STUPID TRICKS 1

by Charles Grover
Rochester Computer Society, Inc.

I decided to try to update my Windows 98 installation to Second Edition using the update CD offered by Microsoft. I went at this with a little anxiety, because I wanted to avoid a problems that would require reformatting the C: drive and reinstalling Windows and applications. As insurance, I tried two tricks: one I thought of, the other I found when I read the instructions.

First, I used an extra hard drive as a temporary trial. I figured that if I succeeded then there was less likelihood that I had hardware that could cause problems. I moved the IDE cables around so that only a 515 MB drive was connected. After formatting it with system files I installed, in order, Windows, the SR1 patches, and the SE updates. I tested things out after each step. Before removing it again, I took this installation far enough to connect to the Internet. After this trial I had confidence to proceed. I removed the temporary installation from the old hard drive.

I went through the readme files on the SE Updates CD and discovered the recommendation for doing a "clean boot" and how to do it. A clean boot is something like booting into safe mode, though a few drivers are loaded. Every time I install an application I get warned to shut down all other applications first. "Clean boot" is a simple way to make sure nothing is running, as an anti-virus program. One does a "clean boot" by running msconfig and then, on the "General" page, clicking "Selective startup" and un-checking all the boxes below it. Click "OK" and reboot and there you are. Afterward, run msconfig again and put things back.

One other thing that is suggested is to turn off any anti-virus program built into your BIOS. I had already done that, on advice that such things don't do much good and can get in the way.

After re-cabling my drives to the original configuration and doing a "clean boot" the SE update went smoothly. I did have to uninstall and reinstall Boot Magic, which I use to get into Linux. If I had thought about the fact that installing the update would affect the Master Boot Record I would have uninstalled Boot Magic before doing the "clean boot."

COUCH POTATOES REJOICE

Souped Up PVRs On the Way
by Bill Petitt
Southeast Virginia Computer Group

I've heard most people with personal video recorders (PVRs), such as ReplayTV and TiVo, end up watching more TV than before. And just as PVRs start to catch on (sales are expected to grow from an anemic 18,000 units in 1999 to 300,000 units by the end of this year), the manufacturers of both devices are making it easier than ever to worship at the television altar.

Up until now, TiVo has had a slight edge in usability. But, ReplayTV is coming on strong and stands to surpass TiVo's excellent set of features with forthcoming software enhancements.

ReplayTV will be the first to put its service on the Web. This October, with the launch of MyReplayTV, you'll be able to control your unit from a Web browser -- be it in your living room, your office or a hotel room. The portal is especially useful for tasks that don't work as well from a remote, such as searching for programming by actors, directors or theme.

Part of the upcoming 3.0 software upgrade (a free download for current customers), MyReplayTV will let you do remotely just about all the things you can do from your couch. Working late? Just log on to MyReplayTV.com and delete those old Real World episodes to make room for the three-hour Survivor finale. The real power of MyReplayTV? Once you have a browser- based interface, it should be easy to port it to all kinds of devices: cell phones and PDAs with wireless Net access.

The only catch: By default your ReplayTV only connects to a server once a day (between 2 a.m. and 5 a.m.). So if you tell it to record something while you're sitting in your office, it won't get transmitted to your box until the following morning. ReplayTV says it will address this initially by letting users select the time of day for updates and eventually allow for multiple updates. But long-term, "always-on" connections (cable, DSL or satellite) will eliminate this obstacle. Of course MyReplayTV is also a new way for the company to make money. Tell the service to record a Martha Stewart Living gardening segment, and next time you visit MyReplayTV you could find Martha offering to sell you plants, pots and tools-along with a subscription to her mag. Precisely the kind of future revenue opportunities that have networks biting their tongues every time ReplayTV users hit that 30-second, skip-ahead button (the "ad zapper").

TiVo's a little more vague with its Web strategy, but it has other irons in the fire. Both Sony and Philips are expected to roll out combination DirectTV/TiVo receivers in October -- at prices similar to today's stand-alone receivers.

The unit will run you around $400, plus fees for the TiVo service and Direct TV programming. Currently, TiVo

owners have multiple pricing options, including a monthly fee of $9.95, $99.95 per year, or a lifetime fee of $199; the company has not finalized its pricing options for the combo units.

The most exciting thing about these combo units? They're optimized for Direct-TV feeds, thus tripling the storage capacity of DVD-quality video to nearly 30 hours. The new units will have only a single setting, and that setting should mimic the quality of the original DirectTV feed.

Also this fall, TiVo will introduce via free download several new features, including theme-based channels (sound familiar ReplayTV owners?) and the ability to pad recording times for individual programs (which you really need for live sporting events). So the next time Tiger Woods gets forced into a three-hole playoff, your PVR won't come up short. (ReplayTV will introduce a nearly identical feature).

Both ReplayTV and TiVo like to position these services as "empowering" us, the television-viewing audience. But inevitably, some people are going to complain that these services just make a bad habit worse. Don't worry -- we'll just vote them off the island.

The Philips Personal TV Receiver, the one I bought, combined with the TiVo Personal TV Service, is designed to replace your VCR by recording television to an internal hard drive instead of onto a tape. This is essentially the same idea behind the ReplayTV 2001. But unlike the ReplayTV 2001, the Philips Personal TV collects information about your viewing habits to automatically record shows it thinks you will like. Unfortunately, this great concept is plagued by confusing navigation.

Poor Video Quality; Service Costs

The most outstanding feature of Philips Personal TV is that you can both record and play previously taped television shows at the same time (I'm still trying to figure this feat out -- it always tells me it will have to stop recording to change the channel). But while the recording capabilities of the Philips Personal TV are exceptional, the video playback quality is not in the two slowest modes. The $299 ($200 in rebates) unit I bought offered 14 hours of playback in low-quality mode and 4 hours in high-quality mode. Though 14 hours of storage sounds generous, I recommend that you skip the low-quality modes altogether, since video recorded in even the next to best mode was somewhat pixelated. However, the audio quality of the Philips Personal TV was excellent. Both units have standard output to VCR so that you can record to video tape any programs you might wish to keep in your video library.

Besides dissimilar output, another difference between the Philips Personal TV and the ReplayTV 2001 is service cost. The ReplayTV 2001's unit price includes service, whereas a subscription to TiVo Personal TV Service will cost you $9.95 a month, $99 a year, or $199 for a lifetime account. As usual, you get what you pay for: the TiVo service is much more comprehensive than its competitor's. I just wish its on-screen menu were easier to navigate.

Getting Personal

Both the Philips and the ReplayTV have an onboard modem that sets them apart from VCRs. Philips Personal TV uses the modem (and your telephone line) to make a nightly call to update its program guide, without interrupting your phone service. Philips Personal TV also uses the modem to gather information about your viewing habits in order to customize your TV viewing. It does this by automatically recording shows it thinks you will like. For example, Philips Personal TV may record a science fiction special because you watch a lot of Star Trek. Philips Personal TV claims to keep your preferences anonymous, but we found this practice mildly intrusive. Fortunately, you can block Philips Personal TV from gathering information about your viewing habits. Philips is the first company to make a receiver for TiVo technology, but I expect a slew of electronic manufacturers to follow suit. Panasonic and Sony have already announced units.

ReplayTV and TIVO will forever change the way you watch television. It sets you free from those TV schedules that are never where you left them. It pauses live TV. It records shows without videotape up to 60hrs, depending upon the model you buy! It lets you skip over the boring parts. It searches and records shows with the touch of a button. It gives you control over live television. ReplayTV is the only digital video recorder on the market that won't charge a service fee. You'll enjoy the great ReplayTV Service, free of charge, including periodic software upgrades and nightly programming downloads.

Win a Free ReplayTV!

Go to http://cgi.zdnet.com/slink?53362 and sign up for a chance to win a free unit, check out their interactive demo, and, of course you can order your very own ReplayTV right there online. For a limited time, save up to $200 and more!

I could not find out what kind of "power outage" protection either unit offered as it pertains to keeping the list of shows to record. I guess I'll find out eventually.

From the October issue of *The Umbrella Online.*

Ken's Korner NewsByte

RELIEF IN SIGHT FROM BARRAGE OF IRKSOME TV COMMERCIALS?

by Ken Fermoyle

Are you fed up with the seemingly endless barrage of commercials crammed into your favorites TV shows and sports events? If so, join the club! But relief may be in sight, according to Electronic Digest (Sept. 5, 2000 issue).

The magazine reports that sophisticated new integrated circuit controllers will improve performance of Set-Top Boxes and Personal Video Recorders (STBs/PVRs). The new ICs will make the devices less expensive and more versatile. This should eventually change their status from novelties with appeal to a limited market of "early adopters" to appliances that gradually will take the place of today's VCRs.

Electronic Design also notes that the new controllers "can be used to manage arriving and departing data streams, into and out of set-top boxes, storage devices, digital TVS. PVRs," from a variety of sources, including broadband cable, satellites, terrestrial, and IP (Internet Protocol) networks.

What does this have to do with computers? PVR technology is digital, like computers, not analog like VCRs, and data is stored on a hard drive, like computers, not on magnetic tape. A PVR will do everything that a VCR can, but with significant improvements.

For example, I have about given up on watching a lot of TV when it is aired, especially movies. Instead, I record them on a VCR and play them back later, fast-for-warding through commercial breaks. This scenario works even better with a PVR. You can record a program in real time but pause it at any point, at a commercial break, for example.

The PVR keeps recording the program while you get fresh coffee, go to the bathroom or whatever. When you return and hit the Pause button again, the recorder picks up where it left off, playing the program back from the hard drive. Now you can fast forward quickly through the commercials and enjoy what you really wanted to see.

You will also be able to do your own instant replays; just rewind, then replay segments you want to view again. You can also preprogram a PVR to record favorite program automatically, just as with a VCR.

(**Ed. Note**: If you currently use a PVR and service like TiVo, Ken Fermoyle would love to hear about your experiences with these technologies for possible use in a future article. E-mail him at kfermoyle@earthlink .net.)

FROM THE DEALSGUY

Bob Click
Greater Orlando Computer Users Group

How About a Free Voicemail Box for Life

EchoBuzz by Blue Diamond Software Inc. was supposedly the first free voicemail service to be launched. EchoBuzz will be completely toll-free to users nationwide using speech recognition technology. It is ad supported and targets 12-24-year-olds who don't have their own phone line. EchoBuzz members can pre-register for their private voicemail box by logging onto [www .echobuzz.com] and completing a brief personal profile, after registration. This allows the service to personalize three-to-ten- second ads to the specific interests of the caller. Members will hear approximately one to three ads per call, depending on the number of options they choose.

It's FREE, it's private and it's easy to use according to the CEO of Blue Diamond Software. "It's also the first voicemail service made available to consumers outside the business community without the bar-riers of separate phone lines and access or usage fees, and should be useful to the younger set."

To use EchoBuzz, callers dial a toll-free number, 1-877-EchoBuzz (1-877-324-6289), to send and retrieve messages. That number always seems to be busy, so it needs work. Besides the traditional method of menu- driven touch-tones, EchoBuzz will employ speech-recognition technology, permitting hands-free navigation of the voicemail system. EchoBuzz, now used in Southern California, begins nationwide in September, just in time for students heading back to school. Let's hope this helps free up your phone line if you have kids.

A Tune-up For Your Windows by iolo technologies

The following is their words: "Keep your PC running faster, cleaner and error-free. Even speed-up your Internet connection by as much as 300 percent with 'System Mechanic's' full suite of 15 powerful tools! These powerful tools allow you to find and fix problems with your system, ensure reliability and speed, and properly maintain your PC so problems don't occur.

(NEW!) Tweak and customize almost 100 undocumented settings in Windows. Clean and optimize your system registry. Hunt down and remove junk and obsolete files. Maintain privacy and security by eliminating tracks left behind while using your computer or surfing the Web. *Properly* remove such items as browser cache, cookies and other history files. Find, fix, or remove broken Windows shortcuts. Find and remove invalid uninstaller information. Find and remove duplicate files. Securely delete files and folders.

Manage the programs that start when Windows does. Track and report on changes made to your system when installing programs. (NEW!) Consolidate critical system maintenance into one easy step. (NEW!) Automatically keep System Mechanic up-to-date with its self-healing WebUpdate feature. Log statistical information and quantify benefits of all above tools. A fully functional 30-day trial version of System Mechanic is available from iolo technologies Web site [http://www.iolo.com]."

Special arrangements were made to obtain a discount for readers of this column. Purchase System Mechanic directly from their secure order form [http://http://www .iolo.com/order/] ONLY between November 1st and December 31st 2000 using the Coupon Code "DealsGuy" and get a $10 discount off the $59.95 retail price. Alternatively, you can call their toll-free sales number 1-877-239-4656 and quote the same coupon code. I have not tried this product yet.

ClickBook Is Back

ClickBook 2000, (Prints Double Sided Booklets) offers 20+ new features. It is a powerful yet easy-to-use printing utility that automatically rotates, reduces, and realigns files to print double- or single-sided books, business cards, day planner pages, wallet booklets, brochures, greeting cards, catalogs, microfiche, and more!

User Group members will receive 20% off -- $39.95 (retail $49.95) at: [http://www bluesquirrel.com/scripts/orderpage.asp?skey=cb2000&ASCID=633]. Due to it's length, the ordering URL is supposed to be changed to: [http://www.bluesquirrel.com/ usergroup] At this writing the new URL didn't take you to the discounted price yet, so check them both. For more product information, go to [http://www.clickbook .com].

That's it for this month. Meet me here again next month if your editor permits. This column is written to make user group members aware of special offers I have found or arranged, and my comments should not be interpreted to encourage, or discourage, the purchase of products, no matter how enthusiastic I might sound.

Bob (The Cheapskate) Click [dealsguy @mindspring.com]. Visit my Web site at [http:// www.dealsguy.com] for past columns and this column in its entirety if your editor does not print it all.

NORTON PERSONAL FIREWALL Version 2.0

by Donald Rosenfield

North Orange County Computer Club

I tried out the one-month demo before getting a copy of the full program. As soon as I saw its value, I alerted everybody I correspond with via e-mail. The program comes with a one-year subscription for updates after which further subscription is $6.95/year.

"What does Norton's Personal Firewall (NPF) do? Do you need it even if you have Norton's Antivirus operating?" Yes, Alan, you do. NAV doesn't protect your system from attacks by hackers. (For those using McAfee's Antivirus product they offer a similar firewall.) This program gives you the peace of mind that comes with knowing that your credit card numbers and other personal information is safe from nefarious automated hacking systems.

NPF has a continually updated (which is why you need the above noted subscription) file of sites that unceasingly probe and test Internet users, looking for victims en masse. That applies whether you use a dial-up connection or whether you use a cable modem and thus are always on the Internet as am I.

"How do you know it is working, Donald?" In a 24-hour test it found and blocked several Trojan attacks on my computer, it blocked 28 security accesses while allowing 9751, and it blocked 969 privacy browser accesses, allowing 1882 of them. That is, the blocked accesses are those from known rogue sites.

I contacted my ISP about the Trojans. They checked them out and found that most of the attacks were coming from a fellow @Home user. Hmm. That took care of him/her. Another Trojan came from a differing address. @Home gave me the ISP address on that one.

Configuration is easy and can be changed as needed. You choose the level of protection and which sites can access your computer. You can control (or lose) your cookies as you please. :) Active content blocking stops Java(tm) applets and ActiveX(tm) controls from being downloaded on a site-by-site basis.

When you check out the URL: www.symantec.com, you should choose which of the suite of programs best suits your needs. As I already had NAV operating, I chose NPF. Norton's Personal Firewall 2000, Version 2.0 is intended for use with Windows 95, 98, NT, and 2000 and sells for $49.95.

From the October 2000 issue of *Orange Bytes*, newsletter of the North Orange County Computer Users Group.

Review

VIDEOWAVE III

by Chris Cooper

Tucson Computer Society

VideoWave III, a video editing program for the personal computer, is a comprehensive package that includes real-time edit and playback functions with the ability to save your work in a number of formats. The finished product can then be viewed on your PC's monitor or a television set, or sent to a VCR for videotape recording. Depending on the capabilities of your PC's video capture card, your source of video files with which to work can be a large, full-size VHS camcorder, a VCR, or the newest DV (digital video) camera.

With the update to VideoWave version 3.5, you may now use .jpg and .tif still image files in your videos. The upgrade, which is free from the web site , also includes the new ability to use the very popular mp3 audio file format for your video's audio tracks as well as the traditional .wav format.

The manual that comes with the software is very helpful to beginners at video editing. It explains every detail of the process when viewed from a novice's perspective. It explains each step of the capture, edit, production, and display process. It is very easy to follow along using the book.

It does take a while to learn each of the icons which are presented to you on the main screen when first starting out. Each icon relates to a specific action that can be taken with a video clip. A clip is defined as a piece of video footage that hasn't been edited yet. Upon editing, the combined clips are known as a scene. To create a scene, one must gather various clips from any source that your capture card will support, then assemble the frames of the movie together with sound into a product that can be viewed on either computer screen or TV screen, or copied out to a videotape if you have video-out capabilities. Another possibility is to send it out to a website for Internet use.

The best playback and editing is achieved when using a fairly fast computer. The book mentions 500Mhz or faster for smoothest response. Also, the faster your hard drive and system bus, the better the results will be. For instance, my 450Mhz Pentium II computer will play the videos but it's a bit choppy. I am using an ATA/33 hard drive on a 100Mhz system bus with PC100 RAM. I would have to upgrade my system to an ATA/66 or higher hard drive to get much better results.

They also recommend a faster RPM drive since it can keep up with the demand for frame rates better. I am using a 5400 rpm drive, but 7200 rpm or faster would clean up the playback noticeably. For me to upgrade, I would have to purchase a newer, faster hard drive which would require me to purchase an ATA/66 controller card to make it all work. This would improve my overall system performance as well. Everything would run faster and better.

The next bottleneck would be my RAM. Faster PC133, VC133, or RAMBUS RAM would be needed but my motherboard doesn't support it. So I would have to also get a newer, faster motherboard. At this point, I would be getting close to being able to purchase a new computer for the same cost as the upgrade.

All performance issues aside, the program performs as advertised. It takes a little while to associate all the icons with their functions but once learned, it is relatively easy to edit from any source. I had a moment of shock when I realized how much space one needs to allocate to video to produce anything over a minute in length. We're talking 4MB per second of recorded video. This is at 30 frames per second mode at a resolution of 320 x 240 pixels, in MPEG-2 capture, which compresses the saved file to a size that is somewhat manageable. Assuming you have a 5-minute video you want to make, you would need a total of 1.2GB free space (4MB/sec x 60 seconds per minute x 5 minutes).

This is perhaps the single most intensive thing your CPU will ever do, as the video is laid down at 320 pixels x 240 pixels x 30 frames per second, or 2.3 million pixels per second. The better your video card, the less work your CPU has to do. Most of the faster video cards being offered today can achieve rates much higher than this, but older cards would struggle to keep up. My Voodoo3 card supposedly does eight megapixels per second, but my CPU can't keep up with that rate. The result is that the playback is not as smooth as it might be.

VideoWave III supports digital video (DV) input and output. Usually, this is accomplished via the use of a Firewire orIEEE1394 or iLink card in your computer, which lets your DV camera plug directly into the very fast 400MB/sec transfer bus and get your work done in a hurry. When producing a video, usually each frame must be rendered separately. When using a DV camcorder, VW III lets you produce your video much more quickly if it hasn't had any transitions or edits done to it by using the footage as-is, with no rendering needed. This can save much time and resources.

Sound input to a video is in .wav format. The newest version supports using .mp3 file types as your input, which is then converted to .wav format. This takes a lot of CPU time to do the conversion but it does it very nicely. Don't mind the grinding noise as the .mp3 gets expanded to ten times its normal size as it becomes a .wav file.

Up to six audio tracks can be incorporated into a video production. The quality of an audio track is determined by its sample rate. Higher sample rates use more storage space, but sound excellent. A sample rate is how many times a second the input is measured for differences. The highest quality available here is 44,100 Hz/sec, used for stereo music from a digital source. The lowest quality is 11,000 Hz/sec, used for speech and is usually a single track. An intermediate range is 22Khz, either mono or stereo.

The higher quality the source material, the higher quality your output can be, with space being a limiting parameter. The audio sample size in bits determines the audio's dynamic range and signal-to-noise ratio. For music, 16-bit is preferred; for speech, 8-bit is fine. VWIII supports fade in, fade out, repeat, and mix functions for audio. There is a volume slider to adjust the level, and a left-right signal meter shows relative volume levels per channel in your work of art.

With a bit of patience and a lot of reading, you can quickly master this program to produce your own movie. The book is well-done and easy to read. The binding on my book broke but it took quite a beating. Overall, the ease-of-use is quite good and a novice can get up and running in about two or three days. Most of the time is spent figuring out the icons and the time sliders.

A person with some experience could easily produce their own movie in a few hours. It is similar to the Ulead Video Studio program which does the same thing. Digital Video using a Pinnacle card would probably work the best with VideoWaveIII. I recommend this product highly. Watch for great deals on it at CompUSA or when it is bundled

with a DV camcorder or capture card.
From the October 2000 newsletter of the Tucson Computer Society.

ARE YOU READY FOR A DIGITAL DARKROOM?

by Beverly Rosenbaum
Houston Area League of PC Users

The modern concept of having a darkroom means being able to manipulate images on your computer and make good-looking prints on low-cost inkjet printers. And the introduction of megapixel digital cameras and true photo-quality inkjet printers has made this capability much more attainable.

But that means you'll need to add a few new terms to your technical vocabulary. At the heart of all digital cameras is a sensor, the electronic chip that takes incoming light and converts it to a digital file. The density of the sensor determines a camera's overall picture quality. So if a camera has a 1-, 2-, or 3-megapixel sensor, that means it has millions ("mega" in megapixel) of light-sensitive photoreceptor cells or photosites that take the incoming light from the camera's lens and convert it to a digital file. More photosites on a sensor mean better image resolution and a larger final printed picture.

Most high-quality cameras today use a charge coupled device (CCD) sensor, while low-cost "entry-level" cameras use a complementary metal-oxide semiconductor (CMOS) sensor. CMOS chips are easier and cheaper to make, but they don't match the picture quality of a CCD.

Resolution refers to the number of pixels in a picture. Pixel stands for "picture element," the smallest part of a recorded image. VGA digital cameras are typically the least expensive cameras, because their small sensor captures just 300,000 pixels. These pixels are arranged in rows and columns, so a VGA image has 640 rows and 480 columns of pixels. The resulting 640 x 480 resolution image will look good on your computer or a web site, and it will print a very nice 4 x 6-inch print. But if you try to enlarge the print, you're going to see image degradation, because there just isn't enough information in a 300,000-pixel image to enlarge the photo beyond 4 x 6 inches.

XGA and 1-megapixel cameras capture between 700,000 and 1.3 million pixels. A photo with this resolution can be enlarged to 5 x 7-inch prints without degradation. Capturing 2 million pixels, 2-megapixel cameras have a resolution of 1600x1200 or higher and their images can be enlarged to produce a quality 8 x 10-inch picture.

The 3-megapixel cameras capture 3 million pixels and can produce quality 11 x 14-inch prints. While most people aren't printing out such large photos, having all that resolution allows them to crop them and still maintain a high-quality image. Cropping is selecting part of the original photo to keep and discarding the rest. If you crop out one-third of a photo taken with a 3-megapixel camera, you would still have 2 million pixels left, enough resolution to make a high-quality 8 x 10-inch print. But if you started with a 2-megapixel image and cropped one-third of that picture, you'd only be able to make a 5 x 7-inch high-quality print.

The lens is in many ways the most important part of the camera because any subject that a camera photographs must first go through the lens. If you have a poor-quality lens, the picture will be poor no matter how many megapixels or other good features a camera has. Many inexpensive digital cameras use plastic lenses that are softer than glass and tend to scratch easily. Since plastic is not as optically transparent as glass, the photos can look as though they were taken on a foggy day. More expensive digital cameras use aspherical glass lenses, which produce better pictures by reducing the slight distortion often caused by circular lenses.

A fixed-focus lens is OK for close-ups, normal shots, and landscapes, but it can't be manually adjusted to bring an object in the foreground into focus and to leave the background out of focus. A fixed-focus lens gives you fewer creative possibilities with your photographs. Autofocus, on the other hand, means the lens system is motorized, and it automatically adjusts itself to take the best photograph. An autofocus lens determines how far away an object is from the center of the camera's lens, and automatically adjusts its optics to lock onto the subject and bring it into sharp focus. Sometimes you may want an object in the foreground to be slightly blurred and the background to be in sharp focus. To achieve special effects like that, you'll want a camera with manual-focus capabilities.

A telephoto or zoom lens lets you adjust how close or how far a subject appears in your picture. Many cameras have optical zoom and digital zoom capabilities. In optical zoom mode, the camera uses motorized lenses that move back and forth to bring the subject of your photograph closer or farther away, and most digital cameras today have a 2x- or 3x-zoom lens. With digital zoom, the camera takes a part of the picture the lens captures, enlarges it, and throws away the rest. So the resulting "cropped" picture is actually lower quality since it is based on just part of what the lens and the sensor can capture. If you "digitally zoom" with a 1-megapixel camera, you'll get photos that have less resolution.

Compression shrinks the file size of a captured image down to a more manageable size, and most digital cameras use some kind of compression. An uncompressed image can be very large (between 8MB and 16MB), and that is not practical (except on very expensive professional digital cameras). The most universally accepted compression algorithm is joint photographic experts group or JPEG. This algorithm analyzes an image and throws out data that

it thinks is nonessential to the picture. It doesn't throw away important details like buildings, people, or landscapes, but it does throw out the data that can't be perceived by human vision.

JPEG is a "lossy" compression algorithm, and that means some information is thrown away forever when the file is compressed. Most digital cameras have three types of JPEG settings: fine, normal, and basic. The fine setting is visually lossless (the image is compressed to one-fourth its original size) and when the photo is printed out, it will still look pretty good. The normal setting compresses an image to one-eighth its original size, so if you zoomed in with computer image-editing software, you'd see pixelation and other artifacts in the photo. The basic setting compresses an image to one-sixteenth its original size, useful for viewing only on a computer, and that would make a terrible print.

Some cameras allow you to save in both the JPEG and TIFF format. The TIFF algorithm, which reduces images to about one-third of their original size, does not apply as much compression to a photo as JPEG does, leaving your images with more digital information. TIFF photos require more storage, but they are higher quality, and you would need this kind of file if you plan to have your photos professionally printed.

Newer digital cameras use removable media, small cards that fit in a slot in the camera and hold many megabytes of photos. Those cameras typically come with an 8MB or 16MB memory card. A 16MB card holds roughly 32 pictures at 1600x1200 resolution using normal JPEG compression. However, not all camera manufacturers use the same type of memory in their cameras. Most digital cameras use either SmartMedia or CompactFlash cards. These cards require no power to hold the data, and they are only slightly larger than a quarter. SmartMedia cards are thinner and cheaper, but CompactFlash cards have higher capacities. The highest-capacity SmartMedia cards hold 64MB, with 128MB cards coming soon. The highest-capacity CompactFlash cards hold160MB, and an improved version of CompactFlash, called Type II, holds up to 250MB.

Sony's Mavica cameras have used neither SmartMedia nor CompactFlash, instead using a standard floppy disk that can be removed from the camera and put right into any PC. This simplicity made the Sony camera popular. Unfortunately, while SmartMedia and CompactFlash cards have increased in capacity, floppy disks are stuck at 1.44MB.

As Mavica cameras increased in resolution, they were able to hold fewer images on each disk. Sony tried using a heavier compression, but this resulted in degraded images. In an effort to accommodate increasing image resolution and compete with SmartMedia and CompactFlash cards, Sony developed a proprietary storage format called a Memory Stick. Memory Stick media is about the size of a stick of gum, and it can hold up to 64MB of information. At this time, Memory Stick works only with Sony cameras and Sony peripherals.

IBM calls its Microdrive the world's smallest hard drive. Unlike SmartMedia and CompactFlash cards, Microdrive cards actually have moving parts inside. Microdrives are incredibly small, fitting in a CompactFlash Type II slot, and currently hold up to 340MB. In the near future, IBM expects to release a 1-gigabyte Microdrive.

Today's digital cameras depend on battery power to operate, and a lot of it. Some things, such as the LCD display and the camera's flash suck batteries dry very quickly. You can easily run out of battery power after only a few pictures if you have the wrong batteries or don't conserve power. Also, batteries eventually wear out. To keep battery costs low, you need rechargeable batteries and a battery charger. An AC adapter is also useful because it lets you plug the camera into the wall when the batteries run out. It limits your range, but lets you keep shooting, and it's very useful when playing back images on the TV set or uploading images to the computer.

When selecting a digital camera, be sure it will operate on longer-life nickel cadmium (NiCad), nickel-metal hydride (NiMH), or lithium-ion (Li-ion) batteries. NiMH (Nickel Metal Hydride) batteries are the most popular digital camera batteries. They are rechargeable, non-toxic, relatively inexpensive, and designed for high-drain applications, so they will give you more pictures per charge than any other battery type. In addition, they don't have the "memory problems" that NiCad batteries have. They run 30% longer on each charge than NiCad batteries of equal size. They are also more environmentally friendly because they are made from non-toxic metals. If they have any weakness, it's their overall life; lasting only about 400 charge and discharge cycles. NiCad batteries are the most widely used type of rechargeable battery. They charge quickly, last approximately 700 charge and discharge cycles, and perform well in low temperatures. Their only drawback is their memory problem that will eventually reduce their total available charge.

Lithium Ion batteries last about 2 hours, twice as long as NiMH batteries of equal size. They also don't lose their charge as quickly while in storage. They have the same life expectancy as NiMH batteries, about 400 charge and discharge cycles, and do not suffer from memory effect. Single-use alkaline AA batteries don't last very long, so it's not worth it to use them on a regular basis, even though most cameras will accept them.

A liquid crystal display (LCD) is the color, television-like display on the back of a digital camera that allows you to preview and review your pictures. With an LCD display, you see how your shot's going to come out before you snap the picture. One downside to an LCD is that it requires quite a lot of juice to operate, which causes your batteries to drain faster. But the optical viewfinders on most cameras aren't as accurate as LCD displays.

Digital cameras have a wide array of connectivity options. USB is by far the fastest and easiest way to connect your camera to a computer and transfer images to its hard drive. The TV video-out port on a camera lets you view

your pictures on a television set. Before USB, there was serial -- the slow way to connect your camera to a computer and transfer images; however the main benefit of a serial port is that all PCS have one. An AC adapter helps conserve a camera's battery life by letting you plug the camera into a wall outlet.

Industry analysts report U.S. shipments of point-and-shoot digital cameras reached 1.06 million in the second quarter of this year, a 55% increase over the first quarter. They believe that the outlook for the digital camera industry is extremely promising, and as the price of imaging technology continues to drop and cameras become more user friendly, the base of potential users will get larger.

No digital darkroom should be without Beverly Rosenbaum, a HAL-PC member, and a 1999 and 2000 Houston Press Club "Excellence in Journalism" award winner. She can be reached at brosen@hal-pc.org.

Book Review

THE NON-DESIGNER'S SCAN AND PRINT BOOK

Sandee Cohen and Robin Williams
Peachpit Press Berkeley CA (1999)
ISBN 0-201-35394-6
($19.99 + s&h at Amazon.com)
by Byron Davies
Big Blue & Cousins, Victoria BC Canada

Several years ago *Consumer Reports* magazine reported on a new automobile, saying, "This is the best car we have ever tested."

Plonk.

I feel much the same about this book; it is certainly one of the best discussions and explanations of a complex subject that I have ever picked up. I can not say "read," because, while it progresses logically from Introduction to Colophon, it's more of a reference or cookbook full of choice tidbits -- specific answers to particular questions -- than a series of lessons.

The authors have been designing, producing, and teaching courses on graphic and associated text material for about forty years between them, and this collaboration has a no-nonsense style that shows their collective experience. We reviewed another Williams book, *The Non-designer's Design Book*; the present work goes further into the hard-nosed details of what the desktop publisher of (say) a newsletter actually from the starting point with some text and pictures to the end where the printer points to a pile of boxes saying, "There's your job right there."

There are even a number of suggestions for minimizing the bottom line on the invoice the printer will hand you.

The well-known black-and-yellow...*for Dummies* guides are usually at the beginner level; the *Visual Quickstart Guide* series (also published by Peachpit Press) are aimed at an audience who want fast answers but at a somewhat higher technical level; the Cohen-Williams book's cover states that it addresses "Beginning, Intermediate, and Advanced" levels. While not a tome, it's quite comprehensive, with 263 pages. There are references when appropriate to screen previews and web output, but this book's emphasis is on printed copy, whether on your own inkjet or laser, at the nearest copy shop, or at a commercial printer.

An old bromide states that the best way to choose a computer is to decide what you want it to do for you, choose the software that does it, and only then select the hardware that will run that application. Probably knowing that no one ever was actually that sensible, our authors begin with a parallel suggestion, "Before you begin to create your printed project -- before you type a headline, or take a photo, before you even turn on your computer -- you have to know your final goals..."

The first chapter specifies the questions the user must ask, the answers may come from a client (perhaps other volunteers in your club, including the Treasurer), various resource providers (the friend with a colour printer, or the format of an existing graphic that's required), or often simply from one's knowledge of what's possible or not. We are reminded that many jobs need nothing more than a word-processor and a desktop printer, and perhaps a copy shop if we need many copies.

This chapter includes elementary things such as kinds of paper, kinds of folds, signatures, covers, binding, colours; Chapters 2 and 3 continue with discussions of desktop printers and their differences (there is a practical discussion of the PostScript language), printshop equipment such as imagesetters, drum-scanners, and print shop production processes (some quite esoteric).

The amateur doesn't have to remember all those details, but it's very helpful for an amateur to know that explicit explanations are readily available.

The next several chapters cover computer applications, computer colour, raster and vector images, resolution, and file formats. There are delightful bits like "Do not scan as grayscale any lineart images that need to have smooth edges," and "Windows has a BMP format that's just as stupid as the PICT format on the Mac...Don't use BMP files

in documents that will be professionally output."

Such statements are always supported with a "why" or with a graphic example, so we're not left with mere dogma.

Those chapters are almost worth the price of the book because they include excellent discussions of image size, file size, dots-per-inch, lines-per-inch, compression algorithms, compatibility (or lack of it) among image-editing and vector-drawing applications and their native formats et cetera.et cetera et cetera. The next major section covers colour, particularly when preparing document for a print shop, with sections on process colour, spot colour, Pantone and colour-matching, and the like; it's all there.

Following that we return to the input end, with chapters on scanning, digital cameras, stock photos and clipart, and fonts. Like the first chapters, this section is worth the price of admission. First up are Principles and types of scanners, Scanner Software (resolution, colour mode, scaling, sharpening, coping with different art forms, even some legalities we must know). Then come digital cameras, high-end and consumer-level, and how they're best used, and more information than I knew was necessary about clipart and stock photos, again with regard to the legalities involved. Most of us are familiar with the royalty-free clipart that is included with programs like CorelDraw, but we must not forget that many other graphics providers are in business for profit.

The Fonts and Outlines section is predictably excellent, with details of styling, paths and similar hands-on stuff. There's a Bottom-line Rule: If it works on your desktop printer and it Makes You Happy, then Do It; but if you send your material to an outside printer you must abide by their rules or you won't get the results you expect.

There's a plug here for two other Williams books: *How to Boss your Fonts Around*, 2d Ed. (Mac) and *The Non-Designer's Type Book* (Mac or Windows).

The last major heading is "Getting Your Work Printed;" there are five chapters, the last being a pre-flight checklist. I won't comment on them specifically; they're all good nuts-and-bolts material, perhaps best summed up by "Know your printer." In that connection, there's even an interesting bit on the development of the Service Bureau.

Our Authors finish up with a genuinely helpful quiz, an appendix on resources, another with the quiz answers (and reasons when necessary) and a good Index.

I intend to look up the Williams font book.

THE FUN SIDE OF LAPTOPS
NOT FOR ROAD WARRIORS

by Alex Dumestre
1960 PC Users Group

Several months ago I wrote a "what I did on my vacation" type article relating the glories and tribulations of an extended vacation with a digital camera in a foreign land. This article will point out the vast difference that additional technology can have on the digital travel experience.

I have not been able to repeat the extended foreign bit but I've had enough experience traveling with a laptop in recent months to be able to realize what a difference it would have made last year. My basic problem on that trip to France with a brand new digital camera was the fact that, over a period of three weeks, I would end up taking perhaps 500 photos and had no place to store them.

The relatively low penetration of digital photography in the French provinces combined with my inadequate knowledge of the language prevented me from finding a service that would unload my camera memory onto CDS or Zip disks. My advance suspicions that this might be the case led me to purchase a relatively large (at the time) 32 MB memory card for my camera.

After only a few days it became evident how woefully inadequate this would be. Three days of clicking high-resolution pictures had eaten up a serious amount of my storage capacity. I recognized then that in order to make it the ten days before arriving at a large city (Nice) I would have to switch to lower resolution photos. I had hopes that in Nice I would be able to find the unload-to-disk service that I needed and therefore be able to start afresh for the second half of the trip. No such luck. The only thing that salvaged photo-taking on the second half was the purchase of a second 32 MB card (at twice the price of my U.S.-bought card).

What a difference a year makes

If I were to make that same trip today there would be several things that would make it a much easier experience. The most serious problem of mass image storage could be solved (for a few hundred dollars) with one of the several Zip or Microdisk drives now available that can serve not only as external data storage drives for PCS but can even function as stand-alone storage devices. Plug the device into AC power (don't forget the transformer that is likely required in other countries) and the camera into the device and store away. This is as expensive as, but much more versatile than, simply buying more cards.

My solution, however, has been to acquire a laptop computer as a Christmas present. The high price of laptops would certainly make this an expensive solution if camera unloading were the only thing that a laptop was useful for. But given the versatility of computers in general and laptops in particular, it has been easy to find many other

applications for this wonderful device. Since many of you are road warriors this is like preaching to the choir, but many of our members have never used a laptop computer and this is aimed at them.

Laptops on vacation

Ok, unloading pictures to a laptop's hard drive is obvious -- what else is it useful for on vacation?

Staying is touch with the folks back home via e-mail is one thing, and attaching a photo you took that very afternoon on an exotic beach on Maui is the ultimate way to emphasize that you are there and they aren't!

- ?? Surfing the Web is a great way to stay current on weather, news and sports back home.
- ?? You can have all of your favorite applications loaded on your computer and use them as desired.
- ?? If you are into photo editing, you can adjust exposure, crop, and otherwise enhance the photos you took that day. You can confirm that the pictures you took were of good quality while you may still have time to return to the photo site for a second chance.
- ?? You can make reduced resolution copies suitable for e-mailing.
- ?? If you just can't stand any more awe-inspiring scenery or life-altering experiences that day you can retire to a session of Solitaire or Minesweeper. This is especially helpful if your most recent life-altering experience was breaking your leg on the expert slope yesterday.
- ?? You can use your word processor to keep a daily journal of your unforgettable experiences (yea!) or you can use your spreadsheet program to keep a running, up to the minute and up to the penny record of what your vacation is costing you (bummer!).
- ?? You could use a road atlas program to help find your way around. Add a GPS (Global Positioning System) receiver to really wow the natives and the spouse.

You get the idea....

All of this comes with little or no change of routine if you are a user of one of the big national or international online services such as AOL or MSN. Otherwise, plan ahead.

Preplanning

None of this happens without some preplanning if your usual ISP is a local one. If this is the case you must find a (preferably free) Internet provider that has access numbers available in the regions of the U.S. or the world that you will be visiting. Be sure to verify this later point before registering and be sure to record the access numbers for each of the stops that you intend to make. It could be an expensive oversight to arrive in Kenya and find that you forgot to look up the local number in advance and have to call the Internet provider long distance to find out. When you find one or more Internet providers that cover your region then register and take the time to practice connecting to them from your home to be sure that you understand how to use their services.

If you normally use a local ISP for your e-mail then be sure that they provide some sort of Internet access to your mail, else you will have to place a long distance call to them to check and send mail! As an example, I use Houston-based PDQ as my ISP. If I go to their Web site I can click into their QMail service to read and send e-mail from my regular account. If your provider doesn't have such a service then you should register for some free Internet e-mail service and remember to give all of your friends the special e-mail address. Once you have solved the Internet and e-mail access problems you are most of the way home.

One other area that requires some preplanning, even for users of worldwide online services, is that there may be information that resides on your desktop (or elsewhere) at home that you have neglected to, or chosen not to, duplicate on your laptop. It is frustrating to be ready to totally traumatize friends with a killer photo from your vacation paradise only to realize that you can't remember their e-mail addresses. So plan in advance to make address books, schedules, lists and other needed information available either on your laptop or by uploading them to one of the many Web sites that provide free, password protected, storage space to registered users.

Other Leisure Uses for Laptops

There are of course many other uses for laptops that help justify their purchase. Many of you know that I am active in genealogy research. My laptop is very useful to have at the library. I can have my whole genealogy database with me for quick reference; I can have my notes and to-do list in a more convenient form for updating than if it were hardcopy; I can even use my digital camera to copy documents or book pages and -- very important -- verify that the pictures are usable before leaving the library. I recently had the opportunity to verify that most of the vacation uses listed above (alas, not the beach part) also apply to a stay in the hospital (double bummer!). Isn't technology wonderful?

Alex Dumestre has been associated with computers since the mid '60's, most of the time developing geophysical applications for use on mainframes, minicomputers, and work stations. He is a bit of a nut about graphics but is a perpetual novice on PC's. He is a member of the 1960 PC Users Group of Houston TX and can be contacted by e-mail at DumestreA@PDQ.net.

WEB SITES OF INTEREST:

More on DSL

The President of Copper Mountain Networks details his views on the future of DSL at Ragingbull.com.

Charity

You can donate dollars per day without leaving your computer. Look at:

donations .com,
4goodnesssake.org,
freedonations.com,
egenerosity.com,
greatergood.com for details.

Ongiving.com lets you earn money for any of 600,000 local and national nonprofits by keeping an adbar running in the background as you surf the web.

One click at the hungersite.com donates food to the starving.

Oddity

Need something you don't have on hand? Find something else that can handle the job at http://www.wackyuses.com/uses .html.

Society News

PROGRAM MEETING MINUTES

October 10, 2000
Charles Grover, Secretary

President Joe Varga convened us at 6:30 p.m. on Tuesday, October 10, 2000 and moderated Helps Half Hour.

At 7 p.m. we moved into the business meeting. At the request of Treasurer Steve Staub, Tom Bowllan explained that an Apple laptop with monitor and docking station is available for club purposes. Tom also returned a copy of Power Quest's Second Chance program, which he had won. He can't use it on his computer and wants another person to have the opportunity to try it and write a review.

Next month's meeting is expected to be a Sound Bytes recording session for holiday prerecorded use.

Our web site was discussed, and the need for help maintaining it.

The Membership Drive and Classes still need some work, as in finding meeting places where 812 computers are available. One member suggested trying to set the classes up as a school continuing education program.

Another member suggested working through Senior Net at the JCC, where nine computers are available.

Merrill Lynch representatives presented the first program segment at 7:20. We were told that more people in the United States own mutual funds than own houses. Computerized financial services have enabled Merrill Lynch to offer a variety of detailed information retrievable by customers. Data, analysis and educational material are available. An overview of estate planning issues was offered for our orientation, stressing the importance of wills, durable powers of attorney, health care proxies, and retirement plans. The overall impression was of a blend of prudence and expertise aided by technology. The questions indicated a variety of interests. The Palm Pilot door prize was awarded to Chris Muller.

Frontier did the second program segment, on Lightning Link, their DSL (digital subscriber line) service. They described the technology and the services they offer, and how to use them. The Lightning Link web site allows us to check for availability of the service at our homes. Special rates are in effect at this time. Information packets were distributed and registration cards for a drawing for DSL service were collected. The Frontier team answered another series of questions before we adjourned shortly after 9 p.m.

PLANNING MEETING MINUTES

October 17, 2000
Charles Grover, Secretary

President Joe Varga convened the October 17, 2000, Planning Meeting of the RCSi Board at 7 p.m. at the offices of Heveron & Heveron, Rochester. Also present were Ron Matteson, Larilyn Bauer, and Charles Grover, Secretary. Sally Springett and Jim McGrath arrived later.

We discussed the October program meeting. Although the meeting was lengthy, feedback was favorable on both programs.

Joe is working on finding a program chair. We discussed possibilities.

As announced at the program meeting, an assistant is needed to help keep the web page up to date. Our president can make necessary software available to an assistant.

To satisfy our need for a Communications/Software Chair, Joe informed us that Frank Howden will communicate with software companies but needs one or more others to identify software we should request for trial and review. We talked about the importance of reviews being turned in by those who receive software and the need to hold recipients accountable. We considered ways to get suggestions for software to try to obtain for review. Jim McGrath is willing to run drawings, keep track of from whom reviews are due, and see that reviews come in for publication in *Monitor*.

We brainstormed a number of ideas for future programs, including aspects of data bases and of digital photography.

The biggest holdup for the planned training program is finding a room with eight to ten computers available.

We adjourned shortly after 8:30 p.m.

TREASURER'S REPORT

Steve Staub

Income:
Membership $230.00
Rent of equipment 85.00
Total Income $315.00
Expenses:
St. Stephens (2 mo.) $30.00
Rent of folding machine 85.00
Heveron & Heveron 100.00
Food 4.89
Total Expense $219.89
Balance as of 10/26/00 $1,460.43

The Lighter Side

Computer Blessing

Blessings on this fine machine,
May its data all be clean.
Let the files stay where they're put,
Away from disk drives keep all soot.
From its screen shall come no whines,
Let in no spikes on power lines.
As oaks were sacred to the Druids,
Let not the keyboard suffer fluids.
Disk full shall be no more than rarity,
The memory shall not miss its parity.
From the modem shall come wonders,
Without line noise making blunders.
May it never catch a virus,
And all its software stay desirous.
Oh, let the printer never jam,
And turn my output into spam.
I ask of Eris, noble queen,
Keep Murphy far from this machine.

A GUIDE TO SOFTWARE REVISIONS

Once you start playing with software you quickly become aware that each software package has a revision code attached to it. It is obvious that this revision code gives the sequence of changes to the product, but in reality there's substantially more information available through the rev-code than that. This article provides a guide for interpreting the meaning of the revision codes and what they actually signify.

1.0: Also known as "one point uh-oh." or "barely out of beta." We had to release because the lab guys had reached a point of exhaustion and the marketing guys were in a cold sweat of terror. We're praying that you'll find it more functional than, say, a computer virus and that its operation has some resemblance to that specified in the marketing copy.
1.1: We fixed all the killer bugs.
1.2: Uh, we introduced a few new bugs fixing the killer bugs and so we had to fix them, too.
2.0: We did the product we really wanted to do to begin with. Mind you, it's really not what the customer needs yet, but we're working on it.
2.1: Well, not surprisingly, we broke some things in making major changes so we had to fix them. But we did a really good job of testing this time, so we don't think we introduced any new bugs while we were fixing these bugs.
2.2: Uh, sorry, one slipped through. One lousy typo error and you won't believe how much trouble it caused!
2.3: Some jerk found a deep-seated bug that's been there since 1.0 and wouldn't stop nagging until we fixed it!!
3.0: Hey, we finally think we've got it right! Most of the customers are really happy with this.
3.1: Of course, we did break a few little things.
4.0: More features. It's doubled in size now, by the way, and you'll need to get more memory and a faster processor.
4.1: Just one or two bugs this time. Honest!
5.0: We really need to go on to a new product, but we have an installed base out there to protect. We're cutting the staffing after this.
6.0: We had to fix a few things we broke. Not very many, but it's been so long since we looked at this thing we might as well call it a major upgrade. Oh, yeah, we added a few flashy cosmetic features so we could justify the major

upgrade number.
6.1: Since I'm leaving the company and I'm the last guy left in the lab who works on the product, I wanted to make sure that all the changes I've made are incorporated before I go. I added some cute demos, too, since I was getting pretty bored back here in my dark little corner. They're talking about obsolescence planning but they'll try to keep selling it for as long as there's a buck or two to be made.