The Cursor

Monthly Newsletter of the
Washington Area Computer User Group

Meeting Location:
Fairfax County
Government Center

Member of **apcug**

Next Meeting:
June 16, 2007

Presidential Bits
June, 2007 Meeting

By Paul Howard

Last month's meeting featured a photography extravaganza, with Lorrin Edwards discussing the challenges of photography while traveling. Lorrin illustrated his talk with photos he and his wife have taken around the world. I found the photos fascinating, since some were from places I've read about, but never realized tourism was possible there, such as some of the South Atlantic islands like the Falklands, South Georgia, and Tristan de Cunha. Lorrin's presentation will appear on a future WAC periodic CD.

Chuck Roberts discussed the "camera RAW" format, and tools to view and manipulate images in this "lossless" format. Chuck also described strategies for managing large collections of digital images. This discussion, and others from several past WAC meetings, are available at: http://www.wacug.org/recmtgs.html

Our June 16th meeting will feature our PC Clinic, offering our members the opportunity to get assistance from WAC experts with troubleshooting problems with their systems, as well as installation of new or replacement components. Advising the group of what you'd like help with is essential. Be sure you read the document on the web site regarding the clinic, at: http://www.wacug.org/clinic.html

We'll also have several simultaneous learning sessions during this meeting.

Perfect Backup Approach, a CD Training Presentation from User Group Resources

Backing up your hard drive is the most important thing that you need to do to protect your computer from major loss in case of a hard drive crash. This training CD will show you the best way to backup your computer's main hard drive. The best media for backups will be identified, the best software utility to use will be shown, and the best approach to using the hardware and software for backups will be explained. (Provider's program description.)

Compiling a Linux Kernel

WAC GNU/Linux SIG Leader Geof Goodrum will demonstrate how to compile a custom Linux kernel from source code for the GNU/Linux operating system.

Lloyd's Web Sites for June, 2007

by Lloyd Johnson, WACUG Member

http://www.wacug.org/ is the URL for the Washington Area Computer User Group. Visit it for past issues of Web Sites with hyperlinks

1. Information on the Nations Birding Trails
   www.americanbirding.com

2. How to build and/or restore Cabinets, Decks, etc
   www.askthebuilder.com/tips

3. Find everything you want to know about Popular Theme Parks, including accident reports
   www.themeparksinsider.com

4. If you haven't fished in a while, check out this site to see if your state offers free fishing days or weekends.
   www.takemefishing.org

5. Want to see Safety Ratings for your present or next Car?
   www.safercar.gov
   and www.iihs.org
   and www.aaa.com

6. Need a multilingual Encyclopedia? This site can be edited by any one.
   www.wikipedia.com

7. A free people search
   www.zabasearch.com

8. This site gives information in case you want to visit France
   www.francekeys.com

9. The following site is a JAVA application that lets you construct wireframe creations and bring them to life on your computer.
   www.sodaplay.com/constructor

10. To cheer you up in case you did not find anything good in the previous sites.
    www.jokemaster@email.com

We look forward to seeing you at June's meeting. Bring a friend, and introduce them to **REAL PC POWER.**

NCTCUG

Visit our "sister" user group. The National Capital Technology and Computer User's Group meets the first and fourth Wednesday of the month. They meet in Carlin Hall in Arlington at 5711 South 4th Street. Visit their web site for more information, a map and directions:
   http://www.nctcug.org/
Meetings start at 7:00 PM

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GNU/Linux SIG

by Geof Goodrum, WAC

Patent War FUD

Paul Howard sent the following online article link from Fortune Magazine to me: http://money.cnn.com/magazines/fortune/fortune_archive/2007/05/28/100033867/index.htm. In the article, Microsoft claims that Linux and other Open Source software like OpenOffice.org violates 235 patents. While Microsoft's claim touched off a storm of criticism and analysis in the Open Source community and the general computer press, the article itself is well-balanced and provides background and history on Open Source and why Microsoft will have a tough time making its case.

Dan Raviche, Executive Director of the Public Patent Foundation and the author of the patent study cited by Microsoft, contradicts Microsoft's assertion. In statements published by eWeek (http://www.eweek.com/article2/0,1759,1729908,00.asp), Mr. Raviche said "Open source faces no more, if not less, legal risk than proprietary software. The market needs to understand that the study Microsoft is citing actually proves the opposite of what they claim it does."

In fact, the study identifies 283 patents potentially used within Linux, none of which have been tested in court. Consider these facts:

- Microsoft has not identified specific patent violations. If it does, the Open Source community can challenge them (many patents are frivolous or can be invalidated with evidence of prior art), or modify code to eliminate any verified infringement.

- Novell explicitly stated that their recent technology agreement with Microsoft in no way acknowledges any patent infringement by Linux.

- Companies such as Novell, Hewlett Packard and Red Hat indemnify users of their products against any patent infringement claims.

- The Linux Foundation (formerly the Open Source Development Lab, and backed by many large technology companies) provides a $10M war chest to defend against patent claims.

The Open Source community is also backed with friends such as IBM, Novell, Red Hat, Sun Microsystems and Oracle, who have deep pockets, lawyers, and a larger patent portfolio than Microsoft. These companies could easily counter any Microsoft court action with patent infringement claims of their own against Microsoft. Some have called this "Mutually Assured Destruction." The only winners would be the lawyers.

So what has Microsoft gained? The slant of many general press articles and editorials that followed suggest that Microsoft alienated much of the business community with this lightly veiled threat designed to instill Fear, Uncertainty and Doubt (FUD) in companies evaluating or using Linux. If it was meant to drive customers to Microsoft's products or scare them into paying technology license fees, it very likely did the opposite and clearly made them the bad guy.

Situations like this have spurred calls for software patent reform in the US and resistance to adopting similar software patent laws in the European Union (http://petition.eurolinux.org/index_html?LANG=en). Microsoft, itself a defendent in numerous patent suits, expressed support for these efforts (http://www.informationweek.com/story/showArticle.jhtml?articleID=159400910).

WEP No More

If you have a wireless home network, it may be less secure than you think. Researchers at the Darmstadt (Germany) Technical University published a technique to break the user-defined encryption key in the commonly used Wired Equivalent Privacy (WEP) protocol by monitoring the network for less than two minutes. The technique has been tested with 104 bit (usually called 128 bit) and 40 bit (usually called 64 bit) keys. While techniques for defeating WEP have existed for years, this one dramatically reduces the time required. Malicious hackers (or nosy neighbors) can use the technique remotely to access the Internet through your network for potentially illegal activity, modify your network settings, watch what you do on the network, and possibly break into your computer systems.

Like other security experts before them, the researchers strongly warn that WEP not be used anymore; all wireless networks should use the much more secure Wi-Fi Protected

Access (WPA) protocol, preferably WPA2 if the wireless network supports it. Of course, WPA still depends upon selection of an unguessable passphrase (i.e., a combination of upper and lowercase letters, numbers and symbols of eight characters or more length is best).

Other techniques that improve wireless network security include disabling the wireless router/access point's SSID beacon to hide from casual network scans and enabling MAC address filters to prevent unknown devices from connecting to the network, but these will not prevent network snooping by themselves.

More information and software implementing the technique is available on the researchers' web site at http://www.cdc.informatik.tu-darmstadt.de/aircrack-ptw/.

Dell Sells Ubuntu PCs

While Dell Computer's marketing of GNU/Linux-equipped systems for home users has been off and on over the years, it is currently on. Dell now offers desktop and laptop systems running the Ubuntu 7.04 ("Feisty Fawn") GNU/Linux distribution and the FreeDOS operating systems.

For more information, check out the Dell web site at http://www.dell.com/open/.

Linux CD of the Month

In addition to the monthly CD described below, WAC can provide CD-R and DVD±R media for any downloadable GNU/Linux operat-

ing system distribution (e.g. Fedora Core, Mandriva, Ubuntu, Debian, Knoppix). Please note that download versions of commercial distributions do not include official technical support nor printed documentation.

Discs are available only by pre-order. Contact Geof Goodrum by phone (703-370-7649) or e-mail (linux@wacug.org) at least 48 hours before meeting day to order or for more information. Single CD-R discs are available with a $3 donation; GNU/Linux distributions on multiple CD-Rs or single DVD±R are available with a $6 donation.

May 2007

FlightGear LiveCD - v0.1 Delta LinuxTag 2006 Edition. Free GNU General Public License LiveCD compiled by pigeon. This CD of the Month is a complete, bootable CD for Intel and AMD x86 systems containing the Open Source 3D flight simulator FlightGear v0.9.10 (+CVS) executable and source code, along with the FG-Run v0.4.6 graphical front end and display drivers for Nvidia and ATI hardware accelerated 3D graphic cards. This means the software can be run directly from the CD on any capable x86 PC without installation of Linux or any other software to your hard drive. Also included are XChat v2.6.1 Internet Relay Chat client, Gaim v1.5.1cvs Instant Messaging client, and the Firefox v1.0.7 web browser. FlightGear includes: three flight dynamic models; a realistic instrument model; 3D internal and external cockpit views; an accurate and detailed sky model with weather, sun, moon, stars and planets; photorealistic scenery in selected areas and accurate terrain worldwide; over 20,000 real world airports worldwide with accurate

runways, markings and lighting; and support for multiplayer flight using a worldwide network of Internet servers. Scenery files for the entire world are downloadable for free (San Francisco Bay Area and South Germany are included on the CD) or may be purchased as a three DVD set. Over 28 aircraft models are included on the CD (including the Wright Flyer, Hawker Hurricane, Piper Cub, Piper Cherokee Warrior II, General Dynamics F-16, Cessna 310, Eurocopter Bo105, Cessna Citation-II, Fairchild A-10, Boeing 747, Airbus A320, P51D Mustang, and even UFO and Santa Claus), with many more as free downloads. FlightGear requires a 3D accelerated graphics hardware supporting OpenGL (such as Nvidia GeForce or ATI Radeon graphics) and at least 512 MB of RAM. A processor speed of 2GHz or higher is recommended. The PC must support boot from CD (CD-ROM drive and CMOS boot menu option).

June 2007

Woody Tigerbaum's Interplanetary Package Delivery - v0.91. Free WTF Public License Python interpreted code by Dave LeCompte/Big Dice Games. This game is the second place winner in the Fourth PyWeek Challenge held in April 2007. This 2D vector graphics game has been characterized as golf in space. Aim and launch packages from one planet towards the target planet, taking into account gravity of planets in-between. The fewer shots you take, the happier your boss Woody will be. Just don't lose the package in a gas giant or in deep space. Requires SDL libraries, Python 2.4.2 or later, PyGame 1.7.1 or

later, NumPy, and PyOpenGL 2.0.2.01 or later with a video card that supports OpenGL.

NumPy – v1.0.3. Free NumPy License Python interpreted code by Jay T. Miller et al. Numerical Python adds a fast and sophisticated array facility to the Python language, featuring a powerful N-dimensional array object, sophisticated (broadcasting) functions, basic linear algebra functions, basic Fourier transforms, sophisticated random number capabilities, and tools for integrating Fortran code.

PyGame – v1.7.1. Free GNU Lesser General Public License interpreted module code by Pete Shinners et al. Pygame is a set of Python modules designed for writing games. It is written on top of the excellent SDL library. This allows you to create fully featured games and multimedia programs in the python language. Pygame is highly portable and runs on nearly every platform and operating system.

PyOpenGL – v3.0.0a6. Free BSD License Python interpreted code by Mike C. Fletcher. PyOpenGL is the cross platform Python binding to OpenGL and related APIs. The binding is created using the SWIG wrapper generator, and is provided under an extremely liberal BSD-style Open-Source license. PyOpenGL includes support for OpenGL v1.1, GLU, GLUT v3.7, GLE 3, WGL 4, and Togl (Tk OpenGL widget) 1.6. It also includes support for dozens of extensions (where supported in the underlying implementation). PyOpenGL is interoperable with a large number of external GUI libraries for Python including (Tkinter, wx-Python, FxPy, PyGame, and Qt).

Task Coach – v0.64. Free GNU General Public License Python interpreted code by Frank Niessink. Task Coach is a simple todo manager to manage personal tasks and todo lists. It grew out of a frustration that well-known task managers, such as those provided with Outlook or Lotus Notes, do not provide facilities for composite tasks. Often, tasks and other things to do consist of several activities. Task Coach is designed to deal with composite tasks. Features include: creating, editing, and deleting tasks and subtasks; tasks have a subject, description, priority, start date, due date, a completion date and an optional reminder; tasks can be viewed as a list or as a tree; tasks can be sorted by all task attributes, e.g. subject, budget, budget left, due date, etc.; several filters to hide completed tasks or view only tasks that are due; task status depends on its subtask and vice versa; tasks can be assigned to user-defined categories; settings are persistent and saved automatically; the last opened file is loaded automatically when starting Task Coach; tracking time spent on tasks; the file format (.tsk) is XML; tasks can be exported to HTML; eff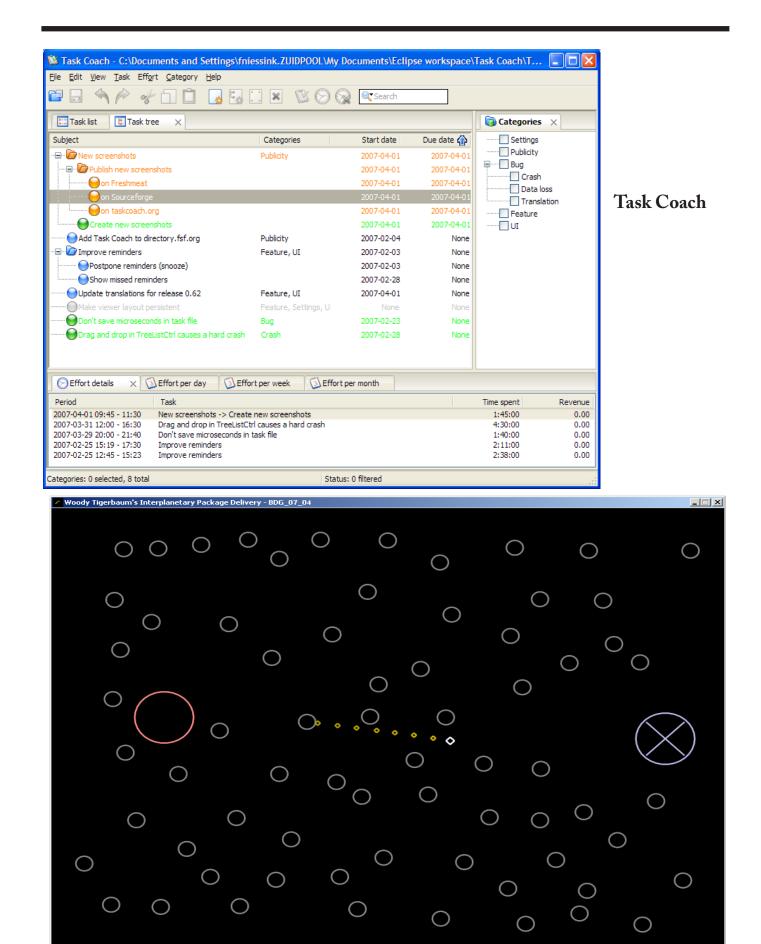ort can be exported to XML and iCalendar/ICS format; tasks, effort and categories can be printed; Task Coach can be run from a removable medium. This release adds the ability to drag e-mail messages from Thunderbird onto Task Coach to create tasks or add e-mail messages as attachments to tasks. This application is currently in heavy development, but is used daily by the author for task management. However, the author recommends regularly backing up the task files.

GNU/Linux Distibution Updates - Security and bug fix monthly updates for Fedora Core 7.
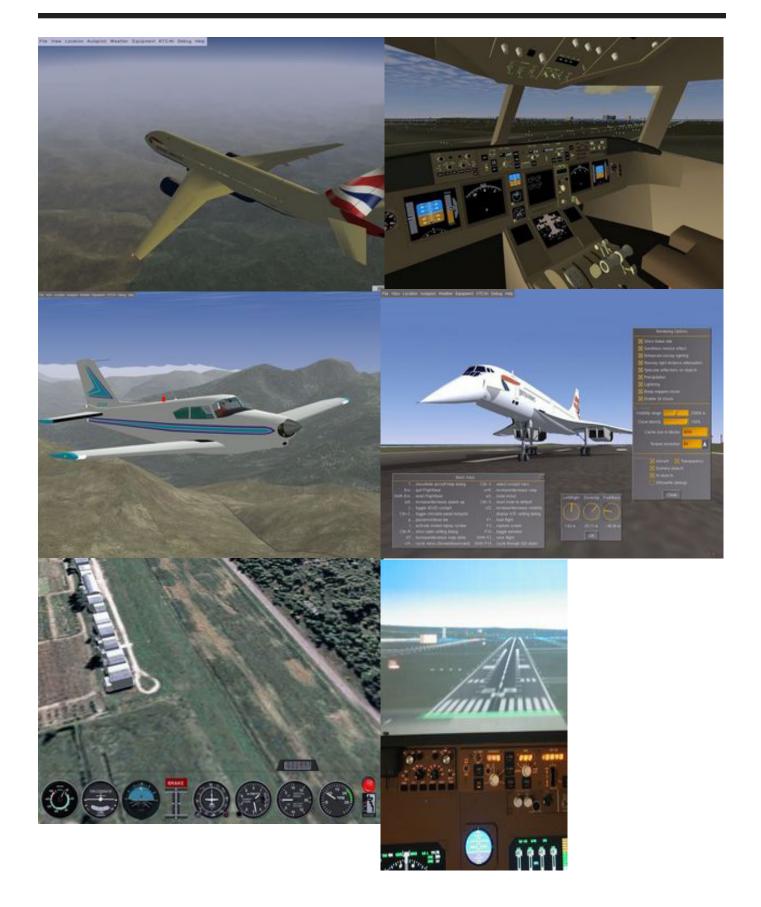
Kernel Source - The latest versions of 2.4 and 2.6 kernel source code for all platforms.

Task Coach

Tony Tigerbaum's Interplanetary Package Delivery

Flight Gear LiveCD

The Top Digital Asset Management Solutions For Photographers

by Chuck Roberts, WAC Member

In the past two or three months, I have written articles for The Cursor and have made presentations to the group about Digital Asset Management or DAM, for digital photographers.

Now I want to pass along the names of some typical DAM applications that are worthy of your consideration once your collection really begins to grow.

Digital asset management is a very broad term with applications ranging from moderately priced programs that create image libraries or inexpensive consumer-oriented photo album and organizational programs for the amateur to complex, expensive applications professional photographers use to keep still images, video files and audio files organized.

Depending on the asset manager, catalogs can range in size from only a few thousand images, to up to 10 million or more. Those images that are directly accessible from the computer such as attached external drives or network drives. Those images not directly accessible, such as removable drives, CD-ROMs or DVD are concidered off-line, but the thumbnail images are cached and available for display. If the off-line image is requested, the DAM application prompts for the insertion of the removable media.

Picasa 2 — free from Google. This is an introductory product for the begining photographer and image collector. Picasa has lots of features that make getting started simple

and fun.

ACDSee 9 Photo Manager — is one of the first Windows Vista certified DAM applications. Once installed, the application begins with a Quick Start Guide which explains how the program looks for images and brings them into the catalog.

Catalog images can be imported into the ACDSEE editor which performs many of the basic optimization and filtration adjustments photographers make.

iView MediaPro 3 — This product used`3 to be the photographer's favorite DAM application. However, the recent purchase by Microsoft now has the critics watching to see what happens next. For a good description of the programs features and functions, visit the iView Media Pro 3 website at, http://www.iview-multimedia.com/

Canto's Cumulus 7 — is a powerful enterprise-level application that coordinates and manages digital assest of a single user to large multi-national corporations. Cumulus can be configured to the specific requirements of professional photographers and their clients

While Cumulus 7 supports unmounted drives and images, before considering Cumulus 7, it's important to consider one thing: it's a server-based application. In fact, the application is so network intensive that most photographers will require assistance setting up the client as well as the server application. Visit Canto's website for details: http://www.canto.com/

Extensis Portfolio — much like Cumulus, is a well-kown DAM package that's easily configurable for professional photographers including network-based asset management. For more details about

Extensis Portfolio, visit their website at http://www.extensis.com/.

Almost all of these DAM applications begin with the simple creation of a catalog. From there images are either added to an existing catalog or collected as a new catalog. After all, a photographer has different clients so it only makes sense to have a catalog for each client.

Whether high-end professional packages or free consumer programs, DAM simplies the task of organizing and tracking electronic image files. Thereby hopefully freeing up some time to let us photographers do what we like to do most and that is to take more pictures.

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Live CD-ROMs

By Dick Maybach. a Member of the Brookdale Computer User Group, New Jersey
http://www.bcug.com/
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In the early days of PCs, we did much more experimenting than we do now. The only long-term storage was on diskettes, and when we removed the diskette holding the operating system, we also removed any problems that resulted from our experiments. Now, our hard disks hold large, complex operating systems, and if they are damaged by our errors or by malware such viruses, the recovery process can be long and painful. Those who still like to experiment should consider live CD-ROMs.

A live CD-ROM contains an operating system and applications and can be run without using the hard disk at all. When you remove the CD-ROM, your old operating system (probably Windows) takes over. In fact, since the hard disk was not

accessed while the live CD-ROM was running, Windows is no more aware that the PC has been used than if you had never switched on the power.

To use a live CD-ROM, you must set up your PC so that if a CD-ROM is present, it will try to boot from it, rather than the hard disk. Watch carefully as your PC boots, and you should see a message telling you how to start the BIOS set-up program. Often, the procedure is to press the F2 key repeatedly during booting. Don't just hold it down, as the PC will think your keyboard has a stuck key and will refuse to start. Once the set-up program has started, read each screen carefully before changing anything. If you think you've made a mistake, exit without changing anything (often done by pressing the escape key) and start again. You are looking for the screen that lets you change the boot order, which is the order in which the PC checks devices for an operating system. It always includes the hard disk, diskette, and CD-ROM, and (on newer machines) USB devices. In our case we want the CD-ROM checked before the hard disk. Once you are satisfied that everything is ok, save your changes and exit the program, often done by pressing F10.

You can download live CD-ROM programs free from the Internet. However, you will now have what's called an ISO image; this is not a file, and if you write it to a CD-ROM as a file, it won't be bootable. Unfortunately, the free versions of CD-ROM burner programs included with many PCs won't burn ISO images. However, a suitable program, *ISO Recorder*, is available, free over the internet from http://isorecorder.alexfeinman.com/isorecorder.htm. Many live CD-ROMs

are also available as pre-recorded CD-ROMs; see the referenced Web sites for information.

A good place to start is with the *Ultimate Boot CD*, available at http://www.ultimatebootcd.com/. This provides four versions of DOS and five of Linux, plus tools for motherboard, hard disk, and file system maintenance, in addition to four virus scanners.

If you long for the simpler days of DOS, see http://www.freedos.org/ to obtain an open-source clone of DOS. This will allow you to get reacquainted with the command line, BAT files, BASIC programming, and run those old programs that no longer work under Windows. The full version contains some extras, FreeGEM (a clone of the old Digital Research graphical user interface), BWBasic (Bywater Basic), and several games.

If you would like to experiment with Linux, but aren't ready yet to install it on your hard disk, look at Ubuntu, http://www.ubuntu.com/, which provides a Windows-like interface, or Knoppix, http://www.knoppix.org/, which is known for being very adaptable to different PC hardware. Several tutorial books are available for each; check your local Barnes & Noble or Borders.

For Linux, Windows, and, to a limited extent, Macintosh maintenance and recovery, my favorite is INSERT, available at http://www.inside-security.de/insert_en.html. This is worth a complete article, and I'll discuss it next month's column.

Security Tools Distribution (STD), http://s-t-d.org/, is a variant of Knoppix, customized for those in computer security. It includes tools for encryption and code-breaking, for finding evidence of computer break-ins, for working with firewalls, for

building honey pots (traps for ensnaring hackers), for analyzing and breaking passwords, for analyzing network traffic, and for assessing computer vulnerability.

You can see a long list of available live CD-ROMs at http://www.frozentech.com/content/livecd.php. Most of these are versions of Linux, because its source code is available and free, and because it's modular. Windows, by comparison, is proprietary and monolithic; at one point, Microsoft claimed that you couldn't remove even its Internet browser without disabling the operating system.

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The Garage
By Berry F. Phillips, a member of the Computer Club of Oklahoma City and a monthly contributor to the e-Monitor
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bfpdata(at)1access.net

IT was born in a garage! If you had driven by the garage located in a residential neighborhood, you would not have noticed there was anything strange about the garage since it looked like all the other garages attached to residences. However, if you were a neighbor you would be aware of certain unusual activity. You would have at times noticed the cars lining the street, and people going into the

garage carrying various equipment usually in the evening. If a neighbor was blessed or cursed as the case may be, with an active imagination several fantasy explanations could come to mind. Perhaps it was a band practicing in the garage but there was no sound of music. Perhaps it was some kind of a terrorist group but no smoke or explosions or sounds of automatic rifles being fired. Perhaps they had a still operating in that garage however there were no police raiding the garage. Well, the garage could be used for all kinds of purposes but one thing is certain; it was not being used as a garage!

The garage was located in Menlo Park, San Mateo County, California and was a maternity ward for the birthing in March 1975 of the Homebrew Computer Club. The 1999 made for television movie. "Pirates of the Silicon Valley (and the book on which it was based, "Fire In the Valley: The Making of the Personal Computer") describes the role the Homebrew Computer Club played in creating the first personal computer.

Hackers were attracted to the garage like steel to a magnet since in those days it was just another name for a computer enthusiast like nerd or geek. In the old days a hacker is one who "hacks" through a computer problem and who writes his own code to fix it. In modern times a hacker has unfortunately a negative connotation which should be correctly called a cracker, a combination of the word, criminal and hacker. The hackers wanted to "homebrew" their own machines using parts from the Altair computer kit, computer chips such as

Intel 8080, or any other computer equipment. While the members of the Homebrew Computer Club were hobbyists, most of them had electronic engineering or programming backgrounds. I am reminded of Bill Gates' Open Letter to Hobbyists which lambasted the early hackers of the time for modifying and pirating commercial software programs. Several founders of microcomputer companies including Bob Marsh, Adam Osborne, Lee Filsenstein, and Apple founders, Steve Jobs and Steve Wozniack were founding members of the Homebrew Computer Club. Thirty years later in 2005, a reunion celebration was held as part of the Vintage Computer Festival sponsored by the Computer Museum. Upon the completion of the activities in the exhibit hall, there was an autograph signing as well as vintage computer equipment for sale that took many a hacker back to those early days they "homebrewed" their computer.

The Homebrew Computer Club's newsletter was one of the major forces that influenced the formation of the Silicon Valley created and edited by the members. The first issue was published in 1975 and continued in several designs ending after 21 issues in December 1977. There have been other Homebrew Computer Clubs that have emerged like the one in the Netherlands that started with a dozen members and operates today with 180 thousand members which is the largest association in the world. Their small newsletter grew into the magazine, "Computer Total."

Today, many of the original members of the Homebrew Computer Club meet today as the 6800 Club named after the Motorola (now Freescale) 6800 microprocessor.

Who would have ever thought that a garage would be a maternity ward for the IT (Information Technology) Industry? I have decided to elevate the status of the lowly garage in my mind especially since I found out many of our largest corporations were also born in a garage! Why I am thinking now that a garage should not be for cars or junk but a shrine   dedicated to American ingenuity and innovation!

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2007   WAC Membership/Renewal Application

Dues are collected on an Annual basis and includes three coupons redeemable for WACUG Software Disks, and WAC's monthly newsletter, *The Cursor*, in PDF format

Individual/Corporate/Family Dues: $25.00
$12 annual surcharge for delivery of the Cursor by 1st Class mail

Remit payment in person at the WAC Membership table on meeting day, or by mail to:
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Operating System(s):
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Favorite Software:
Connection: (circle one)   Dial-up   or   Broadband

Circle Your Interests: Photo Printing   Investing   Games
Digital Photography   Internet Access   Education   Music
Graphics/Animation   Genealogy   Video   Finance
Programming Language(s)
Hardware Upgrades/Repair   List others below

Next WAC Meetings: • June 16   • •July 21   • Aug   • Sept 16   • Oct 21

Call (703) 370-7649 for the latest meeting information or Visit our Web Site at:
http://www.wacug.org

June Meeting will be held
at the Fairfax County
Govvernment Center
Rooms 2 & 3

Go through front doors
following the left corridor
to the Meeting Room on the
right

Service Desks Open at
12:30 Meeting Starts at
1:00 PM
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Backup Approaches Compared

By Gene Barlow
User Group Relations
Copyrighted May 2007

For the past few years, I have recommended the Perfect Backup Approach as the best way to backup your computer's hard drive (see www.ugr.com/newsletters.html). I have lectured on this topic, published a tutorial on it (see www.ugr.com/tutorials.html), and have personally advised many of my friends to use this approach. >From my research, this is clearly the best way for end-users to backup their hard drives today.

I am always surprised when some users prefer a different backup approach to use. My concern is that they may not have given the various approaches a thorough comparison. I hope this article will help users compare the various backup approaches and learn why the Perfect Backup Approach is the best one to use.

Another factor to consider is what needs to be backed up on your computer. Your data files are important items that need to be backed up regularly. But that is not enough. Our computers are very complex and contain tens of thousands of files that are changing constantly. The effort to rebuild our computer software may take days or weeks to complete. Today, we must backup our entire hard drives and not just a few data files.

This article will compare the four most popular backup approaches in use today. I hope it will help you understand why the Perfect Backup Approach is the best of the bunch.

Four Backup Approaches

There are four backup approaches that are commonly used on personal computers today. These are the following:

- File Backup Approach
- Clone Backup Approach
- Full Backup Image Approach
- Full & Incremental Backup Image Approach (aka Perfect Backup Approach)

I will briefly describe each of these four approaches and then try to describe the comparisons between these four approaches that concern most end users. *Acronis True Image 10.0 Home* edition is the only backup product on the market that can do all four of these approaches, so no matter which approach you choose, True Image is the best backup utility to use.

File Backup Approach: The File Backup Approach is the oldest and most common backup method used on personal computers. I would estimate that of the dozens of backup utilities available, 90% of them are file backup utilities. With this approach, you select which of the many files stored on your main hard drive to backup and the utility will copy each of these files individually to your backup device. It is possible to select all of the files on your main hard drive to backup, but this approach is not very good as we will see later.

Clone Backup Approach: This approach became popular a few years ago to let you adequately backup your entire hard drive. With the Clone (or Copy) Backup Approach, you make an exact copy of your main hard drive to another hard drive inside your computer. Then if anything happens to your main hard drive, you simply replace it with the cloned hard drive and you are up and running again. While this approach seems simple and straight

forward, it is not a very efficient way to do backups today.

Full Backup Image Approach: The imaging approach copies the physical sectors of your main hard drive to the backup device instead of copying each file separately. So, the backups were much faster than individual file by file backups. Images could also be quickly restored to a new hard drive on your computer and let your computer be used again in a few minutes. The backup images could also be compressed to save room on your backup device. While much better than the first two backup approaches, this is not the most efficient way to store your backup images.

Full & Incremental Backup Image Approach: The next step in improving the backup technology came when Acronis introduced True Image that could make not only full backup images of your main hard drive, but could also make incremental backup images of just the changes to your hard drive since the last backup was made. This permitted frequent backups to be taken for maximum protection, but still conserves your backup storage space. Combined with an external hard drive to save your backup images on, this was the basis of the Perfect Backup Approach and is the best way to do backups today.

What the comparison chart on bonus page 3 shows:

File Backup Approach: This approach is generally the slowest method of doing a backup. You need to find and specify all of your files to be backed up by this approach, which can be time consuming and difficult to do. Its ability to backup your full hard drive and get it work-

ing again after a hard drive crash is poor and complex. I would only recommend this approach for backing up a few important data files. That leaves you exposed when your entire hard drive crashes. It's an old approach and complicated to use. Avoid the File Backup Approach.

Clone Backup Approach: This approach is sometimes used to protect you from a hard drive crash. It is not a very inefficient way to backup your entire hard drive since it requires an entire backup hard drive for each backup you do. A minimum of three physical backup hard drives would be required to do this approach decently. You also need to continually swap hard drives inside and out of your computer box with this approach. This requires you to be a computer mechanic or pay for extra hardware to help remove the internal hard drive without opening your computer box. This approach is costly and requires a lot of physical drive swapping for an inefficient way to do backups. Another approach to avoid.

Full Backup Image Approach: This backup approach uses modern technology to do its job. Backups are fast and cover your entire hard drive and not just a few selected files. While a restore is required to put your main hard drive back in operation, this is usually very fast. With condensed images, you can also store several full backup images on your backup device, so it is fairly efficient in the backup storage space. This is a good second approach to consider.

Full & Incremental Backup Image Approach: This is the Perfect Backup Approach that I have recommended for years. It is an excellent way to backup your entire hard

drive and you can rebuild a working hard drive in a few minutes. It is also an excellent way to backup your individual files that have recently changed. The incremental backup system makes this automatic and easy to do. Using the incremental images, you can save many backup images on one external hard drive. It is the fastest and most space efficient way to do your backups.

Acronis True Image 10.0 Home

The Acronis True Image 10.0 Home edition backup utility is the top rated backup utility on the market today. As I said earlier, it can do all backup approaches covered in this article. So, you can try them all without having to learn a new backup utility for each approach.

To get you started to backup your computer, we offer Acronis True Image 10.0 Home edition at an excellent discount price of just $29. This product normally sells for $50. To make it easy for you to start to use this excellent product, you can order the CD for just $4 more. The CD contains the Acronis True Image 10.0 Home edition software, a 45 minute tutorial on the Perfect Backup Approach, a step by step guide to installing and using the product on your computer, and the entire True Image users guide from Acronis. So, order the CD and get all of these items ready to go on the CD.

To order the product, go to www. usergroupstore.com and in the backup section of the web site you will find a description of Acronis True Image 10.0 Home. Click one of the Buy Now buttons under the description of True Image to purchase either the download ($29) or the CD ($33). The special order code for this item is UGNL0607.

I hope this article helps you to choose what backup approach you want to use on your computer. If you have not started to backup your computer on a regular basis, now is the time to get started. If you have been using an older version of True Image, you should really get the latest Acronis True Image 10.0 Home edition with all of the new support for Windows Vista and for automatic backups. If you have any questions about True Image or this article, please send me an email to gene@ugr.com and I will be happy to assist you.

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Backup Approaches Compared

The following table compares the four backup approaches commonly used today to let you see how one approach stacks up against the other approaches. The comparisons are kept small in size to let you quickly compare the various approaches. I think that the Perfect Backup Approach will stand out as clearly the best of the bunch as you read this comparison.

	File Backup	**Clone Backup**	**Full Image Backup**	**Full/Incremental Image Backup**
Basic Approach	Individual files copied and condensed to backup device one at a time.	Entire hard drive copied to another hard drive.	Entire hard drive sectors are copied and condensed on backup device.	Entire hard drive or just changes to hard drive are copied to backup device.
Backup Device Types	Hard drive (external, internal, or network) drives, or CD/DVD.	Internal or external hard drives.	Hard drive (external, internal, or network) drives, or CD/DVD.	Hard drive (external, internal, or network) drives, or CD/DVD.
Individual File Backups	Yes	No	No	No
Full System Backups	No	Yes	Yes	Yes
Backup Space	Used File Space	Entire Hard Drive	Used File Space	Only Changed File Space.
Backup Speed	Slow	Medium	Medium	Fast
Restore approach	Create & Format partitions. Install OS, restore individual files.	Place Cloned hard drive inside computer.	Restore image to new hard drive.	Restore full & incremental images to new hard drive.
Restored Items	Individual Files	Entire Hard Drive	Individual Files or Entire Hard Drive.	Individual Files or Entire Hard Drive.
Restore Speed	Very Slow & Complex.	Medium	Medium	Medium
Worst Feature	Slow Backups. Poor backups of full system. Complex Restores of full system.	Requires new hard drive for each new backup. Need 3 as minimum.	Restore Image step required. Storage Space.	Restore Image step required.
Best Feature	Backup just a few files. Not really adequate today.	Simple physical replacement.	Quickly restore full hard drive.	Quickly restore full hard drive. Minimal backup drive space.