The PULP

Newsletter of the Hartford User Group Exchange

H.U.G.E.

Member of
Association of Personal Computer User Groups
APCUG

UGC™

Apple User Group

June 20th General Meeting:

Windows XP
…on a Mac!!
presented by Ted Bade

East Hartford Public Library
Main St. & Central Ave., East Hartford, CT.

Q&A Session: 6PM–7:15PM
Meeting starts at: 7:15PM

Huge This Month:

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June 20:   **General Meeting** See above 7:15 P.M.

July 7:   Deadline for **ALL** Articles. Please upload articles to editors@huge.org, or give them to the Pulp Editor **Midnight**

July 18:   **Q & A Session** Starts at 6:00 P.M.

July 18:   **General Meeting** Starts at 7:15 P.M.

From The Editor

by Pat Teevan

I'm going to be really brief this month. It's Father's Day, just past 6:30PM and I'm still finishing up the Pulp. So please forgive me if I have to leave a little extra white space when the articles fall short of filling the page. If you're going to see it before the meeting, it's gotta be done now!.

This month, Ted Bade will be demonstrating Windows XP running on an Intel-based Macintosh. If you can, stop by for what is sure to be a very interesting demonstration.

Why would you want to infect your Mac with Windows? You'll need to ask Ted – I don't even run MS Office on my machines.

If you missed last month's meeting, check out the review on page 4 by Bob Bonato (thanks for being kind, Bob).

I hope to see you at the meeting on Tuesday.

Until next month…

Happy Computing!!

A Little Computer Quiz

by Stuart Rabinowitz

June Quiz

The trivia and minutiae of the computer related world. The answers will appear next month or you can submit an answer sheet at the General Meeting. Good Luck.

1 Do you have a cell phone? Do you use text messaging on it? Have you ever hit the send button prior to addressing it? Do you wonder where in the ether/internet it disappears? (No, it does not land in the same place as all those single socks that disappear in the wash.) Your message does get sent to someone, WHO? (Does this make you a little paranoid about who's reading all those strange thoughts?)

2 Many of you may have heard of the Electronic Frontier Foundation (EFF), an organization involved in protecting the rights of individuals in the area of digital rights. Who were the founding members?

3 When was it founded?

4 What was the specific event that started it all?

5 As part of the development of ENIAC there was a subproject involving the "mouse cage". What was the "mouse cage"?

6 What is the original definition of "computer"?

May Quiz Answers

1 Earlier this year, in January, 2006, a communications' last occurred. Can you name it?

  A The last telegram was sent by Western Union.

2 When was the first?

  A Western Union delivered its first telegram in 1851?

3 What was the original name of the company?

  A In 1851 Western Union began as The New York and Mississippi Valley Printing Telegraph Co., it changed its name 5 years later.

4 At the peak, how many of these events occurred and in what year?

  A In 1929 Western Union delivered 200 million telegrams, and only 20,000 in 2005

5 Can you identify the computer from the motherboard in picture 1?

  A Commodore Amiga 500

6 When was it introduced?

  A In 1987

Animals in your Computer?

by Bob Bonato
HUGE Web Manager

Dapper Drake is about to supplant Warty Warthog, Hoary Hedgehog and Breezy Badger. This isn't about a Disney-esque tale but rather a worldwide saga-Finland to South Africa to the US and around the globe. Pat Teevan gave us a tour of the 'June' to be released operating system that everyone is talking about. In its fourth 'commercial' version, Linux(LIE-nux) seems to be a proven OS with a friendly graphical interface called Ubuntu (translates to 'people'). If that's not enough with the animal theme, it's got a mascot called TUX-a penguin.
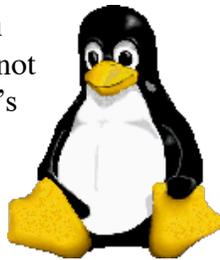
One thing that's so great about Ubuntu is that it is free.

Linus Torvalds, Finnish, wrote the original Linux kernel in 1991. The first readily available Ubuntu product, in 2004, has been upgraded every six months not by him alone but by a contingent of 1000 collaborative programmers and in fact, due to its open source code, by thousands more contributors with their code modifications and ideas. The South African multimillionaire, Mark Shuttleworth, donated $10 million to the ongoing project and to its free distribution and mailing of a variety of options.

Ubuntu can be run from CD without being installed if one is queasy. It comes with a generous set of applications reflective of Office's capabilities, a photo program, Firefox browser and others. Hundreds more are available online for more specific tasks. Upgrades occur regularly and are automatic.

There are two competing graphical environments, Gnome and KDE, with special editions like EDUbuntu for the education minded. The GUI is not only familiar but has many nice features. To mention one, it has four icons at the bottom to allow four different, switchable user-screens. While one can stay within the realm of the interface, hardly recognizing differences on the surface from OSX or XP, the power of Ubuntu is in the open structure. You would be hard pressed to think of a command that isn't available for searching, organizing, changing formats, etc. of the underlying files. Admittedly, the commands are a bit esoteric, but they are very powerful for those so minded. It's also set up to help you avoid changing important system settings by initially giving a SUDO (SUperuser-pseuDO) password and hiding its ultimate root (superuser) password.

Ubuntu offers a help application and the web is all a-buzz about the releases with many sources of help. Here are a couple of sites to check to get into the frenzy: ubuntuguide.org, and ubuntuforums.org. Ubuntu is quite secure, being Unix based. Pat indicated that Linux is here to stay and that one shouldn't be afraid now that Dapper Drake has teamed up with TUX. Pat did a great job of summarizing a difficult topic for a general audience.

Linus Torvalds
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T e c h   N e w s

By Sue Crane, Editor, Big Bear Computer Club, California
Scrane5@charter.net
~www.bigbearcc.org

Cosmeo is bringing Discovery's online encyclopedia into homes via it's Web site. The site resembles the screen of a handheld game device and features video clips and interactive games. Content providers, including Scholastic Corp. and the Public Broadcasting Service, are customized to meet the curriculum standards of different states. The service is available for $9.95/month.

Microsoft announced that it has delayed the mainstream launch of Vista until next year. Steve Sinofsky, the head of the Office unit, has been tapped to lead Windows development. Following its push back of Windows Vista, Microsoft confims the Office 2007 release will move to next year as well. It's been reported on a number of blog sites that Microsoft will release Windows Vista with 8 different versions, but no pricing information is available yet . . .

Microsoft is also building in a tool, Windows Performance Rating, that will rate a PC based on how well it is running and on how much it can take advantage of Vista's capabilities to help average consumers easily understand their Windows Vista PC's overall performance. As for systems slowing down over time, that's another issue that Microsoft is trying to tackle. Meanwhile, Vista is being designed to shut the door on spyware. It will introduce important changes at the heart of the operating system, as well as to Internet Explorer, and include Windows Defender, an anti-spyware tool.

An error in McAfee's virus definition file released mid-March caused consumer and enterprise antivirus products to flag Microsoft Excel, AdobeUpdateManager and other applications on users PCs as a virus called W95/

CTX". Files were deleted or quarantined, depending on the user's settings.

When Microsoft first talked about Windows Live in November, most of the "Live" products were MSN services that had been rebranded. Since then Microsoft has added more than a dozen new products under the Windows Live umbrella. MSN executive David Cole explains, "Microsoft's goal is to continuously update and launch products". Over the next 3-6 months, Microsoft expects to ship more Windows Live technology into the marketplace than during their entire 10-year OS history. Microsoft's new ad-serving engine, AdCenter, is at the heart of Windows Live. AdCenter draws on user demographic information to help drive more targeted marketing. Microsoft has even talked about using advertising as a way to pay for traditional desktop software. Meanwhile, the list of Windows Live services continues expanding to include all the basic portal services.

Take a look at the Ice Weasels, Space Cookies and Cheesy Poofs, high school teams competing for top merit in the 15th annual robotics contest sponsored by FIRST (For the Inspiration and Recognition of Science and Technology). With about $10,000 worth of donated hardware and software, high school students are given 6 weeks to assemble a functioning robot that can move around a court and shoot Nerf basketballs for points. Part of the challenge is for teens to find and work with mentors who are experts in technology and science. Once registered, the teams are given 3 boxes of hardware and software and a programming language called Easy C that allows them to write a program for the robot's onboard computer. Also included is Autodesk's

3D Max Studio animation software so they can create a 30-second animation. The game itself is roughly 2 minutes long, with robots that are 2 feet wide by 4 feet high. For the first 10 seconds, the robots must make as many baskets as possible; the robot with the most points from the first 10 seconds then gets to play offense. Winning bots will go on to compete at Atlanta's Georgia Dome at the international finals.

Neurofeedback, a form of conditioning that rewards people for producing specific brain waves, taps youths' fascination with animation and electronics to sweeten frightening medical treatments. While this form of treatment has been around for decades, incorporating video games marks a new frontier that taps young people's fascination with animation and electronics to sweeten often frightening, lengthy and tedious medical treatments. Video games are being used, for instance, to help sick children manage pain and anxiety during hospital stays. A young leukemia patient inspired "Ben's Game," which let him fight the cancer cells invading his body. A private island called Brigadoon in Linden Lab's "Second Life" virtual world is open only to people with Asperger's syndrome and autism. West Virginia's public schools are battling obesity by making "Dance Dance Revolution"--a step-to-the-beat video game--part of their curriculum, while Nintendo has made a splash with its new "Brain Age" mind-exercising game. CyberLearning's Smart BrainGames system targets symptoms arising from brain injuries, attention-deficit hyperactivity disorder (ADHD) and learning disabilities. Priced at $584, the system is built on NASA technology that used video games and neurofeedback to train pilots. Traditional treatments, such as prescribing the stimulant Ritalin, behavioral therapy and education, are often covered by health insurance, while neurofeedback usually is not. Despite such hurdles, some medical practitioners are advocating the new approach.

 Kyle MacDonald is on the verge of successfully completing a project that sounds absurd: Trading--

with the help of a blog--a single red paper clip for a house. Since embarking on his house hunt last year, MacDonald has traded with people from across Canada and the United States and is now sitting on a year's free rent for an apartment in Phoenix. MacDonald is confident he's going to succeed, and hopes it can happen by the July 12 anniversary of the project's launch. And his goal is getting tantalizingly close. The project has allowed him to initiate a Net cult following that's hoping he'll succeed, too. Popular blogs such as boingboing have been tracking his progress.
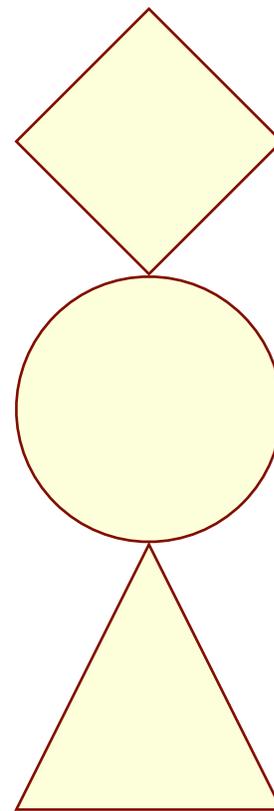
Backup Awareness Month

By Ira Wilsker,
APCUG Advisor; Columnist, The Examiner, Beaumont, TX; Radio & TV show host
iwilsker(at)apcug.net.

In case you had not heard, June is Backup Awareness Month. It is not a federally recognized holiday, nor is it one acknowledged by resolution from some governmental authority, but an awareness service of one of the largest manufacturers of hard drives, the newly merged Maxtor and Seagate.

Sure, Maxtor and Seagate will benefit if we all rush out and purchase a large capacity hard drive so we can backup our critical data in the event of a hard drive crash, or other tragedy that can damage or destroy our computers. This is really more of a win-win situation, as there is a very valid need for timely and comprehensive backups of our data. Lessons still unlearned from Rita, Katrina, and Wilma, as well as other countless disasters, fires, thefts, and other debacles should teach us that if we have a good backup of our files, we can easily survive a catastrophic data loss, and be back in operation promptly.

Imagine in any business or other commercial environment how much information is stored on hard drives. Hard drives are electromechanical devices, and as such will indeed fail at some time. Murphy's Law dictates that a hard drive will always fail at the most inopportune time. Now imagine what would happen to that business or organization if suddenly all of its critical information was gone. No accounts receivable; no accounts payable; no client lists; no purchase orders; no employee or student data; no payroll and tax records; no correspondence; no records of any kind; and a plethora of other potentially devastating losses. Next imagine the time and cost that a company would incur if it had to rebuild that amount of information from paper records, if the paper records indeed exist. Can you conceive the utter devastation that a company would suffer with a catastrophic data loss?

Data loss is not just a corporate or organizational threat, but a personal one too. On my home computer, for example, I have countless family photos, tax records, family financial information, archives of correspondence and other important documents, music, bookmarks, address books, email, and other information that would probably be irretrievable in the event of a complete hard drive failure. I really do not think that the IRS would accept as an excuse the fact that my hard drive crashed, losing my financial records.

We can backup our data in many ways without any substantial expense, or we can utilize sophisticated backup solutions. Backing up can be as simple as copying critical files to CD, DVD, flash drive, or other storage media, using the integral copy function available on all computer operating systems. We can use software, such as NTI's Shadow or Backup NOW! to manage our backup functions to our chosen media, or we can use utilities such as Symantec's (Norton) Ghost, to make a bit by bit copy of our hard drive which can be copied to a new hard drive, making it a mirror image of the original, ready to go. Now that broadband internet connections are more of a rule than an exception, there are commercial services that will do online remote backup and storage at off-premise locations, secure and separate from the host or home location.

Seagate/Maxtor have published some "best practices" (www.backupawareness.com/bestpractices.html) defining the tasks necessary to insure the ability to recover our precious data.

These practices can be summarized by the following tips (details on the website):

Develop a backup schedule – Make it routine, and not a task that we have to remember to accomplish. Most modern backup software and utilities either backup in real-time (NTI Shadow), or can be scheduled at predetermined times (NTI Backup NOW!).

Back up everything – it is not necessary to waste time sorting data, as the speed of backup utilities, hardware, and hard drives, as well as the large capacity of new hard drives, make it unnecessary to determine what to backup

Give yourself room to grow – The rule of thumb listed on the site recommends that the minimum size of backup drives (or other media or storage solutions) should be at least double the current size of the hard drives being backed up.

Back up automatically – Referred to in the industry as "Set it and Forget It", is a viable adjunct to backing up on schedule. Some real-time off-site backup services use a high speed internet connection to automatically back up all new data to an external location. Many software utilities are almost transparent, and perform backups automatically, and unattended.

Rotate backups – Use more than one drive or other system for backup. There are always risks that the backup itself can be damaged or otherwise flawed, and there is safety in redundancy. It is a good practice to store at least one current backup physically away from the location being backed up such that a catastrophe (fire, flood, etc.) at the host will not destroy the backup. It is also a good idea to be able to take a backup with you in the event of a crisis, such as when I took my external hard drive with a current backup of all of my files, when I evacuated from Hurricane Rita. With this external drive, I could also access critical files form another computer if needed, prior to returning home.

Don't procrastinate – Do not put off until tomorrow what you must be doing today. The complete Murphy's First Law of Computing is, "A properly backed up hard drive will never fail, but the first time that you do not have a current backup, your hard drive will always fail at the most inopportune time." Sadly, all too many of us learn the importance of a backup immediately after our hard drive fails, as we come to the realization that all is lost.

June should not really be backup awareness month; every month should be backup awareness month!

There is no restriction against any non-profit group using this article as long as it is kept in context with proper credit given the author. The Editorial Committee of the Association of Personal Computer User Groups (APCUG), an international organization of which this group is a member, brings this article to you.

Happy Father's Day!

Printing Better Pictures

by Robert Spotswood,
Member of HAL-PC, active in the Linux SIG and a freelance computer professional
www.hal-pc.org
Robert(at) spotswood-computer.net

When a dot is not a dot

Have you ever tried to print out a picture that looks good on your monitor only to be disappointed with the result? Does it come out way smaller/bigger than you expected or look really grainy?

This is not a random act by your computer. In order to understand why it happens, and more importantly, be able to prevent these problems, you have to understand when a dot is not a dot.

This is not an easy subject to grasp initially, but if you play with it just a little, the light bulb will light and it will become almost second nature very quickly.

Conventions

There are two types of graphic images: bitmap and vector. This article focuses exclusively on bitmaps. If in doubt about which type your picture is, it's probably bitmap. Bitmap pictures are composed of a series of dots called pixels.

While the terms DPI (dots per inch), PPI (pixels per inch), and SPI (samples per inch) technically have different meanings, in practice they are all interchangeable. Only DPI will used in this article.

Any printer referred to is limited to the inkjet variety unless stated otherwise, although almost everything here applies equally to laser printers. Although this article focuses on examples using the GIMP, all the theory and much of the practice applies to almost all graphic software.

Monitors

Your monitor displays everything as a series of dots, regardless of the picture type. For instance, if your screen size is 800x600, then you are looking at 800 dots by 600 dots. The dots can be almost

any color and they do not have a fixed size. A typical 17" monitor can have screen sizes from (at least) 640x480 to 1280x960. Since the physical size of your monitor can't change, the size of the dots must change. The more dots you have making up your screen, the smaller those dots will be.

As far as your monitor is concerned, one pixel (see the definition of pixel above) equals one dot. Because the icons (including text) and wallpaper on your desktop are composed of a fixed number of dots, shrink those dots and the icons and wallpaper get smaller (see Fig. 1 and 2). Be aware that most desktops have a scaling feature for the wallpaper, called stretch in Windows, so you may not see the wallpaper actually change size if this feature is turned on. However, the quality of your wallpaper may go down dramatically if the wallpaper's actual size is small and you increase the screen size too much.
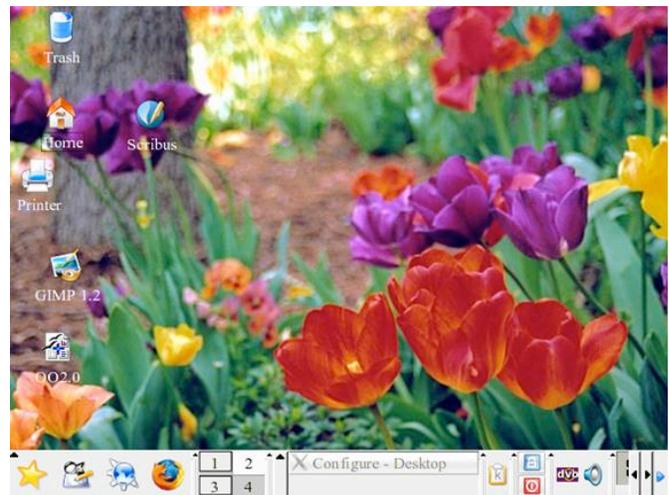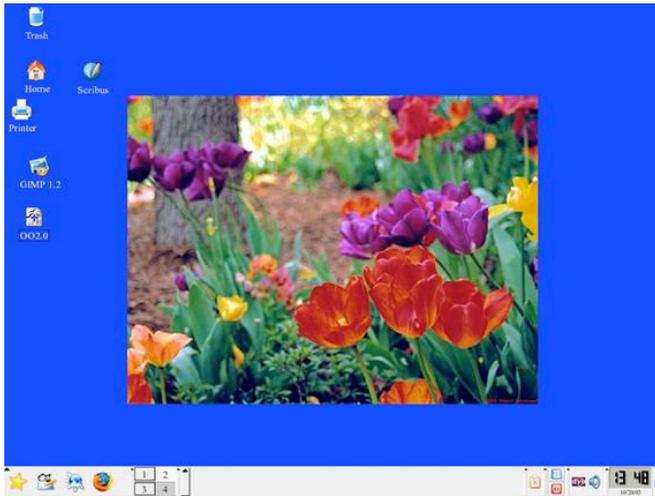

Figure 1 (above) A 640x480 wallpaper on a 640x480 screen.

Figure 2 (below) A 640x480 wallpaper on a 1024x768 screen.

The same thing applies to any pictures you may have. A picture with 640x480 pixels will display fully (at 100% resolution) on any screen size at least 640x480. A picture 1600x1200, on the other hand, will require scrolling on any screen smaller than 1600x1200.

Printers

Printers, like monitors, create the printed picture/output image by using a set of dots. But that is where the similarities end. Unlike a monitor, a printer's output isn't a screen with variable size pixels, but a piece of paper with fixed dimensions. Paper is measured in inches, not pixels.

Printers create the image (and text) by using a grid of dots. The number of dots the printer can make in one inch is what's known as DPI or Dots Per Inch. Obviously, the higher the DPI, the better the output the printer is capable of. A higher DPI means more detail and a lower DPI means less detail. If the DPI is set to low, the picture will look very grainy and poor. For a normal piece of paper, the graininess usually starts to show somewhere below 200 DPI. For things like highway billboards, the DPI used can be from 36 to 72 DPI.

Unlike a monitor, the dots are of a fixed color. A black and white printer cannot actually print gray, but only black. The paper is usually white, so white

is just the absence of printing. Grays are simulated by printing dots in a grid. These grids are called halftones. Newspapers use halftones that are very coarse and usually visible even without a magnifier. The more black pixels, the darker the gray. Conversely, the fewer the black dots in the grid, the lighter the gray will be. Thus, one image pixel can require several printer dots. Some printers are capable of varying the size of the printer's dots, but for simplicity's sake, this will be ignored.

The size of the grid and the max DPI of the printer affect how well the printer can reproduce shades of gray (and color). Gray includes the colors black and white. For a 1200 DPI printer:

A 1x1 grid shows 2 shades of gray with an effective DPI of 1200 (1200/1 aka line art).

A 3x3 grid shows 10 shades of gray with an effective DPI of 400 (1200/3).

A 6x6 grid shows 37 shades of gray with an effective DPI of 200 (1200/6).

An 8x8 grid shows 65 shades of gray with an effective DPI of 150 (1200/8).

Thus, the more shades of gray you need, the more image detail you have to give up, or the more detail you want, the fewer shades of gray you will get.

Color printers are similar to black and white printers except they usually have four ink colors (CMYK - Cyan, Magenta, Yellow, and blacK). Instead of orderly grids, color printers use dithering (with error diffusion).

Figure 3 (above) The exact same picture printed at 3 different DPI's.

Dithering is the use of somewhat randomized scattered dots. This tends to look smoother than grids, but the theory is similar. One image pixel can require several printer dots.

In practice, the upper limit for inkjets comes about because the dots of individual color become larger than the grid to hold them. In addition, the ink can bleed, especially on regular paper (photo paper lessens this problem). The practical upper limit is (on good photo paper) between 240 to 300 (maybe 360) DPI. On regular paper, due to ink bleeding, 150 DPI is about as good as it gets. For other than inkjet printers, try not to go much below 200 DPI if you want a good print out.

Converting between the effective DPI (which is the same as the DPI you or the software pick), the printer's max DPI, and picking the colors to use at a given DPI is handled by the printer driver and not something you can really change. Just be aware that using a high DPI may not give you the detail, or color reproduction, you expect.

DPI and Print Size

In addition to affecting the number of colors, DPI also affects the physical size of the printed picture. The print size on paper is determined by two things: the number of pixels in the picture and the DPI setting used by the software for that picture.

Some software and some file formats do not support changing the DPI setting. Some programs do support changing the DPI and just don't mention the term DPI (or PPI or SPI). Some programs such as desktop publishing software and word processing software will show you a WYSIWYG version of your picture at its relative print size. This is usually based on the DPI of the picture.

The physical print size is just the picture size (in pixels) divided by the DPI. For instance, a 400x800 pixel picture printed at:

100 DPI will be 4 (400/100) in. x 8 (800/100) in.

200 DPI will be 2 (400/200) in. x 4 (800/200) in.

300 DPI will be 1.33 (400/300) in. x 2.66 (800/300) in.

Figure 3 shows the same picture (640x480) printed on letter paper using 3 different DPI values. The only thing changed between the three is the DPI. As you can see, the higher the DPI, the smaller the picture. This is another reason that trying to print at your printer's maximum DPI is not the best choice.

Setting the DPI in the GIMP for versions 1.2 is done by right clicking on the picture and choosing "Image" -> "Scale Image" and setting either the DPI or the print size (see Fig. 4). The DPI is called "X resolution" and "Y resolution". Both the X and Y values should almost always be set to the same number. As you change one, the other will automatically adjust. As mentioned above, DPI and print size are intertwined and one can not change without the other changing.
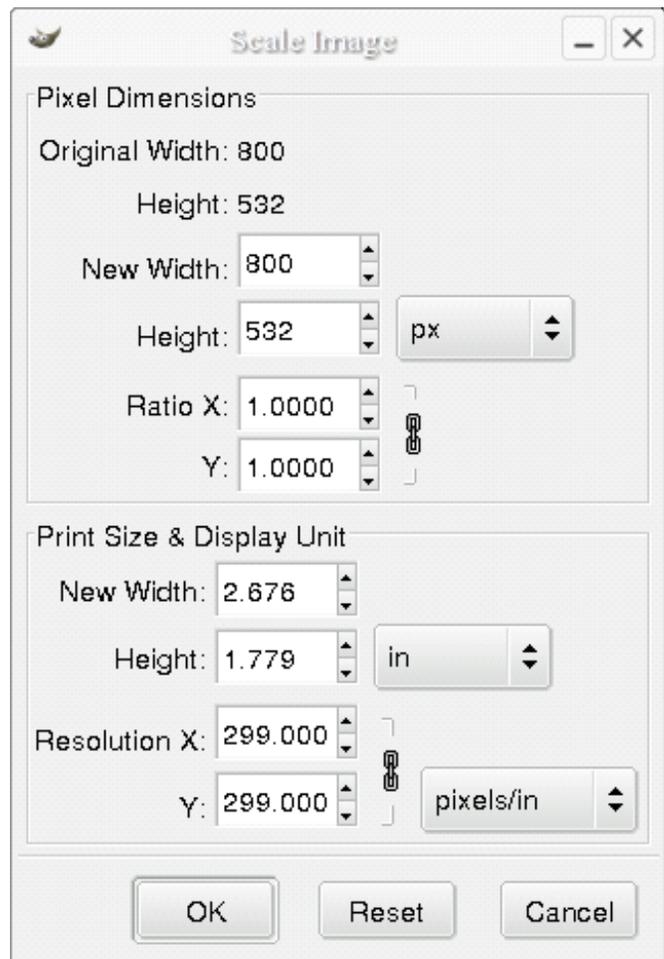

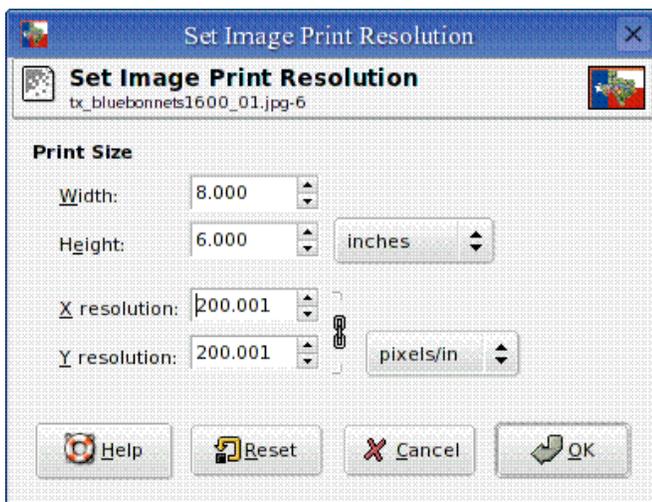Figure 4 (above) The GIMP 1.2 DPI and print size control.

For the GIMP 2.2 (everyone using version 2.0 should upgrade to 2.2) the DPI (or resolution) control is found in "Image" -> "Print Size" (see Fig. 5 and 6). While it is also found under "Image" -> "Scale Image", do not use it there. It is too easy to change your picture size by scaling accidentally.

Figure 5 (above) Getting to the GIMP 2.2 DPI and print size control.

Figure 6 (below) The Gimp 2.2 DPI and print size control.

Conclusion

By understanding DPI and how to control it, you can dramatically improve the quality of your printed pictures. Say "goodbye" to accidentally printing posters and postage stamps. Say "hello" to better printouts.

Officers & SIG Leaders

President: _____	George Carbonell	568–0492	george.carbonell@comcast.net
Vice President_____	Stuart Rabinowitz	633–9038	s.e.rabinowitz@worldnet.att.net
Secretary: _____	Ted Bade	643–0430	tbade@cox.net
Treasurer: _____	Charles Gagliardi	233–0370	epencil@att.net
Director at Large: __	Richard Sztaba		richer1@aol.com
Director at Large: __	Abel Tangarone		
Web Manager: _____	Bob Bonato		
Membership: _____	Richard Sztaba		richer1@aol.com
Integrated SIG: ____	Stuart Rabinowitz	633–9038	s.e.rabinowitz@worldnet.att.net

June 2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	**3**
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11	12	13	14	15	16	**17**
18 Father's Day	19	20 General Meeting	21	22	23	**24**
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