

# ComputerEdge™ Online — 01/02/09



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## Digital Dave

**“Digital Dave answers your tech questions.”** by *Digital Dave*

A reader wants a tool for monitoring unidentified network traffic; a reader is receiving a "no bootable device found" error message; why has a reader's Task Manager been disabled?

*Dear Digital Dave,*

*I suspect one or more ports are leaking information when I'm connected to the Internet. The little "Local Area Connection" icon shows traffic passing to and from my machine, and yet I'm not sending e-mails or using the browser.*

*Is there a diagnostic tool that identifies what kind of traffic is taking place? Something that shows all the lines of communication: Windows automatic updates, Symantec's Internet Security updates, Adobe Acrobat updates, botnet communication with the mother ship, etc.*

*Kurt Danis  
Colorado Springs*

Dear Kurt,

Yes, there are tools for monitoring network traffic. They can be found by doing an Internet search with the keywords, "network traffic monitoring." These tools are used primarily by network administrators who need to check up on their users. I can't make any specific recommendations because I haven't used anything other than occasional ping and trace programs. Perhaps another reader would have a recommendation.

However, as long as all of your firewall and other security arrangements are in place, it is unlikely that you will find any unusual activity. It is normal for small amounts of traffic to be seen on any devices (routers or network cards) that are hooked up to a network. There is regular pinging that occurs between computers and any other device on the network to establish that the connection continues to be active.

If you are connected to the Internet, you will see even more activity depending upon which applications you use. For example, an instant messenger will continuously be getting checked by the main server and vice versa. Even if you have no Internet programs open, the network functions of your computer will be checking the network connection used by the Internet. Or, you will see activity that has nothing to do with what applications you're using from having your ports sniffed by hackers looking for easy targets. It's all normal and part of being on a vast network.

Digital Dave

*Dear Digital Dave,*

*Recently my XP Pro computer suddenly crashed (Blue Screen of Death). When I tried to reboot, I got an error that said "no bootable device found." After several reboots with the same error, I got an error that said "Unmountable Boot Volume."*

*I used the recovery console to repair the boot file, and it loaded into Windows with no problem. It's been running fine for the past few days. Am I looking at a pending hard drive failure or did something else go wrong? The only thing that changed just prior to this was the most recent security downloads*

*from Microsoft.*

*Jim Kistner  
San Diego*

Dear Jim,

Yes, there is a good chance that your hard drive is beginning to break down. When drives start to fail, it usually comes in the form of bad sectors that are unreadable. Bad sectors occur all the time, but the system software usually detects the problem and marks the sector as unusable before it is ever noticed. The recovery programs run sector-checking procedures and rewrite any recovered data to good sectors—again, marking the bad sectors.

In my experience, once the boot sector is affected with the problem, it generally indicates that the drive is on the decline, and it only gets worse. You will feel much more secure if you replace the drive with a new one.

It is also possible that the security update made the Windows boot partition unbootable and the recovery console fixed it. There are a number of problems that can be fixed from the recovery console other than drive problems. It's still advisable to go ahead and get a new drive to rule that out, plus do a clean install to rule out any problem there. Or, make sure everything is backed up and continue as usual until other symptoms occur.

Digital Dave

*Dear Digital Dave,*

*When I press Ctrl+Alt+Del, a message window pops up saying that Task Manager has been disabled by my Administrator. I'm just wondering, how come it's disabled, when I am not even a member of a local area network?*

*I only have one PC that's directly linked to the Internet through Wi-Fi. Why is this so?*

*Jonathan Paul  
Zamboanga, Philippines*

Dear Jonathan,

Since administrators may want to take access away from some users, there is a method to disable and enable the Task Manager. However, if you're not on a network and there is no administrator other than you, then there is a possibility that a virus has disabled your Task Manager. Before you enable the program again, you should do a complete scan with your favorite antivirus software.

The technique for enabling your Task Manager depends upon the version of Windows that you're using. There are a number of ways to get it done. Read through the alternatives and pick the one that seems right for you.

If your system supports it, gpedit.msc (with the Run command) is the safe way to fix the problem. (gpedit.msc is a program for editing group policies.) If you enter gpedit.msc into the Run program and get the message that the program does not exist, you will need to edit the Registry. (You use RegEdit and zero the value of the appropriate reg key manually.) Since this is a more dangerous procedure, you should use Windows help and locate the specific procedures for enabling the Task Manager. (In Windows Vista, search help for Task Manager, select Troubleshoot Task Manager problems, then "How do I enable Task Manager if it has been disabled?" for detailed instructions.)

If gpedit.msc runs, then you will get a window similar to Figure 1. Right-click and select properties from Remove Task Manager under the Ctrl+Alt+Del Options expanded listing as shown. Clicking Not Configured and Apply should do it.

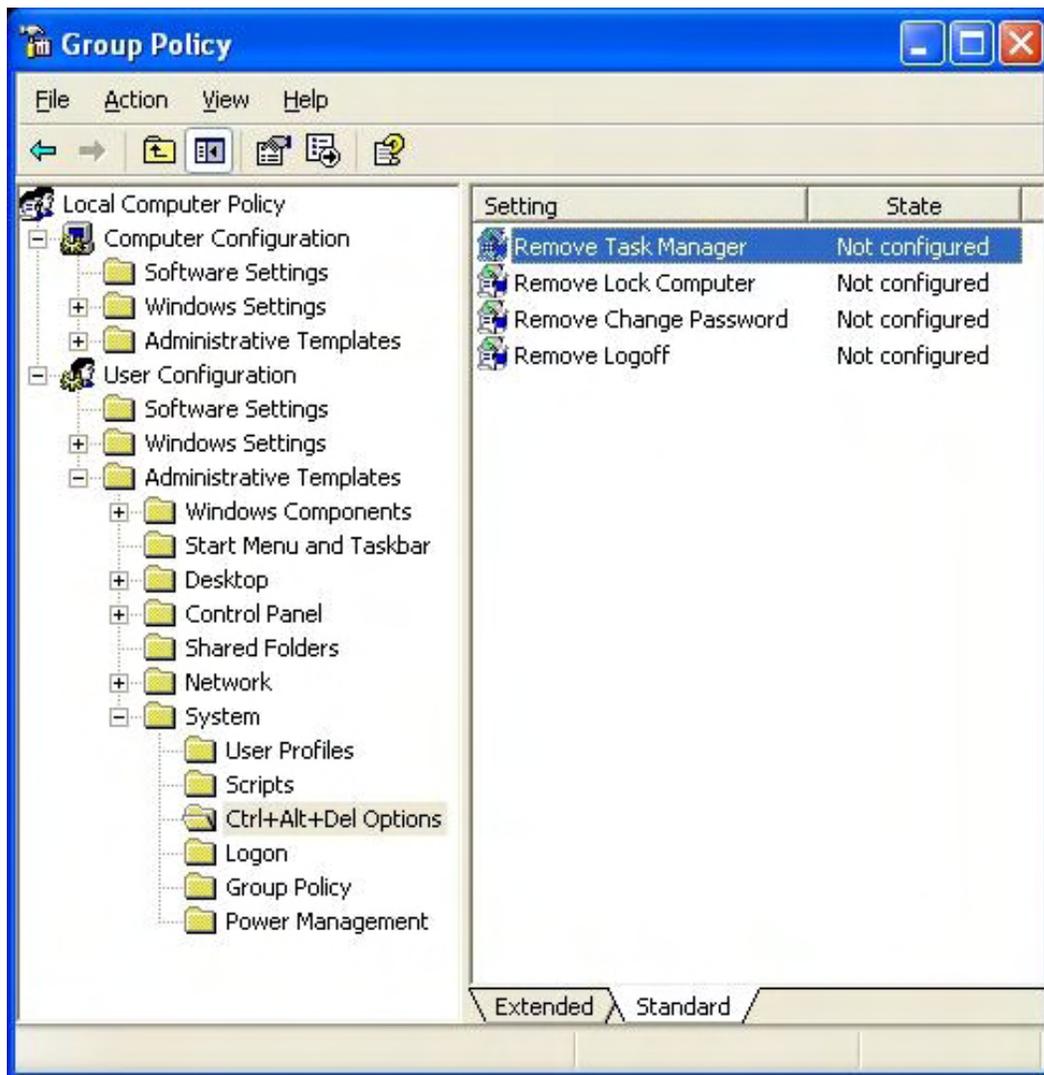


Figure 1. Group Policy window in Windows XP Professional.

For a single-line command that does the same thing, enter the following in the run box and hit Enter:

```
REG add
HKCU*\Software\Microsoft\Windows\CurrentVersion\Policies\System /v
DisableTaskMgr /t REG_DWORD /d 0 /f
```

(The above command should be entered as all one line, regardless of how it breaks on this Web page.)

There is also a free tool called FixTaskManager ([www.taskmanagerfix.com](http://www.taskmanagerfix.com)) that fixes it as well. This seems a pretty common thing to have happen if you get a virus. You'd definitely want to run some scans and think about making a clean install anyway.

Sometimes settings change in a computer without even the help of a virus. If so, it was probably a random event (cosmic rays) and is not likely to be repeated. If it was a virus, it could continue to reoccur until you rid the computer of its ailment.

Digital Dave

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## VoIP: Talking Over the Internet

“Talk globally, call locally.” by Michael J. Ross

The ability to communicate digitized sound over the Internet, regardless of its content, suggests the possibility and potential of digitizing and transmitting phone calls, in real-time, over the Net.

As the ultimate computer network, the Internet serves as a platform for the global distribution of digital data—including Web pages, images, text files, executable programs, e-mail messages and audio clips. That last category is comprised of a variety of components, varying in size, purpose and format—such as a one-second user-feedback beep attached to a Web page element, a one-hour webcast focusing on financial news, or a two-hour live blues concert delivered to online listeners as streaming audio.

The ability to communicate digitized sound over the Internet, regardless of its content, suggests the possibility and potential of digitizing and transmitting phone calls, in real-time, over the Net. It turns out that this is quite feasible. After all, if something can be digitized, then it can be transmitted over the Internet—including any kind of audio content. This is made possible by Internet Protocol (IP), which specifies a method of communicating data over a network by organizing it into small chunks, referred to as packets. IP is what makes the Internet so robust, as it automatically directs this network traffic along the most efficient pathways.

Packet voice technology can trace its roots to 1993, starting with the efforts of Lior Haramaty and Alon Cohen, members of the Israel Defense Force at the time, and later founders of VocalTec Communications. Yet it did not really take off in the United States until the early 2000s, with the widespread penetration of broadband Internet access throughout the country. This is primarily due to packet voice technology not working well over dial-up Internet connections, since the voice signals, when digitized, become huge amounts of binary data that can be handled only by broadband Internet (DSL, cable or satellite).

### Talk Globally, Call Locally

This method of communication is known as VoIP, which is short for "voice over IP." Yet not all such Internet telephony is created equal. In one form of Internet telephony, the customer talks using his regular phone, connected to a VoIP adapter, which digitizes the outgoing sound and sends it over the Internet using his high-speed Internet connection. The customer does not require local phone service to make the call. His voice signal is sent by the particular VoIP company to

one of its servers—known as a VoIP gateway—located in the calling area of the listener. That signal is converted back to analog sound, which the recipient hears using her own regular phone, as a local phone call, regardless of what country the caller is located in.

An example of this approach is Vonage ([www.vonage.com/](http://www.vonage.com/)) (pronounced VON-uj), which bills itself as a leading provider of VoIP Internet broadband telephone services. As of this writing, subscribers can make unlimited local and long-distance calls for less than \$25 per month. This price does not include all of the "regulatory and activation fees and certain other charges, equipment taxes," etc., which certainly add up, month after month. These extra costs are similar to those of traditional long-distance phone services, which many VoIP subscribers abandoned precisely in order to get away from all of those tacked-on fees. Nonetheless, Vonage has plenty of customers; a chart on the company's Web site indicates that, from 2003 to 2008, they have gone from zero to 2.5 million subscribers.

Another approach is to do away with the use of regular telephones, and instead transmit the digitized audio back and forth between computers on both ends of the conversation. The most popular example of this type of Internet telephony is Skype ([www.skype.com/](http://www.skype.com/)), which offers a range of features and plans—some free and others paid. There is no cost for two users to send voice, video and instant messaging back and forth, with both participants running the Skype program on their PCs. Even conference calls of 25 or fewer people are completely free.

But most people do not have Skype running on their computers, and some people do not even have personal computers or Internet service. So how can you call, using Skype, such an individual? Fortunately, Skype makes possible local and international calls to regular phones, in which the sender's voice signal is sent over the Internet to the recipient's area, where it is turned into a local phone call—similar to Vonage's service. At this time, three different monthly plans are available, and all of them are far less expensive than conventional long-distance service for an average caller. Unlimited calls within the United States and Canada cost \$2.95 per month, \$5.95 within Mexico, and \$9.95 for unlimited global calling. For people who make a few phone calls per month, Skype's pay-as-you-go plan would be a better choice, since calls cost only 2.1 cents per minute in 35 major countries; other countries cost more.

### **On the Phone, on Your Computer**

Computer-based VoIP, such as Skype, is especially convenient. It is performed by a given VoIP application, running on the personal computers of everyone involved in the conversation (including uninvited participants—usually members of U.S. federal government agencies sporting three-letter acronyms). On the PC of the person speaking, the VoIP program digitizes that caller's vocal sounds in real-time, organizes them into the digital packets required by IP, and sends those packets over the Internet to the listener's computer. The VoIP program running on the recipient's computer reassembles all of the received packets into audio, which the listener then hears.

In terms of the hardware required for VoIP communications, any handheld or headset microphone would be adequate for sending your voice. Commercial VoIP services typically make available—and often even require the use of—specialized handsets. At the other end, the listener can use any stand-alone or headset speaker(s) that can be connected to the sound card of her PC, or the audio output of her PC's motherboard.

Voice quality, as perceived by the listener, is affected by many factors, including the quality of the sender's microphone, how well positioned it is in relation to his mouth, the upload speed of his Internet connection (the greater the speed, the less delay for the recipient in receiving his voice signal), the frequency of dropped or delayed packets (the higher the frequency, the worse the voice quality), the download speed of the listener's Internet connection, and the quality of her speakers and background noises in their respective environments. These are most if not all of the possible technical factors, and do not include the human factors, such as how well the speaker articulates his words, how fast he talks, and the strength of her hearing abilities.

### **Pluses and Minuses**

For those people who have been using VoIP for some time now (myself included), the advantages are obvious. The potential savings are quite attractive, proportional to how much non-local (outside your zone) and long-distance phone calling you typically make. In fact, with the unlimited calling plans, you may find yourself making far more calls, and longer ones, than ever before—thus enjoying conversations with family members and friends even more, without

worrying about mounting long-distance plan costs. Not only can you slash your per-minute costs, but by not committing to a long-distance provider, you avoid all of their monthly fees, including those charged even if you don't make a single phone call that month.

In addition to reducing your telephony costs, VoIP opens up a host of communication possibilities that Graham Bell could only have imagined. As noted earlier, Skype allows you to send video as well as audio, back and forth. That is certainly not a feature offered by conventional local and long-distance phone services.

Yet as with any new technology, there are some downsides to VoIP. Even though voice quality continues to improve, it is generally not equal to that of landlines—especially for free VoIP services. On the other hand, it is usually as good as the voice quality of cell phones, with far fewer rates of disconnected calls.

Another area of potential problems is that of emergency and technical-support calls. For example, some VoIP services do not support 911 calls. Those that do, such as Vonage, require the customer to disclose their physical address, which is (understandably) required by emergency services. Another example is VoIP's reliance upon Internet connectivity. In other words, if you lose your broadband connection to the Internet, how do you call your Internet service provider (ISP) to report the problem? This naturally is not an issue if you have a cell phone, or someone in your household does (check your teenager's room).

But on balance, the advantages of VoIP far outweigh the disadvantages, and it is little wonder that more and more people are opting for Internet telephony, and abandoning the long-distance services that used to have a stranglehold on our communicating with people across the country and across the oceans of the world.

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## The Skype Is the Limit

“Video phone calls via the Skype service.” by Jack Dunning

Thanks to the webcam and services such as Skype, we now have the capability to make video phone calls via our computers.

Every once in a while, something comes along in computing that will actually change your life. What was once purely science fiction becomes reality.

When I was a kid I would read Dick Tracy in the Sunday comics. Although Tracy was a crime fighter, what I remember best were the sequences of sci-fi that permeated the comic. Tracy could travel to the moon and back in the Space Coupe using giant magnets to move through space. Most fascinating was his 2-Way Wrist Radio, later to become a 2-Way Wrist TV. Tracy had the ability to go anywhere and talk to anyone. All that is taken for granted in today's world of cell phones—except for the TV part.

While cell phones have been around for decades, we are still waiting for a practical video cell phone. However, thanks to the webcam and services such as Skype, we do have the capability to make video phone calls via our computers.



“Okay, who invited that clown to this meeting?”

upon the lighting conditions and the video camera, the video may be grainy and dark. With all the problems associated with making a video call, is it worth the effort? Absolutely!

### Video Call Benefits

If you know anyone or anything worth seeing, then they're worth seeing in a video call. As long as you have a high-speed connection, a webcam and a computer that can keep up on each end (most of today's new computers are more than adequate), then it's worth the effort.

The first requirement for benefiting from video calls is that there must be something worth seeing. Video images are not suitable for every phone call. (With many voice phone calls, there is no desire to see—or be seen.) A video call is a get-together. It is not a process for a quick contact or message. This is not due to the difficulty of setting up video conferencing—it's actually rather easy. The visual call is a get-together because the communication involves more of the human senses. Adding sight to the conversation moves the interaction outside of the mind and into the real world. When you set up a video call, you're inviting someone into your home.

The first effect of this change in environment is a sense of relaxation. Unlike a phone conversation, a pause doesn't make you wonder if the line has gone dead. After all, you're looking right at the people on the other end. Individuals can wander in and out of a conversation (and room), just as they might if they were all located in the same setting. Facial expressions (smiles, rolling of the eyes, etc.) are an important part of communicating. Seeing the person you're talking to makes a huge difference.

When people first started talking about video conferencing, I was skeptical about its usefulness. The idea that holding a meeting with a bunch of talking heads would be better than a conference phone call seemed a little ridiculous. I could see the usefulness of sharing presentations and data, but could it be much better than talking on the phone? Although I've yet to be involved in a business video teleconference, I've started to moderate my negative views.

Today, the major limiting factor for video calls is bandwidth. Although data compression and faster hardware have helped to create acceptable images, the sharpness is not what we can see on a regular television. When waving an arm, the screen leaves a shadow of the image as if it were trying to keep up with the arm motion. Depending

Video calls are ideal for grandparents who are trying to keep up with the rapid changes in remote grandchildren. While listening on a phone may produce only an occasional grunt from a child, the image of a grandparent on a computer screen may keep the attention of the youngster for 30 seconds to a minute—much more than any audio-only device. Over Christmas, we were able to see (and hear) our older grandson in Montana playing with the items we had sent him.

### **Setting Up a Video Call with Skype**

While it is possible to make video calls with most Internet instant messenger (IM) services, the best known way to set up a quality visual connection today is with a Skype ([www.skype.com/allfeatures/videocall](http://www.skype.com/allfeatures/videocall)) account. While Skype's primary source of revenue is through VoIP phone calling plans, it offers free Internet video calls. I'm guessing that the free service is part of the Skype marketing plan, eventually introducing a paid service—maybe for improved quality.

Skype recommends at least a dual-core processor, a good camera and a fast broadband connection. I tested a number of different setups and have verified that each of these suggestions will help with the quality of the connection.

### **The Webcam**

While any webcam will work, the better-quality cameras certainly improve the picture. The webcams built into laptops are adequate, but they will not produce the quality of one of the Logitech cameras ([www.logitech.com/index.cfm/webcam\\_communications/webcams](http://www.logitech.com/index.cfm/webcam_communications/webcams)). (Laptop webcams are essentially the same type of camera that is found in a cell phone.) The Logitech QuickCam Pro 9000 is particularly well rated by users. It has excellent resolution, and the autofocus helps if the subject is prone to moving about—such as a toddler.

When installing the webcam, be sure to download the latest drivers. Often the drivers in the box are out of date.

If not everyone has a good-quality webcam, put the best one on the end where the subject is of most interest. For example, a grainy image of grandparents is adequate, since no one really cares what they look like, while it's important for the best camera to be on the grandchildren's end to maximize viewing pleasure.



Sample of image snapshot taken over a Skype account.

## The Computer

The more powerful the computer, the better. Skype recommends as a minimum a dual-core processor. The computer uses the Skype software to compress the audio and video before sending them over the Internet, then decompresses received signals. The more power in your computer, the faster the compression and decompression will take place. There will be less lag time and hesitancy in communications with a powerful computer. I would also add as much memory as is feasible. Optimum memory will help with all computer operations.

## The Bandwidth

Both ends of a video call need a fast Internet connection—the faster the better. It's not necessary for each end of the connection to be at the same-speed connection. Much of the bandwidth difference is made up in the data compression done by the computer and the Skype software. I noted that the image of our grandchildren improved greatly with a speedier connection on our end, while their end was on the same slower DSL connection that had always been used.

## The Skype Account

The last piece of the puzzle is the Skype account. The signup process is relatively easy. Once people on both ends have accounts with downloaded software installed, connecting is as simple as clicking a button.

Once you have started the call, you will have a choice of image size—in a window or full screen. Which one you choose

will depend upon the quality of the received image. If the quality is low, then keeping the image in a smaller window will help. With a good-quality image, full-screen mode will provide more detail.

You will want to play with issues such as lighting and webcam direction. Too much light in the background will tend to overwhelm the image.

The Skype screen will show both the remote image and a smaller inset of your image. The inset image of yourself will help you to adjust the camera to enhance the viewing on the other end. If your webcam has zoom features, then you will be able to move in on key items of interest. If you have a separate camera, then you can reposition it for viewing different parts of the room. If you're using a laptop with a built-in webcam, then you'll need to move the entire computer and/or screen to make adjustments.

If you've never participated in a video call before, then it is worth the effort to try it. It's not as good as the real thing, but it's better than just a phone call. Be sure you're decent before you answer the phone.

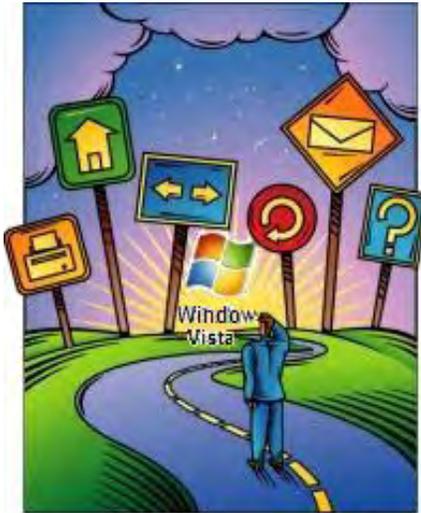
I would like to hear about how other people are using video phone calls, and about other type of devices such as wireless webcams.

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Jack is the publisher of *ComputerEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is [www.computoredge.com](http://www.computoredge.com). He can be reached at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)

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# Windows Vista Tips and Tricks

## Windows Vista Tips and Tricks “Mouse Properties in Windows Vista” by Jack Dunning

If you're left-handed, or simply want to know more about how you can adjust a standard mouse, then the Mouse Properties window will do the trick.

I noticed that Digital Dave recently answered a question about a left-handed mouse. Unless you buy a mouse that is specifically configured for the right hand, every mouse is left-handed. In Windows Vista (as well as XP), there is a Control Panel item for setting up how your mouse will work.

When you plug in a mouse for the first time, it usually just starts working. In that situation, you may never need to look into how to change your mouse settings. As long as it's doing what you want it to do, why bother? However, if you're left-handed, or want to know more about how you can adjust a standard mouse, then the Mouse Properties window will do the trick. Note: If you install special drivers for a more capable mouse or trackball, then you may have a special control panel (with more features) for that particular mouse.

You can open the Mouse Properties window by typing "mouse" into the Start Search field in the Start menu, and selecting Mouse from the Programs listing at the top of the Start menu. (You can also select Mouse from the Control Panel under the Hardware and Sound category.) You should get a window similar to Figure 1.

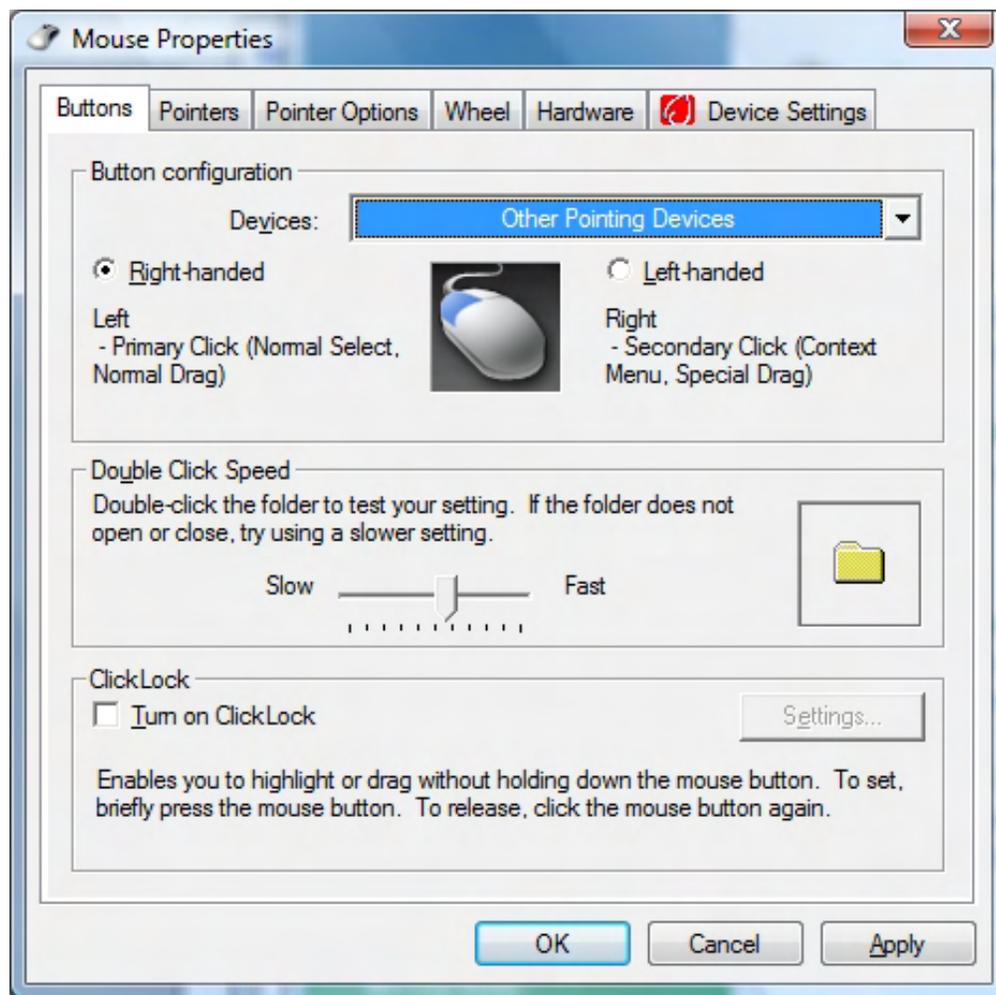


Figure 1. Windows Vista Mouse Properties window with the Buttons tab selected.

This is where you turn a right-handed mouse into a left-handed mouse: Select left-handed. The only thing this selection does is switch the left and right mouse-button functions. (Don't freak out if, when you try to switch it back, it doesn't work—while saying, "What's This?" You now have a left-handed mouse and you will need to click the right-mouse button to reset it to right-hand.) To make any changes permanent, click Apply.

You can also change the reaction time for the double-clicking motion on this tab. The setting you want to use will depend upon the agility of your fingers. If you are a slow clicker, then you will need a slower setting. You can test and practice on the folder icon to the right.

ClickLock is a setting that will allow you to drag items with the mouse without keeping continuous contact with the pressed drag button—which can be quite exhausting over great distances. Click again to drop the ClickLock mode.

The Pointers tab is interesting because this is where you define how the cursor will look on the screen (see Figure 2). With some of these settings, you can add some pretty cool-looking effects.

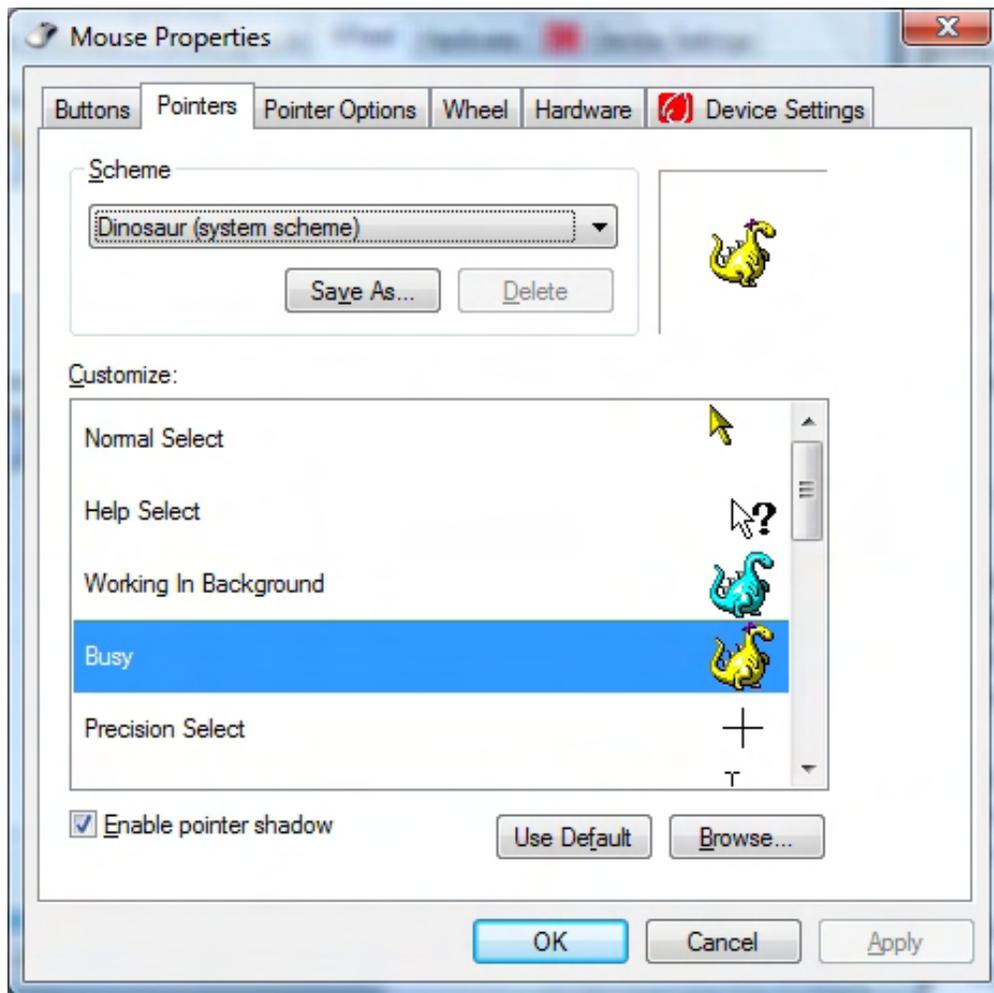


Figure 2. Windows Vista Mouse Properties window with the Pointers tab selected.

Notice the dinosaurs that will animate, showing your cursor walking whenever a program is busy or working in the background. They were selected by picking the Dinosaur (system scheme) from the top menu. In the Variations scheme, the cursor will actually count and display the seconds when an application is busy. (No more guessing how long you've been waiting for the application to load!)

By selecting the individual action in the box and clicking Browse..., you can tailor the cursor to any one of hundreds of other symbols.

The next tab is Pointer Options (see Figure 3). The features in this window may be of particular importance if you need to do precision work. By slowing down the pointer speed, it is possible to more accurately position the cursor. Increasing the speed will help to quickly move the cursor across large screens.

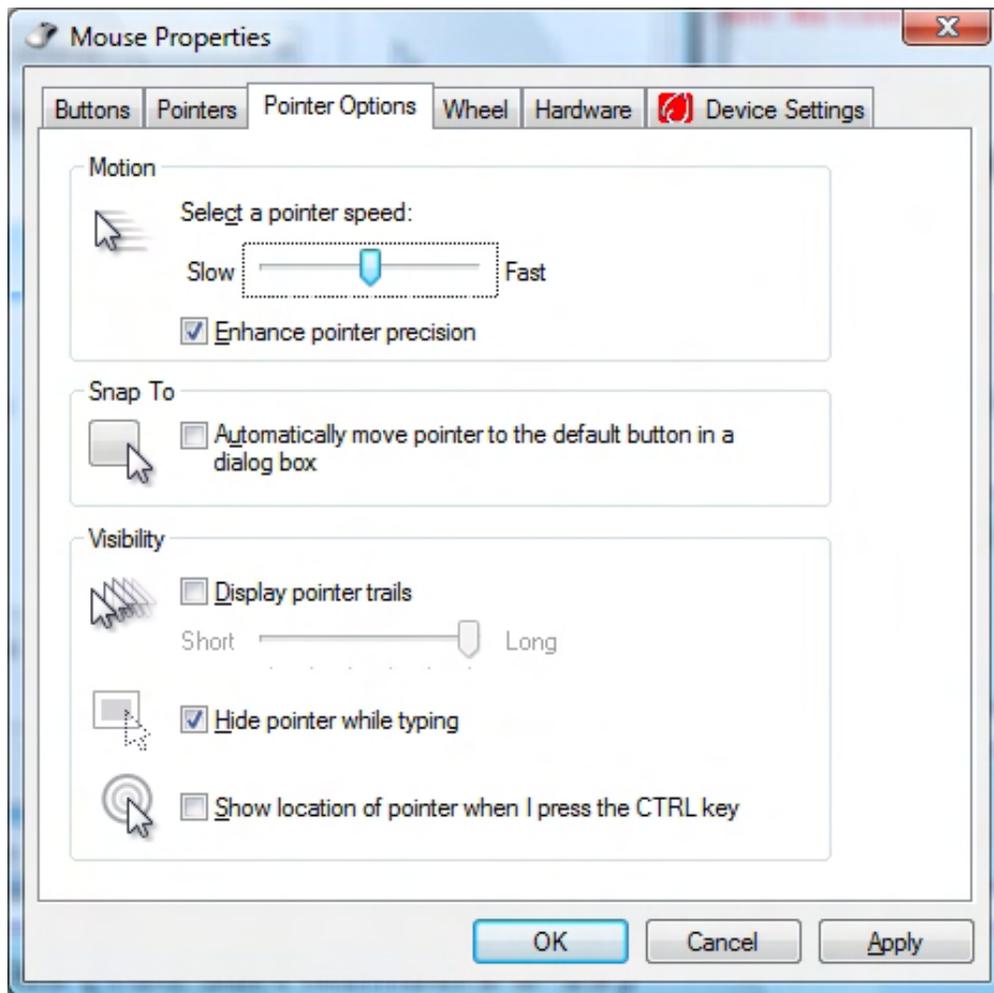


Figure 3. Windows Vista Mouse Properties window with the Pointer Options tab selected.

Depending upon how you work with your computer, some of the other features may be useful. I found the pointer trails annoying. Using the CTRL key to find the cursor (targeting circles) would be good for those of us who habitually lose the arrow in the clutter on the desktop.

The last window that I will discuss is the Wheel tab, as shown in Figure 4. One of the things that we have learned (mostly by accident) is that if we spin the mouse wheel, it will scroll through a page on the screen. Once understood, wheeling through a page becomes part of our standard repertoire. Adjust the number of lines up for high-speed operations—down for precision.

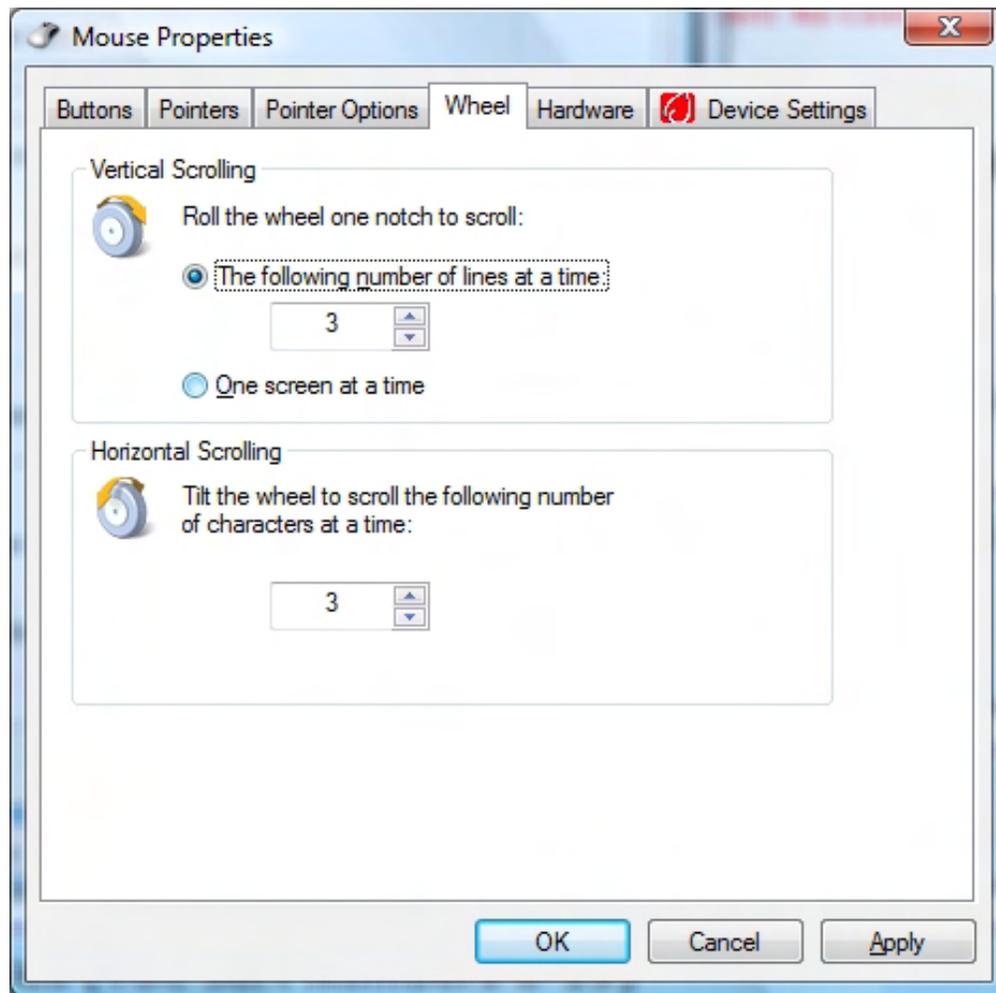


Figure 4. Windows Vista Mouse Properties window with the Wheel tab selected.

I don't think that I have a tilting wheel on my mouse. All I could do with it was click the wheel and get a stationary joystick icon that would make the mouse act like a joystick scrolling through the page. This is great if you need to pan through an image or document that is bigger than the screen—although not mentioned in the Mouse Properties window.

If you have a mouse with special features and its own setup program, then you will be able to customize you mouse even more. For mere mortals like me, the Windows Vista Mouse Properties windows has all that I need.

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Jack is the publisher of *ComputerEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is [www.computoredge.com](http://www.computoredge.com). He can be reached at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)

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## Wally Wang's Apple Farm

“VoIP with a Macintosh” by Wally Wang

Before you download any VoIP software, just peek inside your Applications folder on your Macintosh, and you'll probably find a program called iChat. Also, a look at Snapz Pro, which can capture video, and a tip on using the Command Tab to switch between multiple open programs.

# Wally Wang's Apple Farm

Forget about e-mail. There's nothing faster than talking directly to another person. While you could pick up the phone, you may not want to pay long-distance charges, so use VoIP instead. VoIP (voice over Internet Protocol) essentially turns your computer into a telephone and the Internet into the telephone line connecting you to another person.

To make this work, you need special VoIP software. The most popular one is Skype, ([www.skype.com](http://www.skype.com)) but there are plenty of other choices, such as Oovoo ([www.oovoo.com](http://www.oovoo.com)). Before you rush out and download any VoIP software, just peek inside your Applications folder on your Macintosh, and you'll probably find a program called iChat.

Before you can use iChat, you'll need to set up a free account on MobileMe, AOL Instant Messenger (AIM), Jabber, or Google Talk. Once you have a valid account that iChat recognizes, you can start chatting with others who also have an account that iChat recognizes. (So if you use iChat, but your friend uses Yahoo Instant Messenger, you won't be able to chat through iChat.)



Figure 1. To use iChat, you must set up an account.

To use iChat, you can choose Text, Audio or Video. Text chatting lets you type messages and see others type replies back to you. This is best for slow computers or dial-up Internet connections, since text doesn't need many resources to send over long distances.

Audio is a bit trickier, since it requires that both parties have a microphone and speakers. Both the iMac and MacBook models come with built-in speakers and microphones, but Mac mini and Mac Pro users will need to buy separate speakers and microphones.

With a slow computer or Internet connection, audio can prove troublesome since the audio may get cut off or stutter as it transfers from one computer to another. Despite these minor problems, talking through iChat is fairly reliable with a fast Internet connection and an ordinary Macintosh. If you're talking to someone on the other side of the world, you may notice a slight echoing delay where you can say something, and a second or two later, the other person hears you. It's not quite telephone quality, but it's acceptable.

Video is only slightly more complicated than audio. First, you'll need a webcam, such as the iSight webcam, which is built into the latest iMac and MacBook models. If you have an older Macintosh, Mac mini or Mac Pro, you'll need to buy a webcam, such as Logitech's QuickCam Vision Pro ([www.logitech.com/index.cfm/webcam\\_communications/webcams/](http://www.logitech.com/index.cfm/webcam_communications/webcams/)).



Figure 2. iChat offers video conferencing.

Next, you and anyone you call must have a fast Internet connection and a fast computer before you can connect through iChat to see and talk with someone else. For added fun, you can display different types of backgrounds, so instead of seeing your face and your office wall, people will see your face in front of the Eiffel Tower or a waterfall.

If just chatting through your computer seems too old fashioned, try video conferencing through iChat to stay in touch with anyone, whether they live in India, Brazil or New Zealand.

\* \* \*

Watching YouTube videos can be fun since you can see everything from music videos to oddball videos of dogs or cats walking on treadmills or sleeping in unusual positions. Unfortunately, if you see a particularly interesting video, you can't save it.

To get around this problem, get a screen-capturing program like Snapz Pro ([www.ambrosiasw.com/utilities/snapzprox](http://www.ambrosiasw.com/utilities/snapzprox)). (Snapz Pro and Grab are the two programs that I use to capture screenshots for this column.)

Besides capturing still images of the screen, Snapz Pro can also capture video of screen activity. That means if you play a YouTube video, you can run Snapz Pro and capture the entire screen or just the YouTube window that's playing a particular video. When it's done playing, stop Snapz Pro and save the captured video as a QuickTime movie. Now you've just captured a video off YouTube that you can give to others or burn to a DVD.

(Remember, YouTube videos may be copyrighted, so just because you can capture a video using Snapz Pro doesn't mean you have the right to use or distribute that video.)

\* \* \*

Most people run multiple programs at the same time. To switch between different programs, you could just click on the program icon on the Dock or press F9 to display all open windows as thumbnails on the screen, allowing you to click on

the window that you want to view.

There's also a third way to switch between programs. Just press Command+Tab, and a list of program icons appear in a bar in the middle of the screen.



Figure 3. Pressing Command+Tab displays icons of all open programs.

Just click on the program icon you want to use, and your Macintosh obediently switches you to that program.

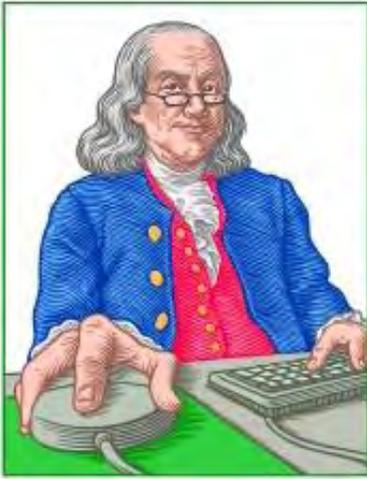
In the early days, before Wally became an Internationally renowned comedian, computer book writer, and generally cool guy, Wally Wang used to hang around *The Byte Buyer* dangling participle with Jack Dunning and go to the gym to pump iron with Dan Gookin.

Wally is responsible for *Microsoft Office 2007 for Dummies*, *Breaking Into Acting for Dummies*, *Beginning Programming All-in-One Reference for Dummies*, and *Mac All-in-One Reference for Dummies* from [www.dummies.com](http://www.dummies.com), as well as, *Steal This Computer Book 4.0*, *Visual Basic Express 2005: Now Playing*, and *My New Mac* from [www.nostarch.com](http://www.nostarch.com). He is also the co-author of *Strategic Entrepreneurism* from [www.selectbooks.com](http://www.selectbooks.com).

Every Saturday morning from 9:00 am - 10:00 am in San Diego, you can hear Wally on his radio show, CyberSports, which covers the video gaming industry on ESPN Radio 800 AM.

Wally can be reached at [wally@computoredge.com](mailto:wally@computoredge.com).

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## LITTLE LINUX LESSONS

**"AN INVESTMENT  
IN LINUX KNOWLEDGE  
PAYS THE BEST  
INTEREST."**

### Little Linux Lessons: Tips and Tricks from Users

**"Linux users share ideas and ask for help."** by ComputerEdge Staff

This week, Ed in Costa Mesa has a question about changing screen resolution with a Linux text file, and K.P. from San Diego wants to install Linux on a very old Sony laptop. Also, a tip on using the grep command-line utility.

*Last week, we had some pretty extensive answers to questions on the best starter version of Linux and Linux dependencies. This week, Ed in Costa Mesa has a question about changing screen resolution with a Linux text file, and K. P. from San Diego wants to install Linux on a very old Sony laptop.*

#### Screen Resolution in Linux?

I read your column in *ComputerEdge*.

I have an Unbutu 8.10 system using an Nvidia GeForce 5200 with 128MB. With Windows, I can get it to run at 1,280x1,024x32bpp. But in Linux, I cannot get it to go beyond 800x600. I tried downloading an Nvidia driver, but it worked the same way.

Is there some text file I can edit to change the resolution modes? The GUI interface cannot do what I want.

Thanks,

Ed  
Costa Mesa

#### How to Install Linux from an External CD Player?

How do you install Linux on a very old Sony laptop (Vaio SR-33K) that has an external CD player connected through PCIMA? Most typical Linux installs are looking for either internal CD players or players hooked up to the computer through other means, like the USB port.

The install process stops dead when booting from a CD after only a line or two. I'd like to install Puppy Linux on this laptop, but any low-resource-based Linux distro would be fine. My computer is so old that using an external USB device to boot the machine isn't an option in the BIOS.

Is there an additional command line that I can use to force the installer to look at the PCIMA-linked CD player?

Many thanks. I enjoy your column. Happy New Year!

K.P.  
San Diego

#### A Power Search Tool

As a command-line utility, grep is one of the most useful. It is a search tool that can be used interactively or included in strips with pipes for scanning through directories and/or files. Complete information about grep can be found by entering

"man grep" at the command prompt. The following is taken from that manual listing:

```
NAME
    grep, egrep, fgrep, zgrep, zegrep, zfgrep, bzgrep, bzegrep, bzfgrep -
    print lines matching a pattern
SYNOPSIS
    grep [options] PATTERN [FILE...]
    grep [options] [-e PATTERN | -f FILE] [FILE...]
DESCRIPTION
    grep searches the named input FILEs (or standard input if no files are
    named, or the file name - is given) for lines containing a match to the
    given PATTERN. By default, grep prints the matching lines.
    In addition, two variant programs egrep and fgrep are available. egrep
    is the same as grep -E. fgrep is the same as grep -F. zgrep is the
    same as grep -Z. zegrep is the same as grep -EZ. zfgrep is the same
    as grep -FZ.
```

## Looking for Some Answers and More Questions

*If you have an opinion on these or other Linux topics, then please let us know. Also, if you have another Linux tip that works for you and would like to pass it along (or have a question), please drop us a line at Linux Lessons (ceeditor@computoredge.com).*

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This is a column for Linux and Unix-like operating system users. The goal is to give Linux users an opportunity to share tips, tricks and ideas with both fellow users and the *ComputerEdge* Linux newbies. Each week in this column, we will highlight the thoughts you submit to us. This is your column. As long as a submission is dealing with the Linux/Unix-like world, we want to share it.

The tips and tricks may be short or long, and can include graphics. If there is a little technique or program that you use on a regular basis, then we want to hear about it. You may also pose questions for other Linux users to answer. E-mail your ideas or questions to Linux Lessons ([ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)). Be sure to put the word "Linux Lessons" in the subject line so it won't get lost in junk mail. We depend upon you to make this column a success.

Jack Dunning  
*ComputerEdge*

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*ComputerEdge* always wants to hear from you, our readers. If you have specific comments about one of our articles, please click the "Tell us what you think about this article!" link at the top or bottom of the article/column. Your comments will be attached to the column and may appear at a later time in the "Editor's Letters" section.

If you want to submit a short "ComputerQuick Review", or yell at us, please e-mail us at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com).

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## Rob, The Computer Tutor

### Rob, The ComputerTutor Does Microsoft Access

“SQL Sequel” by Rob Spahitz

This week, we'll talk more about how Access uses SQL to manage data. And as we move forward through 2009, Rob will be wrapping up Access and moving on to a few other topics that may be of interest to readers.

Happy New Year!

This week, we'll talk more about how Access uses SQL to manage data. And as we move forward through 2009, I'll be wrapping up Access and moving on to a few other topics that may be of interest to my readers. Some topics that come to mind are VBA/macros for Microsoft Office (including Access and Excel), PowerPoint basics, Outlook basics, Visual Basic Dot Net (VB.Net) programming (creating Windows applications), "C" Sharp Dot Net (C#.Net) programming, and maybe a few other scattered topics, such as how computers use colors, managing pictures (GIF/JPEG/PNG), and how to build your own Internet Web site, and I may even explore some non-Microsoft topics such as OpenOffice and Java programming.

If you have any specific requests (including the above), let me know so I can try to schedule them and make this an awesome 2009 for you. If nothing else, maybe you can use the new skill to beat the competition and find an awesome job (then hire me as your assistant!).

### SQL Refresher

Let's start by getting a refresher course on SQL (Standard Query Language) now that we have a decent database to work with. As usual, you can pull one of the recent databases from my Web site, [www.dogopoly.com/ce](http://www.dogopoly.com/ce), and save yourself some setup work. (If you have any problems downloading the file, e-mail me so I can try to help you out.)

OK, then, pull the latest database and open the Person table, tblPerson, which consists of a collection of fields related to a person, such as FirstName, LastName, AddressID (foreign key to tblAddress), Birthdate and RelationshipID (foreign key to tblRelationship). If you preview the data, you will see something like Figure 1.

Person ID	First Name	Middle Name	Last Name	Address ID	Birth Date	Relationship
1	Rob		Spahitz	8401 Aero Di	1/1/1990	
2	Jack		Dunning	8401 Aero Di	5/5/1980	co-worker
3	John		Smith	Flamingo Ca		friend
4	Janie		Smith	Flamingo Ca		friend
5	Billie		Johnson	123 Anywher		co-worker
6	John		Jackson	123 Anywher		co-worker
7	Corrine		Callahan	123 Anywher		co-worker
8	Susan		Wong	1122 Main S		neighbor
9	Paul		Wong	1122 Main S		neighbor
10	Jason		McBride	95 Union Str		friend
11	Samantha		Watt	145 G St.		friend
12	Bob		Booth	145 G St.		friend
13	Gertrude		Stein	computoredg		

Figure 1. Person table sample data.

With this data, let's build a quick query to remind us how this stuff works. Go to the Queries area and click the Design image near the top of the window. Select tblPerson and click the Add button, as seen in Figure 2, then click the Close button.

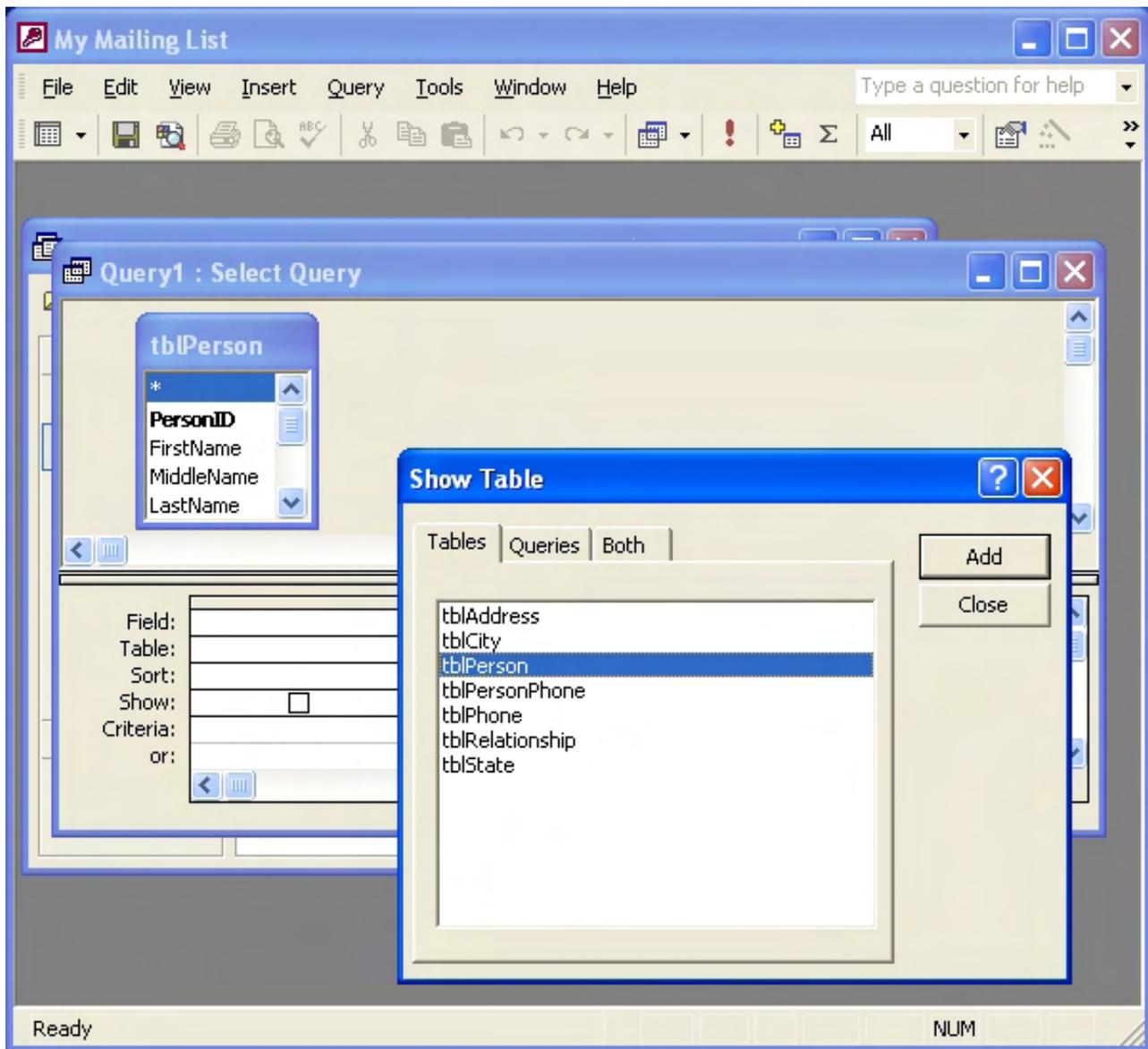


Figure 2. Person Query.

Start by double-clicking the "\*" in the tblPerson box, then switch to Data View. You should see something almost identical to what we saw in Figure 1.

### Query Field Selection

Now suppose that you wanted to see only some of the fields, like the FirstName and LastName? Simple. Back in Query view, select the "\*" in the lower section and pick FirstName in the drop-down list, then double-click the LastName field located in the upper section to add it to the end of the lower section. (And, as usual, there are many other ways this can be done.) Preview the data again, and you should see only the selected fields in the data grid.

Field selection is one way to manage queries. Rather than taking all fields (as you get when previewing data tables in Access), you can get a subset of data. This is especially helpful when the table contains a lot of fields and the ones you want to see are not near each other in the table definition.

Another thing useful about queries is that you can grab bits and pieces of information from different tables. Without this, relational databases would be virtually useless, since you'd have to duplicate fields within multiple tables any time you needed the data together.

Getting back to our simple name query, let's see what this looks like in SQL. In the View menu, select SQL View. You should see a window with the following:

```
SELECT tblPerson.FirstName, tblPerson.LastName
FROM tblPerson;
```

This means that we are selecting and displaying something called `FirstName`, located in something called `tblPerson`, and `LastName`, located in the same object, from the collection of objects called `tblPerson`. This is a bit redundant, but sometimes Access does extra work to avoid potential conflicts later. The simpler version of this, which gives identical results, is this:

```
SELECT FirstName, LastName
FROM tblPerson;
```

If we had multiple tables with duplicate names, we would have to prefix the fields with the table name (or a defined alias) to ensure that SQL knows which field we're talking about. Since there's no redundancy here, we don't need to specify the table name before the field name.

### Query Filtering

Since you may not want to view *all* of your data all the time, you may want to filter out some data. For example, I may want to view only those records that contain the first name "John." To handle that, go back to Design view, and under the `FirstName` column, in the "Criteria" row, enter the name John (see Figure 3).

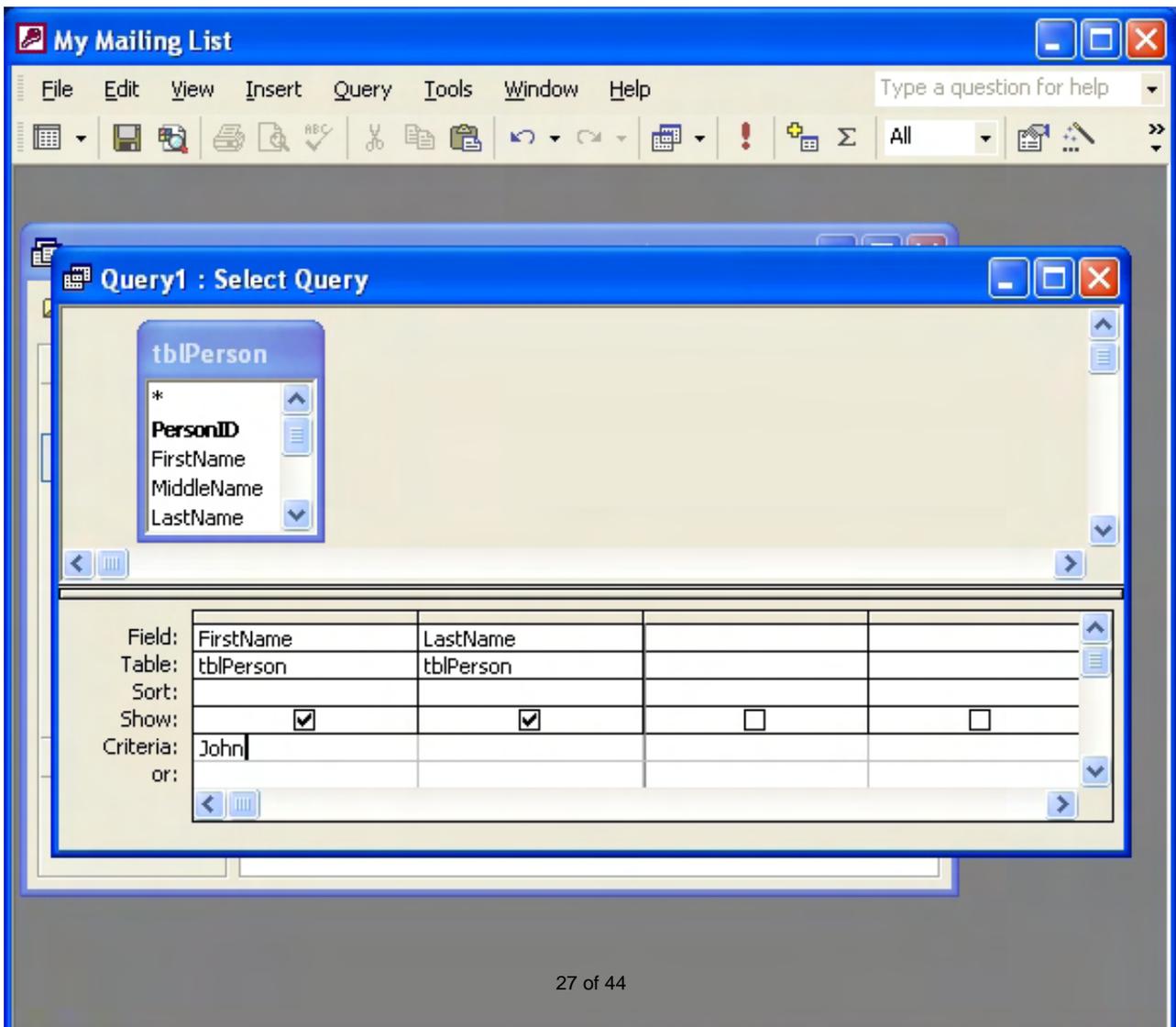




Figure 3. Filtered Name.

Preview the data, and you will see only the fields specified and only those records that have the first name John. Note that when you look back in Preview, you'll see that Access put double-quotes around your criteria. Since John was not the name of a field located in your query, it assumed you meant the text of John, and text should normally be surrounded by quotes.

Take a look at the SQL view, and you should see this, which now includes a "WHERE" clause:

```
SELECT tblPerson.FirstName, tblPerson.LastName
FROM tblPerson
WHERE ((tblPerson.FirstName)="John");
```

Aside from the over-use of parentheses, you can probably see how Access converts visual queries into SQL queries.

Now suppose you want to see all the names that are *not* John? You have several options. You can either use NOT "John" or <>"John" (Since < means less than and > means greater than, so it's anything that is either less than or greater than John, meaning anything, but not John.)

The SQL for this is:

```
SELECT tblPerson.FirstName, tblPerson.LastName
FROM tblPerson
WHERE ((Not (tblPerson.FirstName)="John"));
```

Or

```
SELECT tblPerson.FirstName, tblPerson.LastName
FROM tblPerson
WHERE ((tblPerson.FirstName)<>"John"));
```

Another thing you may want to find is anything starting with, ending with, or containing part of a name. To do this, we can use wildcards. For example, to see any name that starts with "J," we can use "J\*" meaning J followed by any additional characters of any type (including nothing). If you enter this, you'll find that Access replaces it with the proper SQL spelling: Like J\*. We went over this several months ago, so look back to previous columns for more details.

Looking at the SQL, we see:

```
SELECT tblPerson.FirstName, tblPerson.LastName
FROM tblPerson
WHERE ((tblPerson.FirstName) Like "J*"))
```

## Sorting Data

Notice how our filtered data shows only those with first names of John, but the last names are not in alphabetical order. To fix that, we need to sort the data. Back in Design view, under LastName in the Sort row, select Ascending. When you view the data, you'll now see the last name appearing in alphabetical order.

If you wanted to sort by LastName first, then FirstName, you might need to add another column with FirstName to use that for additional sorting. However, you probably wouldn't want to show the column twice, so you would uncheck the "Show" check box.

The SQL for this now includes an "ORDER BY" clause:

```
SELECT tblPerson.FirstName, tblPerson.LastName
FROM tblPerson
WHERE (((tblPerson.FirstName) Like "J*"))
ORDER BY tblPerson.LastName;
```

### Joining Together

Now that we have the basic SQL selection elements worked out, let's explore the final concept: joined tables.

First, add AddressID to the end of the query. Notice how, when you view it, you will see text in that column. Suppose you wanted to add the City to the view? What do you do?

Well, first add the Address table with menu Query/Show Table... then select tblAddress. From there, you can add CityID, which will show you the city name that we were seeking.

The SQL is now sufficiently more complex, including an "INNER JOIN":

```
SELECT tblPerson.FirstName, tblPerson.LastName, tblPerson.AddressID, tblAddress.
CityID
FROM tblAddress INNER JOIN tblPerson ON tblAddress.AddressID = tblPerson.AddressID
WHERE (((tblPerson.FirstName) Like "J*"))
ORDER BY tblPerson.LastName;
```

Save this query as qryPersonInfo. Next week we'll continue with a bit more SQL and learn how to create groups that can help us with things like totals.

Rob has been in the computer industry for over 25 years and is currently a part-time teacher, offering classes in Excel, Access, Visual Basic, and a variety of other technical tools. He has loved *ComputerEdge* since 1990 and can be contacted at [RSpahitz@Dogopoly.com](mailto:RSpahitz@Dogopoly.com).

Looking for a great boardgame? Grab a copy from DOGOPOLY.com ([dogopoly.com](http://dogopoly.com)) and have a dog-gone great time.



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## Worldwide News & Product Reviews

“The latest in tech news and hot product reviews.” by Charles Carr



Five Tips for Building a Home Network—What to consider before you make your decision; Most Embarrassing Moment with Your Phone—Wirefly.com announces the winners of their contest; Working with Adobe Dreamweaver CS3—A look at the software's new features.

### Five Tips for Building a Home Network

If you're thinking about building a home network, you have several options to explore. Many households are finding that not only is a computer a necessity in their lives, but one computer is no longer enough to go around, and thus the need to set up a home network. A home network is simply a method of allowing computers and other devices to communicate with one another. If you have two or more computers, a network will allow them to share files, printers, HDTVs, game systems, music and, of course, an Internet connection.

Here are five tips to consider before you make your decision, according to the personal tech-support hotline, BluePhone:

1. Location, location, location: The location of your computer(s), printer(s) and other devices you want to connect can affect your network design. Are they all on one floor or one area? Or are they spread out throughout the house? Are they fixed in their location, or are they items that you move around frequently?
2. Know your specs: The specifications of your devices will also play an integral part of planning your network. Some of these items may already come built-in with networking capability, while others may not. And with the items that do come built-in with networking, it is extremely important to know what type of networking they are compatible with. There is nothing worse than spending time and money to build a home network, and then realizing that one of your items is not compatible with it!
3. Wired vs. wireless: The first step in setting up your home network is deciding what type of network you want, the two major choices being wired or wireless. When deciding between the two, there is one thing to keep in mind: Wired networks will never be as convenient as a wireless network, and wireless networks will never have the speed and stability of wired networks. It is all about knowing which option works best for your needs.
4. Speed and distance: The most common type of wired network uses Ethernet. You may prefer a wired network if you do not feel secure sending data wirelessly through the air; if you need to be able to move large amounts of data quickly; or if all of your devices are located within close range of each other. Ethernet networks are faster than wireless networks, but wireless networks give you more flexibility. By using radio waves, wireless technology allows you to access your network from anywhere within range of the wireless signal. Wireless signals can reach distances of 100 feet or more from their point of origin, but obstructions such as walls, microwaves and other home devices can greatly reduce their range.
5. Security: The next thing to consider when building your home network is security, especially if you decide to go with the wireless option. Hackers spend all day thinking about how they can get their hands on your sensitive (i.e., financial) information. Thus it is absolutely essential to have firewalls in place that will help protect your sensitive information. Firewalls can either be in the form of hardware or software. Many routers now come with built in firewalls that will help protect your data, but it is also a very good idea to have software installed on all of the computers that will be part of the network. Additionally, if you have a wireless network it is essential to set a good password that cannot be easily hacked.

Many of the devices that you need to set up your home network, whether wired or wireless, can be purchased at your local electronics store, while certified experts can help you set up everything you need to get it going. If you'd like to know more about BluePhone, visit [www.BluePhone.com](http://www.BluePhone.com) or call 866-727-BLUE (866-727-2583).

### Most Embarrassing Moment with Your Phone

Wirefly.com, the online comparison shopping service for cell phones, wireless service plans and wireless accessories, has announced the winners of their "Most Embarrassing Moment with Your Phone" Contest.

Grand Prize Winner, Karen Emerson of Biloxi, MS, won a Motorola Krave and accessory bundle for her unfortunate, yet amusing story of absentmindedly forgetting her cell phone in her garter belt on her wedding day and having it ring to the tune of "Girls Just Want to Have Fun" at the most inopportune time—as her father walked her down the aisle.

2nd Place: Jon Froehlich, Alexandria, VA—Believing he was speaking to a co-worker on the phone, Jon Froehlich referred to his boss, Mr. Clifford, as "The Big Red Dog," referencing the popular children's book. Unfortunately, it was Mr. Clifford on the other line.

3rd Place: Stacy Sawyer, DeValls Bluff, AR—Stacy Sawyer had to mitigate an argument between her parents because her father was continuously receiving text messages from "Lo-Cell," whom her mother believed was another woman, when in reality, Sawyer's father was merely receiving notifications that his battery was low!

4th Place: David Toledo, Miramar, FL—David Toledo accidentally dropped his BlackBerry into an airplane toilet on a flight to visit a client. He was able to fish it out of the toilet and it was still fully operational. However, when he arrived to the meeting, his client informed him that he had a huge blue stain on his face. The disinfectant in an airplane toilet was much stronger than he thought.

5th Place: Stacey Fisher, Methuen, MA—While attending a Renaissance fair with her husband, Stacey Fisher tripped over a tree stump, causing her cell phone to soar through the air and land directly into the bosom of an unassuming woman, who was dressed in a bustier and corset, an authentic renaissance costume typical of maidens during that time.

The five winning stories, in their entirety, can be found at [www.wireflycontest.com](http://www.wireflycontest.com).

"The most surprising part of the contest was the overwhelming number of 'dropping the phone in the toilet' stories we received," said Jeff Gregory, director of marketing, "Apparently, people do a lot more multi-tasking than we realized."

In fact, the hilarity of fourth place winner David Toledo's story of fishing his BlackBerry out of an airplane toilet garnered the attention of National Public Radio (NPR) program "All Things Considered," for a segment "Dropped Calls: When Cell Phone Meets Toilet."

### **Working with Adobe Dreamweaver CS3**

As a Web designer, I rely heavily on Dreamweaver, long considered the industry standard. I've been using the CS3 version since its release in 2007 and have grown to appreciate its new features and enhancements. Here's how I use the software in my regular Web work.

One way that Dreamweaver CS3 (around \$300 street price) helps me get started is by providing a wide range of templates. I can choose to create a page manually from scratch, or I can use one of the program's core templates (see Figure 1). I can select a template by code type—HTML, CSS, JavaScript, or ASP.Net, or I can import a template based on layout—one column centered, two-column with sidebar, three-column with header and footer. This saves me time by populating my pages with the necessary starting code and layout. Dreamweaver even adds useful comments about every tag and style rule in the template so that I understand the purpose of each one.

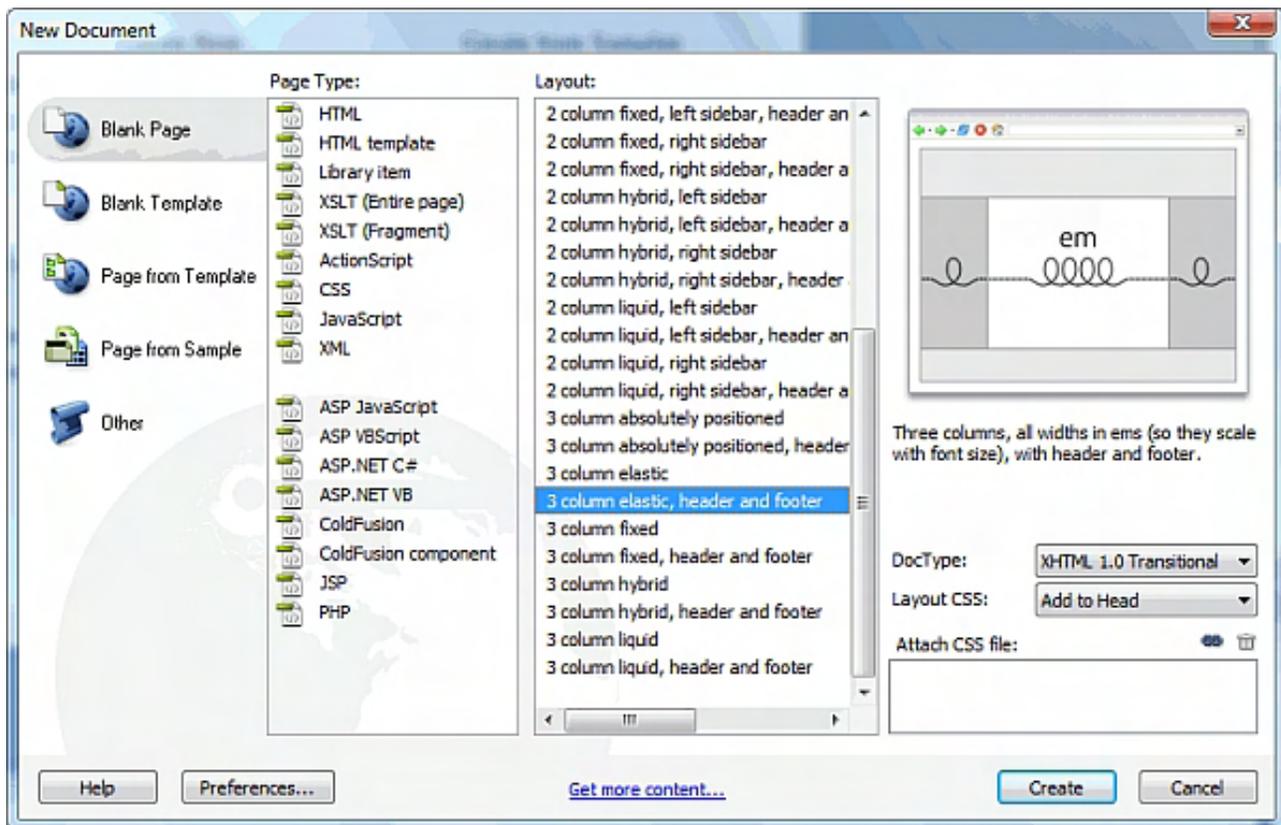


Figure 1. Dreamweaver templates.

Like most professional Web designers, I rely heavily on cascading style sheets. Dreamweaver CS3 offers a few useful enhancements for dealing with CSS rules. I can easily change my style rules from among inline, internal and external. This has been handy for me in converting older Web pages with inline style rules, which are discouraged, to pages that use external style sheets. I simply select an inline style and tell Dreamweaver to move it to the external style sheet of my choice. If I bump into any CSS issues, I can check Adobe's CSS Advisor Web site, which offers postings from other users about CSS problems and solutions.

Dreamweaver CS3 integrates smoothly with Photoshop CS3. I can copy an image from Photoshop to a Dreamweaver page with all layers and other effects intact. I can even trigger Photoshop from within Dreamweaver, edit the source image, and then copy and paste the updated image back into Dreamweaver (see Figure 2). This is handy if I want to create a mockup or wireframe of a Web page in Photoshop and transfer it back and forth with Dreamweaver as I tweak it.

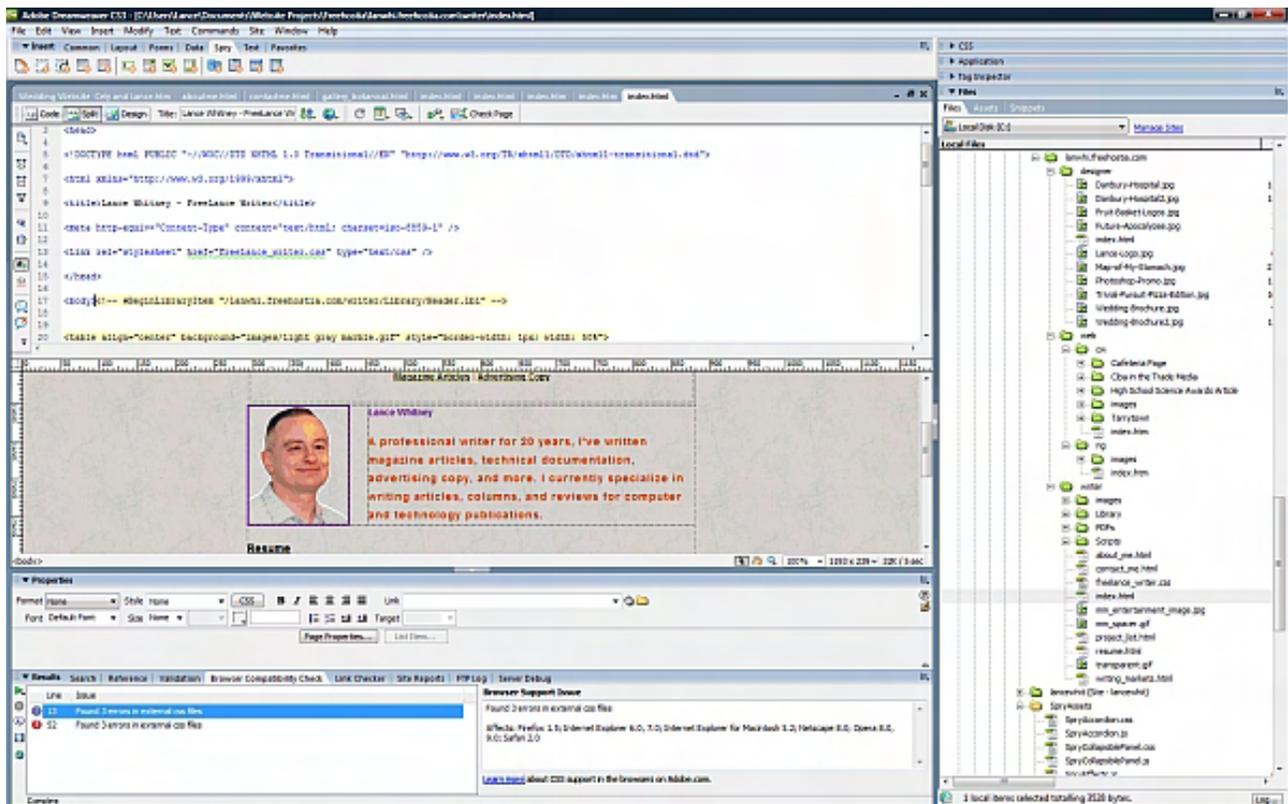


Figure 2. Dreamweaver CS3 integrates smoothly with Photoshop CS3.

One pain in the tuchus for all Web designers is cross-browser compatibility. A page that looks and works fine in Internet Explorer may not function in Firefox or vice versa. I've sometimes spent hours trying to fix content that ran smoothly in one browser or version but not in another. To give me a helping hand with this issue, Dreamweaver CS3 provides a browser-compatibility check (see Figure 3). I simply run this check on any Web page. Dreamweaver displays a list of issues, indicates which browsers and versions are affected, and provides tips on how to fix each glitch. Double-clicking on the problem brings me to the misbehaving section in my page, where I can repair it. I use this feature quite often, and it's a tremendous timesaver.

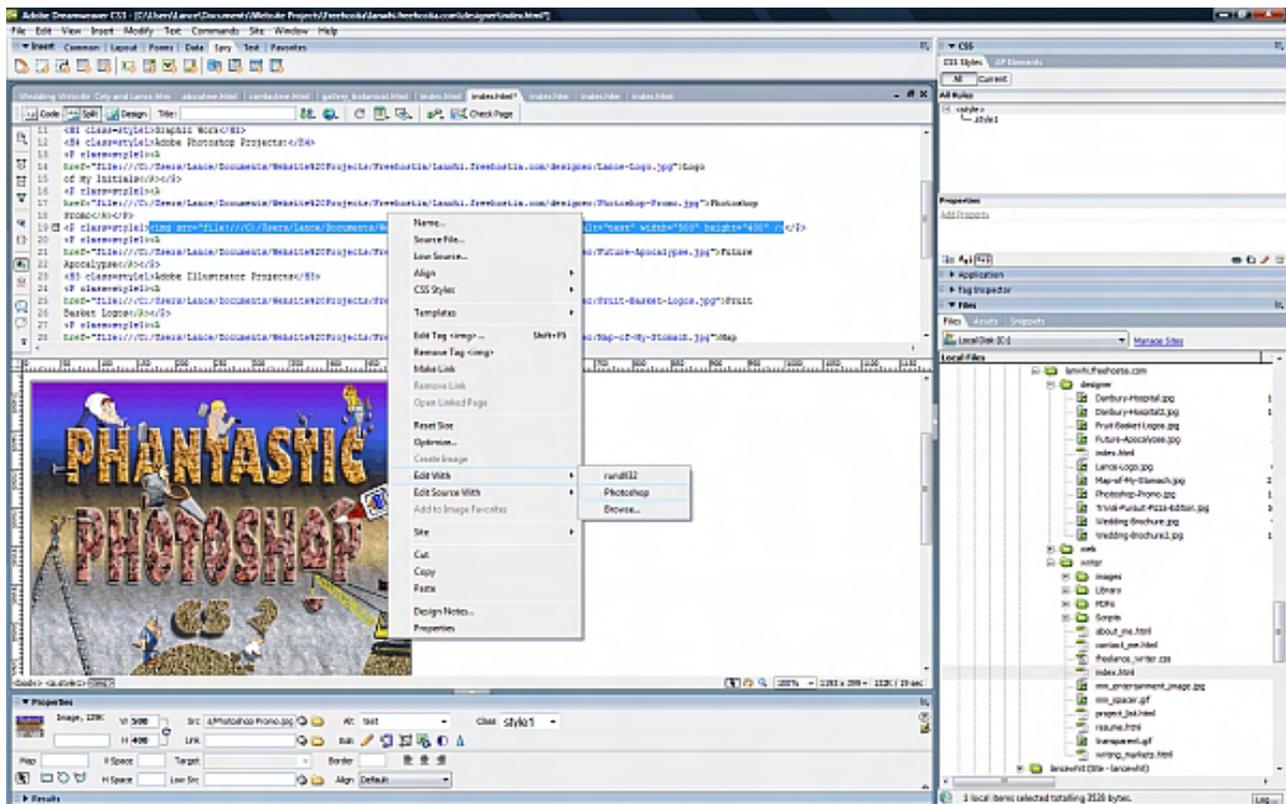


Figure 3. Dreamweaver CS3 provides a browser-compatibility check.

Another key addition to Dreamweaver CS3 is the Spry Framework. This uses a technology called Ajax, which draws on JavaScript and XML to build interactive, client-side controls on a Web page. With Spry, I can insert interactive tables, menus and tabbed columns, and also validate form fields. For one of my pages, I needed to create a menu with sublinks. Rather than build it from scratch, I just inserted the Spry-based menu and added the menu items through a simple interface (see Figure 4). I was then able to tweak the look and feel of the menu by modifying its CSS. Dreamweaver's built-in Help even tells me which rules control which content, making it simple for me to make modifications. Using the new Spry behaviors, I can give my pages visual pizzazz by applying special effects to menus, images and other page elements, making them fade in and out, grow and shrink, and shake or slide.

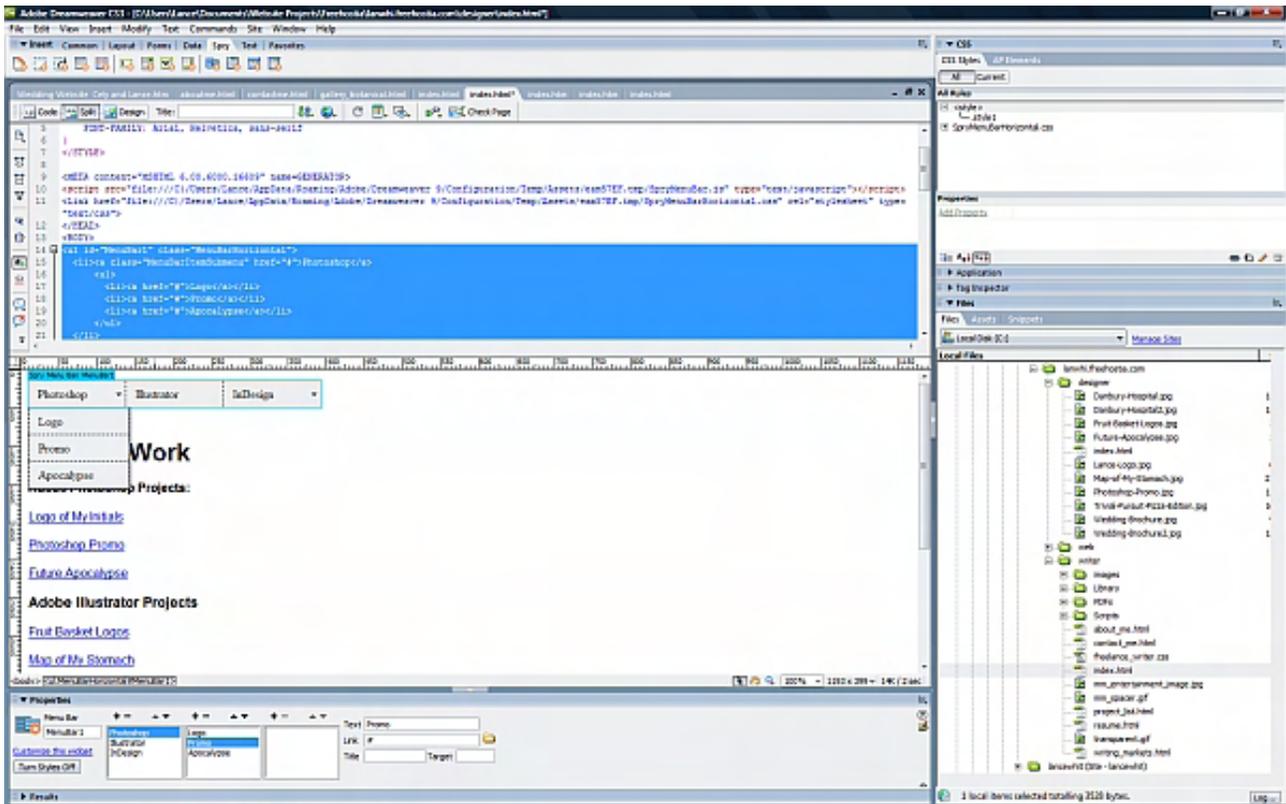


Figure 4. Insert the Spry-based menu and add the menu items through a simple interface.

Learning all the features in Dreamweaver CS3 can be time-consuming. But Adobe offers solid online and offline help, complete with tutorials, examples and animated demos.



Review contributed by Lance Whitney

In addition to being an editor and columnist for *ComputerEdge* and *ComputerScene* Magazines, where he has written hundreds of feature articles and cover stories over the past decade, Charles Carr has also penned well over 1,000 non-tech newspaper and magazine articles and columns for various publications, including two widely-read columns each week for San Diego's *North County Times* newspaper.

Carr has covered such diverse topics as pesticide use in area schools, invasive background checks for county volunteers, asthma awareness, the debate over standards-based grading, potential vulnerabilities in electronic voting machines, and Southern California's devastating 2003 and 2007 wildfires. He has also written many humorous pieces.

Carr has also edited dozens of stories and articles written by others which have appeared in major publications and web sites across the country.

He has been a contributor and technical advisor to *L.A. and San Diego Parent* magazines and receives dozens of requests a year to appear on Southern California television and radio stations to talk about important events in the tech world.

Carr has judged many writing competitions including San Diego Press Club and Time-Warner Communications contests and was sole judge for the national NAPPA Tech Toys awards for five years (which his kids really appreciated). He was recently a judge for the national "Poetry Out Loud" competition.

He has won many writing accolades, including Press Club awards for Best Column Writing, Consumer Writing and Best Arts and Entertainment, and has repeatedly taken top honors in San Diego Songwriter's Guild competitions for his original musical compositions. Carr will soon publish his first book, *What a World*, a collection of his best writings.

Learn more at [www.charlescarr.com](http://www.charlescarr.com).

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# Techno Talk

## Techno Talk: Digital Cameras

“Digital Photography 101: Digital vs. Film Cameras” by  
D'Artagnan Fischer

Here is an attempt to clear up some of the “issues” or differences between digital and film photography.

Recently, I was talking about digital photography with a group of people who were all very familiar with the older film cameras. Film was what they truly understood, and the digital aspects were causing some additional confusion and annoyances. The following is an attempt to clear up some of the “issues” or differences between digital and film photography.

### The Shutter

A camera's shutter is what lets in the light that is ultimately captured in the form of an image. In a film camera, the shutter usually responds instantaneously. This means that when you push the button, the camera clicks a picture just that fast. If automatic settings are used, there is a slight delay, where the camera does a quick exposure check.

In a digital camera, the process is not instantaneous at all. The reason for this is that, at the very moment that you push the button, the camera begins to sample the light and focus. All of the data is then analyzed by an internal CPU, and the exposure is set according to that analysis. The more the camera does, the longer it will take to snap a picture. This is known as latency.

Older digital cameras tend to have a lot of shutter latency. However, with each new generation of digital camera, the CPU used inside the camera is getting faster and faster. Unfortunately, as they get faster and faster, the camera manufacturers are adding in more and more features that ultimately slow down the picture taking—for example, face recognition and shake reduction. Both of these features steal cycles from the CPU to compute the exposure, but as the CPUs are getting faster and faster, it probably won't matter much after a while.

Hint: Press the button slightly or lead the shot.

Having a lot of shutter latency might sound like a horrible thing, but it really isn't. In fact, there are a couple of things that can be done to compensate for the latency. First, a majority of the newer cameras offer the ability to slightly press the shutter button. In this fashion, the button is not fully pressed down, but only slightly. This slight press causes the camera to go ahead and do some initial exposure and focus measurements. As long as the button is not released, the exposure settings remain set for when the button is fully pressed. This means that the slowness associated with computing the exposure is nearly eliminated for the actual picture.

The other alternative to address shutter latency is to learn to lead your photos. This means that if there is motion, that you lead your camera toward where the motion will be, or to anticipate someone's expression, etc. This type of compensation requires a bit more practice, and certainly does not guarantee that you will get the shot, but it does increase your chances. In some cases, you might want to use both the slight button press as well as anticipating the shot. Like anything in photography, don't be afraid to play and find out what works best for a given situation.

### Film Speed, ASA, or ISO

Film has a speed rating. This was more of a sensitivity factor that described how fast an image could be made on the film. Film typically followed the rule that the higher the number, the higher the sensitivity. The higher the sensitivity was, the

better the film was for fast-speed pictures or even night shots. The rule also followed that the higher the value, the more "grain" that could be seen in the picture.

The grain comes from the silver halide crystals that are part of the composition of film. The larger the grain, the more sensitive the film would be. Unfortunately, the larger the grain, the more it would show in the finished picture. This also meant that the less sensitive film was also much better for more detailed photos.

Film speed has been measured and rated by several professional organizations as a means to set a "standard" speed setting for different types of film. The idea was that film with a speed of 100, on a specific scale, would be 100 on any other camera that used that scale. On film cameras, the film speed was often measured in ASA or DIN ratings. Later ISO took over as more of a world or international standard.

Digital cameras obviously don't use film, so why do we still use a "film" speed rating?

Although digital cameras don't use film, the purpose behind using a film-specific speed rating is so that there is a common point of reference. It may not be 100 percent accurate, but the rating is pretty darn close to what it would be if you were using film. The interesting part is that the higher settings tend to show a form of "grain," just like it does with film. This means that as you use faster-speed settings, the final image will show more "grain" with the higher the speed settings.

Digital images do not have grain like film does, but the different colors of light are actually traveling at different speeds, and they hit the camera's sensor at fractionally different rates. The internal makeup of a camera sensor really sees only black and white, but through the use of various means (filters and sampling at different rates), the camera is able to process color. At slow speeds, this isn't even noticeable, but at the higher-speed settings it does show. You can see this for yourself by setting your camera to the highest-speed setting, and then taking several pictures in both light and dark settings. Depending on just how sensitive your camera is, you should see some obvious "grain" at the highest settings.

Unless you are trying to achieve some special effect, or otherwise have a special need, you will most likely want to leave your camera set to the default setting. "Average" film speed is normally set to an ISO setting of between 100 and 200. This is a number value range that will provide "normal" results. The actual value represents a speed that it takes to fully acquire an image. In this case, 100 indicates a 100th of a second. Thus a 200 is a 200th of a second (the latter number being faster than the first). The higher the number, the faster the sensitivity.

## **Developing**

One of the drawbacks of film, in comparison to the digital format, is that many different chemicals must be flushed across the film in order to turn the film into a negative. The negative is then used to produce a print. In the digital realm, there is no developing required at all, and there is no negative involved. All that you must do is copy the images from the camera to the computer. Or in some cases, to drop the camera into its docking station and print.

## **Making Prints**

Using film also required a similar chemical process to make printed pictures. The process used to take days, but was later streamlined with the advent of one-hour photo processing. Now, with digital pictures, you can almost instantly print out finished prints on your own personal printer, and do it any time you want.

If film-based pictures needed any sort of adjustment, because of bad exposure, or to crop out unwanted background objects, the darkroom was where a lot of time-consuming work had to be done. Even removing the "red eyes" that result from a flash was a bit more effort. Nowadays, all the relatively simple editing can be done by anyone with a computer. And, at little or no cost at all.

The film-based print has proven to stand the test of time in most cases, but with maybe a little yellowing or fading, but a true lasting quality for the most part. Unfortunately, pictures printed on a computer printer do not stand to last forever. This is mostly due to the fact that the sun fades most computer printer ink. So, if you print out pictures, keep them out of the sun!

Now, it might sound like all is lost if you print out a digital photo—it isn't! In fact, most printer companies have been

working on refining their ink recipes in order to make pictures last longer. Slowly but surely the lasting ability of the printed material is getting better and better. However, many of the manufacturers also produce special ink for printed pictures with much more lasting quality. Unfortunately, that special ink does cost more.

Note: The need for special ink is much more prevalent for photo shows and competitions. Oftentimes, these types of events will recommend the use of the special ink to avoid fading during the course of the events. When digital pictures first arrived on the scene, the printed pictures would often be faded out by the end of the event. Not something that you might like to see, especially if you are trying to show off your work!

### **Print Storage**

Film-based photography has always lent itself to the use of the photo album. The negatives would then be stored in a binder, box, or even a big envelope. Digital photography can still be aimed at an album, but now there are digital picture frames and photo-sharing services available via the Internet. Where someone might spend hours cherishing a favorite print, we now get to "click" the next photo. And, the ultimate storage of our cherished photos resides online somewhere, or on a computer hard disk (where the organization can quickly get out of control).

### **Slide Shows**

In the film world, making a slide show required "slide" film, which was different from normal film, because rather than providing a negative, it produced a positive. An actual slide was a positive mounted inside a small cardboard frame. A slide show was then comprised of many such slides, either mounted in a cartridge or carousel. The projector used would "slide" the images in front of the light, one by one (thus the name slide).

Today, digital photography slide shows are either done with an LCD projector, which is actually displaying video from a computer, or by compiling the images into a "slide show" that plays on a DVD player. There are no chemicals to get entangled with, and you can even add "transitions," which are fancy ways of switching between pictures.

### **The Future for Film**

Although it seems obvious that the reign of film is almost over, it is certainly still in wide use. Not so much by the average photographer, but more so for specialty photographic work. The resolution of digital cameras are proportionate with higher cost—the more resolution, the higher the cost. Sometimes that higher resolution is *very* costly. Film, on the other hand, tends to be very cheap for the finer grades. It can also easily be transferred to a computer using a film scanner.

Note: A good film scanner is all you really need to move all of your old film negatives over to the realm of digital media.

One of the biggest uses of film today is for medical X-rays. That too will eventually move into the digital realm, but for now, there is just no substitute for the detail available using film.

Eventually, the use of film will go away completely. This will happen after the resolution of digital media exceeds the best film resolutions. It isn't very far away, but that time just isn't quite here yet. However, one really positive aspect of digital photography is that there are a lot less chemicals in use and flowing down the drain these days!

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D'Artagnan Fischer has been a Technology Manager for a major accounting firm, a senior systems administrator, an Enterprise Consultant, has worked for DHS, the Navy, and even San Diego City Schools. His main interests are computers, technology, and digital photography. He also enjoys writing Science Fiction stories, and dreams of one day having one of his stories made into a movie. He lives with a menagerie of animals, and is in the process of growing a family.

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# ComputerQuick Reviews

News and Reviews from Readers and Staff

## ComputerQuick Reviews

“Computer Opinions from ComputerEdge Readers” by ComputerEdge Staff

Tech resolutions everyone should adhere to in 2009, such as using a good antivirus program and resetting passwords.

### Tech Resolutions and More

It is a brand-new year, and that means it is time to plan the best strategies and techniques for safe and secure computing in 2009. Malware, Trojans, scareware, spamware, etc., aren't going to stop, aren't going away and aren't getting any better. So, what are we going to do differently? You can't do the same thing and expect different results, right?

#### Resolutions

- Invest in a good antivirus software program. The freebies are just OK, and may be adequate, but you need to drop some coin into a better solution for better results. (AntiVir PE ([www.avira.com/en/products/avira\\_antivir\\_premium.html](http://www.avira.com/en/products/avira_antivir_premium.html)), AVG Anti-Virus 8.0 ([www.avg.com/product-avg-anti-virus](http://www.avg.com/product-avg-anti-virus)), paid versions, no freebies)
- Check your backup procedure. Backup solutions are not a "set it and forget it" process. You definitely need to verify the process is still working and that the destination drive is functioning. And if you don't have a backup procedure in place, do it now. (SyncBack SE ([www.2brightsparks.com/syncback/syncback-hub.html](http://www.2brightsparks.com/syncback/syncback-hub.html)), Mozy Home ([mozy.com/home](http://mozy.com/home)))
- Perform maintenance on your computers. If you don't know how or don't want to do it, hire an IT pro to come in every three or four months and clean out temp files, patch it, update it, stop unwanted startup programs, and check the antivirus and backup process.
- When was the last time you changed your bank logon ID? Yeah, that's what I thought. Let's get that changed today. And for Pete's sake, let's use a better password ([www.microsoft.com/protect/yourself/password/create.msp](http://www.microsoft.com/protect/yourself/password/create.msp)).
- Replace those power strips with "one" power surge protector. Power strips are great for plugging in lamps, speakers and pencil sharpeners, but not your modems, routers, backup drives, computers, etc. (APC Premium, Belkin Pivot Plug).
- Sign up for a Privacy Assist ([www.bankofamerica.com/pap/index.cfm?template=pap\\_assist\\_premier&statecheck=CA](http://www.bankofamerica.com/pap/index.cfm?template=pap_assist_premier&statecheck=CA)) credit-monitoring service provided by your bank. This service monitors your credit report and provides identity-theft insurance.
- Clean your desktop mouse and keyboard. And if you are game, bust out the dust inside your desktop (or have the IT pro do it).
- Organize and keep your computer software all in one place and easily accessible.
- Inventory your computer hardware for insurance purposes.
- Establish one location, one notebook, one folder, whatever it may be, for all your user IDs, login passwords, e-mail

passwords, router settings and anything to do with computing.

Just a few simple, easy-to-follow resolutions like these will start your 2009 on the path of better, safer computing.

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These resolutions were submitted by Annie Blevins, Systems Consultant  
Annie can be reached at [ibannieb.com](http://ibannieb.com) (*ibannieb.com*).

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If you want to submit a short "ComputerQuick Review", or yell at us, please e-mail us at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com).

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## EdgeWord: A Note from the Publisher

“Long-Distance Calling” by Jack Dunning



One of the most confusing decisions that a person needs to make is what to do about their long-distance calling, especially if overseas calls are involved.

One of the most confusing decisions that a person needs to make is what to do about their long-distance calling, especially if overseas calls are involved. Many people no longer have a landline telephone installed, using their cell phone for everything. Since national long distance is now included with most cell-phone plans, it's been tough for long-distance carriers to compete. The introduction of VoIP has complicated the decision even more.

Whether using VoIP, prepaid long-distance calling cards, or a plan from a long-distance carrier, a long-distance calling service is a decision that needs to fit your situation. If you have family and friends spread all over the country, then a monthly fee of \$25 for unlimited calling may be the best for you. However, if many of your calls are outside the United States, then national calling plans may be too limited—and expensive, if additional charges apply. There doesn't seem to be any one right decision. Factors such as where you call, how often, and what duration your calls tend to be are critical in finding the right plan for you.

Prepaid calling cards have the advantage of no extra fees. However, there are long access codes to plug in each time. (The codes can be put into speed dial in most phones.)

For the longest time, I was buying a Costco phone card and recharging it. The national phone rates seemed reasonable enough, and I thought the international rates to Ireland (my spouse is Irish, with most of her family in Dublin) weren't too bad. Then Verizon started charging 15 percent to use a credit card to add more time to the prepaid phone card. The recommendation for avoiding this extra charge was to buy another Costco phone card.

I decided to check the international rates on the Costco phone cards to Ireland. In the process of searching the Web, I came across a company by the name of TEL3Advantage ([www.tel3advantage.com/](http://www.tel3advantage.com/)). Where the Costco card was charging about seven cents per minute, the TEL3 rate to Dublin was less than three.

I'm always cautious when I encounter a company unknown to me. I usually scour the Web for problems, complaints and scams. While I did find a few complaints, there were a few positive reviews of the service. The initial cost for giving the service a try was \$25. That would be a cheap enough lesson if it didn't work out.

The way the TEL3Advantage system works is that you dial a local access number (800 number for a penny more a minute) and enter your account number, then dial the number that you want to call.

One of the strongest features of TEL3Advantage is that virtually everything can be done from the company's Web site. You can find all the local access numbers, add speed-dial numbers and manage how you want the account to work. I could have used the site to sign up, but when I'm venturing into something new, I like to call to see if real people will answer. They did.

A home phone number (or multiple numbers) can be registered at the Web site, which allows the bypassing of entering an account number when making a call—as long as the call is from the preregistered number. When combined with the Web-registered speed-dial number, the actual dialing required only a total of 10 button pushes—less if the local access number is programmed into the home phone.

When we were in Montana last month seeing our new grandchild, I was able to look up the local access number on the Web and register my son's phone number, thereby giving us exactly the same easy access (and same speed-dial numbers) as we had at home.

We've used the service for about three month now. The cost of a national call is 1.9 cents per minute and 2.6 cents per minute to Dublin, Ireland. The quality of the calls has been pretty good.

I think that 1.9 cents per minute (or a cheap monthly rate) for national calling is relatively common. If you make a Skype VoIP call, it will cost you 2.1 cents per minute, but that includes many other countries such as Ireland. You can get the same package for \$9.95 per month. That's the equivalent of about 474 minutes (about 8 hours). If you talk more than that, it's a better deal. Otherwise, pay by the minute.

The problem with Skype is that you need an Internet connection and computer or Internet phone device—plus the quality isn't always up to par. On the other hand, if you're talking computer to computer, Skype is free—even for video calls.

Without a doubt, the days of sailors who are deployed in the Western Pacific going broke on \$3-a-minute phone calls to their family in the states should be over. There is a long distance-calling plan that will fit each person's needs.

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Jack is the publisher of *ComputerEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is [www.computoredge.com](http://www.computoredge.com). He can be reached at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)

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## Editor's Letters

“Readers write in with letters to the editor.” by ComputerEdge Staff

"Tech Trends Are Very Interesting," "Troubleshooting Windows Drivers,"  
"SATA vs. IDE," "Windows Mail"

### Tech Trends Are Very Interesting

[This following two letters are in regard to Jack Dunning's December 26 article, "Trends for 2009: Cloud Computing, Virtualization and BitTorrent."]

Excellent article. I think the technology is *great*, but what about our right to privacy as Americans? We seem to be losing it "chip by chip" with companies like Google, Microsoft and Facebook leading the way. The three trends in the article sound *divine*, providing we live in Utopia—but we don't! I'm also not a robot.

-L.M. Ross, San Diego

I use open-source software a lot, and have been required to use BitTorrent for some downloads. It was very interesting to find out what that was about. The other concepts were also interesting, but at 73 and running XP on P4 machines, I doubt if I'll see any of them firsthand.

-Bob Di Giorgio, San Diego

### Troubleshooting Windows Drivers

[This letter is in regard to Michael J. Ross' November 28 article, "Troubleshooting Windows Drivers."]

[This was the] best discussion of the issue I have yet read [and forwarded on to others].

-Francis McGuire, San Diego

### SATA vs. IDE

In the December 26 [Editor's Letters column,] Darrin N. asked about putting SATA and IDE drives in the same computer.

Most new motherboards I've bought come with a number of SATA ports, but only one IDE port. However, it can still handle the standard two devices, master and slave. Darrin would set his hard drive to master and CD to slave, hook them up to the proper ports on the ribbon cable, and hook that to the motherboard IDE port. If more IDE buses are needed, PCI IDE cards are available.

-Phillip, Alexandria, Virginia

### Windows Mail

[This letter is in regard to Jack Dunning's October 17 Windows Vista Tips and Tricks column, "Junk E-Mail and Windows Mail."]

Thanks for the article! I've been using Vista for a year and never realized that Windows Mail was indexed to the search function!

-Delvina Fiducia, Temecula Valley Computer User Group

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