

MONITOR

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Why Do I Care?

by Wil Wakely
Seniors Computer Group, CA

This article might be a bit ‘techy’ for some of us, but it is important to know a bit about what goes on inside of our computer so when something bad happens, we have a clue as to what might be wrong, and we can save time and money by not having to hire a high-priced technician to fix a simple problem.

First, let’s review the hardware. The **power supply** converts the house electricity, 110 Volts AC (alternating current), to the appropriate lower DC (direct current) voltages that the rest of the computer requires. It contains a fan to keep it cool, which is about the only noise you should hear. There is one large printed circuit board inside called the “**motherboard**”, because it contains connections, or “slots”, where other smaller “daughter boards” can be installed that do specialized functions. The motherboard is essentially the “head” of the

computer and contains the major memory and connections for all of the other components. It has connectors for the keyboard, mouse, hard drives, modem, video, sound, fan and USB devices. It also contains the **CPU**, Central Processing Unit, a large computer chip which is the genius that runs everything. The latest versions of the CPU can do over three billion calculations per second, so it is really loafing most of the time. It is truly multi-tasking which means that it can do a variety of things at the same time.

So here's what happens when you first turn on your computer and it "**boots.**" Booting comes from "bootstrapping", or lifting oneself by his bootstraps. The computer needs to know some rudimentary facts about itself before it can come fully alive. This information is retained in a computer chip on the motherboard called a **ROM** (Read-only Memory), which permanently retains certain information without requiring any power. There is a small disk-type battery on the motherboard which allows this ROM to be read.

This battery also keeps the clock running while the computer is off, so if the clock time begins acting strangely, the battery may need to be replaced; however, it is usually good for years. This ROM contains the **BIOS** (bye-ose) which stands for Basic Input Output System, and instructs the computer where to find more information in order to fully start up. A process called **POST** (Power On Self Test) runs to test the memory and make sure the rest of the computer is healthy. It gives a series of Beep Codes to indicate the state of health. One beep means everything is okay. A Google search of Beep Codes will tell you what's wrong if you get weird beeps while Booting. If you press the Del(ete) key *immediately* after pressing the start switch, a screen will show the BIOS settings, which can be modified if necessary. Be careful!

Hard drives are so important to the computer that it helps to understand how they work: Think of them like the old Juke-boxes – lots of LP records that each can be played with a moveable tone arm. The hard drive has hard metal platters, unlike old floppy disks which were flexible. They contain tiny magnetic spots which, depending upon how they are magnetized, indicate a one or a zero, which is the binary language the computer understands. A moveable "head," like the tone arm, "reads" the magnetic state of the spots, called magnetic domains, and "writes" to change the magnetic polarity. Rather than a spiral track like an LP, the hard drive has ever larger concentric circles called cylinder tracks. The platter is also divided up into sectors like pieces of a pie. So to find a file, the head moves to a specific cylinder track and sector and reads the data that is there. A large table of contents called a Partition Table contains the track/sector location of all the files. Obviously, if this table becomes corrupted, the files cannot be located. Fortunately, a backup copy is auto-matically retained. However, if the hard drive dies, this backup copy is useless. (Backup! Backup! Backup elsewhere!)

While booting, the hard drive is recognized and a small area at the front of it is defined as the **MBR**, Master Boot Record. This contains enough information about the hard drive to locate the **OS** (Operating System) like Windows and load it.

The OS has its own sub-conscious memory called the **Registry** which contains a wealth of information about the computer and files. This now loads and can take quite a while if it is large. If this Registry file or the MBR gets

corrupted, it is a major problem.

Now we are almost home free. The next thing that happens is to load the **StartUp** files. These are programs that start automatically when you turn on your computer. If there are a lot of these it can drastically slow down the boot time. You can see and change these Startups by typing “run msconfig” and clicking on the StartUp tab. Check or uncheck the programs you desire. Keep these to a minimum for faster booting.

At this point Windows should be running and you are a happy camper to have full control. As you can see, lots of things happen before you are allowed at the controls, and all it takes is a minor glitch in any of these booting processes for your computer to fail to boot. It’s amazing that it works at all!

Frequent **backups** of your hard drives are the solution to major computer headaches. It is not a case of ‘if’ your computer crashes, it is ‘when’.

Happy computing!

From the October 2011 issue of Bits and Bytes, newsletter of the Seniors Computer Group, San Diego, CA

Password Tracking - Windows and Mobiles

by Merle Nicholson

Tampa PC Users Group, FL

Tracking passwords has always been a problem for me. Years ago I started a password Document to track everything, and, while it worked, it left a great deal to be desired. The problem was much larger than just username and password. I needed to save the URL to log in to websites. I needed to track expiration dates for subscriptions. I needed key codes for software. I have five different logins with Microsoft. Yes, I could reuse some of those, using the same login and password, but not always. For instance, sometimes your login is the same as your email address, but most times not. Making it more complicated, different sites have different login and password requirements.

And Verizon! I have SIX different logins with Verizon: Call Assistant, Verizon Central, Verizon FIOS, Verizon Mail Account, Verizon Mail and Verizon Wireless.

So I developed some “password rules” for myself. I decided that if I could remember more than just a couple of passwords, it was because 1) I had to reuse them (a bad thing) and 2) they were too simple. So something had to go. I decided I need really good passwords and I couldn’t handle it in my head.

One of my sons suggested the KeePassX database he’d been using for a while, and I started using it sparingly, slowly embracing its features as I got used to it. The program is maintained professionally and is available free of charge. You can look at the program at <http://www.KEEPASSX.org/> to see if this will suit your own needs. Of particular interest is the variety of devices that it works on. You won’t see any mobile

versions at the website, but each of the mobile devices has a version available from its own app store. I use the Android version on my Motorola Droid X.



The program uses an encrypted database, and I guess ideally there should be a way to automatically update or synchronize between devices. I own several computers and my Droid, and I need the database on all of them. I could use Microsoft Live Mesh or Dropbox or something like that for synchronization, but I dislike the idea of my password database being in the “cloud.” So for now I use a flash drive to copy the database file to my computers, and I connect my Droid to my base computer via USB and drag and drop the file.

I’ve found that, in practice, I don’t have to refresh the files very often. None but the one on my main computer is up to date at any one time, but it never seems to matter.

What is so useful about this program is that I can store any useful information along with the URL and the logon and the password. For instance, my Amazon/Kindle account logon has the names and Kindle email addresses of two Kindles, two Droids (smart phones), and two PCs. It’s a logical place to keep all this stuff.

Right now I count 82 database entries, and I’m very careful to keep it trimmed of anything not useful. It has a configurable password generator and the ability to look at the password when you want to instead of a line of asterisks.

I got an email to my Droid with a notification of an event on the TPCUG forum before I would even think of firing up my main computer. I needed to log on using a regular account on the forum. The peculiarities of a smart phone with just an on-screen keyboard that needed a complex login and password should have been just too daunting. But on the Android version of KeePassX, when you select the group (TPCUG) and title (User Logon), the database puts two little buttons in the notification strip at the top of the screen. So when you open the browser to the site, you just poke the login notifier, then poke and hold on the login box and a paste menu appears that you poke and it’s pasted in place. Then the same for the password and I was in and out in seconds.

What a deal, and it’s free. There are versions for Linux, Mac OSX, Windows, iPhone, PocketPC, Blackberry, and Android. If you think you don’t need one, your passwords are too simple and you’re using the same one for everything. [Http://www.keeppassx.org](http://www.keeppassx.org).

Is it Time for a New Computer?

by Greg Skalka

Under the Computer Hood User Group, San Diego, CA

No matter what kind of computer you have, it is likely you will eventually need to replace it. The personal computer seems to have become an essential part of our everyday lives, providing information, communications, entertainment, education and organization. Computers can assist in all aspects of our financial lives, from searching for prospective employers on the web, creating a resume, managing your pay through online banking, tracking your finances and filing your income tax returns, to creating a will to pass your remaining wealth to the next generation.

It seems the personal computer is something most people can’t do without. Yet our computers do break or wear out eventually. Regular maintenance and careful use can extend their useful lives, and user groups are great places to

learn about ways to keep your computer running longer and get support for computer problems. Even when perfectly maintained, however, the advance of technology has a way of quickly making your old computer seem slow, inadequate and behind the times. At some point, it may be best to put the old machine out to pasture and get a more powerful, capable and reliable model.

I've been thinking about new computers for a while, and my thoughts on the matter might be of help to others whose situations are similar. I recognize the benefits of the latest technology and highest performance, but I am generally thrifty and want to get the best value for my computing dollar. I like the latest and greatest, but I'm usually not considered an "early adopter," especially if the technology is expensive and unproven. I don't have extreme computing needs like gamers do; I don't need the computer equivalent of a Ferrari, but am happy with a reliable though slightly sporty sedan.

I've never bought the latest or most powerful computer available, because those typically carry a premium price. Rather than buying on the cutting edge, I prefer the middle of the blade, where economies of scale and the competition of many vendors has brought the price down a bit. I try to keep my computers running as long as I can to get the most value out of their purchase, but if I didn't pay quite so much in the first place, I feel less resistance to replacing for newer technology after a few years.

I've never actually had a computer fail (that could not be easily repaired), but I have gone through a string of machines replaced due to eventual poor performance or feature envy.

From the October 2011 issue of Drive Light, newsletter of the Orange County PC Users' Group, Placentia, CA.

Review: Degunking Windows 7

by George Harding

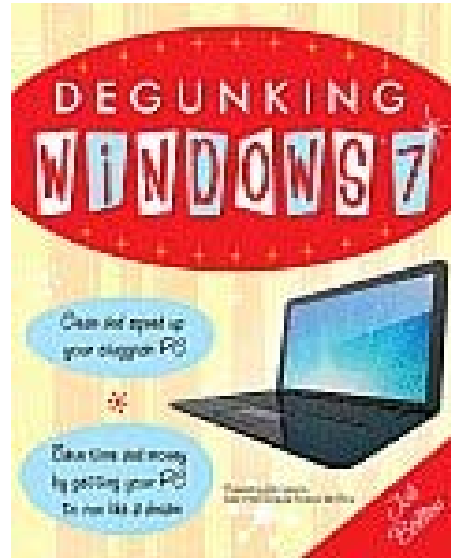
Tucson Computer Society, AZ

The book is written by Joli Ballew, an author (36 books!), trainer and web site manager. She has written for the McGraw-Hill How to Do Everything series. The book has 273 pages, including an extensive Index of 19 pages. The theme of the book is how to easily clean up your PC and speed it up. The process does not involve any special tools. All you need is already contained in Windows 7. If you are running XP, Vista or 2000, many of the tools you need are available in those programs as well. A few are only in Windows 7.

The author has developed a 12-step process for degunking your computer. Here it is:

1. Get rid of files and programs you don't need.
2. Organize the remaining files and folders.
3. Clean up your desktop, Start menu and Task Bar.
4. Optimize your hard drive and limit the programs that run in the background.

5. Clean up and secure Internet Explorer and consider alternate web browsers.
6. Reduce e-mail spam, back up e-mail and organize e-mail.
7. Install Windows updates and reconfigure anti-virus, anti-malware and anti-adware programs.
8. Clean up your network and create a homegroup.
9. Fix problems with media, including duplicate files, files that won't play and files that are taking up hard drive space unnecessarily.
10. Optimize syncing with cell phones, music players, iPads, iPhones, netbooks and laptops.
11. Get rid of errors for hardware, the operating system and third-party programs.
12. Create a working, reliable and fool-proof backup system.



She realizes that not everyone can afford the time or is interested in doing every one of the steps. To address that she has developed 10-minute, 30-minute, one-hour and half-day programs. These capture the most significant actions that will give the most benefit for the time allotted.

The first step is probably the most difficult and time-consuming, because you pretty much have to look at a lot of the document, pictures and media files to determine what can be trashed and what must be saved. If you click on the Change My View button (in Documents or any folder) and select Details, simply click on the Date header to sort by date and see the oldest files. These may be the most likely ones to delete.

If you press the Delete key or right-click and select Delete, the file will be moved from its current location to the Recycle Bin. This is just a different location on your hard drive, which you can empty from time to time. To permanently delete a file, hold down Shift while you delete.

Getting rid of unused and unwanted programs can be easily done through Control Panel/Programs. Here, you can uninstall those programs you no longer need and those you didn't know you had. While you're there, note on the left side of the frame the option to turn off Windows components. Here, you can turn off or on various Windows components.

One last thing to do to clean things up is to run Disk Cleanup. In the Start menu Search window, type "cleanup" and click on Free up Disk Space. When the analysis is done, you see a list of types of files and the amount of space that would be freed up by deletion. Check or uncheck as appropriate and click OK.

You can organize your files by creating folders inside the major system categories. For example, to organize your client letters, create folders in the My Documents folder for each client and save files in each for your clients. Likewise, for pictures, classify your photos by creating a folder for each trip or subject. You'll be able to find the pics you need much more easily this way.

Lastly, defragment your hard drive to reorder and reconnect the files you've

moved and deleted. Right click your drive in Windows Explorer, choose Properties, then Tools. Click Analyze to see if defragmenting would be advantageous. You can also adjust the scheduled defragmentation that's currently set up .

You should clean up your Desktop by deleting any icons and shortcuts you don't use. You can put a shortcut on the Desktop for Computer or Network by browsing to that folder and right-clicking. Choose Send To/Desktop to create a shortcut.

You can customize your Start menu by right-clicking the Start icon and choosing Properties, then click on Customize. I like the Recent Items choice because it avoids having to first launch an application, then open the document I want to continue with. You can also pin items to the Start Menu or Task Bar by right-clicking and selecting Pin to Start Menu or Pin to Task Menu.

The author points out several things you can do to optimize your hard drive: convert to NTFS (assuming you're still on FAT), run Check Disk (under Properties of your drive), run Performance tests, run Disk Cleanup.

One of the most powerful enhancements is in Performance in Control Panel. Here you can adjust visual effects, control indexing and change system settings.

There's a chapter on IE8, including how to turn on Compatibility View, remove toolbars and add-ins, and explore privacy and security settings.

Chapter 8 deals with email, how to organize it, filter it and how best to deal with spam. It also shows you how to back-up email lists.

Chapter 9 deals with the important subjects of security, Windows Update and the use of firewalls and other security packages.

The balance of the chapters deal with less crucial subjects. They may be of interest to some users, but probably not all.

I found this book to be useful. I tried out many of the ideas both to see how they worked and to see the improvement that might result.

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The Tip Corner

by Bill Sheff

Lehigh Valley Computer Group, PA

Rename Multiple Files at Once

Did you ever have a bunch of files, folders or pictures with similar names like DSC_12234? They are so uninformative. So I used to open Picasa and do a batch rename ... it worked. But here is a simpler way without opening up another program. Highlight all the files/folder in question. Right-click, choose Rename and call it something that best describes them. For example, Family Picnic. Quick as a flash they are renamed to a uniform more meaningful name. The only thing I don't like is that the sequential numbers are put in parenthesis while Picasa allows you to set the numbering convention. Either way you get rid of files called File1, File2, etc.

Reformat a flash drive

I think this is a tip that is not really needed, however there might be some of you who are wondering if you have the capability of reformatting a flash drive. Well you do, and here is a reason you might want to. Lots of flash drives are formatted in FAT32. Today we know that a more space saving method is the format NTFS. So to pump up the drive to save a few more files you would want to change to the NTFS format. Actually, a flash drive can be reformatted the same way as any other drive.

As we know, when you plug in a flash drive your computer automatically assigns it a drive name and it looks like any other hard drive, so just go to “Computer,” right-click on the drive, and then click on “format.” You then have some options. File type should be NTFS (or FAT32 if available). You can then assign a name to the drive, and finally you can decide if you want full or quick format. The full format will take a lot of time and actually reformat the whole drive. The quick format just erases the File Index. It does not change any bytes on the drive, Then just click on “Start.” When done the “format will say complete.”

Now, here are a couple of caveats you should be aware of. If the flash drive came with certain programs, such as security or maintenance programs you might want to copy them to your hard drive during the format and copy them back over after the format is finished. A format destroys all data (or at least hides it from normal viewing).

Also, there is some thought that reformatting will reduce the life of your flash drive. Does it? By how much? Hard to quantify, and even harder to decide if that it actually does reduce the life of your drive. I really wouldn't worry about that.

Storing important files

While on the subject, which is better for storing an important file? Your computer hard drive? External drives? Or optical media such as CDs and DVDs? Where to store precious pictures or personal data is a serious question. How long will a disk or drive last? Will it fail? Will the medium become obsolete? (Anybody still remember floppy disks?) To answer this question, first we need to look at some of the qualities and limitations which the most commonly available storage formats present.

Storage Format: Hard Disk Drives

Pros: Large storage capacity for the price / Typically good lifespan.

Cons: Susceptible to malfunction due to mechanical failures and physical impact.

Inside your computer (desktop or laptop) is probably the safest place to store your hard drive(s,) but doing so will not guarantee a trouble free experience. Why? There are just too many moving parts.

Inside the hard drive case are discs which spin as a mechanical arm which moves back and forth above the disc surface, reading and writing data to and from the platters beneath. While this method of data storage has worked for many, many years, there has always been one unavoidable fault which leads to inevitable failure of a hard drive ... the aforementioned mechanical parts. As with any device which relies on constant and precise mechanical movement to

run, hard drive parts eventually fail, usually taking your data to the grave with them. Due to the precision with which they operate, hard impacts may also cause a hard drive to read or write data in error, and possibly fail altogether as well. Despite these shortcomings, most hard drives have a life expectancy of at least 3-5 years, with many reportedly living a healthy life at 10+ years of age.

Storage Format: Optical Media (CD-R / DVD-R)

Pros: Inexpensive, portable

Cons: Inconsistent lifespan, temperamental storage requirements, data lost over time due to degradation

Optical media are quite handy for short term storage of data. However, they remain a less than desirable choice for long term and mission critical data archival. The reason is simple: everyday optical media degrades quickly and easily. Although many manufacturers claim their optical media will last for 30 years or more under perfect conditions, their actual lifespan with normal use and storage is typically closer to a few years (at most) than a few decades. There are many different factors which conspire against the lifespan of CD-R's and DVD-R's; sub-par dyes (the reflective portion of a disc where data is written) which degrade much sooner than rated, exposure to heat, cold, or sunlight which also degrade said dyes, and weak or wrongly calibrated optical disc burners which fail to write data as intended. All of these factors make every day optical media formats a less than favorable storage choice; ok for short term data storage, but definitely not the choice for long term backup of important information.

Storage Format: Flash Drives

Pros: Durability, Versatility

Cons: Debatable life span, higher price per gigabyte

The last decade has given rise to the newest consumer storage devices in this comparison: solid state flash (aka thumb) drives. Unlike the aforementioned storage mediums, flash drives use no moving parts or temperate dyes to store data, relying instead on electrical pulses to write data to a static storage chip. This method of storage allows for much higher shock resistance and durability, as well as smaller form factors and increased portability, than what is traditionally offered in a hard drive or CD/DVD.

The downside to this fantastic usability is a generally higher price per mega/gigabyte (i.e. for the price of a 32GB flash drive, you could purchase a larger portable hard drive with a terabyte (1000 gigabytes) of storage.) The life expectancy of flash drives is also up for debate, as the solid state memory used to store your data does wear out the more times you write to it. Good quality flash drives from well known, trusted manufacturers are typically agreed to have a life span of a few years or more, making the flash drive a good choice for your everyday data storage needs.

By now you're probably thinking to yourself "should I use any of these formats to store my data?" The answer is yes: use all of them. If you want to sleep soundly at night without worrying about your irreplaceable pictures, videos, documents, etc., regularly back up your important data on at least two sources; creating duplicates which will allow you to retrieve your important information should any one backup fail completely. And keep in mind, as newer methods arrive, such as BluRay disks or bubble memory or cheaper solid state

drives, the older methods such as CDs and DVDs start fading away. As I asked earlier, "Remember the floppy drives?" I gave away hundreds of 5 ¼ floppies, and still have hundreds of 3 ½" discs. Anybody still have a drive to run them on?

Three Gadgets for Your Digital Camera

by Sharon Walbran

Twin Cities PC Users' Group, MN

As an avid photographer with a couple point-and-shoot digital cameras I am always on the lookout for gadgets to improve the experience, but that will not break your pocketbook. Here are three gadgets under \$20.00 that solve issues with digital cameras, and are worth exploring.



Delkin LCD Shade. LCD displays are great for giving you a preview of the picture you are about to take and then, after the picture is taken, showing the picture you took for review. Unfortunately, in the bright sunshine, the LCD display is almost impossible to see. The Delkin Popup LCD Shade 2.5", sold through Amazon.com, is a good solution.

This simple, lightweight plastic shade attaches to the body of the camera with adhesive.

When flipped up the LCD can be read even in bright sunlight. The side wings fold in and the shade folds down to neatly cover

the LCD and protect it from scratches and damage. The side wings are delicate and could easily break. In the closed position the shade has a small footprint so there is no added bulk from this device. The price varies but can usually be purchased for around \$10.00.

Quikpod Compod Extendable Handheld Tripod. If you've ever been on a trip and wanted to take a photo of yourself and another person but hesitated to hand your camera over to a stranger, then this is the gadget for you. This device is

about a foot long with a diameter of about an inch and easily fits in a purse or a backpack. On one end is a screw that attaches securely to the bottom of your digital camera. Then from the end nearest you, you can release a chrome knob that extends the Compod to as long as 38.5 inches. To take a photo of yourself or yourself and others, turn on the self-timer on the camera, strike a pose, and take the shot. The Compod can also be used to take a photo over a crowd of people. It has a solid, steady feel even at a considerable extension. Aiming the camera in the precise location takes some

practice. The Compod is just one of several products in this category. One of the other products is the Quikpod Convertible Tripod and more accurately called a



tripod, because the rod converts to a 3-legged tripod, The Compod is available from Amazon.com for under \$20.00.



Joby Gorillapod. Taking photos in low light demands the use of a tripod because no one can hold a camera steady enough at such a low shutter speed. Sometimes finding a flat surface to place a tripod on is difficult. The Gorillapod screws into the bottom of the camera and then, with its flexible spidery legs, can be twisted to secure the camera to a fence post or the branch of a tree to hold it steady. The Gorillapod comes in different sizes to fit compact digital camera and the heavier SLR Cameras. Higher end and more expensive models now come with a level bubble so you can check that the camera is

level when it takes the photo. Of course, the Gorillapod can be set up as a conventional tripod as well. It's lightweight and fits into a purse or backpack. The Gorillapod is available from Amazon.com, Target.com, Adorama.com, and numerous other sellers. The model for the compact digital camera usually sells for under \$20.00.

These are just a smattering of the gadgets available. In a future article I'll review additional gadgets after I've put them through their paces.

From the October 2011 issue of The Digital Viking, newsletter of the Twin Cities PC Users' Group, MN.

Destroy Old CDs

Q. I have an old magnetized eraser for 5.25-inch floppy disks. Can I run some



old CDs I want to destroy through it or is there a better way to destroy CDs?

A. The best way to destroy old CDs or DVDs is to physically destroy them. I usually give them one slash across the playing surface with a box cutter or a quick snip with pruning shears. It's very fast, but very permanent.

Q. I notice that you have been responding to a number of questions in your last few columns about the Apple iPad. Thank you for providing this information. I've been thinking of getting one, but wasn't quite sure. Do you have one and is it everything that it's cracked up to be?

A. Yes, and yes. I do have an iPad 2, with the optional 3G (wireless) service, and it definitely lives up to the hype. Mrs. Modem, who isn't a big computing enthusiast (she's 5' 1"), recently purchased one and her impressions are typical of most users: She is particularly impressed with how easy it is to use, how simple it is to install programs (called applications, or apps for short), and she loves that she doesn't have to fuss with anti-virus or anti-malware protection.

While she replaced her desktop computer with the iPad, that's not something every computer user will want to do, but in her case, she primarily used her computer for email and visiting Web sites, so the iPad was an excellent replacement.

A free app also allows her to read Kindle and other ebooks, so she also saved the price of a Kindle. In fact, her enthusiasm for her iPad is the reason I wrote the Pulitzer-lacking ebook series, "Mr. Modem's Top 50 iPad Tips" available on amazon.com.

To view all my humble-yet-fabulous literary offerings, go to amazon.com and search for "Mr. Modem." Behold the miracle of the book!

Q. In the upper right-hand corner of my keyboard is a key marked "PrtSc/SysRq." Someone told me if I want to print a map, for example, to put it on the screen, press the F11 key, then hold down the other key and the Shift key to print a full-sized map. Can you elaborate on this? I don't understand it at all.

A. F11 switches into full-screen mode for most browsers, allowing more of a page to appear. Pressing the Print Screen (PrtSc/SysRq) key captures the current screen and places it on the Windows Clipboard. You can then use any graphics editor (Paint is fine, located within Windows, under Accessories) or word processor and paste (by pressing CTRL + V) the saved image onto the screen and print from there.

Historical Footnote: The SysRq or SysReq key, which shares your PrtSc key is a relic from another era – not unlike Mr. Modem. Short for "System Request," unless specifically programmed for a particular application, today the SysRq key is as useless as a Kardashian at a MENSA meeting. The SysRq key doesn't appear on most new keyboards.

Q. This may be a silly question, but can you tell me the difference between a CD and DVD?

A. Other than the spelling (sorry, I couldn't resist), there are a number of technological differences between the two, but from a user perspective the primary difference is capacity. DVDs can hold far more data than CDs.

A typical CD can hold 700MB (megabytes), while a single-layer DVD can hold 4.7GB (gigabytes), more than six times the amount of data. While CDs are primarily used for data and audio, DVDs are primarily used for video.

Mr. Modem's DME (Don't Miss 'Em) Sites of the Month

Answers.com

A free, online reference guide with information covering more than a million topics. It's enough to make your head explode. The site's editors draw their data from a myriad of sources, including dictionaries, thesauruses (thesaurii?), encyclopedias, and atlases.

www.answers.com

Bookshare.org

Provides access to more than 125,000 digital books for the visually impaired. Works that are out of copyright are available to anyone; books that are still under copyright are available exclusively to Bookshare members. Individual, all-you-can-read, subscriptions are \$50 per year and you must provide proof that you have a "print disability" that prevents you from reading regular books.

www.bookshare.org

Compendium of Lost Words

Philologists and lexicographers will love this collection of hundreds of obscure and rare words. In order for a word to qualify for inclusion, it must be found in the Oxford English Dictionary, but it must not appear anywhere on the Internet – except, apparently, on this Web site. A few minutes perusing Forthright's Phrontistery will transform visitors from humble wordsmiths to knowledgeable, hyphenemious aretalogers – and you can quote me on that.

<http://phrontistery.info>

"Mr. Modem's Top 50 Computing Tips," a *life-altering five-ebook series, is just a download away on amazon.com! Each volume features 50 of Mr. M.'s greatest computing tips, all easy to understand, all written in Mr. Modem's entertaining and occasionally informative style.*

Building a PC

by Dick Maybach

Brookdale Computer Users' Group, NJ

There are several reasons why you might want to do this: you may be an experienced user with definite ideas about what you want; you may like to tinker and want a system that is easy to change; or you may want to save money by cannibalizing old systems. You probably won't save money, because you will probably use higher-quality and higher-performance parts than do PC system manufacturers. You will learn how PCs are assembled (but not how they work), which means that your computer will be easy to expand.

If you are building a new system, I highly recommend the book *Building the Perfect PC*, by Robert and Barbara Thompson, which describes six different PC designs, one of which is probably close to what you have in mind. They discuss system design and component selection, as well as the construction process, and recommend specific manufacturers and vendors. This is by far the best book I've read on the topic, and it's worth a scan at your local bookstore, even if you have no plans to build anything. You may find, as I did, that it will inspire you to get busy. There is just one caveat; although the book was copyrighted in 2011, technology has advanced, and there are superior replacements for many of the components they recommend.

If you are interested in the repair and refurbishment of older PCs, get a copy of *Upgrading and Repairing PCs* by Scott Mueller. This costs twice as much as the Thompson's book and is four times the size, but its scope is comprehensive. This isn't a set of step-by-step instructions, but is more of a PC reference book; as a result, you can expect to do some heavy slogging.

For the remainder of the article, I'll assume you are building a new PC with modern, high-quality components. (While it's interesting to assemble a system on the cheap, using no-name components, it will be difficult to build and perhaps unreliable.) The project will have four phases (1) system design, (2) parts orders, (3) construction, and (4) software installation and configuration, with system design taking the longest, typically longer than the other three combined.

You will first select the CPU. Both Intel and AMD make excellent products, but each has different strengths. (See the Thompson's book for the details.) I prefer Intel, because over the years I've had only good experiences with their CPUs and motherboards. Intel's website is invaluable in helping you to pick the

CPU that best fits your needs. You can read not only data sheets on particular models, but also download white papers on their technology. The site will also assemble tables that compare several CPUs, which makes it easy to see their differences. Years ago, we compared CPU performance by looking at just their clock rates, but today with such advanced features as multiple cores and multi-threading, this is no longer appropriate.

Once you have a CPU candidate, the Intel site can recommend a matching Intel motherboard. (Gigabyte and ASUS also make excellent motherboards and would probably be your choice for an AMD CPU.) Again, letting the Intel site build a comparison table will help your selection process. You should design more than one system; perhaps what you think you want, one with lower cost and performance, and one with higher. Keeping three balls in the air will help prevent you from making your final judgment too early. You should now download the manuals for all the motherboards you are considering. (The one I chose for my project was 88 pages, which was quite a nice change from the postcard-sized sheets we used to get with motherboards sold at computer shows.) Studying these manuals will help you select the best motherboard for your use.

Before going further with the electronics, you should consider cases, which must fit your motherboard. I used one from Antec on my project, and I'm very impressed with it, although I've also used Lian Li cases, most of which are aluminum models and hence are relatively light. If you have size constraints, you may find that you need a motherboard that is smaller than the standard ATX size. A small system box appears desirable, but be realistic; usually you can find room for a full-sized case on the floor and the cramped interior of a compact one makes it difficult to assemble and often noisy to cool. Again, download the manuals for any cases you are considering and eliminate any units for which good manuals are not available. My Antec case manual had 13 pages (again a nice contrast to the single sheet we would get for computer show cases).

Loop through the CPU-motherboard-case selection process as many times as needed to be sure you have sensible designs for the core components before you continue on to the other parts. For RAM, I prefer Crucial, but Kingston and Corsair are also good. Entering your motherboard model on Crucial's Website will result in a good recommendation, but check against your motherboard manual to be sure. Since most motherboards include quite capable integral sound and display controllers, you won't need expansion cards for these functions unless you have special requirements. I've had good luck with Seagate drives and always use these. Removable drives are a bit of a problem, since price considerations have driven high-quality products off the market (the Wal-Mart effect). Fortunately DVD drives are cheap and easily replaced. (Don't even consider a diskette drive, as the quality of the few available models is extremely poor; many are dead on delivery, and so cheap that they are not worth returning. You probably can't get around this by using an old drive, since it probably has an IDE interface and modern motherboards have only SATA ones. Although IDE expansion cards are available, their quality too is very poor.) The only remaining internal component is the power supply, which I've left until last because you need to know how much power the other components require and what power connectors they use. Consider units from Antec, PC Power &

Cooling, and Seasonic.

The most important external component is the display, where you shouldn't be stingy on the size, although it does have to fit within the space on your desk. I chose an ASUS one, but NEC, Samsung, and ViewSonic are also good. I think that the reliability of those with an LED backlights is worth the small premium price over units with fluorescent backlights. Keyboards and mice are commodity products, but I prefer Logitech and Microsoft over the slightly cheaper no-name alternatives. Don't count on reusing your old keyboard and mouse; they probably have PS/2 connectors, and new motherboards have only USB ones. Finally, I like Logitech speakers.

Many components are available either as consumer or OEM (original equipment manufacturer) parts. Consumer parts typically come in a package with instructions, mounting hardware and cables, a guarantee, and access to the manufacturers help line, while OEM parts include none of these. Also OEM components are frequently stripped down to reduce their costs; as a result they may have fewer features and lower performance than the consumer versions. For example, consumer CPUs include a cooler designed for that unit, while OEM CPUs do not. Usually, getting the consumer model is worth the small added cost. It appears that hard disks are available only on an OEM basis, which means it's important to buy them from a reputable manufacturer.

Up to now, you've only spent your time, but this changes when you order parts. I've had very good luck with Amazon and Newegg, but neither is perfect. Many items on Amazon's Website are sold directly by them, but for others they are just an agent for another company and here you must be careful. I had one of these companies try to charge me \$200 shipping on a \$30 expansion card. When I complained to Amazon, they were not the least bit embarrassed, saying that they took no responsibility for the unethical behavior of third parties. With Newegg you have to be careful in placing your order; their process is not as refined as Amazon's, and in particular it's easy to place your order twice. With both, check the shipping costs carefully. Having said that, I prefer to deal with these two companies when I order electronics. A very valuable feature of both sites is the customer reviews. Ignore the numerical ratings, which mean little, but carefully read the comments, where it is easy to identify the balanced, knowledgeable comments from the petty whines.

While you are waiting for the parts to arrive, print out all the manuals you've downloaded, because once you unpack the boxes you will find only quick-start guides. The only tools you will probably need are Phillips and flat-head screwdrivers. I also use a wrist-band to discharge static electricity (available from Radio Shack), but you can skip this if you are careful. (See the Thompson's book.) An experienced user can assemble a new PC in about an hour, but expect to take longer since you will probably have to do some things several times to get them right. I find that after an hour or so, I need a break, preferably until the following day. Often, during the break I will think of something I should have done differently. Some steps can be tricky; it took me three tries to get my motherboard installed in the case correctly, even though I've built several PCs. In any case, take your time; it's supposed to be fun, and if in doubt take a break.

For prove-in I prefer an Ubuntu live CD-ROM, which doesn't use the hard disks at all and lets you check out your new hardware before you spend time

installing an operating system. Who knows, you may find you like it well enough to set up your PC to run both Linux and Windows.

Your last step is to place all the packing slips, receipts, installation DVDs, manuals (both those included with the parts and those you downloaded) into a large envelope, place all the parts and cables you didn't need in a single box, and label both. If you later expand the system or add software to it, store the paper, DVDs, and extra parts in the same envelope and box. This will make upgrades and repairs much, much easier.

From the October 2011 issue of BUG Bytes, newsletter of the Brookdale Computer Users' Group, Lincroft, NJ.

Dick's Clicks

by Dick Ramette

Computer Club of Green Valley, AZ

Just imagine where we'd be if the Apple that fell on Sir Isaac Newton's head had been an iPad 2. Instead of merely discovering gravity, he would have gone on to invent the App Store and the Internet.

A few months ago I was astonished to have an iPad 2 fall into my life as a surprise birthday gift from my Chicago son's family, and I've been discovering good stuff ever since. My first challenge was to resist addiction to games such as Angry Birds, Scramble and Solitaire.

Gradually I've come to spend more time with my iPad than with my PCs. It's far from a complete replacement, but this tablet sure is a comfortable convenience. It's a huge improvement over my beloved iPod Touch, which remains my choice for music while walking. The first thing I do each morning is to move my iPad from its charger to the sofa so that it's available as an adjunct to the Arizona Daily Star, using my WiFi connection and the Safari browser.

My most-used Apps are the NYTimes, HuffPost, Weather Channel, What'sOn for the TV schedule, Flixster for what's playing at Desert Sky, CCGV of course, Merriam-Webster dictionary which understands my voice, and HiCalc calculator. I also view my favorite comic strips, political cartoons and check my email, which remains on the server for later viewing on my PC.

There's a neat App called HSW HD, for How Stuff Works, which is like that proverbial box of chocolates where you never know what you're gonna get. It's fun to browse HSW with finger swipes, and I spotted an essay by Jonathan Strickland titled "How will computers evolve over the next 100 years?" You can also find this on the Web at <http://www.howstuffworks.com/computer-evolution.htm>.

Another box of candy is Science360, an inexhaustible collection of pictorial goodies from the National Science Foundation. And when my 2003 Buick has aged a couple more years, I'll surely use CarZen to browse auto models with complete price and specs information.

ShowOfHands lets me see user opinions on numerous personal and political questions, displayed in pie charts for all states and for the nation as a whole.

So far I haven't read a book on my tablet, but I could. I've streamed movies from Netflix, looked at my photo collection and played my iTunes music. Really, there's no going back. My iPad, my recliner chair and I are at one with each other!

Quote of the Month: "...there may be no meaningful difference between computers and humans within 100 years. In that world, we'll be transformed into a new species that can improve upon itself at a pace unimaginable to us in our current forms. Whatever the future may hold, it's a safe bet to assume the machines we rely upon will be very different from today's computers."
—Jonathan Strickland

From the October 2011 issue of Green Bytes, newsletter of the Computer Club of Green Valley, AZ.

LPS - Free Utility from the Defense Department to Secure Your PC

by Ira Wilsker

I have written a lot of columns about computer security, and the threats that many of us face when using our computers. While we may be subject to a variety of threats at home or in our offices, including hackers, crackers, viruses, worms, Trojans, and other varieties of malware, the threat landscape can substantially increased when using a public WiFi or other network, or even allowing someone else to use our computers.

With the U.S. Military using thousands of computers, and the potential security risks that could occur if the content on these computers was compromised, the ATPSI (Anti Tamper Software Protection Initiative) Technology Office at Wright Patterson Air Force Base, has developed and publicly released a free utility that can be used to safely allow a computer to connect to the internet or other network, including a VPN (Virtual Private Network), but also make it virtually impossible for hackers and malware to access anything on the computer's hard drive when this utility is used.

This product, which is explicitly licensed for free public use, is "Lightweight Portable Security (LPS)." What this product does is create a bootable CD or USB flash drive that contains a form of the Linux operating system that will run on almost any Intel based computer, including almost all PC's (even if they have AMD chipsets), and many Mac's. LPS does not install anything on the computer, and does not require administrative privileges. Once the computer is booted with the LPS system, the internet can be accessed normally, but the hard drive is inaccessible, making it impossible to read any data from the hard drive, and impossible for any type of malware to infect the hard drive. According to the ATPSI, "LPS-Public is a safer, general-purpose solution for using web-based applications."

The basic LPS software, which is frequently updated, can be downloaded directly from the ATSPI as an ISO file which can be burned directly to a blank CD or installed on a bootable USB flash drive; it is also available as a compressed ZIP file, which can be uncompressed and then installed. The basic ISO file (uncompressed) is a large 137mb file. For those who may desire some additional functionality, a 317mb deluxe version (also free), contains a fully functional version of OpenOffice (a powerful free competitor to Microsoft Office which can read and write Microsoft Office and other file formats), and Acrobat Reader to read PDF files. If downloaded to a Windows 7 computer, it is extremely easy to create the bootable CD; insert a blank CD into the drive, and

then simply right click on the downloaded ISO file (either the basic or deluxe version), and select “Burn.” Windows 7 will then create the bootable CD.

If using an older Windows computer there are many ISO burning utilities available, many of which are free, including UltraISO, ISO Maker, K3b, CDBurnerXP, Easy CD Creator, ImgBurn, CDBurn, Nero Burning ROM, Roxio Creator, and others. Any of the major free software download websites will have a selection of free ISO burners. Note that burning an ISO file to a CD is not the same thing as burning other files to a CD, and the ISO option must be selected in order for the bootable CD to be properly created. For those who may need precise, detailed instructions on creating an LPS CD, instructions are available online (as a PDF file) at spi.dod.mil/docs/lps_quick_start.pdf.

In order to create a bootable USB flash drive, first create the CD as instructed above, but then do not boot from the CD. Insert an empty USB flash drive into the computer (if you use a used flash drive, all data may be lost if it is reformatted), and then using Windows Explorer (or other file manager), open the CD, and locate the directory “InstallToUSB.” Run the file “USBInstall.bat,” and then follow the on-screen instructions to install LPS on the flash drive. If a computer supports booting from a flash drive, this USB drive can now be used to boot LPS (detailed instructions online at spi.dod.mil/liposeUSB.htm).

Once the PC or MAC is booted from the LPS CD or flash drive, the web can be accessed as normal using the built in and fully functional Firefox browser. This is especially useful if the user is accessing the internet via a public access wireless network, such as those at coffee shops, airports, hotels, restaurants, or elsewhere; it is locations such as these that are a hacker’s paradise since it is easy to penetrate the open access networks and then break into a connected computer. Since the computer’s hard drive is not mounted by LPS (making it effectively non-functional), it is virtually impossible for malware from any source to burrow its way into the computer’s hard drive and contaminate or otherwise compromise the computer.

Since the hard drive is inaccessible, any files that the user may want to intentionally save must be saved to another USB flash drive (not the one used to boot the computer into LPS), or other data storage device. If the deluxe version of LPS is installed, the OpenOffice can be used to create or read word processing files (docs), spreadsheets, presentations (including PowerPoint), and other office documents, while the Acrobat Reader can display PDF files. One tip - since the hard drive is effectively isolated and inaccessible when LPS is loaded, it may be better to save any created files or documents to a free online cloud storage service such as Google Docs or Microsoft’s SkyDrive service.

I have heard of numerous cases where a users’ children, grandchildren, neighbors, friends, and others have accessed the users’ computers, and proceeded to load them with unwanted software, viruses, spyware, and other forms of malware. If instead of allowing others to boot the computer normally, the users were to boot the computer into LPS, nothing could be written to the hard drive, thus sparing the computers from the evils and threats that others could wreak on the computers.

Once the LPS CD or flash drive is removed, and the computer rebooted, it will boot normally as it did before, as if LPS had never been used. There is even a “Start” button on the LPS menu that will exit LPS and boot the computer

normally. Since LPS leaves nothing on the hard drive, there is nothing that it can do to influence or otherwise hamper subsequent normal use of the computer.

For those who may use computers in high risk environments, or who may have less than responsible users (children and grandchildren) use the computer, the free Lightweight Portable Security (LPS) may be a good alternative to a compromised or corrupted computer.

WEBSITES:

<http://spi.dod.mil/lipose.htm>

<http://spi.dod.mil/liposeUSB.htm>

http://spi.dod.mil/docs/lps_quick_start.pdf

<http://spi.dod.mil/docs/lpsmanual.pdf>

<http://spi.dod.mil>

Gizmo's Pick

Free Browser Add-In Hides Ads And Page Clutter

Have you noticed how modern web pages are becoming more and more cluttered? Banner headlines, adverts, snippets of other content that the page author wants you to read, and so on? The actual story, which is really all you're interested in reading, occupies less than half of the screen.

Now you can put an end to this with this free browser add-on for Safari, Firefox and Chrome. Once you've installed it, a small icon appears at the top of your browser. Whenever you want to turn a page into a more readable view, just click the icon and choose Read Now. After a second's delay while the page is converted, you're ready to read or print the uncluttered, ad-free page.

<http://www.techsupportalert.com/content/free-browser-add-hides-ads-and-page-clutter.htm>

The Lighter Side

Technology is dominated by those who manage what they do not understand.

A computer lets you make more mistakes faster than any other invention, with the possible exceptions of handguns and Tequila.

At the source of every error blamed on the computer you will find at least two human errors, including the error of blaming it on the computer.