tools - you will learn what you can achieve with both minimal and intermediate expenditures. For the upcoming professional, we will provide some ideas for assembling an excellent basic lighting kit. Bring along any magazine samples or even your own sketches of lighting scenes that you have enjoyed and would like to replicate. We will delve into indoor lighting, outdoor lighting, lighting faces (interview lighting), high contrast

shots, dealing with windows, background lighting, key and fill lights, and finally backlights. There are now some excellent books available to help keep the momentum going - a reading list will be offered to you. This class will be taught in the evenings. Instructor: Grant Peacock
Prerequisites: None Cost: Current Members: \$50, Others: \$75

Sounds Great

The best video images in the world won't hold interest unless excellent sound goes with them (NASA still has an excuse, maybe). We will start with a brief overview of the vital importance of crisp clean sound. Most of the workshop is going to focus on learning some basic techniques in the use of microphones - how to choose the right mic for the task, how to place it near the sound source, gathering sound for tight vs.. wide shots, wireless sound ('radio mics') vs. cabled microphones, correct techniques for recording the sound. We will also study the different categories of sound - 'natural' vs 'dialog' and how our techniques will adjust for them both. You will be given recommendations for a basic equipment list to take you one step beyond relying on the camera microphone as your only source of recorded sound. Bring along whatever equipment you have - camera included - and we will record and play back some samples. You will also leave the workshop with a reading list to help keep you on the learning curve. This class will be taught in the evenings.

Instructor: Grant Peacock

Prerequisites: None

Cost: Current Members: \$50, Others: \$75



JUST NEAT

Lets Burn Some CD's - (M)

Learn the finer points of making music, data and video CDs in this three hour class. Learn all about Roxio Toast and the Apple Disc Burner software. Learn how to prepare data, optimize files and make labels too.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Lets Go Wireless - Network Your Macs - (M)

Do you dream of surfing the web without wires from your lawn chair, printing to that printer downstairs without plugging into it, sharing one internet account on all your computers? That's called networking! In this three hour class we will cut through the technobabble, show you examples of hardware, cables and software that make all your computers work together and share resources.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

My Crafty Mac - (G)

Computers and printers are great for more than letters, web surfing and e-mail! Come spend the day with the Washington Apple Pi folks and let's do a few projects. Our crafting days will be held once each month and Pat promises to have ideas and techniques to get your creative energy flowing. Each month a variety of new materials, software and media will be available for your use in making items to take home for decorating and gifts. Below is a schedule of coming craft days:

September—Back to School and Halloween

October—Fall and Thanksgiving

November—Christmas and Hanukkah

December—Holiday Gifts and Calendars

January—President's Day, Valentine's Day, Martin Luther King Day

February—Scrapbooking, St. Patrick's Day

March—Easter, Passover, Spring
April—Graduation and Patriotic Projects
May—Summer Fun

There will be a \$5.00 material fee in addition to the class fee for each session. Bring money and we will order in from one of the area restaurants or bring a sack lunch.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: Full Day

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

On the Road with Your Mac - (G)

The recent introduction of highly portable, highly capable, and economical laptop computers makes it more of a pleasure than ever before to enjoy the company of your favorite computer when traveling. This course discusses the things one needs to think about before packing the computer to go to some exotic (or not so exotic) destination. Electricity supplies, modem and IP connections, Internet Cafes, file backup, multi-media adapters for use with digital still and video cameras, and physical security are some of the issues that will be discussed.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Sessions: 1

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

Instructor: John Barnes

Scheduling: M-T-W-TR-F either Morning or Afternoon AND Evenings

Have iBook (or PowerBook), Will Travel - (G)

There are a lot of things to think about before you take your favorite “toy” on the road—power, Internet connections, file backups, critical software, adapters, cases and computer security are just a few. Apple’s Location Manager will also make trips easier. Come learn how to make your trip a “computing success.”

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

NEW USERS SET

Mouse Mousse - (Intro to New User Set) - (G)

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

Prerequisite: None.

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

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

Instructor: Pat Fauquet

Note: Since most members can use the mouse effectively, this class is not required before taking Write It! - Save It! - Print It! and is only run when the office has enough students to schedule a class.

Write It!- Save It! - Print It! - (Part 1 of 4 Part New User Set)- (G)

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

Prerequisite: None.

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

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Finding Your Way Around the Finder - (Part 2 of 4 Part New User Set)- (G)

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

Prerequisite: None.

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

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Surfing 101 - (Part 3 of 4 Part New User Set)- (G)

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

Prerequisite: None.

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

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Simplify Your Computer Life - (Part 4 of 4 Part New User Set)- (G)

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

Prerequisite: None.

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

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Some Specifics

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

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

When—Classes are no longer scheduled months in advance. You need to contact the office via snail mail, email or by phone to tell the office what classes you are interested in taking and what times you are available to take the classes.

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

How—After enough students have stated their interest in taking a specific class the interested students will be contacted and the class will be scheduled. If you would like to inquire about the current level of interest for a specific class please either call the office during business hours or send email with the classes you wish to know about along with a daytime phone number. The office will get back to you either by email or by telephone.

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

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

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

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

Office Information

Washington Apple Pi
12022 Parklawn Drive
Rockville, MD 208522
www.wap.org
email: office@wap.org

Office Hours:

Monday - Wednesday - Friday (10 am - 6 pm)

UNDERSTANDING THE MAC

Brush Up Your Mac Skills- (G)

This class is meant for the new user as well as the user who has just upgraded to a new computer and wants to learn more about the basic operation of the Macintosh. This class is also recommended for Macintosh owners who are new to Mac OS 8.0 and above or those who have never really learned all the things that the Mac OS has to offer to the computer user. In addition to start up, sleep and shutdown procedures, the student will learn how a computer works and common Macintosh terminology. The Finder and its basic operation will be fully covered. This discussion will include the menu bar, Apple menu and the Application Switcher. Students will learn how to access and use the built-in help application on the Macintosh. Error messages, dialog boxes, icons, folders, and view options will be discussed. You will learn the basics of word processing and text formatting. Copying, cutting, pasting, dragging and dropping will also be covered. Basic system and mouse maintenance will be included. The fundamentals of searching for files will also be covered.

Prerequisite: 4 part New Users Set or a good general understanding of the Mac OS.

Number of Sessions: Two.

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

The Mac—Digging a Little Deeper- (M)

The Mac—Digging a Little Deeper will follow up on the concepts taught in Brush Up Your Mac Skills. You will learn more advanced Macintosh skills and terminology including contextual menus and advanced Finder options, the custom installation of software and updating software applications. Students will learn about memory error messages and how to deal with them. Hard drive organization, archiving and backup strategies will be discussed. An introduction to managing system extensions and control panels will be covered along with virus protection, system enhancements and Macintosh “housekeeping” philosophies. Students will learn how to use Disk First Aid, how to deal with system crashes and what causes them. They will also learn to use Sherlock to find files on the computer, to find text phrases in saved data, and to find items on

the Internet.

Prerequisite: Brush Up Your Mac Skills

Number of Sessions: Two

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

Making your Mac Sing- (M)

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

Prerequisite: The Mac—Digging a Little Deeper

Number of Sessions: Two

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Hanging Ten

Now that Apple’s state-of-the-art operating system is pretty much ready for prime time, OS X is the place to be. With its outstanding stability, robust software, seamless multitasking, clean program development environment, and many other features, X is the way to go if your computer can support it. This class provides tips gathered from experienced OS X users and “hands on” experience with the new environment and applications that live within it. Learn the distinctions between Cocoa, Carbon, and Classic. Learn how to set up OS X and Classic on your own (qualifying) machine. Tour some of the new and upgraded applications.

Prerequisite: Digging Deeper

Sessions: 1

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

Handout Fee: \$5.00

Instructor: John Barnes

Scheduling: M-T-W-TR-F either Morning or Afternoon AND Evenings

Using Shareware and Freeware that no Mac should be Without- (M)

What is shareware and freeware and why do you need to know about it? What are all the neat files and programs that make your Mac more user friendly? Learn how to find these files and software on the Internet, how download them, how to install and use them. How susceptible is the Mac to viruses, and how do you combat them? This one session class is for students who want to learn more about the various software resources such as graphic reader/converter software, fonts, plug-ins, Applescripts, and system resources.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

WHY APPLEWORKS

Exploring AppleWorks- (G)

Now that you can type a report or letter, learn more about margins, indents, tabs, dictionaries, sections and columns. Learn how to add graphics, tables, graphs and spreadsheets to your basic AppleWorks document. Learn how to use the templates and assistants included in the program.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

AppleWorks Can Do That?- (M)

In addition to word processing functions AppleWorks contains presentation, database and

spreadsheet modules. Learn to use these tools for slideshows, mail merging, certificates, and labels in this three hour class.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

AppleWorks and Newsletters- (M)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills. In addition Exploring AppleWorks class or a good working knowledge of another word processing application is suggested before attending this class.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

GENERAL GRAPHICS

We Need a Picture Here- (M)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Fun with Your Scanner- (M)

Bring your scanner, its software, cables and power supply and explore what you can do with it. Bring a few pictures that you would like to fix, some printed material you would like to convert to text and bring a few small items you would like to have "pictures" of. We will have a "scanning" good time!

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

USING THE INTERNET

Ride the Internet Wave- (G)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

E-mail with Netscape Communicator- (G)

Anyone can send and receive e-mail, but some would like to do more like attach and download files, send documents that anyone can read, import their Palm data into their address book or perhaps export their address book to their Palm. Some would like to

know how archive e-mail, search it, and perhaps even dress it up. Are you one of those people? Come learn how to really use Netscape for e-mail!

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

E-mail with Microsoft Outlook Express- (G)

Anyone can send and receive e-mail, but some would like to do more like attach and download files, send documents that anyone can read, import their Palm data into their address book or perhaps export their address book to their Palm. Some would like to know how archive e-mail, search it, and perhaps even dress it up. Are you one of those people? Come learn how to really use Outlook Express for e-mail!

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

E-mail with America Online- (G)

Anyone can send and receive e-mail, but some would like to do more like attach and download files, send documents that anyone can read. Some would like to know how archive e-mail, search it, and perhaps even dress it up. Are you one of those people? Come learn how to really use AOL for e-mail!

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

WEB PAGE CREATION AND DESIGN

Web Pages with Apple's iTools- (G)

Want a web page, but don't want to have to buy

new software, learn HTML, learn about FTP, and find a page host? Let Apple do it for you! In this three hour class you can make a web page and publish it on the web! Use that page to show off family pictures or items you want to sell on eBay, post a family newsletter, put your resume online for all to see, post an invitation to a party or even make a place to share files with other people. The techniques used in this class require Mac OS 9 OR X if you plan to continue your pages at home. Bring a few photos to scan and leave with your pages on the Web!

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: One

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

Web Pages-The How To Dos- (M)

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

Learn how web pages differ from printed documents, what you can and can't control in web page design. Learn how to organize your files to make it easier to update your pages. Learn how to register a domain, upload pages to a web server and how to get people to visit your site. Learn about graphic types and when to use them. This class replaces Web Page Work-

shop and is the prerequisite for all other web page classes at Washington Apple Pi.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Making Web Pages with Free or Inexpensive Software- (M)

Learn how to make web pages, format the text, add pictures and link pages together. Learn about tables and how to and use them. Learn about the site management features of these programs and how to upload your pages to the web server.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills along with Web Pages-The How To Dos or the permission of the instructor.

Number of Sessions: Full Day

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

*This class has a break for lunch. Please either bring your lunch or money for take out.

Web Page Decoration- (M)

In this all-day workshop students will learn how to make and prepare backgrounds, headlines, clip art,

Washington Apple Pi Tutorial Registration Form www.wap.org		Washington Apple Pi 12022 Parklawn Drive Rockville, MD 20852 301-984-0300 Office@wap.org	
Name _____	Please fill in the name(s) of the class(es) that you wish to attend.		
Address _____	Class #1 _____		
City/State/Zip _____	Class #2 _____		
Phone (day) _____ (Evening) _____	Class #3 _____		
Member Number _____ Non-member _____	Class #4 _____		
Email address _____	Class #5 _____		
Times when your are available for classes _____	Class #6 _____		

Type of class wanted _____			
Mail registration and payment to the above address.			

buttons, rules, dividers and animation's for web pages. They will also learn how to construct graphic sets. Students will learn about the GIF, JPEG and PNG formats and when to use them. If you want to use these projects in an actual web page, please sign up for a web page class in addition to this class.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills along with Web Pages-The How To Dos or the permission of the instructor.

Number of Sessions: Full Day

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

*This class has a break for lunch. Please either bring your lunch or money for take out.

Adobe GoLive 1: Introduction- (H)

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

Prerequisite: Web Pages-The How To Dos OR Making Web Pages with Free or Inexpensive Software OR the permission of the instructor.

Number of Sessions: Full Day

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

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

*This class has a break for lunch. Please either bring your lunch or money for take out.

Adobe GoLive 2:, Frames, Animation and Site Management- (H)

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

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

Number of Sessions: Full Day

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

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

*This class has a break for lunch. Please either bring your lunch or money for take out.

Adobe GoLive 3: Editing QuickTime Content- (H)

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

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

Number of Sessions: Full Day

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

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

*This class has a break for lunch. Please either bring your lunch or money for take out.

OFFICE AND HOME PRODUCTIVITY SOLUTIONS

The Enterprise Mac (M)

Many mom and pop businesses, craft workers, one-person consultancies, or small offices use Macintosh computers to support their income-producing activities. This tutorial is designed to provide such users with a basic overview of Macintosh applications and hardware suitable for such business uses. The tutorial will also present security procedures and disaster recovery methods so that enterprise users will have access to their valuable data whenever and wherever they need it. The knowledge gained in this course will help save money on service calls and help users to build integrated IT strategies for their small businesses.

Prerequisite: Brush Up Your Mac Skills

Sessions: 1

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

Handout Fee: \$10.00

Instructor: John Barnes

Scheduling: M-T-W-TR-F either Morning or Afternoon AND Evenings

Microsoft Word for Office 2001- (M)

This class will introduce the student to the funda-

mentals of the Microsoft Word software package. The course is designed for those with very limited or no previous knowledge of Word. Topics that will be covered include: reviewing the screen elements of a basic new Word document (the standard and formatting toolbars and the menu bar); setting default options such as spell checking and document editing choices, paragraph formatting (fonts, type styles, etc.); creating, editing, saving and deleting a simple Word document; using the on line help function; simple formatting using tabs and setting margins; creating a simple table; and reviewing predefined templates such as the letter template that are included in Word.

The classroom emphasis will be on Word 2001. Differences between Word 2001 and Word 98 may be discussed if students' needs warrant.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: 1

Textbook: To Be Determined by Instructor

Price: Standard Members: \$50.00, Associate Members: \$100.00, Non-Members: \$100.00.

Instructor: John Barnes

Scheduling: M-T-W-TR-F either Morning or Afternoon AND Evenings

Microsoft Excel for Office 2001- (M)

This class will introduce the student to the fundamentals of the Microsoft Excel software package. The course is designed for those with limited or nonexistent knowledge of spreadsheet software. Topics that will be covered include: an overview of spreadsheet applications, designing and creating a new worksheet, calculations; editing, saving and deleting a simple Excel document; using the on line help function; creating a simple table; adapting predefined templates, and data importing and exporting.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills and

Access to Microsoft Excel application on an office or home computer

Number of Sessions: One (2 hrs class time, 1 hr lab time)

Textbook: To Be Determined by Instructor

Price: Standard Members: \$50.00, Associate Members: \$100.00, Non-Members: \$100.00.

Instructor: John Barnes

Scheduling: M-T-W-TR-F either Morning or Afternoon AND Evenings

Microsoft PowerPoint- (M)

This class will introduce the student to the funda-

mentals of the Microsoft PowerPoint software package. The course is designed for those with very limited or no previous knowledge of presentation software. Topics that will be covered include: designing a presentation using the outline, slide viewer and slide show modes, the use of page masters (title and slide masters), importing pictures and charts. Transitions, timing, and control of presentations will also be covered. Design assistants and predefined themes will be discussed as aids to effective design. Preparation of transparencies, notes, and handouts will also be discussed.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills and

Access to Microsoft PowerPoint Application on an office or home computer

Number of Sessions: One (2 hrs class time, 1 hr lab time)

Textbook: To Be Determined by Instructor

Price: Standard Members: \$50.00, Associate Members: \$100.00, Non-Members: \$100.00.

Instructor: John Barnes

Scheduling: M-T-W-TR-F either Morning or Afternoon AND Evenings

Spreadsheet - Why Do I need to Use One?- (M)

While optimizing the use of a Spreadsheet can make our work life less stressful and more productive, Spreadsheets aren't just for work anymore. Come learn the different parts of our lives that can be made more productive through the use of spreadsheets. From learning the basic spreadsheet concepts, to setting up a spreadsheet, entering and editing numbers and words, entering basic formulas and make basic charts and graphs. Come find out how to sort data and how to print the whole spread sheet or only a portion of it. Class will show concepts that can be used in either the spreadsheet module of AppleWorks (ClarisWorks) or Excel. This class is not meant for persons who are intermediate or advanced users.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Jim Ritz

Scheduling: T-TR either Morning or Afternoon AND Evenings

Introduction to FileMaker Pro- (M)

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

editing information in a database will also be covered.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Advanced FileMaker Pro and Clinic- (M)

This class is for those who have some experience with FileMaker Pro and need to learn more for specific projects. Questions are welcome and students specific problems will be discussed. The class will be explanations with a strong questions and answer format. You should bring along on floppy/zip a sample of things you would like help.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

CAMERAS AND VIDEO

Digital Video Cameras and iMovie- (M)

Join with other Pi members as we explore the world of digital video cameras. Learn shooting, composition and lighting techniques. Learn how to upload footage to your computer, how to edit it, add music tracks from CDs, MP3s or midi files, how to add narration, still clips and special effects. The class will conclude with uploading the edited video to the camera or rendering. Bring your camera, music, video and still images you might like to include in your project

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills

Number of Sessions: Full Day

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

*This class has a break for lunch. Please either bring your lunch or money for take out.

Fun with Your Digital Camera- (M)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

Using Photo Elements to Improving Digital Photos and Scans- (M)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Pat Fauquet

Scheduling: M-W-F either Morning or Afternoon

QuickTime VR—Making a Panorama- (H)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills along with Web Pages-The How To Dos or the permission of the instructor.

Number of Sessions: Full Day

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

*This class has a break for lunch. Please either bring your lunch or money for take out.

QuickTime VR—Making a Virtual Object— (H)

Imagine being able to manipulate a picture of a three dimensional object! Rotate it, turn it, bring it closer. Learn to produce object movies that can be placed on web pages. This class will include the use of freeware shareware and commercial software. Students will use a range of digital cameras to produce several VR objects. Adding these object movies to a web page will complete the class. This is a three hour class. -suggest it is offered at higher price level.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills along with Web Pages-The How To Dos or the permission of the instructor.

Number of Sessions: Full Day

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

Instructor: Pat Fauquet

Scheduling: M-W-F Full Day

*This class has a break for lunch. Please either bring your lunch or money for take out.

Beginner Final Cut Pro - (H)

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

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

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

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

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

Titles: Title and action safe areas; Drop shadows.

Filters and Effects: Applying.

Audio: Importing from audio CD.

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

Special Instructions: Students should bring their

Digital Video Camera, cables and software with them to class.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One.

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

Instructor: Barrett Thomson

Scheduling: Evenings

GRAPHIC DESIGN

Fast Track to Dreamweaver (H)

Fast Track to Dreamweaver is a 3-session course that teaches Intermediate Macintosh users to build websites the Macromedia way. Some of the skills you'll learn include:

Topics

- Basics of site architecture and HTML
- Working with Graphics
- Creating Links
- Elements of Page Design
- Creating Frames
- Fireworks and Dreamweaver combined

Objectives

Upon completion of this course, you should be able to:

- Use the fundamental features of Dreamweaver and the basic skills of adding text, graphics, and links to your page, along with instantly adding Flash files.
- Create simple tables, insert text or graphics, and moving or sizing the box to get just the look you want.

Fast Track to Dreamweaver (H) Sessions 1: Learning the Basics

Organizing Your Site, Dreamweaver Basics, The Document Window, The Objects Panel, The Property Inspector, Dockable Panels, Defining a Local Site, Specifying Preview Browsers, Saving Your File, Naming an HTML File, Giving Your Page a Title, Specifying a Background Color, Specifying the Default Font Color, Specifying Link Colors, Using a Background Graphic, Placing Text on a Page, Adding Text in Dreamweaver, Indenting Text, Making Lists, Ordered Lists, Unordered Lists, Definition Lists, Nested Lists, List Tips, Character Formatting, Positioning Text, Changing Font Properties, Changing the Font Face, Changing the Font Size, Changing the Font Color, Cleaning Up Word HTML, HTML

Styles, Switching Document Views, Adding Horizontal Rules, Adding E-mail Links, Adding a Date Automatically.

Prerequisite: Digging Deeper and Experience using the World Wide Web

Sessions: 1

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

Instructor: Mahmoud El-Darwish

Scheduling: Evenings

Fast Track to Dreamweaver (H) Session 2: Working With Graphics

Placing Graphics on the Page, Wrapping Text Around Images, Modifying the Space and Adding a Border Around Images, Aligning Images and Text, Image Alignment Options, Adding Flash Objects.

Prerequisite: Digging Deeper and Experience using the World Wide Web

Sessions: 1

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

Instructor: Mahmoud El-Darwish

Scheduling: Evenings

Fast Track to Dreamweaver (H) Session 3: Creating Links

Creating Hypertext Links, Targeting a Link, Creating Image Maps, Linking to Named Anchors, Using Tables for Page Design.

Prerequisite: Digging Deeper and Experience using the World Wide Web

Sessions: 1

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

Instructor: Mahmoud El-Darwish

Scheduling: Evenings

Adobe Photoshop Part 1- (H)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

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

Instructor: Paul Schlosser

Scheduling: Evenings

Adobe PhotoShop Part 2- (H)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills along with Adobe PhotoShop Part 1 or a knowledge of the topics covered in that class

Number of Sessions: One

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

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

Instructor: Blake Lange

Scheduling: Evenings

Adobe InDesign 1- (H)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

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

Instructor: Blake Lange

Scheduling: Evenings

Adobe InDesign 2- (H)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills along with Adobe InDesign 1 or a knowledge of the topics covered in that class.

Number of Sessions: One

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

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

Instructor: Blake Lange

Scheduling: Evenings

Adobe Illustrator: Mastering the Bezier Curve- (H)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

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

Instructor: Blake Lange

Scheduling: Evenings

Introduction to Quark XPress- (H)

Learn the basic fundamentals of Quark Xpress, the most widely used page layout program. Learn the proper way to configure the Xpress preferences and how to use the tool, measurement, color and documents palettes. You'll learn how to properly create new documents, define four-color process and spot colors, create master pages and manipulate text and graphic objects. Learn how to correctly use Xpress font and picture usage windows and how to configure the document for the laser printer or high-resolution imagesetter.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

Instructor: Paul Schlosser

Scheduling: Evenings

Quark Xpress Clinic- (H)

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

Number of Sessions: One

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

Instructor: Paul Schlosser

Scheduling: Evenings

Introduction to PageMaker- (H)

Using the basic commands, tools, and palettes, you will import, format, and position text and graphic elements needed to assemble a single-page, black and white flyer. This project will cover the following topics: Restoring default PageMaker settings. Changing the view of a publication. Creating a new publication. Opening an existing publication. Setting up the horizontal and vertical rulers. Displaying and hiding guides. Positioning the zero point. Using the pointer tool, the text tool, and the zoom tool. Specifying multiple columns. Locking the guides. Creating, placing formatting, and positioning text and graphic elements. Creating a drop cap. Applying a tint to text. Specifying a hanging indent. Creating ruler guides. Drawing circles, rectangles, and lines. Adjusting the stacking

order of elements on the page. Range kerning text. Using the Snap to Guides option.

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills.

Number of Sessions: One

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

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

Instructor: Blake Lange

Scheduling: Evenings

PageMaker Clinic- (H)

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

Prerequisite: 4 Part New User Set or Brush Up Your Mac Skills along with Introduction to PageMaker or a good knowledge of the basics of PageMaker and its interface.

Number of Sessions: One

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

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

Instructor: Blake Lange

Scheduling: Evenings

BEGINNING PROGRAMMING

Beginning AppleScript - Teaching your Mac to "Stay" and "Sit"- (M)

AppleScript is the Macintosh technology for automating repetitive tasks. It comes preinstalled and is available to any Mac user who wants to teach his/her Mac to do simple chores. This 1 session course starts by introducing the concepts behind AppleScript. We then use the Script Editor to explore the scripts that Apple provides. Users then create simple Finder scripts using the "record" feature of the Script Editor. Finally, students are provided with more complex scripts to use as starting points for developing their own solutions to simple system maintenance problems.

Prerequisite: Demonstrated advanced Mac OS user skills, 5-part New User Set, or Brush Up Your Mac Skills

Number of Sessions: 1

Price: Standard Members: \$50.00, Associate Members:

\$100.00, Non-Members: \$100.00.

Instructor: John Barnes

Scheduling: M-T-W-TR-F either Morning or Afternoon AND Evenings

Intermediate AppleScript - Teaching your Mac to Fetch the Newspaper- (H)

Building on the knowledge gained in "Beginning AppleScript", this 2 session course, helps the user develop AppleScripts to automate workflow in more complex environments. We learn to exploit the scriptability of major Mac applications. Advanced AppleScript programming environments are used develop full-blown applications. Examples include AppleScript applications for system maintenance, database management, desktop publishing, and similar tasks in work environments.

Prerequisite: Beginning AppleScript

Number of Sessions: 2

Textbook: To Be Announced

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

Instructor: John Barnes

Scheduling: M-T-W-TR-F either Morning or Afternoon AND Evenings ■

Other Educational Opportunities

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

MacBusiness Solutions
301-330-4074 or
www.mbsdirect.com

MacUpgrades
301-907-0300

Micro Center 703-204-8400
or www.microcentereducaton.com

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

*Volunteer.
Make a
difference in
the future of
WAP.*

*Write for the
journal. Share
your computer
experiences!!!*

*Part of a SIG?
Help by send-
ing copies of
your minutes
to the journal.*

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.

Services

Mac Hardware, software, networks & training. Apple factory trained & A+ Certified. Marchetti Associates. LLC. 301-404-2210 or philm@erols.com

Waterfront property

—Are you interested in a second home or a retirement home on the water but not too far from DC? Within 2.5 to 4 hours of the District is the Northern Neck of Virginia. Located between the Potomac and Rappahannock Rivers this area has an extensive selection of waterfront properties either in communities with amenities or in more secluded settings. If you are interested in learning more about properties in the Northern Neck please call Kathryn Murray at 804-580-2366 or email her at KAM129@aol.com (Realtor® with Barnes Real Estate Inc.)

Law Office of

Richard S. Sternberg

A General Practice of Law
since 1984

General Civil & Criminal Litigation
Employment, Labor & Civil Rights
Personal Injury & Auto Accidents
Business and Corporate Practice

Domestic Relations
Wills & Probate
Admitted DC, MD, VA &
Fed. Courts

First consultation free and discount rates
with valid Pi membership
(202) 530-0100

—**Mac Tutoring and troubleshooting help.** Arlington area. \$50/hour. Phil Shapiro. Contact pshapiro@his.com

For Sale

—**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

—**ClarisWorks Users Group Discount.** Loyal WAP members receive a \$5 a year discount on their CWUG (ClarisWorks User Group) membership and renewals as a benefit of their WAP membership. WAP Members must identify themselves as such and then deduct \$5 from the regular \$39 (printed ClarisWorks Journal) or \$34 (electronic ClarisWorks Journal) membership dues when they join or renew. Contact the ClarisWorks Users Group directly at Box 701010, Plymouth, MI 48170; toll-free at (888) 781-CWUG; Fax: (734) 454-1965; Email: <membership@cwug.org> or web site <http://www.cwug.org>.

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 _____ (Must have for the TCS) Work Phone _____

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 |

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 | |
| <input type="checkbox"/> 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)

- | | |
|---|------|
| <input type="checkbox"/> Basic Membership—1 year | \$49 |
| <input type="checkbox"/> 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 CD, Version 9.0

Available at General Meetings for \$10, or \$12 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

Apple Updates

AirPort 2.0
Apple DVD Player 2.7
Apple Modem Driver 2.0
Authenticating Support 1.1.3
Battery Reset 2.0
CarbonLib 1.4
Disc Burner 1.0.1
DVD-ROM Firmware Update
Ethernet Update 2.0
FireWire 2.5
Font First Aid 1.0
G3 CD Update 2.0
G3 Firmware Update 1.1
G4 Cube FW Update 4.1.9
G4 FW Update 4.2.8
iBook Audio Update
iBook Battery Reset 2.0
iMac CD Update 2.0
iMac DVD-ROM Update 1.0
iMac FW Update 4.1.9
iMac Power Management Update 1.1
iMac Update 1.1
iMovie 2.1.1 Updater
iPod Updater 1.0
Mac OS ROM Update 1.0
Older Software Downloads
Open Transport 2.6 Update
OpenGL 1.2.1
PowerBook Firmware Update 2.4
PowerBook G3 DVD-ROM Updater
PowerBook G3 Series Modem 1.0.2
PowerBook G3-Which Do I Have?
PowerMac G4 AGP Update
QuickTime 5.0.2: Where Is It?
Running OS 8.6 on your iMac?
Runtime for Java 2.2.5
Sleep Memory Extension 1.0
Ultra2 SCSI Firmware 1.1
USB Card Support 1.4.1
USB Mass Storage Support 1.3.5
USB Print Sharing 1.0
Video Extension 1.0

Application Updates

Adaptec DirectCD™ 1.0.4 Update
Adaptec Toast Deluxe 4.1.2 Updater
Adaptec Toast Deluxe 4.1.3 Updater
Adaptec Toast OEM 4.1.2 Updater
Adaptec Toast OEM 4.1.3 Updater
Adaptec UDF Volume Access 1.0.4
AppleWorks 6.2 Update
AppleWorks 6.2.1 Updater
DiskWarrior 2.1.1 Extension Update
Handspring 3.5.2 v1.5 Updater
Handspring Photo Album 1.0
Handspring Updater V1.0.0
Humongous OS9 Patch
Mac Palm Doc 2.0.7
Microsoft Office 2001 Security Updater
Microsoft Office 2001 Service Release 1
Microsoft Office 98 Macintosh Edition/Mac OS 9 Updater
Microsoft Office 98 Update for Mac OS 9.0
Microsoft Office 98 PowerPoint 98 Updater
Microsoft Office 98/FileMaker® Pro Importer
Microsoft Office Combined Updater for Office 98
Microsoft Office Manager
Microsoft Office PowerPoint 98 Viewer 4.0
Microsoft PowerPoint 95 Translator for Mac OS 9.0
Microsoft PowerPoint 95 Translator for Mac PowerPoint 4.0 (PPC)
Microsoft PowerPoint Viewer 4.0
Microsoft PowerPoint/Excel 2001 Macro Security Update
Microsoft Word 2001 Security Update
Microsoft Word 98 for Macintosh Security Update
MS Office 98-PP98 Updater
Palm OS Software 3.5 Upgrade
PhotoRelay 1.0.4
Roxio Jam 2.6.2 Updater
TechTool® Pro 2.5.4 [AppleCare]
TechTool Pro 3.0.5 Updater
Toast CD Reader 3.5.6
Toast Deluxe 4.1.2 Updater
Toast DVD 3.7.1 Updater
Toast Lite 5.0.2 Updater
Toast Titanium 5.0.2 Updater
Word 97-98 Importer (for 5.x)

Driver Updates

Apple Printer Utility Version 2.2
AsanteFast2.2
Cameraid 1.1.4
FastEtherTX-10/100+ 2.4.img
HiSpeed USB SA19w v1.8.4
HoSync 2.6.1 Updater
ImageMate USB CompactFlash I
ImageMateUSB/CF I, II, SmartM, MM
iMate Driver 2.52
iMate Fiddler 1.51
Intuos (Wacom) 4.7.1-4
iPort Control 1.4
Keyspan DMR (2.0.3)
Keyspan USB 19/19Q PDA Adapter 2.4
Keyspan USB Card Assistant, v1.1
Kodak USB Card Reader
Microtech DPCM-USB Installer
Minolta - DC 10
Olympus USB Reader 1.1.7
PowerDomain 2940U2W v1.1
PowerDomain 39160 1.0.2
PowerDomain Control 6.1.1
PowerDomain Utility 4.0
Stylus Photo 780
Stylus PRO 5500 6.7aE
Universal Reader 2.3
USB PDA Adapter SA19 v2.4
USB TelePort Modem 1.0.2 Extension
USB Twin SA28X v1.8.4
VST Flash Media Reader 1.0.1
VST Storage Device Drivers
VST USB Tri-Media_1.0
VueScan7.2.10
ZIO! CompactFlash/SmartM/MultiMed
Astra MX3 VistaScan 3.7.5
Canon Printer
Castlewood ORB v1.42
Epson Stylus update 1.0cEs
FotoLook 2.09.2 Installer

HP Scanner
5300c, 5370c, 6300, 6350, 6390c
HP PrecisionScan Pro 1.4.2
HP Printer
HP 750 Series Patch 2.0.6
DeskJet 600 & 800 Series
For All USB DeskJet Printers
HP DeskJet Classic 4.3
hp deskjet installer Classic
LaserJet for Macintosh
Imation Storage Device
Imation Storage Devices
Kensington MouseWorks 5.7
Keyspan Digital Media Remote (2.0.3)
Keyspan SX Pro (1.4)
Keyspan USA19W (1.8.4) High Speed USB Serial Adapter
Keyspan USA28 (2.1) Serial Adapter
Keyspan USA28X (1.8.4) USB Twin Adapter
Keyspan USB 4-Port SA49W v1.1 Serial Adapter
LaserWriter 8 Printer Driver Version 8.6.1
Lexmark Z22 Color Jetprinter
Lexmark Optra Color 45
Lexmark Z12 Color Jetprinter
Lexmark Z42 Color Jetprinter
Lexmark Z52 Color Jetprinter
Microtek Scanners
MouseWare M3.5.1a USB
PowerDomain 2940UW v4.1 Flash Utilities
PowerDomain SlimSCSI 1480 v1.1
PowerDomain 39160 v 1.02
SCSI Card 2906
Stylus C 980/980N 6.4aA
Stylus Color 760-6.3AE
Stylus Color 800 5.6AE
Stylus Color 850 5.6AE
Stylus Color 860 5.6AE
Stylus Color 880 5.6AE
Stylus Color 900-6.3AE
Stylus Photo 780 5.6AE
UAX Scanner
USB Overdrive
USB Serial Adapter v1.2
USB Twin SA28X v1.8.4
VRExchange 1.2 Installer
WACOM TABLE SYSTEM, DRIVER VERSION 4.7.1-4
Zentral Applications

AppleCare
AppleCare Reader 5.5
AppleCare Update 6.5.1
BBN Lib 6.0
CD-ROM Reader 1.0
CD-ROM Assistant
Data Rescue 3.0b
Dimm First Aid 1.2
Disinfectant 3.7.1
Disk Copy 6.3 Scripts
Disk Copy 6.3.3
Disk First Aid 9.6.1.1
Disk Tools 8.5 Image
Dot What 1.5
Email Cleaner 2.1
File Smelter 1.6
File Transfer 1.1
For All USB DeskJet Printers
GreatCC 9.0
GURU 2.9
icWord 2.0 demo
iPNetMonitor 2.5
iPNetRouter 1.6.2
iPNetSentry 1.3
Mac OS 8.6.1 Disk Tools
NortonFix 1.0

Oops

OTTool 1.2.1
PrintToPDF 2.3
Rosetta 1.4.2
Screen Catcher 2.2
TapGuard 2.0
TechTool 3.0.1
WormScanner 2.3
ZipIt 2.1

Fun Diversions

Amazing Slow Downer 1.14
AMP Radio 1.6.5
BayTex Party! Pro 2.5.2
Coaster 1.1.3
eggTime 1.3.1
Gravité 2.0.2
iPod Free File Access 1.1b2
iTunes Tool 1.3
Joliet Volume Access 1.4.2
MacAmp™ 2.0.1
MP3 Title Fixer Script 1.3
Oh No! More Lemmings
Snood 2.11
Sound Studio 1.5.5
SoundApp 2.7.3
Sweet MIDI Player 1.0.4

Get Smart

A Parent's Guide To Hate On The Internet
About AirPort
Add A PC
AirPort 1.0: About AirPort
AirPort 1.1: Base Station Extras Folder Contents
AirPort 1.2: Updating Base Station Firmware
AirPort: America Online Compatibility
AirPort Base Station: Channel Selection and Overlap
AirPort Base Station: Character Limit for User Name and Password
AirPort Base Station: Description
AirPort Base Station: Enter DNS Information During Setup
AirPort Base Station: Internet Application Timeout Error Discussion
AirPort Base Station: Technical Specifications
AirPort Base Station: Troubleshooting a Dial-up connection
AirPort Base Station: X2 Modem Compatibility
AirPort Card: Disable During Air Travel
AirPort Card Not For Use in Standard PC Card Slot
AirPort: Compatibility With Older Macintosh Products
AirPort: Configuring a Base Station With a non-AirPort-Capable Computer
AirPort Setup Assistant: Steps to Complete Before Base Station Setup
AirPort: Supported Internet Service Providers
AirPort: Third Party Wireless Software and Network Password

AirPort Utility 1.2-Can't Find Base Station
AirPort Version 1.2: Base Station Forced Reload
AirPortWireless FAQ 1of3 58414
AirPortWireless FAQ 2of3 58415
AirPortWireless FAQ 3of3 60422
Apple Memory Guide - November 2000
Apple Product Software Isolation Troubleshooting
AppleSpec 10/2001
Child Safety on the Information Highway
Creating a Small Ethernet Network in Your Home or Office
Cube -- AirPort Card Replacement Instructions
Cube -- ATA Hard Drive Replacement Instructions
Cube -- Battery Replacement Instructions
Cube -- Memory (DRAM DIMM) Replacement Instructions
Designing AirPort Networks
Ethernet Network for Two Macs
Extensions Manager: Extensions Off Compared To Shift Down When You Start Up
Filtering software for children.
FireWire Ports: Specifications
Hard Drive: Options for Backing Up Contents
iBook: Installing AirPort Card
iBook-InstallAirPortCard.mov
iMac (All Models): How To Differentiate Between Models
iMac (All Models): Memory Specifications and Upgrades
iMac: Attaching an External Display
iMac: How to Install an AirPort Card
iMac: Installing Memory (1 of 2)
iMac: Installing Memory (2 of 2)
iMac: Parallel Printers Adapters
iMac (Slot Loading): Memory Specifications and Upgrades
iMac (Summer 2000): Theater Mode Description and Use
iMac: Video RAM Expansion
iMac: When to Install Available Updaters
Installing the AppleCare Card on a iBook computer
Installing the AppleCare Card on an iMac computer
Installing the AppleCare Card on a Power Mac G4 computer
Mac OS: Apple's New iLife Troubleshooting/Extensions Manager Features
Mac OS: Apple's New iPhoto Error Code Messages
Mac OS: Apple's New iPhoto Startup Issues
Macintosh: How to Run iPhoto?
Mac OS G4: How to Install an AirPort Card
PowerBook (FireWire): AirPort Card Installation
SAFE AND HEALTHY COMPUTING FOR TODAY'S * CYBER-KIDS*
SafeChild -- Safety on the Internet
Safety Tips
SafetyNet Services
Setting Up the AirPort Base Station
Teen Safety on the Information Highway
Troubleshooting Handbook
Using AirPort With Mac OS X
V.90 Protocol: Connectivity Discussion
Wireless Networking: A Technical Overview
ZIP: Troubleshooting

Internet Applications

Apple Store Order Status 1.1
Auction Action Tracker 2.9.1
Connexcellent 1.2
CyberViewer 1.4.1
Download Deputy Turbo 4.6
Eudora Light 3.1.3
FileZilla 2.0.0-Preview Release
iMacDICT 2.2
MacHeadlines™ Lite 1.9.1
MacWasher™ 2.1.1 Demo
Magix Cookie Monster 1.0f1
Mail Spelling 2.4c
MT-NewsWatcher 3.1
My Photo Album 2.2
Net-Print 8.2
Netscape Communicator™ 4.79 Complete
NiftyNet 1.1 SSH r3
Ospan 5.0b4
Package Tracker 3.6
Puffy
ShapperHead™ 4.5
Son of Weather Grok 4.1.2
StayOnline! 1.2.1
StockWatcher 1.12
URL Manager Pro 2.8b3
ViaHTTP 1.7.6
Web Devil 5.3.2

New Member's Sampler

AI's Coloring Book 1.02
Alphabetizer™ 2.2
Bibliographer 1.0
CalcWorks SE 1.7.8
Calendar Menu v1.0
Cool Icons
Customize Your Mac
EuroSwap1.5.2
File Hider 2.1
French-English Dict 3.0.4
Gene 4.3.4
iType 2.0.1
Kaleidoscope 2.3.1
KidCalc! 0.91
MacDiary 1.2
MatchCard 1.0.1
Music Store 4.0
MyCheckBook 1.5.2
People™ 2.5
Plunk! 1.5.2
Sigma Chess 5.1.3
Tess 1.06
TF HangMan 2.5
The MP3 Game 1.1
Trade Assistant 3.0
WhackIt! WE 1.0
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TCS Software TCS Easy Mail



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