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3D Printing

They want to put a 3D printer in your home!

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Digital Dave

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

Partitioning Hard Drives with Windows Vista and Windows 7; SyncToy (v2.1) from Microsoft, Any Good?

Partitioning Hard Drives with Windows Vista

Dear Digital Dave,

I have a Dell Inspiron Desktop 546MT 64bit w/ AMD Phenom 2.4GB, WD 640GB HD and Vista Home Premium. When I first set up the system, I partitioned the HD into three partitions for Recovery (15GB), OS (360GB) and Personal Files (251GB) using Windows Disk Management.

I recently purchased Windows 7 Home Premium 64bit OEM and wanted to do a clean install on a separate partition for a dual boot system. I intended to re-partition my OS allocation. Currently 103GB of the available 350GB is being used. When I tried to shrink my original OS partition to create unallocated space for Windows 7, Disk Management tells me I can only shrink the partition by 86MB.

I did some research and learned of several probable obstacles (immovable files). To address these obstacles, I proceeded to relocate my paging file to the Personal Files partition, deleted old restore points, and disabled system restore for the OS partition. I also read an article that said I had to disable hibernate (which I never figured out), and change the Write debugging information drop-down to "None" to disable the kernel memory dump (which I did). After all this, Disk Management still tells me I can only reallocate 86MB.

There were additional tricks, but they seemed out of my comfort zone. The last resort recommendation was to purchase (or get a trial of) third party partitioning software. Is there a simpler way to resolve this, or is the third party software the best bet? If I need software, can you recommend something?

Thanks,

Manny

San Diego, CA

Dear Manny,

I'm not big on partitioning drives, although there are very good reasons for doing it. Therefore my knowledge is limited in the area. However, I did find this fairly recent review "[Best Free Partition Management Software](#)." It should provide you some guidance and maybe other readers with more partitioning experience will chime in. While the initial partitioning is pretty straight forward, I shy away from repartitioning drives. I've heard too many horror stories where people ended up wiping the entire drive.

The primary reason for partitioning drives is to dual boot, but my experience with operating systems, especially Windows Vista, is that once you install Windows 7, you'll probably never dual boot into Vista again. (It takes too long.) Once I back up my files, I would forget about Vista and go straight to Windows 7.

The other reason I don't do much hard drive partitioning is I consider hard drives dirt cheap. While I may have more than one operating system available in a computer, they are generally on separate drives. I just make the choice from the BIOS at boot time.

Digital Dave

SyncToy (v2.1) from Microsoft Any Good?

Dear Digital Dave,

For years I have needed to work on documents (usually Word and Excel files) at different locations (work sites, libraries, home). These many files are stored in various folders on flash drives. Since files often become corrupt when working directly off a flash drive, I find it best to copy the needed file(s) to a hard drive of a machine, work on it, then move the new file to the flash drive. When I move it, I overwrite the old file with the new one.

Every few days or so, I need to ensure that the copies of these many files on my hard drive at home are the most up-to-date versions, so I have to copy any newly changed files from my flash drives to my hard drive.

Doing all of this manually has been working out well for years as long as I am careful to not accidentally overwrite a newer version of a file with an old version.

Someone just told me about [Microsoft SyncToy](#), a free software that supposedly automatically does backups as needed as soon as a flash drive is plugged into a machine on which the software has been set up to check for the most current version. The idea is that I could install it on my machine at home, and it would take care of ensuring that the files on

that machine are the most current ones and that the ones on the flash drive(s) are most current too.

Since Microsoft products (Windows, Office products, Internet Explorer, MovieMaker, etc) do not have great reputations for reliability, the last thing I want to do is install SyncToy and find over time that my new versions of files are being overwritten by old versions, or files are corrupted when being overwritten, or other problems.

I am hoping you and/or ComputerEdge readers have had experiences with SyncToy that could help me make a decision on whether to use it.

Thank you very much!

*Jay
San Diego, CA*

Dear Jay,

I've heard many good things about SyncToy over the years, especially if you're using Windows XP. It's not promoted as much for other versions of Windows because features such as Sync Center, [Windows Backup and Restore](#), and in the Business and Pro versions of Windows [Always Available Offline](#).

Syncing is always a bit of a problem because if a file is changed in more than one place, then you might keep the wrong file and lose changes. Plus, if you're moving files around a lot, it's easy to get confused. The type of system I prefer is one where there is only one master file and that's the one that gets modified. It can be located on a particular network drive, but I set it up to be accessed from anywhere. That way I don't need to use flash drives at all. How do I do it?

I designate a certain drive on one of the computers as the primary for one type of file or data. Then I map all other computers to that drive and work directly with the files regardless of which machine I'm using. If I'm on the road, then I connect with a Virtual Private Network (VPN). I currently use LogMeIn Hamachi which now costs \$49 per year, but it allows me direct access to the mapped network drives over the Internet. If I'm disconnected I generally use a feature such as Always Available Offline, but since my master drive is actually on the laptop I carry with me, I rarely need any syncing solution.

The most critical capability is a backup program which does versioning. Versioning is a system that keeps copies of older files before they were changed. Stuff happens and I've been saved on more than one occasion because I was able to recover an older version of a file. Windows Backup and Restore has versioning built in, but you need to set it up to backup the right files on your master drive. My primary backup for the master drive (which is on the laptop) is a small portable external hard drive that I keep plugged in at all times. I also do separate backup on all the other computers. I can't think of the last time I need to sync a file.

Having said all that, I now propose an alternative that didn't exist when I first set up my system. Use [Dropbox](#) or another such system to sync your files across all your computers and devices. By placing your master files in the Cloud you can reach them from anywhere you have an Internet connection. No Internet? The files are on all of your computers (and handheld devices, if needed) for modification. They automatically sync the next time you connect. If you accidentally delete or overwrite the wrong file, Dropbox keeps copies of older versions for up to 30 days. (I would also regularly backup the files on another drive.) Best of all the service is free for 2GB which is generally enough for key files. (There are ways to get more free storage and some of the other services such as [Google Drive](#) offer 15GB of free space.) If I didn't already have a working system with multiple VPN connections and backup, I think I would be concentrating on the Cloud services.

Digital Dave



Build a New World with a 3D Printer

“Everybody Is Talking about 3D Printers, But Do You Need One on Your Desk?” by
Jack Dunning

While 3D printers look expensive and complicated, they are not all that mysterious. Here's what you need to know.

People are saying that the 3D printer is the next hardware trigger which will set off another huge technology market. This future is a place where people will print the parts they need for home repairs rather than visit Home Depot. Doctors will fashion and print new 3D body parts specifically designed for the patient. (This brings a whole new meaning to words "plastic surgery.") If you need a part for a piece of equipment, rather than ordering one from the factory, you can download a file and print it yourself. Do you want special favors to give away at a party? Print trophies with each guest's name engraved in it. Lose your keys? No problem. Make new ones.

Hersey is even working on a [Chocolate 3D printer](#). Since there is plenty of food which starts with a gooey substance needed for the inkjet-like printing process, people are designing [3D food printers](#). Maybe someday there will be a 3D printer sitting next to your food processor in the kitchen.

In science, medicine, engineering, art, and almost any occupation other than barber, there seems to be no end to the possibilities for 3D printers. In fact there is so much talk about 3D printing that I decided it was time for me to take a closer look. In this article planned to approach the topic as if I were going to buy a 3D printer to place in the corner of my home office—as if my wife would ever let me do that. Here are the things that I learned along the way.

A 3D Printer Designed for the Home Market

Although this particular home 3D printer isn't available yet, it certainly has some appeal. Its Kickstarter campaign blasted into the \$3 million dollar range with an initial goal of only \$50,000. [The Micro 3D Printer](#) is designed to be the first consumer 3D printer. It has a clean modern look and can unobtrusively sit on a desk or kitchen counter (see Figure 1).



Figure 1. The Micro 3D Printer is designed for the consumer market.

The bet is that everyone will want to complement their kitchen counter top (as shown in Figure 2) and/or garage with one of these gadgets. It's in the shape of a cube and only takes up a 7.3" by 7.3" space. Its build volume is a little over 4" by 4" on the base with a maximum height of 4.6"—although the dimensions above 3" are slightly narrower than the base.



Figure 2. A woman uses her Micro 3D printer to make a cookie cutter in the shape of the number three. (From the video on the Kickstarter site.)

The initial stake required to snag one of the first of the promised machines was \$199. However, those quickly sold out with future prices escalating at each step. The last bid is up to \$599 which is probably way above the eventual pricing—if they ever do go into production. People who paid that amount may have been better off taking the t-shirt for \$25 and waiting until there is a production unit. (With such a good start on Kickstarter, maybe Facebook will buy it for \$2 Billion? (That's a joke! (I think.))) The later Kickstarter contributors should have done a little research on 3D printing before jumping in.

3D Printing

The concept of [3D printing](#) is not nearly as complex as it may sound. It is similar to inkjet printing except instead of spitting out a new page after each pass over the print area, the printer goes back and adds another layer of goo to the same page. Plus, rather than paper, the printing is done on a flat platform which doesn't move. Each time the print heads move over the image, another layer is added to it by squirting the material (usually a form of melted plastic) in exact spots designated by a computer file. As the plastic material cools, it hardens into one solid piece.

Many 3D printers read files with the [.STL extension](#) (for "stereolithography" or "Standard Tessellation Language"). Some use [G-Code](#) which is the language of numeric control programming in manufacturing, but there are free programs for converting the file formats.

Interesting Fact: The first 3D printer was invented 30 years ago in 1984 by Chuck Hull. It was

called stereo-lithography (also known as solid imaging) which sounds much more pretentious and less cool than 3D printing. I found that tidbit interesting since Peter Drucker in his book [Innovation and Entrepreneurship](#), pointed out that historically the amount of time between invention and its eventually coming into common use in the marketplace is a constant 30 years—whether the printing press or the laser. We think that things are happening faster today because they are so many more innovations, but it still takes 30 years to bring a dream to fruition. It is only in the last few years that the price of the 3D printer has dropped enough for toy designers to keep a one in their shop for prototyping.

There are numerous articles available on the Internet explaining how [How 3D Printing Actually Works](#). They often include information on where to go for resources: "If you're not particularly design-inclined, you can purchase, download or request ready-made designs from sites like [Shapeways](#), [Sculpteo](#) or [Thingiverse](#)."

3D Print Quality

Depending upon the type of work you're doing, the resolution of a 3D printer is very important. The finer the process the more accurate and smoother the object will be. This may be a critical consideration when looking at price.

The primary factor which affects print quality (resolution) is the thickness of the layer (z-axis) added on each pass. The thicker the layer the faster the print speed, but the lower the quality. Most of the printers mentioned in this article are capable of a layer as small as 100 microns (0.1 mm which is the equivalent of 250 DPI on an inkjet printer). Only the MakerGear is capable of producing a 50 micron layer. The lowest quality 3D printer, the UP! Mini 3D Desktop Printer, briefly mentioned at the end of the article can only go down to 200 microns—similar to draft quality in 2D printing.

The Micro in the Kickstarter campaign mentioned above has a planned 50-350 micron layer resolution. If it delivers on the thin 50 micron end, then it may well become the best buy on the market—if the price is right.

The nozzle size also affect resolution in the horizontal plane, but almost all the printers mentioned in this article use a 0.4 mm nozzle which is capable of the equivalent of 250 to 500 DPI. Only the MakerGear uses a 0.35 mm nozzle.

3D Printer Ink

Virtually any material which is solid at room temperature, but can be melted and shot from a nozzle is a candidate for 3D ink. Most of the 3D printers available for home/office/shop use either [Acrylonitrile Butadiene Styrene \(ABS\)](#) or [Polylactic Acid \(PLA\)](#). ABS is an [amorphous solid](#) which means it never crystallizes. It actually stays in a liquid form, although at room

temperature it is quite hard—just like glass. This makes it an excellent material when heated sufficiently for a smooth flow for use in 3D printers. When it hardens again, it's one solid piece. PLA is very similar to ABS in its properties except it is made from renewal resource such as corn starch. Some of the very high-end 3D printers for industrial use can use metals as ink, but then these machines cost in the hundreds of thousands of dollars.

The ABS and PLA come in long continuous filaments usually on a spool as shown in Figure 4. As the filament is fed into the 3D printer, it is heated to the optimum temperature for ejecting onto the object being created. As it cools, it becomes one solid piece. This necessary heating and cooling process is part of what can cause printing times to be quite lengthy. While some small objects may be finished in as little as 15 minutes, other may take hours. The time to completion depends primarily on the size and level of detail required to make the object—much as you find with draft and best quality on a 2D inkjet printer—only many times longer.



Figure 3. Printrbot PLA Filament for 3D printers.

The average price of one kilo (2.2 lbs) of 3D printer ink is about \$30—as it is for the [Printrbot PLA Filament for 3D printers](#) shown above. (This spool is 8.5" in diameter.) How long a spool will last is totally dependent upon the size of the objects that you print. Once you have printed 2.2 lbs (or a little less) of gizmos, you will need another spool of ink.

Some people consider the 3D ink price to be quite expensive—and it is when you compare it to the \$2.00 per kilo paid for the beads used to make the filament. But its true value depends upon how it is used. In many situations where the models are use for prototyping or the

printed objects command a decent price, the material cost may seem quite cheap. In any case, it's likely the price of 3D ink will come down—unless manufacturers find a way to make proprietary ink—as they have with inkjet printer cartridges.

Inkjet Printers on the Market Today

Before I began my research, I had the impression that 3D printers were huge boxes taking up enormous space in any room. How else could they make big things? Looking at stand-alone pictures on the Web gave me no perspective. I was quite surprised to find most affordable models weren't much bigger than the average 2D printer. And, the corresponding build area was even smaller requiring the printing to be confined to small objects. (That's why here I've made a point of including the dimension of each 3D printer and its build area size.) These 3D printers don't make big things.

The price of a 3D printer is dependent upon a number of factors including level of detail, number and type of materials that can be used for ink, and size. Size is naturally a cost factor since the bigger the machine the larger the object that can be printed. Based upon some of these guidelines and the prices of other available 3D printers, I would expect The Micro from the Kickstarter discussion above to be priced anywhere from the \$200 for the earlier pledges up to possibly \$400. I fear that the people who have pledged \$600 for later signup are getting ripped off. But, see for yourself.

Printrbot Simple 2014 3D Printer Kit

One of the less expensive 3D printers is actually a kit you put together yourself. That's part of what gives the [Printrbot Simple 2014 3D Printer Kit](#) the low \$349.00 price. It's purely functional and nothing to look at (see Figure 4), but if someone wanted to learn enough about 3D printing to launch a new career, then this might be a good entry point.

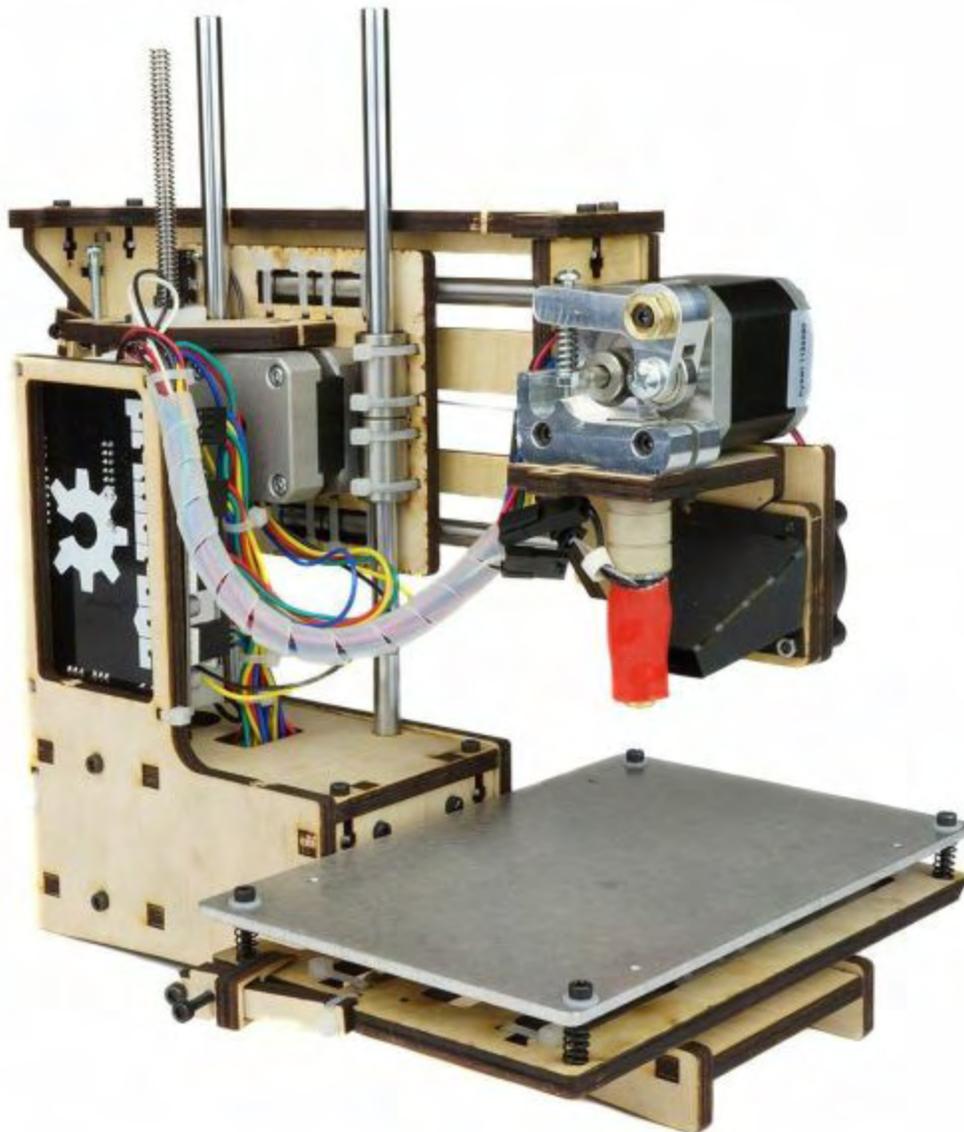


Figure 4. The Printrobot Simple 2014 3D Printer Kit is 8 x 14 x 11 inches in size and builds objects to maximum dimensions of 4 x 4 x 4 inches.

The Printrobot gets excellent reviews on Amazon with comments such as, "The best part about the whole 3D printer thing is being able to print upgrades for the printer itself!" It doesn't take up much space at 8 x 14 x 11 inches and only weight 5.25 lbs. However, is limited to objects smaller than a four inch cube.

[Assembled the Printrobot](#) is \$449.

XYZprinting Da Vinci 1.0 3D Printer

The [XYZprinting Da Vinci 1.0 3D Printer](#) is priced at \$499.00, when it's available. Apparently Amazon was having some problems with the models they were shipping and temporarily

suspended its sale.

The Da Vinci has a cleaner look and is larger than the Prinrbot with 22 x 18.4 x 20.1 inch dimensions and a heavier 51.8 pounds. Its build size is a much larger 7.8" x 7.8" x 7.8" inches making it capable of producing larger objects for not too much more money.



Figure 5. The XYZprinting Da Vinci 1.0 3D Printer is 22 x 18.4 x 20.1 inches and 51.8 pounds.

The reviews are mixed (possibly due to the shipping problems), but the Da Vinci has been a popular item—probably due to its price and larger build size.

FlashForge Creator 3D Printer (Wood Case)

The next two 3D printers are essentially the same printer from FlashForge. The first is the

[FlashForge Creator 3D Printer \(Wood Case\)](#) (Figure 6) which just dropped in price to \$977 (from \$1,099). This may be in response to the Da Vinci since its build size is a slightly smaller 8.9 x 5.7 x 5.9 inches. The wooden case accounts for the difference in price from the following FlashForge 3D printer.

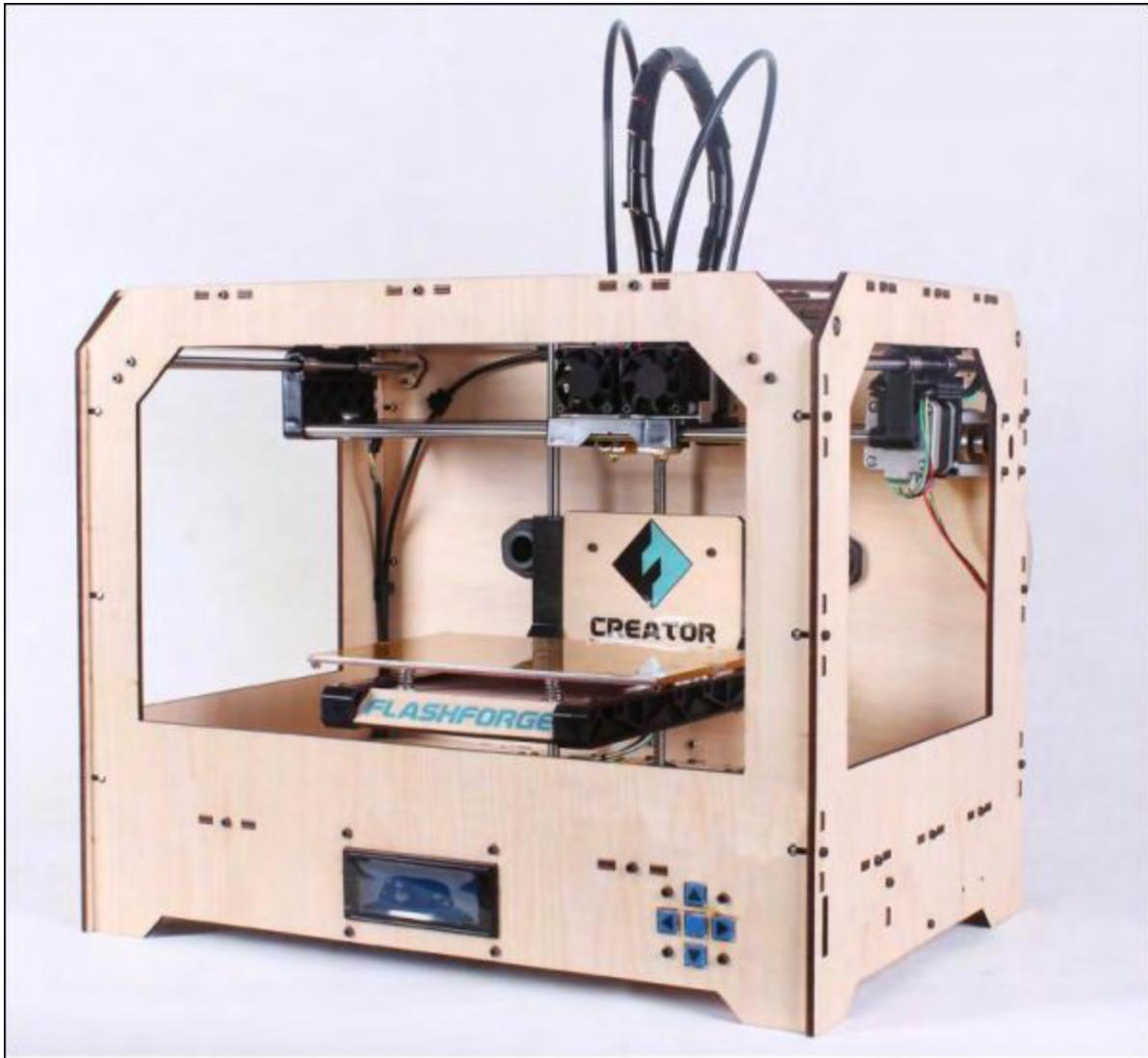


Figure 6. The FlashForge Creator 3D Printer is 18.4 x 12.6 x 15 inches; 28 pounds.

A plus for each of these printers are the dual filament feeds.

FlashForge 3D Printer New Model

The [FlashForge 3D Printer New Model](#) is one of the highest reviewed 3D printers at 4.8 stars. I suspect that this one at \$1,299.00 may fall into the category of you-get-what-you-pay-for. While I didn't look at the all the specifications, detail accuracy should be a major consideration when buying a 3D printer. If I were actually buying a personal 3D printer then I would make a comparison chart for each feature. Sometimes a price looks high (expensive) until you see

what's inside.

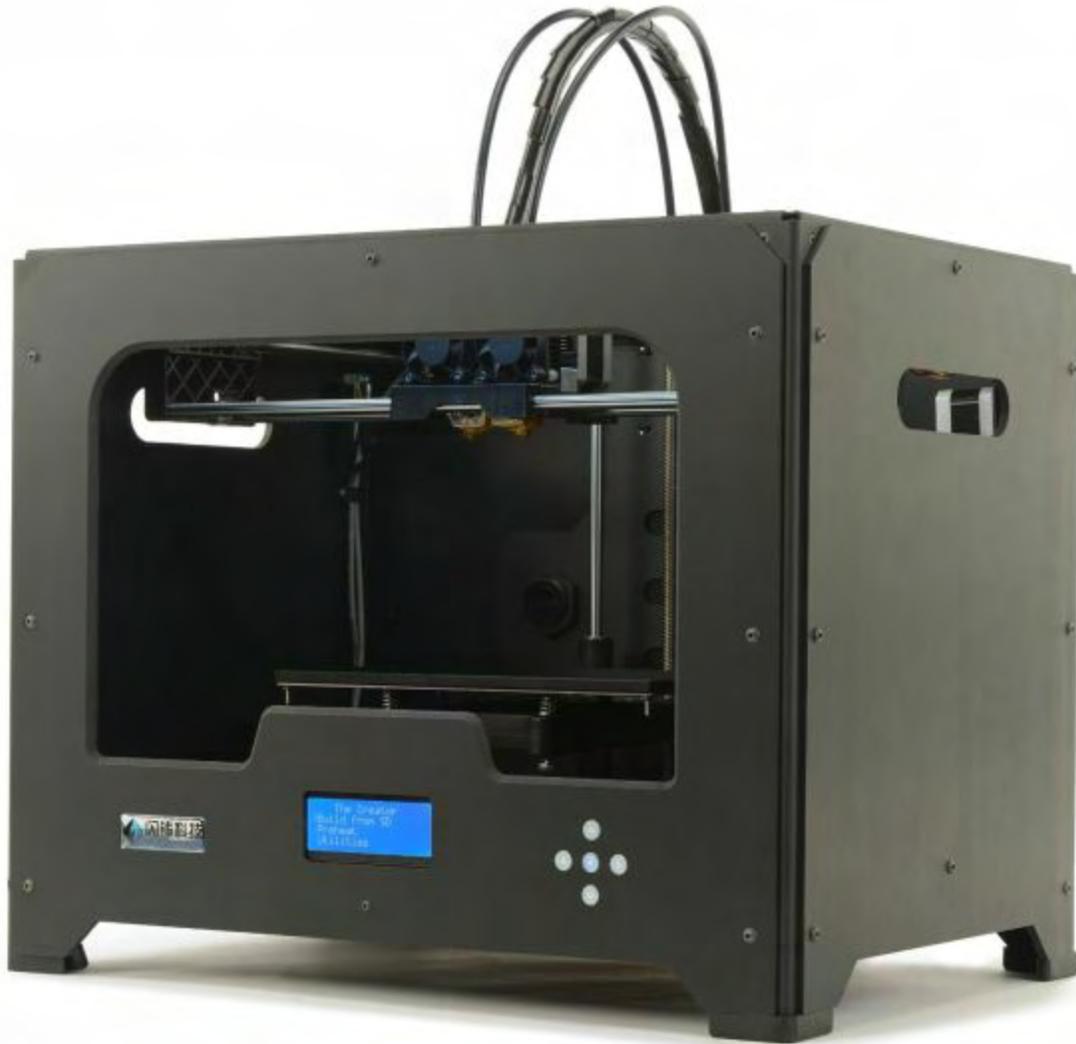


Figure 7. The FlashForge 3D Printer New 320 is (12.59) x 467 (18.38) x 381 (15) mm (inches).

While the pictures can make these 3D printers look huge, they are actually not much bigger than a small 2D printer.



Figure 8. The FlashForge 3D Printer dual filaments.

The dual filament printer allows for two-tone objects.

The MakerGear M2

The [MakerGear M2](#) (see Figure 9) has some of the best reviews that I've seen for any type of equipment. There were no truly negative comments. If you're serious about 3D printing then it might well be worth the extra dollars at \$1,775. (Comparing specs may make this one look like an incredible deal even at \$1,775.) It has the largest volume build envelope of any of the printers listed here at 8 x 10 x 8 inches (640 cubic inches).

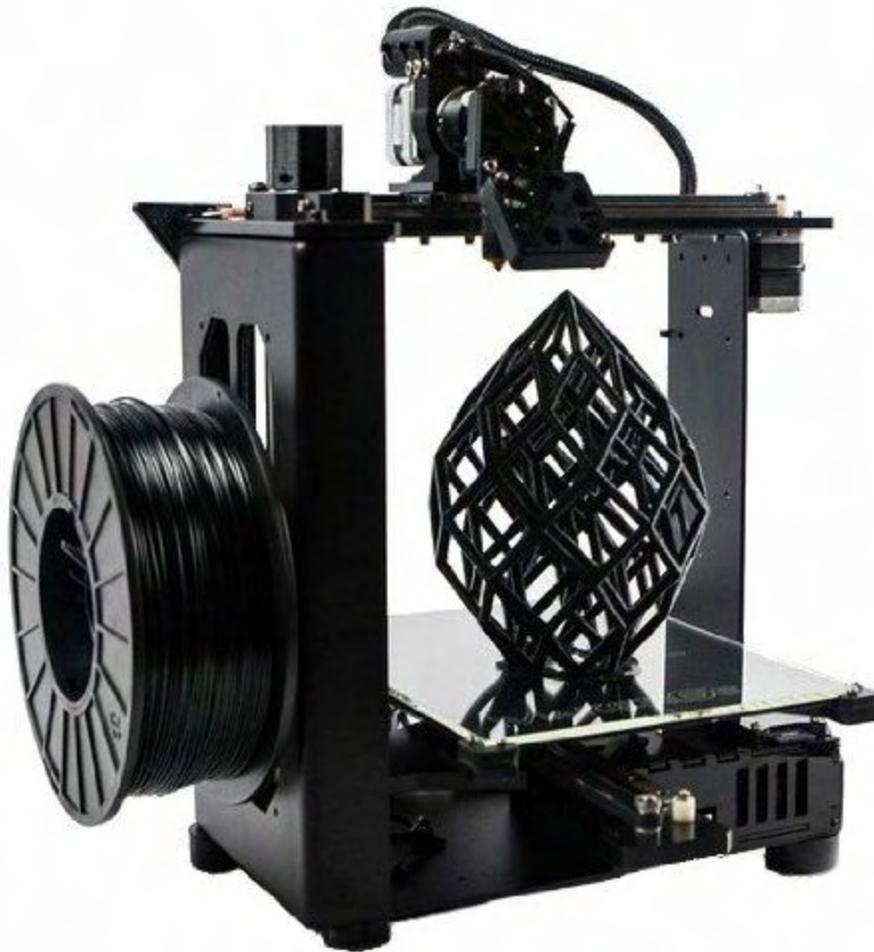


Figure 9. The MakerGear M2 is 22 x 19 x 20 inches, 36.6 pounds.

The MakerGear is the only printer listed here which is capable of a 50 micron layer—twice the resolution of the other printers. This printer also uses a 0.35 mm nozzle rather than the more standard 0.4 mm nozzle. If I were in the market and truly serious about 3D printing, then this might be one of the best values. I would get it in kit form for about \$300 less and put it together myself. But, I like puzzles.

MakerBot Replicator 2 Desktop 3D Printer

Some claim that the [MakerBot Replicator 2 Desktop 3D Printer](#) (Figure 10) is the best value on the market. However, a number of people passed over this printer for the previous MakerGear. At a hefty \$1,999, you will want to carefully read all the reviews.

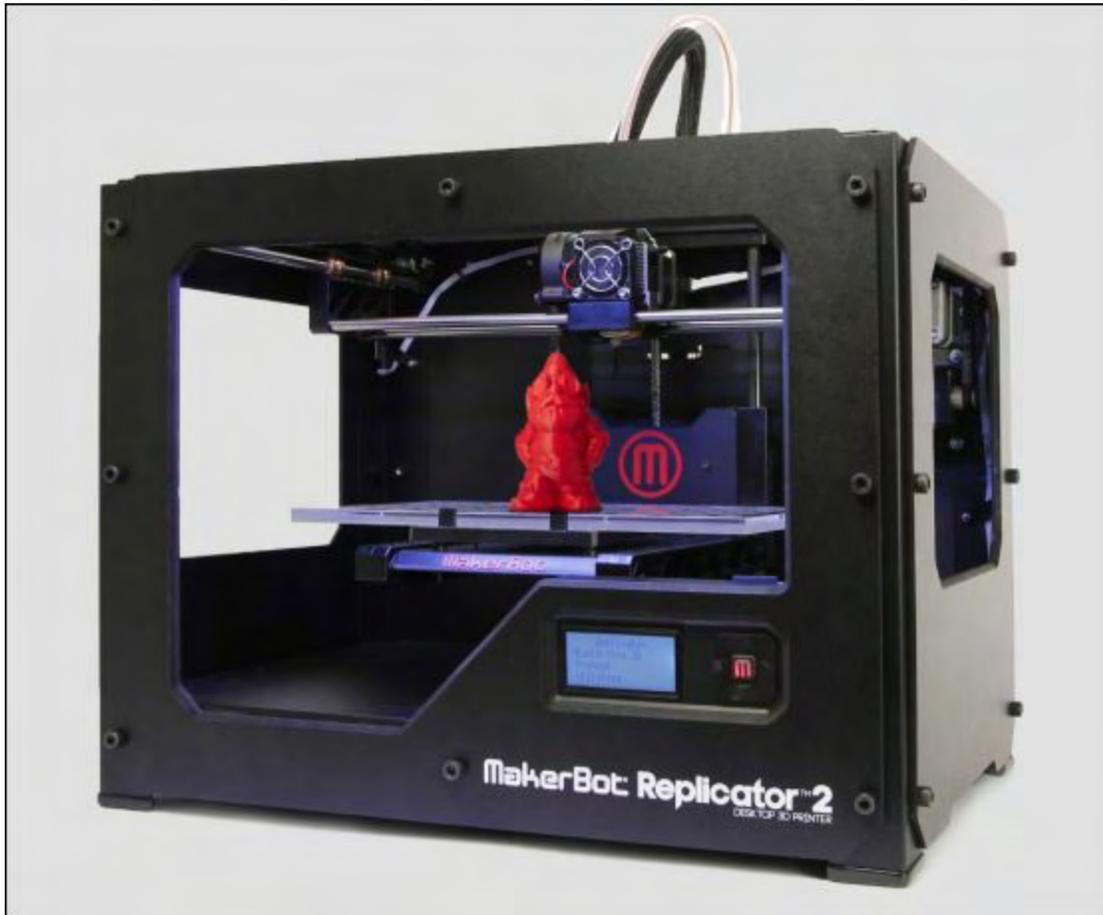


Figure 10. The MakerBot Replicator 2 Desktop 3D Printer is 13 x 19.5 x 14.5 inches; 37.4 pounds.

The MakerBot still has a small footprint at 13 x 19.5 x 14.5 inches and is a little lighter than some (37.4 lbs). The build volume is an elongated 11.2 X 6.0 X 6.1 inches (410 cubic inches). This is about one-third smaller than the MakerGear 3D printer's build volume, although it can make longer narrower objects.

Also noted is the [UP! Mini 3D Desktop Printer](#) at \$906 with a 4.75" cube build volume. While the price is lower than many of the printers, this one only offers a 200 micron layer—half the resolution of the other printers.

There are many 3D printers on the market, some of them with reviews so bad that I won't mention them. The market seems to be exploding and there are a variety of uses in specific areas for the machines. The 3D printer is not for mass production, but at those times when all you need is one or two parts, this type of printer may do the job for you.

While the day may come when everyone owns a personal 3D printer, those who buy them now either have a specific purpose in mind or they want to experiment and play. However, the home 3D printer could turn out to be less functional than high quality photo inkjet printers for printing your own photos. Sure they work properly and do a good job, but it's easier and cheaper to get your pictures printed at Costco or Walmart. I'm certainly not ready to buy a 3D printer and Home Depot won't be threatened anytime soon.

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:

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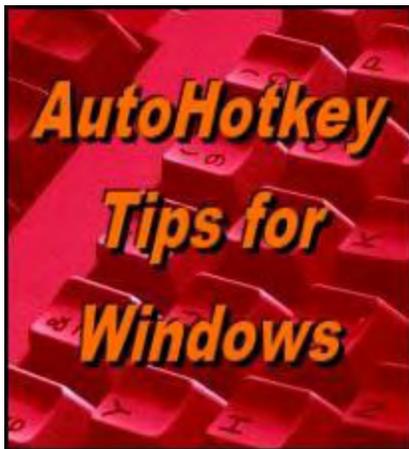
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and [*That Does Not Compute!*](#), brilliantly drawn cartoons by Jim Whiting for really stupid gags by Jack about computers and the people who use them.



**Yet, One More
Reason to Use
AutoHotkey
Free Software!**

**Windows 8.1
Tips and
Tricks for
Everyone
(Plus a Little**

AutoHotkey)

“Here Are Some Secrets Every Windows 8 User Wants to Know!” by Jack Dunning

Things are much easier now with Windows 8.1 Update 1. Here are some workarounds which make it even easier. Plus, they will help your Windows 8 AutoHotkey scripts.

Windows 8.1 tricks for everyone! While these Windows 8 tips can be used in AutoHotkey scripts, many of them apply to anyone who is using Windows 8. The latest [update to Windows 8.1](#) has made Windows 8 much easier to use, but there are always a few things that you can do to make things even easier.

Windows 8 Tips

What makes Windows 8 unique is its split personality. On one screen we have the Windows Desktop doing what it has always done for us. On the other screen is the Modern User Interface (UI) with tablet-like apps—many of them useful or entertaining. Now that running Modern apps appear on the Windows Taskbar which can be reached from anywhere (Windows 8.1 Update 1, see last week's article on the [new update](#)), people are more likely to want to use them. However, there is limited space on the Taskbar and we may not want to open the Modern Start screen every time we'd like to launch an app. There must be alternative ways to launch Modern apps from the Desktop without first accessing the Modern UI. (If so, then we can most likely put them into AutoHotkey scripts.) Fortunately, there are!

Windows 8 Applications Folder

There is a pseudo folder called Applications which includes links to all the installed Windows programs and Modern apps. You can't move or delete any of these links from this folder, nor add more links, but either a double-click or select and return launches the program or app. The Applications folder can be opened with `Run => Shell:AppsFolder` or `explorer shell:::`

{4234d49b-0245-4df3-b780-3893943456e1} (see Figure 1). This folder supplies a method for immediately running your Modern apps without visiting the Modern interface.

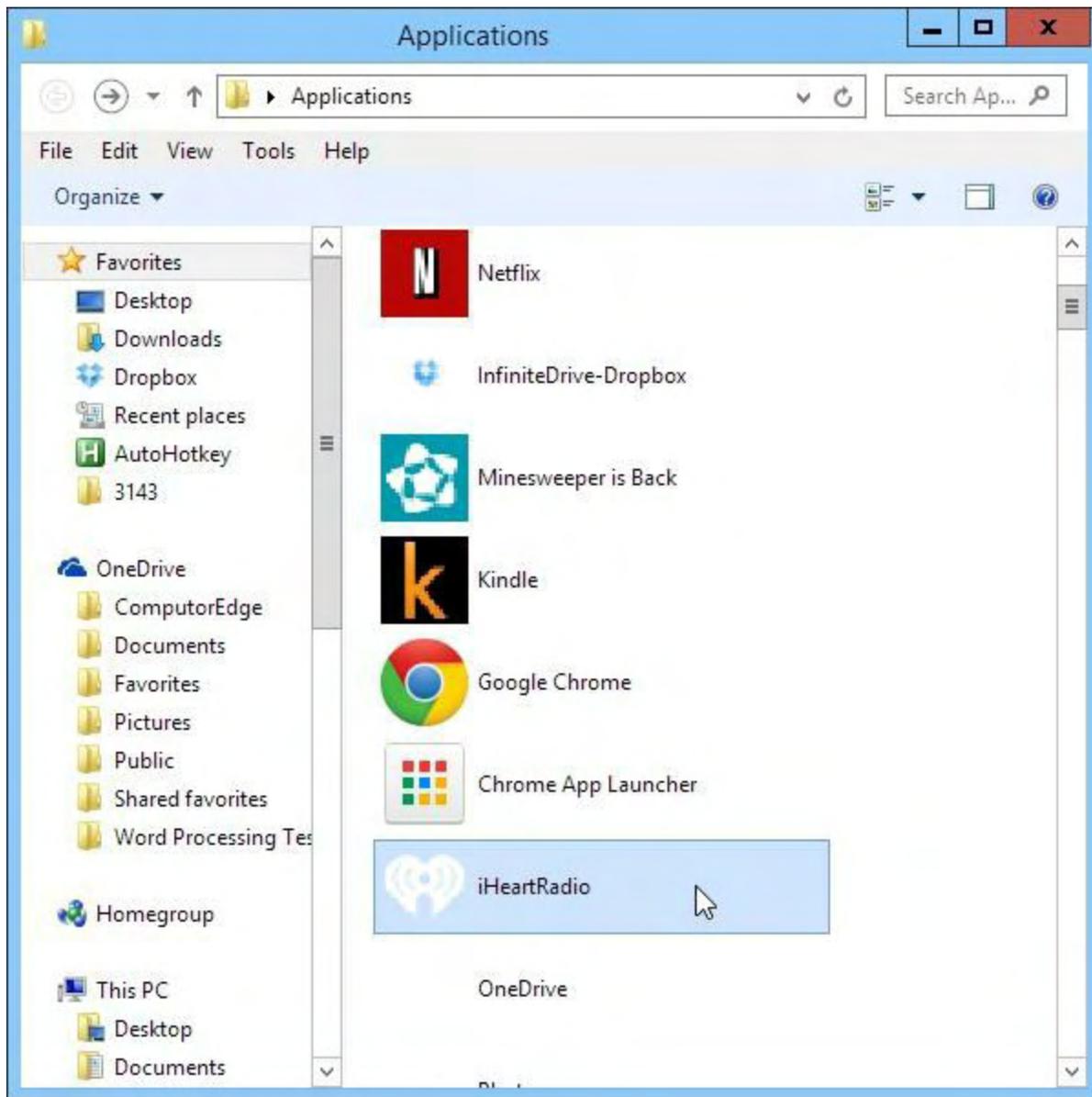


Figure 1. The Applications folder contains links to all of the Windows programs and Modern apps. Double-click to launch.

Note that the programs are *not* in alphabetical order. In fact, I couldn't find any way to change the current order at all. Although I can't be sure, they appear to be listed as they were installed on the computer. That lack of rational order would certainly make the Applications folder less useful if it wasn't for the Search box in the upper right-hand corner. Type in the name (or the first part of one of the words in the name) of your program or app and it will pop up on the list. (This technique will come in handy later for an AutoHotkey script to open recalcitrant Modern apps.)

If you drag the folder icon in the address bar to the Windows Taskbar it will pin it to the right-

click menu for File Explorer. If you drag it to the Desktop it creates a shortcut to the folder. Once there is a shortcut on the Desktop, it can be separately pinned to both the Modern Start Screen and the Windows Taskbar.

The Help Me Folder (or God Mode)

Another useful folder is what some have dubbed the God Mode. It contains all the system help tips that come up when searching the Control Panel. To create the folder, right-click on the Windows Desktop and select New => Folder. Then click on the name field until it goes into the text editing mode. Cut and paste the following into that name field:

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

then hit ENTER. The icon will change to a Windows Control Panel type image. Now if you double-click the new icon the special window will open as shown in Figure 2. Use the Search field in the upper right-hand corner to filter the results.

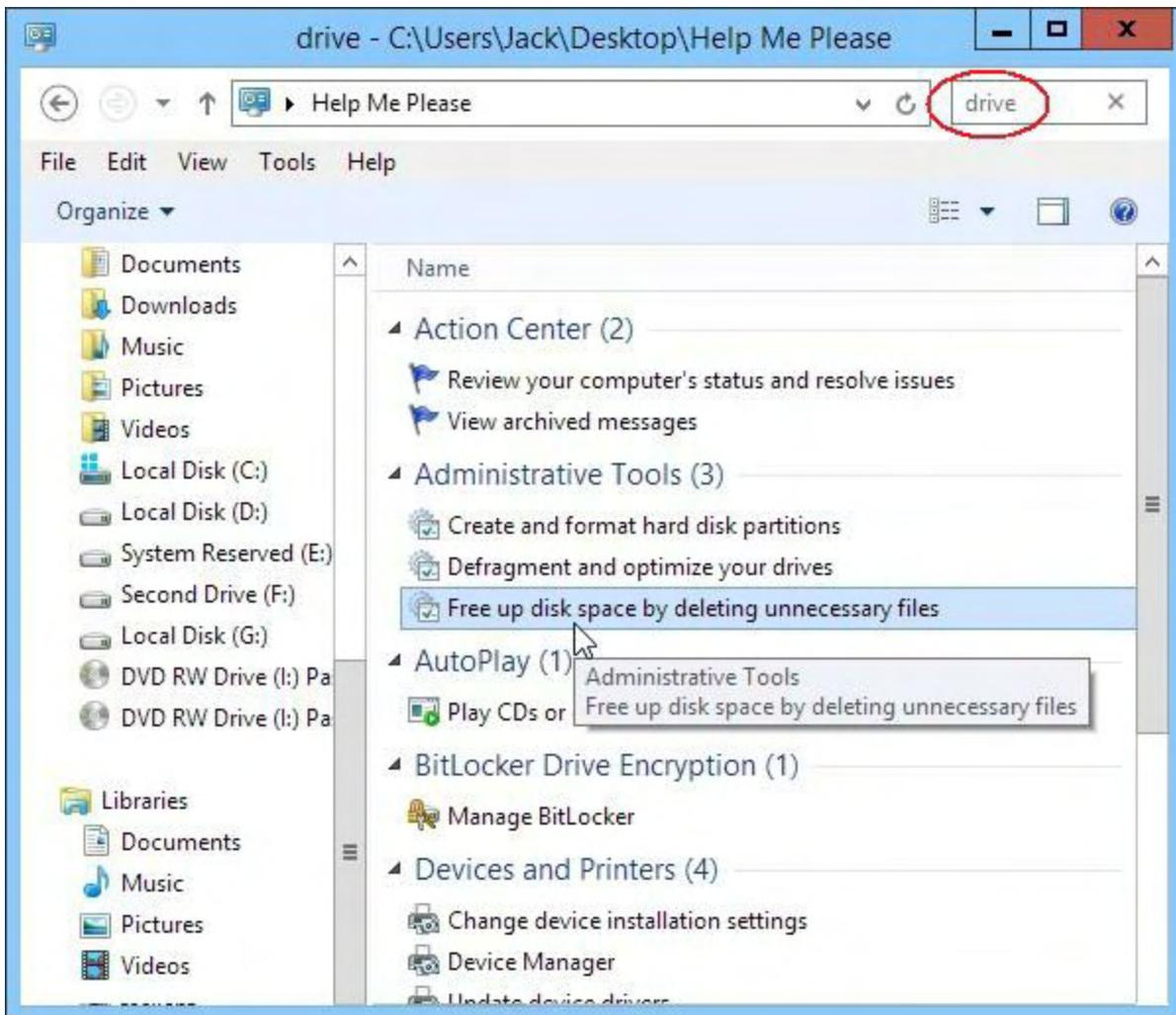


Figure 2. A special Windows folder offers all of the Control Panel Help items. Search with keywords to find specific

answers...in this case the word "drive."

If you drag the Desktop icon to the Taskbar it will be pin to the File Explorer right-click menu. Right-click on the Desktop icon to pin it to the Modern Start Screen.

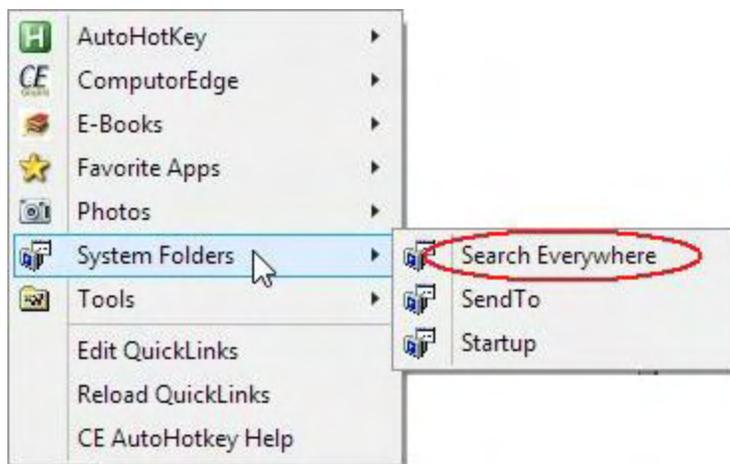
Search Everywhere

One of the key functions for any Windows system is searching. In Windows 8, Search Everywhere is opened with the WIN+Q (⊞+Q) key combination. The Search prompt opens on the right side of the screen on both the Windows Desktop and Modern Start Screen (as shown by the image on the right). This is the primary search feature for Windows 8 and replaces the old Search field on the Start Menu in Windows 7 and Vista. There are a number of ways to access Search Everywhere. In the Modern Start Screen, just start typing and the search will open. In the Desktop right-click on the Windows Start icon on the left end of the Taskbar and select Search. On any screen, move the cursor to the lower right-hand corner to reveal the Charms and select Search.

However there is a command that can be used to open the Search Everywhere from the command prompt, the Run command (⊞+R), or a shortcut:

```
explorer.exe shell:::{2559a1f8-21d7-11d4-bdaf-00c04f60b9f0}
```

Simply cut-and-paste this line and add it to one of the three options.



The image at the left is an example of the [AutoHotkey Menu structure](#)

used in the [QuickLinks app](#). The above code for Search Everywhere was added to a shortcut which was then located in the appropriate QuickLinks folder. The shortcut to Search Everywhere then



appears as an option on the QuickLinks menu.

If you want to add Search Everywhere to any AutoHotkey script, then this code (without *explorer.exe*) is all you need. By adding it to the AutoHotkey [Run command](#), the Search prompt can be opened at any time in any script. To open Search Everywhere in an AutoHotkey script add this one line:

```
Run, shell:::{2559a1f8-21d7-11d4-bdaf-00c04f60b9f0}
```

Cut-and-paste this code to add the capability to any Windows 8 AutoHotkey app.

Shortcuts for Launching Modern Apps from the Windows Desktop

If you right-click a Modern app in the Applications folder, the only option available is Open. It's not obvious how you can create a shortcut for launching Modern apps from the Desktop. For a number of apps the process is fairly simple, but for those that don't offer the simpler method there is an AutoHotkey workaround.

By adding a colon (:) to the end of its name, many of the Modern apps can be launched from the Run window, the Command Prompt, or a shortcut. For example, Netflix can be loaded with from the Run window with *explorer netflix:* or just *netflix:*. In the Command Prompt either *explorer netflix:* or *start netflix:* works. For a shortcut, add either *netflix:* or *explorer.exe netflix:* when first creating the shortcut. Any of these work great if such a linked name exists in Windows, but many of the apps don't this type of special name.

To find out which apps have a name which can be placed in shortcuts, open the Windows Registry to:

```
HKEY_CURRENT_USER\Software\Classes
```

If you find an app with a name such as that shown in Figure 3 (*URL:*), then the name can be used by adding the colon at the end. Windows 8 treats this types of name (with the colon) as a Web link, although they load Modern apps.

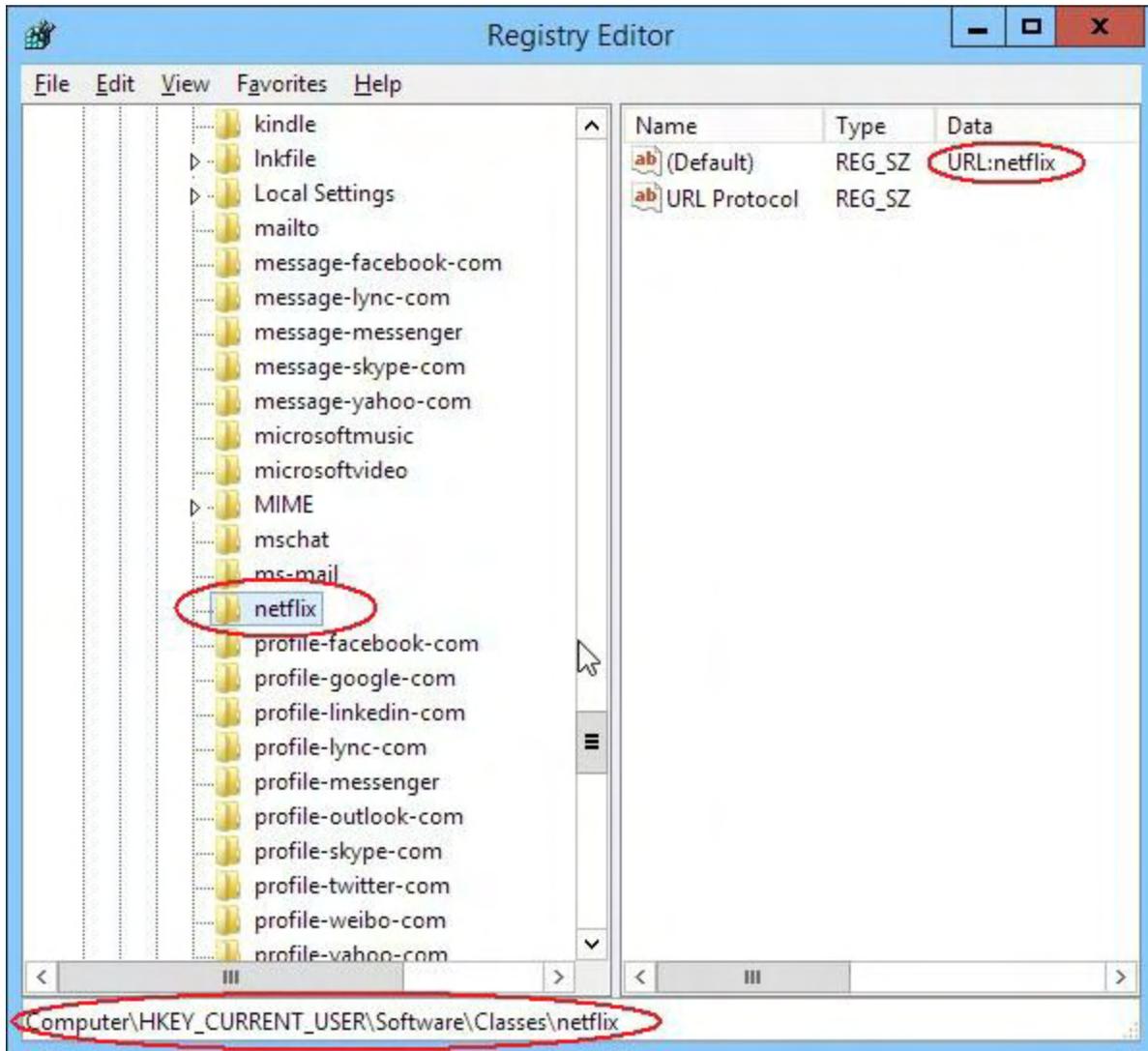


Figure 3. The names for launching many of the Modern apps can be found in the Windows Registry.

Once you know these names, creating a shortcut is as simple as adding the name with a colon. This also works in an AutoHotkey script:

```
Run, netflix:
```

The following is a partial list of some of the Modern app names available and alternative methods for loading from the Command Prompt:

```
Start netflix:
Start BingFinance:
Start BingMaps:
Start BingNews:
Start BingSports:
Start BingTravel:
Start BingWeather:
Start Bingfoodanddrink:
```

explorer wcalendar:
 explorer ms-mail:
 start ms-mail:
 explorer kindle:
 start ms-windows-store:

For Xbox Pinball: explorer xboxliveapp-1297290209:

If you're creating a shortcut, just use the name with a colon as shown in Figure 4.

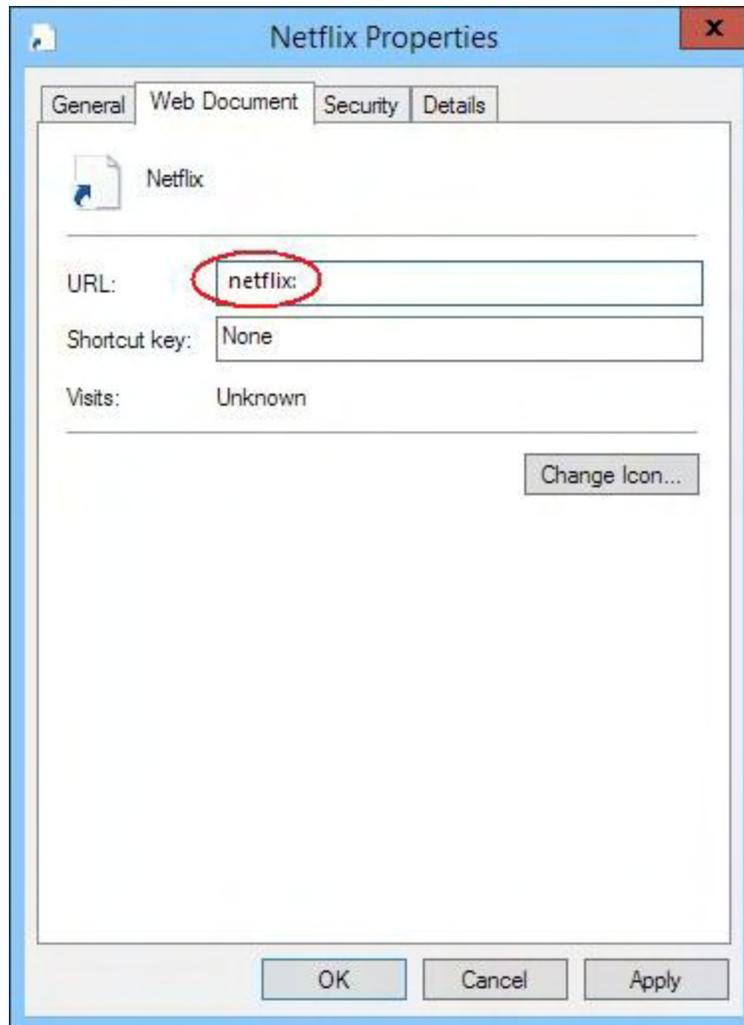


Figure 4. When a Modern app name is added to a shortcut with a colon (netflix:), the shortcut can launch the app from the Windows Desktop.

It's simple enough to add any of these names (or the Applications folder) to an AutoHotkey script:

```
^!q::run, shell:appsfolder
^!q::run, bingnews:
```

But what if you can't find a name for the Modern app you want to launch? Not all of them

have this type of link address.

AutoHotkey Script for Launching Modern Apps

The following AutoHotkey script uses the Applications folder to find and launch specific app—in this case iHeartRadio:

```
!o::
  Run, shell:AppsFolder
  Sleep 500
  SendInput, ^e
  Sleep 500
  SendInput, iheart
  Sleep 500
  SendInput, {return}
  Sleep 500
  SendInput, {down 2}{enter}
  Sleep 500
  WinClose, iheart
Return
```

This script is placed in a hotkey, but the hotkey can be removed making it a standalone script which can be launched via a Windows shortcut.

First, the Applications folder is opened (*run, shell:AppsFolder*). I used fairly long Sleep times because they seemed to work better, but this does make the process 2½ seconds long. You may want to experiment with these times. I couldn't get [WinWaitActive](#) to work. The [SendInput command](#) executes CTRL+E (^+e) which jumps the cursor to the File Explorer Search field. Next, "iheart" is entered as shown in Figure 5. The *{down 2}{enter}* moves the cursor down to the top item in the search list and launches it with ENTER. The Applications search window is then closed.

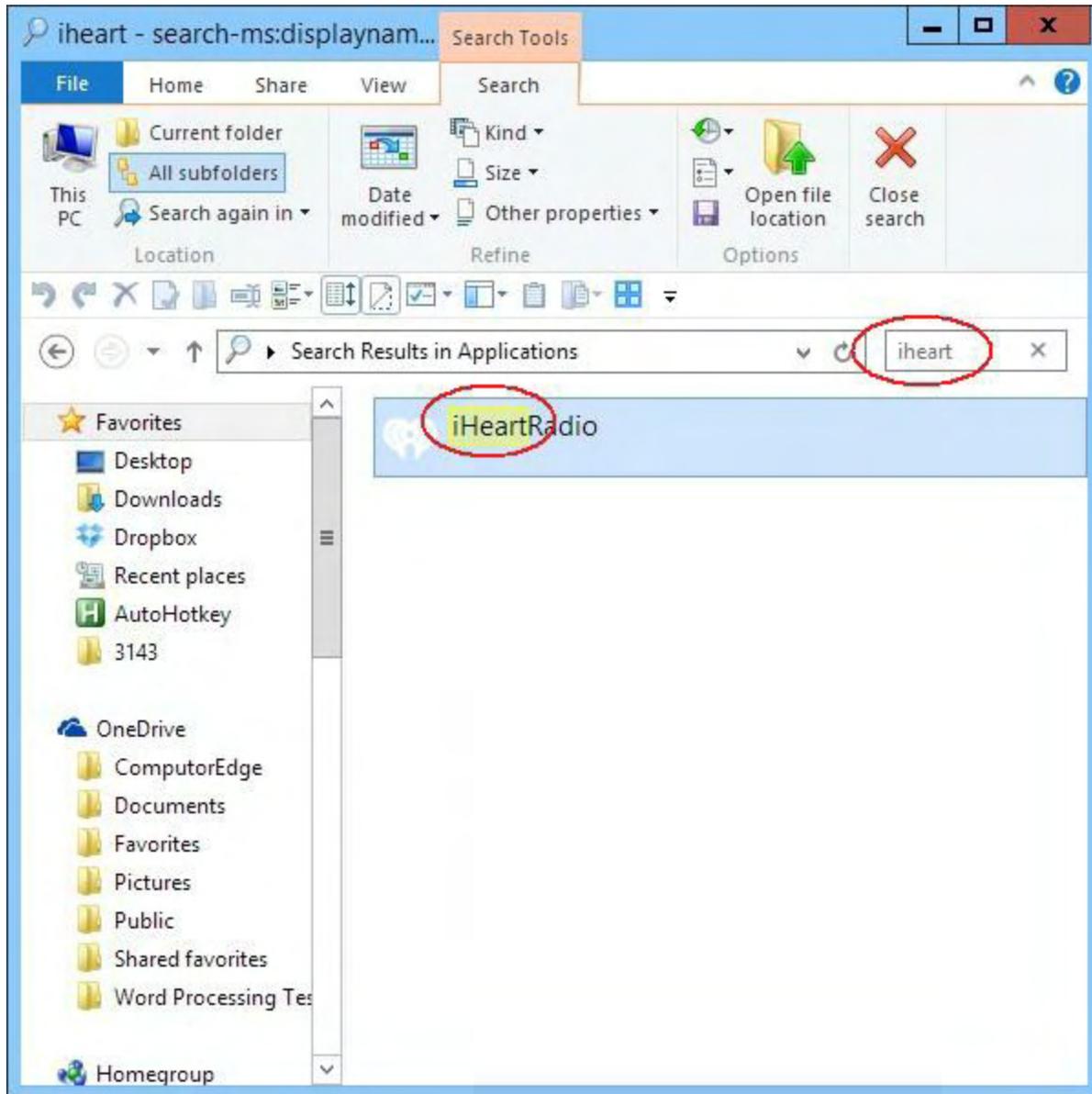


Figure 5. An AutoHotkey script can be used to launch Modern apps from the Windows Applications folder.

I found that using the File Explorer search was a much more reliable way to find specific apps than alternative methods which might require counting down the list of apps. The key is to use a search term which will put the app you want at the top of the list.

By calling the script above (without any hotkey) from a shortcut and adding a number of other Modern apps names in shortcuts to the QuickLinks app, I created a menu structure that works well with Windows 8 (see Figure 6).

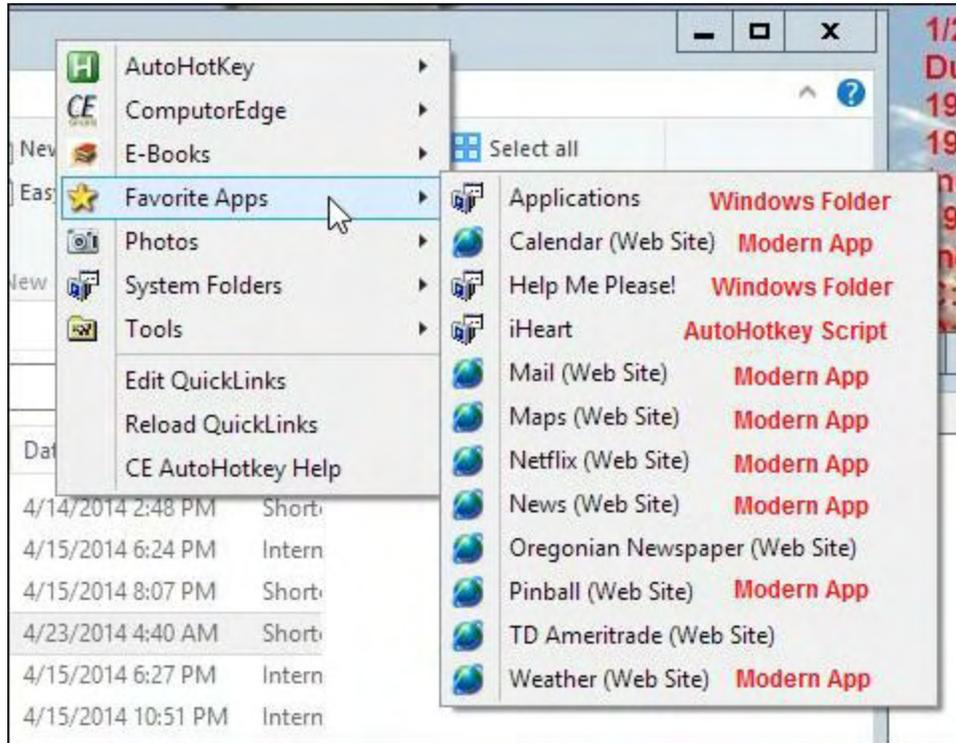


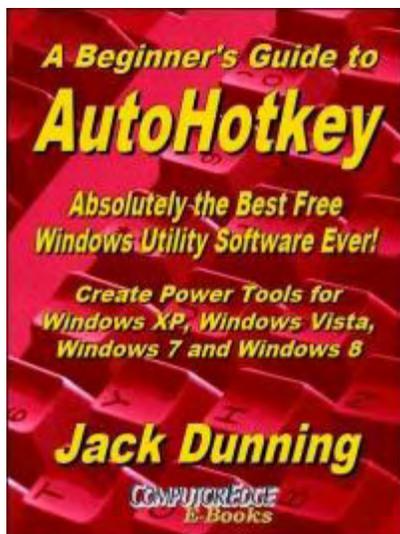
Figure 6. By adding various shortcuts to the QuickLinks folder, Modern apps, Windows programs, and AutoHotkey scripts can be launched from the same menu.

A number of the tricks in this column could be valuable to any Windows 8 user, but most of them are essential to AutoHotkey users who want to make the most of their Windows 8 computer.

* * *

Find ComputerEdge AutoHotkey scripts at our [AutoHotkey Scripts page!](#)

* * *



The new second edition with more chapters and an index to the AutoHotkey commands found in the book is available in e-book format from Amazon (and other formats—EPUB and PDF— at the ComputerEdgeBooks Web site linked below). 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](#) offers a gentle approach to learning AutoHotkey.

Building Power Tools for Windows XP, Windows Vista, Windows 7 and Windows 8, AutoHotkey is the most powerful, flexible, *free* Windows utility software available. Anyone can instantly add more of the functions that they want in all of their

Windows programs, whether installed on their computer or while working on the Web. AutoHotkey has a universality not found in any other Windows utility—free or paid.

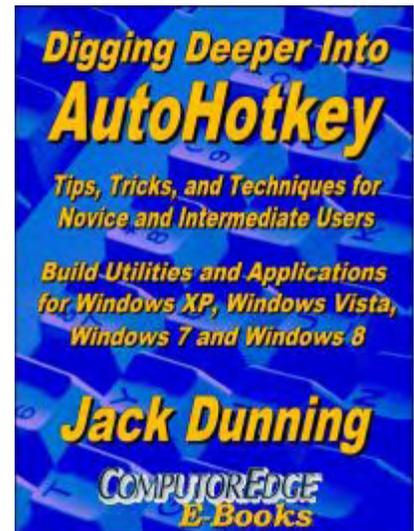
Based upon the series of articles in *ComputerEdge*, Jack takes you through his learning experience as he explores writing simple AutoHotkey scripts for adding repetitive text in any program or on the Web, running programs with special hotkeys or gadgets, manipulating the size and screen location of windows, making any window always-on-top, copying and moving files, and much more. Each chapter builds on the previous chapters.

[For an EPUB \(iPad, NOOK, etc.\) version of A Beginner's Guide to AutoHotkey click here!](#)

[For a PDF version for printing on letter size paper for inclusion in a standard notebook of A Beginner's Guide to AutoHotkey click here!](#)

* * *

Jack's latest AutoHotkey book which is comprised of updated, reorganized and indexed columns from *ComputerEdge* is now available at [Amazon for Kindle hardware](#) (or free software) users. Since the columns were not all written in a linear fashion, the book has been reorganized and broken up into parts by topic. The book is not for the complete beginner since it builds on the information in [A Beginner's Guide to AutoHotkey](#). However, if a person is reasonably computer literate, they could go directly to this book for ideas and techniques without the first book.



[For an EPUB \(iPad, NOOK, etc.\) version of Digging Deeper into AutoHotkey click here!](#)

[For a PDF version for printing on letter size paper for inclusion in a standard notebook of Digging Deeper into AutoHotkey click here!](#)

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:

[*Hidden Windows Tools for Protecting, Problem Solving and Troubleshooting Windows 8, Windows 7, Windows Vista, and Windows XP Computers.*](#)

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*](#) and

[*Digging Deeper Into AutoHotkey.*](#)

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?"*](#)

Special Free Offer at ComputerEdge E-Books! [*Jack's Favorite Free Windows Programs: What They Are, What They Do, and How to Get Started!*](#)

[*Misunderstanding Windows 8: An Introduction, Orientation, and How-to for Windows 8 \(Seventh Edition\)!*](#)

[*Windows 7 Secrets Four-in-One E-Book Bundle.*](#)

[*Getting Started with Windows 7: An Introduction, Orientation, and How-to for Using Windows 7.*](#)

[*Sticking with Windows XP—or Not? Why You Should or Why You Should Not Upgrade to Windows 7.*](#)

and [*That Does Not Compute!*](#), brilliantly drawn cartoons by Jim Whiting for really stupid gags by Jack about computers and the people who use them.



Wally Wang's Apple Farm

“The Flip Side of Cheapness” by Wally Wang

Wally Wang's Apple Farm

The Flip Side of Cheapness; A Hint of the Future; Breaking the Rules of Success; A Macintosh-Only Program; Open New Tab or Window in Safari.

Two common arguments that many people make against buying a Macintosh is that it's less expensive to buy a Windows PC and you can get more technology (a faster processor, a bigger hard disk, more RAM, etc.) by avoiding a Macintosh. Those are two valid arguments in favor of a Windows PC, but it also ignores the flip side of that argument.

Buying a less expensive computer will save you money initially, but how much money will you save in the long-term? I recently met a woman who complained that a computer technician recommended a Windows PC over a Macintosh because of the lower cost of the Windows PC. Then this technician charged this woman a fee to install the free OpenOffice program on her new PC.

While there's nothing wrong with charging people for a service that they probably wouldn't want to do themselves, this technician failed to tell this woman that OpenOffice is free and easy to install and that she could have done it herself. That's the main reason why technicians love keeping people ignorant because ignorant people are easier to exploit. The fee for installing OpenOffice made her Windows PC nearly the same price as a Macintosh, which comes with the free office suite iWork. By saving this woman money on the cost of the computer, this technician overcharged her for a service she really didn't need so she wound up spending just as much as she would for a Macintosh.

That's not the fault of the Windows PC, but of the dishonest people willing to take advantage of people's ignorance of technology. Buy any Windows PC in most stores (except for Microsoft Stores) and it will come crammed full of bloatware containing trial versions of antivirus programs and other utility programs you may not want or need.

To someone who isn't tech-savvy, removing these bloatware programs isn't something that they know how to do, so they can hire the services of a technician to do it for them (and spend more money in the process). Non-tech savvy people also don't realize that you can find

free antivirus programs so you don't need to pay for the bloatware trial antivirus programs that keep bugging you to buy an annual subscription.

To delete bloatware, you not only need to remove the programs from the hard disk, but you also need to fix the Windows registry and defragment the hard disk to recover the space these bloatware programs gobbled up. Non-tech savvy people won't know how to do this, so that's another opportunity for computer technicians to take advantage of people once more, raising the cost of buying a Windows PC.

For tech-savvy users, a Windows PC offers the most computer for the least amount of money, but only because tech-savvy users know of the pitfalls to avoid and the technical tasks they need to follow (removing bloatware) that they can do themselves for free. Non-tech savvy users won't know any of this, which means they're ripe for exploitation by dishonest computer technicians.

If you're lucky, an honest computer technician will help you buy the least expensive computer possible, but that also means earning the least amount of profit possible as well. Some computer technicians are honest, some are not. Finding an honest one will require luck.

Once you start using a Windows PC, you have to keep your antivirus software up to date (which non-tech savvy users may not know or want to do), clean your Windows registry periodically to keep your computer running in optimum condition, and defragment your hard disk regularly. You can do all of these maintenance tasks yourself if you know where to find the software to do this and know how to use it, but non-tech savvy users won't know how to do this, which is why so many PC repair shops advertise computer maintenance checkups for a fee.

For non-tech savvy users, the choice boils down to paying less for a Windows PC and risking paying for maintenance work periodically or taking time to become more tech savvy themselves so they can do these tasks for free. Or they can spend more initially to get a Macintosh and not worry about antivirus updates, bloatware, disk defragmentation, and Windows registry errors. Paying more for a Macintosh gives you far less maintenance headaches in the future.

Buying a PC means parts are cheaper in case you need to repair or upgrade your computer in the future. For tech savvy users, they know where to buy the parts and how to install them themselves. Non-tech savvy users won't know any of this, which means putting themselves at the mercy of computer technicians who may or may not be honest.

In return for the initial cost savings of a Windows PC over a Macintosh, you have to weigh the hassle of dealing with bloatware and regular maintenance issues (antivirus updates, hard disk defragmentation, and Windows registry errors). While it may be less expensive to buy parts to fix or upgrade a Windows PC over a Macintosh, what if you never need to fix or upgrade your computer at all? Then this advantage may be nice, but won't save you actual money.

If you're a tech savvy user interested in spending the least amount of money possible for a computer, then choosing a Windows PC will make perfect sense (although choosing Linux will be even less expensive than buying Windows). If you're not tech savvy, then saving money on the initial cost of a Windows PC may seem attractive, but ask yourself if you'll be happy you saved money when you have to wrestle with maintaining your computer all the time. What's more important, your time or your money?

For some people the answer will be that money is more important, but for others the answer will be that time is more important. If money is more important to you, then Linux will be a better choice than Windows since you can get free software and not deal with the hassles of bloatware, antivirus updates, hard disk defragmentation, and Windows registry errors. If time is more important, then a Macintosh might be a better choice, especially since a Macintosh also won't burden you with bloatware, antivirus updates, hard disk defragmentation, and Windows registry errors so you can spend more time using your computer and less time maintaining it.

A Windows PC can still be the right choice as long as you're aware of the pros and cons. Just don't fool yourself that a Windows PC will always be less expensive than a Macintosh when you factor in the pitfalls that non-tech savvy users will likely encounter. When complexity confuses consumers, it's easy to get fooled into buying something that makes the largest profit for the wrong people whose agenda involves taking advantage of others.

A Hint of the Future

Nike [recently killed](#) their wearable FuelBand technology to exit the wearable computer hardware market and focus on the wearable computer software market. Considering that [Apple hired away](#) one of Nike's FuelBand designers, it seems likely that Nike's close ties with Apple convinced them that wearable computing hardware had less of a future with Apple's iWatch device rumored to be arriving later this year.

While the purpose of the rumored iWatch remains up in the air, Apple's recent hiring of health experts points to the iWatch being a fitness and medical monitoring device. For athletes, the iWatch could monitor their workouts. For patients, the iWatch could monitor their medical condition and send signals to people nearby if any problems arise. Put an iWatch on senior citizens in a nursing home and the moment their heart rate changes dramatically, it could call for help to examine that person.

Apple's possible iWatch monitors the person wearing the device. In comparison, Google Glass has provoked the ire of many people because it can monitor the [actions of others](#). People have attacked Google Glass wearers out of fear that the person was recording them without permission. As a result, wearable technology like Google Glass will likely find niche uses such as for police officers recording their interactions with suspects or soldiers recording their location and the condition of a battlefield around them.

Given the choice between monitoring the wearer and monitoring others, it seems likely that Apple's rumored iWatch will gain more acceptance than Google Glass. Nobody needs to fear an iWatch strapped on someone else's wrist, but they might fear being recorded by someone wearing Google Glass.

By the end of the year, we should all know the impact of wearable computers. Chances are good that creative people will find unusual uses for wearable computers while less creative people will simply complain that wearable computers have no purpose until they're proven wrong about five seconds later.

Breaking the Rules of Success

Many people think they need to look for a job. A far better solution is to make your own job. Basically a job is solving a problem for someone else. A manager at Burger King hires a clerk because he or she doesn't want to get stuck working the cash register all the time so it's cheaper to hire someone else to do it.

Rather than look for a job, look for ways to use your talent and skill to solve problems for others. What can you do that others will pay for? For many people, they have skills that they don't realize are valuable to others whether it's knowing how to cook to knowing how to find the best shopping bargains for clothes or electronics. Everyone has a useful skill. You just need to know how to market your skill to others so they'll want to pay you for solving their problems.

Dan Kennedy, the author of [*How to Succeed in Business by Breaking All the Rules*](#), offers a simple way for job seekers to get a job. Simply target the industry you'd like to work in, then contact as many of those companies as possible, but direct your letters to the top people in that company. Tell them you'd be willing to work for free simply to get into that industry. Then offer them reasons why they'd benefit from you working for free.

Send out enough letters and you're sure to hear back from a handful of people. Talk to those people and one will likely take you up on your offer to work for free in return for giving that company a benefit from your talent. As long as you're confident you can deliver the results you promise, you'll have basically talked yourself into a job.

The hardest way to look for a job is to do what everyone else does, which is look in the classified ads. That seems easy because all you have to do is buy a newspaper or look on the Internet, but anything that's easy to do means it will be harder to succeed at it since everyone else will be following that same logic. If you take time to research companies in a given industry, then offer to work for free in exchange for giving that company a massive benefit from your skills, you'll have far less competition because most people don't want to do the hard work of researching companies or taking the risk of offering to work for free. By avoiding the hard work, they also avoid getting what they want, which is a job in an industry

that they want to work in.

The key to success isn't in having the right skills, but in offering a solution to solve other people's problems. If you can do that, there's a good chance you'll find a job soon. If you ignore what a company needs and just look for a job because you need the money, you'll have to wait in line behind thousands of other people who think like that too. That means you'll likely be unemployed far longer than you might want.

Besides targeting specific companies and offering to work for free just to get in, Dan Kennedy also suggests people simply create their own jobs by becoming entrepreneurs. In his book he mentions a man who pushes an espresso machine along the Los Angeles freeways so he can sell coffee to people stuck in rush hour traffic. He saw a problem, filled a need, and essentially created his own job out of thin air.

In the computer world, programmers can simply create their own software to solve a pressing need. Write a program specific to your particular industry and you'll create a part-time or full-time income. If you don't have programming skills, find a way to use your computer skills to solve other people's problems in your industry. As long as you can solve pressing needs, you'll be able to find work far easier and faster than answering help wanted ads and hoping for the best.

Don't look for a job. Make one. Don't be afraid of hard work or even dirty work. Any job is important just as long as it's a stepping stone to what you really want to do. Try to do what's easy and you'll wind up having a hard life. Do what's hard and you'll wind up with an easier life. It's counter-intuitive, but it works every time.

A Macintosh-Only Program

In the old days, people argued that Windows offered the largest software selection for business because many programs only ran on Windows. Nowadays, that same argument can be used to convince people to use a Macintosh. Not only can the Macintosh run Windows (and all Windows programs) within a virtual machine, but many companies are now offering Macintosh-only programs.

In the lighting CAD (computer-aided design) world, an Italian company has released [Illuminando](#), which they bill as the most advanced lighting calculation software on the market. By taking full advantage of OS X's features, the developer could create an optimized lighting CAD program. Often times when you write cross-platform programs, you have to weaken your features to match the lowest common denominator of each operating system your software needs to run on.

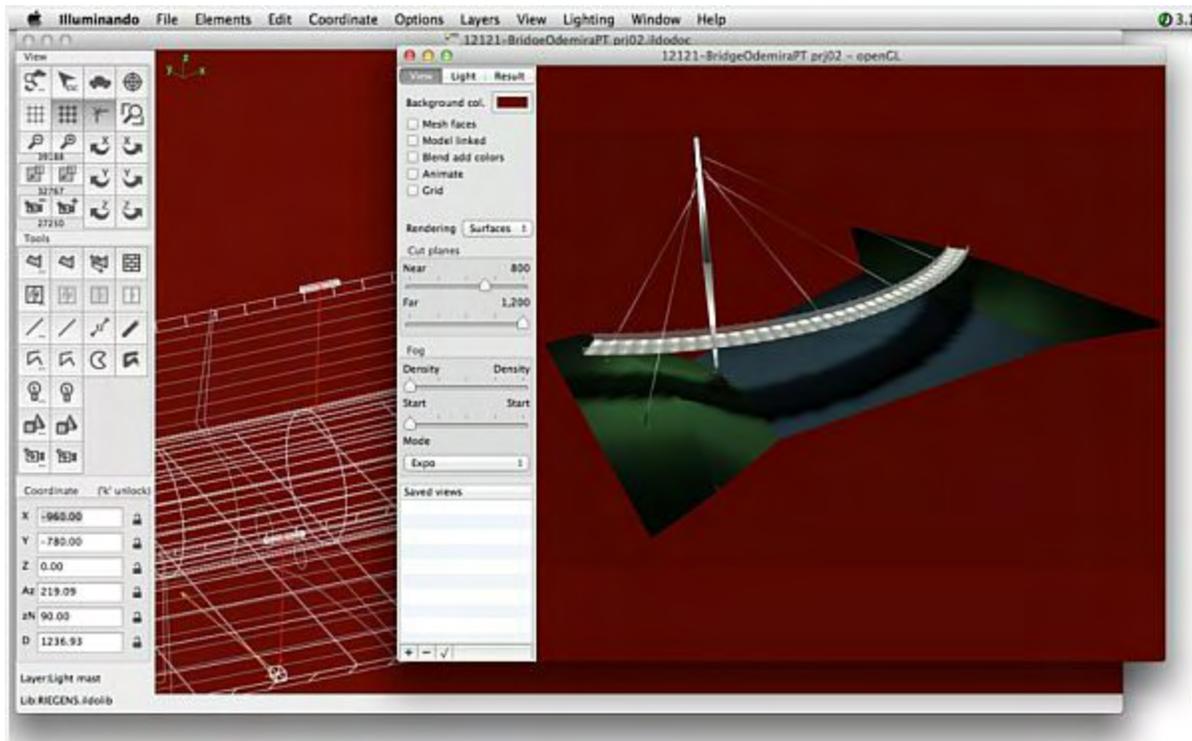


Figure 1. Illuminando is a Macintosh-only application.

So if you really want to access the largest software library in the world, get a Macintosh that will give you access to all OS X software along with all Windows software if you run Windows as a virtual machine. Best of all, you can run different versions of Windows as a virtual machine so you can make sure your Windows programs only run on the operating system version best suited for that particular program.

The arguments for sticking with Windows no longer apply. Want access to the largest software library in the world? Get a Macintosh. Don't want to learn a new user interface? Avoid Windows 8. Want to save money? Avoid paying for Windows and get a free copy of Linux. Want complete freedom of choice? Avoid Windows and switch to Linux. Want an easy to use computer that requires less technical knowledge to use? Get a Macintosh.

The best reason to use Windows is if you're already using Windows and it does everything you need it to do. Even then you have to ask yourself if using another type of computer could make you more productive and happier in the long run. Windows may still be the answer, but then again, maybe not. As long as you refuse to acknowledge the possibility that Windows may not be the best solution for everyone (especially you), you can bury your head in the sand so you don't have to think that maybe you're not using the best technology for your money after all.

* * *

When using Safari, you may type a new search query or address to jump to a new site.

Normally when you do so, Safari replaces the currently displayed site with your new site. However if you press Command-Return, you can open a new tab. If you press Shift-Return you can open a new Safari window.

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 2013 For Dummies*](#)

[*Beginning Programming for Dummies*](#)

[*Beginning Programming All-in-One Reference for Dummies*](#)

[*Breaking Into Acting for Dummies with Larry Garrison*](#)

[*Strategic Entrepreneurism with Jon and Gerald Fisher*](#)

[*How to Live with a Cat \(When You Really Don't Want To\)*](#)

[*The Secrets of the Wall Street Stock Traders*](#)

[*Mac Programming For Absolute Beginners*](#)

[*Republican Fairy Tales \(Children's Stories the 1% Tell About the Rest of Us\)*](#)

[*The Zen of Effortless Selling with Moe Abdou*](#)

[*The 15-Minute Movie Method*](#)

[*Erotophobia \(A novel\)*](#)

[*Math for the Zombie Apocalypse*](#)

[*How to Write a Great Script with Final Draft 9*](#)

[*How to Write a Great Script with Fade In*](#)

[*The Elements of a Great Script: Star Wars*](#)

In his spare time, Wally likes blogging about movies and writing screenplays at his site "[The 15 Minute Movie Method](#)," finding interesting news stories about cats at his site "[Cat Daily News](#)," giving advice to authors who want to self-publish e-books at his site "[The Electronic](#)

[Author](#)," and providing the type of advice he wishes someone would have told him when he was much younger at his [personal Web site](#). Wally can be reached at wally@computoredge.com or you can follow him on Twitter [@wallacewang_com](#).



Worldwide News & Product Reviews

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

XP is Dead; Long Live ???; Driving Under the Influence (of Google Glass); ChargerLeash; HTC ONE Max (Verizon); Pixel Piracy for PC.

XP is Dead; Long Live ???

Richard Edwards, principal analyst for enterprise mobility & productivity software at the research firm [Ovum](#), comments:



A significant chapter in the history of the PC [has come to an end] as Microsoft ceases "Extended Support" for Windows XP, meaning there will be no new security updates from the vendor.

However, millions of PCs are estimated to be running Windows XP as support comes to an end, and this can only mean that some consumers, businesses, and public bodies will be at increased risk from computer malware and security exploits until they upgrade or replace their XP systems.

There can be no denying the fact that PCs running Windows XP are "at large" in the enterprise, even though their number is declining. Speaking to CIOs, there are various reasons why a business or institution might continue to run Windows XP past the April deadline, and not all of these are low risk scenarios.

Supporting operating systems beyond their end-of-life is nothing new for the corporate IT department, and there are plenty of ways-and-means to reduce or mitigate the risks associated with unsupported software. In the meantime, Google has said that it will support its Chrome Web browser on Windows XP until April 2015, and antivirus vendors (including Microsoft) have said they will continue to update their software running on Windows XP computers until 2015.

It would appear that some CIOs and IT managers have been busy mitigating the risks of Windows XP in another way: bespoke support from Microsoft. The UK government has reportedly paid £5.5m to Microsoft to ensure support for public-sector bodies for another year,

giving organizations like the NHS a little more time to complete their upgrades and migrations.

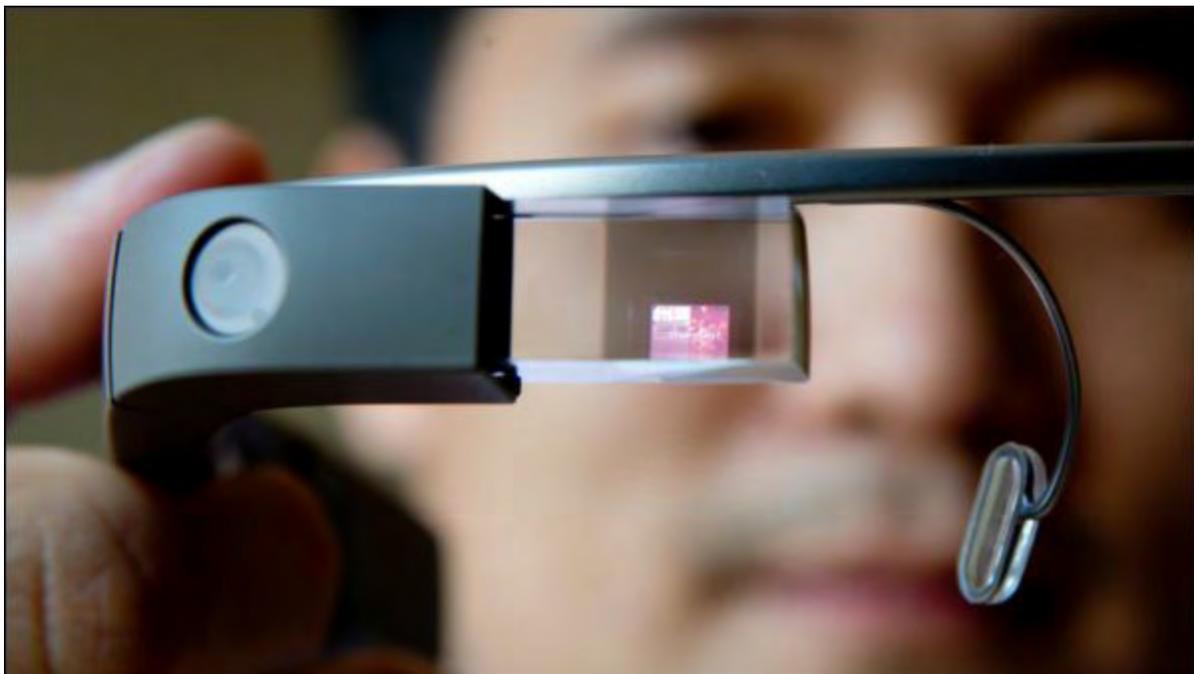
Compared to smartphones and tablet devices, PC operating system upgrades are an ugly affair, and thus PC replacement is the preferred option. But the traditional PC replacement project is not what it once was, as there are now many more options and alternatives to be considered: Windows 7 vs. Windows 8; tablet vs. PC; Android vs. iPad; etc.

But whichever option is chosen, moving on from Windows XP could prove transformational for employees and for businesses, as any change of tool brings with it a change in thinking and capability.

Driving Under the Influence (of Google Glass)

Morrison & Foerster's Socially Aware newsletter includes an article from Cindy Abramson and Gabriel Meister about the social and legal challenges posed by widespread adoption of Google Glass:

Google's Glass Explorer Program has expanded steadily. In October 2013, the company announced the ability for each Explorer to invite three friends to join and purchase a Glass, and officially rolled out its "Glassware" app review program. With the expansion of the Glass Explorer Program, several of the issues we identified in the fall of 2013 have come into sharper focus, including one that could have a real impact on wearers' daily lives.



On October 30, 2013, Cecilia Abadie was ticketed by a California police officer—not just for speeding, but for wearing her Google Glass while driving. The officer who ticketed Abadie cited a provision of California's Vehicle Code, VC Section 27602, for the Glass-related

violation. The relevant portion of the law states:

(a) A person shall not drive a motor vehicle if a television receiver, a video monitor, or a television or video screen, or any other similar means of visually displaying a television broadcast or video signal that produces entertainment or business applications, is operating and is located in the motor vehicle at a point forward of the back of the driver's seat, or is operating and the monitor, screen, or display is visible to the driver while driving the motor vehicle.

Naturally, VC Section 27602 was written before the advent of Google Glass (and it hasn't been amended since 2011). The law carves out several exceptions for equipment "when installed in a vehicle," including global positioning and mapping displays, rearview cameras (" [a] visual display used to enhance or supplement the driver's view forward, behind, or to the sides of a motor vehicle for the purpose of maneuvering the vehicle"), and even television receivers that are disabled or unviewable while the vehicle is driven.

Abadie decided to fight the ticket, and on January 16, 2014, she was found not guilty by the San Diego Traffic Court Commissioner. You can read a copy of the ruling on Abadie's Google+ profile. The Commissioner's decision relied on the fact that there was no proof that Abadie's Glass was in operation while she was driving. This highlights an interesting difference between, on the one hand, dashboard-mounted screens, and on the other hand, compact head-mounted displays that may or may not have a visible "on" indicator: it's much easier for an onlooker (such as a police officer) to tell whether a dash-mounted screen is "operating" at any given time.

In November 2013—notably, after Abadie was issued her ticket—Google reportedly updated its Glass FAQ to answer the question, "Can I use Glass while driving or bicycling?": It depends on where you are and how you use it.

As you probably know, most states have passed laws limiting the use of mobile devices while driving any motor vehicle, and most states post those rules on their department of motor vehicle Web sites. Read up and follow the law! Above all, even when you're following the law, don't hurt yourself or others by failing to pay attention to the road. The same goes for bicycling: whether or not any laws limit your use of Glass, always be careful.

Safe Driving Apps on Glass

The question of whether driving while wearing Glass is legal is different from the question of whether it's safe. Many contend that Glass and similar devices simply add to an already long list of driver distractions. But others argue that some Glass apps—particularly apps that are specifically designed to be used while driving—are not only safe, but actually a positive alternative to using dashboard navigation systems that force drivers to take their eyes off the road repeatedly (and certainly a better alternative to the somehow irresistible urge to take out one's smartphone to check messages or hunt for traffic alerts). To put it another way, there's a difference between merely using Glass while driving, and using Glass for driving.



For example, one side-loadable Glass app, DriveSafe, is designed specifically to make driving safer by using Glass's built-in sensors to alert the driver when he or she appears to be nodding off. The app, which is activated with the phrase, "OK Glass, keep me awake," can even provide its wearer with directions to the nearest rest stop. Another developer, INRIX, is exploring the possibility of porting its traffic app to Glass in order to enable drivers to receive real-time traffic alerts in their head-mounted displays and help them reroute their trips, all in a reportedly unobtrusive manner. Query whether the prevalence of safety-specific Glass apps will see the advent of a "driving mode" for wearable head-mounted displays.

There is at least one Glass app whose safety implications are tough to refute: developed by a firefighter in North Carolina, the app feeds critical emergency information, such as a fire's location and type, directly to a firefighter's line of vision while driving, potentially eliminating the need to reach for a radio, mobile phone, or other device to retrieve the same information. And firefighters may not be the only civil servants seeking to take advantage of Glass; in early February 2014, the NYPD announced that it is testing Glass for potential use by its officers. Although the specific uses being tested haven't been announced, it is easy to see how police officers could benefit from wearable head-mounted displays while driving, for example, by viewing details about crimes in progress, getting help with identifying vehicles, or recording offenders on the road.

The Future of Driving with Glass

Although it may be too early to accurately gauge the dangers of driving while wearing head-mounted displays, lawmakers are trying to regulate their use, and are likely to continue to do so—particularly where existing statutes might not do the trick. At least eight states are already considering bills that would regulate driving with Google Glass: Delaware, Illinois, Maryland, Missouri, New Jersey, New York, West Virginia, and Wyoming, whose proposed bill lumps

Glass together with "texting while driving":

No person shall operate a motor vehicle on a public street or highway while using a wearable computer with head mounted display, or while using a handheld electronic wireless communication device to write, send, or read a text-based communication.

And even though Glass is currently available only to U.S. residents (the Device Specific Addendum of Google's Glass Terms of Sale states, "You must be 18 years or older, a resident of the United States, and authorized by Google as part of the Glass Explorer program in order to purchase or use Glass Explorer Edition"), the UK government is already contemplating a ban on Glass for drivers.

It will be particularly interesting to see how these new pieces of legislation address drivers who wear corrective lenses. Originally, prescription lenses simply weren't compatible with Glass (although that didn't stop people from retrofitting earlier versions of the device with prescription lenses, including one man who was detained in January 2014 by federal agents after he wore his Glass to a movie theater and was suspected of trying to record the film using the device's camera). But in late January 2014, Google announced that it will be selling Glass frames that are designed to accommodate prescription lenses; and Vision Service Plan, the largest vision insurance provider in the United States, has announced that it will be offering subsidized frames and prescription lenses for Glass. As head-mounted devices with prescription lenses become more prevalent, we are likely to see a larger population of users who simply can't remove their head-mounted displays, particularly during vision-critical activities such as driving.

The story here is not an uncommon one. The law struggles to catch up with advanced technologies like Glass and their new perceived risks; meanwhile, governments continue to use old laws to address those new risks, even though the fit isn't always perfect. Keep your eyes on the road, and we'll keep our eyes on further Google Glass legal developments.

Read the complete piece (and the entire newsletter) [here](#).

ChargerLeash

Product: ChargerLeash

Importer: JSN Holdings, LLC

Web Site: www.chargerleash.com

Price: \$22.99



ChargerLeash is a device that was not shown at CES this year but was sent to me after the show by its promoter.

It is a 3' long cable which will charge and/or sync devices. The cable has a USB connector at one end and a micro USB connector at the other suitable for charging cell phones, blue tooth devices, and tablets.

In the middle of the cable is a device that contains an LED and beeper. If the device you are charging is disconnected from the cable, the LED turns red and shortly thereafter, the device beeps. This is supposed to remind you not to leave the cable behind when leaving your hotel or to alert you if someone disconnects your device while it's charging in a public charging area.

The device works as advertised if you disconnect the device from the charging cable but it does not if you unplug the cable from the charging supply.

I have an issue with the pricing. The model I have is \$22.99, There are two Apple models at \$26.99 and \$34.99. There is another model with multiple charging tips for \$34.99. You can buy a USB to micro USB charging cable from Amazon for under \$2.00. I found one ad that offered 10 three foot USB to micro USB cables along with a 110vac to 5vdc USB charging device for \$9.95 plus shipping.

It doesn't seem like a very cost effective solution to me even though it came with a gift of a mono hands-free phone headset, a \$4.39 value on Amazon.



Review contributed by Joe Nuvolini

HTC ONE Max (Verizon)

Product category: Smartphone (phablet)

Manufacturer: HTC

Model: ONE Max

Web site: www.verizonwireless.com

Pricing options:

- 2 Year Agreement \$199.99
- Verizon EDGE \$24.99/mo. (after 30 days with at least 50% of your phone's price paid off, you're eligible to upgrade)
- No Contract \$599.99

A little while back we looked at [HTC's amazing One smartphone](#). Like a lot of companies, HTC is attempting to cover all the bases by expanding (literally) their product line to cater to folks who like the all-in-one convenience of a phone and the large screen of a tablet—dubbed "phablets." Currently, that large-ness is about 6" (the HTC ONE Max is 5.9"). Seven-inches—roughly the size of a Google Nexus 7 or Apple iPad Mini—just looks a little too ridiculous when held up to one's ear.

The ONE Max is a stunner, to be sure: The 1920 x 1080 full-HD display looks fantastic at almost any angle. Colors are rich and deep. The unit even senses when you're outdoors and recalibrates the display for best viewing.



The one-piece all-aluminum body with a detachable back strikes an excellent balance between feeling solid in your hand and allowing easy access to the SIM and micro-SD cards. The battery is under there too, but it's not user-accessible. No worries, though, the ONE Max's 3300 mAh battery will get you through even the most demanding day.

Concerned about security? The ONE Max has a built-in fingerprint scanner on the rear of the phone to unlock the phone. Takes little getting used to but, once you learn how to run your finger across the sensor, there's nothing to it.



Sound is excellent with dual front-facing speakers that actually sound pretty decent and awesome HTC BoomSound audio through the headphone jack.

The ONE Max's Snapdragon 600 processor is not the fastest one currently on the block, but it's very fast nonetheless. Browsing the Web, shooting pics and videos, and playing games are run extremely smoothly with nary a hiccup.

Since it's probably going to be sitting right there next to you anyway, you might as well use the ONE Max to change TV channels, access program guides, control sound volume, and even tell you when your fave shows are on.

The ONE Max's camera isn't the best one out there, but it's likely to please you nonetheless. A feature called Zoe Video Highlights automatically creates presentations using your videos and photos. You can even add music from your own tunes. It's really surprising how well it works.

Got a lot of contacts, video, pics, etc. on your old device? HTC Switch takes care of transferring all of it with just a few clicks.

The ONE Max is not inexpensive (see above) but, if a 5.9" screen does it for you, you very well might be able to forego the expense of buying (and lugging around) a tablet as well. To my mind, the HTC ONE Max is the phablet to beat for quality, looks, and performance.



Specifications (from Verizon):

UltraPixel with HTC Zoe™ Camera, f/2.0, 28mm wide angle lens, 1x LED Smart Flash

1080p HD Video capture

2.1MP Full HD Recording Front Facing Camera

Video Formats: H.263, H.264, MPEG4, WMV v9

Google Play Music - store up to 20,000 songs for free and buy millions of new tracks from the Google Play Store

HTC Music Player

Create and Manage playlists

Music /Audio Formats Supported: AAC, AAC+, AAC+ Enhanced, AMR NB, AMR WB, FLACC, MIDI, MP3, OGG, WAV, WMA

Headset: 3.5mm Audio Jack

Bluetooth 4.0 Bluetooth Class 2

Coverage in more than 200 countries. Customers must activate a Global feature to enable roaming outside of the U.S. in GSM and UMTS Networks.

International Roaming (CDMA) is available on all Verizon Wireless devices and does not require an activated SIM Card. (Global Feature is suggested)

Google Chrome for Android & HTC Browser

Mobile Hotspot - Connect up to 10 Wi-Fi enabled devices in 4G or 3G

Wi-Fi 802.11 a/b/g/n/ac, 2.4GHz and 5GHz Capable

6.48" (H) x 3.25" (W) x .41" (D) inches

Weight: 7.65 oz

Network: LTE, CDMA/1xEVDO Rev. A (800/1900 MHz)

Global Network: EDGE/GPRS/GSM (850/900/1800/1900), HSPA/UMTS(850/900/1900/2100MHz)

Android 4.4 KitKat with HTC Sense 5.5

Memory: 32GB on board memory + 2GB RAM

Supports up to 64GB microSD Card (sold separately)

Processor: 1.7 GHz Quadcore & 2GB of RAM

5.9" Super LCD 3 display (1920 x 1080) Full HD

Non-removable 3300 mAh Lithium Ion

Usage: Up to 25.5 hours

Standby: Up to 17 days

Amazon Suite - Kindle, Amazon MP3, Amazon Appstore, Audible, IMDb

Integrated Google Mobile Services (Gmail, Google Maps with Navigation & Local, Google Talk, Play Books, Play Magazines, Play Movies, Play Music, Play Store, Google Search, Google +, YouTube), Slacker, Facebook

Verizon Apps: Back-up Assistant + (Contacts/Restore Only), My Verizon Mobile, Verizon Accessories, Verizon Tones, Visual Voicemail, VZ Navigator, NFL Mobile, Caller Name ID, Game Portal, VZ Security

Integrated Google, Google+, Exchange, & Facebook Contacts



Pixel Piracy for PC

Web sites: piracysim.com and store.steampowered.com

Price: \$14.99 (Steam)

Rating: T for Teen

Also available for Linux

It's finally happened ladies and gentlemen, Internet piracy has finally been turned into a gaming experience—and, you bet your booty, it's a lot of fun.

Pixel Piracy is one of the newest indie games on Steam's Greenlight program, and is definitely worth a look. You start off every game by answering a few questions about the world you're about to enter and your father as well, and at the end a randomly generated character and name is set up for you. You then immediately spawn on an island with 600 gold coins and are tasked with hiring a crew and building a ship. You're set up with everything you need to build a starter ship, so hire a few crew members and you're off to the high seas!



Now, I'm still in the process of playing this game, but there are a few things I can tell you for sure:

Firstly, it's the most fun you can have being an Internet pirate without risking legal repercussions. You have a crew that all have special skills to help you out (sailors clean the poop deck, and fighters are stronger (for instance) and you just sail around fighting other pirates and searching for treasure.

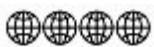
Secondly, it's ridiculously hard and has a steep learning curve. Once you die that's it, you have to restart back to the island with 600 gold and rebuild everything; and to top it off dying is way too easy (I think I've died around 200 times now).



Thirdly, this game is going to have you coming back for more. Whether it's the ridiculous one-liners your pirates yell or the fact that not hiring a sailor causes your poop deck to fill up, you'll always find yourself hitting restart rather than quit (I know I did). It's still in its beta stages so there are quite a few bugs, and there is still content to be added, so if you do decide to brave the seas keep that in mind.

Once the final version is released I'll give a more overall look, but this is more of a service announcement for you to check out.

You can become an Internet pirate right now on Steam for \$14.99.



Review contributed by Jeremy Halligan

Multiple award-winning author Charles Carr has written more than two thousand newspaper articles, magazine stories, and columns for many publications including the San Diego Union Tribune, The Californian, The North County Times, Parent Magazine, ComputerScene, and ComputerEdge Magazine where he has been an editor for more than two decades. He is also a television producer/director with shows both currently airing and in production on Cox Cable and elsewhere.

In the 1990s, Charles wrote 3DHouse, a complete inside-and-out virtual reality tour of his family's log home in Southern California. One of the first virtual reality programs ever created, 3DHouse enjoyed tens of thousands of shareware downloads on all major portals. He also sold the rights to Radio Shack and Egghead Software. 3DHouse has since been featured in many

books and articles about VR.

Carr has also been commissioned to write and/or directed many of his own stage plays. Several years ago, Carr and others looking for ways to help organizations struggling in difficult economic times, founded Art Animates Life (www.artanimateslife.org).

To date, Art Animates Life, a CA incorporated, federal non-profit, has raised tens-of-thousands of dollars for San Diego area disaster relief, an arts non-profit and municipal gallery, a community outreach center, and several struggling community theaters.

Several years ago Carr was commissioned to adapt and direct the beloved Dickens classic, A Christmas Carol. The play, titled "Mr. Scrooge & Mr. Dickens," has sold out So Cal theaters for the past several years. Six shows will take place Dec. 2013 to benefit the San Marcos Historical Society.

Another original play, "All the Time in the World," has been performed many times and garnered broad acclaim from audiences and critics alike. Carr is working on a brand new adaptation of the classic Hitchcock thriller, "The Lady Vanished," to be performed spring 2014.

Carr has won many writing accolades, including San Diego Press Club awards for Best Column Writing, Best Consumer Writing, and Best Arts and Entertainment. He has repeatedly taken top honors in San Diego Songwriter's Guild competitions for his original musical compositions.

Carr is also a noted producer, director, and videographer. Several of his documentaries can currently be seen on So Cal's Cox Cable. Since its inception he has produced the Fallbrook International Film Festival's red carpet event and panel discussions.

Charles receives dozens of requests each year to appear on Southern California television and radio stations to talk about important tech events. He also speaks from time-to-time to high schools and organizations about his eclectic life in the arts.

Learn more at www.charlescarr.com.



Editor's Letters: Tips and Thoughts from Readers

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

"Computer Tune up Programs and Defrag on W8.x," "Mouse Cursor Disappears, Etc.," "XP Glee and Heartbleed," "XP Glee"

Computer Tune up Programs and Defrag on W8.x

[Regarding the April 4 [Digital Dave column](#):]

Ditto on skipping any/all tune up programs and registry cleaners. If they work at all, not worth the price you'd pay, and often they can mess things up, or might even be malware. Don't get/use any without checking with a knowledgeable person and/or checking reviews, etc. about it. Bear in mind, many not-good programs post lots of good reviews, so only trust reviews from known reliable sources as well. Strange, but true.

Also, defrag in W8.x should *not* be turned off, but should be set to only optimize the SSD. This is done automatically if 8 was installed to the SSD, but if a system is cloned to an SSD, it's not. To reset all the appropriate settings in W7 or 8 (not positive about Vista), and not just defrag, you can run

```
winsat -formal
```

It doesn't show much, just a quick DOS window that disappears, but it's done then.

Oh, I haven't tested this, but if you've manually turned defrag off in W8 (you do want it off in W7), I'd turn it on before running the above command.

-Rich Ernst, San Diego, CA

Mouse Cursor Disappears, Etc.

[Regarding the April 4 [Digital Dave column](#):]

Jerry needs to go into his control panel/mouse, or HP or similar mouse settings program and change his settings. All the things he's describing are features of fancier mouse programs (and trackpads). There are options there to hide the mouse cursor at certain times as well as what it

does when scrolling, speeds, etc.

-Rich Ernst, San Diego, CA

"...after about two or three seconds my scroll arrow that I use to move my pages up or down disappears until I move my mouse again then it reappears."

The two on-screen items involved in scrolling pages up or down are a "scrollbar" and a "mouse pointer," so it's unclear whether he means that the pointer or the bar is what is disappearing. But I have recently noticed a "problem" with newly updated Web sites (like tvguide.com) where they hide the scroll bar until you move the mouse to where it should be and start clicking. Some Microsoft sites do this also. I agree it's very annoying, but the more power you turn over to the Web developer, the more chances they have to misuse that power.

-Ron Cerrato, San Diego, CA

Cursor Problem Fixed: In response to an earlier question submitted about my cursor problems—I tried to delete IE 11 then download IE 10, but I kept getting a message that IE 10 was already installed on my computer. So I updated IE 11 and went into my Windows Update to see if there were any updates. No new updates, but there were some "Optional" updates, one being an update to my 64-bit system. Why it was in the optional updates, I don't know. Anyway, I updated that and don't know if that made the difference, but now, the cursor/scroll is normal.

Thanks for your help! Enjoy all your articles.

-Jerry Hughes, San Diego, CA

XP Glee and Heartbleed

I'm a Mac user, but I always check what Digital Dave has to say. As frequently happens, today's column was especially helpful for me because a family member has a PC running XP. Also, I have been concerned about the Heartbleed hack.

Dave does a great job.

Thanks,

-John Swan, Carlsbad, CA

XP Glee

[Regarding the April 11 [Digital Dave column](#):]

Although IMO, XP is the best OS Microsoft has ever produced, generally speaking, if still using *any* MS products, you should get rid of them (particularly Internet Explorer, all versions). I am biased, so yes...perhaps that's just me (secretly rubbing my hands in blissful glee at the prospect of breaking into XP computers ;p).

-Henry Acker, Boca del Infierno, KS

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:

[Hidden Windows Tools for Protecting, Problem Solving and Troubleshooting Windows 8, Windows 7, Windows Vista, and Windows XP Computers.](#)

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 and Digging Deeper Into AutoHotkey.](#)

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?"](#)

Special Free Offer at ComputerEdge E-Books! [Jack's Favorite Free Windows Programs: What They Are, What They Do, and How to Get Started!](#)

[Misunderstanding Windows 8: An Introduction, Orientation, and How-to for Windows 8 \(Seventh Edition\)!](#)

[Windows 7 Secrets Four-in-One E-Book Bundle, Getting Started with Windows 7: An Introduction, Orientation, and How-to for Using Windows 7,](#)

[Sticking with Windows XP—or Not? Why You Should or Why You Should Not Upgrade to Windows 7,](#)

and [That Does Not Compute!](#), brilliantly drawn cartoons by Jim Whiting for really stupid gags by Jack about computers and the people who use them.

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