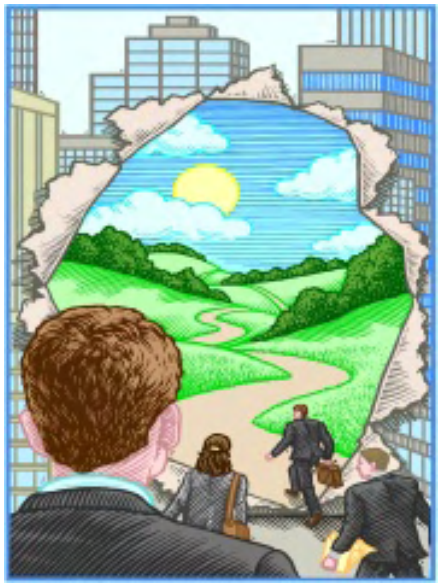
ComputorEdge™ Online — 06/18/10



This issue:
Virtual Machine Software Update

Keep your operating system options open with virtual machine software, which allows you to run multiple operating systems simultaneously.

Table of Contents:

Wally Wang's Apple Farm by Wally Wang

Virtual Machines: The Best of Both Worlds

If you want to switch to the Macintosh but still feel tied to Windows for running certain programs, a virtualization program lets you have the best of both worlds. Also, DriveGenius can help ensure that your hard disk remains in optimum condition; turn your iPad into a second monitor with Air Display; Illustrator's Bristle Brush feature helps you create more realistic images; and a tip on using Safari 5's Reader mode to make it easier to read a Web page.

Rob, The ComputorTutor: Technology Solutions by Rob Spahitz

Word in Action

In the last few weeks, we've quickly explored the many features of Word 2010. Now it's time to start putting those in action and learn more details as we go. This week: Using Word to spiff up your resume.

Worldwide News & Product Reviews by Charles Carr

The latest in tech news and hot product reviews.

Food Makers Set the Table for an Online Gaming Feast—Food companies are targeting children with online "advergames"; Six Flags Enters Facebook Social Gaming Arena—Six Flags Mascot Park is an interactive game launching on Facebook; PaperPort 12: Someday ... Has Yet to Come—The "upgraded" program feels bloated, leaden and generally unresponsive.

DEPARTMENTS:

EdgeWord: A Note from the Publisher by Jack Dunning

"Virtual Machine Creep"

The uses for a virtual machine setup are many, as the idea of running "incompatible" programs on any computer seems to be creeping into the norm.

Editor's Letters: Tips and Thoughts from Readers by ComputorEdge Staff

Computer and Internet tips, plus comments on the articles and columns.

"Flaky Hard Drive Suggestions," "Dye-Sublimation Printers," "Revo Uninstaller, Wally's Two Cents"

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Return to Table of Contents

Digital Dave

"Digital Dave answers your tech questions." by *Digital Dave*

A reader is getting unwanted spam e-mail from someone despite trying to block him through Outlook; a reader wants to stream her favorite news channel instead of paying for cable TV; and a tip on creating a directory of all 271 Windows troubleshooting how-to statements.

Dear Digital Dave,

I continually receive spam from a "John Corrado," even though his e-mail is listed in my Outlook blocked-senders list. I also made sure that @msn.com is not in my safe senders list. His address never changes. It's johnr_c@msn.com.

Poz
San Diego, CA

Dear Poz,

It could be a spoofed e-mail address that displays the address you mention, while it is actually coming from another hidden address. Therefore the blocked-senders list does not always work as advertised. If you are getting regular spam from a specific name in the From: or Subject: line, I've found in almost all e-mail programs that the easy way to eliminate the annoyance is to apply a Message Rule that will identify the name or subject and send it to the Deleted Items folder. I would only do this if for some reason the blocked-senders list does not work—as in your case. Otherwise, you could be setting up a huge number of message rules.

If you want to dig deeper into source of the spam, in many programs if you hold down the ALT key and hit Enter after you have selected the e-mail, a Properties window will open for the e-mail. Select the Details tab and click "Message Source..." to see the full path and text of the e-mail. While this is a standard feature in most Microsoft e-mail programs, unfortunately—as I understand it—Outlook requires some messing with the Registry to get this to work.

Digital Dave

Dear Digital Dave,

My cable costs are soaring here in Tennessee, and probably the same is true in California. I watch very little TV, but really enjoy the Fox News network. Due to the large viewership, Fox News is now in a very expensive package, instead of just being in the basic (cheap) one.

I would like to be able to watch it using the Web and have heard of streaming TV. My computer skillset is lacking, though, on how to find Fox News on a laptop, and would appreciate your shared knowledge on how to do it.

Or, alternatively, just the knowledge that it can't be done would save me some hours on Google.

Gail G. Pence
ex La Jollan

Dear Gail,

At this time, I don't know of any specific way to directly stream Fox News over the Internet. However, if you go to Fox News Videos (*video.foxnews.com*) there is a collection of currently running stories from Fox News available on video. Since so many of the cable news stories are run multiple times during the day, you can get the flavor of the news channel by watching these videos. Naturally, you will need to endure short commercials, but they are no worse than the usual found on television.

Much to the confusion of the entire industry, the Internet is continuing to impact television. The day will come when you will either be able to select the specific channels you want on your cable system, and/or stream channels over the Internet. For now cable companies are trying to hold the line and control the game, but in the long term they will lose. Why? Because customers will demand more flexibility, and the marketplace will drive prices down.

There are already Web sites that stream selected television programming. With very little searching I found Embed TVWeb360, (*tvweb360.com/*) which offers many channels from around the world. (Fox News was not on the list.) There were many more streaming Web sites on the Google search list, but I didn't have time to check them out.

Google is currently working on its own Google TV, which will make it possible to coordinate all of your entertainment, whether coming over cable, satellite or the Internet. Plus, you can stream movies and television shows from Netflix over your PC or to you television via your Wii, PS3, or Xbox 360 for about $10 per month. (Netflix has recognized that the DVD rental business is on the way out and plans to be in the forefront of its replacement—the Internet.) These developments spell trouble for cable pay-per-view and cable movie channels such as HBO and Showtime.

Many people are now going directly to the major network Web sites to view television shows they may have missed. They don't even need to record the program. This trend will continue. In a few years, it is likely that your choices will be greater—and more confusing—than ever. The cable monopolies are getting busted and they will be forced to compete with every other form of entertainment delivery—much of it coming from the Internet.

Digital Dave

Digital Dave's Tip

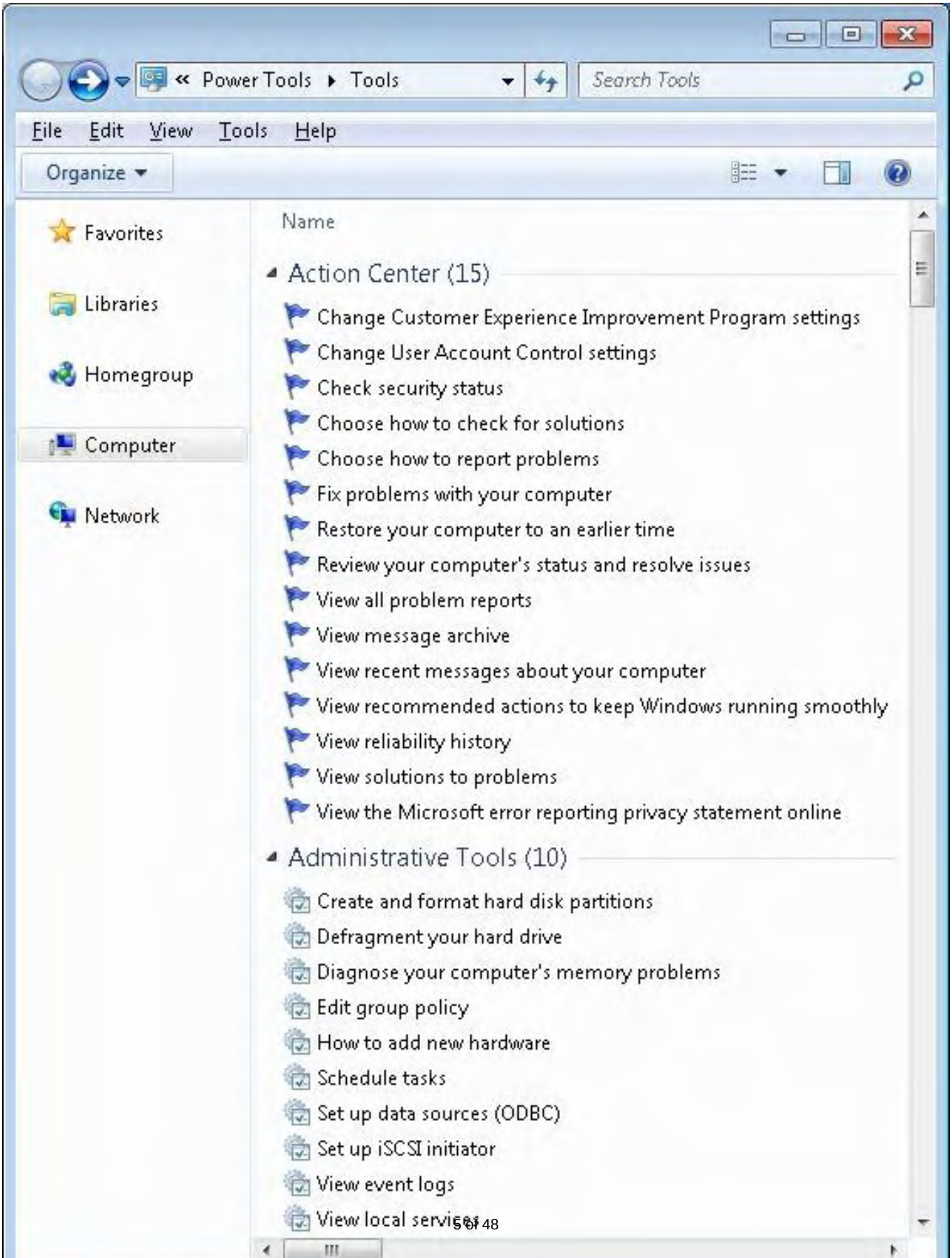
One of the best features of Windows 7 is the list of troubleshooting how-to statements that appear on the Start Menu and in the Control Panel when you are attempting to solve a problem. Often you don't remember where to find an appropriate tool for a given situation, but these guiding statements help you zero in on the correct one.

It is possible to create a directory of all 271 of these Windows 7 statements for review and quick searches. First, in Windows Explorer (Win Key plus E), you create a new folder (right-click New/Folder) at your preferred location. Right-click on the new folder and select Rename. Enter an identifiable name with the following extension:

.{ED7BA470-8E54-465E-825C-99712043E01C}

For example: *Power Tools.{ED7BA470-8E54-465E-825C-99712043E01C}*

After you hit Enter, the extension will disappear. The folder icon will change to the Control Panel icon. You can then pin it to the Start Menu or into Windows Explorer on the Taskbar. When you open the new Power Tools window, you will see all 271 how-to statements in their categories. See Figure 1.



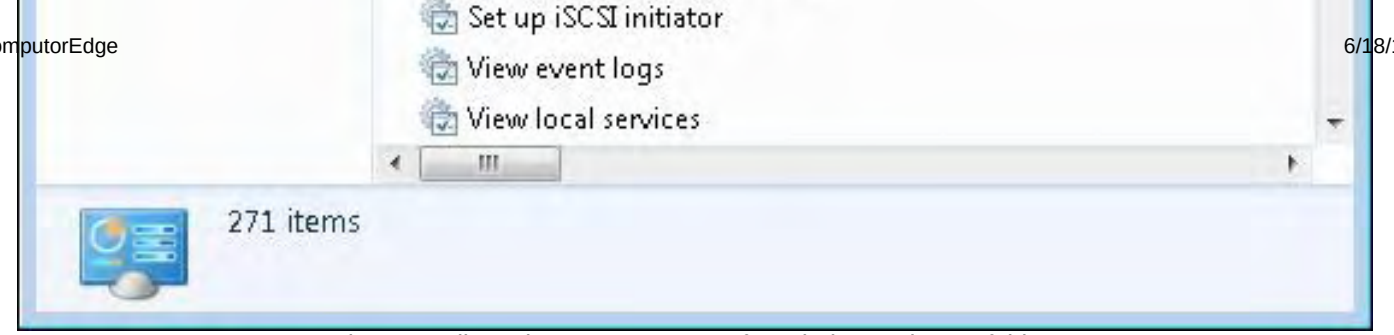


Figure 1. All 271 how-to statements for Windows 7 in one folder.

If you need to narrow the list, you can use the search function in the upper right-hand corner.

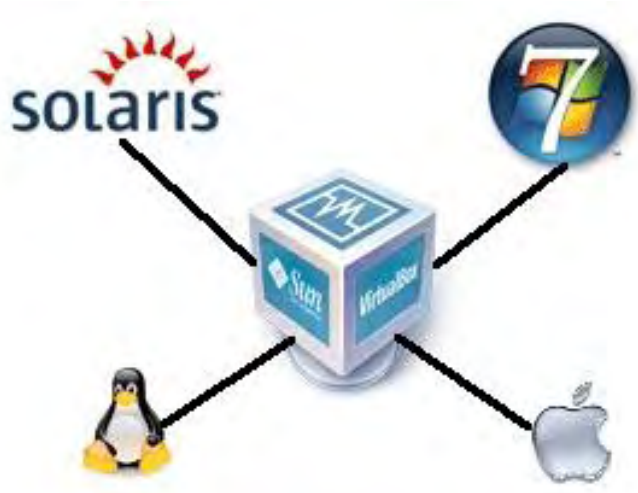
Digital Dave

Return to Table of Contents

Virtual Machines: What They Are and What They Can Do

“A safe and easy way to learn and use a new OS.” by Pete Choppin

Virtual machines are the ideal solution for software testing, or even just for learning new operating systems such as Linux.



Most computer users think of virtual machines in the "virtual reality" sense. Actually, that perception is only slightly off track. Virtual machines have little in common with virtual reality, but what they share with VR is a simulation function. Virtual reality is a simulation of reality, while virtual machines are a simulation of a particular machine, in most cases the machine you will be simulating/emulating is a standard PC. However, they can be used to simulate a host of other computer hardware based on a wide array of target processor architectures.

"Why would I want to simulate a PC when I already have a PC?" That is an excellent question.

Common Uses of VMs

There are many reasons to use a VM. Here are just a few:

• Test out new operating systems, such as Linux, which we keep hearing so much about, or even run Windows on a Mac or Linux machine.

• Test or run applications designed for other hardware. For example, running applications written for a phone or embedded system.

• Test out unknown applications that may cause damage to your operating system's stability. Programmers will often use this technique to discover bugs in an application that could bring the whole system down, without bringing the whole system down.

• Run test applications before putting them into production. A virtual machine is ideal for simulating the operating systems or servers that run in a production environment. It is far easier and much less costly to test your application in a virtual environment rather than risk downtime in your production environment. Restoring the virtual machine after testing is nothing more than reloading the original files, which is far less of a problem than restoring a server or desktop computers.

Drawbacks to Using Virtual Machines

Elmer diligently works on his Virtual PC.

Generally, emulating an entire machine in software is almost always going to be slower than actual hardware. (Some newer processors have specialized hardware designed to accelerate virtualization. Not all VMs take advantage of them, but when they do you can achieve near-native speeds.)

Interaction with a virtual machine and the host OS is difficult if at all possible. Copying and pasting from a Windows document to a Linux VM is almost always unsupported.

Accessing files or playing music from a folder on the host in the VM can be tricky. Most VMs emulate a network adapter, so you can share files between the host and guest as if it were another machine on the network.

Which Virtual Machine Software Should I Use?

There is a wide array of virtual machine software and other related applications—so many, in fact, that some may consider it a dizzying array. For our purposes, we will focus on a few of the more popular freely available options, listed in no particular order.

VMPlayer (*www.vmware.com/products/player/*):
Free to download at no cost for personal use
Hosts: Windows and Linux compatible

VMPlayer will allow you to launch preconfigured "virtual appliances (*www.vmware.com/appliances*)" as well as create your own.

VMWorkstation (*www.vmware.com/products/workstation/index.html*):
Commercial software available from VMWare (*Ewww.vmware.com*)

Hosts: Windows and Linux compatible

This is a fully featured virtual machine application for creating and running virtual machines. VMWorkstation handles multiple VMs at a time and is equipped with special features such as snapshots, USB support and the ability to handle up to two processors in a guest. VMWorkstation also supports a feature called Teams—gangs of virtual machines that can be powered on and off together, networked together automatically, and interact in predefined ways. An application for this is a multitier client/server/database setup.

Be sure to install the VMware tools on your guest. They provide a set of special drivers and utilities that the program can install automatically on most guest operating systems. When these tools are installed, they optimize multimedia performance and seamlessly allow VMware to detect when your mouse is inside the virtual machine window and act appropriately.

VirtualBox (*www.virtualbox.org/*):
Free (100%) to download
Hosts: Windows, Linux, Mac, Solaris compatible

VirtualBox—another fully functional virtual machine application. Made by Sun Microsystems (now Oracle), VirtualBox supports snapshot images so that you can go back to any point and reload your VM instantly. A virtual disk manager lets you easily manage all your images.

VirtualBox is quite stable. I have been able to run VMs on VirtualBox where VMWare had problems.

Let's Set Up a Virtual Machine

Now that we have looked at a few virtual machine applications, it is time to create a virtual machine. For this demonstration, I will be installing a virtual Windows 7. Please note that even in a virtual environment, Microsoft requires that you purchase a valid license of its operating system.

This install will be running on Fedora Linux, and we will be using VirtualBox for this example. VirtualBox is fairly easy to install in Linux, and virtual machine creation is very straightforward.

For this installation, you will need a licensed copy of Windows 7, the VirtualBox software installed on Linux, and ample hard drive space available (four to 10 gigabytes should suffice).

If you prefer to run VirtualBox on a Windows host, the virtual machine creation is almost identical. In fact, most of the setup I am demonstrating is the same, regardless of what operating system you choose for the host or the guest.

The first step is to start VirtualBox. A welcome screen appears that begins the setup wizard to create your virtual machine.

The screens in the wizard are fairly self-explanatory with on-screen instructions. Essentially, it walks you through the entire VM creation process.

A couple of concepts for VM creation are important. There is something called a virtual hard disk that the software sets aside in a file. It emulates a physical hard drive on which the guest operating system is installed. Other files are also created that have settings for the virtual machine, such as a network interface, video adapter, sound, USB, etc.—all components that make up your virtual machine.

After you complete the wizard, you are brought to the VirtualBox screen where you can manage all your virtual machines. All of the details about each VM are accessible and can be modified in VirtualBox.

Once the VM is created, you can select the VM you want to start and then simply click the Start button to launch it.

The VM will launch as though you are booting it up on an actual hard drive. Once it boots, your VM will function just like a computer running on its own hardware.

One of the nicest features of VirtualBox (and VMWare for that matter) is the ability to create snapshots of the OS. When you have a snapshot, you can go back to that state at any time, reversing anything you installed or anything that is no longer working after the snapshot was taken. It is a good idea to take your first snapshot soon after the OS is first installed so that you have a known good restore point to go back to in case you break something.

Image 1. VirtualBox snapshot dialog box.

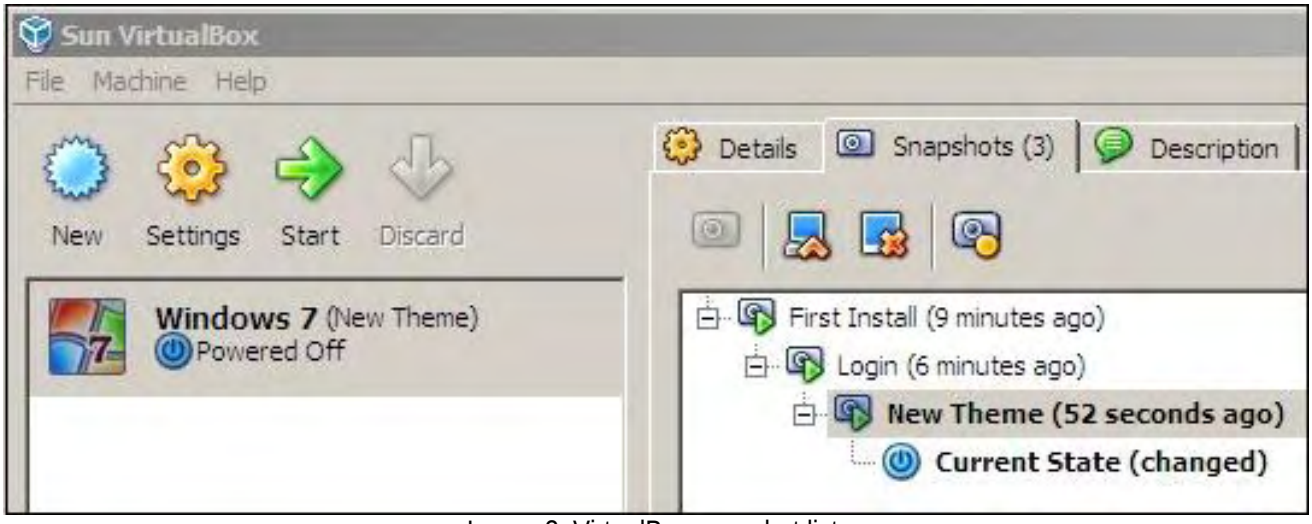


Image 2. VirtualBox snapshot list.

In Image 1, I create the first snapshot, and Image 2 shows several snapshots that I have taken. I can launch any of these that I need, giving me the ability to go back to any point at which I have taken a snapshot.

This makes installing and testing software very easy and safe. I can go back to any point I want and undo or redo whatever I need. And it is all in a virtual machine, not in production or being affected in any way by what I am doing. An additional advantage is that no additional hardware needs to be used for testing. I can create many virtual machines, using different operating systems, all on the same hardware.

Virtual machines are the ideal solution for software testing, or even just for learn new operating systems such as Linux. They are safe, easy to use and restore, inexpensive and have many uses. In fact, once you start using virtual machines, you will wonder why you ever considered trying out software on a real computer.

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

Return to Table of Contents

Using Windows 7 Virtual PC to Run Other Operating Systems

"Keep your operating system options open." by Andrea Dunning

Windows XP Mode and Windows Virtual PC are two sides of a software package, allowing you to run Windows XP or the operating system of your choice (unofficially), on your Windows 7 machine.

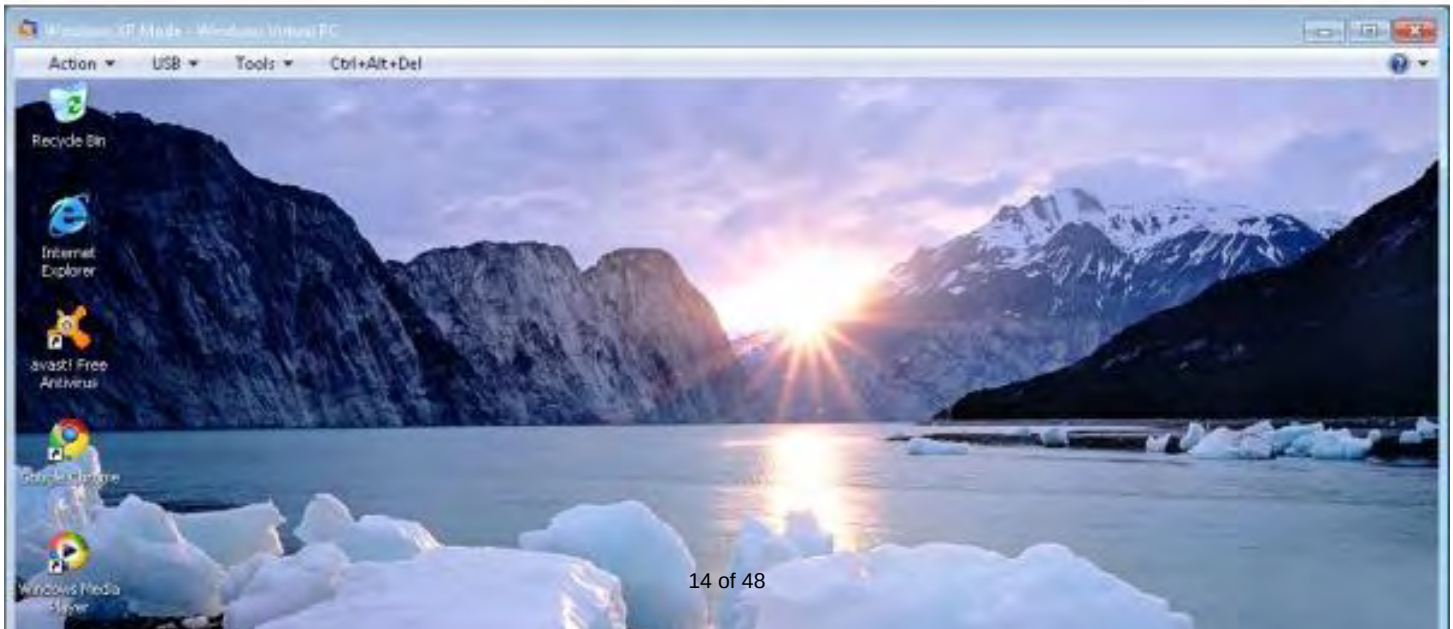
So you took the leap and upgraded to Windows 7, but the new operating system doesn't support your favorite old program. Maybe you just want to try out that "Linux" thing your kid has been talking about. Or maybe you want somewhere to test programs that won't hose your installation. What you need is to be able to run a different operating system on your computer, while still leaving your current setup intact. Windows XP Mode and Windows Virtual PC are two sides of a software package, allowing you to run Windows XP or the operating system of your choice on your Windows 7 machine.

Figure 1. Download Windows XP Mode and Windows Virtual PC.

The first step is to download and install Windows XP Mode and Windows Virtual PC, available at Microsoft's Windows Web site (*www.microsoft.com/windows/virtual-pc/*). The programs are free, but if you bought Windows 7 Starter or Home Premium you're going to pay to upgrade to Professional or Ultimate. The installation requires three separate downloads, plus validation updates. When I tried installing the program, at first it didn't recognize that I had installed the required Windows verification update and kept trying to make me download it until I restarted, so don't be

afraid to restart your computer if the process isn't working as it should.

After installation, Windows Virtual PC will be accessible through the Programs tab of the Start menu. Within the Virtual PC tab there are two options: Windows XP Mode and Windows Virtual PC. Windows XP Mode takes you directly to the copy of Windows XP you installed on your computer, while Windows Virtual PC will take you to a folder where any other virtual PCs you install will be accessible, but initially contains only virtual Windows XP.



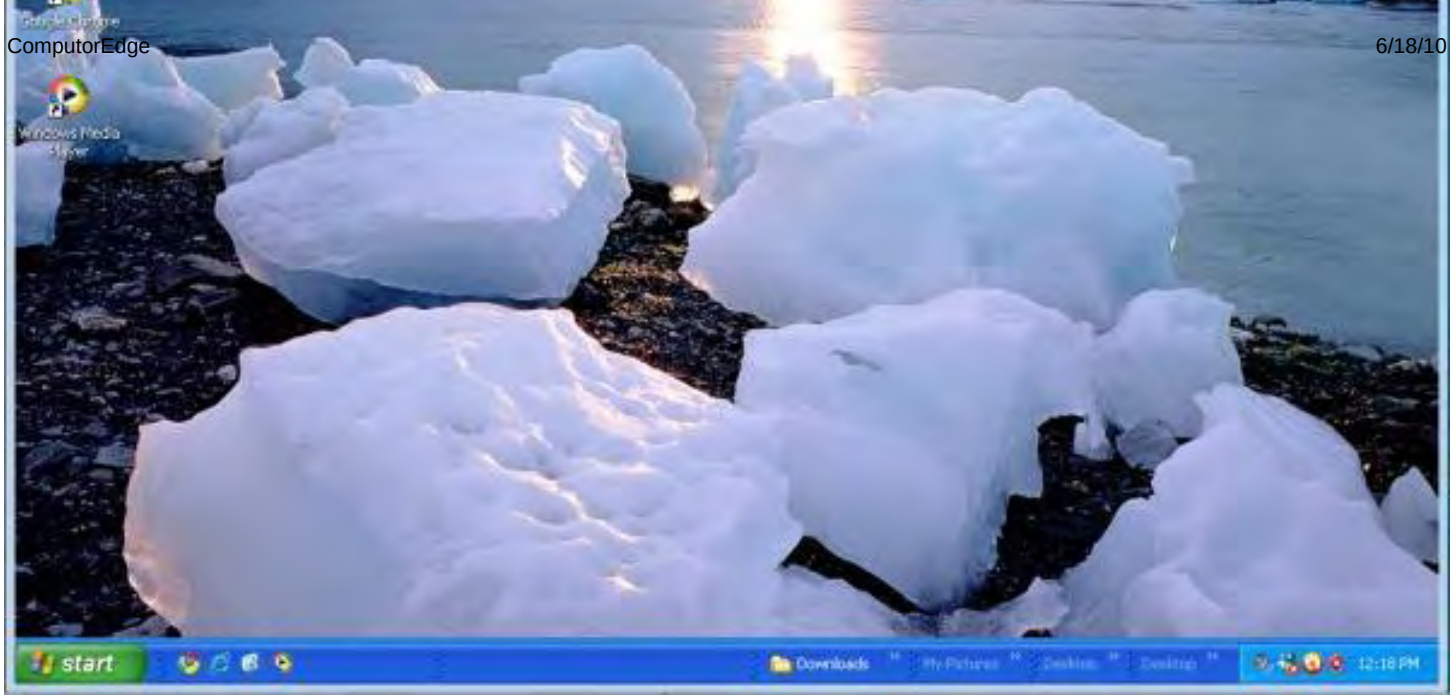


Figure 2. Starting the installation of Windows XP in Windows Virtual PC (top). Windows XP appears as a window on the Windows 7 Desktop (bottom).

When you first start up Windows XP Mode, the program will need a little time to set up, after which you will have a fully functioning copy of Windows XP open in a window on your desktop. The two operating systems, real and virtual, are well integrated. They can access each other's folders and cut and paste between the two systems, and the virtual machine is able to access the USB devices, printer and Internet connection from the physical machine. Applications installed on the virtual Windows XP can be launched directly from Windows 7 and are not confined to the Virtual PC window, creating the illusion that Windows 7 is actually running the program.

Installing programs on virtual Windows XP is slightly less automated than installations on a physical PC, since the installation window will not automatically pop up when you insert a disc. Instead, you have to go to the disc from within the virtual Windows XP environment and start the installation. The same goes for programs loaded onto USB drives. Programs loaded from the Internet need to be accessed through the Internet within the virtual environment.

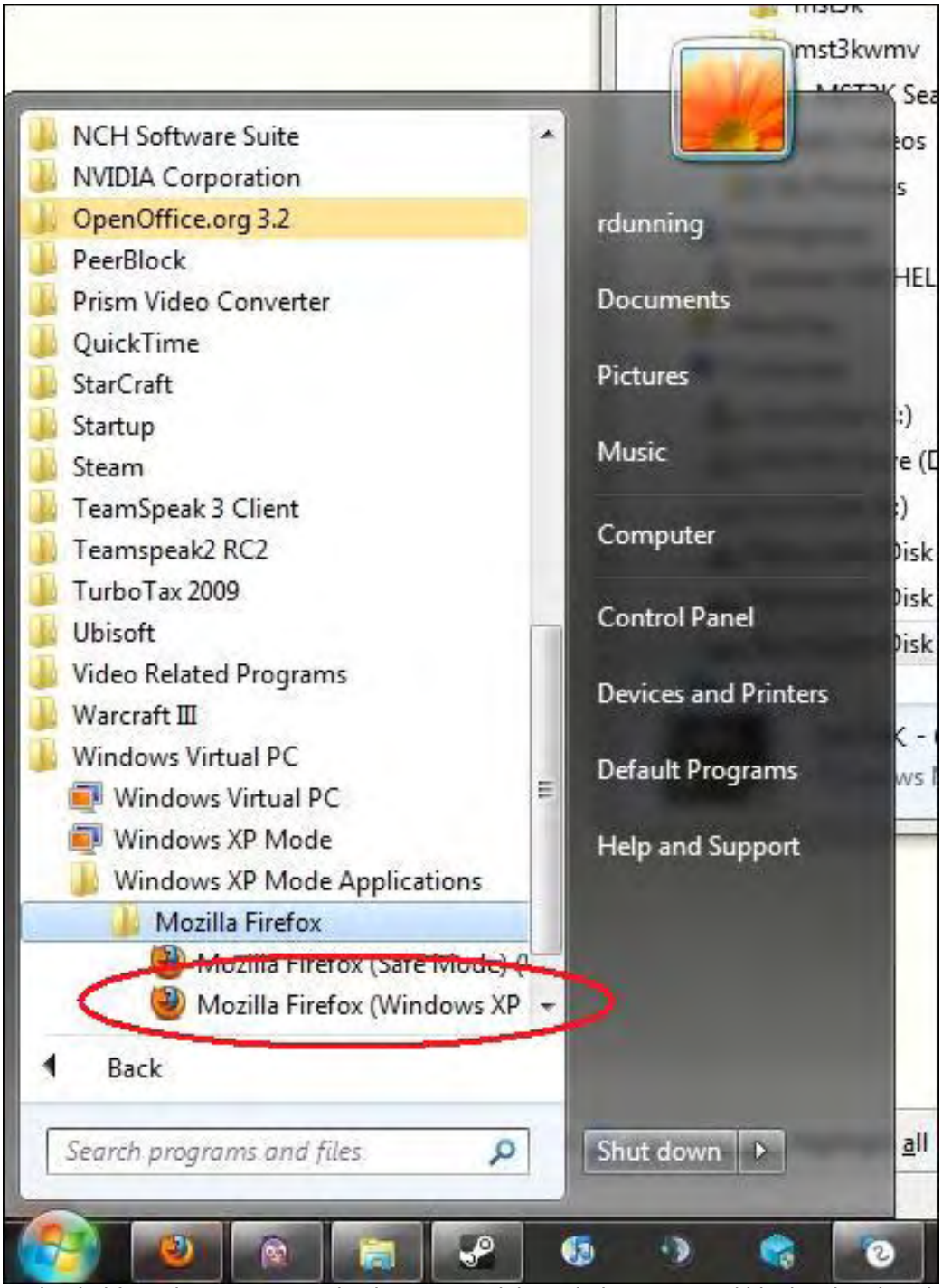


Figure 3. Programs loaded from the Internet need to be accessed through the Internet within the virtual environment—in this case Firefox.

When installing a program on virtual Windows XP, selecting "install for all users" will allow access to the applications via the Windows 7 Start menu. Applications shared in this manner will be located in a folder within the Windows Virtual PC listing in the Start menu. If you want to make it easier to access the program, you can create a desktop icon or pin the program to the taskbar.

Linux is not officially supported, but Linux-based programs do run in Windows Virtual PC with a little tweaking. Ubuntu, the most popular Linux desktop, simply has to be installed in safe graphics mode, while other operating systems need more major adjustments, such as running in text mode.

In order to install any operating systems beyond Windows XP, you need to first create a new virtual PC. This is done through the "create virtual machine" menu option in the Windows Virtual PC folder. You'll name the virtual machine, give it a location, determine memory allocation, network connection status, and hard drive space. After you install the Windows Virtual PC integration components, you'll then be able to install your OS of choice from CD or ISO image.

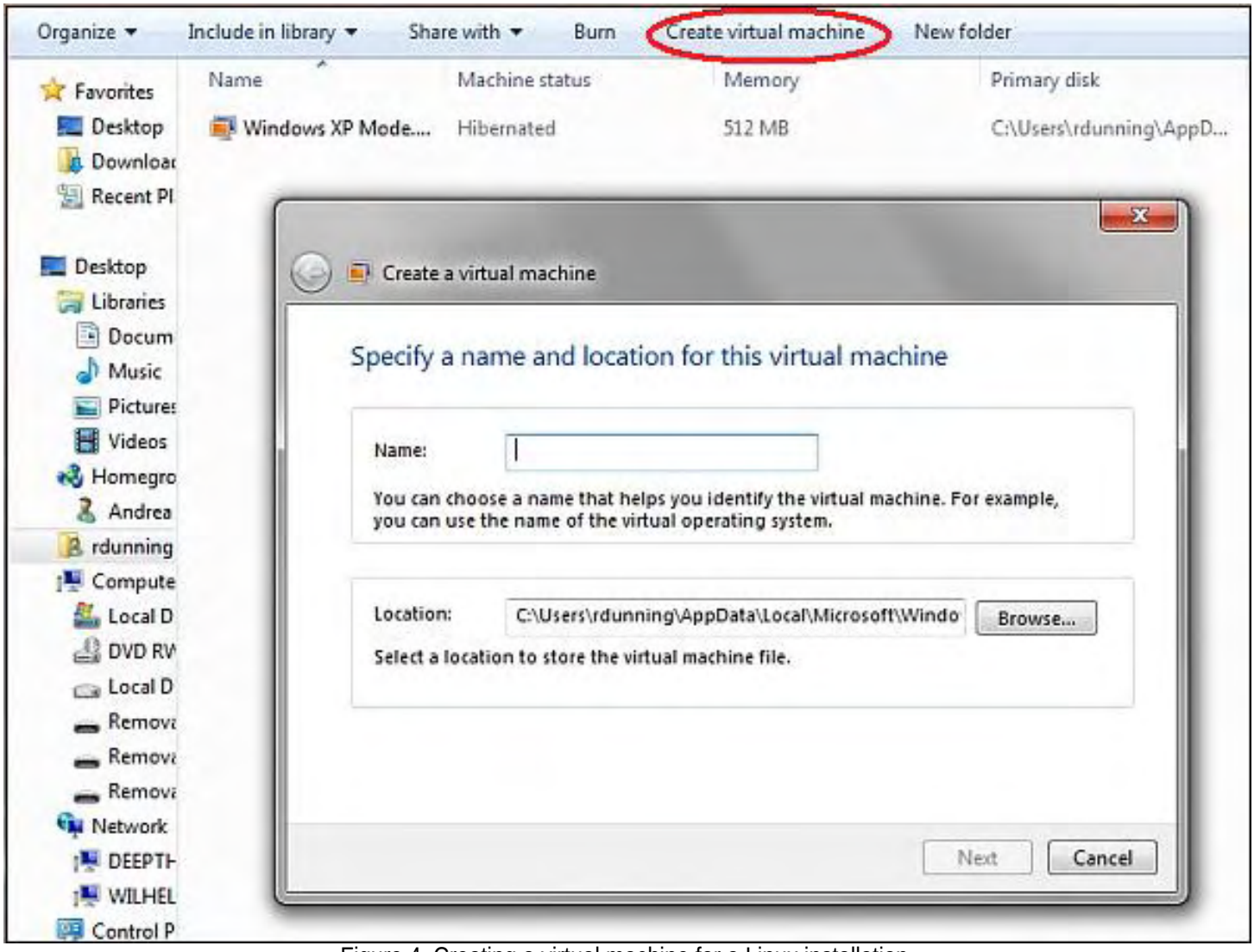


Figure 4. Creating a virtual machine for a Linux installation.

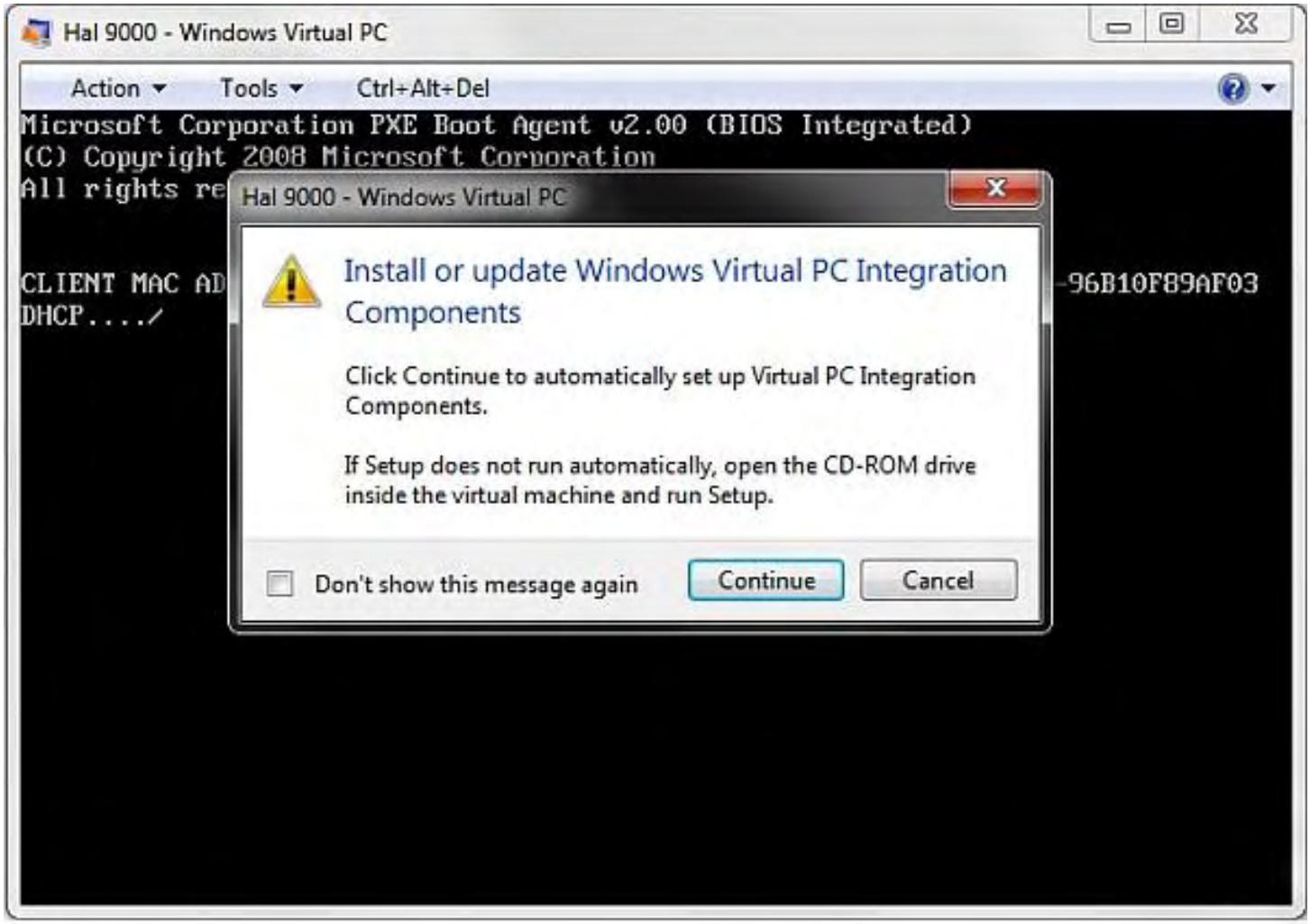


Figure 5. Installing the Windows Virtual PC integration components.

The only officially supported programs for Windows Virtual PC are Windows 7, Windows Vista and Windows XP, but that doesn't mean that you can't also use it for ancient versions of Windows or Linux-based programs. If you want to try installing Ubuntu, be warned that the mouse initially won't work, but people have found a way around that problem (*social.technet.microsoft.com/Forums/en/w7itproappcompat/thread/49475172-16af-40f0-9478-fe1bc7269a97*).

Windows 7 was created with an eye toward compatibility with Windows XP programs, but in case of incompatibility Windows Virtual PC ensures that old programs remain accessible. Using programs through Windows XP Mode allows them to be launched directly into the Windows 7 desktop, streamlining the user experience. Still, if you feel like monkeying around with Linux, Windows Virtual PC is there for you—unofficially.

Andrea Dunning is a digital cartographer, AutoCAD drafter, World of Warcraft player extraordinaire and blogger with a Master's in Education. She also serves as tech support for her less computer-savvy family members.

Return to Table of Contents

Windows Tips and Tricks

Windows Tips and Tricks

"Utilizing the Send To Feature" by Jack Dunning

Send To is a Windows file-manipulation tool that can help with your data, file and folder management.

There are so many different ways to do the same thing in Windows that it can be exhausting trying to keep up with them all—much less use them. Each feature performs in a slightly different way, making one approach more suitable than another depending upon what you're trying to do. Each Windows user needs to decide for him or herself what will work best. I can only discuss what is available in Windows. Only you know what is right for you.

The feature I'm presenting today, Send To, is one that I've rarely used myself. Years ago, I remember being surprised while watching someone routinely using it to copy files and open programs. I knew that Send To was there (it always shows up on the right-click), but I never felt compelled to learn how it worked or what it does. For me it was an unneeded extra—similar to my appendix. Some of the capabilities of Send To appear to be redundant features of Open With, which will load a selected file into the opening program. Plus, in Windows 7 and Vista, the Print and E-mail buttons added to the top of Windows Explorer have made the use of Send To even less necessary. However, I can definitely see how some people would use the file-manipulation tool on a regular basis and have routinely made Send To part of their computing habits.

The Send To feature is accessed by right-clicking on any file, folder, icon or shortcut in Windows Explorer, on the Desktop, in the Start Menu, or on the Quick Launch bar (see Figure 1). (In Windows 7, Send To appears only in Windows Explorer and on the Desktop. The new direction of the Windows Taskbar and Start Menu has eliminated this option.) By default, the Send To list will include all of your mapped drives, Compressed (zipped) Folder, Desktop (create shortcut), Documents, Fax Recipient and Mail Recipient.

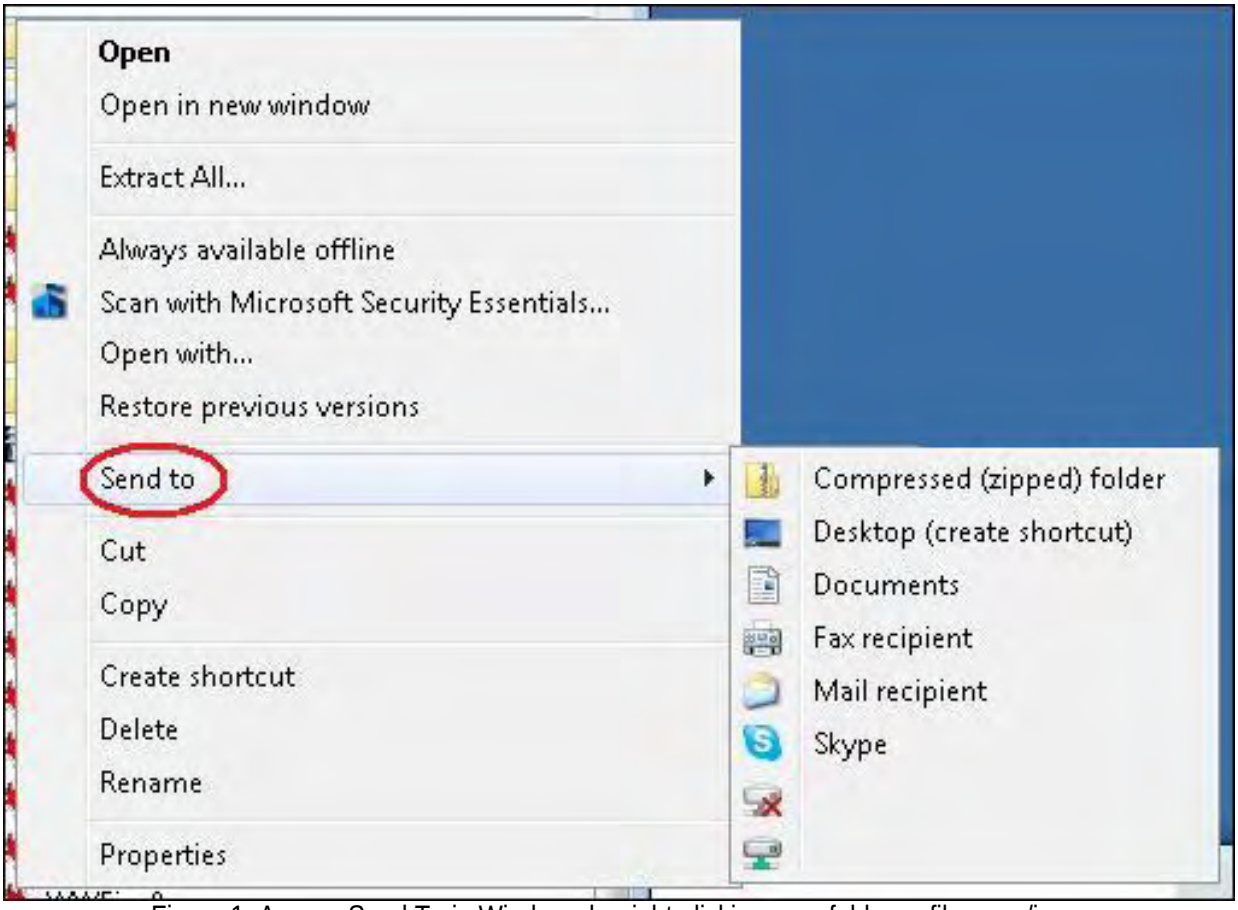


Figure 1. Access Send To in Windows by right-clicking on a folder or filename/icon.

Send To acts as a pipe in that its function is to channel the selected right-clicked file or folder to the appropriate location or program. The Compressed (zipped) Folder option will compact any selected files/folders into a zip folder by the same name as the original folder or the first filename. The Desktop (Create Shortcut) option will add a shortcut to the Desktop for the file, folder or program. Documents is a quick way to send a copy of a file or folder to your Documents or My Documents folder. The Mail Recipient will attach the file (or group of files) to a new e-mail for sending via your default e-mail program.

When sending a file to another location, it copies the file rather than moving and deleting the original file. Therefore, it is useful for making copies of various files at a new location while browsing through various folders in Windows Explorer. For example, if you are making a collection of photos and music that you plan to give to a friend, you can create and add a new folder to the Send To list. Then as you are browsing through photos or music, you can right-click on the file and add it to the new directory. This will also work for flash drives. After you plug in a USB drive, it should appear on the Send To list.

In order to add new items to the Send To list, it is necessary to open the location where the Send To shortcuts are located. In Windows XP, open "Run..." in the Start Menu, type "sendto" and click OK. In Windows 7 or Vista, enter "shell:sendto" in the Start Menu search field and hit Enter. This will open the SendTo folder located at C:/Users/[user name]/AppData/Roaming/Microsoft/Windows/SendTo as shown in Figure 2.

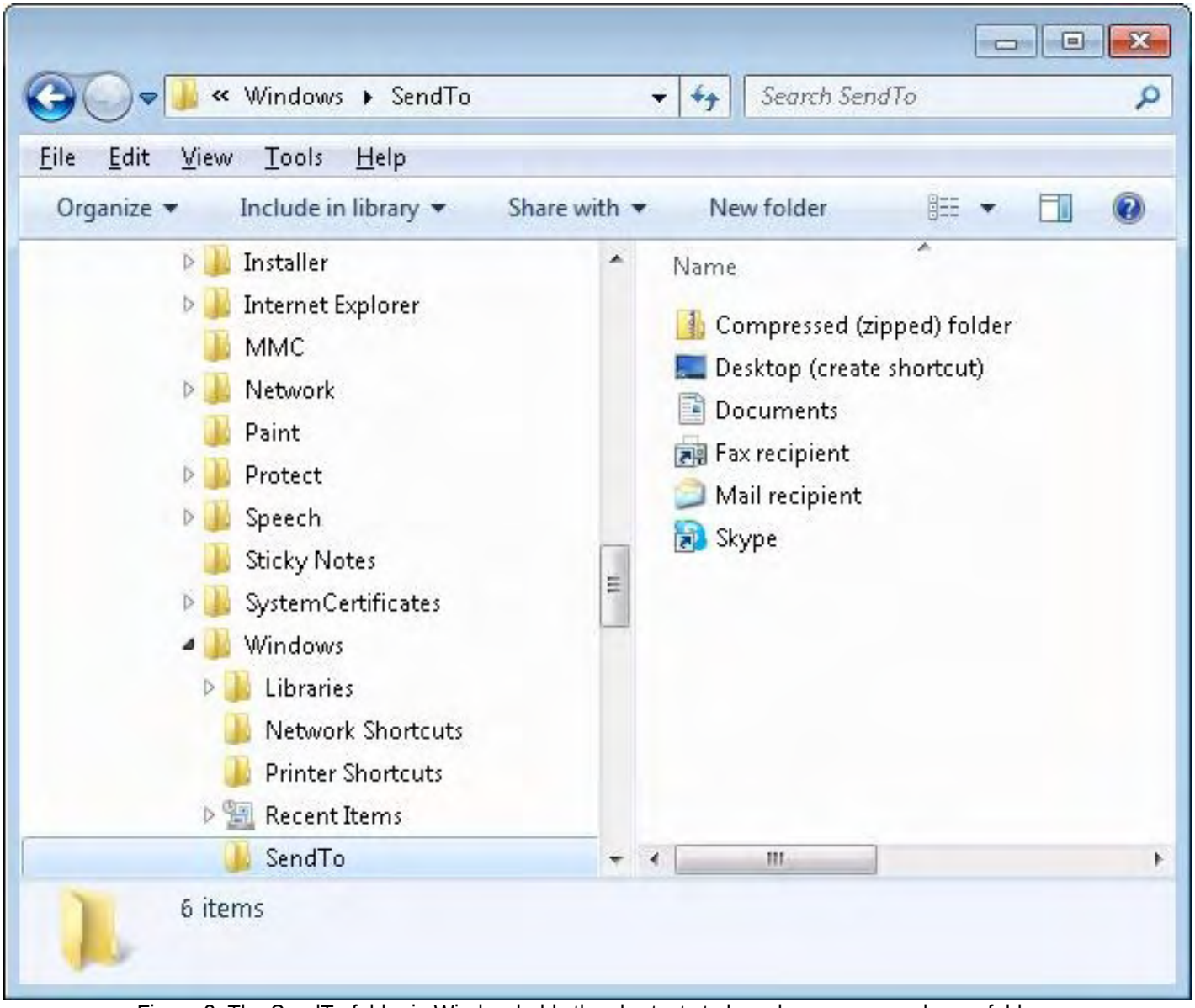


Figure 2. The SendTo folder in Window holds the shortcuts to launch programs and open folders.

Once the SendTo is open in Windows Explorer, you can add shortcuts for programs or folders by dragging the icons from Window Explorer, the Start Menu, the Desktop, or the Taskbar into the folder. You can also copy any selected shortcuts (CTRL+C) and paste them into the SendTo folder by clicking in the SendTo folder and pasting (CTRL+V).

One of the easiest techniques for adding shortcuts to the SendTo folder is to right-click in the folder space, select New/ Shortcut, then enter the program or folder location (or Browse...) and give the shortcut a name. To make the process even easier, you can use this technique to add the SendTo folder (with the name "Add to Send To List") as a shortcut to the SendTo folder. Then whenever you want to add a new item, right-click on the item and select "Add to Send To List" from the Send To list. Folders and programs will then appear on the list.

While you can add data file (images, music, documents, etc.) shortcuts to the SendTo folder, they will not appear on the list. Only program shortcuts, folder shortcuts, mapped drives and those default special function shortcuts will appear.

Jack is the publisher of *ComputorEdge* Magazine. He's been with the magazine since first issue on May 16, 1983.

Return to Table of Contents

Wally Wang's Apple Farm

“Virtual Machines: The Best of Both Worlds”
by Wally Wang

If you want to switch to the Macintosh but still feel tied to Windows for running certain programs, a virtualization program lets you have the best of both worlds. Also, DriveGenius can help ensure that your hard disk remains in optimum condition; turn your iPad into a second monitor with Air Display; Illustrator's Bristle Brush feature helps you create more realistic images; and a tip on using Safari 5's Reader mode to make it easier to read a Web page.

The two most common ways to run Windows on a Macintosh are via Boot Camp or a virtualization program such as Parallels or Fusion. Boot Camp essentially turns your Macintosh into a PC clone, letting you run Windows (Windows XP, Vista or Windows 7) as fast as any PC. The problem with Boot Camp is that you have to reboot your computer if you want to switch back to Mac OS X.

For most people, a more practical solution is to use a virtualization program to run Windows (or any other operating system) in a separate window within Mac OS X. This lets you seamlessly switch back and forth between each operating system and even cut and paste data between Windows and Mac OS X.

But a virtualization program only runs the virtual operating system at approximately 90 percent of its normal speed, and it gobbles up memory, slowing down your Macintosh. If you want to switch to the Macintosh but still feel tied to Windows for running certain programs, a virtualization program lets you have the best of both worlds. To learn more about the two most popular virtualization programs, watch a short video of Parallels (*www.parallels.com/products/desktop/pd40_tutorial-en_US/*) and Fusion (*www.youtube.com/watch?v=JIApJMzGzDQ*).

Both programs cost the same and offer nearly identical features, so you can't really go wrong with either one. No matter which program you get, the basic idea is the same. First, you install an operating system into a virtual machine, which appears on your Macintosh as a single file.

Now you can load Parallels or Fusion to choose an operating system to run in its own Mac OS X window, which you can expand, shrink, re-size, or move on your desktop. If your Macintosh has enough memory, you can even run multiple operating systems within Mac OS X.

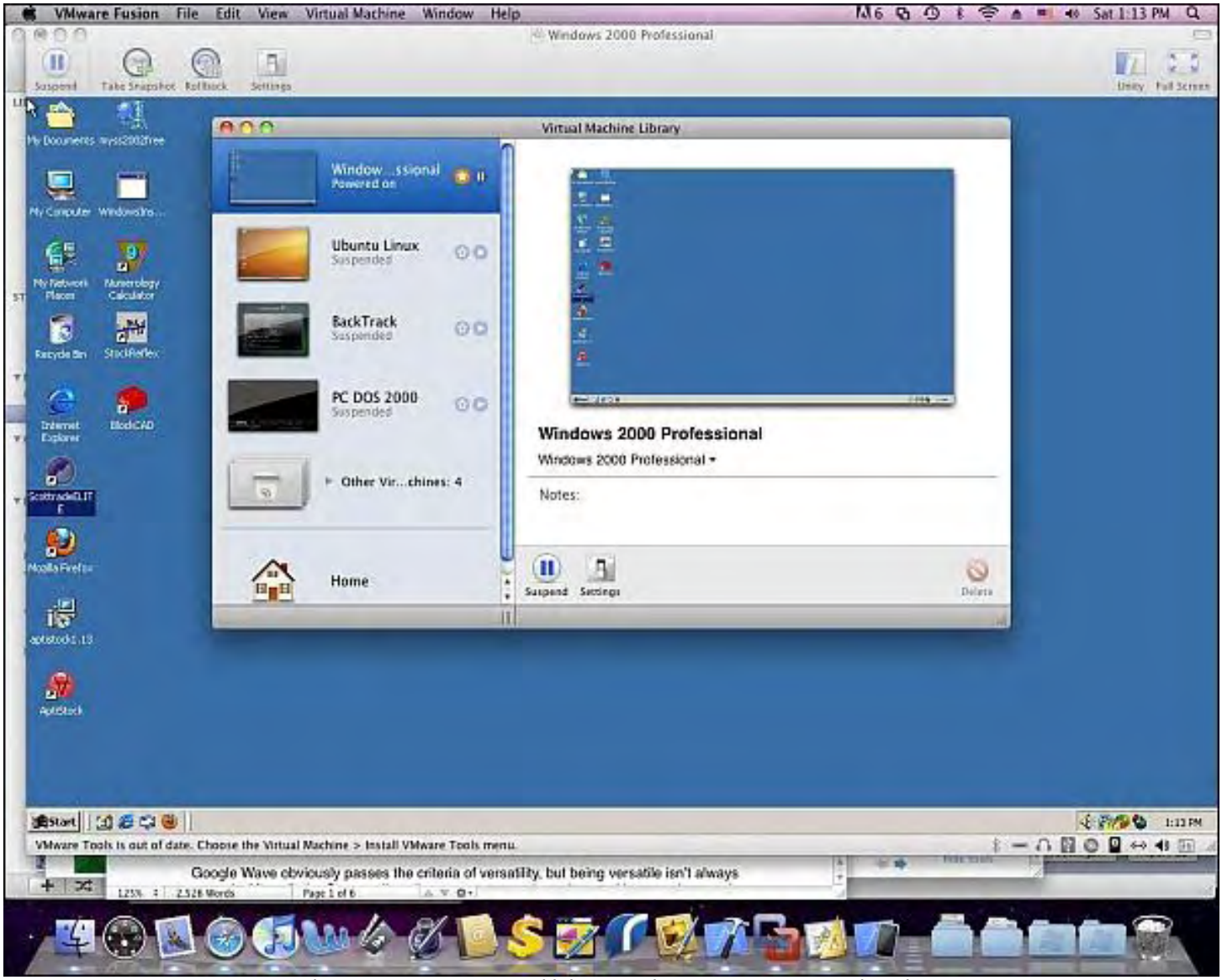


Figure 1. You can run multiple operating systems on a Macintosh.

Rather than install a new operating system, both Parallels and Fusion let you transfer an existing physical PC operating system into a virtual machine. If you're switching from a PC to a Mac, this lets you clone your PC and trap it in a virtual machine so you'll have complete access to all your Windows programs and files.

When you want to run a program trapped in another operating system, you simply load your virtualization program (Parallels or Fusion) to open that operating system in a Mac OS X window. Then you can search for your program within that operating system to run it.

Having to open another operating system and then search to run a particular program can be annoying, so both Parallels and Fusion give you the option of storing another program's icon (such as Microsoft Access or CorelDraw) directly on the Mac OS X Dock. Clicking this icon loads your Windows program without forcing you to look at the operating system at all.

If your only exposure to the world of operating systems is limited to Windows or Mac OS X, use a virtualization program to experiment with more secure operating systems such as OpenBSD (*www.openbsd.org*) or Solaris (*www.opensolaris.com*).

By using a virtualization program, you can run any program you want just as long as you can install and run that program's required operating system on an Intel processor. If your dependence on a particular Windows (or other operating system) program is keeping you from moving to the Macintosh, get Parallels or Fusion and turn your Macintosh into the most versatile computer in the world.

Macintosh Hard Disk Maintenance

If you're familiar with Windows, you may have used its built-in defragmentation program. However, if you switch over to a Macintosh, you may be surprised to find that the Macintosh does not include a similar defragmentation program.

The reason for this is simply based on the way Windows and Mac OS X store files. Windows evolved from MS-DOS, which was a single-user operating system. At the time, the goal was to store files as close as possible to speed up access to data stored on floppy disks.

On the other hand, Unix (which is what Linux and Mac OS X are based on) was designed as a multiuser operating system. To prevent files from different users from possibly interfering with one another, Unix stores files as far away from each other as possible. This seemingly simple design decision is the reason why Windows needs constant defragmentation and Unix systems do not.

On Windows, you might store a file (highlighted in blue) followed by a second file (highlighted in red). Windows slams both files right next to each other. Now if you edit the first (blue) file and shorten it, it leaves a gap between the first (blue) and second (red) file. Add a third file, and Windows immediately tries to shove the new file (green) into the gap between the two existing files.

If it can't shove the entire new file into the gap, it shoves as much of the new file as possible into the gap and stores the remaining portion of that file next to the second (red) file. The result is instant fragmentation, even though more than 90 percent of your hard disk may be empty.

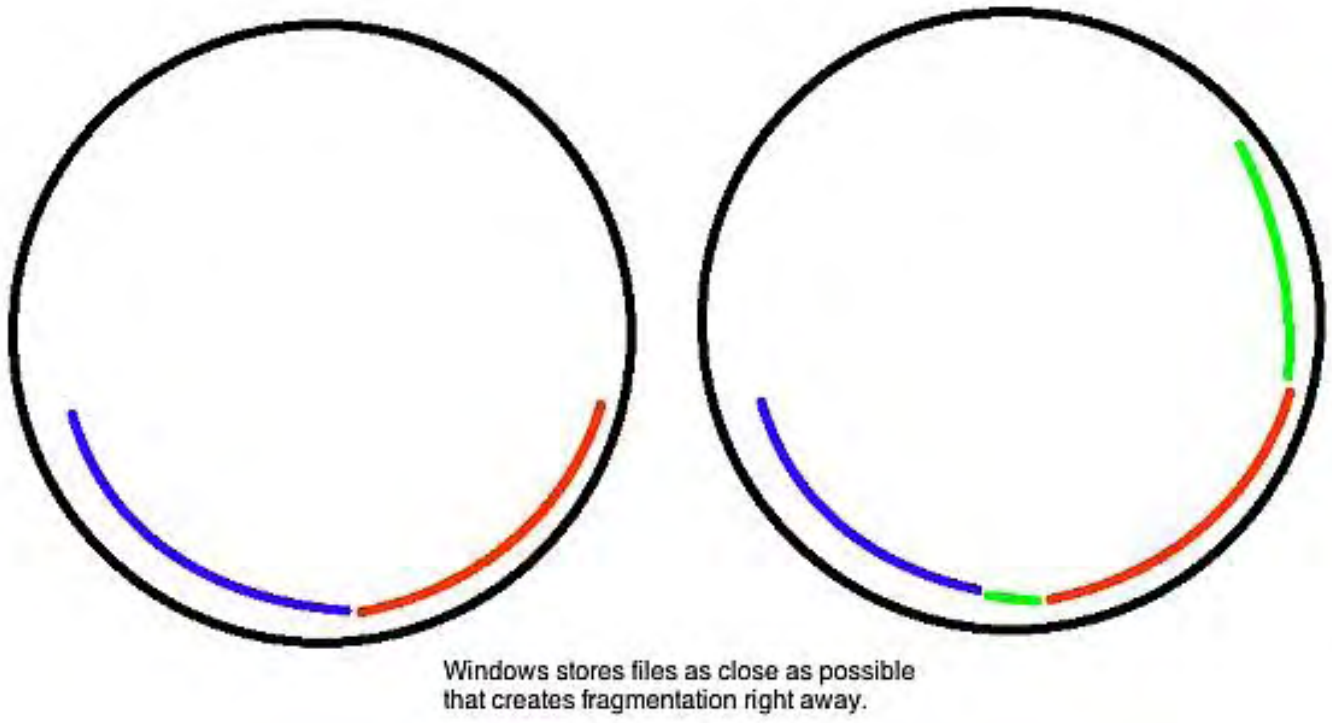


Figure 2. A Windows hard disk fragments files almost immediately.

Unix works differently. Store a file (blue) on a hard disk, and then store a second (red) file. Unix immediately spaces these two files as far apart as possible. Now you can add or delete portions from each file without experiencing any fragmentation at all.

Add a third file (green), and Unix once again places this third file as far away as possible from any existing files. Unlike Windows, which immediately fragments your hard disk, Unix won't suffer from hard disk fragmentation until you start filling up your hard disk and there's no longer enough space to store your files as a single, continuous strip of data.

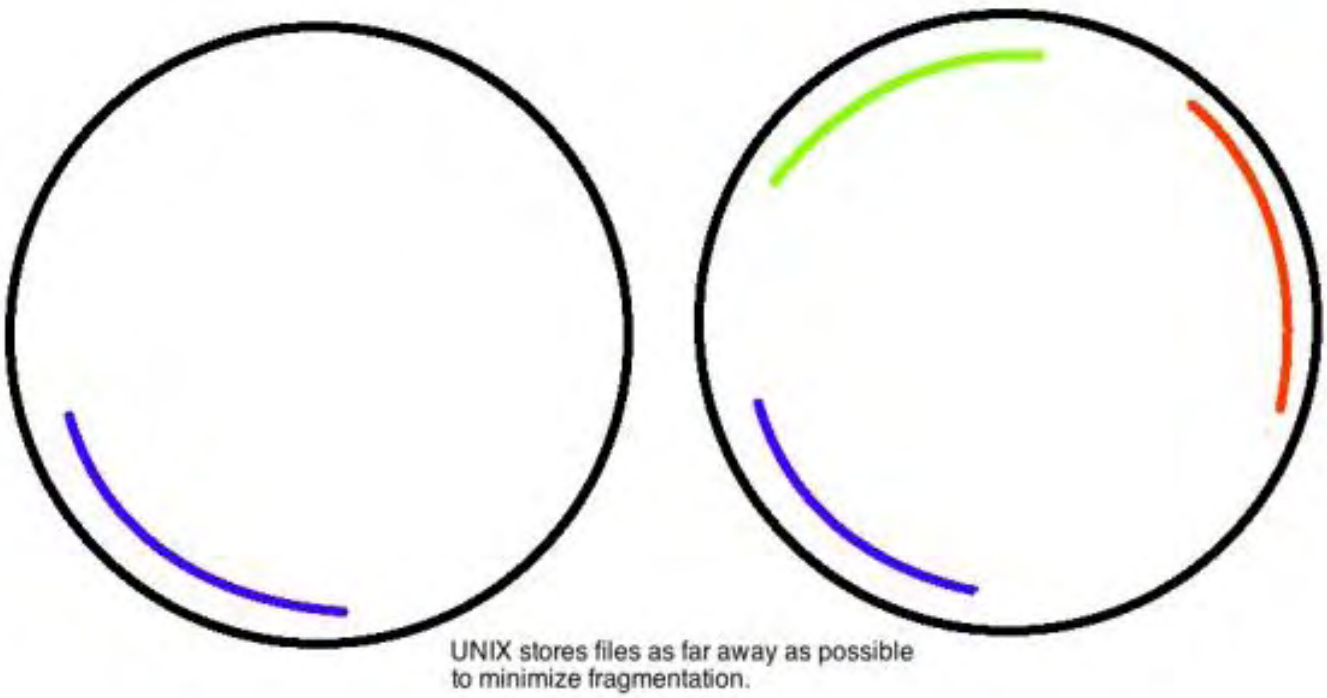


Figure 3. Unix delays fragmentation as long as possible by placing files away from each other.

Hard disk fragmentation (along with problems with the Windows Registry) is why Windows PCs tend to slow down over time. Defragment the hard disk and optimize the Windows Registry, and your Windows PC will run as good as new again.

In the Macintosh world, hard disk fragmentation doesn't occur as often, and the problems with the Windows Registry do not exist, which is the reason why a Macintosh (and Linux PCs) can run just fine years later, while similar Windows PCs seem to crawl to a stop without continuous maintenance. Only after you fill up the hard disk of your Macintosh will you need to defragment it periodically to keep it from slowing down.

Since the Macintosh doesn't come with a hard disk defragmentation program, you'll need to buy one such as the $99 DriveGenius 3 (*www.prosofteng.com/products/drive_genius.php*) from ProSoft Engineering. (If you ever take your Macintosh into an Apple Store for maintenance problems, the Apple Store geniuses will likely use DriveGenius to diagnose and repair your hard disk.)

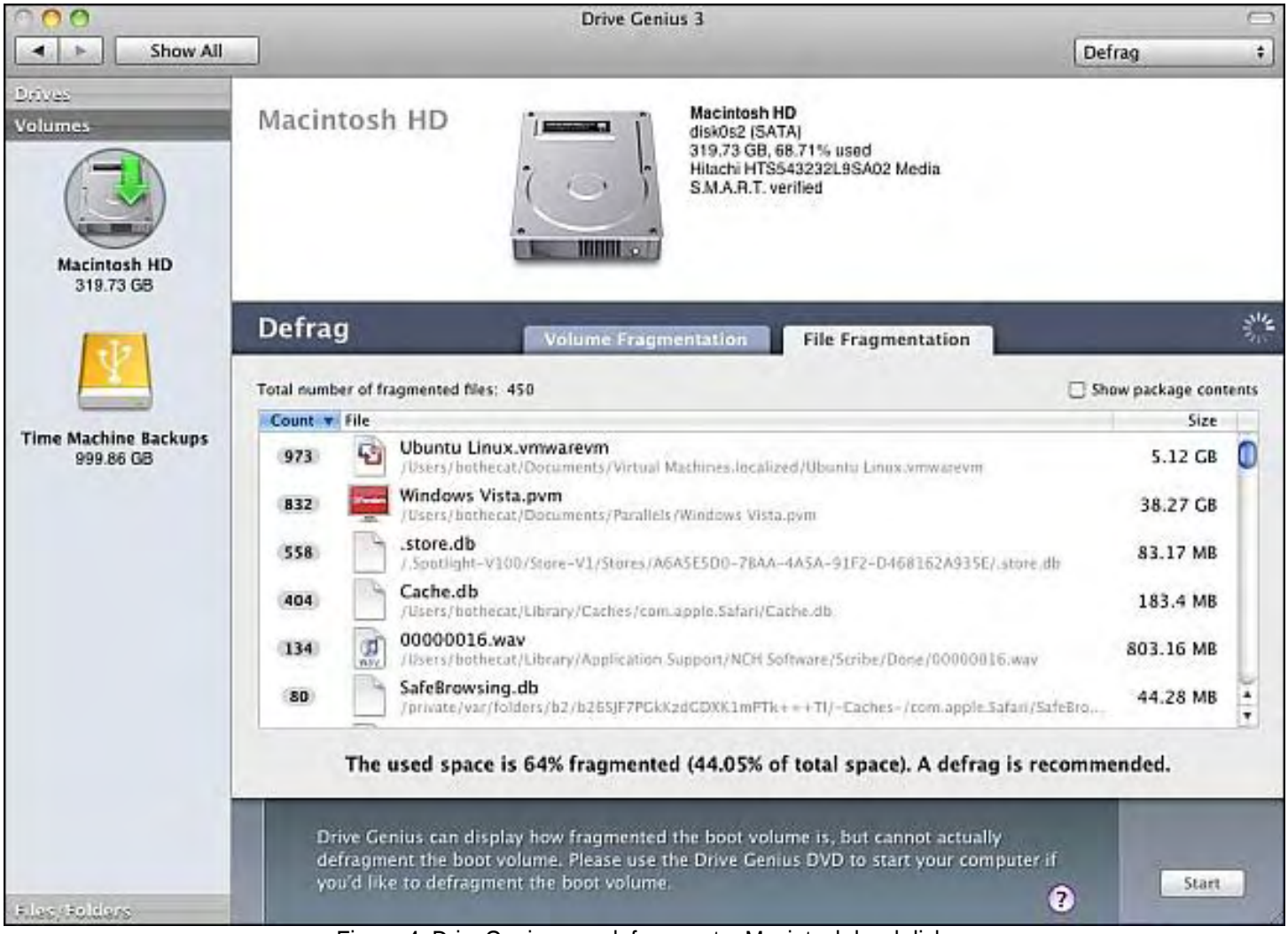


Figure 4. DriveGenius can defragment a Macintosh hard disk.

Besides defragmenting hard disks, DriveGenius can also monitor the condition of your hard disk to alert you of possible problems ahead of time and repair any problems it finds. If you need to set up identical Macintosh configurations, DriveGenius can clone a hard drive. In case you need to destroy data before selling or giving away a Macintosh, DriveGenius can shred the data by overwriting the existing files multiple times with random characters. This makes it nearly impossible for anyone to retrieve existing data off that hard disk again.

DriveGenius isn't the type of program that you might need right away, but if you've been using a Macintosh for a few years, DriveGenius can help ensure that your hard disk remains in optimum condition so you can keep using your Macintosh for many more years to come.

Turing an iPad into a Second Display

The iPad is great for traveling, but once you get back to your home or office and sit in front of your computer, you probably won't need your iPad anymore. Rather than let your iPad just sit and do nothing, buy Avatron's $9.99 Air Display app (*avatron.com/apps/air-display/*).

Air Display lets you prop up your iPad next to your Macintosh (a Windows version is coming soon) and turn your iPad into a second monitor. Now your iPad can be useful both at your desk and when you're roaming around.

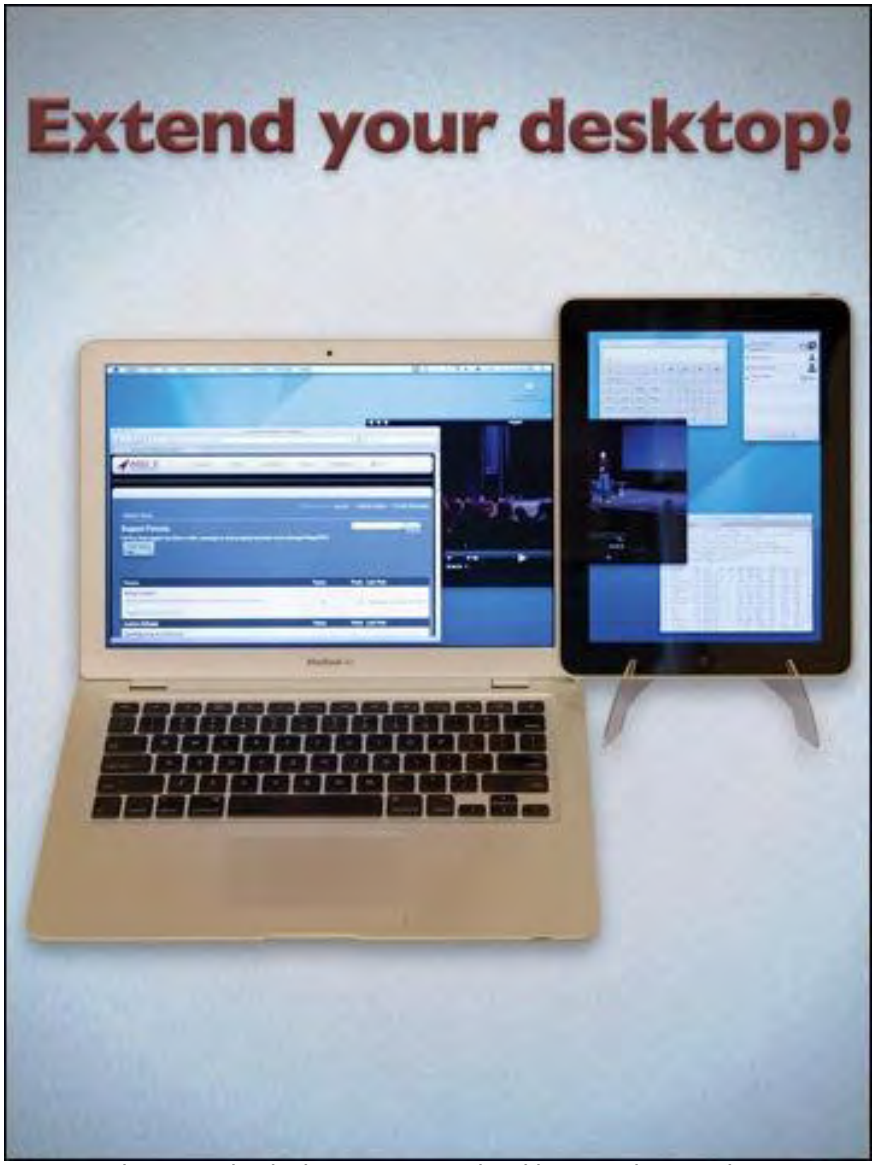


Figure 5. Air Display can turn an iPad into another monitor.

Adobe Illustrator

Adobe's Illustrator typically gets much less publicity than Photoshop. That's probably because more people need a program like Photoshop for editing digital photographs, but far fewer people need to create graphic images from scratch.

The main difference between the two programs is that Photoshop is a raster graphics program, while Illustrator is a vector graphics program. Raster graphics programs like Photoshop let you edit individual pixels of an image. Expand the size of a raster graphics image, and you'll see the chunkiness of the individual pixels that make up that image. Raster graphics programs are commonly called paint programs because they let you create natural-looking images. Photoshop is the most popular example along with similar programs such as Corel Painter (*www.amazon.com/gp/product/B000WCQCE4?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=B000WCQCE4*), which lets you mimic paint, charcoal, pens, or spray paint.

Vector graphics programs, like Illustrator, are commonly called drawing programs because they let you create images using objects such as lines, rectangles or circles. The biggest advantage of vector graphics or drawing programs is

that you can re-size them without any loss of resolution whatsoever. Plus you can manipulate separate objects that make up a single image, which can make modifying a picture far easier than manipulating individual pixels in Photoshop.

The main drawback of drawing programs like Illustrator is that it creates pictures that look cartoonish with a lack of realistic detail.

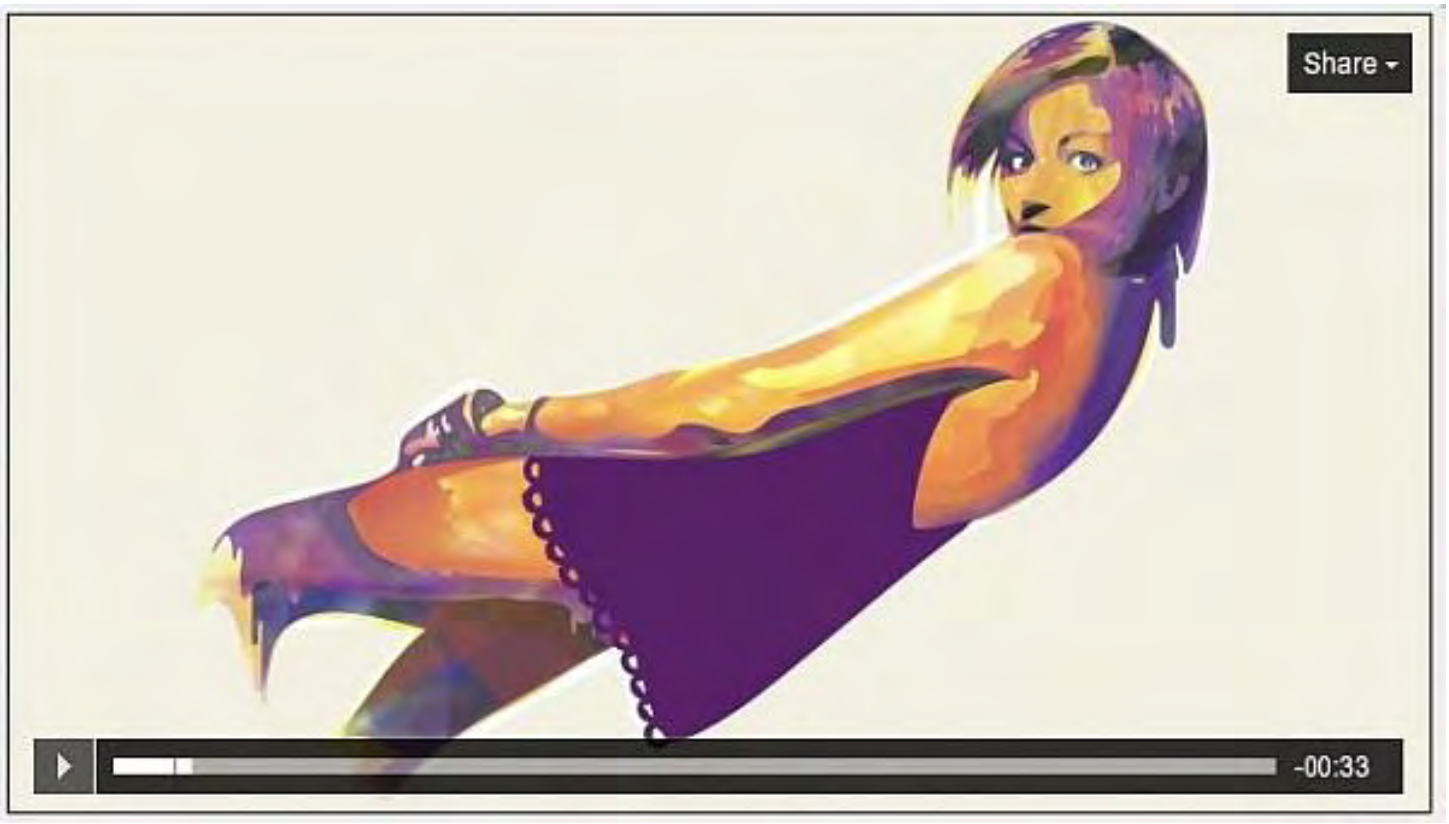


Figure 6. Most vector graphics programs create images that lack fine detail.

To solve this problem, Illustrator now includes a feature called the Bristle Brush, which lets you draw lines that appear as actual painting strokes like a painting program. Unlike a painting program, Illustrator's Bristle Brush feature still lets you manipulate an image as an object rather than as individual pixels.

Figure 7. Illustrator's Bristle Brush feature can create natural-looking lines.

By using the Bristle Brush feature, you can create more realistic images like Photoshop, but with the resolution-independence and ease of editing of Illustrator. Illustrator may still be less popular than Photoshop, but you may find Illustrator can be more flexible, especially with its new features like the Bristle Brush.

* * *

If you visit some Web pages, you may see ads scattered all over the page, which can make reading cumbersome.

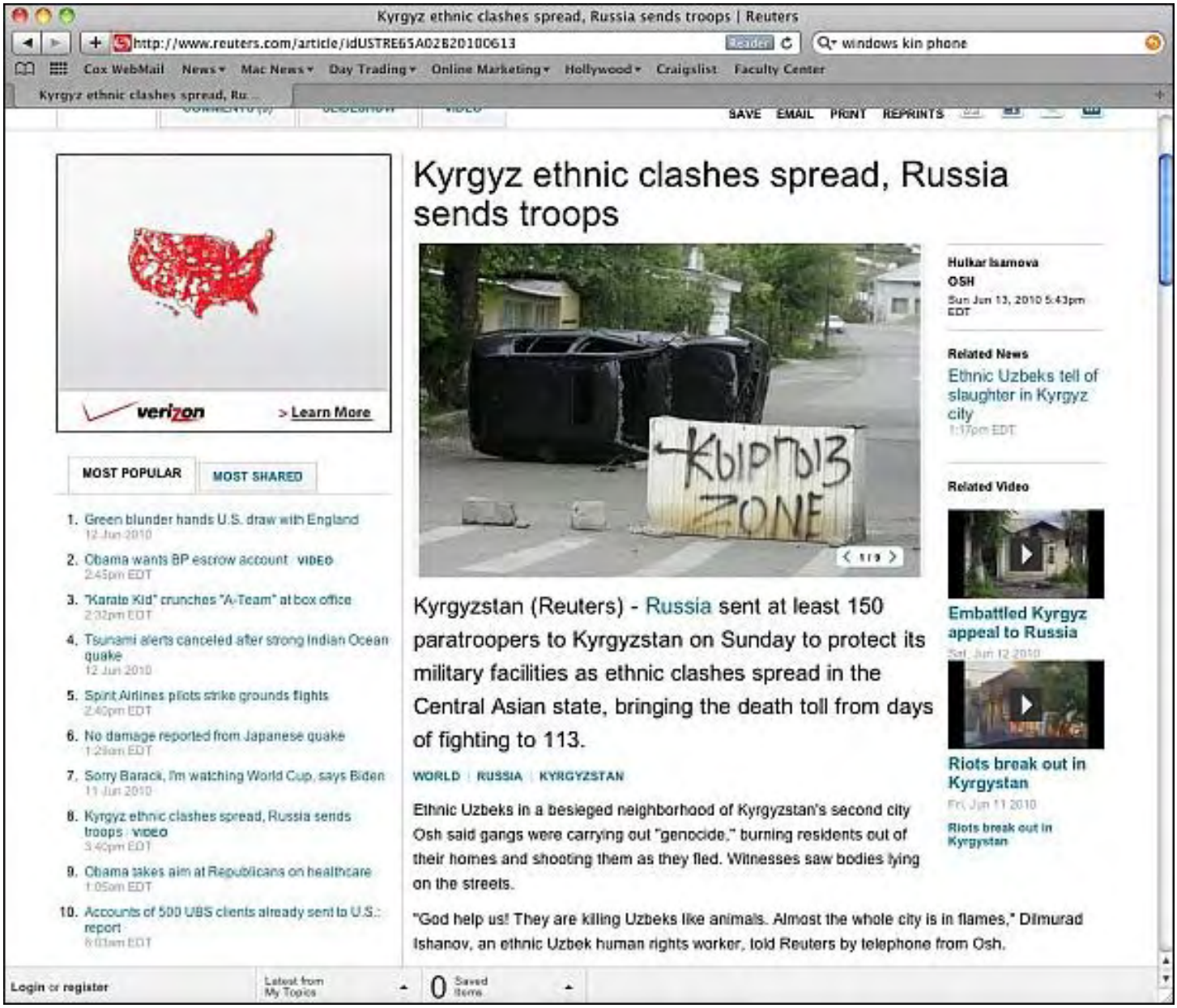


Figure 8. Most Web pages clutter the page with ads.

To make reading easier, the latest version of Safari 5 now offers a special Reader mode. Just visit any Web page, choose View => Enter Reader, and Safari strips away most ads and just displays the text and graphics that you really want to see.

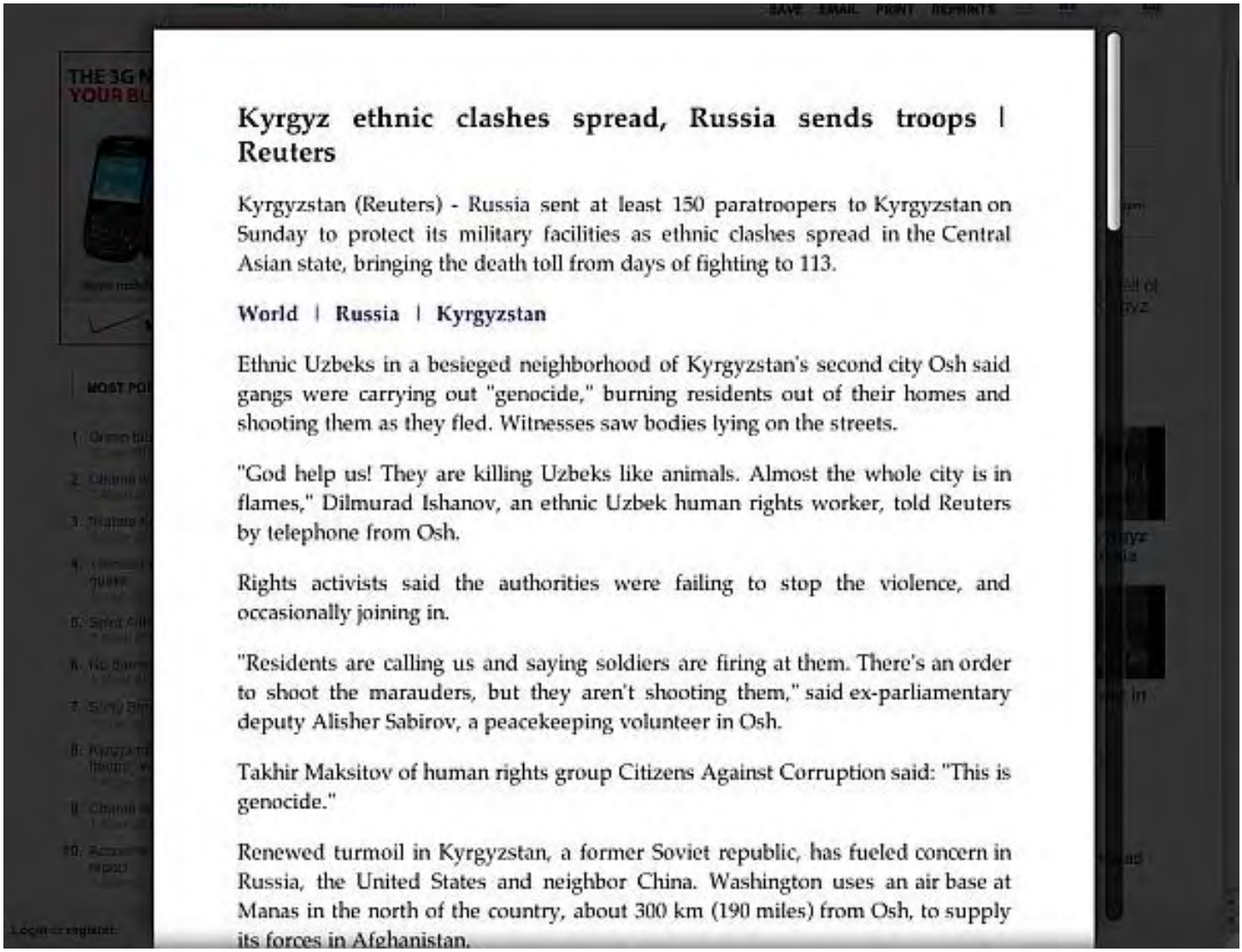


Figure 9. Safari 5's Reader mode makes it easier to read a Web page.

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*.

Return to Table of Contents

Rob, The Computor Tutor

Rob, The ComputorTutor: Technology Solutions

"Word in Action" by Rob Spahitz

In the last few weeks, we've quickly explored the many features of Word 2010. Now it's time to start putting those in action and learn more details as we go. This week: Using Word to spiff up your resume.

In the last few weeks, we've quickly explored the many features of Word 2010. Now it's time to start putting those in action and learn more details as we go.

Real Documents

I was going to continue going over features of Word in more detail, but I decided that was too much like reading a dictionary in hopes of learning how to speak a language.

Instead, I decided that the next few weeks will be about creating useful documents. At first I thought about writing the great American novel. That has many parts where Word can help. Many of you may have wanted to become great authors, and this would help. I also thought about creating a technical document since these are often very challenging to create, with a table of contents, index and many diverse groupings of information presented as discrete parts. I could have also done something like an encyclopedia or magazine. I'll get to each of these in coming weeks.

This week I decided to go with something more timely: resumes. With so many people impacted by the economy, you may be looking to find a job and want to spiff up that resume to make it stand out from the rest. Bad news: I cannot write your awesome resume. Good news: I can help you explore ways to make it more effective. Let's go.

Resumes

First, it's good to understand the purpose of a resume. It is *not* supposed to be your life story. That's what autobiographical novels are for. Instead, it's supposed to be a summary of the skills you have that a potential employer may want. In addition, it should include more information so that the employer feels confident that the skills being presented are at the correct level for the job. If you come across as too unskilled, the employer will look at one of the thousands of other resumes crossing his or her desk. Come across as overly skilled and the employer may decide that you won't be happy with the job or salary, and will either become very demanding or leave the job for something better.

That leaves you with trying to find some middle ground for the job you are seeking. Unfortunately, that also means that every potential job could require a different set of skills, and putting in too many irrelevant things could turn off an employer. Just for reference, when I was among the unemployed for the first time, I took State-sponsored classes to help enhance my skills and to learn how to make better resumes. Since I wanted to succeed, I created no fewer than nine separate resumes for a variety of jobs that I felt I could handle (including technical, managerial and administrative). Each resume focused on a different topic, such as my computer programming knowledge, database knowledge, applications knowledge and managerial experience.

For the most part, each resume was the same, but the pieces were arranged differently. Times were tough back then (early 1990s), so it took a few years of other jobs before I finally got a good job. However, I was getting more

interviews than many others in the class, so either my resumes were better or I just had a better set of skills. Either way, this column and my other columns on technology should help if you decide to follow through and practice until you really understand the topics. In these tough times, certainly don't expect any easy answers; you'll probably have to work to succeed. However, a great resume can go a long way toward getting your foot in the door.

OK, let's look more at resumes. What I learned way back is that there are basically two kinds of resumes: chronological ones that show the jobs you've had (in sequence) and what you did on the jobs, and functional ones that show the skills that you have regardless of the order that experience came. I decided it was better to combine the two into a resume with both features.

Looking at this further, you see that you will have a list of skills near the top of the document. Below that, you'll have a list of jobs that show how you acquired those skills. In addition, you need to include who you are and why you are contacting them. This is basically a one-line sentence of purpose; a more formal letter is written separately to introduce yourself through a cover letter.

Resume Layout

Open Word 2010 so that we can create the resume. Note that many other word processors (including previous versions of Word) should be able to handle the tasks, but I'll present this with the latest version, and mention some caveats related to doing this.

Although you can start with a blank document, let's see what Word offers to get us started. In the File menu tab, select New. You should see a collection of document choices, including Blank and a template, as seen in Figure 1.

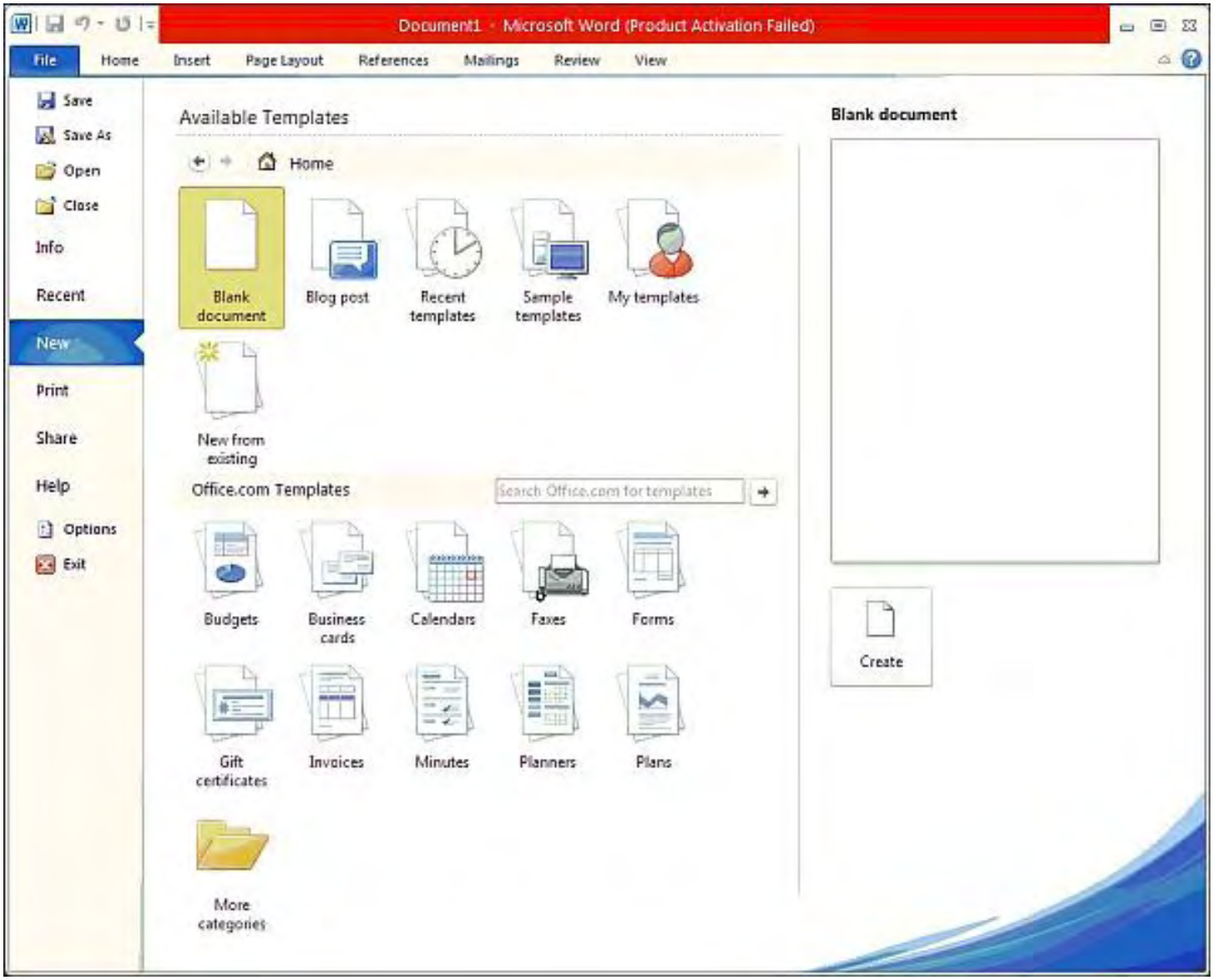


Figure 1. New Word 2010 Documents.

Since we don't see an option for Resume, we could click on the More categories folder and try to find it. Instead, it's easier to type in "resumes" in the search box next to Office.com Templates, and you'll see several choices (randomly presented each time), as seen in Figure 2, many of which were created by non-Microsoft people and submitted for general use (marked with a little person in the bottom right corner of the thumbnail picture). When you select one, a box to the right shows more information about that item. The initial selection in my shot was submitted by David Raymond.

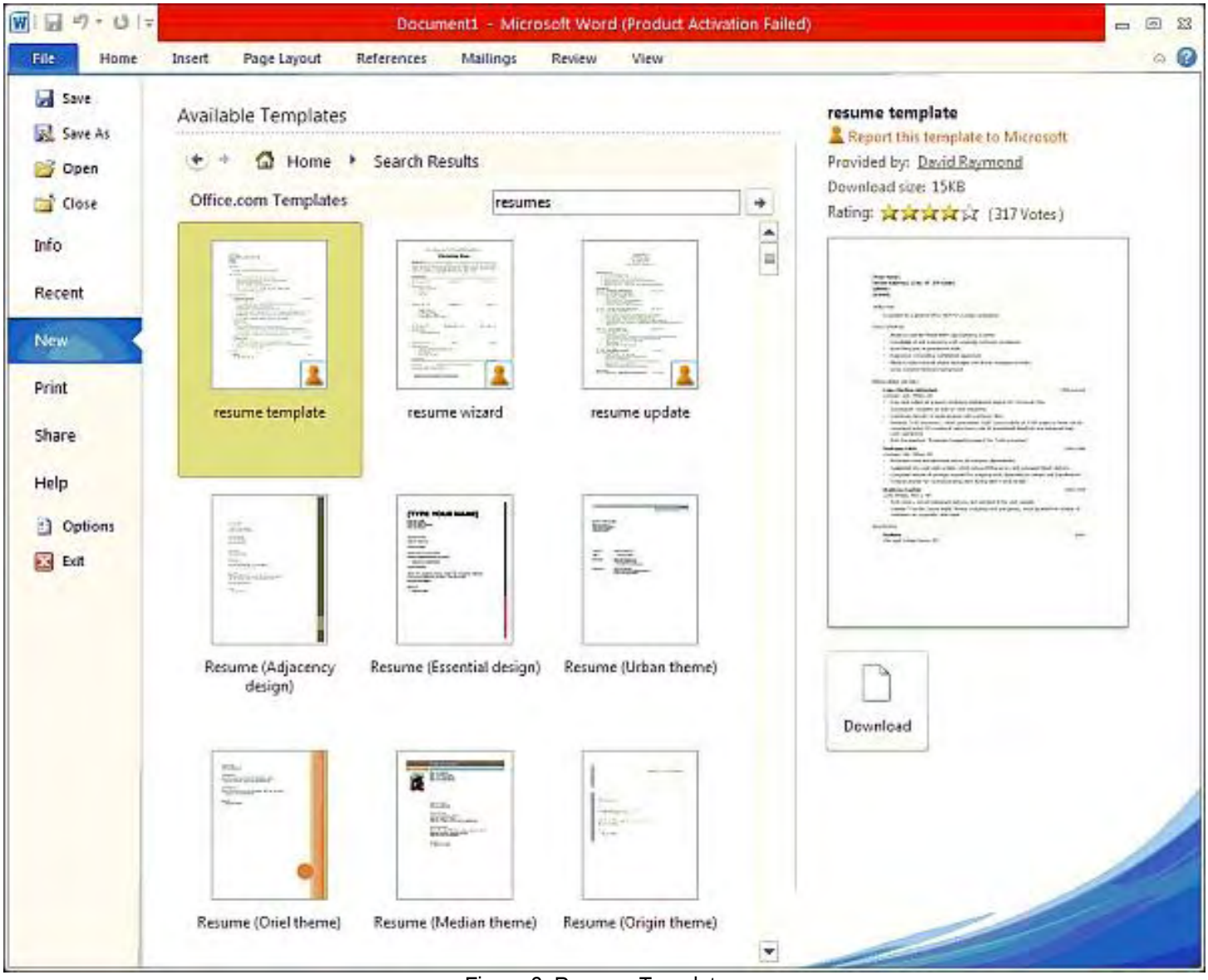


Figure 2. Resume Templates.

I decided to start with the one titled "Functional resume sample." After locating and selecting this, click on the Download button underneath the preview on the right. For me, it took several tries, possibly because the Microsoft site was overloaded, or maybe because my Internet connection was a bit slow at the time.

After downloading, you should see the template open as a new document, as seen in Figure 3.

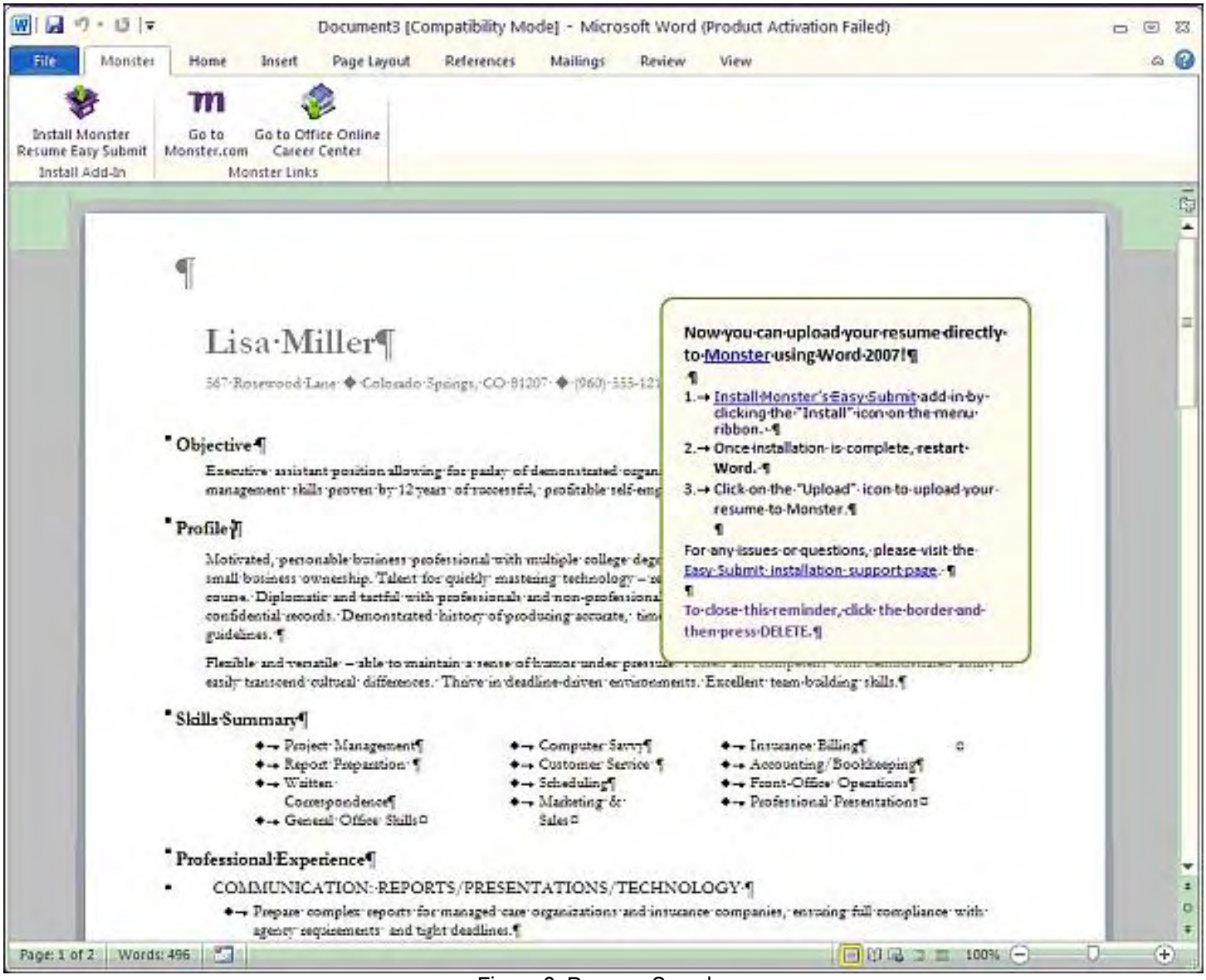


Figure 3. Resume Sample.

A few things to note here: First, this resume is apparently submitted from Monster.com to assist potential clients with creating a resume to add to their site. Next, they customized Word to include a Monster tab along with the other tabs at the top of Word. They also added an overlapping object with instructions. I'm not promoting their site, but I've used it in the past (although never very successfully and often with a lot of "spam" responses). However, this resume looks reasonable. Remove the box by following the directions in it.

At the top of the document you have the header information. It is set up to appear on every page. Notice that you cannot select it by clicking on it. To update this, simply double-click on the header or footer to enable the section. When you do this, Word 2010 gives you a new tab titled Header & Footer Tools. Make any desired updates, and then exit by either double-clicking on the body of the document or clicking on the Close Header and Footer button on the right side of the ribbon bar, as seen in Figure 4.

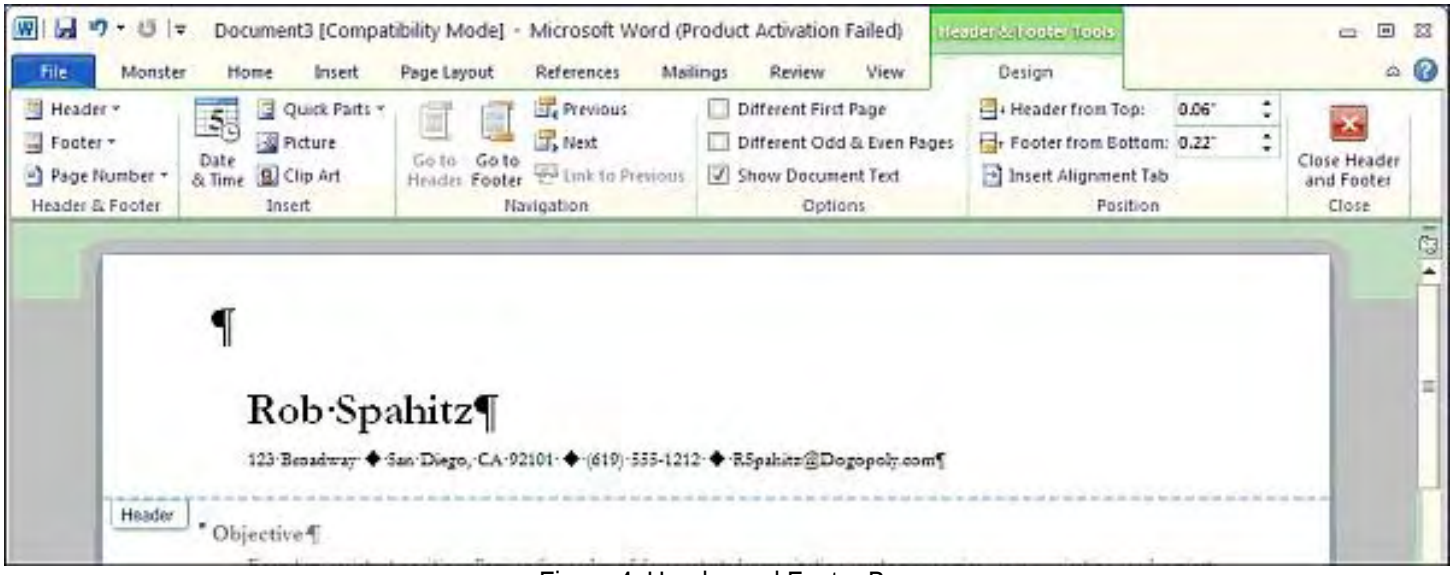


Figure 4. Header and Footer Bar.

Back in the main document, change the Objective to match what you are seeking in your employment career, such as, "Seeking administrative position that utilizes my awesome skills with word processing and office organization." (Well, OK, you can do better than that!)

In the profile section, you can update that as desired. I've never used it but it seems like a nice way to summarize who you are. I'd rather put this in the cover letter, where I can further customize it to match the job. However, sometimes cover letters get detached from resumes, so it's your call.

Finally! Skills Summary lets you define the functional parts of the resume. What functions and tasks are you capable of performing, and what tools are you proficient with?

When you click on the bulleted items in this section, you'll notice that you get a new Tables tab, as seen in Figure 5.

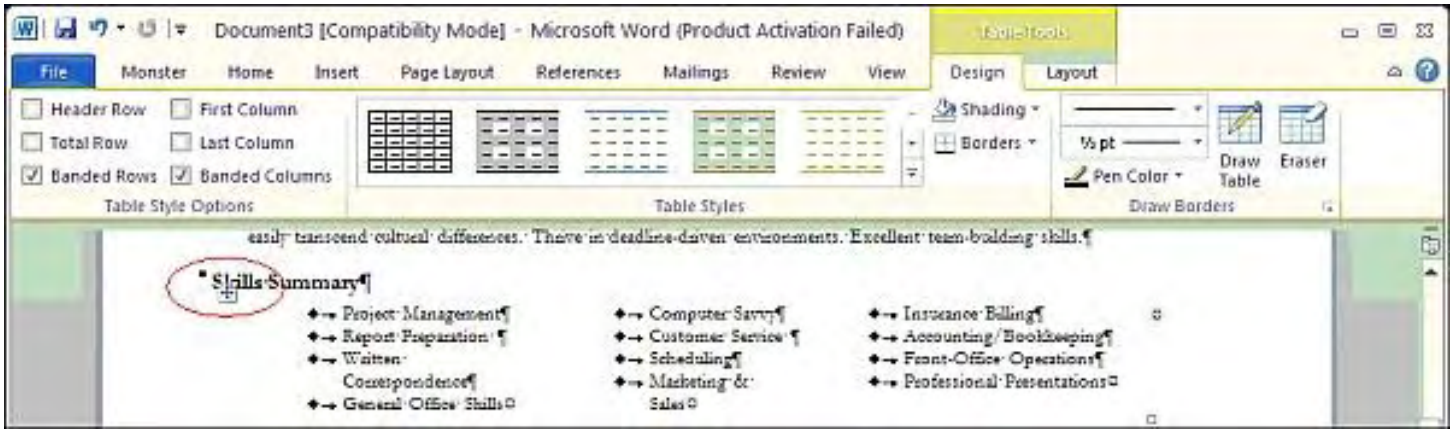


Figure 5. Tables Tab.

You'll see a collection of options related to tables. Also notice that I circled a little plus box near the top left of the table. When you click on part of the table, this feature lets you select the entire table (rather than one small piece).

Next week, we'll create a cover page and learn more about tables so that we can, for example, add a box around the skills.

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 *ComputorEdge* 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.

Return to Table of Contents

Worldwide News & Product Reviews

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

Food Makers Set the Table for an Online Gaming Feast—Food companies are targeting children with online "advergames"; Six Flags Enters Facebook Social Gaming Arena—Six Flags Mascot Park is an interactive game launching on Facebook; PaperPort 12: Someday ... Has Yet to Come—The "upgraded" program feels bloated, leaden and generally unresponsive.

Junk Food Makers Set the Table for an Online Gaming Feast

UC Davis public-health researchers tell us they have determined that children already saturated with television messages about unhealthy food choices are the targets of a new medium used to sell high-fat, high-sugar foods called advergames, "an entertaining blend of interactive animation, video content and advertising, exposing children for extended periods of time to online messages that primarily promote corporate branding and products," according to the researchers.

The analysis, published in the May issue of the Journal of Nutrition Education and Behavior, leads its authors to recommend increased regulation of food companies that target youth. The work was funded by the Cancer Research Program.

"We knew based on our previous research that food advertising on television programming for children is dominated by high-fat quick-service restaurant options and high-sugar cereals and candy," said Diana Cassady, senior author of the study and an associate professor of public health sciences at UC Davis. "At the same time, we noticed a lot of that TV advertising included corporate Web sites, and we wanted to find out how these sites were being used to communicate about food to kids."

For their current study, Cassady and Jennifer Culp, lead author and training coordinator with the Food Stamp Nutrition Education Program at UC Davis, conducted a detailed content analysis of all restaurant, beverage and food Web sites advertised on the Cartoon Network and Nickelodeon between August 2006 and March 2007. These networks were selected because of their high volume of Web site promotion with traditional ads. The researchers' analysis focused on the broadcast time-frames most watched by children: weekday after-school hours and Saturday mornings.

Each site and the pages within those sites were evaluated for strategies used to prolong visits, types and frequency of branding features, and the number and prominence of nutrition and physical activity messages. After assessing 19 Web sites, 290 Web pages and 247 advergames, they found:

• Close to one-third of the advertising that included Web sites was for food.

• The most frequently used strategy to encourage ongoing and return Web site visits was advergames—84 percent of the Web sites assessed included online games.

• Every advergame included at least one brand identifier, with logos being the most frequent and direct product

representation being the second-most frequent.

• On average, only one nutrition or physical activity message appeared for every 45 brand identifiers.

"I was astounded by how often logos or actual food products were integrated into the games," said Culp. "For example, some games used candy or cereal as game pieces. In others, a special code that was only available by purchasing a particular cereal was necessary to advance to higher game levels."

Culp also was disappointed that the sites often did not include information to promote health, including nutrition facts about the product or prominent placement of links to the food guide pyramid, daily physical activity recommendations or similar resources.

"There was little messaging about healthier options or even the nutritional content—like fat and sugar values—of the product being advertised. If it was included, it was often buried in the site," she said. "Advergames are clearly a means of casting food with few health benefits in a positive way and potentially priming kids for a lifetime of unhealthy food preferences."

As the result of their current Internet study and prior outcomes related to television advertising, Culp and Cassady hope food companies will develop and adhere to uniform guidelines for advertising their products to children. Currently, however, there is no agreed-upon framework for this goal. The research team appreciates the standards in first lady Michelle Obama's "Solving the Problem of Childhood Obesity Within a Generation" report. In the absence of voluntary marketing restrictions, the researchers recommend increased external regulation.

"Without effective self-regulation, the federal government should definitely step in and set requirements for food companies that target children. We can't risk having another generation of youngsters at high risk for the long-term chronic diseases linked to unhealthy eating," Cassady said.

More info at the UC Davis Medical School Web site (*www.ucdmc.ucdavis.edu/medschool/newsroom/newsdetail.html?key=4116&svr=http://www.ucdmc.ucdavis.edu&table=published*).

Six Flags Enters Facebook Social Gaming Arena

Win! Public Relations sent us a press release about Six Flags Entertainment's foray into the world of social gaming with something they're calling Six Flags Mascot Park, an interactive game launching on Facebook. Six Flags says it will elevate the entertainment experience with an approach that focuses on deep personalization, creativity, irreverent antics and social interaction.

"The Six Flags brand stands for fun and unparalleled thrills, and the introduction of Six Flags Mascot Park brings that signature experience to the virtual reality world," said Mike Antinoro, executive VP of marketing and entertainment. "We want to offer fans a forum to entertain, amuse and interact while also recognizing the importance of integrating a unique experience to the online community."

According to a press release, "Six Flags Mascot Park encourages players to create 'shows' for their friends to view—and either cheer them or jeer them. Players will strive to be the most popular mascot by creating these unique performances, which will gain fans, entertain friends and earn coins. Coins can be used to buy set pieces and costumes as well as improve their moves. In a unique twist, players can also jump into their friends' shows and mash them up with their own moves, special effects and pranks."

Six Flags Mascot Park is a combined development effort between Six Flags, Noise (*noisenewyork.com*) and Making Fun (*makingfun.com*). This marks the first collaboration between Noah Kerner of Noise and John Welch at Making Fun. Kerner, new media whiz and author of Chasing Cool, was behind Facebook's first app and some of its largest platforms. Welch is the gaming industry veteran who, as founder and CEO of PlayFirst, launched the Diner Dash franchise that has entertained hundreds of millions of fans.

Kerner commented, "Six Flags has years of experience creating exciting large-scale entertainment, and their enormous built-in fan base should make them the perfect vehicle for this type of effort." He added, "The game will offer a hilarious and absorbing experience with a ton of Mascot goodies to play with like hip-hop dancing rhinos, Elvis-themed hip gyrations, a kissing bandit, exploding bunny guns, fireworks, cannons and kick-ass social dynamics."

PaperPort 12: Someday ... Has Yet to Come

I've been a fan of Nuance's PaperPort, a Windows-based desktop organizer for more than 10 years (back then it was published by ScanSoft). PaperPort is now into its 12th iteration but, despite the newer version's impressive suite of features, I'm still stuck back at 7 because of performance problems I experienced with versions that succeeded it.

I hang in with 7 with the hope that the program's code will someday get a full rewrite but, as John Fogerty sings, "Someday Never Comes"—at least not as of PaperPort version 12. In short, while V12 does have more bells and whistles than my venerable V7, after testing it on three separate PCs the program is frustratingly slow and clunky to the point of almost being unusable.

The idea behind PaperPort is undeniably a good one: create a central location where you can scan, organize, search, and share documents and photos quickly and easily.

You can turn just about anything that you can cram into your scanner into a searchable PDF and file all those documents neatly away so they'll never be lost or destroyed. You can even combine several PDFs into one single document just by dragging and dropping.

A feature called FormTyper converts scanned paper forms into electronic forms in PDF format that you can fill out automatically and edit, file, or e-mail. Not only can you store all those digital photos, you can also spiff them up in any number of ways.

All this, in principal, has the potential to return terrific time savings, but my experience reveals a program that feels bloated, leaden and generally unresponsive.

Simply moving a document from one location to another on the program's virtual desktop can take 10 seconds or longer. Moving a document between folders can take twice as long. And often, as various components load, system resources are rapidly gobbled up, often pegging at near 100 percent. Not the kind of behavior expected of lean

computer code.

Maybe I just had bad luck. Try PaperPort V12 for yourself; the company offers a 30-day free trial. (Of course, the only problem there is that you have to buy the program online at full retail when you can get it at any number of Web stores for less than half that amount.)

Be further warned that the program installs a LOT of stuff on your system, so be sure to create a Restore Point before installing so you can be sure your system is returned to the state it was in before the install. And finally, note that the newer version will remove any older version of the program you might have on your system. So there's that.

PaperPort Standard (*www.nuance.com/imaging/products/paperport.asp*) (pictured) lists for $99. Note: There's also a professional version that lists for $199.99.

In addition to being an editor and columnist for *ComputorEdge* 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*.

Return to Table of Contents

EdgeWord: A Note from the Publisher

“"Virtual Machine Creep"” by Jack Dunning

The uses for a virtual machine setup are many, as the idea of running "incompatible" programs on any computer seems to be creeping into the norm.

While I can see many uses for virtual machines—multiple operating systems running on the same computer—I don't see an immediate need for it myself. At least that's what I thought until recently, when I realized that I use Windows Virtual PC on a regular basis. The idea of running "incompatible" programs on any computer seems to be creeping into the norm.

I'm curious to know how many Mac users run Windows programs on their Mac running Fusion or Parallels virtual machine software. That is part of the beauty of the Mac—there is no need to give up on Windows programs. Many specialty software programs operate in niches that just can't support a Mac version, yet Mac users can still get their Windows without buying a PC. Of course, Microsoft still gets its cut since each virtual Windows machine requires a paid copy of the operating system.

I'm not sure if there are many Windows users who want to run Macintosh software on their PC. I suppose if you wanted to run Mac software you might just buy a Mac—but that suggests that you can't find a PC version of a Mac program. I would guess that most of the programs that have been successful with Apple are probably available in a PC version. It wouldn't make much sense for programmers to ignore such a big market.

The Windows Virtual PC has made it much easier for me to write a Windows Tips and Tricks column. Whenever I'm working on a Windows feature, I check it out in Windows XP, Windows Vista and Windows 7. I do have a real Windows XP machine available, but it's not at a convenient location. In my current office setup, I have a Vista laptop and Windows 7 desktop sitting on the same desk. This works out since I can quickly jump back and forth when testing various techniques. They are networked and mapped in a manner where I can do something on one computer and save it to the other. In the past, if I wanted to do a Windows XP test, I would use Window Remote Desktop Connection. It would do the job, and save me the travel to the XP's location. However, since I've installed Windows Virtual PC running Windows XP Compatibility Mode (it's actually Windows XP SP3 running in a virtual machine) on the Windows 7 Professional machine, I usually just use the XP, which runs in a window as shown in Figure 1.

Figure 1. Windows XP uses Virtual PC to run in a window on a Windows 7 computer.

I can now quickly check Windows features on all three types of computers without leaving my seat. Being able to open the XP window makes it much quicker to determine the difference between the three operating systems.

This is the beginning of virtual machine creep. This is how it starts. First there is only one simple use (checking XP features), but soon there will be another reason to install yet another operating system. The next thing I know, I'll be installing Linux in a virtual window.

Jack is the publisher of *ComputorEdge* 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*

Return to Table of Contents

Editor's Letters: Tips and Thoughts from Readers

"Computer and Internet tips, plus comments on the articles and columns." by ComputorEdge Staff

"Flaky Hard Drive Suggestions," "Dye-Sublimation Printers," "Revo Uninstaller," "Wally's Two Cents"

Flaky Hard Drive Suggestions

[Regarding the May 28 Digital Dave column, where reader Larry wrote in about a flaky hard drive shutting down:]

I have another thought. It also might be caused due to dust on the CPU and heating sink. De-dust to see if it helps.

-Edward, San Diego, CA

It's worth checking the voltage on the power lead to the hard drive. Power supplies don't last as long as hard drives. If you have an unused power lead, try that one and see if the problem gets better. Or swap one from your floppy or something else.

Power supplies are cheap, even if they're almost impossible to replace in some cases. I had a power lead with low voltage, and almost every time I booted, I'd get a different error—no hard drive found, command.com not found, partition not recognized—really weird stuff.

-Kent Dugan, Round Rock, TX

Dye-Sublimation Printers

[Regarding the May 28 EdgeWord: Get Your Digital Photos Printed column:]

Dye sub printing comes close to professional prints: "A dye-sublimation printer produces true continuous tones appearing much like a chemical photograph." From Wikipedia: Comparison with inkjet printers (*en.wikipedia.org/wiki/Dye-sublimation_printer*). It's great for the occasional high-quality color print, although expensive. But you don't have to deal with inks (running low at different rates, clogging heads, swapping paper types).

-Ron Cerrato, San Diego, CA

Revo Uninstaller

[Regarding Pete Choppin's May 28 article, "Windows 7 Utilities: Power Alternatives":]

Revo uninstaller is free, though there may be a paid version I don't know about. I have it on my PC.

-Walter Rosenfeld, Encinitas, CA

Wally's Two Cents

[Regarding the June 4 Editors Letters: Tips and Thoughts from Readers column:]

Me thinks thou dost protest too much. I guess my point was a pro-Apple column doesn't need to be anti-Windows.

-Ron Cerrato, San Diego, CA

I agree. A pro-Apple column does not need to be anti-Windows. Likewise a pro-Windows column does not necessarily need to be anti-Apple either. My point is that criticism of Apple is fine just as long as it's based on facts and not fiction.

For example, the criticism about the iPhone's lack of Flash support seems logical until you realize that all mobile phones lack Flash support and that Adobe has been struggling for years to get Flash working on all mobile devices, so at least pin the criticism at the right source, which is Adobe and not Apple. (To my knowledge, Adobe still hasn't released a 64-bit version of Flash for Windows or Mac OS X, so how many people are boasting they won't use Windows or a Mac because it lacks 64-bit Flash support?)

Another myth is the criticism that Apple has banned Flash on the iPhone/iPad. Apple has actually only banned the use of Flash for creating iPhone/iPad apps.

If anyone wants to criticize Apple or any company, just use facts.

-Wally Wang

ComputorEdge 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 "ComputorQuick Review", or yell at us, please e-mail us at *ceeditor@computoredge.com*.
