

ComputerEdge™ Online — 12/14/12



This issue: Shopping for Tablets

A guide to the features and terminology of today's tablet computers.

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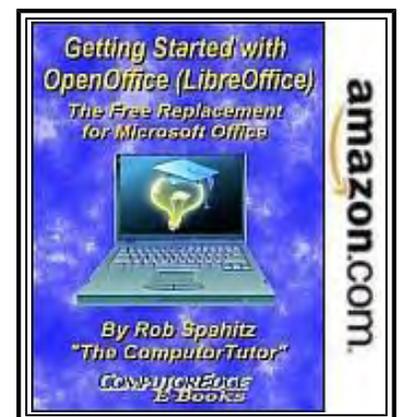
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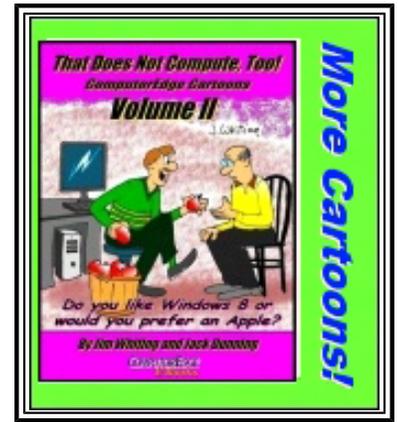
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Computer and Internet tips, plus comments on the articles and columns.

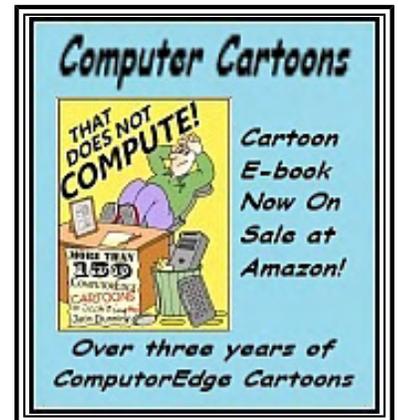
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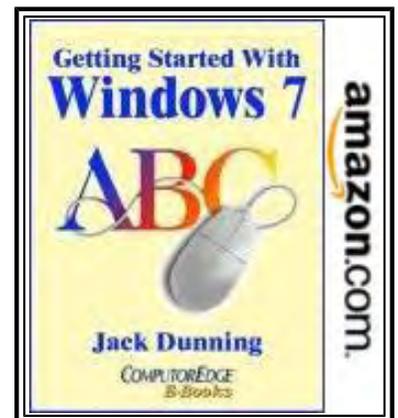
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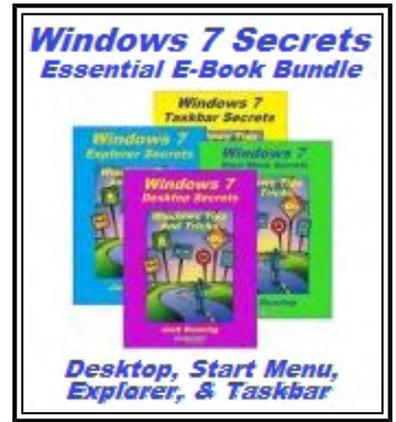
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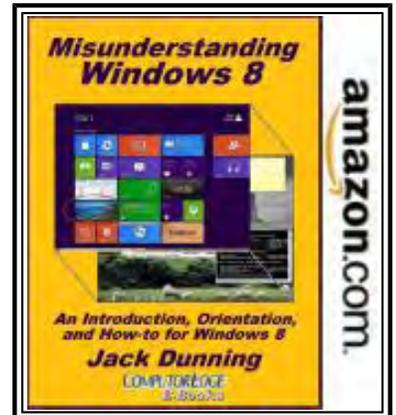
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Digital Dave

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

Batch Program for Changing File Names; Should You Change the Default Password on Your Router?; Windows Error Message 0x00000002 with Installed Printer.

Dear Digital Dave,

I use Any Video Converter to convert my collection of video files from AVI or MPG into MP4 format for my tablet. The converter automatically appends "_x264" to the file name. The manufacturer says I have to remove it manually. I start with F2, then hit right arrow, left arrow and five Backspaces. If there is more than one file, I hit Tab to step down to the next one. Is there a way to write a batch program to delete the _x264 with a single or pair of keystrokes?

*Don Hicke
San Diego, CA*

Dear Don,

There are certainly easier ways to remove the extra characters than editing each file name by hand. The first method doesn't require a batch file and is almost as quick.

If you're using Windows Vista, Windows 7, or Windows 8, right-click a blank area in the Windows Explorer window where your files are located while holding down the SHIFT key. Select "Open command windows here" from the menu (see Figure 1).

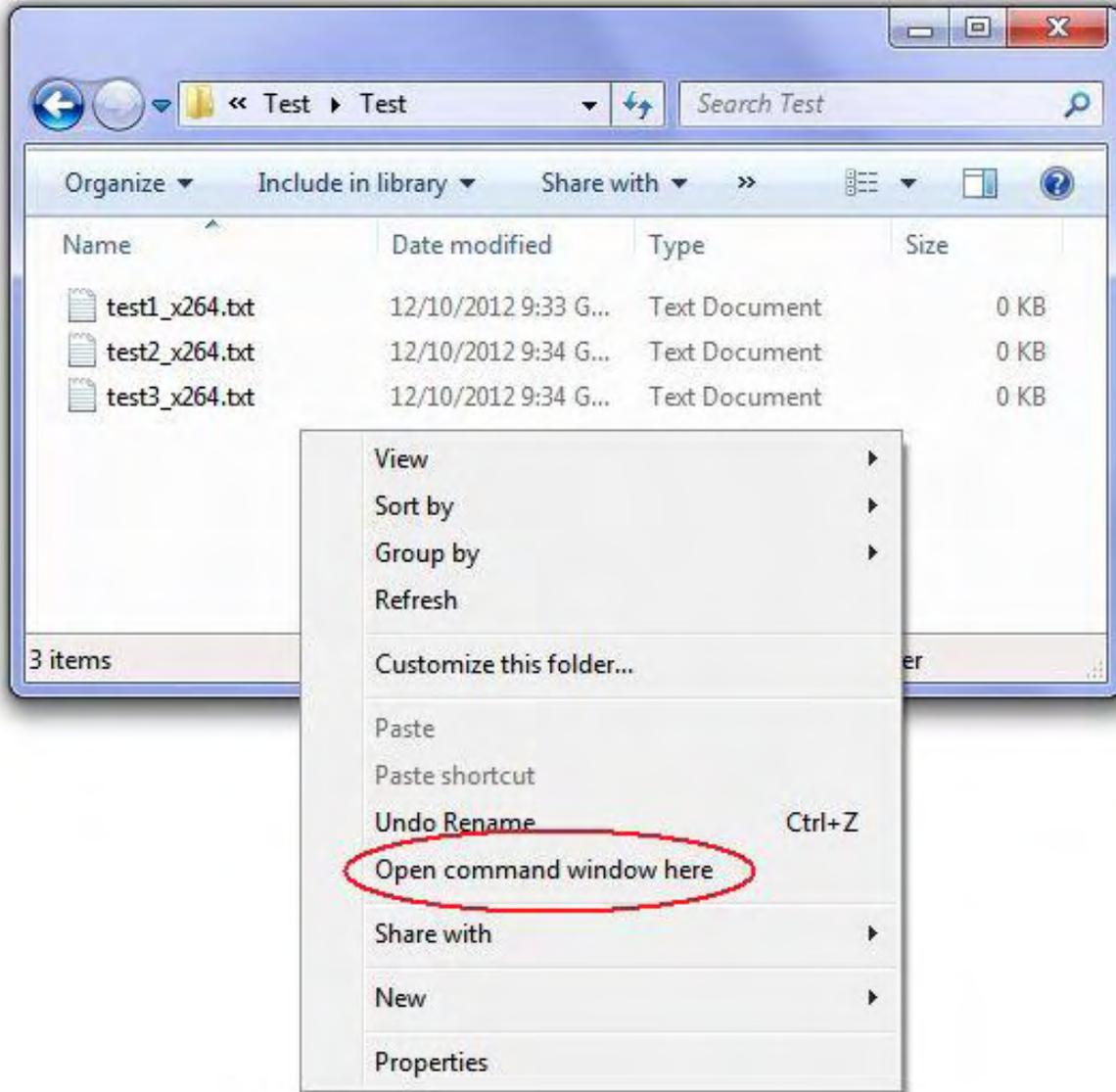


Figure 1. In Windows Vista, 7, and 8, right-click in the Windows (File) Explorer window while holding down the SHIFT to open the Command Prompt window set to that location.

Note: In Windows XP, there are a number of ways to "Add Command Prompt Here Shortcut to Windows Explorer (www.petri.co.il/add_command_prompt_here_shortcut_to_windows_explorer.htm)." I found Method #3 the most direct.

The Command Prompt will open at that file location. Next enter:

```
ren ?????_x264.* ?????.*
```

or

```
rename ?????_x264.* ?????.*
```

and press ENTER (see Figure 2). The extra unwanted characters are stripped out of all the matching file names.

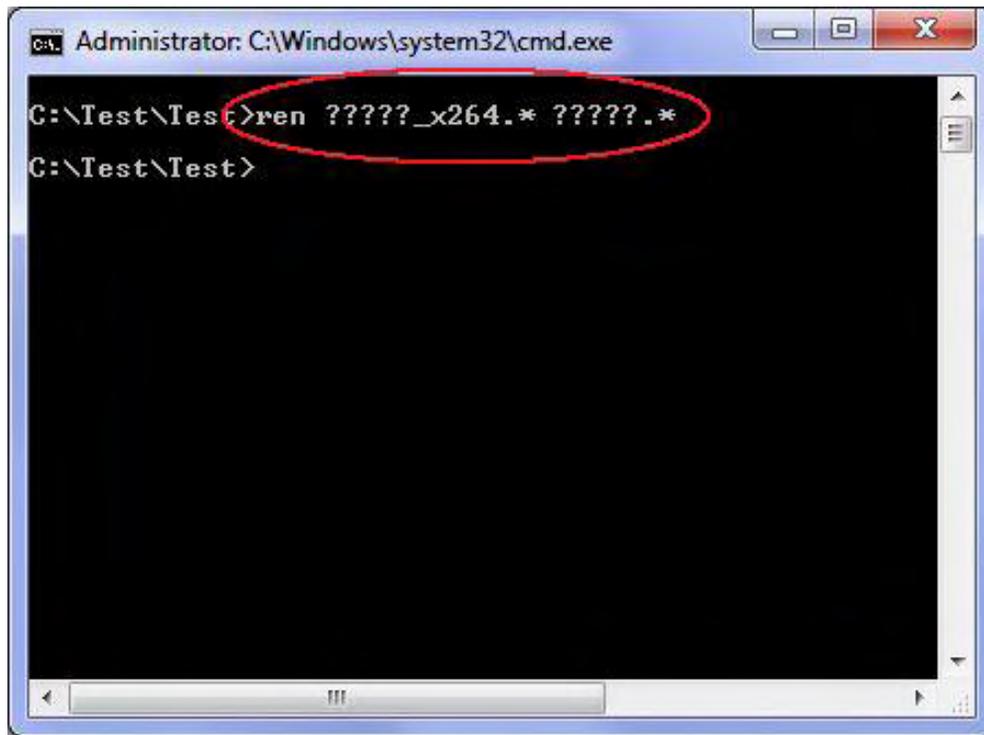


Figure 2. Enter the command for changing the file names in a batch. The number of question marks must match the number of characters prior to the "_x265" which is being removed.

The question mark (?) is a wildcard which substitutes for individual characters. The number of question marks must match the number of characters prior to the "_x265" in both locations. The asterisk (*) is a wild card for the entire extension. In DOS you were able to use the asterisk to substitute for the question marks, but that doesn't work in Windows. It would be much easier if it did.

If you have a varying number of characters prior to the "_x265", then you will need to rerun the command with the appropriate number of question marks for each variation. You can put these commands in a batch file for quicker implementation.

You can also put the string in an AutoHotkey script to create a hotkey combination.

If you're familiar with AutoHotkey, I'm sure that you could quickly write a script to do this file renaming using WinGetTitle (www.autohotkey.com/docs/commands/WinGetTitle.htm) to retrieve the folder path and FileMove (www.autohotkey.com/docs/commands/FileMove.htm) to modify the file names. Perhaps someone would like to offer a sample script. Maybe I can get Jack Dunning to address this in his AutoHotkey column sometime in the future.

If you would like to learn more about AutoHotkey, Jack has published the e-book *A Beginner's Guide to AutoHotkey* (www.amazon.com/gp/product/B009SI3F52/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B009SI3F52&linkCode=as2&tag=comput0b9-20).

Another alternative is Bulk Renaming Utility (www.bulkrenameutility.co.uk/Main_Intro.php). It is highly rated at CNET, although I've never used it.

Digital Dave

Dear Digital Dave,

I am a regular reader of your column and learn a lot from it.

It is often mentioned to make sure your router wireless connections are encrypted, but nothing is ever mentioned about the password to enter your router settings. Is it a good idea to change the router

password from admin?

*Joel Klein
Centennial, Colorado*

Dear Joel,

As a rule it is best to change default passwords. This always provides a greater degree of security. The problem with default passwords is anyone can quickly find them as long as they know the brand/type of equipment or software.

One of the big mistakes people make with their wireless routers is not changing the default broadcast name or password. For example, new Linksys Wi-Fi routers would use the name "linksys" and the same default password. Many people would set up the Wi-Fi in the homes without changing either the name or password. People nearby could pick up the name "linksys" with their Wi-Fi device and access their Internet connection by merely entering the known default password.

Be sure to keep a list of passwords in a safe place.

Digital Dave

Dear Digital Dave,

I have a Kodak ESP9250 All-In-One printer that has worked fine until I downloaded a Kodak update for the printer. Now the printer is either not recognized or when attempting to install the printer with the Kodak Set-Up utility Windows gives the dreaded 0x00000002 error message. I have seen many comments on several forums about the problems, but I have not seen a straight forward answer on how to fix the problem—short of a complete re-install of Windows. Any suggestions are appreciated.

*Mike
Denver, Colorado*

Dear Mike,

I'm assuming that you're running Windows 7 Service Pack 1 (support.microsoft.com/kb/976932) because most of the people who have encountered this problem were. It seems to be a problem with Windows and not the printer. It took some searching, but I think it's related to Service Pack 1. (If you're not running Windows 7, then try restoring to an earlier Restore Point.)

If Service Pack 1 is already installed in Windows 7, people will get this error for certain printers only after they update the printer driver—but not when SP1 is first installed. The solution, as awkward as it is, seems to be uninstalling and reinstalling the Service Pack.

Go to Control Panel => Programs => Programs and Features and click "View installed updates." Find Service Pack for Microsoft Windows (KB976932) (see Figure 3). Click Uninstall or right-click and select uninstall.

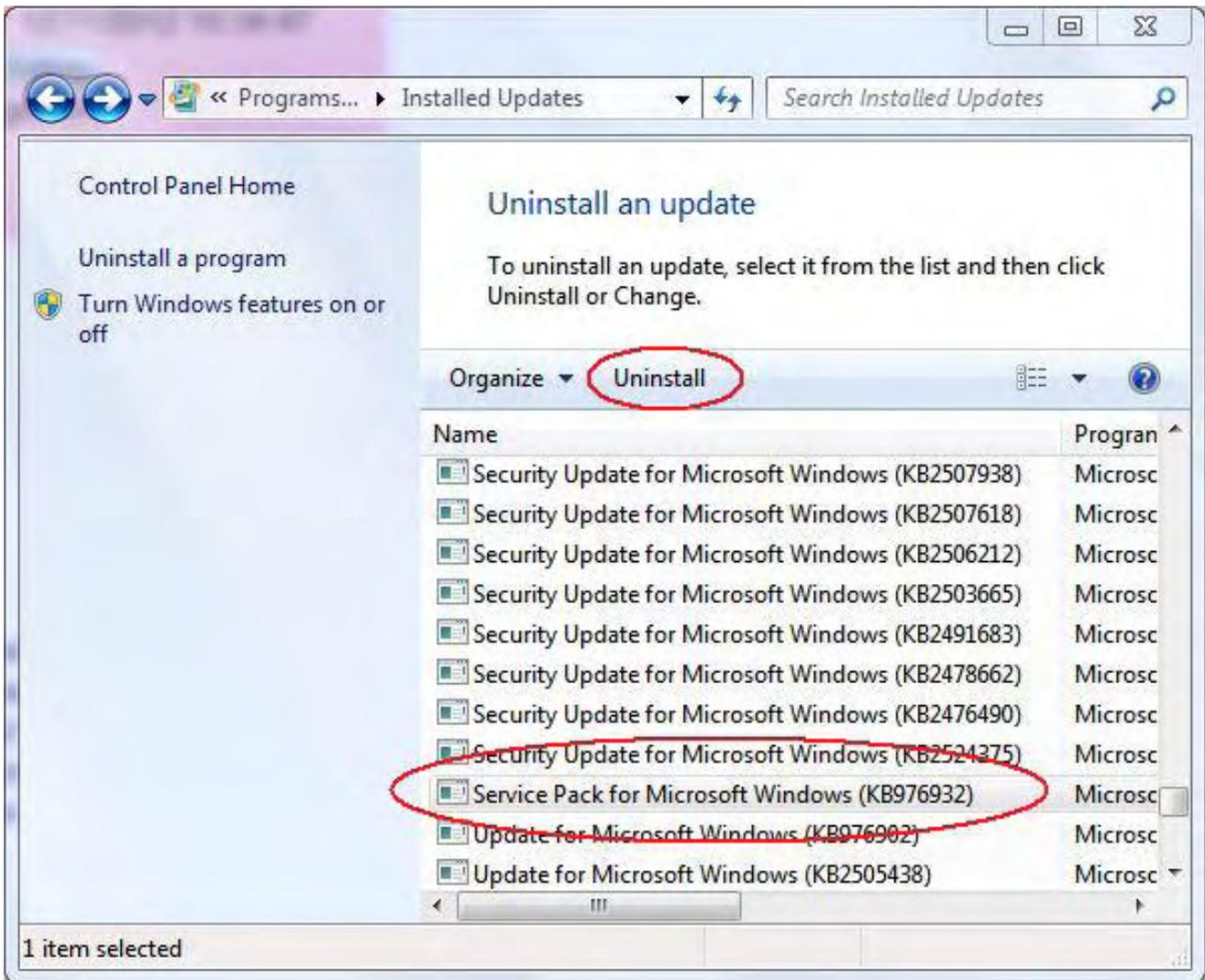


Figure 3. Select the Service Pack 1 update.

After uninstalling SP1 go to Windows Update and reinstall. This uninstall/reinstall process will take a little time, but it is certainly better than reinstalling Windows. This seems to have done the job for most people.

Digital Dave

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A Guide to Shopping for Tablet Computers

“Picking the Right Tablet for You!” by Jack Dunning

“The most important question to ask yourself is, ‘How am I going to use a tablet computer?’ This answer will guide you toward a solution that fits your life.”

As more high-tech companies release tablet computers the buying decision becomes more and more complicated. A couple of years ago the Apple iPad was the only device worth considering.

Since the introduction of the Amazon Kindle Fire and now with the arrival of the Google Nexus and Microsoft Surface tablets, there is more to consider when looking for the right tablet computer for you. It is not as simple as merely going to your local electronics store and picking out a new tablet. You need to know the differences between them and what it means to you.



Herman decided to buy the Swiss Army Tablet Computer because of the extra features.

replacing your laptop or desktop can be best described as awkward. As many people will insist, you can do pretty much anything on a tablet that you can do on a regular computer, but it's not as easy. With the exception of the Microsoft Surface with Windows 8 Pro coming in January, none of the other tablets are built for full-on computer software (including the Microsoft Surface with Windows RT).

One-Handed Computing

The price and size of tablet computers vary widely. If you buy the wrong one, it will end up sitting on a desk or shelf. Get the right one and it becomes your best friend. The most important question to ask yourself is, “How am I going to use a tablet computer?” This answer will guide you toward a solution that fits your life.

Replacing Your Laptop or Desktop

Are you planning to replace your current laptop or desktop computer with a tablet? Whether this is possible or not depends upon how you use your current computer.

If you primarily use your computer to surf the Web, watch videos and listen to music, then you can easily replace it with a tablet. These handheld devices are designed for those activities, as well as, viewing photos, reading e-books, and playing games. Tablets are only limited by the apps available for them and their input capabilities (touchscreen, virtual keyboard, and other input devices).

However, if you do serious computing, which may include something as simple as word processing or blogging, then

The number one purpose of a tablet computer is one-handed computing. It is a mobile device which will perform apps without needing a desk to support it. It should be light enough to hold with one hand while poking the touchscreen with the other. As an acceptable alternative (or if it's a little heavy) the tablet may rest in your lap while sitting on the sofa or get support from your chest while lying in bed. But if you know that you will be in situations that require you to walk around while using the tablet, its weight will be a major consideration.

In my informal tests, I determined that tablets over one pound, which includes the iPad and virtually all comparable tablets with nine to ten inch screens, are a little too heavy for use while wandering at a construction site. Most of the smaller tablets with seven-inch screens are well below the one pound mark and are ideal for one-handed computing. This explains the enormous popularity of the Apple iPad mini which is already cutting into the sales of the regular iPad.

Key Tablet Computer Features

To evaluate tablet computer value, you need to understand what you're getting for your money. Knowing the meaning of the terminology is helpful when looking at tablet computer ads or reading the specs on the side of the packaging. The following is a guide to the features and jargon that you will encounter and what it means to your purchasing decision.

Tablet Computer Operating Systems

Our computers have made us accustomed to referring to operating systems. When looking at laptops and desktops we think of Windows, OS X (for the Mac), and Linux. They each have distinct meaning when related to the availability of software. While you can get software for each of these systems, they are not directly compatible. Often software will be available for Windows while it has never been ported to other computer systems.

The same is true for tablet operating systems, although the differences are less significant to the availability of the most popular apps. The reason for this is major applications (Netflix, Kindle, Dropbox, etc) are developed for all the tablets and are readily added to a specific operating systems. Tablet software is generally not as demanding as Windows or OS X software and needs to run in one gig of RAM (the amount of RAM available in most tablets).

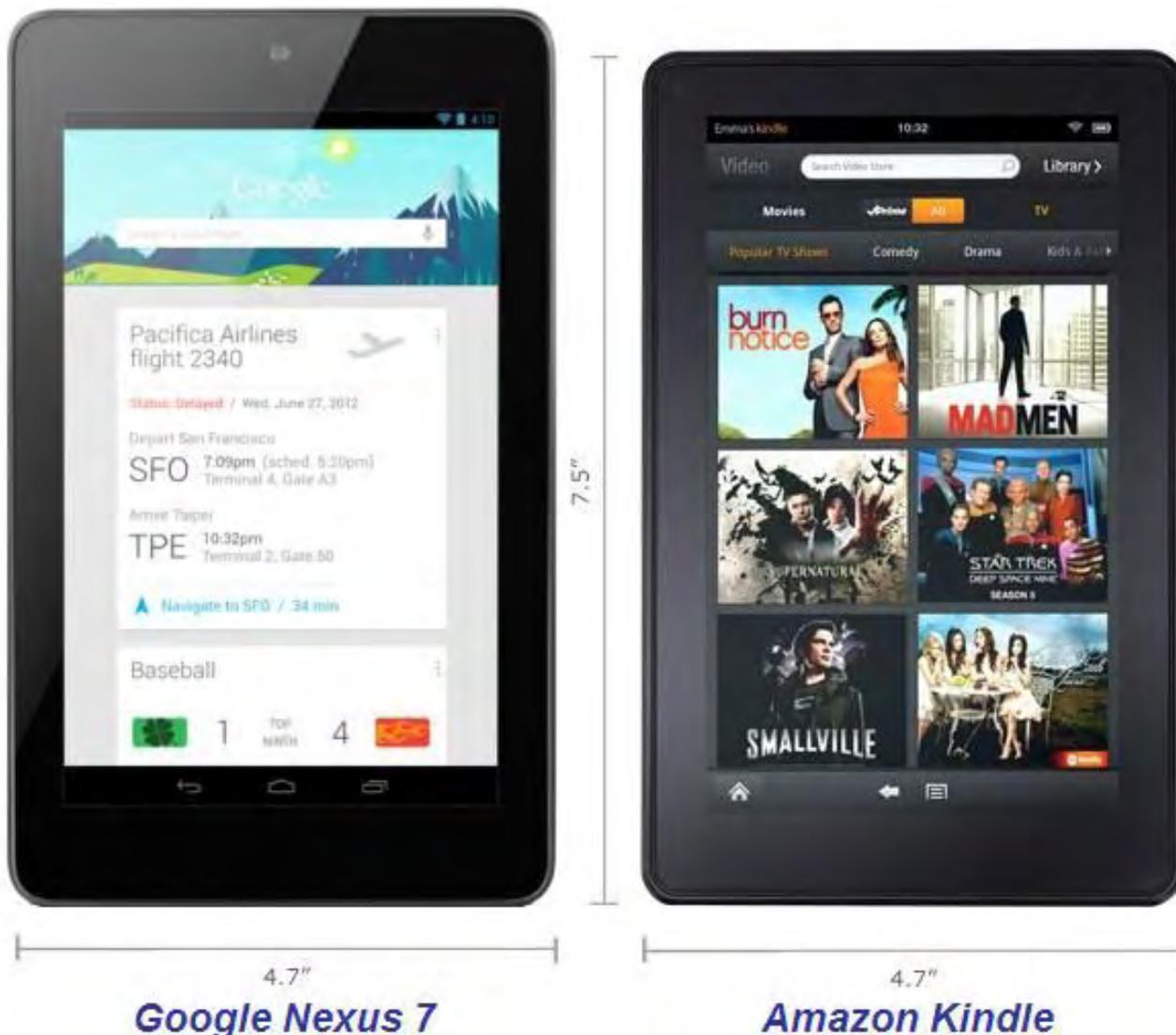
Apple iOS

Apple's iOS operating system is synonymous with the iPhone and iPad. It was designed originally for the iPhone and became the platform for all the iPad tablets. It runs only the apps available through the Apple iTunes App Store (itunes.apple.com/us/app/apple-store/id375380948?mt=8) of which there are literally hundreds of thousands. Many of the apps available for the iPad were written for the iPhone, but they will run without a problem on the iPad.

You can only install applications through Apple which may limit you a little, but it also protects you from some apps which would exploit your system. You will not be able to install apps written for other non-Apple tablets.

Android

Most of the non-Apple tablet computers run the Android operating system from Google (or some version of it). A primary source of Android apps is Google Play (play.google.com/store/apps) which is Google's Android version of the Apple's App Store. Most Android tablets (and smartphones) will directly access Google Play.



Both the Google Nexus tablets and the Amazon Kindle Fire tablets run on a version of the Android operating system.

However, note that while both the Amazon Kindle Fire and Barnes and Noble Nook tablets run a modified version of Android, they each have their own app store and don't directly access Google Play. There are ways to access Google Play apps on both the Kindle Fire and Nook. Kindle Fire has a setting for allowing the installation of unknown applications. This will let you install a Google Play app. With the Nook a special SD card offers access to Google Play while it is inserted.

Android tablets will not run Apple iPad apps. This is probably not an issue since it is now reported that there are about the same number of Android apps as Apple iOS apps available. The number of apps is not particularly significant since no one uses hundreds of thousands of apps. There are only a handful which are important, and they are probably available for all tablets, including the latecomer Microsoft Surface tablet.

Windows 8 RT

Microsoft has recently taken up the challenge of the tablet computer market by introducing Windows 8 and the Surface Tablet. Windows 8 tablets are not compatible with any other tablet on the market.

While Windows 8 comes in two versions, Windows RT (tablet only) and Windows 8 Pro (tablet and full Windows), the Modern interface found in both versions is considered the primary tablet interface. Special applications need to be written for the Modern interface which are not compatible with Apple iOS, Google Android, or traditional Windows Desktop itself. (There Windows RT apps will not run on other non-Windows 8 computers.)



The Microsoft Surface with Windows 8 Pro might be described as a Windows laptop computer that happens to act like a tablet. The Microsoft Surface with Windows RT is just another tablet computer (no "real" windows) with a keyboard option.

It is estimated that there are about 150,000 Modern interface apps already available for Windows 8 tablets which is well below that of Apple iOS or Android. Most likely, the apps most important to you will become available. If there is an app critical to you, you may want to check the Microsoft App Store (windows.microsoft.com/en-US/windows-8/apps) before going with a Windows 8 tablet.

If you just want a tablet computer, Windows 8 RT doesn't offer any advantage over other tablet operating systems. You will be stuck the Microsoft blessed apps found in the store without access to other sources of software. None of your Windows legacy software will run in Windows RT. If you want to run your Windows software, you will want a tablet with full Windows such as the Surface with Windows 8 Pro—coming in January. But then, it is as if you're buying an ultra-light laptop which can act as a heavy tablet (two pounds).

Tablet Size and Shape

With the introduction of the smaller Kindle Fire in 2011, the tablet market broke into two segments: the larger nine to ten inch screen market established by the original iPad and the mid-size tablet (between the iPad and smartphone) market with smaller screens and better more mobility. These lighter tablets fit into a purse and take up less room in a briefcase. Their less-than-one-pound weight makes them better for one-handed computing. The significance in this difference in size did not truly register until the introduction of the Apple iPad mini which has started to cannibalize the sales of its larger brother the iPad. While Apple introduced the mini to compete in the smaller market, Amazon and Google are now offering larger tablets with the Kindle Fire HD 8.9" and Nexus 10 respectively.

Screen Resolution

The most touted feature of the tablet screen—and possibly the most overrated—is the resolution. The iPad 4 with its Retina display has received rave reviews, yet the smaller iPad mini with a lower resolution is eating into iPad sales. The question is, "How

important is screen resolution to the consumer?" Maybe the resolution on most tablets is just good enough that a little more improvement doesn't mean much. The Google Nexus 10 outshines the iPad Retina display in resolution, but will that make a difference in sales? At some point the detail offered by the screen goes beyond the capability of the human eye.

Screen Size

Of more importance is the physical size of the screen. It's been found that the smaller the screen the less people browse the Web. The smaller text size and links make it more difficult to read and navigate on the smaller screen (fat finger syndrome). This has less effect on games which are designed for touch (big buttons), reading books, looking at photos, or watching videos. You can enlarge Web pages with a reverse pinch, but that's a bit of a hassle. If your major activity will be Web browsing, then you may want to consider one of the larger tablets. Otherwise, you might prefer the lighter smaller tablets.

Price is always on the side of the smaller tablets and their smaller screens. Going with a lighter, more mobile tablet will save between \$150 and \$200 for comparable features.

Screen Shape

For browsing the Web, I prefer the boxy shape of the iPad. The almost square shape is more suited to the standard Web page. The elongated shape of some tablets such as the Kindle Fire makes Web pages either too short or too narrow, depending upon the orientation of the tablet. The iPad shape is also a little better for viewing photos, takes better advantage of the available screen space for standard images. The screen shape doesn't have much effect on reading e-books since e-books reformat according to your preferences.





While the iPad (bottom) has black bars top and bottom when streaming videos, the shape of the Kindle Fire (top) takes better advantage of the available screen shape. However, the iPad's screen width to height ratio of is better for browsing Web pages.

If you're watching video, the wider HDTV format of many tablets may be preferable, often making the best use of the available screen. Of course, screen shape has no impact upon music.

Onboard Storage

Data storage on a tablet computer is quoted in gigabytes. Some models may have as little as 8GB. The iPad varies from 16GB to 64GB. How much you need will depend on what you're planning to store in it. The hogs of space are videos, music and photos, in that order. If those are your major applicaitons, then you may be looking for the max. If e-books are your thing, or you're watching Netflix from the Internet, then you will get by with a minimum of onboard storage.

Some of the tablets (e.g. iPad, Kindle Fire, Surface) offer Cloud storage on the Internet to augment your storage capacity, but it is usually pretty limited—and unusable when you don't have an Internet connection. There is a fee for increasing the amount of Cloud storage capacity.

Another option for the iPad is the Seagate GoFlex Satellite Mobile Wireless Storage 500GB USB (www.amazon.com/gp/product/B004Z0S7K6/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B004Z0S7K6&linkCode=as2&tag=comput0b9-20) hard drive. With this you can bypass the minimal storage of the 16GB model iPad. There is also the Kingston Wi-Drive 32GB USB 2.0 Pocket-sized Portable Storage (www.amazon.com/gp/product/B00576APEI/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00576APEI&linkCode=as2&tag=comput0b9-20) flash drive for iPad and most Android tablets.

If a tablet has an additional USB port (separate from the port used to connect to a computer), then you can probably use a USB flash drive for extra storage. However, most tablets do not offer enough power to run an external USB hard drive. In that situation you will need either a drive with its own power or a USB hub with a separate power supply. However, be sure that the USB port is enabled for normal function. You can't use the Kindle Fire or iPad computer connection for this purpose.

Storage Expansion Slot

One of the better features found on some tablets is a Secure Digital (SD) card slot (usually microSD or microSDXC). This is a big plus on the Barnes and Noble Nook, many of the Android tablets, and the Microsoft Surface, but it's not available on the iPad, the Kindle Fire, or the Google Nexus. Getting another 32GBs of built-in storage can add \$100 to the price of a tablet. But, since SD cards can be swapped out, one SD slot on your tablet makes your data storage capability unlimited. Look for this when shopping for a tablet.

Wi-Fi Versus 3G/4G

Virtually all the tablet computers offer Wi-Fi. This wireless connection has become our primary method for connecting with the rest of the world. A huge percentage of computer users have enabled Wi-Fi in their homes and it is the main Internet connection for tablet computers. If you don't have Wi-Fi readily available, then you should either reconsider even buying a tablet computer—that is unless you plan to sign up for a cellular data plan. Wi-Fi is available in so many places (McDonald's, hotels, airports, coffee shops) that it's usually easy to find.

However, if you're always on the move and need a constant connection (even in the car), then it may be worthwhile to find a tablet which is cellular capable. Then, just like a smartphone, you can stay always connected and Internet ready. The cellular 3G/4G capability is an option for all iPad models, the Amazon Kindle Fire HD 8.9", the Samsung Galaxy, and a few other Android tablets. The cellular data feature adds to the price of the tablet (\$130 to \$300), plus you need a cellular data package from a wireless provider (usually about \$30 per month). Since I use my tablets at home (only occasionally on the road), all I need is the Wi-Fi. I suspect that's true for most people.

Standard USB Port

While most tablets support Bluetooth for adding devices such as keyboards and mice, some tablets include a full-function USB port which will allow you to plug-in flash drives and other USB devices. The problem is determining if the USB port listed on the box for a particular tablet computer will allow you to plug-in a flash drive to expand storage or a digital camera to download photos.

Many tablets will list a USB port in some form, but often they are only for recharging and computer connections. They don't work with other devices. The Microsoft Surface and Nexus 10, along with a number of other Android tablets, are supposed to offer full USB support, but, if this feature is important to you, check it out for yourself. Search the Web for specific information or plug a flash drive into a demo unit at the store. You don't want to wait until you get home to find out that the USB port has limited function.

Front Facing Camera

The purpose of the front facing camera is video conferencing (Skype or Facetime on the iPad). It is generally a lower quality camera than the rear facing camera, but it is now standard on most new tablets. If you don't care about making video calls then this feature will be of little interest to you—unless you just want to take pictures of yourself or just need a mirror. I couldn't find any data on how many people actually do video conferencing with their tablet computers, but you know if this is something you need.

Rear Facing Camera

Rear facing cameras are better quality than the front facing cameras because their purpose is to actually take photos. While they are common on many tablets, not all tablet computers have bothered to add cameras. I'm not sure how many people like to hold up a tablet to take a picture. I see plenty of people using their smartphones to record daily activities or a random odd sight, but I have never seen anyone holding up a tablet while clicking away. I use a digital camera myself, but then I don't own a smartphone.

Audio and Microphones

Tablet computers generally include built-in speakers and a stereo audio jack for headphones. Some include stereo speakers. It is difficult to see how these features can compete with a home audio system for music, but if you have used an iPod for your music collection, I would guess that plugging headphones into the stereo jack could be comparable. It certainly serves the purpose when traveling and watching videos.

Microphones are available on tablets with front facing cameras. When participating in a video phone call, the microphone is needed for audio communication.

GPS

Not many of the tablet computers offer GPS for navigation. Some use a Wi-Fi tracking system which can estimate your location based upon nearby Wi-Fi signals, but that can't be used for turn-to-turn navigation. The Nexus tablets include GPS navigation and the more expensive cellular models of the iPad have it. Since the only thing required for GPS is a satellite receiver and maps, you

would think that more tablets would offer it.

I use a stand-alone GPS that talks to me with an Australian accent, warns me about red light cameras, and acts as my hands-free phone. It is definitely cool. I wouldn't mind having GPS in a tablet computer.

Pick the One that Fits You Best

I've listed some of the major features found on tablet computers. It's up to you to decide which are most important to you. Then pick the tablet that comes closest to your needs and fits within your budget. I found this tablet comparison chart (tabletnation.com/compare) at TabletNation.com which lets you pick various tablet comparisons. It will give you good overall information, but some areas are vague, such as the USB port category which doesn't show if the USB port is full-functioning.

Happy Shopping!

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. Jack is now in the process of updating and compiling his hundreds of articles and columns into e-books. Currently available:

Now at Amazon! Jack's *A Beginner's Guide to AutoHotkey, Absolutely the Best Free Windows Utility Software Ever!: Create Power Tools for Windows XP, Windows Vista, Windows 7 and Windows 8* (www.amazon.com/gp/product/B009SI3F52/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B009SI3F52&linkCode=as2&tag=comput0b9-20).

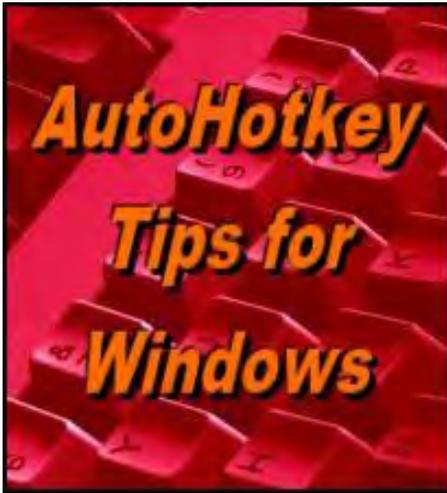
Our second compilation of stupid *ComputerEdge* cartoons from 2011 and 2012 is now available at Amazon! *That Does Not Compute, Too! ComputerEdge Cartoons, Volume II: "Do You Like Windows 8 or Would You Prefer an Apple?"* (www.amazon.com/gp/product/B009JY65QQ/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B009JY65QQ&linkCode=as2&tag=comput0b9-20)

Currently only at Amazon.com, *Jack's Favorite Free Windows Programs: What They Are, What They Do, and How to Get Started!* (www.amazon.com/gp/product/B008BLUZRS/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20).

Available from Amazon, *Misunderstanding Windows 8: An Introduction, Orientation, and How-to for Windows 8* (www.amazon.com/gp/product/B007RMCRH8/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20)! Also available at Barnes and Noble (www.barnesandnoble.com/w/misunderstanding-windows-8-jack-dunning/1109995715?ean=2940014229463) and ComputerEdge E-Books (www.computoredgebooks.com/Windows-Tips-and-Tricks_c4.htm?sourceCode=writer).

Available exclusively from Amazon, *Windows 7 Secrets Four-in-One E-Book Bundle* (www.amazon.com/gp/product/B00801M5GS/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20), *Getting Started with Windows 7: An Introduction, Orientation, and How-to for Using Windows 7* (www.amazon.com/gp/product/B007AL672M/?&tag=comput0b9-20), *Sticking with Windows XP—or Not? Why You Should or Why You Should Not Upgrade to Windows 7* (www.amazon.com/gp/product/B00758J4L6/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20), and *That Does Not Compute!* (www.amazon.com/gp/product/B0052MMUX6/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20), brilliantly drawn cartoons by Jim Whiting for really stupid gags by Jack about computers and the people who use them.

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Yet, One More Reason to Use AutoHotkey Free Software!

The Successful Script Writing Process (Part 1): Snapping Windows

“Writing AutoHotkey Scripts that Work...Eventually!” by Jack Dunning

Programming is a process of trial and error. By doing the work one piece at a time, anyone can successfully write a script. In this first part a script for window resizing and moving is studied.

If you've ever written a short program script, only to give up when you couldn't get it working, you will want to read this column. While it may look easy for some people, the reality is that writing a program (even short scripts) is a methodical process requiring many baby steps. There are inevitable errors and direction changes occurring at each step which must be corrected one at a time. Even super programmers suffer through this trial and error process. Don't give up. It's normal.

Writing program scripts is frustrating when things go wrong—which is almost always. Non-programmers look at a long set of code lines and wonder how anyone could ever figured it out. People think that expert software writers just sit down and whip out a new application with thousands of lines of code in an afternoon. That's not what happens. It is rare that any routine runs cleanly the first time. That's why programmers build applications one brick at a time. There may be some people who sit down and write a complete program which will run the first time out, but I'm not one of them. Whenever things look even mildly complicated, I take a systematic approach to programming which allows me to test (success!) as I go, eventually cobbling together the working pieces in a logical sequence.

Normally in this column, I present the finished code for a new script and explain how the code works. However, this time I plan to show the programming process I suffered through as the script was written and debugged. This approach to introducing a new AutoHotkey script serves two purposes. The first is to explain how the code works and what's needed to get a functional script. The second is to show how programming really gets done and the techniques that make a script run—even if it eventually turns into a long complex application. No application is too difficult if you approach it properly.

Replacing Windows Aero Snap or AquaSnap

Windows Aero Snap and the AquaSnap utility allow the resizing and placement of windows on the Windows Desktop by dragging the windows to the appropriate edge of the computer screen. It is convenient for viewing multiple windows simultaneously and works pretty well. But what if you want to just tell the window where to go rather than dragging windows all over the screen? With AutoHotkey you could set up a hotkey combination for each location on the screen (top half, bottom half, left half, right half, upper left corner, upper right corner, bottom right corner, and bottom left corner), however that would take a lot of hotkey combinations which could be difficult to remember. Perhaps the windows can be moved by making a selection from a dropdown menu which opens with just one hotkey combination (see Figure 1).

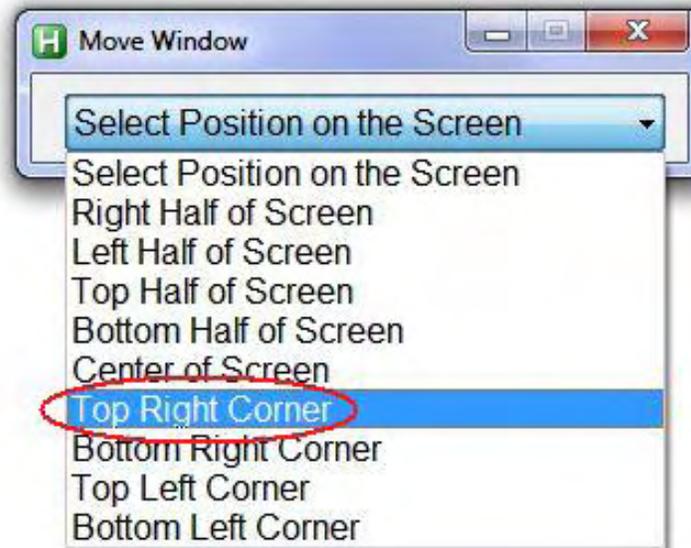


Figure 1. An AutoHotkey combination opens a dropdown menu for repositioning a window.

When "Top Right Corner" is selected from the dropdown menu the last active window is moved to the top right corner of the computer screen (see Figure 2).



Figure 1. When "Top Right Corner" is selected from the dropdown menu the last active window is moved to the top right corner of the computer screen.

While the routine that creates this dropdown menu and moves the window is not super complicated, I made a number of mistakes while writing it. This is normal for any programming. If you're new to programming, you may be tempted to write the entire script all at once, then start debugging it. Yet unless a script is only a few lines long, it is best to break it down into manageable pieces.

It is also common to copy another similar script, then make modification for the new script. There is nothing wrong with this approach as long as the changes are minor. I do it all the time. The problem comes in when there are significant differences in the planned results. The original copy's script may actually get in the way of writing a clean solution.

For example, with this window moving routine I originally copied an example which included a function to do the final window resizing and movement. Functions are a good way of repeating similar actions without adding almost identical code multiple times. However, when I was close to the end of the process, I realized that the function actually added unnecessary complications and quite a few more lines of code. If, rather than copying previously written code, I had started from scratch (as is shown here), I would have saved myself time and never introduced the function in the first place.

The Script Writing Process

The first step is to break the end result into basic functional units. In this case, the first result we want is to make a dropdown menu appear on the screen. Next we want a selection from the dropdown menu to initiate an appropriate action. Lastly we want build corresponding the action into the script. The steps I conceived are as follows:

1. Create a dropdown menu.
2. Initiate action from a dropdown selection.
3. Make each possible selection work.

There is nothing sacred about this breakdown. It is merely a way to cope with the problem without trying to do everything at once. If the problem were more involved (building the *ComputerEdge* Web editing system), I would do a flow chart of the pieces (data files and functions). But for most AutoHotkey scripts, a conceptual breakdown is enough. I probably wouldn't even write it down. It is more about the process than the steps. You could start with writing the window movement routines first, then add the dropdown menu. I like to start with the interface (in this case the dropdown menu), then add the features.

Creating the Dropdown Menu

If you are new to AutoHotkey and/or writing scripts, you may want to check out "Installing AutoHotkey and Writing Your First Script" (www.computoredge.com/misc/Installing_AutoHotkey_and_writing_your_first_script.html). If you're more experienced and just want to see the final window moving script, go to the end of the article.

Making a dropdown menu appear on your screen is relatively simple. You use the GUI (Graphic User Interface) command (www.autohotkey.com/docs/commands/Gui.htm) to ADD elements, and SHOW the graphic. Remember, all I want to do at this point is make something appear on the screen. I added the following code to a new AutoHotkey script:

```
^#M: :
Gui, Add, DropDownList, , Select Position on the Screen||Right Half of Screen
    |Left Half of Screen|Top Half of Screen|Bottom Half of Screen|
Gui, Show, , Move Window
Return
```

(Note that some of the selections in the DropDownList are continued on the next line for better display on this page. As long as each following line is preceded by the vertical delimiter "|" it will be treated as a continuation of the previous line.)

I've selected the hotkey combination CTRL++M (^#M before the double colon on the first line) to activate the routine. Even if I don't plan to use the hotkeys when the script is completed, setting it up will make testing easier during the coding process.

The ADD command puts in the DropDownList with the menu items listed at the right. Each item is separated with the vertical line character (|). To make the menu default to a particular value on the list, place a double vertical line (||) at the end of the item. The dropdown list will initially appear with a blank entry if no default is marked.

The GUI, SHOW command activates the dropdown list. Without it the menu will not appear when the hotkey combination is pressed.

After saving the script, I right-click on the file name and select Run Script (See Figure 3 (top)). The little green icon appears in the System Tray on the right side of the Windows Taskbar. At most future iterations to test the latest version, I will save the file again and right-click that System Tray icon selecting Reload This Scrip (see Figure 3 (bottom left)).

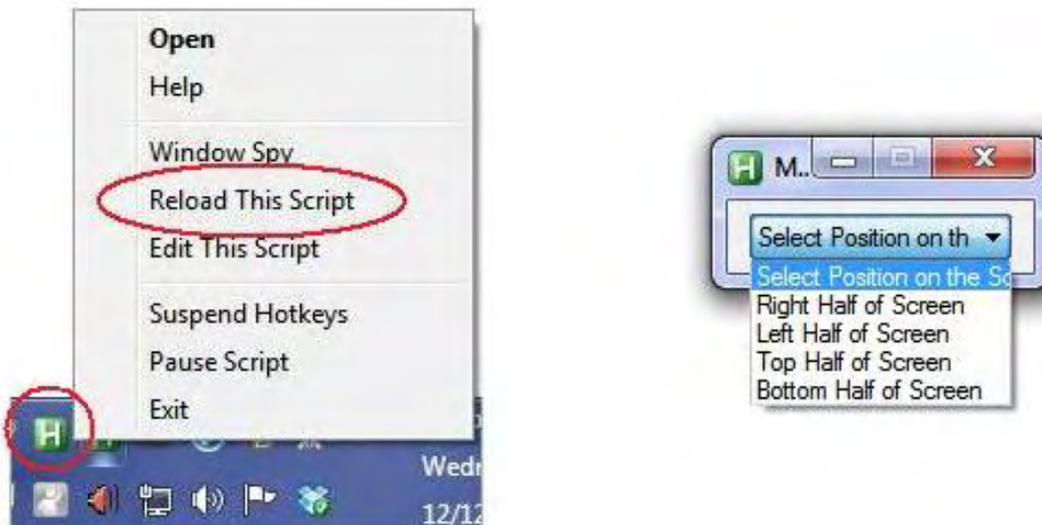
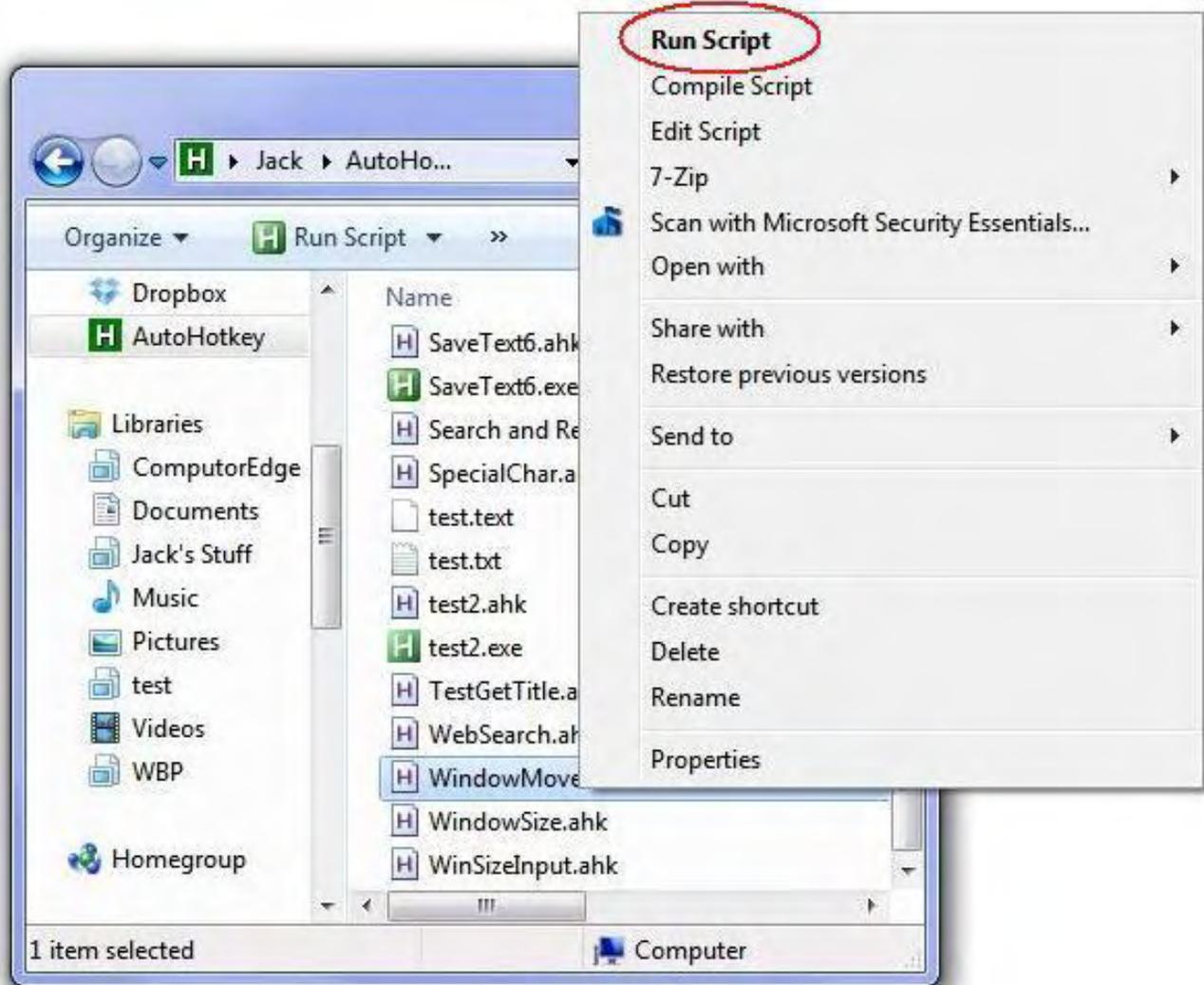
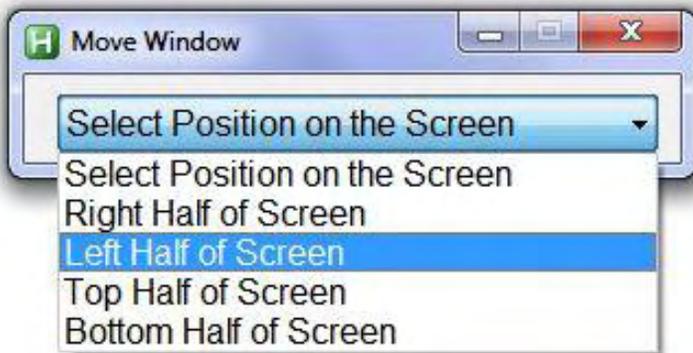


Figure 1. Right-click on the saved .AHK file name and select Run Script to activate (top). Right-click on the AutoHotkey System Tray icon to

Reload This Script (bottom left). The activated AutoHotkey dropdown menu shows options when clicked on (bottom right).

When the hotkey combination CTRL++M is activated the dropdown menu pops up (see Figure 3 (bottom right)). The primary problem with the dropdown menu is its size which cuts off some of the text and the title of the menu. This lack of formatting is corrected by adding the GUI, FONT command and putting dimensions on the GUI, ADD and GUI, SHOW commands:

```
^#M: :
Gui, Font, s12, Arial
Gui, Add, DropDownList, w275 , Select Position on the Screen
    ||Right Half of Screen|Left Half of Screen
    |Top Half of Screen|Bottom Half of Screen|
Gui, Show, W300 H40 , Move Window
Return
```



The GUI, FONT line sets the font size (12 pts) and font family (Arial) for the pop-up. In the GUI, ADD line the "w275" sets the width of the menu items to 275 pixels. In the GUI, SHOW line, the "W300 H40" sets the dropdown dimensions to 300 pixels wide by 40 pixels high. See the appearance of the new pop-up format at left.

We now have the dropdown menu set up. You can select items, but it doesn't do anything yet. Click the "x" in the upper right corner to close the pop-up. The next step is to set up the working dropdown list so that it actually does something.

Initiate Action From the Dropdown Menu

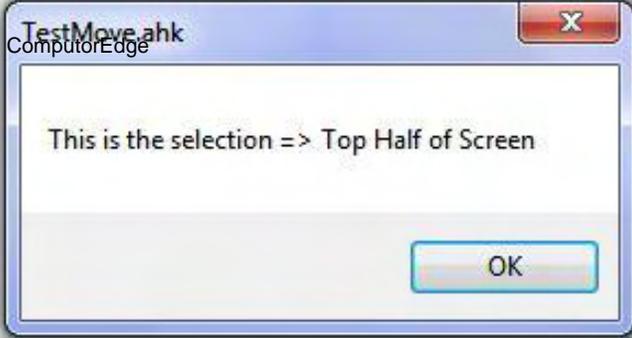
The first requirement is a variable for passing the selection to a subroutine. The variable *Position*, created with vPosition, will be used to pass the selection to the subroutine *PosChoice* created with the label gPosChoice. Both are inserted as options into the GUI, ADD line. Do not insert any additional commas in the option area.

```
^#M: :
Gui, Font, s12, Arial
Gui, Add, DropDownList, w275 vPosition gPosChoice
    , Select Position on the Screen||Right Half of Screen
    |Left Half of Screen|Top Half of Screen|Bottom Half of Screen|
Gui, Show, W300 H40 , Move Window
Return
PosChoice:
Gui, Submit, NoHide
MsgBox, This is the selection => %Position%
Return
```

There are a couple of errors I made when adding these options. The first was not creating the subroutine with the label name *PosChoice*. If AutoHotkey sees a new label (gPosChoice), it looks for the subroutine with the same name (PosChoice:). If it isn't there, you get an error when the script is activated. Fortunately, the error windows will tell you exactly what's wrong.



The second error was not including the GUI, SUBMIT line in the subroutine *PosChoice*. The submit loads the value of your selection



into the variable *Position*. Without it the variable will be empty. It is not unusual to miss this kind of requirement.

When something isn't working right I'll add a line such as the "MsgBox, This is the selection => %Position%" seen in the subroutine for displaying the value of a designated variable. When the variable showed up blank in the MsgBox, I remembered that the GUI, SUBMIT was required to set the variable value after making a selection. Then

the message box displayed the selected value, see image at left. The NoHide option prevents the pop-up from closing after a selection is made.

Sometimes I will place an alert window such as the MsgBox shown at a couple of different points in the script to get specific information about what's happening. This can save a lot of time and guesswork. Later, I can remove the MsgBox commands or just place a semicolon in front of the line so AutoHotkey will ignore it.

Using the text shown in the dropdown menu as the value for a variable is awkward, so by adding the option *AltSubmit* to the GUI, ADD line, the number of the item (1, 2, 3, 4, or 5) rather than the text will be stored in the variable value.

```

^#M: :
Gui, Font, s12, Arial
Gui, Add, DropDownList, AltSubmit w275 vPosition gPosChoice
    , Select Position on the Screen||Right Half of Screen
    |Left Half of Screen|Top Half of Screen|Bottom Half of Screen|
Gui, Show, W300 H40 , Move Window
Return
PosChoice:
Gui, Submit, NoHide
MsgBox, This is the selection => %Position%
Return

```

When adding the different window moving commands to the PosChoice subroutine, it will be easier (less wordy) to use the number of the item location on the dropdown menu rather than the actual text, although either would work.

There remains a number of issues which may cause errors that need to be resolved, plus the move commands must be added in a conditional set of statements. Next time, I will go into the AutoHotkey commands for creating the If statements and how to calculate the window resizing and movement on the screen as I continue this process. For now, here is the entire script which when pasted into an AutoHotkey script should work as advertised:

```

^#M: :
WinGetTitle, WinName, A
Gui, Font, s12, Arial
Gui, Add, DropDownList, AltSubmit w275 vPosition gPosChoice
    , Select Position on the Screen||Right Half of Screen|Left Half of Screen
    |Top Half of Screen|Bottom Half of Screen|Center of Screen|Top Right Corner
    |Bottom Right Corner|Top Left Corner|Bottom Left Corner|
Gui, Show, W300 H40 , Move Window
Return
PosChoice:
Gui, Submit, NoHide
WinGetPos, TX1, TY1, TW1, TH1, ahk_class Shell_TrayWnd
WinGetPos, X1, Y1, W1, H1, Program Manager
X2 := W1/2

```

```
        Y2 := (H1-TH1)/2
        Y3 := H1-TH1
        X4 := W1/4
        Y4 := H1/4
If Position = 2
{
    WinMove,%WinName%,,%X2%,0,%X2%,%Y3%
}
If Position = 3
{
    WinMove,%WinName%,,0,0,%X2%,%Y3%
}
If Position = 4
{
    WinMove,%WinName%,,0,0,%W1%,%Y2%
}
If Position = 5
{
    WinMove,%WinName%,,0,%Y2%,%W1%,%Y2%
}
If Position = 6
{
    WinMove,%WinName%,,%X4%,%Y4%,%X2%,%Y2%
}
If Position = 7
{
    WinMove,%WinName%,,%X2%,0,%X2%,%Y2%
}
If Position = 8
{
    WinMove,%WinName%,,%X2%,%Y2%,%X2%,%Y2%
}
If Position = 9
{
    WinMove,%WinName%,,0,0,%X2%,%Y2%
}
If Position = 10
{
    WinMove,%WinName%,,0,%Y2%,%X2%,%Y2%
}
return
GuiClose:
Gui, Destroy
```

If you peruse this script you will see a number of additions which are needed to prevent other errors I encountered. This is all part of the normal programming debugging process which I will continue next time.

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. Jack is now in the process of updating and compiling his hundreds of articles and columns into e-books. Currently available:

Now at Amazon! Jack's *A Beginner's Guide to AutoHotkey, Absolutely the Best Free Windows Utility Software Ever!: Create Power Tools for Windows XP, Windows Vista, Windows 7 and Windows 8* (www.amazon.com/gp/product/B009SI3F52/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B009SI3F52&linkCode=as2&tag=comput0b9-20).

Our second compilation of stupid *ComputerEdge* cartoons from 2011 and 2012 is now available at Amazon! *That Does Not Compute, Too! ComputerEdge Cartoons, Volume II: "Do You Like Windows 8 or Would You Prefer an Apple?"* (www.amazon.com/gp/product/B009JY65QQ/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B009JY65QQ&linkCode=as2&tag=comput0b9-20)

Currently only at Amazon.com, *Jack's Favorite Free Windows Programs: What They Are, What They Do, and How to Get Started!* (www.amazon.com/gp/product/B008BLUZRS/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20).

Available from Amazon, *Misunderstanding Windows 8: An Introduction, Orientation, and How-to for Windows 8* (www.amazon.com/gp/product/B007RMCRH8/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20)! Also available at Barnes and Noble (www.barnesandnoble.com/w/misunderstanding-windows-8-jack-dunning/1109995715?ean=2940014229463) and ComputerEdge E-Books (www.computoredgebooks.com/Windows-Tips-and-Tricks_c4.htm?sourceCode=writer).

Available exclusively from Amazon, *Windows 7 Secrets Four-in-One E-Book Bundle* (www.amazon.com/gp/product/B00801M5GS/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20), *Getting Started with Windows 7: An Introduction, Orientation, and How-to for Using Windows 7* (www.amazon.com/gp/product/B007AL672M/?tag=comput0b9-20), *Sticking with Windows XP—or Not? Why You Should or Why You Should Not Upgrade to Windows 7* (www.amazon.com/gp/product/B00758J4L6/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20), and *That Does Not Compute!* (www.amazon.com/gp/product/B0052MMUX6/ref=as_li_ss_tl?ie=UTF8&tag=comput0b9-20), brilliantly drawn cartoons by Jim Whiting for really stupid gags by Jack about computers and the people who use them.

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Wally Wang's Apple Farm

“The Mobile Computing Shift” by Wally Wang

The Mobile Computing Shift; Trend Following Without Emotion; T-Mobile Gets the iPhone; The Growth of the iPad mini; Changing Keystroke Commands.

Wally Wang's Apple Farm

If you just focus on the desktop and laptop computer market, Windows still dominates. Yet if you include mobile operating systems (www.zdnet.com/mobile-is-eating-the-world-7000008315) like iOS and Android, you'll suddenly see an entirely different story.

In the early 80s, MS-DOS had to compete against Atari, Commodore, Radio Shack, and Apple computers running different operating systems. As those other operating systems gradually lost users (despite having more users at a time when MS-DOS initially had zero users), MS-DOS and later Windows gradually took over. Between 1993 and 2007, practically every computer ran Windows. After 2007, iOS and Android started taking over. Including mobile computing devices, Windows has gone from a dominant 96 percent share of the market to a much lower 35 percent share.

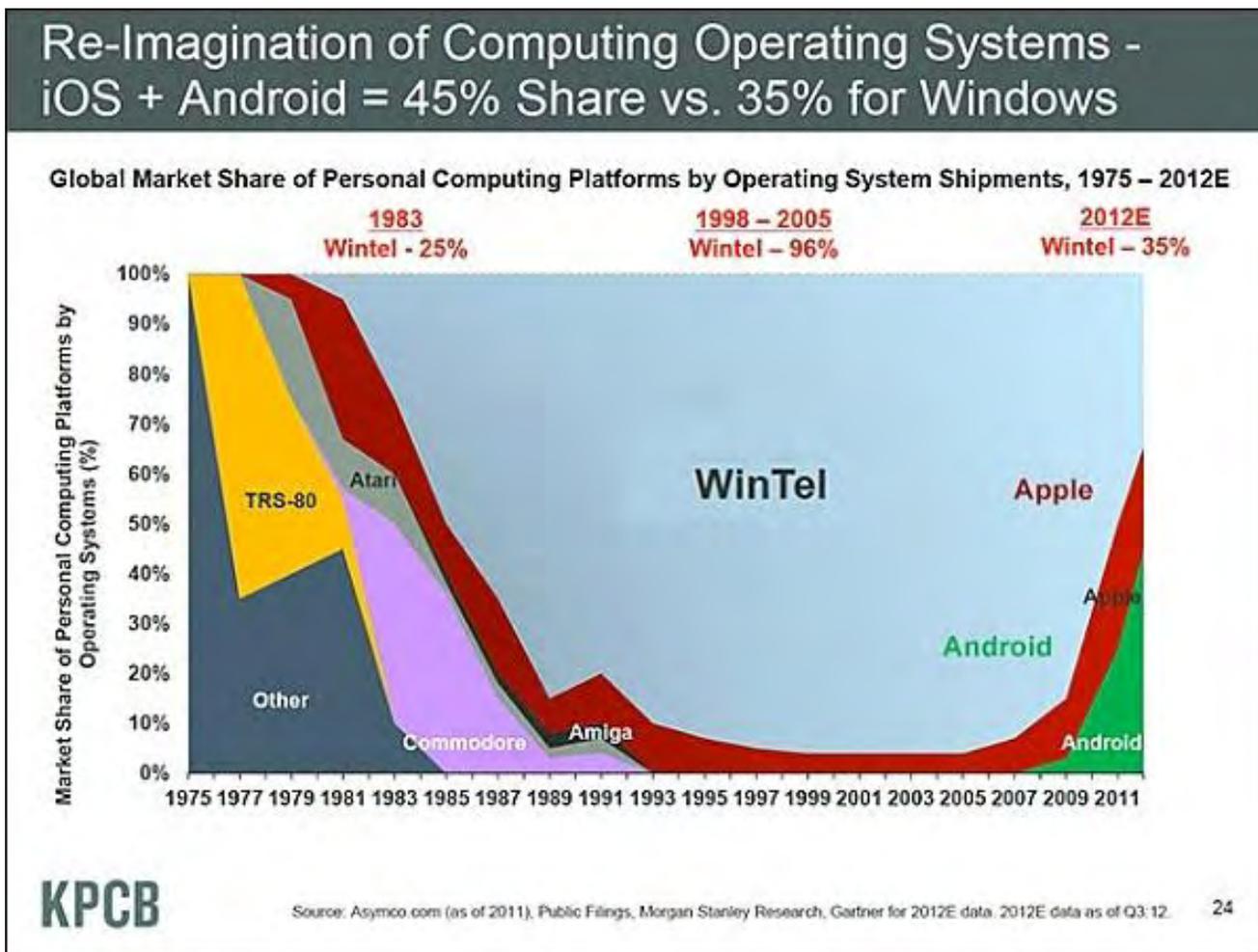


Figure 1. MS-DOS/Windows dominated the personal computer market at one time.

What are the odds that every iPhone and Android smartphone and tablet user will suddenly switch to a Windows 8 powered tablet or smartphone any time in the near future? As iOS and Android continue growing while Windows steadily shrinks (with Windows 8 providing little help in attracting new users), the trend is clear that mobile computing is the future.

People don't want to wait until they get home to check their e-mail or a news story. They want to do it now and the only way they can do that is through their smartphone or tablet. By the time they get home, they'll have accomplished the majority of their most common tasks away from their desktop or laptop computer. With less need for desktop and laptop computers, sales can't help but sink as people spend their money on mobile computing instead.

One key for mobile devices is battery life. Tech Daily recently tested the battery life of different tablets and discovered that the iPad and iPad mini offered the longest battery life (blogs.which.co.uk/technology/tablets-ebooks/which-tablet-has-the-best-battery-life-infographic). Obviously the longer you can use a mobile device without being tethered to a power cord, the more useful that device can be.

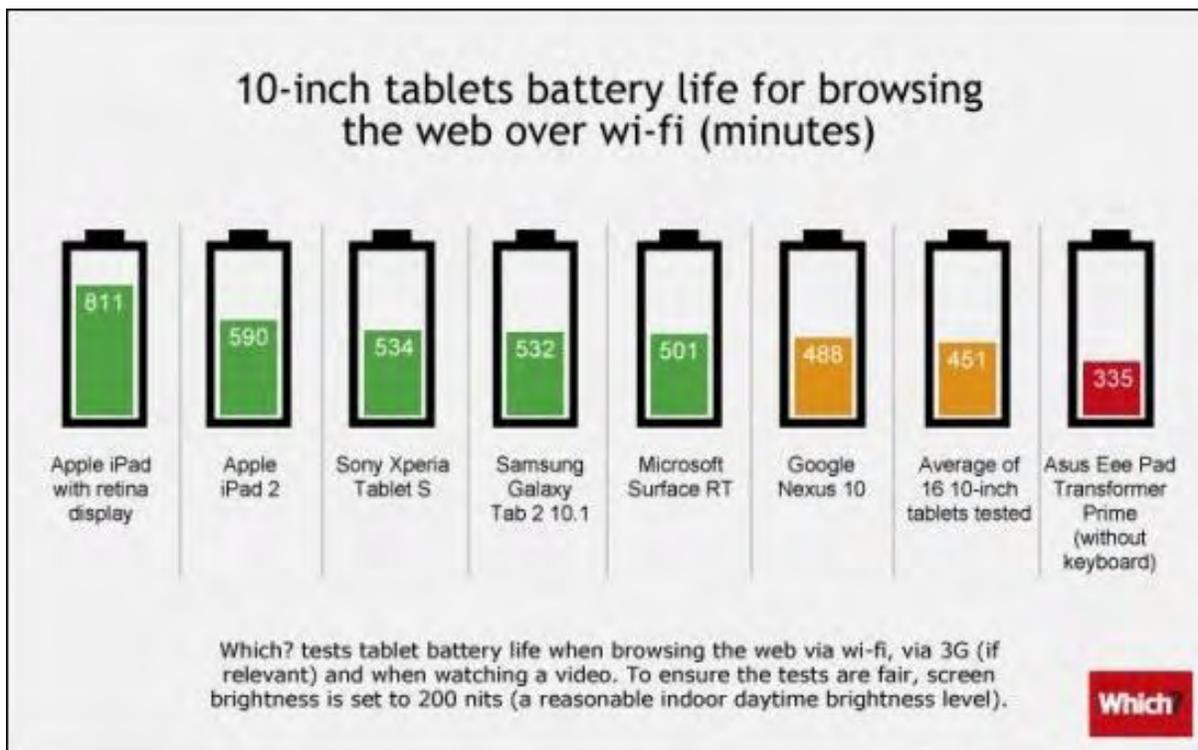


Figure 2. Battery life of larger tablets.

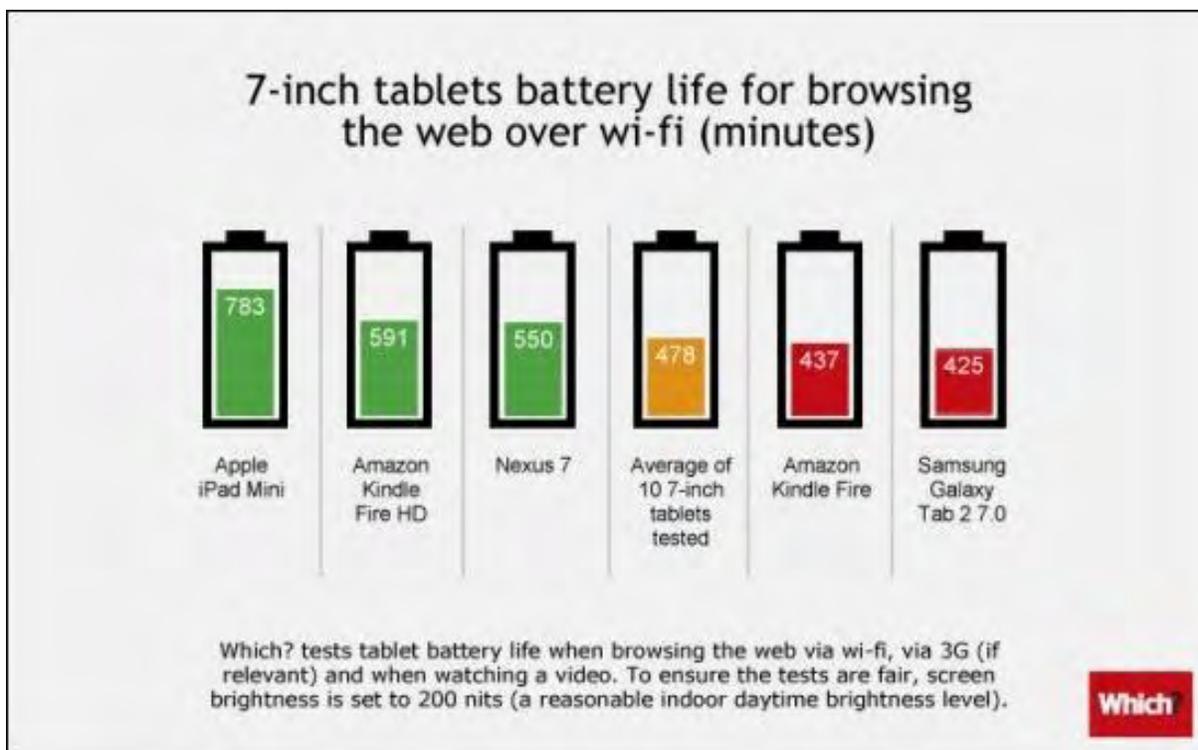


Figure 3. Battery life of smaller tablets.

Microsoft Surface tablet, running Windows RT, ran a respectable 8.5 hours, but the upcoming Surface Pro running Windows 8 will likely run 4-5 hours (www.zdnet.com/surface-pro-battery-life-the-high-cost-of-using-intel-7000008490/). That's because the Surface Pro will use an Intel processor while most mobile devices use ARM processors that specialize in using as little power as possible.

While some laptops can last much longer on batteries, their larger size and weight, coupled with their clamshell design makes a laptop much clumsier to use on the move. Anyone can pull out their smartphone and browse the Internet while standing in line at an

airport. How many people do that with a laptop computer? Battery life is important, but the smaller form factor of mobile devices will always make them easier to use on the road than a laptop computer.



Figure 4. In the past five years, Intel's stock has gone nowhere.

To see the difference between desktop computing and mobile computing, just look at the stock performance of Intel and ARM Holdings. Intel makes the bulk of the processors used in desktop and laptop computers while ARM Holdings licenses out their processor designs to companies like Qualcomm and Apple to create mobile processors for running Android and iOS.



Figure 5. In the past five years, ARM Holding's stock keeps increasing due to the shift to mobile computing.

In the past five years, Intel's stock price went from \$28 to \$20. In that same time period, ARM Holding's stock price went from \$9 to \$36. If you had just watched the trends in the switch from desktop computing to mobile computing without getting emotionally attached to the outcome, look how much you could have profited. Follow the trend and you'll find opportunities all around you. Deny the trend and five years later, you'll simply stay stuck exactly where you are today, except you'll be older, bitter, and further behind than everyone else.

Between 1983 and 2000, during the height of desktop computing's reign, Intel's stock split seven times every few years. Now that ARM Holding's processors are dominating mobile computing, anyone want to guess what their stock will likely do in the near future?

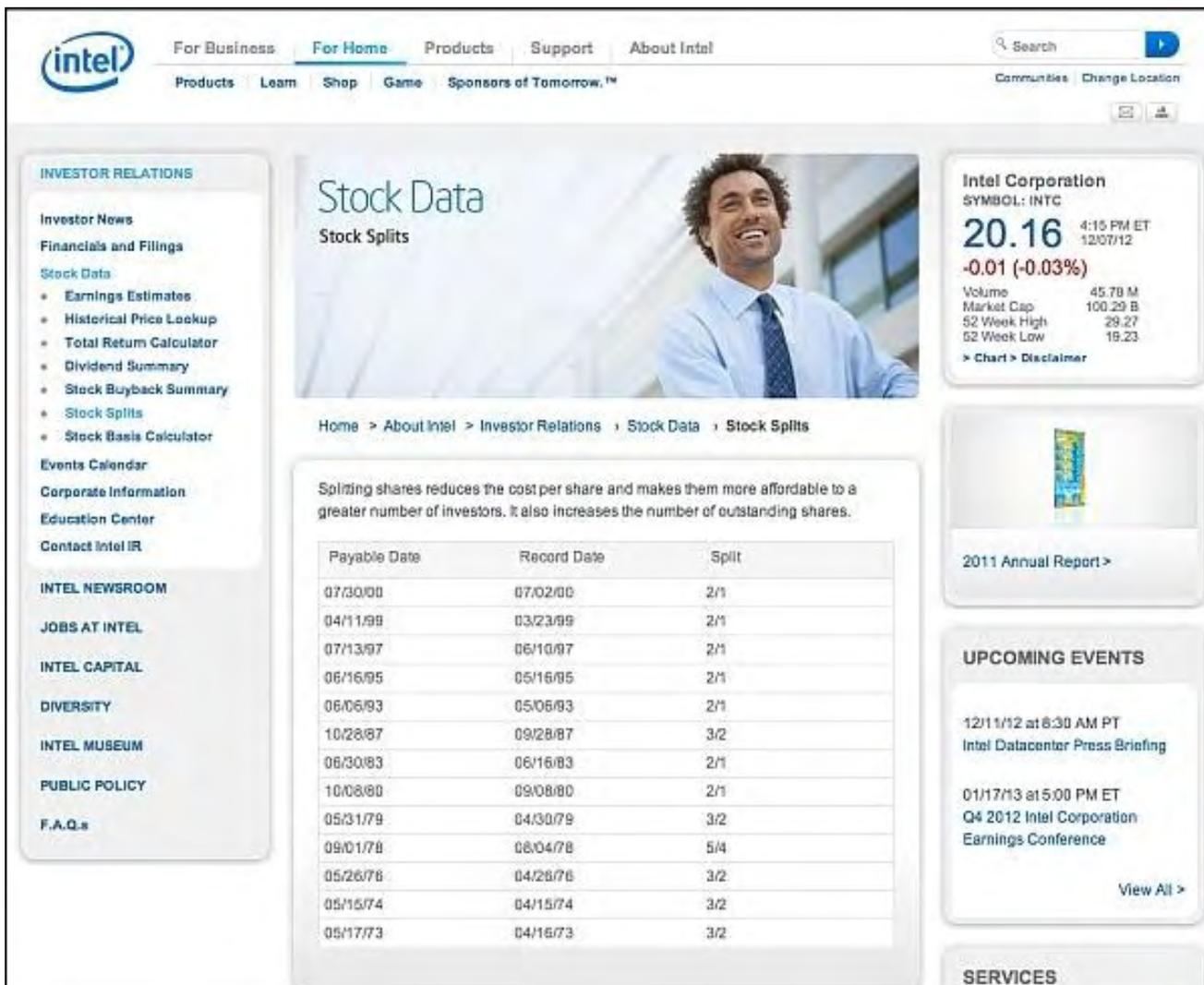


Figure 6. Intel's stock split multiple times during the heyday of MS-DOS/Windows.

As more people rely on mobile computing, it's easy to guess what will happen to any company relying on desktop/laptop computers. People who still want to deny facts might want to ask the executives at the American Tobacco Company, U.S. Leather Company, and the Tennessee Coal, Iron and Railroad Company how they handled their fall from grace. These three companies were part of the original companies that made up the Dow Jones Industrial Average because at one time, they dominated their markets.

Despite their once commanding lead in their markets and the massive amount of cash in their bank accounts, these three companies eventually faded away. Of course, that could never happen again because history has stopped repeating itself only within our lifetime, and companies that hold a dominant position today will never lose their power because nothing will ever change for the rest of eternity.

Trend Following Without Emotion

If you want to know how to make money in the stock market, the rules are simple. First, you have to become emotionally detached from the outcome. The biggest mistake most people make is to pick a stock and then get emotionally wrapped up in the outcome. If the stock goes up, they cheer. If the stock goes down, they deny that they're losing money and hold on, hoping that it will magically go up one day in the future. As you can see, this is no different than getting emotionally attached to any outcome such as whether Windows PCs are thriving or dying, and whether Macintosh and iPads are selling like mad or faltering.

Second, you have to follow the trends. If a stock you know nothing about suddenly starts rising, you want to buy that stock regardless of whether you care about that company or not. If a stock starts dropping, you want to sell whether you love that company or not. As soon as you let your emotions get involved, that's when you blind yourself to facts and start denying reality right before your eyes. This is the main reason why so many Windows PC users keep denying the downward trend of Windows PC sales. They don't want Windows to lose market share, so therefore they just get mad at anyone who presents facts they can't ignore.

Surprisingly, these two simple rules of setting your emotions aside and focusing on facts are nothing new in stock trading. Richard Schabaker created a correspondence course in the early 30s to teach people how to trade stocks using something called technical analysis. With technical analysis, you look for patterns in a stock chart and based on those patterns, you know you have a fixed probability of making money or not. It has nothing to do with emotions and everything to do with simply identifying patterns that repeat themselves over time.

Richard Schabaker's course lessons were eventually collected into a book called *Technical Analysis and Stock Market Profits* (www.amazon.com/gp/product/0273630954/ref=as_li_tf_tl?ie=UTF8&camp=1789&creative=9325&creativeASIN=0273630954&linkCode=as2&tag=the15minmovme-20), which forms the basis for how many daytraders buy and sell stocks. Daytraders can't possibly know all the financial background behind companies from so many diverse fields. Instead, they just look at the trends they see in a stock chart.

By just watching trends, it's easy to see change of any kind whether it's a stock rising or plummeting, or a shift from desktop to mobile computing. Strip away your emotions and just follow the trends and you'll come out ahead every time. Get emotionally attached to a particular company or outcome, and you'll eventually make a mistake every time.

Ultimately it doesn't matter if your favorite company's stock goes up or down. What matters is did you profit from the change? Likewise, it makes no difference which company's computers are on top just as long as you follow the greatest opportunities. Today, the greatest opportunities lie in mobile computing with iOS and Android. Tomorrow it may be something else, maybe even something by Microsoft. If you remain emotionally attached to Apple, Google, or Microsoft, you'll eventually miss a changing trend by denying facts that conflict with your beliefs, and that's the surest recipe for failing in both the stock market and life itself.

T-Mobile Gets the iPhone

When AT&T was the only carrier in the United States to sell the iPhone, their subscriber growth skyrocketed. Then Verizon got the iPhone and sales grew rapidly on Verizon's network. Then Sprint got the iPhone to stem their constant loss of subscribers. Finally, T-Mobile has announced that they'll be getting the iPhone (gigaom.com/mobile/t-mobile-ceo-confirms-the-iphone-and-the-death-of-phone-subsidies/) next year.

Unlike the other three carriers, T-Mobile plans to offer the iPhone at full price in return for giving subscribers a lower monthly plan. Instead of paying \$199 for a subsidized iPhone, T-Mobile subscribers would pay anywhere from \$650-\$850 for an iPhone, depending on the model they choose. T-Mobile claims that subscribers will save money in the long run, but in case people balk at the high upfront cost for an iPhone, T-Mobile will allow subscribers to make monthly payments, which effectively makes T-Mobile's plan similar to the subsidized plans of the other three carriers.

So by early next year, you'll be able to buy and use an iPhone on all four of the major networks in the United States. Oddly, both Sprint and T-Mobile had sold Android phones, yet continued to lose subscribers. Both carriers turned to the iPhone to stop the loss of even more subscribers.

With Android dominating the smartphone market, why would Sprint and T-Mobile need the iPhone when Android growth keeps skyrocketing in comparison to the much slower growth of the iPhone? Perhaps as Verizon discovered, iPhone customers really are more valuable than other types of phone users after all.

Turning an iPhone/iPad Into a Graphing Calculator

Many calculator apps for iOS provide basic calculating functions you'd expect to find on a simple pocket calculator. However, if you need a calculator that can turn equations into graphs, then you might need Grafikal ([click.linksynergy.com/fs-bin/stat?id=15PJQz44Qcc&offerid=146261&type=3&subid=0&tmpid=1826&RD_PARM1=https%253A%252F%](http://click.linksynergy.com/fs-bin/stat?id=15PJQz44Qcc&offerid=146261&type=3&subid=0&tmpid=1826&RD_PARM1=https%253A%252F%25)

252Fitunes.apple.com%252Fus%252Fapp%252Fgrafikal%252Fid519933025%253Fmt%253D8%2526uo%253D4%2526partnerId%253D30). This app lets you type in mathematical equations that include exponentials, logarithms, and square roots. Then the app turns your equation into a graph.

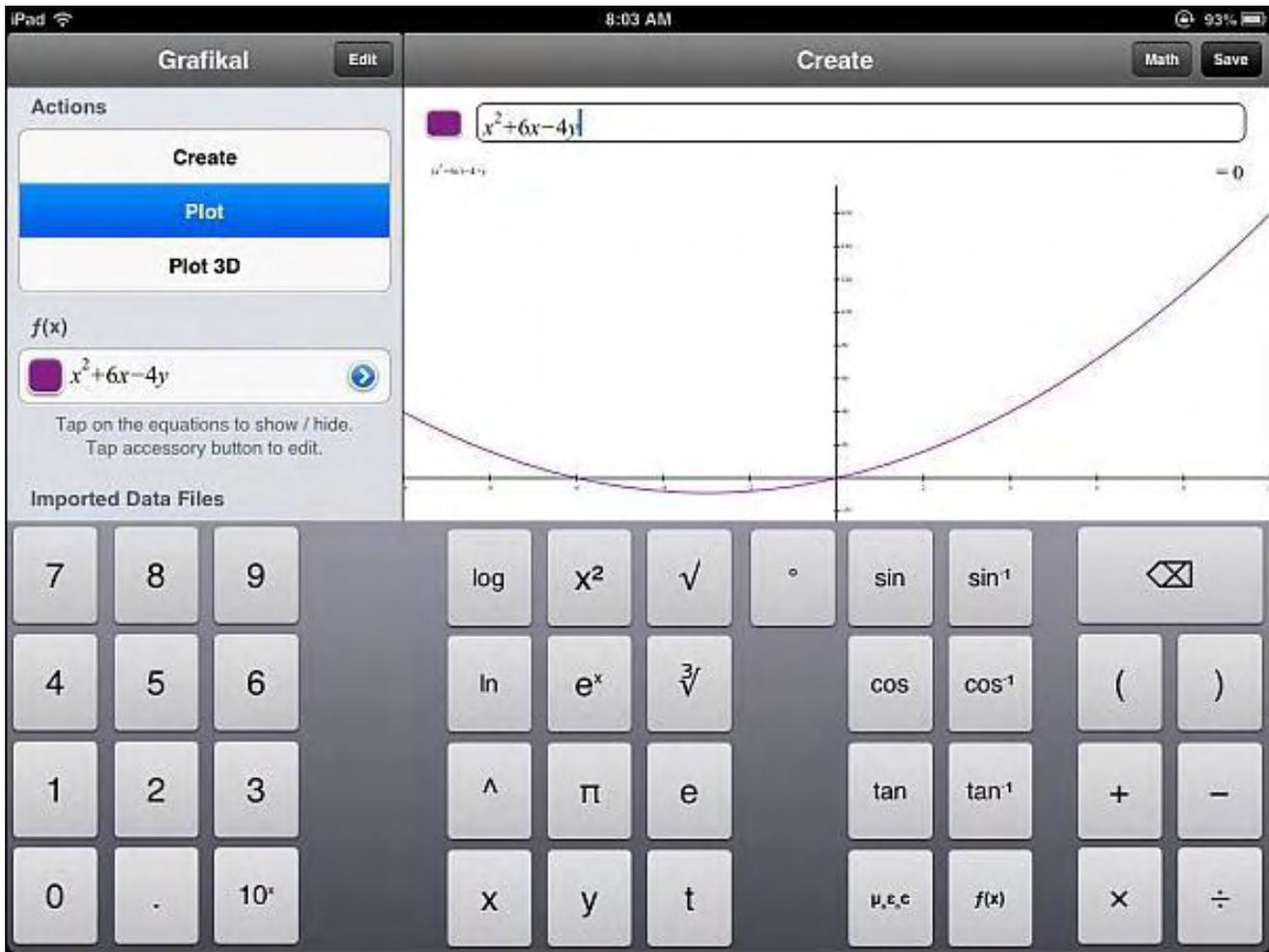


Figure 7. Grafikal displays a virtual keyboard designed for mathematical input.

Since few physical keyboards contain all the mathematical symbols needed, Grafikal's virtual keyboard displays these additional symbols, which demonstrates the versatility of not relying on a physical keyboard. When you're done creating an equation, save it and Grafikal can turn that equation into a 2D or 3D graph.

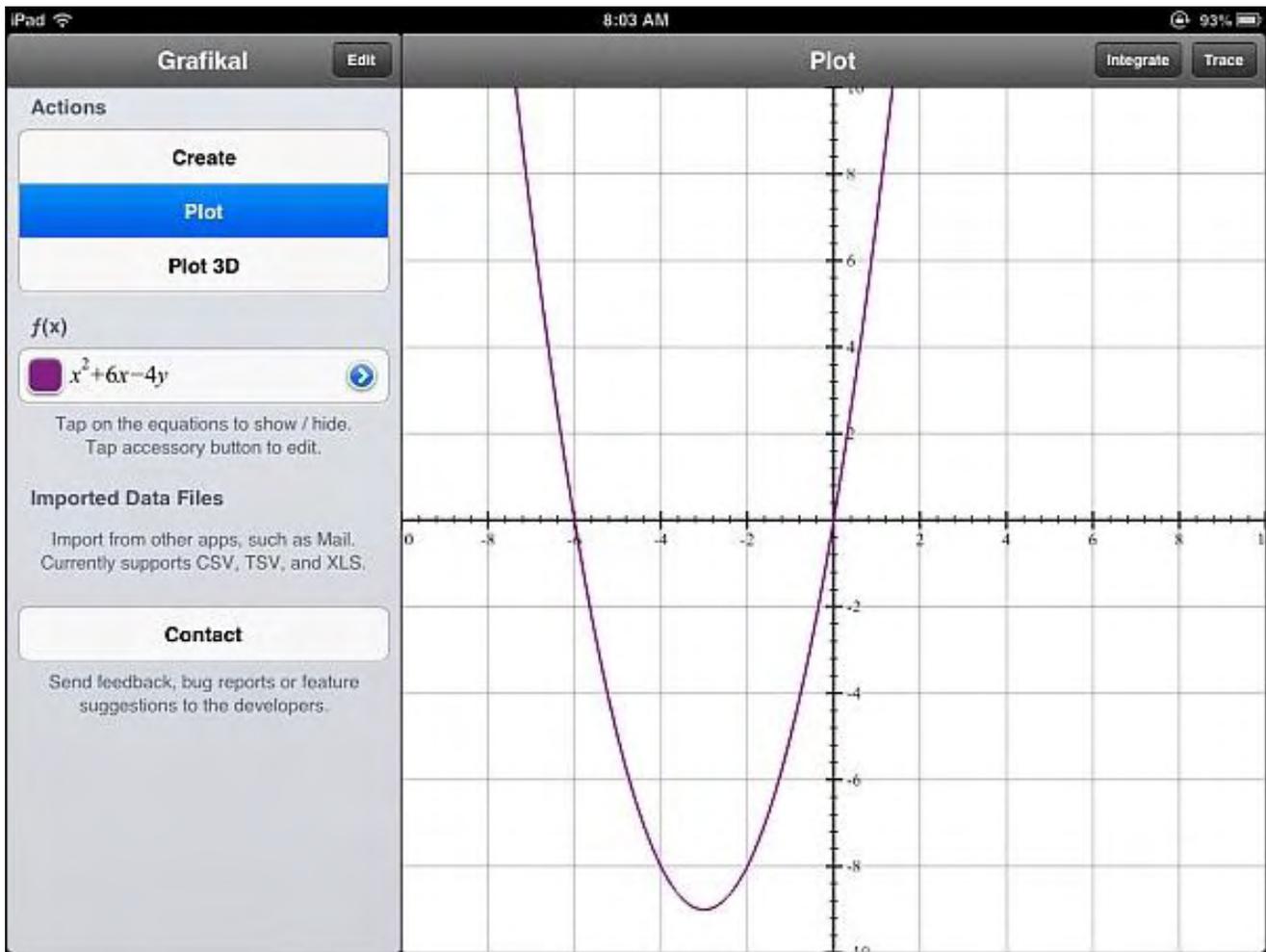


Figure 8. Grafikal can create 2-D graphs.

By taking away the tedium of graphing values yourself on a sheet of graph paper, Grafikal makes it fun to experiment with different equations just to see what kind of designs they can create. By editing a saved equation or creating as many new ones as you like, you can see how subtle differences in values can create dramatically different results.

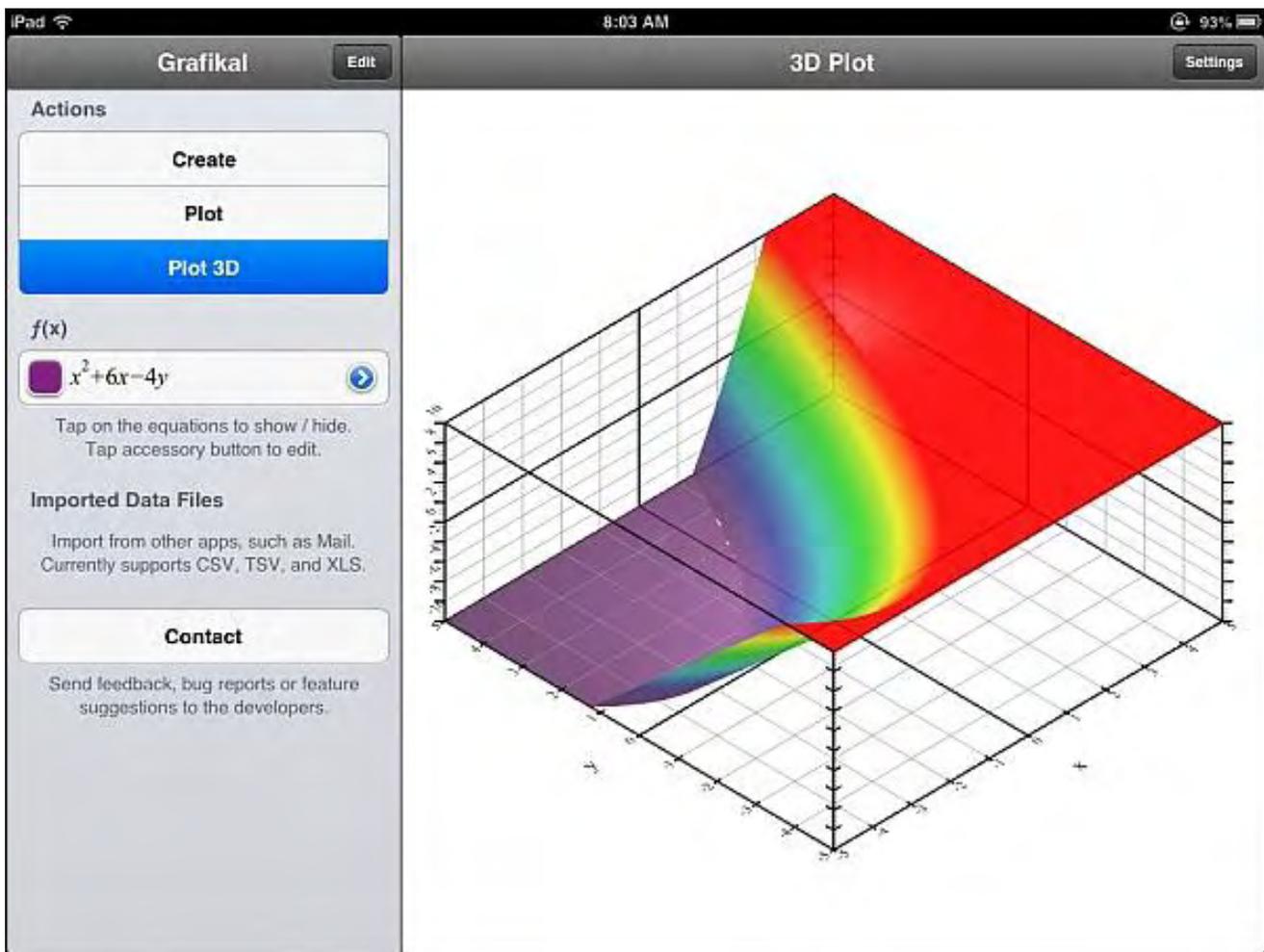


Figure 9. 3-D graphs can be more colorful and visually interesting.

To use Grafikal effectively, you still need to understand math and the parts of an equation, but Grafikal makes the process of turning equations into graphs fun, simple, and fast. For added flexibility, Grafikal can also import CSV (comma-separated values) or Excel spreadsheets and turn that existing data into a graph as well.

For students, scientists, engineers, and anyone fascinated with mathematical graphs, Grafikal can further extend the usefulness of your iOS device whether it's an iPod touch or the latest iPad with the Retina display. Even if you just have a passing interest in math and graphs, you might find Grafikal interesting anyway. At least by playing around with Grafikal, you can actually learn something, which you might never get by playing around with an ordinary video game.

The Growth of the iPad mini

Every Christmas, there's a must-have gift that everyone wants and Millennial Media believes that this year's must-have gift is the iPad mini (www.millennialmedia.com/blog/2012/12/the-ipad-mini-is-a-game-changer/). In the first weeks after the iPad mini went on sale, Millennial Media saw an average daily growth in impressions of 28 percent. In comparison, Amazon Kindle Fire impressions grew at an average daily rate of 19 percent in the first two weeks after it went on sale last year.

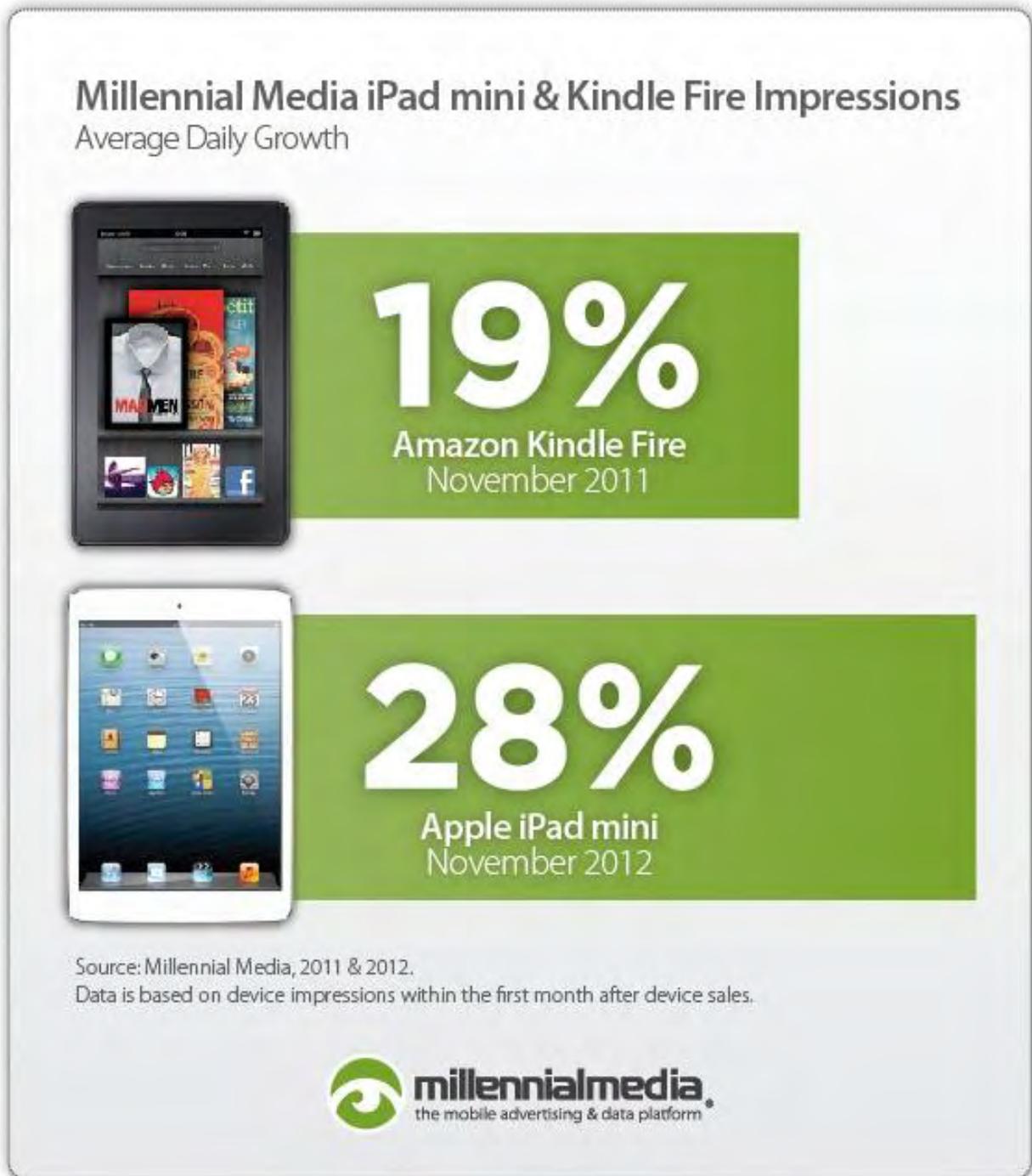


Figure 10. The iPad mini's growth rate surpasses Amazon's Kindle Fire.

While there are plenty of Android tablets available, the large number of third-party accessories favors Apple products. Walk into many stores like Brookstone and you can find plenty of cases, stereos, and other accessories designed specifically for the iPhone, iPad, or iPod touch. While it's still possible to connect an Android phone or tablet to these devices, it's not as straightforward.

The smaller size of the iPad mini makes it easier to carry and less expensive than the regular size iPad, making it perfect for kids. Typing on an iPad mini can be challenging, but since most kids want an iPad mini just for playing games, the clumsiness of typing probably won't matter much to children anyway.

Millennial Media reports that "The number one requested gift is the iPad and 48% of American kids want one for Christmas. The iPod Touch and the iPad mini are close behind with 36%." With so many kids wanting an iOS device, expect app sales to increase as this new flood of iPad minis appears in children's hands all over the country.

What will kids do if their friends get an iPad but they wind up with an Android tablet or a Microsoft Surface tablet? Try it and see the shocked expression on your kid's face. Then ask yourself if so many kids want an iPad, what does this say about the future of other tablets?

* * *

Many Windows PC users are used to pressing the Control key to choose common keystroke commands such as Ctrl+C to copy and Ctrl+V to paste. However, the Macintosh uses the Command key to perform these same tasks such as Command+C to copy and Command+V to paste.

If you feel more comfortable using the Control key instead of the Command key, you can assign the Control key to act like the Command key. Just click the Apple menu and choose System Preferences to open the System Preferences window.

Click the Keyboard icon to open the Keyboard window. Click the Keyboard tab and click the Modifier Keys button. Now you'll see a bunch of pop-up menus that let you change the way different modifier keys behave such as the Control key or the Command key.



Figure 11. Changing the behavior of modifier keys.

Now you can click in any of the pop-up menus, such as the Control pop-up menu, and choose how you want that key to behave, such as acting like the Command key. Then click the OK button and close the System Preferences window to save your changes.

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:

My New Mac, Lion Edition (www.amazon.com/gp/product/1593273908/ref=as_li_tf_tl?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=217145&creative=399373&creativeASIN=1593273908)

My New iPad 2 (www.amazon.com/gp/product/159327386X/ref=as_li_tf_tl?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=217145&creative=399373&creativeASIN=159327386X)

Steal This Computer Book (www.amazon.com/gp/product/1593271050?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271050)

Microsoft Office 2010 For Dummies (www.amazon.com/gp/product/0470489987?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470489987)

Beginning Programming for Dummies (www.amazon.com/gp/product/0470088702?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470088702)

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)

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)

Strategic Entrepreneurism with Jon and Gerald Fisher (www.amazon.com/gp/product/1590791894?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1590791894)

How to Live with a Cat (When You Really Don't Want To) (www.amazon.com/gp/product/B006DJYL70/ref=as_li_tf_tl?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=217145&creative=399373&creativeASIN=B006DJYL70)

The Secrets of the Wall Street Stock Traders (www.amazon.com/gp/product/B006DGCH4M/ref=as_li_tf_tl?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=217145&creative=399373&creativeASIN=B006DGCH4M)

Mac Programming For Absolute Beginners (www.amazon.com/gp/product/1430233362?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1430233362)

Republican Fairy Tales (Children's Stories the 1% Tell About the Rest of Us) (www.amazon.com/gp/product/B006QSKM3A/ref=as_li_tf_tl?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=B006QSKM3A)

The Zen of Effortless Selling with Moe Abdou (www.amazon.com/gp/product/B006PUFPGI/ref=as_li_tf_tl?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=B006PUFPGI)

The 15-Minute Movie Method (www.amazon.com/gp/product/B004TMD9K8/ref=as_li_tf_tl?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=B004TMD9K8)

Erotophobia (A novel) (www.amazon.com/gp/product/B009POEAJO/ref=as_li_qf_sp_asin_tl?ie=UTF8&camp=1789&creative=9325&creativeASIN=B009POEAJO&linkCode=as2&tag=the15minmovme-20)

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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Beyond Personal Computing

“All Hail the Prickly World of Bluetooth!” by Marilyn K. Martin

Jokes and anecdotes about Bluetooth and people using it.

Bluetooth is a short-range wireless technology developed mainly to replace infrared and cable for mobile communication. Its curious white on blue logo was designed by Swedish telecom giant Ericsson, and is the anglicized epithet of tenth-century King Harald Bluetooth of Denmark. The icon is formed by the combination of the Haglaz and Bjarkan runes into King Harald's initials. In rune-speak, "Haglaz" means "hail," and the sharp-angled B is called a "Berkanan" meaning "birch." So you can impress your friends at parties by saying things like "Hey! I see you're wearing a Hail-the-Tree in your ear again."

King Bluetooth was known for uniting Danish tribes into a single kingdom. And today's Bluetooth does the same thing electronically, uniting communications protocol into one universal standard. King Bluetooth was forcibly overthrown by his own son, Sweyn Forkbeard, with is probably where we get terms like swindlers-with-spiky-beards. Or "You speak with a forked beard, Paleface!"

Bluetooth was one of the earliest hands-free phone devices. And the butterfly-nets had to be put away for all the people roaming around "talking to themselves." Clearly, more stringent measures were called for.

Annoying People Talking on Bluetooth

For folks near these blabbing people, confusion gave way to annoyance, as the Bluetooth talkers had to constantly tell bystanders that they are really on a phone call—and not talking to them. Bewilderment soon gave way to spur-of-the-moment come-backs from people smarter and cleverer than the oblivious Bluetooth talkers.

One priceless video clip (www.whoisthemonkey.com/videos/45/how-to-handle-annoying-bluetooth-guys) (obviously scripted) shows an annoyed older gentleman (Larry David) dining alone in a restaurant. Beside him is a self-important young man who had talked loudly on his Bluetooth ear-phone throughout the entire dinner. The older man picked up clues from the obnoxious Bluetooth guy's conversation, and starts talking loudly on the same topics, to nobody in particular. Until the mystified younger guy abruptly leaves. (And the Bluetooth babblers are always clueless and miffed, marching off while sputtering "How rude!")

Comedy Routines about Bluetooth

So, of course, comedians quickly developed whole routines around these clueless babbling types with a Bluetooth phone in their ear. There is an on-the-street comedy routine (www.youtube.com/watch?v=AhQBd34q_DQ) on YouTube where a guy is standing near someone and saying outrageous things,

supposedly on a Bluetooth call to his wife. Besides constantly telling bystanders he's on a phone call, he loudly proclaims outrageous statements like "I have a rash around my mouth that my doctor thinks comes from biting my toenails." When he starts discussing his bowel and rash problems near diners at an outdoor cafe ("Is diarrhea supposed to be pink?" / "I thought I had a third nipple, but it was really just a rash."), people dining nearby start angrily asking him to move on.

YouTube even has a whole category of "Bluetooth jokes" from stand-up comedy routines. Lee Evans thinks people walking around with Bluetooth in their ear "look like they had a fight with a walrus and lost!" Geoff Lott thinks the biggest advantage to wearing a Bluetooth is "to insult someone, and then blame it on a Bluetooth conversation you're having."

Dwight Slade suggests that "If they're gonna outlaw crystal meth, they have to outlaw hands-free phone headsets. Since they look like the same crazy person tweaking and talking to themselves." Todd Barry says that hearing aids disguised as Bluetooth ear-pieces are because some Senior is too embarrassed to be wearing a hearing aid. Although wearing one in each ear, and claiming that "someone 79 years old is waiting for an important call," could be a dead giveaway.

Bluetooth and Romance

Gender comparisons in relation to Bluetooth phones are all over the Internet, in the "Stud" versus "Girlfriend" model:

Men are like Bluetooth: He is connected to you when you are nearby. But searches for other devices when you are away.

Women are like Bluetooth: She sees all available devices but connects to the strongest one.

Women are like Bluetooth: When you are near her, she stays connected. You go away, she finds a new device.

Men are like Bluetooth: He is like Wi-Fi, since many devices can connect to him at one time.

Bluetooth 4.0

Casio introduced a smartwatch (www.theverge.com/2012/6/21/3032067/casio-bluetooth-g-shock-watch-gb6900-review) this year that connects to your smartphone through the ultra-new Bluetooth 4.0. A June 2012 review of Casio's GB-6900 declared that the retro-rugged smartwatch with low-power Bluetooth 4.0 is worth the extra cost since its battery life is measured in years—instead of days, like with other smartphone connected watches.

Although I'd think it would be counter-intuitive to say a device is "rugged" if its battery only lasts a few days. If a helicopter drops a patrol into the Afghanistan mountains, what commander is going to say the next day, "Oops! My smartwatch is dead. That must be why Artillery hit the wrong coordinates an hour ago!"

Bluetooth 4.0 is also now compatible with iPhone 4S/5 and Motorola RAZR. There is even a Polar H7 Smart Heart Rate Sensor (www.amazon.com/Polar-Bluetooth-Smart-Heart-Sensor/dp/B007S088F4/ref=sr_1_fkmr0_1?ie=UTF8&qid=1354311889&sr=8-1-fkmr0&keywords=heart-rate+sweatband+with+bluetooth+4.0) in a headband, for about \$61 from Amazon.

Other Bluetooth Products

A company called Beam (beamtoothbrush.com/) has developed a Bluetooth Toothbrush, with the catchy phrase "Does your toothbrush have an app?" The connected toothbrush can track your dental hygiene, and sends little reminders to your smartphone. Although I'm waiting for a research study on which device gets smashed first: the nagging-nanny toothbrush or the dental hygiene reminders on a luckless smartphone while someone is waiting on an important call.

AT&T even has a Web site for Bluetooth Accessories (www.att.com/shop/wireless/accessories/bluetooth.html) for

those who can't live without, say, an iHome iD50 Bluetooth Speaker Clock with Speakerphone (\$127.50).

Bluetooth Ultrasound Joke

A medical tech is doing an ultrasound test on a very pregnant woman to check out the baby. The tech suddenly frowns and says, "I still can't find the umbilical cord." The woman raises her head: "Then check its ear for a Bluetooth."

The Famous Glove Hack

In 2011, a Bluetooth glove hack got some press after someone cut up a wool glove and inserted Bluetooth electronics inside. A person could make the Call-Me gesture (thumb pointing to ear and pinkie pointed at mouth) while actually making a real Bluetooth phone call. A company called Hi-Fun (www.hi-fun.com/en/accessori-iphone-ipod-ipad/hi-call/) then actually went on to produce Hi-Call Bluetooth gloves for both men and women.

Bluetooth Jokes

How about the guy who went retro with a pre-Bluetooth headset? He used string to secure his cellphone over one ear.

Did you hear about that Airbus crash? A passenger working on a laptop with a Bluetooth phone ear-set got a message on his computer that read, "A new device has been found: Airbus A301. Run Auto-configuration?"

According to Urbandictionary.com (Urbandictionary.com), someone has "Bluetooth balls" if they have a Bluetooth headset on while playing games online, and start talking rough-and-tough—contrary to how they'd normally behave in public.

Q: What happens if you eat a Blackberry?

A: You get a Bluetooth.

Did you hear about the dumb person who actually went to the dentist to request a "blue tooth" that everyone was talking about?

Bluetooth Music

In 2005, a popular 80s band called New Order were promoting their upcoming album, "Waiting for the Sirens Call," via Bluetooth technology. They put up digital interactive posters (www.loosewireblog.com/2005/03/ok_thats_enough.html) around cities, which fans could stand beside, and directly download the album's music clips, ringtones and photos to their cellphone.

Bypassing network charges to fans or the band's label, they were the first group to distribute free music clips to cellphones. While hailed as an innovative first for a band to send clip-content to their audience for free, setting one's Bluetooth to "always available" could present security problems.

Archaeologists And Bluetooth

After digging down 600 meters in an ancient settlement, scientists found a small, kidney-shaped rock with runes carved on it. They concluded that if our ancestors had Bluetooth then, like anti-gravity and moving heavy rocks by sound, it was really just another lost technology waiting to be rediscovered.

(Many of these jokes and anecdotes are available on multiple Internet sites. But special thanks to Zedge.net (Zedge.net), sms2friends.com (sms2friends.com), YouTube.com (YouTube.com), Maisonbisson.com (Maisonbisson.com), and webshots.com (webshots.com).)

Marilyn is a freelance writer and humorist, with a special interest (besides computers and technology) in Science Fiction. A SF Horror story appeared in July 2011 in Deadman's Tome (www.demonic tome.com/). And in January 2012 she had a SF Police Procedural appearing in Cosmic Crime magazine, and a SF Dystopian Romance appearing in the Strange Valentines anthology. She also has almost seventy articles on Helium.com (www.helium.com/users/573405/show_articles), and is writing a humorous Young Adult SF series, Chronicles of Mathias (www.amazon.com/Chronicles-Mathias-One-Reptilian-Rebirth/dp/1598249002). Volumes One and Two have received a "Gold Star for Excellence" from TeensReadToo.com (www.teensreadtoo.com/ReptilianRebirth.html), and are available from most on-line bookstores.

ComputerEdge E-Books has converted many of Marilyn's computer humor columns into four e-books.

Now available in a four-book Kindle bundle from Amazon.com The Best Computer and Internet Humor, Anecdotes, and Jokes Found on the Web (www.amazon.com/gp/product/B00ACVX2PC/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00ACVX2PC&linkCode=as2&tag=comput0b9-20). Marilyn's collection of the funniest stories about our computing machines and how we use them at home, the office, and in cyber space. Save 25% off the individual book price!

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EDITOR'S LETTERS

Editor's Letters: Tips and Thoughts from Readers

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

"Apple Android?" "Nice Article... However," "Keeping Computers Clean"

Apple Android?

[Regarding Jack Dunning's November 30 article, "Apple iPad Faces a New Challenge":]

Is this a true statement? We have no Apple stores here and I thought Apple hated Android! Wanted to sue them to get rid of them as competition.

-Gary, NM

If you will note, I said "Attacking the smaller, less expensive tablet market running the Android operating system..." I could have worded it better. Apple does not run Android, but most of the other smaller tablets do.

-Jack Dunning

Nice Article... However

[Regarding Jack Dunning's November 30 article, "Apple iPad Faces a New Challenge":]

Hi Jack,

Nice article (I read it all). However, much of the way through I kept wondering: 1) if I had missed something; and 2) who was this "mystery" manufacturer. This was likely because you initiated the article with sort of a "tongue in cheek" statement:

"The Apple iPad may have finally met its match. There is a new lighter, less expensive tablet on the market which will lure many away from their iPads"

Also, in that you had mentioned the Android OS, I was waiting for a name such as Google, Samsung, HTC, Microsoft, Intel, LG, et al.

Anyway, towards the end I finally acquiesced that it was probably an Apple product.

I bought my wife an iPad "3" (Retina?) in August for our anniversary, which she has literally fallen in love with. She is a teaching prof and also chairs a department at a local-area private college, so she carries it around as if they are attached at the hip. It's like her "Gal Friday."

I personally just might be interested in the new Mini. So, thanks for the review.

I was a little disappointed hearing that the Apple store (management) didn't take it upon themselves to monitor the kids that were greedily hogging all the new Minis.

Have a great day,

PS: Never mind my rambling on. Since I've only been back in town (Bangkok) a few days, I'm probably still

suffering from a tinge of jet-lag... And no, I don't drink :-). Be back in S.D. before Christmas.

-Ron Myers, San Diego, CA (Presently via Thailand)

Keeping Computers Clean

[Regarding the November 30 Digital Dave column:]

I'd suggest that before anyone start blowing dust out of anything portable, not just computers, that you take it outside, or into a garage if it is raining/snowing; otherwise you'll blow dust all over the desk/room containing the computer.

-John G., San Diego, CA

In addition to watching out that you don't do any damage to the internal components, I was told, when blowing out the dust to make sure that you don't blow the fans and allow the air flow to spin them backwards. This can ruin their bearings, or balance. They will then become noisy and fail.

For the CPU fan that is pretty simple, just lightly hold it when blowing in the air. For the power supply I use a thin piece of wood or pencil to stop the fan behind the grill. For some graphics cards it is not possible as the fans are located within, and unreachable, in this case I blow short spurts of air watching to make sure I'm not spinning them too fast.

-Dave Bisbee, Chula Vista, CA

I use a Swiffer Dry Cloth cut to size to filter incoming air to my computer. I have monitored CPU temps and have not seen any changes after covering the incoming air vents with the Swiffer. Might be worth doing a little write up on using them.

-Steve, Escondido, CA

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 specific article/column at ComputerEdge.com (webserver.computoredge.com/online.mvc?src=ebook). 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. If you would like to review our recent e-books, please visit ComputerEdge E-Books (www.computoredgebooks.com/).

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