

ComputerEdge™ Online — 03/19/10



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With VoIP's free and low-cost phone calls over the Internet, you can talk to people on the other side of the globe, or just the other side of the street.

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Internet Phone Calls

Where cell phones are the latest lucrative honeypot for phone companies, VoIP calls represent an entirely new communication model. Also, a look at The Wisdom of 33 Voices; The iPad represents change, and how you handle this change can foreshadow what might happen to you in the future; and a tip on hiding the clutter on your screen.

[Linux Lessons: Tips and Tricks from Users](#) by Pete Choppin

More Shell Scripting

Last week, we got pretty far with our script. It now has the ability to effectively test for certain conditions. Next week, we will finalize our script and make it so that it can be used no matter what file names are provided from the user.

[Rob, The ComputerTutor: Web Programming](#) by Rob Spahitz

JavaScript Arrays

Last week, we looked at JavaScript loops. Today we look at arrays, lists of items stored under a single name and accessible by index or counter.

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The latest in annoying and dangerous e-mail currently making the rounds.

A reminder that it is the responsibility of the user to detect those signs that indicate an e-mail is fake.

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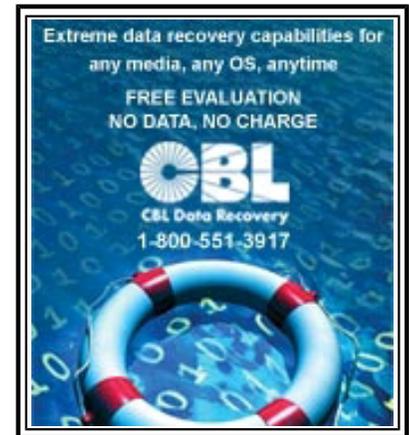
With landline phone service offering good quality but exorbitant fees, it's time to give VoIP phone service a try.

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Digital Dave

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

A reader is experiencing problems with no signal appearing on the monitor or keyboard upon bootup; are smartphones vulnerable to malware when Internet-connected via just a cellular network?; a reader wants to utilize his old hard drive on a new computer system.

Dear Digital Dave,

I have this problem where when I turn on my CPU, I get no signal from the monitor and the keyboard lights don't light up. I reseated and made sure everything was plugged in, but for some reason it still won't show anything on the screen. I have checked other responses on how to fix this, but none of them help. The system runs because all the lights and fans are running. Changing the motherboard out is my last option. If you have any suggestions, please let me know.

*Chargers
San Diego, CA*

Dear Chargers,

I am assuming that you ruled out the monitor and video card, since your keyboard lights are not turning on as well. If not, you might try swapping monitors and/or video cards, although I don't think that is likely to be the problem. Generally, if your video is out, the computer will continue to boot and make the normal sounds.

There is at least one more thing you should try before changing the motherboard. There is a line on the power supply that sends a signal to the motherboard. When all the power levels are correct, the signal is at one level and the motherboard will allow itself to power up. If the levels are out of spec, the signal level changes and the motherboard won't power up. This is to prevent the motherboard from frying when there is a power supply problem.

If this is the case, you will see the same symptoms that you are now experiencing. Fans and lights will power up, but nothing will originate from the motherboard. Although your motherboard could still be fried, it is worth a shot with a new power supply—which will be less expensive. You would be surprised how often this does the trick.

Digital Dave

Dear Digital Dave,

The potential for malware infecting your Internet-connected computer when clicking on a link in an e-mail is well known. Malware infection can also occur when visiting some Web sites. Do smartphones (iPhone, BlackBerry, etc.) have the same malware vulnerability when Internet-connected via just a cellular network?

*David Wallace
Spring Valley, CA*

Dear David,

Yes, smartphones do have considerable vulnerability to the Internet. Some experts are predicting that these phones will soon be a major target of viral infection. The reason that we haven't heard much about it is because it takes time for the holes to be exploited by people with less-than-honorable intentions. However, with the explosion in apps for smartphones, the viruses will come.

Your phone will not be vulnerable to the same infections as your PC because it uses a different operating system. Therefore, clicking a Windows PC malware link on the Web with your phone is not likely to cause a problem. The infection probably wouldn't take, but I wouldn't do it anyway.

There are a number of operating systems used on smartphones, including those from Apple, Google, Microsoft and other smartphone manufacturers. Each virus would need to be tailored to the specific operating system. Once apps are freely written and downloaded for a specific phone type, the malware will quickly follow. (Apple may have an advantage in preventing malware introductions in that they control the source for downloading apps to the iPhone.)

Your best bet is to practice the same safe computing with your smartphone that you should with your computer. Be suspicious of e-mail links, don't download from unknown sites (go to the source), and question every unsolicited offer.

Digital Dave

Dear Digital Dave,

I am going to get a new computer and would like to know if I can take the hard drive from my old computer and install it in my new computer as a second hard drive. This would have two uses: to create a backup hard drive, and to utilize the programs installed on the drive.

Thanks, if you can help.

*Christopher Cox
Chula Vista, CA*

Dear Christopher,

Absolutely, you can install your old hard drive in a new computer as a second drive—as long as the drive is compatible with the motherboard. (Your older drive is probably either IDE, wide flat ribbon cable, or SATA, skinnier cable. In either case, many of today's motherboards will support both.) In most cases, if the drive isn't too old there won't be a problem. You may need to assign a logical drive letter for the drive to appear (see the letter from Carl in "Digital Dave" dated May 29, 2009).

This two-drive question is commonly asked because after years of using a computer, there are a multitude of files and data that new computer buyers may want to keep. (Most don't remember all of the stuff they have on the old drive.) Installing the old drive as a second drive in the new computer is a quick way to get started anew without the tedious copying and digging that transferring all of the old files will take. However, in the long run you will want to transfer the most important files to the new drive and/or a backup drive.

Eventually, any hard drive will fail. The older the drive, the more likely it is to malfunction. Yet, as long as it works, there is no reason not to use the drive for backup storage. Those files that you absolutely don't want to lose should be duplicated on the new drive—plus I would have another backup location, maybe an external or network drive.

As for running the programs from the second drive, it is a little more of an iffy proposition. Some self-contained programs will run directly. Others may require reinstallation on your new computer, in which case I would go ahead and install them on the new drive. The new drive is no doubt faster than the old drive, which will benefit any program that requires installation.

The best way to find out if the program will run from the second older drive is to try it. Locate the program on the old drive via

Windows Explorer and double-click to initiate the loading sequence. If it comes up, great! If not, you will probably get errors, such as missing files and/or drivers. Then you will need to go through the install process to get the correct Registry entry and files loaded in the right place. There would be no point in reinstalling a program to the old drive.

Digital Dave

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VoIP (Voice Over Internet Protocol) Basics

“Using the Internet for phone conversations.” by Michael J. Ross

VoIP is new way of talking to people on the other side of the globe, or just the other side of the street. What are its technical considerations, advantages and disadvantages?

You can think of the Internet as a global computer network that is perfectly suited for the worldwide distribution of any type of digital information, whether it be text and images on a Web page, computer programs downloaded from a shareware site, e-mail messages, and audio—to name some of the most common types in use. That last category, audio, encompasses a wide range of formats and purposes. Examples include two-second notification sounds designed to provide user feedback on a Web site, and two-hour podcasts dedicated to the latest political news and commentary.



Fred doesn't know whether to answer his Skype video call, his home phone, his VoIP Internet phone, or one of his cell phones.

But what about what may be the most common form of audio information in the life of the average human: two-way conversation? Ever since the Web opened the door to the transmission of multimedia content in real-time, communications enthusiasts have been intrigued with the idea of digitizing human conversations, and transmitting them over the Internet, in real-time. They asked themselves, could the Internet be used to enable conversations that would otherwise be limited to telephone networks (either over landlines or wireless networks)?

Early efforts confirmed that Internet-based telephony was a real possibility, as a result of the Internet's underlying technology: Internet Protocol (IP), which is a set of agreed-upon rules for transmitting data over a computer network, by organizing that data into small pieces, referred to as "packets." In fact, Internet Protocol is what

makes this ubiquitous platform as reliable and "self-healing" as it is, because TCP/IP directs the digital traffic along the most

efficient pathways, automatically routing around digital "traffic jams" in the network, even completely unresponsive nodes, or any other problems.

The use of the Internet for transmitting phone conversations is predicated on packet voice technology, which got started back in 1993, through the pioneering work of Alon Cohen and Lior Haramaty, who at the time were part of the Israel Defense Force, and later founded their company, VocalTec Communications. But like so many other revolutionary technologies with profound implications (especially for those big old phone companies!), Internet telephony did not begin making significant headway until years later. In the United States, that wasn't until the early 2000s, when high-speed Internet access began to reach critical mass throughout the land. During the 1990s, most people were still connecting using dial-up Internet services, which were relatively slow and thus did not provide adequate throughput for digitized voice communications.

Speaking on the Net

Because this exciting new technology involves transmitting voice data using the Internet Protocol, it quickly became known as "voice over IP," or VoIP for short. It essentially comes in two flavors. In the more expensive of the two options, customers can connect their regular phone handsets to a special VoIP adapter, which digitizes their voices in conversation and sends that information over the Internet using high-speed connections (cable, DSL and even satellite), completely bypassing the POTS ("plain old telephone service"). A customer's voice data is sent to a "VoIP gateway," which is a server located within the local calling area of the other party in the conversation. The gateway converts the digital voice data into analog sound, which the recipient hears using his or her regular telephone. To both parties, it appears to be a local phone call, regardless of the individuals' locations on the planet. Yet neither one of them must have, or be paying for, local phone service.

Vonage (www.vonage.com) (pronounced VON-uj) is perhaps the best-known example of such VoIP service providers. At this time, they offer three different plans. The most popular one costs \$24.99 per month, and allows subscribers to make unlimited local and long-distance calls anywhere within the United States and Puerto Rico, as well as free landline calls in more than 60 countries. The company's Pro plan, at \$34.99, includes Canada in the unlimited long-distance calls. For those on a budget, the Residential Basic 500 plan, at \$17.99, offers 500 minutes of outbound local and long-distance calling to anywhere in the United States, Puerto Rico and Canada, with additional minutes costing extra.

Note that all of these prices require one-year contracts. In addition, the company's Web site does not clearly indicate whether or not those prices exclude any regulatory, equipment, or activation fees—as they certainly did a few years ago. If those costs are not included, then they could add up over time, just as they do with conventional, non-VoIP service providers. One advantage to Vonage is that its specialized adapter is apparently quite diminutive and portable, which would be ideal for anyone who travels frequently but is able to get access to a high-speed Internet connection. This and other features have made Vonage a favorite, with the number of subscribers going from zero to 2.5 million during the five years after its inception in 2003. However, that number has leveled off during the past two years, quite possibly because of the next type of VoIP service that we will discuss (in addition to the even greater popularity of wireless phone plans and the handy smartphones that make it all possible).

While VoIP services that charge for calling to a landline or cell phone can be a big improvement over POTS, an untold number of computer users are opting instead for services that enable communication directly back and forth between two (or more!) computers, thus eschewing regular telephones completely. Without a doubt the most well-known example of this is Skype (www.skype.com), which currently offers several plans—some free and others not—with various features. If all the participants in a conversation are happy with using their own computers and Internet connections for the call—as well as headsets and/or speakers—then they can do so free of charge, and be able to send voice, video and instant messages to one another.

Admittedly, there are countless people out there who have never heard of Skype, or for some reason do not want it installed on their computers, or do not even own a computer. Skype undoubtedly foresaw this impediment, and introduced services whereby Skype customers can make local and international calls to regular phone numbers (landline or wireless). This service is similar to that of Vonage, because the sender's voice data is transmitted over the Internet to the recipient's location, where it is converted into a local phone call. Any call from your computer to someone else's landline or mobile phone costs a bit more

than two cents per minute—which is quite reasonable, and avoids the extra fees with conventional phone service. If you want to do away with a regular phone number altogether, you can pay Skype \$18 for three months (or \$60 for half a year) and be able to receive incoming calls from any caller. It offers additional features, such as voicemail, forwarding, SMS messaging and transferring to your regular phone—all at extra cost.

Your Computer As a Phone

There are a number of factors that could influence someone's decision as to whether to try out a VoIP service, and how successful the experience might be. For instance, Skype or any similar computer-based provider would not be an option for anyone without a computer. But nowadays, at least in industrialized countries, that's probably a minority of the citizens.

The other hardware required for using VoIP, naturally, depends upon what provider you choose; but in most cases it will include a handheld or headset microphone for transmitting your voice, and a stand-alone computer speaker(s) for listening to everyone else in the conversation, or one or more headset speakers. Personally, I prefer to use an Andrea NC-8 ultralight head-mounted microphone for input, and Harmon/Kardon HK195 powered stereo speakers for output. Neither component is top-of-the-line, but more than adequate.

When using Skype, your voice quality, as perceived by your listener, is determined by a number of factors—such as the quality of your microphone, whether it is well positioned close to your mouth (but not directly in the airstream), the upload speed of your Internet connection, the download speed of your listener's connection, the number of lost or delayed data packets, the quality of your listener's speakers, and any background noise in her environment. These are the major hardware and environmental considerations—any of which could be overwhelmed by human factors, such as how well you enunciate, how fast you speak, and your listener's hearing abilities.

Upsides and Downsides

The advantages of VoIP are clear to anyone who has been using it for any length of time, and has invested in the proper hardware and also in learning how to make the most of it. Depending upon the number and duration of your phone calls—and of course whether they are local or long-distance—the money saved can be quite significant. In fact, with free or low-cost calling, you may end up making even more calls than otherwise, spending more time talking with friends and family, and enjoying the overall experience better than if you had stayed with an old-fashioned phone service.

Also, you can avoid getting locked into a long-distance plan, and paying all of those extra fees that seem unavoidable. It seems like only yesterday that when you moved into a new neighborhood and received a new local phone number, you had to choose a long-distance provider, and immediately your monthly phone bill was padded with all sorts of interstate fees, even if you had not made one long-distance call during that entire period.

Perhaps best of all, digital voice makes it much easier for companies to offer communication capabilities that were unheard in the past, such as converting audio messages into text, which can be sent to you as e-mail messages (a terrific feature of Google Voice (www.google.com/voice)). Digitization has also enabled transmitting real-time video between you and everyone else on the line.

But there are some disadvantages as well. For instance, emergency and technical support phone calls can be impossible with most of the VoIP providers, who typically warn prospects right up front that 911 calls are not possible. Of those providers that do offer emergency calling, you must reveal your physical address, because that is required by your local emergency services. A more likely potential problem is, what happens to your phone service when your Internet connection goes down? It of course goes down as well. And then how do you call your Internet service provider to report the problem and request that someone come out and fix it? Fortunately, there are usually neighbors and other people around who have landline or cell phones.

Even though the VoIP voice quality is better than it was years ago when the pioneers first made it available, it still is not perfect. The cheapest providers typically have the worst voice quality, with slight delays in transmission, which can slow conversations. Yet proponents of VoIP can point out that its voice quality is oftentimes better than that of mobile phones, and

the connections in general are more reliable, with no worries of a conversation being interrupted when someone drives into a tunnel or parking garage, or out of range of cell towers.

All things considered, most people who try VoIP find that the pluses are much greater than the minuses, and these folks usually become big fans of this new way of talking to people on the other side of the globe, or just the other side of the street.

Michael J. Ross is a Web developer (www.ross.ws), writer, and freelance editor. He creates Web sites that help entrepreneurs turn their ideas into profitable online businesses.

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Voice over IP for the Enterprise

“Improve productivity and boost profitability.” by Pete Choppin

A lot of businesses have moved away from the traditional forms of communication and are now using a network of Enterprise Voice over IP (VoIP) solutions.



A lot of businesses have moved away from the traditional forms of communication and are now using a network of Enterprise Voice over IP (VoIP). There has been an increase in the demand for this technology.

The VoIP systems have a lot of different features, such as the auto attendant; voice mail to e-mail; Outlook integration; directory, which can be dialed using the name; on-hold music, and many more.

The enterprise VoIP system can give the businesses many benefits, such as allowing the companies to save money by using the Internet services to make the business calls (SIP trunking, which we will discuss later). The business also has to replace the old incompatible systems with a new modern digital telephone system, which costs less than the old system.

If a company is not operating a VoIP system, they are still using the traditional POTS (plain old telephone system). The enterprise VoIP system can help companies to improve their productivity and be much more competitive in business.

For example, enterprise VoIP can combine the desk phones with the address book and can communicate the presence of the information about the availability of employees on the system. There are many useful features on enterprise VoIP systems. Having availability information at your fingertips is just one of the more useful features.

This article will discuss some of the benefits of moving to VoIP, as well as some things to watch out for when considering converting a traditional telephone system.

Where I work, we use a Mitel 3300 controller that operates our entire VoIP system. It is administrated over a Web interface. All extensions and settings are configured from a browser. Unlike a home VoIP system, such as Vonage, which is a very simple service, an enterprise VoIP system can be daunting to set up and configure. Make sure to have all the administration documentation that goes with your system.

Shop Around for Vendors

Mitel does not sell you the product or provide much support at all. Our experience was that for all installation and support, we had to go to a local vendor. Mitel provided the contact for this, which was a relatively small telecommunications company. In retrospect, we could have benefited by shopping around. The vendor is not really all that knowledgeable about the Mitel 3300 system. They are able to sell all the equipment, software and licensing (which is pricey, by the way), but when we have problems or would like to use one of the features on the system, their knowledge was less than expert.

Make sure you have good support. One way to do this is to ask the vendor what other companies are using the product, and then contact those companies and see if they can tell you what their experience has been.

Don't Buy Old or Used Products

The technology behind VoIP equipment is evolving so rapidly that even last year's hardware is extremely dated. Plus, the installation cost is a significant portion of the price, and that won't change significantly with a used system in place of new. You also set yourself up for a shorter lifespan, higher upgrade costs and more maintenance—in short, the deferred costs will almost certainly wipe out any upfront savings.

Plan for the Future

The cost difference between including extra capacity at the beginning of a project and adding more VoIP equipment later is significant—build in room for growth. Make sure you have enough licenses to accommodate growth. It is likely that buying in bulk this way will save you money down the road. Also, if you think you may need a feature, put this into your plans in the beginning. At the time we invested in VoIP, we decided to add a nice feature for conducting collaboration meetings (like Webinars). This turned out to be a huge cost savings. When the economy went south, a lot of our travel budget was cut. The collaboration software allowed us to conduct meetings with remote employees and saved thousands of dollars on travel expenses.

Choosing a VoIP System

Once you have decided that VoIP is right for you, the next step is to determine what of your existing telecom equipment you can keep. Many PBXs can be IP-enabled with software upgrades and minor hardware additions, and you may be able to use digital phones you already own. The potential cost savings are significant, and you can also increase the overall reliability of your phone system.

When comparing phone systems, make sure you investigate the details carefully. Many systems say they include "everything," but may not include the specific features you require. Exactly what makes up a "complete" system varies from vendor to vendor, so be sure you are comparing equivalent systems.

Also, remember that some common business devices require analog phone lines—notably fax machines, but also credit card processors, some security systems and other devices. Make sure your vendor knows and plans for these types of uses when planning your phone system.

Pricing

Business VoIP system prices vary considerably based on the features you require, your existing telephony infrastructure, and the state of your data network. A complete 16-phone VoIP solution with all the features you would expect in a typical business phone system can run from \$10,000 to \$30,000 or more, installed. A 64-phone installation including a dedicated server, voice mail and more could cost \$50,000 to \$75,000 and up.

That is considerably more than a similar digital phone system would cost, but the long-distance savings on interoffice calls and the reduced administrative costs will offset some of the difference.

Also, the licensing for users and features can greatly affect the bottom line. We found that many of the features offered on the Mitel system require the purchase of the licenses to enable them. Some of these are in the thousands of dollars.

Training

In many cases, the new VoIP system will function just like the traditional telephone system. In fact, some VoIP-based business telephone systems are so intuitive that a manual isn't even necessary. However, the one person that will probably need training is the front desk receptionist. Connecting, transferring and managing incoming phone calls will likely be quite different on the new system. See if your vendor can provide a trainer to spend time showing people how to use the new IP telephones. Training makes your staff comfortable with using the new phones and encourages them to like the new product. Many vendors can provide interactive user guides through your network.

SIP Trunking



Another feature that has been gaining popularity is something called SIP trunking. SIP (Session Initiation Protocol) is a specific type of VoIP. Now, what is a trunk? Think of a trunk as simply a telephone line, but different. The difference between a line and a trunk is that a trunk is digital. It is not associated with a specific telephone number, and it does

not come in to your building on a copper pair. It comes into your office via your Internet connection. The beauty in this is that, let's say you want to move your operations. With a regular phone line you would have to call your common carrier, and schedule a move where the carrier would have to come to the new location and install new copper lines. You'd have to wait for them to come out, and then you'd have to pick a very specific day for this all to happen, making it almost impossible to move seamlessly. With an SIP trunk, all you need in the new location is an Internet connection and you are all set.

Another benefit of SIP is the ability for an SIP proxy to choose which carrier a call is sent to when it proxies a session setup request to the gateway. SIP trunking allows a company to replace traditional fixed Public Switched Telephony Network (PSTN) lines with PSTN connectivity via an SIP trunking service.

In plain English, this means that if you have remote offices around the country that are operating on different carriers, SIP trunking allows the calls to traverse the carriers. Calls are then routed just like local phone calls, eliminating the costs of long distance.

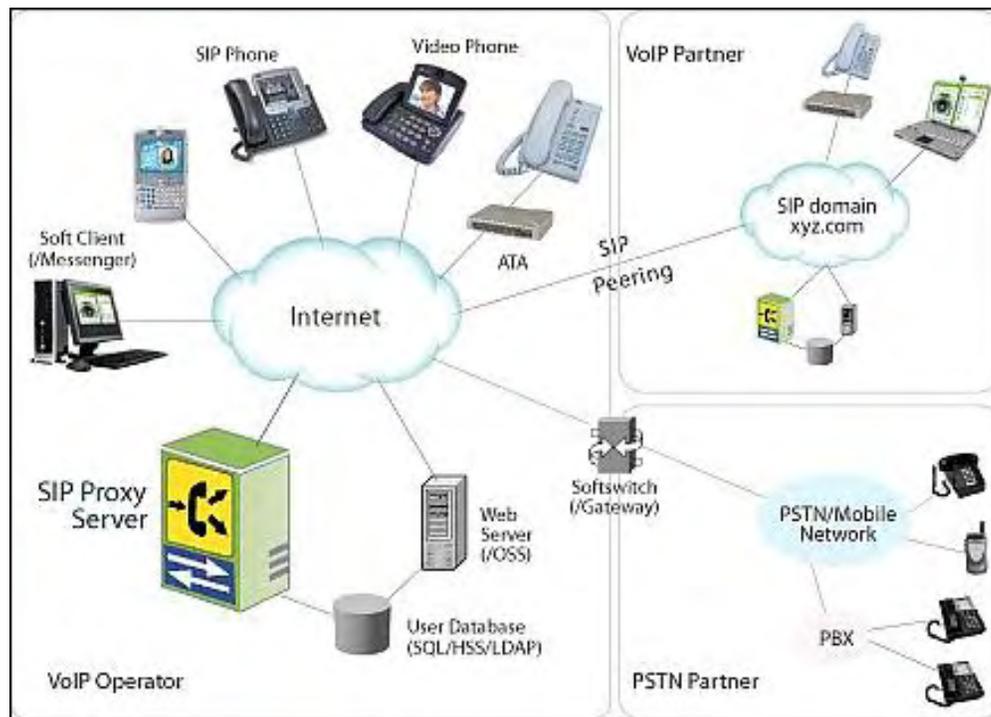


Diagram describing SIP trunking network.

The SIP network is typically handled and configured via the phone company, where you normally have your Internet connections managed. The good news is that SIP is relatively inexpensive and it is a very attractive option for many companies.

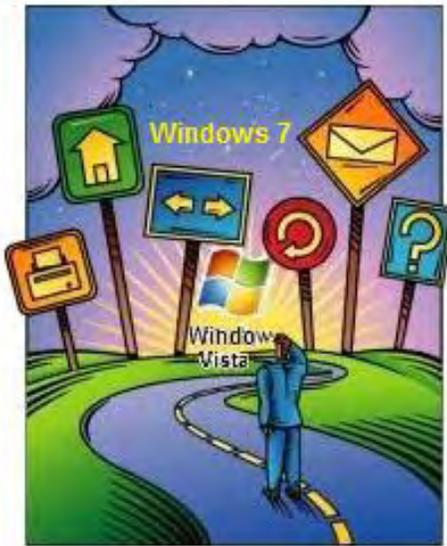
Things have become a lot easier for companies due to the innovation and advancement of the enterprise VoIP services. The enterprise VoIP system is a worthwhile investment for companies. It provides many business communication enhancements, and after all, communication is the channel through which all businesses thrive.

Pete Choppin has been an IT Professional for over 15 years. He currently works as a network and systems administrator for a company called Albion based in Clearfield, Utah. He has experience in all types of hardware, software, and networking technologies. He is proficient in many operating systems including Linux, Windows and Macintosh. His interests include cooking, sci-fi, computers and technology, and Web design—a semi-professional endeavor, having designed Web sites in the dental field, e-commerce businesses, and for the Boy Scouts of America.

Pete has been a devout reader of *ComputerEdge* since 1990 and contributes regularly to featured articles as well as the

Linux Lessons section of *ComputerEdge*. He can be contacted at pchoppin@comcast.net but prefers to have comments on *ComputerEdge* articles submitted to the editor and posted for the benefit of all readers.

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Windows Tips and Tricks

Windows Tips and Tricks: More on Favorites and Libraries
“How to Use Windows 7 Favorites and Libraries” by Jack Dunning

While some may find Windows' Favorites and Libraries annoying, they are handy and worthwhile data-management features. Here's how Jack uses them in the weekly creation of *ComputerEdge*.

Last week, there was a post from a reader who seemed to think that the new features in Windows 7, such as Libraries, were more of a distraction than a help. He gave information on how to remove them for Windows Explorer. It occurred to me that his opinion could be shared by many people who are using Windows 7. Yet, I've found Favorites to be very helpful in Windows Vista, and I'm looking forward to using Libraries in Windows 7 even more extensively. I thought it might be worthwhile to show how these features help me with *ComputerEdge* from week to week.

For the past couple of years, I've used Favorites—found in Window Explorer at the top of the left-hand navigation panel—as a way to quickly work with the current issue (see Figure 1). If I navigated through the folder tree every time I needed to open the current working folder, it could become quite tedious. Each issue folder is quite a few levels down, and the list of folders covering a number of years is quite long. During the week I concentrate on the new editorial folder. To make it easy, I drag the current folder to Favorites, thereby creating a direct link. Now all I need to do is open Windows Explorer (Microsoft Logo key plus E) and click the link for the new issue. If you have any folders that you use regularly, this is a tremendous savings.

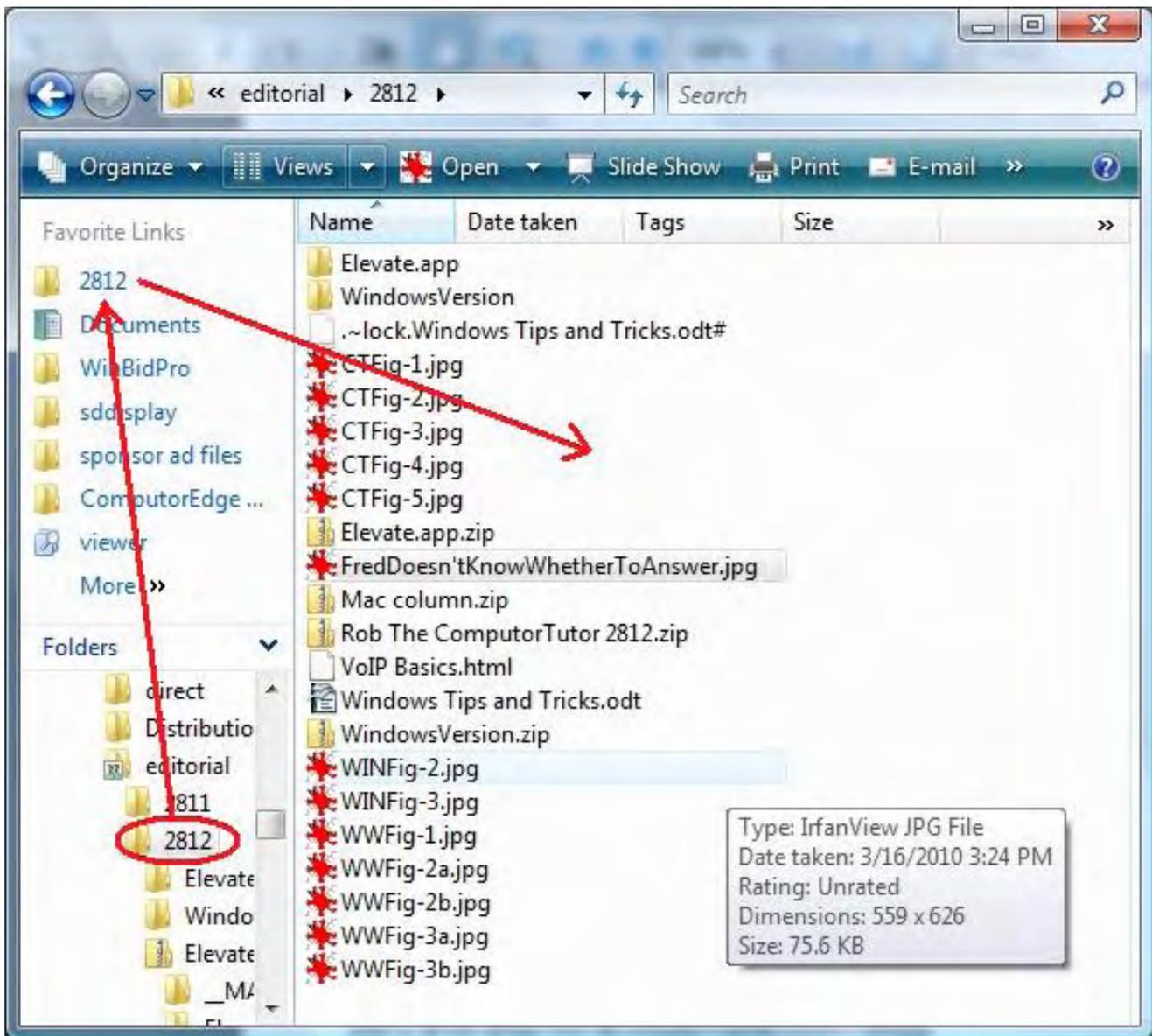


Figure 1. Windows Explorer Favorites in Windows Vista.

When the next week starts, I drag the new issue label into Favorites and right-click to select "Remove Link" for the old issue. The added benefit to this is that many programs, such as the Snipping Tool for capturing screen graphics and OpenOffice.org, use the same format for opening and saving files. Anything that appears in Favorites in Windows Explorer will also appear in the dialogs for these programs. I'm sure that as more software programs come out with new versions, many more of them will support this feature. Favorites in Vista has been a great help. Libraries in Windows 7 makes it even better.

As I explained last week, I set up a library on the Windows 7 machine that accesses the editorial folders for *ComputerEdge* located on my Vista laptop—my primary working machine (see Figure 2). I use both Favorites and Libraries on the Win 7 machine, whereas on the Vista computer I had only Favorites. (Windows Vista does not include the Libraries feature.) The *ComputerEdge* library saves me even more steps.

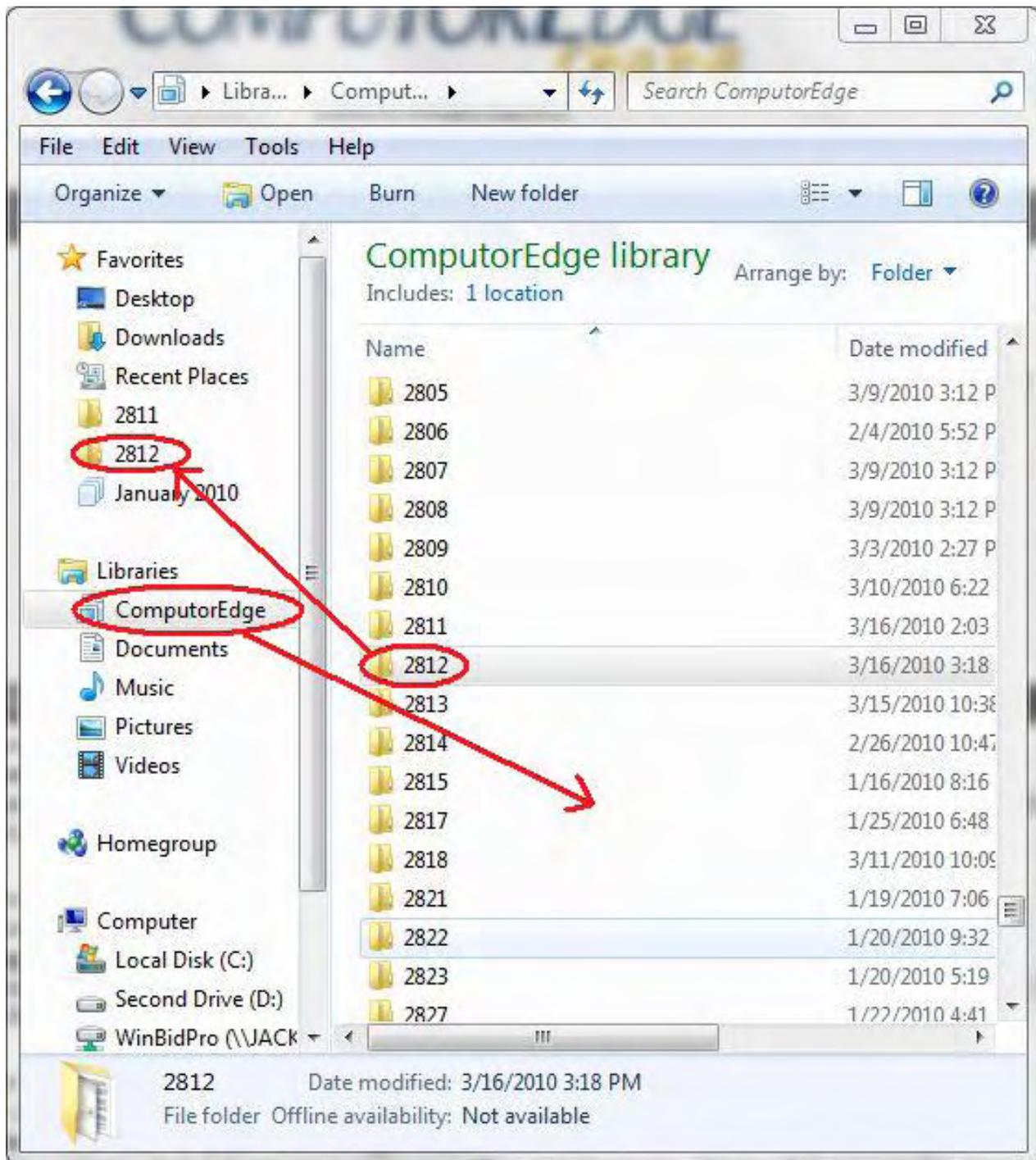


Figure 2. Windows Explorer Favorites and Libraries in Windows 7.

I use Favorites in Windows 7 to access the current working issue as I always have in Vista. But, rather than dragging the folders for the new links from the Windows Explorer tree structure, I can pull them directly from the *ComputerEdge* library into Favorites. The process is the same, only quicker. The advantage I get is that when I'm saving graphics from the Windows 7 computer, the link in Favorites will save the image directly on my Vista laptop—no saving then later dragging. It's as if I'm working directly on the laptop. Since Libraries can include folders from any location, the problem of finding them is much easier.

The process for removing the link from the previous week is similar to that of Vista, with a right-click and "Remove." The files are unaffected and the link folder remains in the library (see Figure 3).

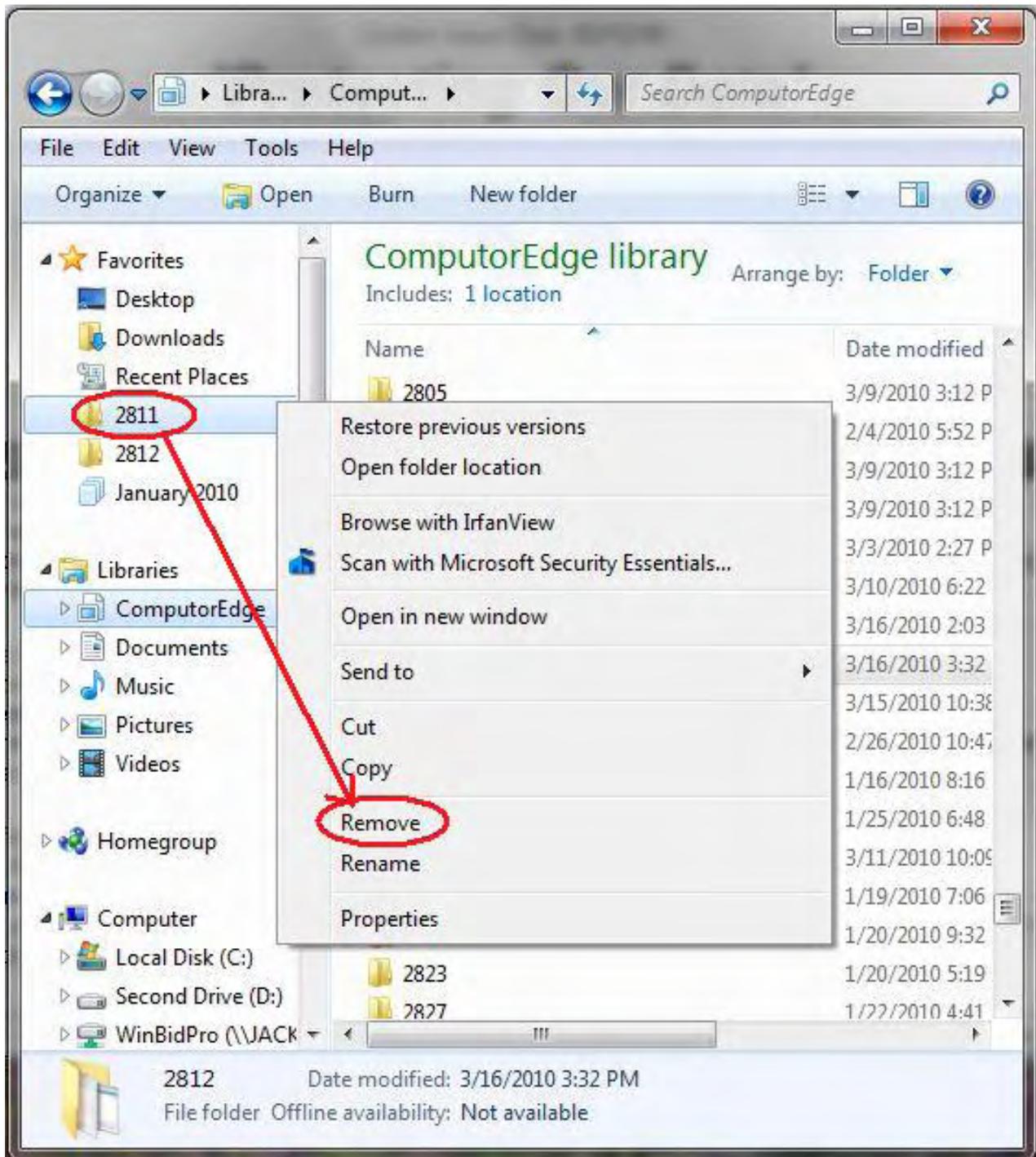


Figure 3. Removing a Favorites link from Windows Explorer in Windows 7.

Eventually, I will be able to move all the key folders to another computer or a network drive. (I don't plan to be using the Vista laptop forever.) Then I should be able to include the files in Libraries on a number of different computers. Possibly I will make the network drive Internet accessible, allowing it to be included in other people's Libraries as well as making it available to me while I travel. I could be anywhere and one click will display my working files (see Figure 4).

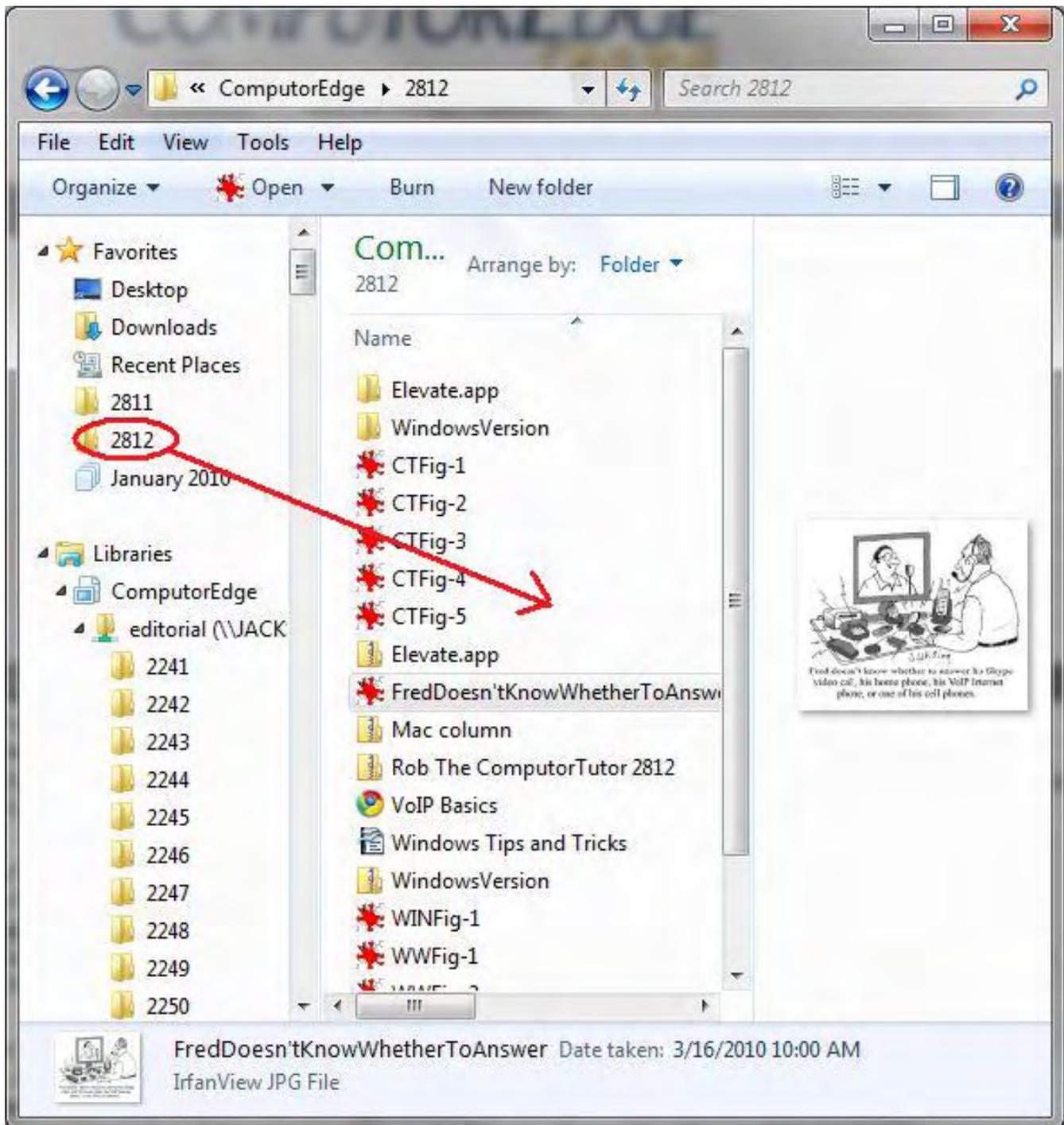


Figure 4. Click the link in Windows Explorer Favorites and the contents of the library folder is displayed.

It's even easier to see the value of Windows Libraries when you look at photo and music collections. There are other features in Libraries that make the sorting and viewing (or playing) of a huge number of files much easier. I hope to explore some of those features in the near future.

If you find Favorites and Libraries annoying, then there are computer gymnastics that you can go through to remove them from Windows 7. However, it may be better to minimize the two links in Windows Explorer and ignore the remaining two words: Favorites and Libraries. There may come a time when they will be of value to you.

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. He can be reached at ceeditor@computoredge.com

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Wally Wang's Apple Farm

Wally Wang's Apple Farm

“Internet Phone Calls” by Wally Wang

Where cell phones are the latest lucrative honeypot for phone companies, VoIP calls represent an entirely new communication model. Also, a look at The Wisdom of 33 Voices; The iPad represents change, and how you handle this change can foreshadow what might happen to you in the future; and a tip on hiding the clutter on your screen.

Anyone remember the days when nobody owned a phone because you had to pay a monthly rental fee for every phone in your house? The telephone company would love to return to those profitable days. In fact, the telephone company would love to return to any time in the past when long-distance phone calls were outrageously expensive (and lucrative for the phone company) and monthly rental charges for a phone meant a steady income stream for doing almost nothing.

Fast forward to today, where the old-fashioned telephone has competition from cell phones and calls placed over the Internet through Voice over Internet Protocol (VoIP). Where cell phones are the latest lucrative honeypot for phone companies (do text messages really cost the phone company money to send?), VoIP calls represent an entirely new communication model.

The biggest advantage of VoIP is that it's free, just as long as you have a fast Internet connection. Some people might use VoIP to completely replace their other phones, but most people will likely just use VoIP to supplement any of their existing phones. To see all the different VoIP options available, just visit the Open Directory Project (www.dmoz.org/Business/Telecommunications/Services/VoIP).

There are plenty of commercial VoIP options that give you a variety of services in return for a monthly fee, but if you want a free option, the most popular choice is Skype (www.skype.com). With a webcam and an Internet connection, you can hold video conferences with anyone around the world.

One alternative to Skype is OoVoo (www.oovoo.com). Like Skype, both callers will need to download a free program, but then it's free to call and chat with any OoVoo user in the world. The main difference between Skype and OoVoo is that Skype allows three-way conference calling, while OoVoo allows only calls between two people. If you want to hold a three-way conference, you'll have to pay OoVoo an additional fee.

An even simpler option is iChat, which comes free with every Macintosh. The iChat program actually relies on America Online's Instant Messaging (AIM) service, so if you have an AOL, AIM, or MobileMe account, you can use iChat to video conference with others. If you don't have an account with any of these services, you can set one up for free.

One feature of iChat is the ability to share screens with other Macintosh users. By using this screen-sharing feature, you can remotely troubleshoot someone else's Macintosh through the Internet. As you control another Macintosh remotely, you can talk and show the other person what you're doing and why.



Figure 1. Sharing screens in iChat lets you remotely control another Macintosh.

Internet phone calls threaten the traditional telephone company's business. As more people abandon landlines in favor of cell phones, VoIP offers people another option. Cell phones will likely be around for a long time, but soon your landline phone may just be based on the Internet and your home computer.

The Wisdom of 33 Voices

My friend, Moe Abdou, had an idea. He decided to contact 33 business leaders and authors he respected and ask them two questions. First, "What is the most important idea that an entrepreneur should be thinking about right now?" Second, "What is the most important question an entrepreneur should be asking themselves right now?"

After collecting answers from all of these people, including Stephen R. Covey, the author of *The 7 Habits of Highly Successful People* (www.amazon.com/gp/product/0743269519?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0743269519) ; David Allen, the author of *Getting Things Done* (www.amazon.com/gp/product/0142000280?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0142000280) ; and Eckhart Tolle, the author of *The Power of Now* (www.amazon.com/gp/product/1577314808?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1577314808) , Moe wound up with a diverse collection of answers that he wanted to share with others.

To organize this information, I created a PDF file using Keynote, which allowed me to create clickable links to organize and navigate through this information. (You can download this PDF from Scribd (www.scribd.com/doc/27839580/Elevate-eBook)). In addition, I used Runtime Revolution (www.runrev.com) to create a simple program, dubbed Elevate, for displaying and organizing this information as well. With Runtime Revolution, I just wrote the program once and compiled it as a Mac OS X (www.computoredge.com/images/2812/Elevate.app.zip) and Windows (www.computoredge.com/images/2812/WindowsVersion.zip) program.

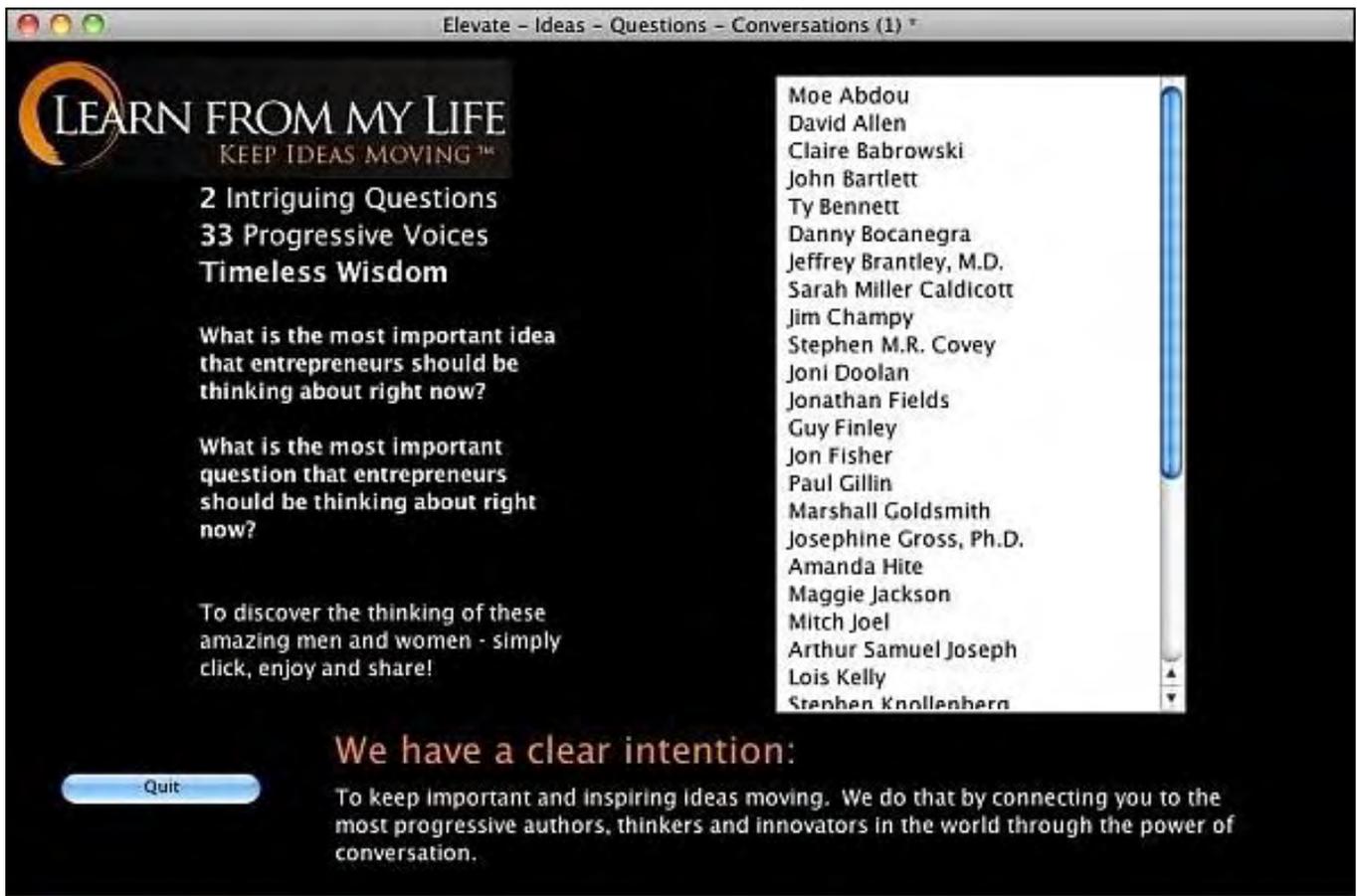


Figure 2a. The Mac OS X version of the Elevate program.

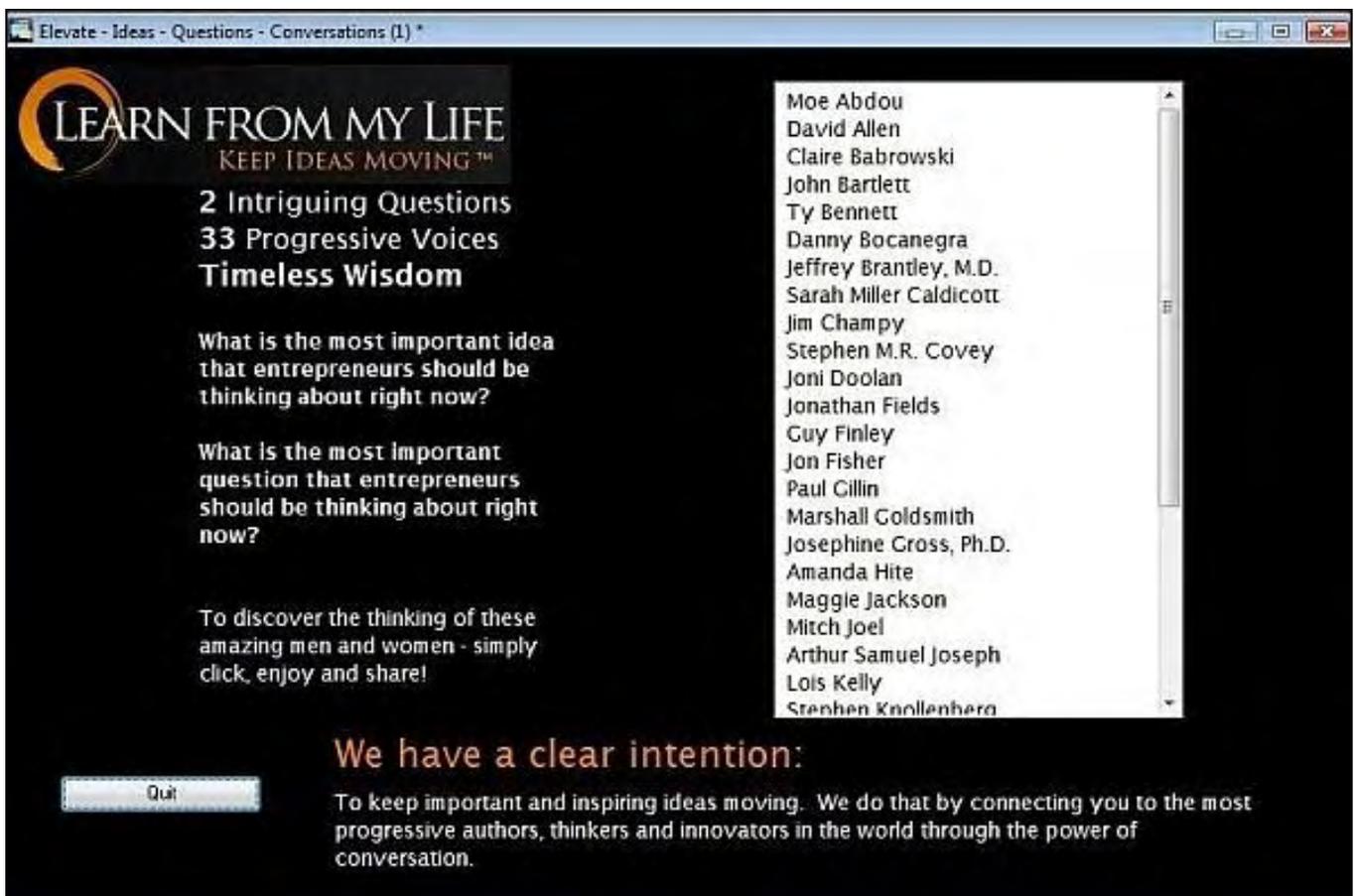


Figure 2b. The Windows version of the Elevate program created from the same source code.

You can freely download and share these files and spread this information to others. By reading the answers that various authors and business leaders gave, you can gain insight about what you should be thinking about for your own life.

The iPad Goes on Sale

On March 12, Apple started taking pre-orders for the iPad. Although some people still can't think of what the iPad might be good for, others are eagerly rushing to order one in case Apple runs out.

While the iPad represents a new computing paradigm, it may take time for some people to see the iPad's advantages. If you can't see any possible advantages of the iPad, then you might not find the humor in this comedy skit (www.youtube.com/watch?v=LRBIVRwvUeE) that shows how people might have once struggled to see the advantages of a book compared to a scroll.

Since the iPad represents a new kind of computer, expect to see unique iPad apps such as one called PadNotes (www.youtube.com/watch?v=j6nDbE1CK3o&feature=player_embedded).

After watching this PadNotes demonstration, you might start to understand how the iPad's unique form factor could create a new breed of programs that might not have been possible or practical with ordinary laptops or netbooks.

Investigating new ideas is one theme of the book *The Passionate Programmer* (www.amazon.com/gp/product/1934356344?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1934356344). The author, Chad Fowler, focuses on how programmers can further their career, but his advice can apply to anyone in any field.

Chad makes an interesting comment that "Good people seek out diversity, because they love to learn new things." Chad warns that if you get stagnant in keeping up in your field, you'll risk becoming obsolete. He suggests that you list the technologies that you love and write down the reasons why. Now assume that your reasons are completely wrong. How would you adapt if everything you know becomes obsolete overnight?

Another key piece of advice that Chad offers is to ask yourself, "Is today better than yesterday?" If so, you're on the right track. If not, you need to get back on track.

Chad specifically uses the example of dieting. If you did something today about your diet that was better than what you did yesterday, you'll gradually lose weight and reach your ultimate goal. However, if what you did today isn't better than what you did yesterday, you're regressing and likely won't reach your goal.

Ask this question in terms of your own technical expertise, and if you aren't constantly honing your skills, you're falling behind. The farther you fall behind, the more likely you'll get run over by change.

To read how one lawyer envisions using an iPad, visit Josh Barrett's blog dubbed Tablet Legal (tabletlegal.com). Rather than focus on what the iPad can't do (and wind up doing nothing and going nowhere), Josh Barrett focuses on how the iPad could help him as a practicing lawyer, such as using the iPad as a storytelling device for non-linear presentations, allowing him to adapt to changing circumstances in a court room.

The iPad represents change. How you handle this change can foreshadow what might happen to you in the future.

* * *

When you're working, you might find the clutter of open windows on the screen distracting. One way to hide all of these windows is to click the program menu (such as Pages if that's your currently active program or Safari if you're currently using your browser) and choose Hide Others. Now you'll see your desktop and just the program you're using. If you have two or

more windows opened in that program, you'll see those windows against the desktop of your Macintosh.

To view all your hidden programs, just click the program menu again (such as Pages or Safari) and choose Show All. Now all your previously hidden programs pop back on the screen again.

If you're using Pages, there's another way to hide the clutter of your screen. Click the View menu and choose Enter Full Screen. Now you'll just see the Pages document you're working on and nothing else, which allows you to focus on your writing.

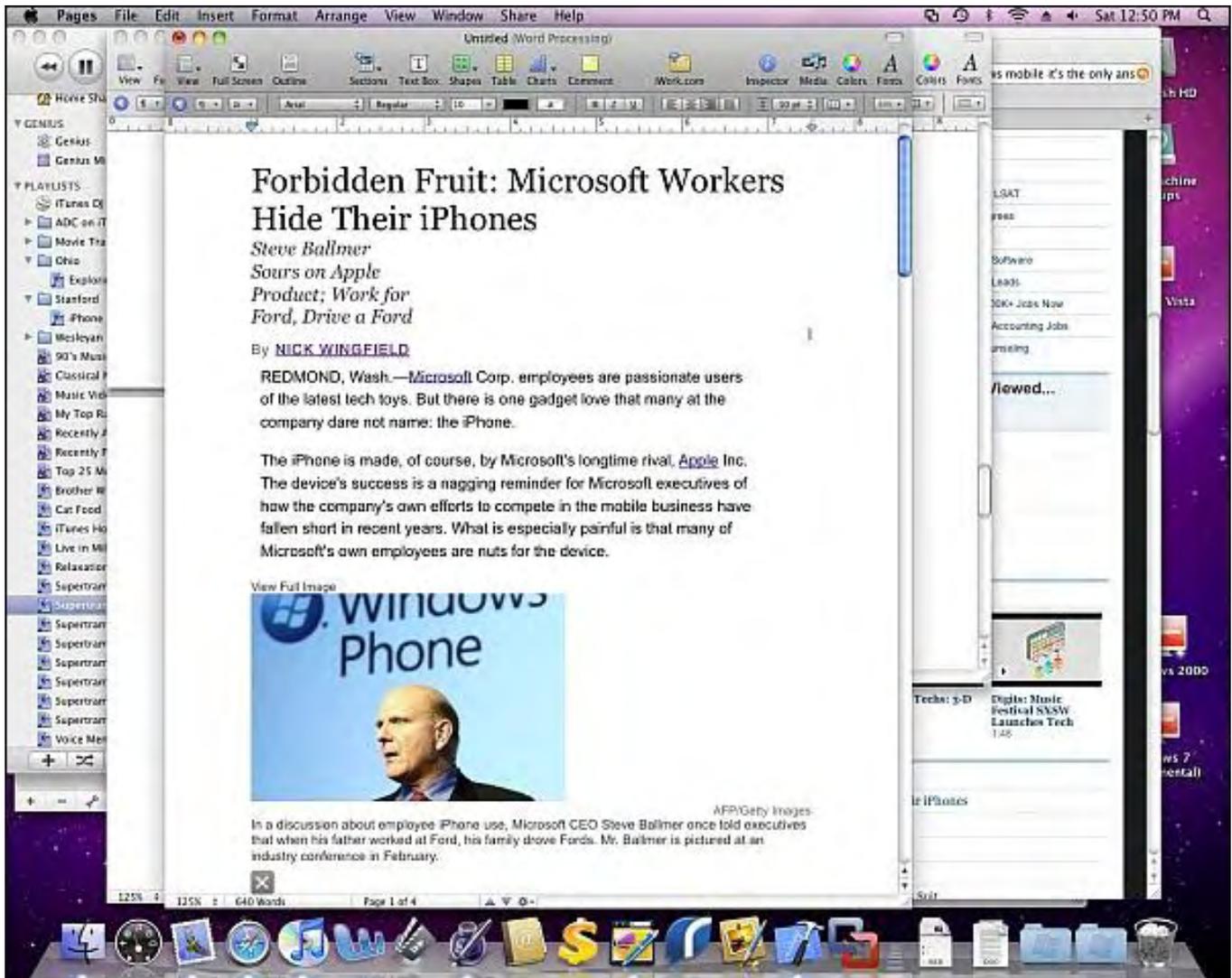


Figure 3a. A cluttered screen can distract from writing.

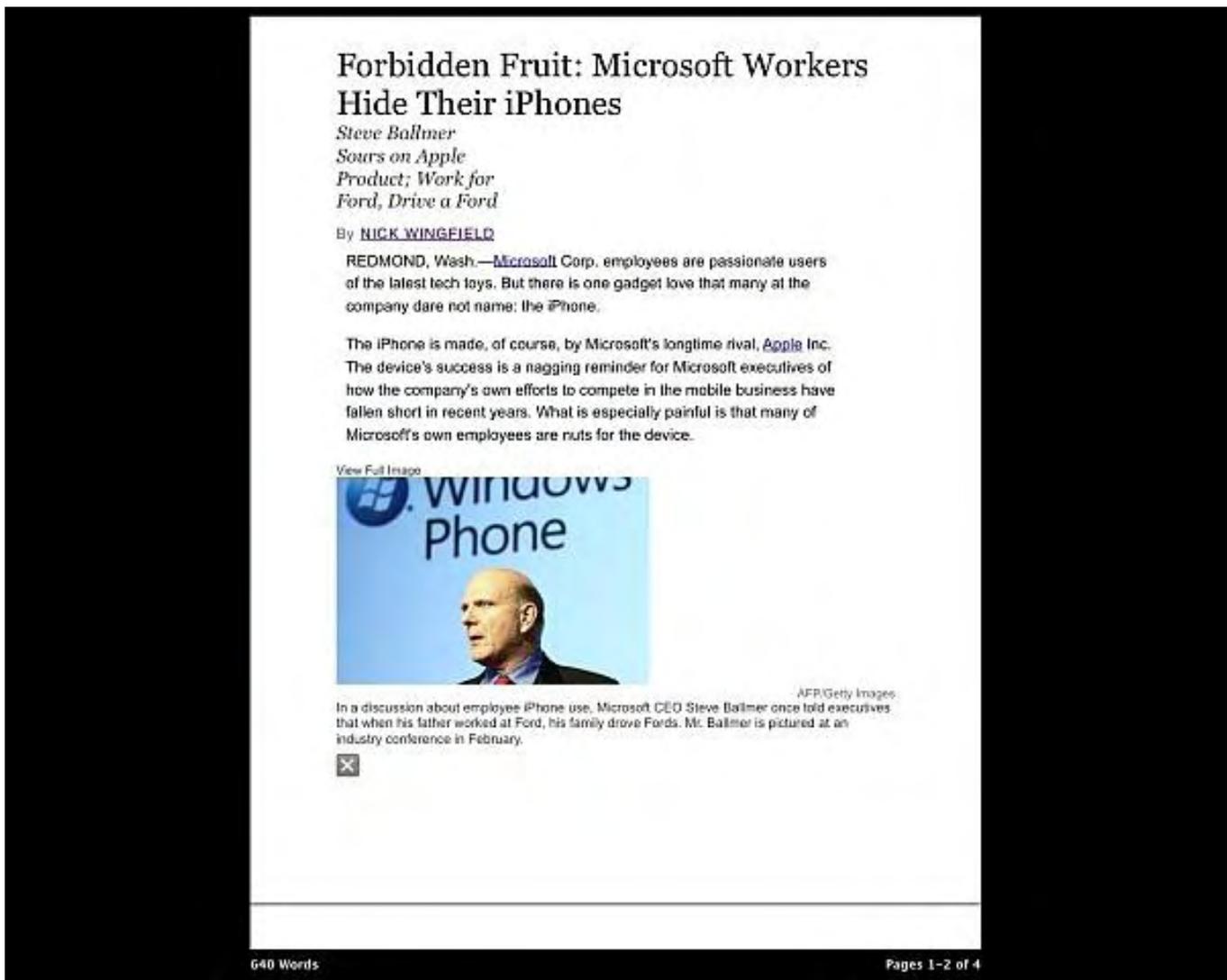


Figure 3b. The View/Enter Full Screen command in Pages lets you hide everything but your document.

When you want to switch back to viewing the rest of your computer screen again, just press Esc or View/Exit Full Screen. When displayed in Full Screen mode, Pages even hides its pull-down menus until you move the mouse to the top of the screen.

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 participles with Jack Dunning and go to the gym to pump iron with Dan Gookin.

Wally is responsible for the following books:

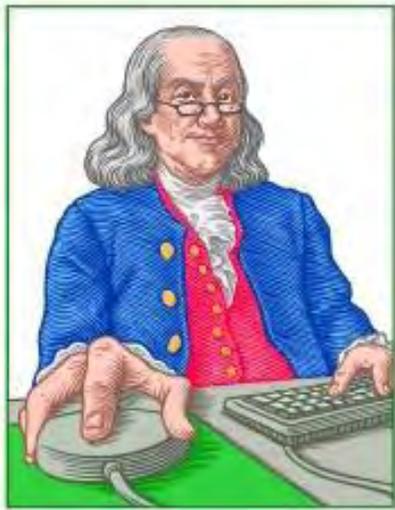
- Microsoft Office 2007 for Dummies (www.amazon.com/gp/product/0470009233?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470009233),
- Beginning Programming for Dummies (www.amazon.com/gp/product/0470088702?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470088702),
- Breaking Into Acting for Dummies with Larry Garrison (www.amazon.com/gp/product/0764554468?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0764554468), Beginning Programming All-in-

- One Reference for Dummies (www.amazon.com/gp/product/0470108541?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470108541),
- Steal This Computer Book 4.0 (www.amazon.com/gp/product/1593271050?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271050),
 - Visual Basic Express 2005: Now Playing (www.amazon.com/gp/product/1593270593?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593270593),
 - My New Mac (www.amazon.com/gp/product/1593271646?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271646),
 - My New iPhone (www.amazon.com/gp/product/1593271956?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271956),
 - Strategic Entrepreneurism with Jon Fisher and Gerald Fisher (www.amazon.com/gp/product/1590791894?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1590791894).

When not performing stand-up comedy or writing computer books, he likes to paper trade stocks with the video game Stock Reflex (www.plimus.com/jsp/download_trial.jsp?contractId=1722712&referrer=wwang), using the techniques he learned from a professional Wall Street day trader.

In his spare time, Wally likes blogging about movies and writing screenplays at his site "The 15 Minute Movie Method." (www.15minutemoviemethod.com/) Wally can be reached at wally@computoredge.com.

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LINUX LESSONS

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

Linux Lessons: Tips
and Tricks from Users
"More Shell Scripting" by
Pete Choppin

Last week, we got pretty far with our script. It now has the ability to effectively test for certain conditions. Next week, we will finalize our script and make it so that it can be used no matter what file names are provided from the user.

Last week, we got pretty far with our script. It now has the ability to effectively test for certain conditions and it doesn't annoyingly display the errors all over the screen.

Here is our script so far:

```
#!/bin/sh
#
# This script will test for the existence of a file "weekly.report" and if
# it does NOT exist it will print a message to the screen and exit. If
# current directory is NOT writable [ ! -w . ] a message indicating deletion
# is not possible is sent to the screen and an exit occurs. Otherwise the
# script will continue handling all instructions after the if block.
if [ ! -r weekly.report ]
then
    echo I see no weekly.report file here.
    exit 1
fi
if [ ! -w . ]
then
    echo I will not be able to delete
    echo weekly.report for you, so I give up.
    exit 2
fi
    lpr weekly.report
    Mail boss < weekly.report
    cp weekly.report /floppy/report.txt
    rm weekly.report
```

Now that we've made our script more robust, let's work on making it more general. Most Unix commands can take an argument from their command lines that tells them what to do; why can't our script? Because it has "weekly.report" littered all through it, that's why. We need to replace weekly.report with something that means "the thing on the command line." Meet \$1.

```
if [ ! -r $1 ]
```

```

then
    echo I see no $1 file here.
    exit 1
fi
if [ ! -w . ]
then
    echo I will not be able to delete $1 for you.
    echo So I give up.
    exit 2
fi
lpr $1
Mail boss < $1
# and so forth...
exit 0

```

\$1 means the first argument on the command line. Yes, \$2 means the second, \$3 means the third, and so on. What's \$0? The name of the command itself. So we can change our error messages so that they look like this:

```
echo $0: I see no $1 file here.
```

Ever noticed that Unix error messages introduce themselves? That's how. Unfortunately, now there's a new threat to our program: What if the user forgets to put an argument on the command line? Then the right thing for \$1 to have in it would be nothing at all. We might be back to our cascade of error messages, since a lot of commands, such as `rm`, complain at you if you put nothing at all on their command lines. In this program's case, it's even worse, since the first time \$1 is used is as an argument to test `-r`, and test will give you a syntax error if you ask it to test `-r` nothing at all. And what does `lpr` do if you put nothing at all on its command line? Try it! But be prepared; you could end up with a mess.

Fortunately, test can help. Let's put this as the very first test in our program, right after the `#!/bin/bash`:

```

if [ -z "$1" ]
then
    echo $0: usage: $0 filename
    exit 3
fi

```

Now if the user puts nothing on the command line, we print a usage message and quit. The `-z` operator means "is this an empty string?" Notice the double quotes around the \$1: They are mandatory here. If you leave them out, test will give an error message in just the situation we are trying to detect. The quotes protect the nothing-at-all stored in \$1 from causing a syntax error.

This if clause appears at the very top of many, many shell scripts. Among its other benefits, it relieves us from having to wrap \$1 in quote marks later in our program, since if \$1 were empty we would have exited at the start. In fact, the only time quotes would still be necessary would be if \$1 could contain characters with a special meaning to the shell, such as a space or a question mark. File names don't, usually.

What if we want our script to be able to take a variable number of arguments? Most Unix commands can, after all. One way is clear: We could just cut and paste all the stuff in our shell script, so we'd have a bunch of commands that dealt with \$1, then a bunch of commands that dealt with \$2, and so forth. Sound like a good idea? No? Good for you; it's a terrible idea.

First of all, there would be some fixed upper limit on the number of arguments we could handle, determined by when we got tired of cutting, pasting and editing our script. Second, any time you have many copies of the same code, you have a quality problem waiting to happen. You'll forget to make a change, or fix a bug, all of the many places necessary. Third, we often hand wildcards, like *, to Unix commands on their command lines. These wildcards are expanded into a list of filenames before the command runs! So it's very easy to get a command line with more arguments than some arbitrary, low limit.

Maybe we could use some kind of arithmetic trick to count through our arguments, like \$i or something. This won't work either. The expression \$i means "the contents of the variable called i", not "the i'th thing on the command line." Furthermore, not all shells let you refer to command-line words after \$9 at all, and those that do make you use \${10}, \${11}, and so forth.

So what do we do? This:

```
while [ ! -z "$1" ]
do
    # do stuff to $1
    shift
done
```

Here's how we read that script: "While there's something in \$1, we mess with it. Immediately after we finish messing with it, we do the shift command, which moves the contents of \$2 into \$1, the contents of \$3 into \$2, and so forth, regardless of how many of these command-line arguments there are. Then we go back and do it all again. We know we've finished when there's nothing at all in \$1."

This technique allows us to write a script that can handle any number of arguments, while only dealing with \$1 at a time. So now our script looks like this:

```
#!/bin/bash
while [ ! -z "$1" ]
do
    # do stuff to $1
    if [ ! -r $1 ]
    then
        echo $0: I see no $1 file here.
        exit 1
    fi
    # omitted test...
    lpr $1
    Mail boss < $1
    # and so forth...
    shift
done
exit 0
```

OK, so now we have some more flexible arguments in our script and we have introduced some powerful uses of command line variables. We'll stop here and next week we will finalize our script and make it so that it can be used no matter what file names are provided from the user.

Please submit questions.

Pete Choppin has been an IT Professional for over 15 years. He currently works as a network and systems administrator for a company called Albion based in Clearfield, Utah. He has experience in all types of hardware, software, and networking technologies. He is proficient in many operating systems including Linux, Windows and Macintosh. His interests include cooking, sci-fi, computers and technology, and Web design—a semi-professional endeavor, having designed Web sites in the dental field, e-commerce businesses, and for the Boy Scouts of America.

Pete has been a devout reader of *ComputerEdge* since 1990 and contributes regularly to featured articles as well as the Linux Lessons section of *ComputerEdge*. He can be contacted at pchoppin@comcast.net but prefers to have comments on *ComputerEdge* articles submitted to the editor and posted for the benefit of all readers.

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Rob, The Computer Tutor

Rob, The ComputerTutor: Web Programming

“JavaScript Arrays” by Rob Spahitz

Last week, we looked at JavaScript loops. Today we look at arrays, lists of items stored under a single name and accessible by index or counter.

Last week, we looked at JavaScript loops. Today we look at arrays.

First, what is an array? Simply, it's a list of items. More specifically, it's a list of items stored under a single name and accessible by its index, or counter.

Let's start building an array of dog breeds and then add them to our Web page.

In your Web page's head section, add the following:

```
<script language="JavaScript">
var Dogs = Array();
Dogs[0] = "Afghan";
Dogs[1] = "Bulldog";
Dogs[2] = "Collie";
Dogs[3] = "Doberman";
Dogs[4] = "Husky";
</script>
```

This will create an array of five dogs, with the array named "Dogs." The first line starts with var. That's simply a way to tell JavaScript that you are creating a variable. Often it's unneeded, but it can be handy to put in to help show that you are creating the variable for future use rather than changing the value.

At this point, the function creates the array, gives values to some of its elements, but then doesn't do anything with it. The next step is to actually do something useful with it. One option is to get them to show up on your Web page. This can be done by using the write procedure that's part of the document. If you decide to do this, you'll want to write out something that turns into HTML code.

So suppose that you want each dog breed to show up on the Web page in bold text, each on a different line. In HTML you might do this:

```
<p><b>Afghan</b></p>
<p><b>Bulldog</b></p>
<p><b>Collie</b></p>
<p><b>Doberman</b></p>
<p><b>Husky</b></p>
```

So our goal is to create that. We handle that in JavaScript with "document.write" such as:

```
document.write("<p><b>Afghan</b></p>")
```

However, if you do this for each dog, there's no reason to set up an array. Instead, the benefit of the array is that you can work with each piece separately or in combination. To handle this using the array, you would probably want to replace the breed name with a reference to the array by concatenating ("adding") it to the parts before and the parts after. In JavaScript you do that with the "+" symbol like this:

```
document.write("<p><b>" + Dogs[0] + "</b></p>")
```

This will tell the document to write an opening paragraph tag (<p>) and an opening bold tag () verbatim (since it's in quotes) followed by the contents of the "zeroth" item from the array named Dogs (which is Afghan), then put the closing tags for bold and paragraph.

To make this more interesting, we can use a loop, like the "for" command we used last week, to add all of the array elements like this:

```
for (iCntr = 0; iCntr < Dogs.length; iCntr++)
{
    document.write("<p><b>" + Dogs[iCntr] + "</b></p>");
}
```

All that's left is to put this into a function and connect that function to an event. Try this:

```
<html>
<head>
<script language="JavaScript">
var Dogs = Array();
Dogs[0] = "Afghan";
Dogs[1] = "Bulldog";
Dogs[2] = "Collie";
Dogs[3] = "Doberman";
Dogs[4] = "Husky";
function AddDogs()
{
    for (iCntr = 0; iCntr < Dogs.length; iCntr++)
    {
        document.write("<p><b>" + Dogs[iCntr] + "</b></p>");
    }
}
</script>
</head>
<body>
<input type="button" value="Click to add some dogs" onClick="AddDogs()" />
</body>
</html>
```

If you save the above as a Web page and load it into a browser, you'll see a button appear similar to Figure 1.

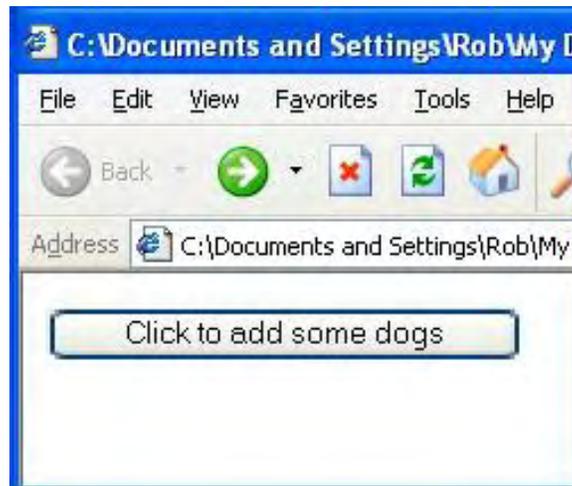


Figure 1. Web Button.

If you click on the button, it performs the JavaScript code that will add the dog names to your page, similar to Figure 2.



Figure 2. Result of JavaScript Function.

Parameters

With this out of the way, let's explore the idea of parameters. A parameter is a way to let a function receive additional information that it doesn't have when it is created. For example, in the function above, it will show every dog every time. Suppose that you wanted to allow the user to pick a number and use that to determine which dog to show? You could create five separate functions and call the function that corresponds to the user's selection. But if you expanded your list, this becomes very inefficient. A better alternative is to modify the function to accept a number, then use that number to print the right dog.

To include a parameter in a function, you simply add a variable name in the parentheses after the function name, such as this:

```
function AddDogs(DogNumber)
```

Now when you call the function, you will need to pass some information that this parameter will accept, such as this:

```
... onClick="AddDogs(3) "
```

If the above event occurred, it would run the AddDogs function and send it the number 3. The AddDogs function would receive the number 3 and put it into the DogNumber variable. Now you just want to use this variable to help make the function work better, such as this:

```
document.write("<p><b>" + Dogs[DogNumber] + "</b></p>");
```

Note that if you take this approach, you probably don't need the loop that we set up. However, there's no reason you couldn't mix and match these for other purposes. For example, to show all of the dog breeds, but only bold the one that was set in the parameter, you might do this:

```
function AddDogs(DogNumber)
{
    for (iCntr = 0; iCntr < Dogs.length; iCntr++)
    {
        if (iCntr == DogNumber)
        {
            document.write("<p><b>" + Dogs[iCntr] + "</b></p>");
        }
        else
        {
            document.write("<p>" + Dogs[iCntr] + "</p>");
        }
    }
}
```

Notice that the "for" command now includes an "if" command, which in turn contains an "else" portion. Also note that the condition compares the index of the "for" command (iCntr) to the value that was passed into the DogNumber variable. If the counting matches the number, it will include the bold tags when writing the line; otherwise it does not include the bold tag. The result of the above, when using onClick="AddDogs(3)", will result in something like Figure 3.

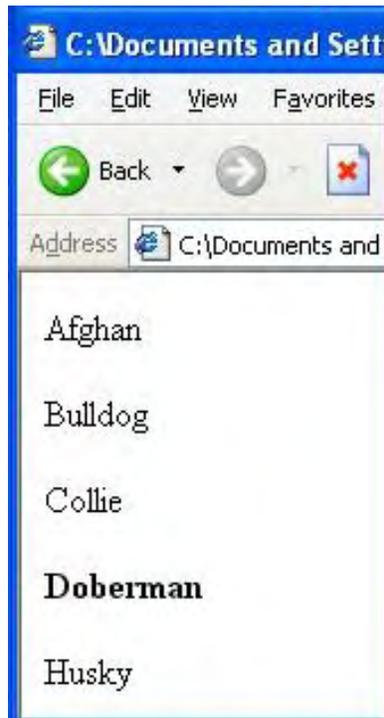


Figure 3. Loops and Conditions.

With these basic skills under your belt, you're ready to start tackling more challenging things. For example, you can add an input box that lets the user enter some text. You can then take the text and validate it to make sure that it returns a number, then use that number to bold the corresponding entry. The options become endless.

Next week we'll start exploring better ways to use JavaScript to enhance your pages.

By the way, if you have specific uses that you'd like to see done with JavaScript, feel free to drop me a line and I'll see about including some of them in future articles. For a sampling of a few things I've done, check out www.nowthereshope.com and notice the fading pictures (Figure 4), sliding panels and scroll buttons (Figure 5, arrows and circles draw to identify effects). Also, if you'd like some of these features and others included in your own pages, drop me a note and I'll see about getting you an estimate through a colleague that contracted me to handle these tasks.

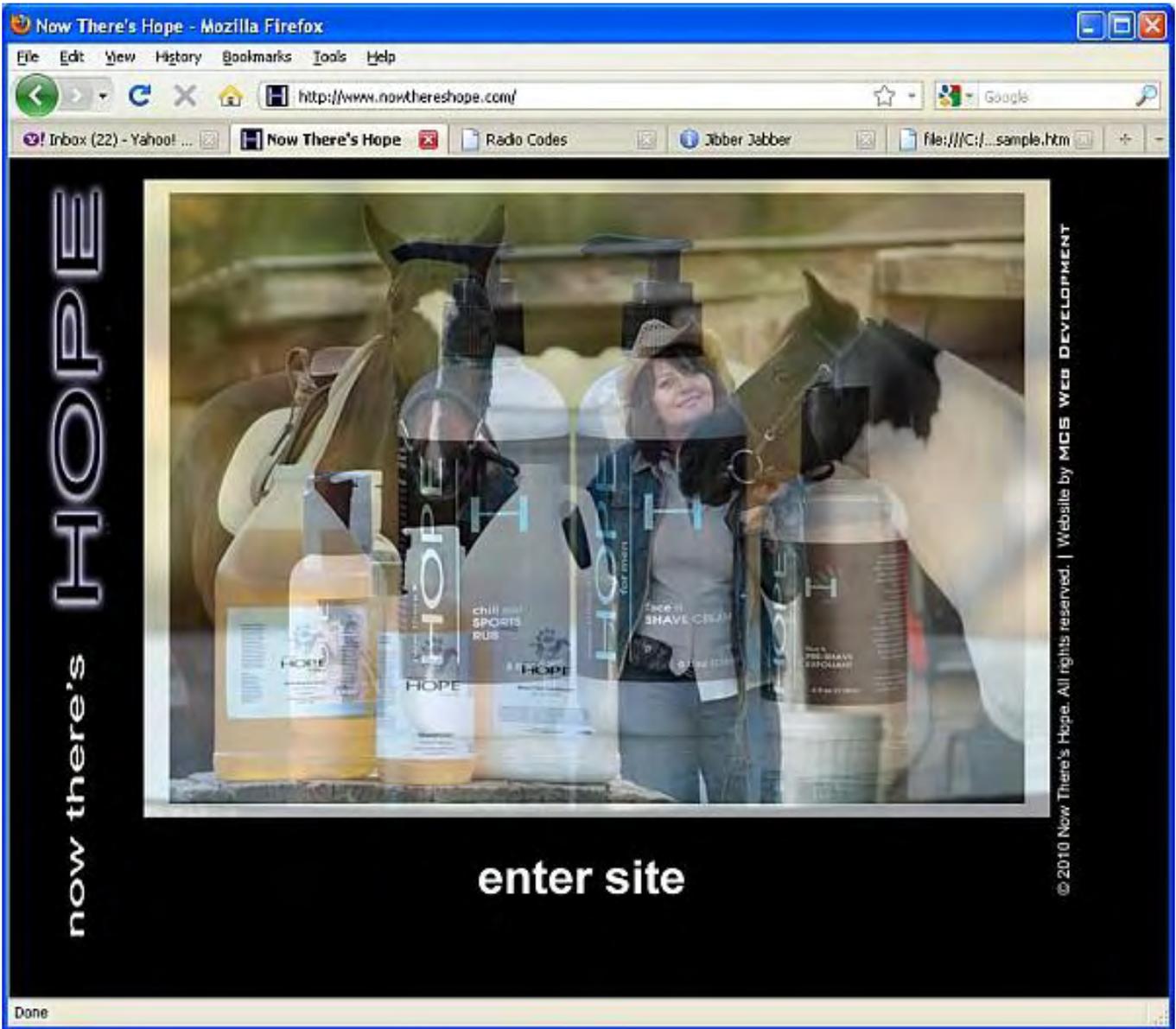


Figure 4. Fading Pictures using JavaScript.



Figure 5. Sliding Panels and Image Scroll Buttons using JavaScript.

See ya next week.

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.

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



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Spam of the Week

Spam of the Week

“The latest in annoying and dangerous e-mail currently making the rounds.” by ComputerEdge Staff

A reminder that it is the responsibility of the user to detect those signs that indicate an e-mail is fake.

While we haven't seen a particular pattern of malicious spam this week, we did receive the following letter from a reader which is worth commenting on.

I had a problem with PayPal. They occasionally send out a notice that you haven't bought anything in a year, and your account will be canceled if you don't update it. Doesn't really matter if it cancels. Next time I order, I'll verify it for them.

In the notice, however, when you click on the link, you get the warning that you should know if this is a good link. Click only if you're sure, or something like that. Typical warning. This was several years ago. Don't remember the exact text.

There was, however, a serious misspelling in it, suggesting a 14-year-old from another country wrote it. So I forwarded it to PayPal. I asked "is this a legitimate e-mail?" since I'm being asked to verify it, and I have no way of really knowing. PayPal never answered me back, pretty much telling me they barely speak English, and don't give a rat's patootie. I would have canceled my account right there and then, but I have one person I order from who only uses PayPal. Kind of burns me.

Companies have so many corporate policies, some are really detrimental to business, but tell that to an executive!

That's my whine. I'm done.

*Kent Dugan
Texas*

Kent was definitely right to be concerned about the e-mail. When the spammers target a type of account, they flood the Internet with multiple themes in their attempt to phish for accounts and passwords. See Figure 1 for an example we found in our archives from last August. To us it would be an obvious spam since we would never use that address for any Internet account. But, if the only e-mail you receive has your e-mail address—and you have a PayPal account—it is tempting to believe that it might be real.

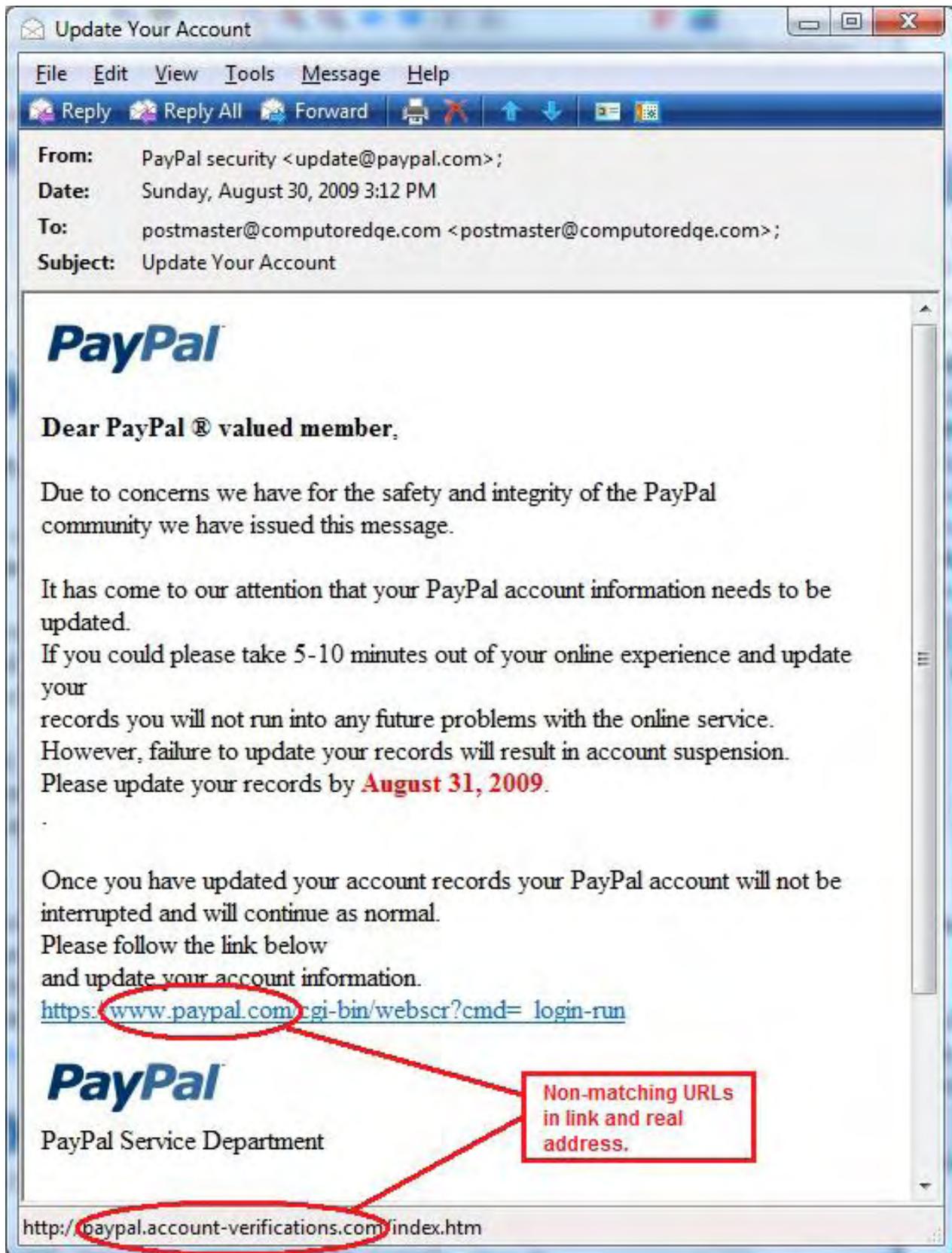


Figure 1. Spam from a PayPal-targeted scheme.

While Kent saw all the suspicious signs and responded by trying to check it out with PayPal, he may expect too much from PayPal. When the spammers attack, the entire world is flooded with the bogus e-mails. In turn the target organization is flooded with inquiries as to their veracity. It is not possible to respond to every report of spam, although PayPal may have handled it better.

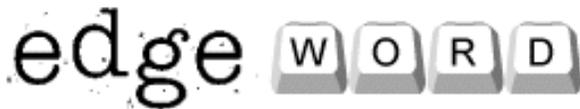
Most companies who are targeted by spam will have a special page to help their users to determine if a fraud is being attempted. For example, if you get a PayPal spam, you may go to the PayPal Security Tips and Fraud Prevention page (www.paypal.com/cgi-bin/webscr?cmd=p/gen/fraud-prevention-outside). You can readily find these security pages by going to the main Web site and doing a search on spam. In that page you should find a method for reporting a possible spam. Plus, some sites will post examples of spam that you should delete.

It is the responsibility of the user to detect those signs that indicate an e-mail is fake. (Kent noticed the misspellings and the warnings about proceeding to the site.) That is the best protection against phishing schemes.

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.

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EdgeWord: A Look at Vonage VoIP

“Taking the VoIP Plunge” by Jack Dunning

With landline phone service offering good quality but exorbitant fees, it's time to give VoIP phone service a try.

I finally took the plunge and signed up for VoIP phone service. AT&T had just instituted a massive increase in cost for a phone line from which I was only getting minimal use. Plus, I was finding it more difficult to navigate through the maze of AT&T phone support services. (On one occasion I was bounced back and forth between departments for over an hour before someone determined to resolve my problem.) I decided to give Vonage (www.vonage.com) VoIP a try—partially because they are well-known and partially because of their advertising claim for good voice quality.

Phone voice quality is one of my biggest concerns. I've found that cell phones are only adequate, usually because the cellular networks are so spotty. Plus, there is the problem of sound cutting out while you're talking. Talking on a cell phone just doesn't stand up to a landline conversation. My concern was whether VoIP service would stand up. Experiences I had in the past weren't great.

All my wife's brothers and sisters live in Dublin, Ireland, so the free international calling that Vonage was offering with the \$25-per-month plan was attractive. The concern was quality. We had used some third-party international calling plans, but my wife found that she would often get a poor connection. (We had given up on the international service that could be added to our AT&T landline. There were both monthly fees and the rates were three to four times that of the per-call penny international plans.) The prospect of unlimited calls to Ireland with Vonage was worth a shot. The primary concern was again quality. I expected that there would be a noticeable delay, which would make conversations awkward.

VoIP quality is very much dependent upon the speed of your Internet connection. The more bandwidth you have, the better the chance that you will have good phone service with VoIP. Vonage offers an Internet connection speed test (speedtest.vonage.com). It seems that if you have at least a DSL connection, it should work fine. However, I did find some posts from users indicating that other demanding usages of the Internet connection could affect the quality of the calls—if they occurred during a call and there was minimal bandwidth available. Most often the effect was described as similar to the sound of a cell phone call. The cable bandwidth that I had at home should be fine for VoIP in most circumstances.

The flat rate for Vonage of \$25 per month is actually a little over \$30 with taxes and fees. That was still less than half of what AT&T was charging me—and that didn't include long distance. I put in a order for the VoIP.

There were no setup or activation charges. Within a few days a package containing an Internet adapter was delivered to my door. The setup was as simple as plugging the adapter into the cable modem router. The small five-by-five-inch box initialized itself. I plugged a phone into it. I had dial tone. Part of the beauty of this VoIP device is that it doesn't care where it connects to an Internet connection. When I travel to my son's house in Montana, I can take the box and phone handset with me and plug into his DSL connection—same phone, same phone number.

What impressed me the most was the landline quality of the connections—even to Ireland. (My spouse has called Ireland a couple of times talking with her sister for more than two hours on both occasions. She was impressed with the service—especially the fact that she could stay connected indefinitely without being on a time clock.) I'm anxious to see how well it works on my son's DSL. I expect that there could be some drop in quality, but so far I'm very impressed.

Another unexpected benefit was the ability to forward the incoming calls to another phone simultaneously with the VoIP phone. It was a simple setup via the Web site account page. Once completed, both phones would ring at the same time. The call could be answered with either phone. Once my wife was on the phone to Ireland, and I was able to answer another call coming in on my cell without interrupting her. It was too easy. This dual phone feature eliminates the problem when the Internet connection is lost. The calls will continue to come in on the cell phone—or any other designated phone number.

My limited experience with VoIP has convinced me that the landline telephone industry has some very real challenges ahead. It's not that they can't compete, they just won't be able to maintain the same fees they are charging now. One AT&T service I disconnected was charging me \$10 per month for Caller ID. With most other types of phone service Caller ID is included. As technology improves, VoIP will only get better and probably cheaper.

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. He can be reached at ceeditor@computoredge.com

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Editor's Letters: Tips and Thoughts from Readers

“Computer and Internet tips, plus comments on the articles and columns.” by ComputerEdge Staff

"Permanent E-Mail Addresses," "Craigslist Scams," "Recalled to Duty: Old, Functional, Fun?," "Windows Snipping Tool," "Surface Touch PC More Expensive Than You Think"

Permanent E-Mail Addresses

[Regarding the February 26 Digital Dave column:]

Dear Digital Dave,

An alternative way to establish a permanent e-mail address that stays with you through ISP changes is to use e-mail alias services available through many organizations. Using this service you can appear to the world as username@organization.org as you transfer your ISP from one to another. Some organizations offering this to their members are arrl.net, amsat.org, asme.org, and ieee.org. Some providers that offer free basic accounts also exist, such as bigfoot.com.

-Bill Calderwood, San Diego

Craigslist Scams

[Regarding the February 26 EdgeWord: On Using Craigslist column:]

After reading your article on being cautious when buying or selling on Cragislist, just the same morning I received a deceptive e-mail from someone wanting to rent me an apartment. This was the fourth time this so called "landlord" e-mailed me over the past few weeks. Included in his e-mail was a link to click to get a fast credit report that was mandatory, before even going further. I couldn't even get the address of the apartment before filling out the online financial form!

The language of the e-mail contained broken English, so I assume it was generated somewhere outside of the U.S. Also, the reason I called about the apartment in the first place was because the price was great—in other words, it was too good to be true.

Thanks for articles like yours about watching for bad ads in Craigslist; in the past I may have been taken in by this scam.

-Jerry, San Diego

Recalled to Duty: Old, Functional . . . Fun?

[Regarding the February 12 EdgeWord: Who Needs an iPad? column:]

You said, "...I didn't notice when the floppy drive went away."

Here's some truth that just might scare you: I recently came across my old I/O Magic D353FUE external USB floppy drive for 3.5-inch disks. Shortly thereafter I located my floppy assortment in a supply cabinet in my home office. That's right; I did it. I am now saving data with this stuff. I spotted my Zip drives, but that will be for later. I know that my Tandy Computer from 1992 in the storage room has a perfectly good 5.25-inch floppy drive in it, and I have some big floppies still never used.

-Cicero, Colorado Springs, CO

Windows Snipping Tool

[Regarding the February 19 Windows Tips and Tricks: Snip This! column:]

Escape Control-Print-Screen—thanks for the reminder. Great adjunct to the Snipping Tool. (P.S. Miss your tweets. Know of any alternative sources of occasional Windows tweets? About a few per week since they cost me 20 cents each on my GoPhone.)

-Ron Cerrato, San Diego

Your article was the "encouragement" I needed to pick up more information on the use of the Snipping Tool in Win 7. It seems considerably more versatile than "snippy.exe" that I have used for many years in XP.

Thanks!

-Cicero, Colorado Springs, CO

Surface Touch PC More Expensive Than You Think

[Regarding the February 19 Wally Wang's Apple Farm column:]

Wally, USD to AUD conversions on the MS Touch PC are a bit off here:

"The price? Only \$21,000 Australian dollars (\$12,500 U.S. dollars). If you want to develop software for this Surface Touch PC, you'll need to spend an additional \$3,500 Australian dollars (\$2,500 U.S. dollars) for the software development kit."

As of today, \$21,000 AUD is about \$18,700 USD. And, \$3500 AUD is about \$3200 USD. So it's even more expensive than you think!

-Todd

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