# ComputorEdge™ Online — 06/28/13

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## Innovation with Raspberry Pi Computers

With over one million of the tiny Raspberry Pi computers shipped, people are finding innovative uses for them.

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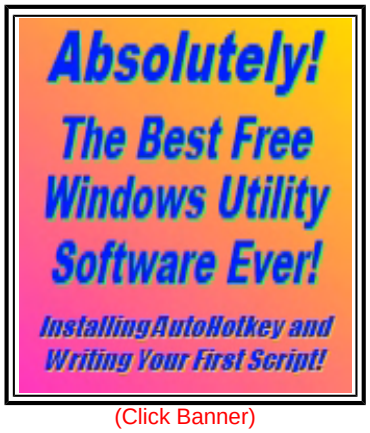

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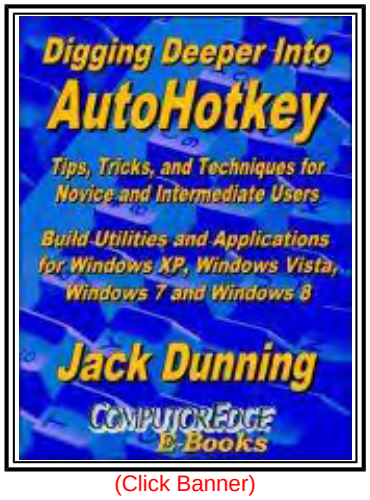

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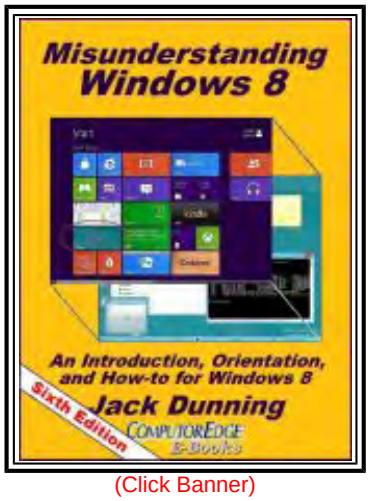

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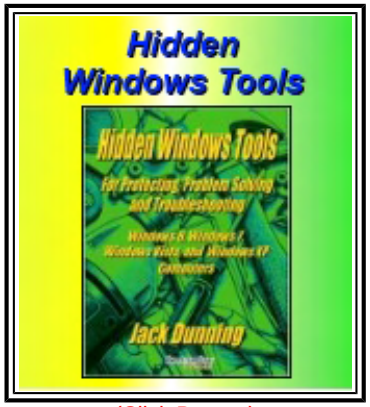

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## Digital Dave

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

Blu-ray Video Camcorder for Home Videos?; Wireless 3G Modem with Kindle.

*Dear Digital Dave,*

*I recently went on a family vacation and took nearly an hour's worth of videos so we'd have great memories of the trip. I assembled all the short videos on Microsoft's Windows Live Movie Maker and the "film" turned out great! Because of High Definition displays on today's flat screen TVs, I wanted to make sure the movie would be seen in the highest resolution possible, for years to come. So I saved my movie in Movie Maker in an HD format and bought a Blu-ray burner to burn it to a disc.*

*The visual results were far from Blu-ray or even HD! Very, very disappointed. I paid about $165 for my Cannon Camera which is a 14.1 Megapixel "point-and-shoot" with movie capability. I thought this would have given me great video quality but as stated, nope. (And I had the video setting on the camera at the highest setting.)*

*Talking to a "Geek" I was informed that if I wanted to get a true High Definition Blu-ray result with my home videos, I'd have to spend much, much more—-maybe around a couple thousand dollars for a good camera. Would you please recommend what kind of camera and/or price range I'd have to buy to achieve a Blu-ray or at least an HD result when making my home movies?*

*Thank you and I really enjoy all your articles.*

*Jerry Hughes*
*San Diego, CA*

Dear Jerry,

While I have often recommended the "point-and-shoot" cameras for everyday photos and family video, they do not usually include the highest level HD video capabilities. The video feature in cameras such as yours may be called HD, but they often only record at 720P. This is usually sufficient for most uses such as posting on Facebook and viewing on a tablet, although even then you may see some blurring. The highest standard for HD is currently 1080P. To get the best possible video quality, you probably need to get a camera that's designed primarily for video. While you can easily spend thousands for such cameras, you may not need to spend that much for your purposes.

While I'm not an expert on video cameras, there is certainly a relationship between features and price. It's important that the camera record in the highest level HD. However, you may not need everything available in higher priced video cameras. Your best bet is to read reviews from users. This is one way to find out which features are really important. For example, the Sony HDR-CX260V High Definition Handycam (*www.amazon.com/gp/product/B006K5507M/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B006K5507M&linkCode=as2&tag=comput0b9-20*) at $549.99 gets good reviews on Amazon for its quality.

At a little higher level is the Canon VIXIA HF G20 HD Camcorder with HD CMOS Pro (*www.amazon.com/gp/product/B00AWZFHG0/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00AWZFHG0&linkCode=as2&tag=comput0b9-20*) at

$1,099.00. The earlier model of this camera was CNET's "Best Prosumer Camcorder Pick (*reviews.cnet.com/best-camcorders/*)." When reading reviews on Amazon I usually go to the negative reviews first. This way if there is a deal killer, I will see it right away—although sometimes it's just whining.

This camcorder review site (*www.digitaltrends.com/camcorder-reviews/*) from Digital Trends may help you narrow down your decision.

Remember that Blu-ray is just a disc format for recording and playback. Its significance is that it can store the large volumes of data that comes with HD formats. While HD camcorders may have been called Blu-ray a few years ago, that is rare today. Concentrate on the capabilities of the camcorder. You should be able to use the Blu-ray burner, but again if there are any hassles associated with the process, they should show up in the reviews.

I'm sure that there are other readers who have a great deal more experience in this area than I do. I would be interested in hearing about the most important considerations in picking camcorders and any other recommendations. I too take videos with a "point-and-shoot" camera.

Digital Dave

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*Dear Digital Dave,*

*I have a USB wireless 3G modem. It just plugs into my computer and I would like to have a Kindle, but you cannot connect using Wi-Fi to a Kindle. I have this kind of service because it works everywhere in the country and it is cheaper than DSL broadband. Any suggestions on how I can get the Kindle to work for me?*

*Star*
*Denver, Colorado*

Dear Star,

The answer is to turn your computer with the 3G cellular modem into a Wi-Fi hotspot. Since you use 3G for your Internet, if you have a Wi-Fi capability in your computer, then you should be all set to get it working. If not, then you will need to add a Wi-Fi adapter possibly through another USB port.

The key is that you need two network adapters to make your computer a Wi-Fi hotspot. In your case, the first network adapter which accesses the Internet is your 3G modem. It could just as easily be a wireless or ethernet connection to a router or another modem (cable or DSL). The second network adapter (Wi-Fi or hardwired) is for sharing the Internet connection. It acts as a router.

The techniques for making a Windows computer a hotspot vary but most are similar to the steps in this Microsoft article (*windows.microsoft.com/en-us/windows-vista/Using-ICS-Internet-Connection-Sharing*). The Windows feature is called Internet Connection Sharing (ICS) and set up for your Windows version can be readily found by doing a Web search on "turn a computer into a Wi-Fi hotspot."

Once you have your computer broadcasting Wi-Fi, you should have no problem piggybacking your Kindle off the signal.

Digital Dave

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## Raspberry Pi for Everyone

**“**A Look at Just a Few of the Uses for the Tiny Single Board Computer**”** by Jack Dunning

With over one million tiny Raspberry Pi computers shipped, people are finding innovative ways to use them.

From Ron Myers concerning "Tiny Single-Board Computers":

*Great little idea with huge potential as I see it. Better even than the famed Dick Tracy radio wristwatch. I'd like to learn more concerning potential applications and how-tos.*

I agreed with Ron, so I started digging into some of the ways that people are using the tiny Raspberry Pi right now (see Figure 1).

Figure 1. The Raspberry Pi computer.

Since its introduction in 2012, well over one million Raspberry Pi computers will have been shipped worldwide. This is quite a feat for a device developed as an educational aid for students learning about computers and how to program them. The concept of building new applications and toys with the bare-bones circuit board has struck a spark in the imagination of do-it-yourself (DIY) people all over the world. The Raspberry Pi is turning out to be much more than an educational tool. It is now surging as the impetus for a new round of creativity for the technically curious. Here are some of the ways that the Raspberry Pi is being used.

## Really Small Computers and Laptops

Although it's not the most powerful computer, the Raspberry Pi has everything that you need to put one together yourself. There are a number of Web sites touting how to build your own computer with these small computer boards. One of the more interesting looking is a mobile Raspberry Pi computer (*blog.parts-people.com/2012/12/20/mobile-raspberry-pi-computer-build-your-own-portable-rpi-to-go/*) that you can build yourself (see Figure 2).

Figure 2. This mobile computer is built with readily available parts and a 3D printed case.

The case is produced with a 3D printer (if you happen to own one) and all the other parts are readily available:

• LCD Screen (*www.amazon.com/gp/product/B0045IIZKU/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B0045IIZKU&linkCode=as2&tag=comput0b9-20*)—$16.90
• Raspberry Pi (*/www.amazon.com/gp/product/B009SQQF9C/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B009SQQF9C&linkCode=as2&tag=comput0b9-20*)—$35 at sources other than Amazon
• Mini Keyboard/Mouse (*www.amazon.com/gp/product/B003UE52ME/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B003UE52ME&linkCode=as2&tag=comput0b9-20*)—$17.89
• Standalone Battery Charger (*www.amazon.com/gp/product/B0036IUNWI/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B0036IUNWI&linkCode=as2&tag=comput0b9-20*)—$79.99
• Powered 7 Port USB Hub (*www.amazon.com/gp/product/B00A7WYUR0/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00A7WYUR0&linkCode=as2&tag=comput0b9-20*)—

$3.46
• 64GB SSD Hard Drive (*www.parts-people.com/index.php?action=item&id=13137*)—$69.95
• Dell D600 Battery (*www.amazon.com/gp/product/B0024DLTDS/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B0024DLTDS&linkCode=as2&tag=comput0b9-20*)—$69.00

At the time, building some kids with the tiny Raspberry Pi computer seemed like a good idea.

All this adds up to about $380 which is not an especially good price for a small computer with only Raspberry Pi capabilities, but the price isn't the only reason to DIY. The discussion of building your own tiny computer and a schematic can be found at the linked article.

There is an inexpensive Raspberry Pi laptop (*www.geeky-gadgets.com/raspberry-pi-laptop-video-27-05-2013/*) which uses the discontinued Motorola Atrix 4G laptop dock to make the system. Since the dock is still available for about $60, add the cost of a couple of cables and you have a complete computer for $150 or less.

If you want a step-by-step procedure for building your own all-in-one computer with a Raspberry Pi see "How I built a Raspberry Pi all in one Computer (*www.mdpub.com/pi/allinone/index.html*)." After dealing with a mess of wires with his other computers, the author, Mike Davis (*www.mdpub.com/*), "wanted to see if I could build a computer that only needed one single power cord, and no other wires."

If you think you're going to save money by building your own computer—think again. Since the Raspberry Pi was designed as an educational tool, it's not particularly powerful. Plus the cost of the parts will add up quickly (*www.extremetech.com/computing/148482-the-true-cost-of-a-raspberry-pi-is-more-than-you-think*). If all you want is a low cost computer (with more features and power), then you'll be better off with a Samsung Chromebook (*www.amazon.com/gp/product/B009LL9VDG/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B009LL9VDG&linkCode=as2&tag=comput0b9-20*) or an Acer Chromebook (*"www.amazon.com/gp/product/B00AG0BLWU/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00AG0BLWU&linkCode=as2&tag=comput0b9-20*), each selling for about $250.

However, most of the innovative uses for the Raspberry Pi have nothing to do with building another computer. People are finding all kinds of creative ways to use the tiny computers.

### Play Internet Music

One person is using his Raspberry Pi to stream Internet music (*www.shaungehring.com/2013/01/03/raspberry-pi-project-1-pandora-streamer/*). For an out-of-pocket cost of about $50-$75, Shaun Gehring shows step-by-step how to build "a pretty cool stand alone Pandora Streamer."

### Build Your Own Robot

Kickstarter has a Raspberry Pi project called "RAPIRO: The Humanoid Robot Kit for your Raspberry Pi (*www.kickstarter.com/projects/shota/rapiro-the-humanoid-robot-kit-for-your-raspberry-p*)" (see Figure 3). This could be your chance to get in on the ground floor of the latest Cylon movement.

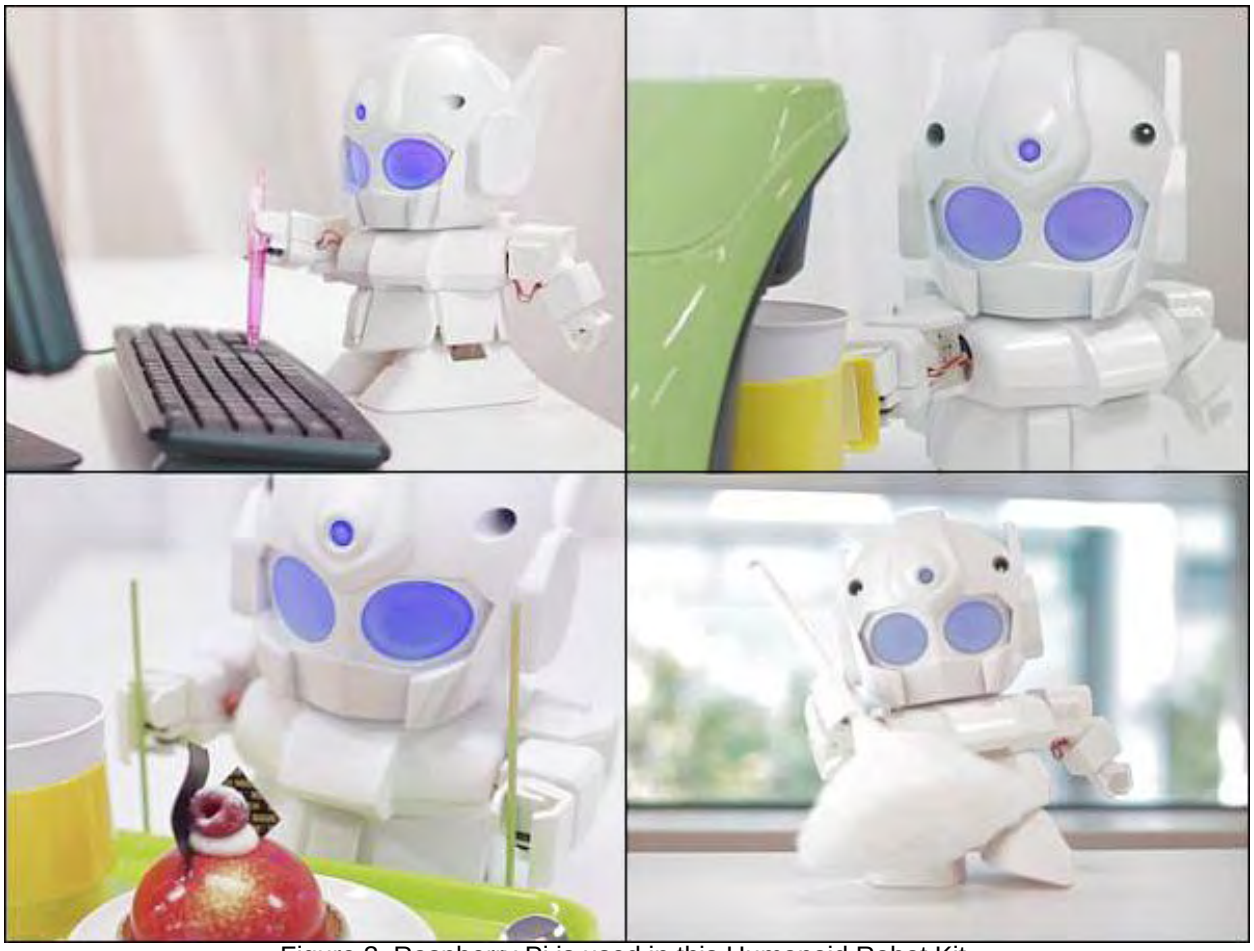

Figure 3. Raspberry Pi is used in this Humanoid Robot Kit.

### Face Recognition

Do you want a magic mirror that recognizes faces and talks to you (*thinkrpi.wordpress.com/magic-mirror/*)? Check out this video about the "Raspberry Pi Magic Mirror (*www.youtube.com/watch?v=K4OcM6FSHJg&hd=1&w=1280&h=720*)." The main problem I see is that it speaks in some kind of gibberish. (Just kidding—it's French.)

### Smart Coffee Pot

Text your espresso order directly to the coffee pot as seen in "The World's First Cloud Texting Enabled Raspberry Pi Powered Espresso Machine (*blog.zipwhip.com/2013/06/18/zipwhip-text-enabling-of-the-delonghi-magnifica-espresso-machine/*)." Get step-by-step instruction for complete nerds.

### Astrophotography with the Camera Board

In addition to facial recognition, a camera on a Raspberry Pi can do a number of other things. See Astrophotography with the Camera Board (*www.raspberrypi.org/archives/4170*) (see Figure 4).

Figure 4. A moon shot.

## Remote Control Regattas

It would be natural to use the Raspberry Pi in drones, but here is a case of a SailBot (*www.abersailbot.co.uk/index.html*) (see Figure 5).

Figure 5. The Aber SailBot in action on the water.

### Protect Your Privacy

Are the recent government scandals causing you concern? Here someone is doing something about it with an "Onion Pi: Foil the NSA and Prism with a Tor proxy (*www.raspberrypi.org/archives/4204*)."

### Home Automation

Many of the off the shelf home automation systems are expensive. Now you can do-it-yourself (*www.instructables.com/id/Raspberry-Pi-GPIO-home-automation/?ALLSTEPS*) with Raspberry Pi.

### Personal Virtual Private Network

Access your home network from anywhere at any time through a Virtual Private Network (VPN) built with a Raspberry Pi computer board. See "Turn a Raspberry Pi into a Personal VPN for Secure Browsing Anywhere You Go (*lifehacker.com/5978098/turn-a-raspberry-pi-into-a-personal-vpn-for-secure-browsing-anywhere-you-go*)."

### Many More Raspberry Pi Applications

I took the remaining ideas from a forum on Reddit (*www.reddit.com/r/AskReddit/comments/1f607z/owners_of_a_raspberry_pi_what_do_you_use_it_for*). These were just on the first page. If you're looking for inspiration, then this could be a good start. (Warning: At least one of the ideas (which I did not include) is not suitable for those under the age of 18.)

*"I'm using it to control a robotic prosthetic knee in my research at the MIT Media Lab."*

*"Is it illegal to bypass the Internet blocks in China?"* Because someone living in China is doing just that.

*"FM Transmitter with a keypad/numpad attached to transmit custom messages of my choosing in robot voice."*

*"Sprinkler controller."*

*"Use it as a controller for solenoids for my eye controlled instruments I'm hoping to help disabled people make music. :)"*

*"I was able to have the PI send me a text message any time the motion sensor detected someone in my living room."*

*I'm using it to run my solar flare detection software I wrote called Realtime Flares (*twitter.com/realtimeflares*).*

*"Internet controlled cat feeder."*

*"I have used them as frame grabbers/compressors for video cameras. However, I recently came up with a much better idea. I just got a Nerf Cannon from ThinkGeek and I have successfully written a C++ program to control it. Now, I'm thinking about coding up a real-time face detection application with the new cameras that are out for the Pi's. Then, I will have an epic self defense system."*

*"Temperature controller for a homebrew fermentation chamber."*

*"I built a Wi-Fi robot and mounted a Nerf cannon to it. You know, for science."*

*"Mine is sitting on top of a pile of other electronics equipment, looking at me as if to ask, 'When will you play with me? When will you touch me? Don't you love me?'"*

One person uses the Raspberry Pi for a long list of functions (to which another contributor added the requirements in parentheses:

- *Welcomes people entering the room (Webcam + package "motion")*
- *Plays Internet radio (my own private station) (USB audio card, speakers and package "mpd")*
- *Announces the time (hourly) (cron + text-to-speech package "espeak")*
- *Reads senders and subjects from incoming e-mail (package "procmail" + "espeak")*
- *Announces callers and, if they are known, shows a picture of them (something running on a different windows PC that submits the values by calling a Web page on the Pi)*
- *Depending on the caller a small light changes its color (as above and a "blink(1)" USB color LED)*
- *Measures and displays room temperature, displays remotely measured outside temperature (an sht21 sensor hooked up to GPIO pins, display is a Web page using JavaScript and Ajax long polling)*
- *Announces today's or tomorrow's weather (scraping a weather report page, some Perl to filter the essential info and "espeak")*
- *Serves as remote speaker for my iPhone (a package called "shairport")*
- *Can be controlled with a TV remote (an IR 940 nm receiver hooked up to GPIO pins and package "lirc")*
- *Switches room lights on or off (remote controlled plugs and a LAN-to-433Mhz bridge)*
- *Goes mute/dim (at different times for workdays, weekends, vacation) (cron)*

The Raspberry Pi Web site (*www.raspberrypi.org/*) continually highlights new applications. Almost every time I visit I see something new. Recently, it was a Raspberry Pi being used to preserve 1920's movies. One of the first times I visited I saw a car entertainment system for bored children (*www.youtube.com/watch?feature=player_embedded&v=LA3nQNHWML8*).

Whether this explosion of applications is merely a fad or indicative of a trend is difficult to know. As more people become aware of what is possible, it could become the wave to the future.

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Jack is the publisher of *ComputorEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is *www.computoredge.com*. He can be reached at *ceeditor@computoredge.com*. Jack is now in the process of updating and compiling his hundreds of articles and columns into e-books. Currently available:

Just Released! *Hidden Windows Tools for Protecting, Problem Solving and Troubleshooting Windows 8, Windows 7, Windows Vista, and Windows XP Computers (*www.amazon.com/gp/product/B00B8Z2ASG/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00B8Z2ASG&linkCode=as2&tag=comput0b9-20*).*

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 *ComputorEdge* cartoons from 2011 and 2012 is now available at Amazon! *That Does Not Compute, Too! ComputorEdge 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 ComputorEdge 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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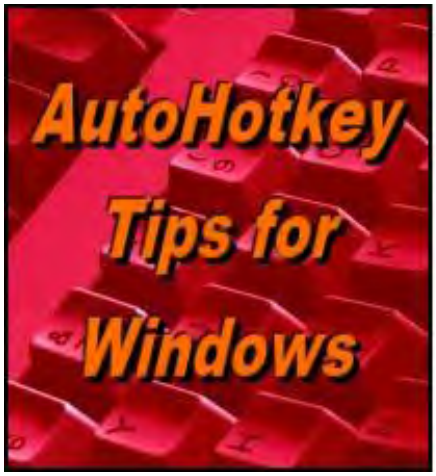


## Build a Multimedia Greeting Card or Welcome Message

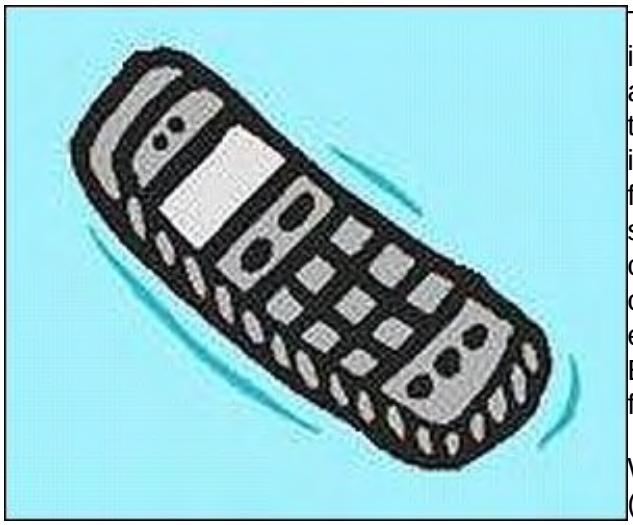
**"**Rearrange AutoHotkey Commands to Create Novel Apps**"** by Jack Dunning

Ellen combines a graphic file, an audio file, the computer voice to create this fun multimedia app.

*If you've never heard of AutoHotkey and wonder what all the kerfuffle is about, then here is a short "Introduction to AutoHotkey (*www.computoredge.com/AutoHotkey/Introduction_AutoHotkey_Review_and_Guide_for_Beginners.html*)" for newcomers.*

A couple of weeks ago, Ellen decided that she wanted to create a fun little AutoHotkey app which she could package as a single file and run it on any Windows computer. It would consist of displaying an image of a telephone, playing a wave file of a telephone ringing, then the computer voice saying, "It's for you!" She consulted me for a little assistance and came up with a cute script which could easily be modified for any number of purposes. When modified and located in the Startup folder, I could see it as a "Good Morning" message when you log onto your computer. Or with the proper changes, it could be a greeting card for any occasion or a timed reminder message. It is a multimedia message which uses some of the AutoHotkey commands previously discussed in this column and a few new ones.

### A Short Multimedia Display

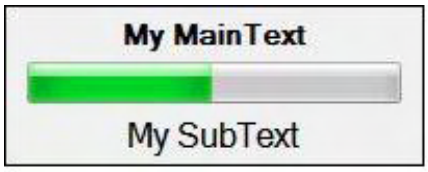


The way the AutoHotkey script, which I call *PhoneRing.ahk*, works is by first displaying a JPG image of a telephone (see the image at left), a WAV sound file of a ringing phone plays three times, then the computer voice says, "It's for you!" What makes it more interesting is the fact that it is compiled into an executable (EXE) file which includes both the JPG and WAV files. This makes the short app totally portable for playing on other Windows computers. The app packaging techniques shown in this example can be used for many other AutoHotkey compiled scripts. For example, I packaged the INI data file for my GrandKids app in the EXE file so other family members wouldn't need to set up the INI file themselves.

When the file *PhoneRing.exe* runs on a Windows computer (double-click), the two media files are extracted to the same folder where the app is located. The key combination ALT+P activates the loaded app, the image is displayed, the phone rings three times, then the default computer voice says "It's for you!" For cleanup, when Exit is selected the right-click menu in the System Tray icon, the two extracted files are deleted leaving no remnants.

### Splash Images

Splash images are those windows which appear temporarily on the screen when programs are loading. Usually, they are only shown as for a short period of time. AutoHotkey uses the SplashImage command (*l.autohotkey.net/docs/commands/Progress.htm*) to put up a graphic image. The *SplashImage* command is listed along with the *Progress* command in the online documentation because they operate in a similar fashion and are generally used in the same way. The Progress command is designed to show the moving graphic progress bars often seen when




installing software or moving large numbers of files (see image at left).

A splash image will be displayed while the script is active and is by default always-on-top which means it will pop up on top of all other windows. If you use *SplashImage, Off* the window is destroyed. For the purpose of PhoneRing.ahk script the following line of code turns on the splash image *Phone.jpg*:

```
SplashImage, Phone.
jpg, cwYellow ctBlue, The phone is ringing!, Are you going to answer it?, Telephone
```

The options *cwYellow* and *ctBlue* options set the color of the background.

The SplashImage command looks for the image in the same folder as the current AHK file (the working directory). It's useful to keep the image JPG and audio WAV files in the same folder since they are to be compiled later into the same EXE file. "The phone is ringing!" is the text below the image, "Are you going to answer it?" is the main text above the image, and "Telephone" is the title of the splash window (as shown in Figure 1 below).

## Playing the WAV File

The next AutoHotkey command of interest is SoundPlay (*l.autohotkey.net/docs/commands/SoundPlay.htm*) which was introduced a couple of weeks ago in this column for the QuikPlay app. The purpose is to play a WAV file which sounds like a telephone ring. The file *Windows Ringin.wav* was found in the folder with the standard Windows audio files. However, this file only rings once. To make it ring three times, Ellen put the SoundPlay command in a loop like so:

```
Loop, 3
{
SoundPlay, Windows Ringin.wav
Sleep, 3000
}
```

This simple Loop command (*l.autohotkey.net/docs/commands/Loop.htm*) increments three times playing the *Windows Ringin.wav* file on each iteration. After the third iteration, the script leaves the loop.

## The Computer Speaks

The third command that Ellen put in the mix was the ComObjCreate() function (*l.autohotkey.net/docs/commands/ComObjCreate.htm*) for calling the default Windows text reading voice used in the quick little SayWhat app. ComObjCreate() is a function which accesses built in Windows features. Often, rather than trying to understand how a function works, I find it easier to locate pertinent examples and modify them for the purpose. In this case, the following line of code was added to the script:

```
ComObjCreate("SAPI.SpVoice").Speak("It's for you!!")
```

The key detail to understand is that the location of "It's for you!!" in the line of code is where whatever you want read should be located. (For more information on using the Speak() object, see this AutoHotkey forum topic (*www.autohotkey.com/board/topic/77686-text-to-speech-examples-for-autohotkey-v11/*).)

These three commands (*SplashImage*, *SoundPlay*, and *ComObjCreate("SAPI.SpVoice").Speak()*) are the heart of Ellen's playful app. She has taken three AutoHotkey commands either found in the online documentation or discussed when used in other unrelated apps and created a new script for her purposes. This borrowing approach to writing scripts is an important step in learning the art of building scripts. Know your tools and pick the ones that take you where you want to go.

At this point the lines of code can be put together to run the main app. If you cut-and-paste the following, paste it into a new AHK file, and run it, the main app will perform as planned (see Figure 1):

```
SplashImage, Phone.
jpg, cwYellow ctBlue ,  The phone is ringing!, Are you going to answer it?, Telephone
Loop, 3
{
  SoundPlay, Windows Ringin.wav
   Sleep, 3000
}
ComObjCreate("SAPI.SpVoice").Speak("It's for you!!")
Sleep, 2000
```

Figure 1. The splash image is displayed (SplashImage), the phone rings three times (SoundPlay), and the computer says, "It's for you!!" (ComObjCreate()).

Since the script automatically terminates when it reaches the end, the splash image disappears. However, once the script is turned into a hotkey (ALT+P) which sits ready to go, the *SplashImage, Off* command needs to be the added to the end of the script just before the Return to turn off the splash image display.

```
!p::
[Main body of script from above]
SplashImage, Off
Return
```

This completes the PhoneRing app, but now we need to compile the AHK file into an EXE (executable) which we can run on any Windows computer. Plus, we need to include the JPG graphic and WAV audio files in the compiled EXE. This will save the hassle of delivering (and keeping tracking of) a number of files. All we will need is the one EXE.

Note: While Ellen wanted to use a hotkey combination (ALT+P) to start the action, there are many other ways to use this type of script. Unless you give specific instructions to the user or activate the window yourself, the script will load, but just sit there waiting for the hotkey combination to be hit. Leaving off the hotkey (keep the Return) will make the EXE script run every time the file is double-clicked. This might be ideal for a multimedia message that initiates on startup through a shortcut in the Startup folder. (The Startup folder can be opened with Run (+R) =>

*shell:startup* and OK.) Another option is to use the AutoHotkey SetTimer command (*l.autohotkey.net/docs/commands/SetTimer.htm*) to pick the date and time the splash message will play.

### Combining External Files When Compiling AutoHotkey Scripts

To add external files when compiling an AutoHotkey script use the FileInstall command (*l.autohotkey.net/docs/commands/FileInstall.htm*). The format of the command is straightforward although there are some restrictions:

```
FileInstall, Source, Dest [, Flag]
```

The *Source* is assumed to be located in the same folder as the AHK script (working directory), although a path to the file may be used, but variable references (such as %A_AppData%) cannot. With the *Dest* parameter, which determines the name of extracted file and where it will be located (when the EXE is loaded with a double-click), variables may be used to specify the path and/or name of the file. For simplicity, I decide to locate the files in the same folder with the PhoneRing script:

```
FileInstall, Phone.jpg, Phone.jpg
FileInstall, Windows Ringin.wav, Windows Ringin.wav
```

Both Ellen and I found that the *FileInstall* command worked best when located toward the beginning of the script.

By adding these two lines of code to the script, when compiling (right-click on the AHK file and select Compile Script), the JPG and WAV file will be embedded in the new file, *PhoneRing.exe*. Copy *PhoneRing.exe* to any other Windows computer and double-click to load the program. The JPG and WAV file are immediately written to the same folder (or Desktop if you put *PhoneRing.exe* on the Desktop) where the EXE is located.

It's important to note that the size of the files will directly contribute to the final size of final EXE. Extracting the files only places copies on the computer. It does not remove them from the EXE. Adding too many large files to a compiled AutoHotkey script could make the EXE unwieldy.

### Cleanup When You Are Done

Ellen didn't want to leave debris (the JPG and WAV files copied to the host computer) on other people's Windows systems. The next step was to add a routine that would delete the files after *PhoneRing.exe* is finished running. For this we turn to the OnExit command (*l.autohotkey.net/docs/commands/OnExit.htm*). The *OnExit* command simply calls a *Label* (subroutine) which will run whenever the script attempts to end—whether through Exit in the right-click menu, the *ExitApp* command in the script, or when the script simply ends. The only time the subroutine won't run is when the process is killed through Windows Task Manager or another Windows end task. For that reason the *ExitApp* command must be used in the *OnExit* subroutine. *ExitApp* appearing elsewhere in the script will merely call the *OnExit* label.

At the beginning of the script the following code is added:

```
OnExit, CleanUp
```

This calls the label *CleanUp* whenever a script exit is attempted. At the end of the script the following label is added:

```
CleanUp:
        SoundPlay, NoFile.wav
        FileDelete, Windows Ringin.wav
        FileDelete, Phone.jpg
        ExitApp
Return
```

The *SoundPlay* command calls a fictitious filename (*NoFile.wav*) to stop the current play just in case the script is

interrupted in the middle of the play. The FileDelete command (*l.autohotkey.net/docs/commands/FileDelete.htm*) is used to remove the JPG and WAV file previously placed on the computer. Finally, the ExitApp command (*l.autohotkey.net/docs/commands/ExitApp.htm*) is used to end the script.

One caution about writing and testing a cleanup routine—make sure you have copies of your files safely nearby in another folder. When you run the script, it will delete your current files—even if you're only running the AHK script.

After adding one final line for Ron Ceratto who doesn't have a key on his keyboard (even though it's not needed for this script):

```
Menu, Tray, Add, Ring Phone, `!P
```

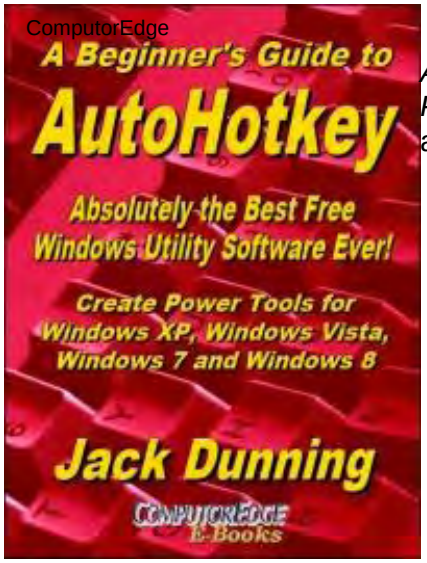
which adds an activation button to the right-click menu in the System Tray, below you'll find the final code which you can test by copy-and-pasting it into an AutoHotkey script file (AHK). I've posted all the files in a ZIP folder for download. The link to the *ComputorEdge* AutoHotkey download site can be found at the end of the script.

```
OnExit, CleanUp
FileInstall, Phone.jpg, Phone.jpg
FileInstall, Windows Ringin.wav, Windows Ringin.wav
Menu, Tray, Add, Ring Phone, `!P
!p::

SplashImage, Phone.jpg, cwYellow ctBlue , The phone is ringing!,
Are you going to answer it?, Telephone

Loop, 3
{
SoundPlay, Windows Ringin.wav

sleep, 3000
}

ComObjCreate("SAPI.SpVoice").Speak("It's for you!!")

sleep, 2000

SplashImage, Off

return

CleanUp:
        SoundPlay, NoFile.wav
        FileDelete, Windows Ringin.wav
        FileDelete, Phone.jpg
        ExitApp
Return
```

It is not a very long script, but it is easily adaptable as a Halloween card or a congratulations message. To download all the files in a ZIP file find *PhoneRing.zip* at the *ComputorEdge* AutoHotkey Dropbox download site (*www.dropbox.com/sh/4qu48lyqtixdg7t/QdMY1dNuy7*). (To use the files in the ZIP folder, be sure to "Extract all files" (top menu bar) when the ZIP folder is open.)

* * *

Now available in e-book format from 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*).*

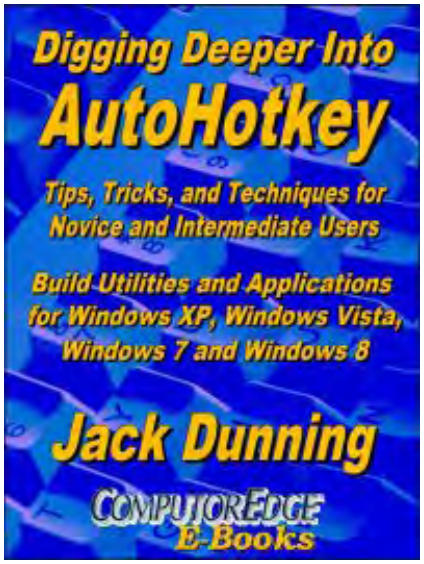
Building Power Tools for Windows XP, Windows Vista, Windows 7 and Windows 8, AutoHotkey is the most powerful, flexible, *free* Windows utility software available. Anyone can instantly add more of the functions that they want in all of their Windows programs, whether installed on their computer or while 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 *ComputorEdge*, 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! (*computoredgebooks.com/A-Beginners-Guide-to-AutoHotkey-EPUB-format-iPad-Nook-etc-AUTOHOTKEY-1.htm*)

* * *

My new AutoHotkey book which is comprised of updated, reorganized and indexed columns from the last six months is now available at Amazon for Kindle hardware (*www.amazon.com/gp/product/B00CTACUMK/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00CTACUMK&linkCode=as2&tag=comput0b9-20*) (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 (*www.amazon.com/gp/product/B009SI3F52/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B009SI3F52&linkCode=as2&tag=comput0b9-20*).* However, if a person is reasonably computer literate, they could go directly to this book for ideas and techniques without the first book.




If you've been following along with my AutoHotkey columns, then there is little new information in the book

(although I have added more clarification for techniques I felt were either confusing or wrong). The only reason I can see to buy it would be as a handy reference. The AutoHotkey commands used are included in a special index to the chapters in which they appear. Even I can't remember everything I wrote.

For an EPUB (iPad, NOOK, etc.) version of Digging Deeper into AutoHotkey click here! (*computoredgebooks.com/Digging-Deeper-into-AutoHotkey-EPUB-format-iPad-Nook-etc-AUTOHOTKEY-2.htm*)

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Jack is the publisher of *ComputorEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is *www.computoredge.com*. He can be reached at *ceeditor@computoredge.com*. Jack is now in the process of updating and compiling his hundreds of articles and columns into e-books. Currently available:

Just Released! *Hidden Windows Tools for Protecting, Problem Solving and Troubleshooting Windows 8, Windows 7, Windows Vista, and Windows XP Computers (*www.amazon.com/gp/product/B00B8Z2ASG/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00B8Z2ASG&linkCode=as2&tag=comput0b9-20*).*

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 *ComputorEdge* cartoons from 2011 and 2012 is now available at Amazon! *That Does Not Compute, Too! ComputorEdge 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 ComputorEdge 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

**“School Districts Adopting Tablets”** by Wally Wang

Battery Life in Laptops; The Future of the iPhone Screen; The Location of Android and iOS Users; Struggling Technologies; Enabling Right-Clicking.

The Los Angeles school district recently chose the iPad (*www.latimes.com/local/lanow/la-me-ln-lausd-chooses-ipads-for-pilot-20130618,0,6957151.story*) for their students. While the popularity of the iPad continues to grow, it makes sense to give students an iPad so they can learn to use the most popular tablet device on the market.

Curiously, the *Los Angeles Times* reports that "A Microsoft representative urged the board to pilot more than one product and not to rely on one platform." Robyn Hines, senior director of state government affairs for Microsoft, told the Los Angeles school district that "'A one-size-fits-all approach' would limit important options."

Obviously Microsoft has a financial stake in selling Windows devices to the Los Angeles school district, but their logic makes zero sense. If a "one-size-fits-all approach" is wrong and relying on one platform is too limiting, then why doesn't Microsoft complain when so many school districts standardize around Windows PCs? After all, a "one-size-fits-all" Windows PC may not be suitable for everyone when a Linux or Macintosh computer might be better suited for teaching other skills such as graphics design or understanding how operating systems work.

In response to Microsoft's questions on why the Los Angeles school district didn't also choose Windows devices, the Los Angeles school district staff countered that "Apple offered the superior product and some students shouldn't have to use a lesser one. They also said that students and teachers often change schools and should not have to learn a different platform."

To learn more about the Los Angeles school district's decision to choose the iPad, you can read Apple's official press release (*www.apple.com/pr/library/2013/06/19Apple-Awarded-30-Million-iPad-Deal-From-LA-Unified-School-District.html*).

In Maine, the school district gave their staff a choice between the iPad, MacBook Air, and other devices including Windows PCs. When given a choice, 92 percent (*www.electronista.com/articles/13/06/19/apple.asserts.92.percent.dominance.in.maine.school.orders/*) chose Apple products. Despite the majority of staff choosing Apple products, Governor LePage supported the use of Hewlett-Packard Windows 7 PCs in Maine schools because it's "important that our students are using technology that they will see and use in the workplace. The laptops use an operating system that is commonly used in the workplace in Maine. This is the lowest-priced proposal, and these laptops will provide students with the opportunity to enhance their learning and give them experience on the same technology and software they will see in their future careers."

Yet when given a choice between growing tablet adoption and declining PC sales, the future doesn't rely on PCs regardless of which version of Windows it uses. The future belongs to tablets.

The Clear Creek Independent school district in Texas evaluated different tablets and reached the conclusion that a Dell Latitude 10 running Windows 8 was the best tablet to use (*www.forbes.com/sites/jenniferbosier/2013/06/21/schools-choose-dell-latitude-10-over-ipad-as-official-tablet/*) with the "easiest learning curve," which sounds strange when you consider the vocal public backlash that claims Windows 8 is definitely not the easiest user

interface to master.

Even Tami Reller, Microsoft's chief financial officer for the Windows division, admitted that the Windows 8 user interface isn't intuitive. "The learning curve is real and needs to be addressed," Tami said as reported by *The New York Times* (http://bits.blogs.nytimes.com/2013/05/07/after-bumpy-start-microsoft-rethinks-windows-8/?_r=0). If a high-level Microsoft executive working in the Windows division of Microsoft believes Windows 8's user interface has a learning curve, how did the Clear Creek Independent school district reach the conclusion that a Dell Latitude 10 running Windows 8 had the "easiest learning curve" compared to other tablets? (Hint: Dell Computers is within a two hour driving distance from the Clear Creek school district.)

The Clear Creek Independent school district's CTO, Kevin Schwartz, said that students preferred the Latitude 10 because of its "ease of use and accessibility." Students also claimed that the Latitude 10 running Windows 8 would best prepare them for college and the work force, although Windows 8 isn't currently popular in either college or the work force. In that case, Maine's school district uses better logic by correctly assuming that Windows 7 PCs will be more common in the work force than Windows 8.

Even stranger is that Schwartz claimed that the iPad lacks productivity software, "which is an absolute must for education." Apparently even though Kevin Schwartz is the CTO of an entire school district, he's not capable of seeing the numerous productivity software available for the iPad including Apple's own iWork suite (Pages, Numbers, and Keynote) along with QuickOffice (*www.quickoffice.com/quickoffice_pro_hd_ipad/*) and SmartOffice (*www.picselsmartoffice.com/create*), which run on both iOS and Android and can edit and create Microsoft Office files in the standard .docx (Word), .xlsx (Excel), and .pptx (PowerPoint) formats.

If the Clear Creek school district used valid reasons to justify their decisions to support and promote non-Apple products, that would be fine. However when even Clear Creek students can easily finds facts that refute the logic of their CTO, Kevin Schwartz, you have to wonder who should really be going to school in the Clear Creek school district and who should be making decisions there instead.

## Battery Life in Laptops

After Apple introduced new MacBook Air models that get 9 hours of battery life (11-inch model) and up to 12 hours of battery life (13-inch model), Laptop Magazine compared the battery life of various 13-inch laptops to see which ones had the best battery life. According to *Laptop Magazine*, their MacBook Air only got 11 hours and 40 minutes of battery life (*www.nbcnews.com/technology/battery-tests-show-apples-new-macbook-air-beats-competitors-mile-6C10378534*) (not quite 12 hours as Apple claims). However, no other 13-inch laptop got battery life any better than 7 hours and 49 minutes.

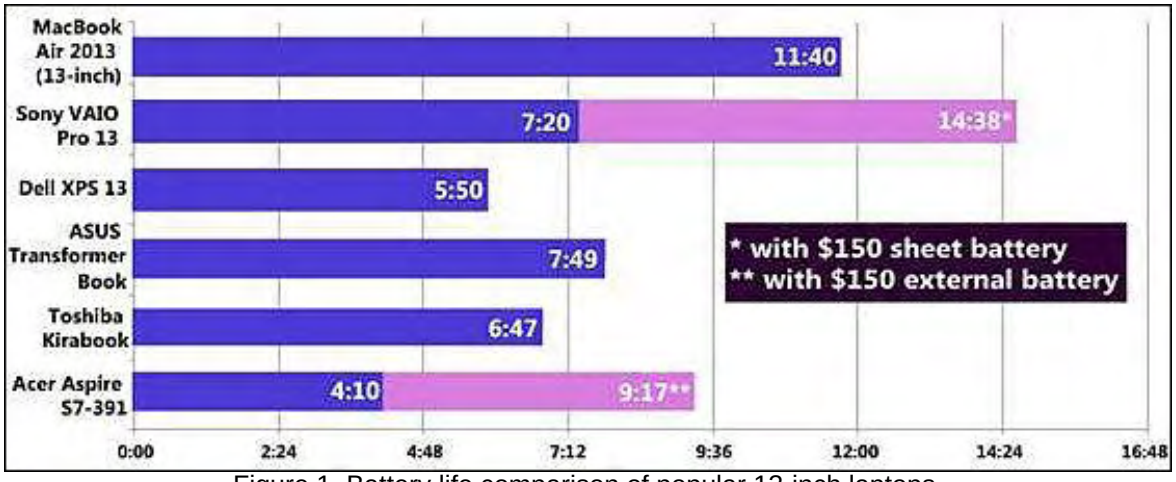

Figure 1. Battery life comparison of popular 13-inch laptops.

The Sony VAIO actually got 14 hours and 38 minutes but only with a $150 extra battery that adds weight and bulk. While other laptop manufacturers will likely use Intel's latest low-power Haswell processors to boost battery life, they'll need to match the MacBook Air's battery life to stay competitive. In the meantime, today's current batch of laptops looks woefully inadequate with battery life than ranges less than a few hours at the most. If you're in the

market for a 13-inch laptop that can last a long time on a single charge, the MacBook Air should be one of your top choices.

## The Future of the iPhone Screen

When Apple releases iOS 7 later this year, you can expect a different appearance but the same basic user interface functions so you won't have to learn anything new to use your iPhone. Perhaps one overlooked feature of iOS 7 is its ability to create 3D effects (*www.iphonehacks.com/2013/06/ios-7-3d-homescreen.html*) by tilting your iPhone.

3-D screens will undoubtedly be the future for creating maps and displaying other types of data in a way that traditional flat screens can't offer. If rivals overlook this gradual shift towards 3D screens (*www.forbes.com/sites/haydnshaughnessy/2013/06/20/apples-new-ios-7-design-secret-more-innovation/?partner=yahootix*), they'll likely miss out on a future trend that's literally appearing right before their eyes.

## The Location of Android and iOS Users

One of the strangest paradoxes in the Android vs. iOS battle is that Android smartphones dominate marketshare, yet Android users consistently tend to access the Internet less and spend less money on apps despite being more numerous than iOS users. Logically, you would expect the operating system that has the most users to use the Internet more and buy more apps because there are more users.

Perhaps one reason why Android users tend to use the features on their smartphones less than iOS users might come from this odd map (*blogs.marketwatch.com/thetell/2013/06/20/maps-of-twitter-metadata-show-where-apple-iphone-users-hang-out/*) that tracks Twitter usage for various smartphone users. In this map, red represents iOS users, green represents Android users, and purple represents Blackberry users.

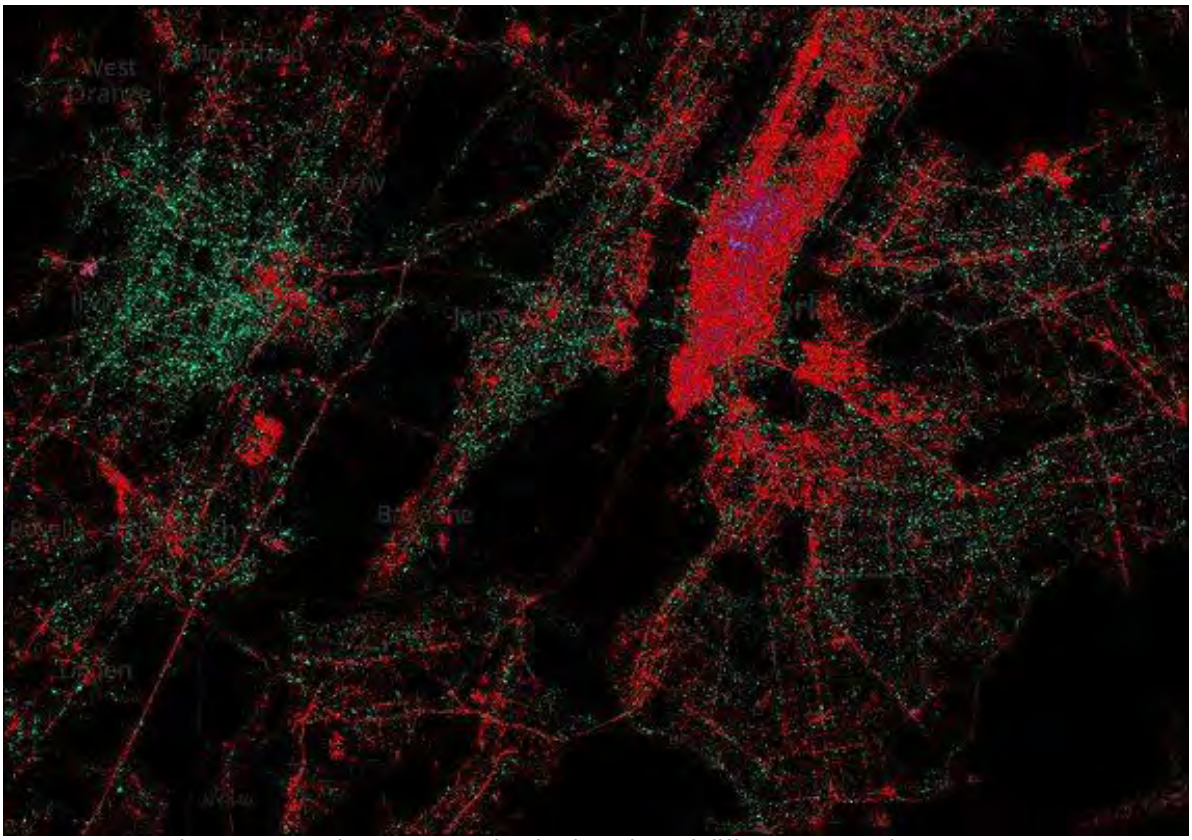

Figure 2. A Twitter map tracks the location of different smartphone users.

What's noticeable is the lack of large spots of purple, which indicates that this map of New York city shows very few Blackberry users left in the city. However, notice that large collection of red that represents iOS users and large sections of green that represent Android users. This basically supports the idea that Android and iOS have pretty much split the smartphone market among themselves.

Looking at this map even closer and you'll notice something else. Android users tend to be concentrated in the poorer areas while iOS users tend to be gathered in the richer areas.

Since you can get an old iPhone for very little money (sometimes even free if you sign up for a two-year contract), it's not a case of Android smartphones costing less than iPhones. While it makes sense that poorer people will spend less buying apps, it doesn't make sense that poorer people would also access the Internet less than iPhone users. The user interface differences between Android and iOS are mostly superficial, so it's not as if iPhones make accessing the Internet easier than Android.

Most likely people who buy iPhones do so specifically because they want an iPhone. On the other hand, Android users may just want a smartphone and don't care much about its features other than the fact that it lets them make phone calls. Android users may simply not care that they can access the Internet or enhance the capabilities of their smartphone by buying apps. Many Android users probably don't even know or care which version of Android their smartphone uses just as long as it works.

With so many different devices qualifying as Android devices such as the Kindle Fire and the Nook tablet, it's easy for Android users to outnumber iOS users. What's not so easy is understanding why so many Android users shy away from using the Internet and buying apps. What's also puzzling is that despite the costs of both types of smartphones being roughly the same, more Android users live in poorer areas while more iPhone users live in richer areas.

Figure 3. Older iPhone models often cost the same as Android smartphones.

Whether you're rich or poor, you can choose to use Android or iOS. Perhaps rich people choose the iPhone partly because of the perceived status of owning an Apple product while poorer people avoid the iPhone because they don't think they can afford an Apple product even though it costs the same or less than some Android smartphones. If poorer people choose Android because they think they can't afford an iPhone (despite the same or lower cost), that just shows how a person's belief system can limit their options despite all evidence that proves otherwise.

When given a choice between using facts to make a rational decision or clinging to an irrational belief that has no basis in reality, guess which option many people will choose while ignoring anything that contradicts their way of thinking?

## Struggling Technologies

InfoWorld recently listed eight struggling technologies (*www.infoworld.com/slideshow/105912/8-struggling-technologies-which-ones-will-survive-220704#slide2*). While you can learn from the successes of others, it's often just as educational to learn from the failures of others. By seeing how others fail, you can hopefully avoid falling into the same trap that snared them.

First is Blackberry, which practically dominated the smartphone market until the iPhone showed up. Blackberry's failure stems from complacency. Every product leader risks being killed by newer technologies. Instead of looking for ways to make their own products obsolete, Blackberry chose to rely on incremental improvements until they fell behind the iPhone and Android. Lesson: Don't get complacent or else your rivals will eventually run you over.

Second are Google's Chromebooks that represent inexpensive laptops that connect to the Internet to do any work. While not a bad idea, Chromebooks aren't much of an improvement over traditional laptops or tablets. In an enterprise setting that can rely on dependable Internet connections, a Chromebook might make sense to simplify maintenance and software updates, but for individuals, a Chromebook doesn't offer dramatically compelling features over a laptop or tablet. Lesson: provide a product that offers drastically useful features that current products can't easily match.

Third on the list is Google TV. What does Google TV offer that provides an advantage over not having Google TV? Until Google can answer that question and convince others of its advantages, Google TV will likely continue struggling. Lesson: Solve a problem that is obvious to potential customers.

Fourth is Barnes & Noble's Nook. While not a bad product, there's not much difference between a Nook and a Kindle Fire. With just another me-too product backed by a lower profile company (Barnes & Noble), the Nook has little chance against Amazon's Kindle Fire. Lesson: Me-too products give customers little reason to buy them.

Fifth is Microsoft's Surface RT. The Surface tablets are physically impressive, but Windows RT confuses more than it clarifies. Windows RT looks like Windows, but won't run normal Windows programs. Windows RT looks like a tablet, but it's only compelling feature is Microsoft Office, which requires running under desktop mode that destroys any advantage of using the Windows RT user interface. Lesson: Don't confuse your customers with products that create the illusion of being able to do something that it can't do.

Sixth are Windows ultrabooks, which are lightweight, thin laptops first defined by the MacBook Air. With ordinary Windows laptops costing around $300-$500, paying almost twice as much for a thinner and lighter Windows laptop is a hard sell. Even Apple's original MacBook Air remained an expensive niche product until they lowered the price and boosted its features. Lesson: Regardless of any advantages, a high price will drive away customers.

Seventh are Windows 8 PCs. Microsoft plans to release Windows 8.1 to fix the problems with Windows 8, but the feedback Microsoft got from the Windows 8 beta program is identical to the complaints Microsoft is hearing from customers today. Lesson: Listen to your customers, especially before you release a final product to the market.

Eighth are Windows phones. The tile interface of Windows Phone 7 is interesting, but doesn't offer a dramatically better experience in the same way that the iPhone did over Blackberry smartphones. Lesson: Me-too products, even if they're different, still need a compelling advantage over existing products to succeed.

From Blackberry, we learned that any leader can lose its leadership in a hurry if a rival offers a dramatically more

compelling product, no matter how large the market share of the leader might be. From Google, we learned that a product needs to solve a compelling problem. If it fails to solve a compelling problem that people can easily identify, then it won't sell.

From Barnes & Noble and Microsoft, we learned that offering a me-too product will struggle when the market leader has a bigger presence and the me-too product doesn't offer a tremendous advantage. From the ultrabook market, we learned that a high price can drive away customers if the product doesn't offer much greater benefits in return for the higher price.

How many companies and individuals will learn and embrace these lessons? Chances are good that when the next batch of products fails, they'll have made the same mistakes that are hurting these current struggling technologies.

* * *

When in doubt right-click. Right-clicking on almost everything displays a pop-up menu that gives you more options, such as selecting text and right-clicking on it to view some common options you can choose such as copying or cutting the selected item.

Sometimes right-clicking may be disabled. One method is to hold down the Control key and click, which simulates right-clicking. A second option is to click the Apple menu and choose System Preferences. When the System Preferences window appears, click the Mouse or Trackpad icon and look for a check box to select to enable right-clicking (also known as secondary clicking).

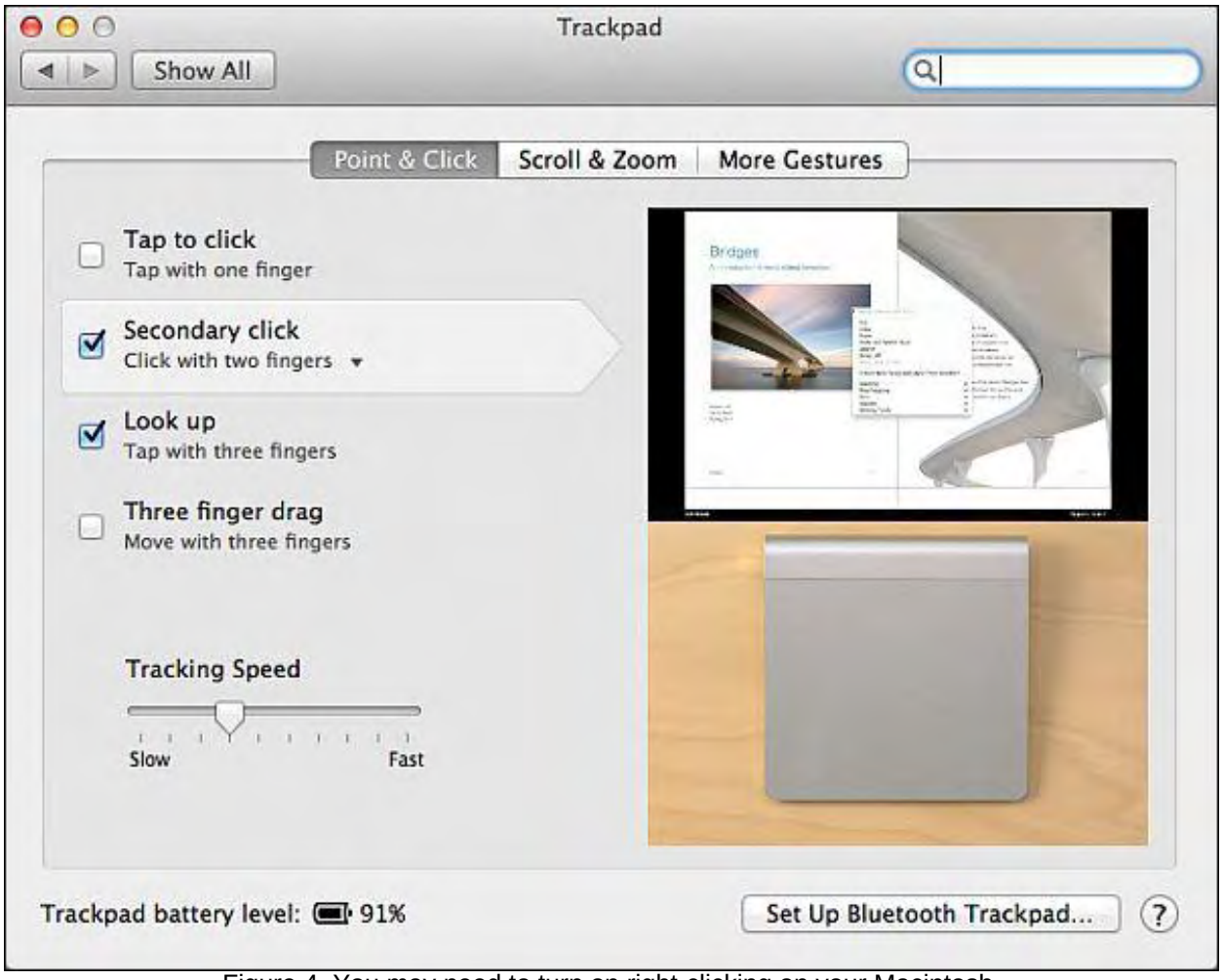

Figure 4. You may need to turn on right-clicking on your Macintosh.

Within the Mouse or Trackpad window, you can also adjust the sensitivity of your mouse or trackpad so it moves the pointer across the screen faster or slower.

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=159079189*)*
*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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## Kickstarter: Power to the People

**"The Ins and Outs of What's Going on with Kickstarter"** by Marilyn K. Martin

Kickstarter projects, controversies and successes.

Funding through crowd-sourcing has been around for centuries. Soliciting small sums from ordinary patrons helped everyone from Mozart to Mark Twain to continue their art. Kickstarter just computerized the idea and took it to the Internet for millions of people to pledge a few dollars to help people's dreams come true.

Or not. Funding through Kickstarter is all-or-nothing. Either the project creator meets their financial goal in a set time span—and Kickstarter takes out their 5% after collecting the pledges—or the project is closed and the pledges never collected. (Hint: Successful projects usually reach their money goal fast, since pledges slow down near the last stretch. So if you are 3 days and $10,000 from your goal of a creating a traveling show of Live Gophers Playing Hockey, you probably won't get funded.)

Kickstarter launched in 2009 as a company to fund creative (or "passion") projects, big and small, from music to games. Kickstarter acts as just a platform and resource, uninvolved in the projects beyond the initial weeding out stage. Projects have to meet Kickstarter's guidelines, and the emphasis is on "personal creative projects." Good: Fund a new music album or song-writing endeavor. Bad: Push your combo smoking-cessation and bladder-control patch.

Which helps explain why less than half (44%) of all Kickstarter projects reach their funding goals. The project creators also have to pledge a Reward to their backers if their funding goal is reached, from a copy of a new book, game or product, to an invitation to a film's premiere. (Although Kickstarter specifically states that "alcohol" can *not* be used for a reward.) Sounds like fun. What could go wrong?

### Historical Projects That Could Have Benefited From Kickstarter

Leave it to our Slacker Sages at *Cracked Magazine* to come up with just such a contest. Some of the reader-submitted historical ideas ranged from funding for the Hindenberg ("Filled with the Fuhrer's very own, super-safe hydrogen!"), to a drawn triangle from Imhotep for a Pyramid Shaped Building ("working title"), or the Great Wall of China by Emperor Quin Shi Huang. Other project ideas could have been from a Mayan King wanting to add more years to their Mayan Calendar, to building the Titanic, or helping the Very Early Beatles find a new drummer (rhymes with Slingo).

### Kickstarter Projects That You Can't Do

Kickstarter says that a project has to be something that is to be created or produced, and generally falls into Personal Creativity categories, from Art to Comics to Dance to Publishing and Film. So no, you can't pull an eBay gambit and repackage dubious offerings from your garage. Further delineation of things that Kickstarter absolutely prohibits includes:

• No charities, Cause funding or proposed cancer cures.

• No "fund my life" type projects, or asking for college tuition.

• No alcohol, drugs, porn, firearms, hate speech, or promoting or glorifying acts of violence.

• No "financial incentive" projects (offering ownership, share of profits, repayment/loans, pyramid schemes, coupons, discounts, gift cards, raffles, lotteries or real estate).

• No political projects endorsing/opposing political candidates.

• No cosmetics, baby products, automotive products, energy drinks, health or personal care products, or pet supplies.

• No home improvement products or electronic surveillance equipment.

• No projects that are just to sell existing inventory, or to offer products that are already available.

### Dubious Projects That Kickstarter Did Allow to Try for Funding

In case you didn't notice in the above list, there is nothing prohibiting idiotic ideas, offensive content or bad taste. *Buzzfeed* ran an article in 2012 on "The 13 Worst Kickstarter Projects Of All Time (*www.buzzfeed.com/cconnelly/the-15-worst-kickstarter-projects-of-all-time-s3x*)" (My sub-title: "In case you wondered why 56% of projects fail to get funded"). Among these Say-what? "creative projects" were:

• Gender Bender Video Game Heroes (think chains and bras).

• A project to drop a baby grand piano onto a pyramid of champagne glasses and call it Art. (Their goal was $2,300 which they missed by about, oh, $1,500.)

• Kinky Coloring Book. (How this got past the porn-filter, I'll never know.)

• A new version of the board game "Clue" with zombies as the murder suspects. (When is a zombie *not* a murder suspect?)

• A project for a book called *Orion's Representative*, about how religion is proof of extraterrestrials.

• Atheist Shoes (There's a mirror cutout of "atheist" on the sole, so the wearer can leave a statement.)

• Several tee-shirt projects, from "Low Tech Tees" to "Legalize Gay Marijuana" ('cause ... it can't reproduce?)

• Funding for songwriters to write songs about robots.

### The Psychology of Kickstarter Backers

So why do backers pledge? Is it more than the personal pleasure of helping someone's dream come true? According to an essay in Gigaom (*gigaom.com/2011/05/25/why-kickstarter-works/*) in 2011, Om Malik is not only a big fan of crowdfunding, but views Kickstarter as the "most disruptive and innovative platform" for creative projects. He also thinks Kickstarter is a socio-cultural movement that has transformed the very idea of commerce. Kickstarter is for ordinary people to "preorder your idea," while creators can ask for micro-seed capital without relinquishing ownership.

Or…potential backers get really jazzed about a radical new take on an old product. One of the most successful Kickstarter projects of all time was the Pebble Watch. Its funding passed the $2 Million mark in three days. It was basically just a Bluetooth watch with an e-paper screen that could connect to iOS and Android devices. And, besides keeping time, it had apps for controlling music, tracking runs, etc. Similar watches were already on the market, but Kickstarter backers went crazy for this Pebble Watch.

Did the Pebble Team strike potential backers as smartwatch-savvy, and totally capable of actually producing the watch? Did backers who usually root for the underdog really want to see a small indie company and product

succeed? Did the backers just want to fund something where they'd get a real "product" (or discount on one), instead of a rough-cut of a documentary on how ice melts? Did the Pebble success give a big boost to Wearable Computers, the hot topic now in Silicon Valley? Who knows...

## The Fine Print—How Funded Projects Go Wrong

Kickstarter's Terms of Service state clearly that for funded projects they "do not offer refunds." You Pledge—Project Reaches Goals—Expect your Credit Card to be Dinged. In addition, a "Project Creator is not required to grant a Backer's request for a refund, unless the Project Creator is unable or unwilling to fulfill the Reward."

According to a CNN survey, 84% of Kickstarter's top projects missed their target (*money.cnn.com/2012/12/18/technology/innovation/kickstarter-ship-delay/index.html*) 2012 delivery dates. While the vast majority of Kickstarter's projects are little artistic endeavors, the top-funded projects are mainly in Tech, Design and Video Games. In interviewing creative teams for these top-funded projects, CNN found ambitious but inexperienced creators. When their projects raised vastly more money than they had anticipated, their original production plans and timeline were obliterated.

A Kickstarter Project can also turn out to be something vastly different than originally described, as happens with funded video games especially. But if the pre-ordered Reward product never gets through production, backers can and will sue. When Seth Quest funded a Kickstarter Project for Hanfree, a standing iPad mount he'd devised, everything fell apart in production and he couldn't fulfill his backers' pre-orders.

One, Neil Singh, sued, which forced Quest into bankruptcy (*venturebeat.com/2013/01/22/why-this-jilted-kickstarter-backer-decided-to-sue-why-he-was-right/*). Singh was portrayed as the bad guy, but he did have valid points that Kickstarter encourages creators who have no business plan or entrepreneurial experience. And too many amateur creators put up ill-planned projects with a promise of a delivered-product for a set pledge amount. These project creators have no understanding of "risk"—or a back-up refund plan—if the promised product can't be delivered.

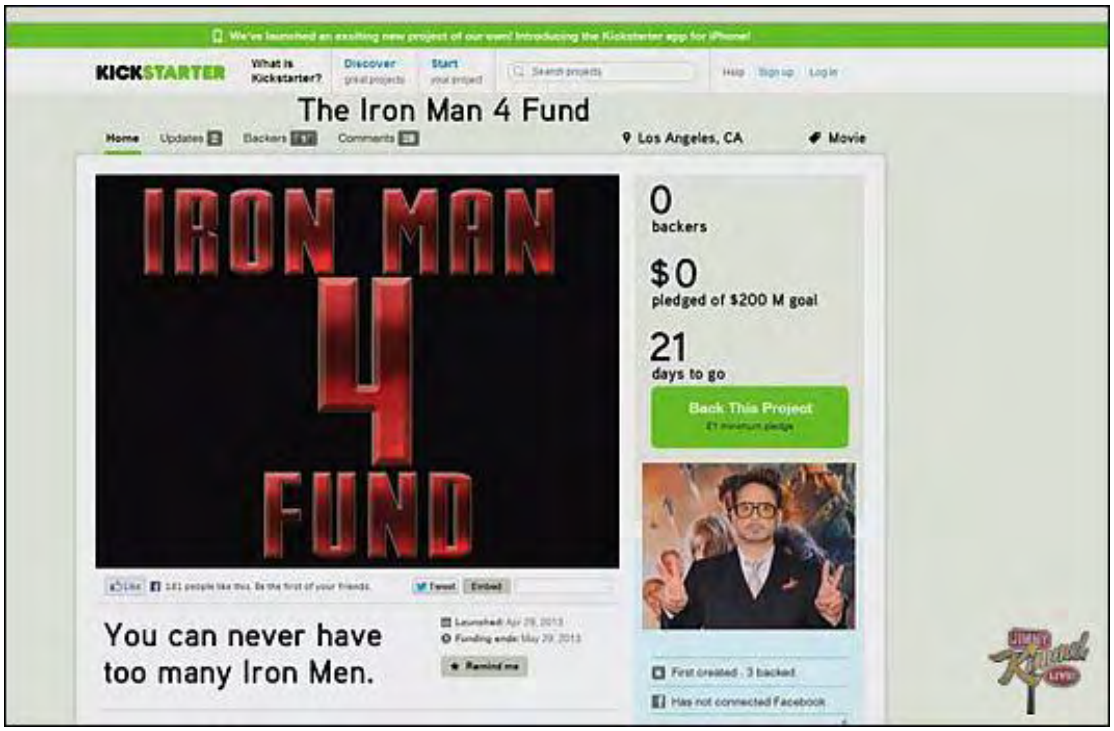
## Kickstarter Controversy

One of the biggest arguments about Kickstarter is that celebrities (or children of the rich and famous) use Kickstarter to fund their projects. Colin Hanks (son of Tom) used Kickstarter to finance a documentary. The *Veronica Mars* movie was also funded through Kickstarter. And when "quirky actor/filmmaker Zach Braff" first put up a Kickstarter project, he raised his set goal of $2 Million pretty quickly. People complain that celebrities shouldn't be on Kickstarter since they "obviously" have other funding choices. But one interesting counter-argument is that the public still has to pay for a movie or play ticket to see these celebrities, so how different is it to give funds-for-creating directly to the celebrity?

The argument also claims that famous people on Kickstarter take donations away from more worthwhile projects by us nobodies. But Kickstarter actually entered the fray on this charge with data and analytics, as reported recently in TechDirt, that shows that celebrities and celebrity projects actually bring in tens of thousands of new people (*www.techdirt.com/articles/20130511/02114423045/some-data-big-kickstarter-projects-famous-people-actually-helps-other-projects.shtml*) to Kickstarter. 63% of these celebrity-fans have never backed a project before, and thousands of them then go on to back other non-celebrity projects.

## Robert Downey Jr. Jokes about Using Kickstarter for "Iron Man 4"

With *Iron Man 3* raking in the box office cash by early May 2013, Robert Downey Jr. went on Jimmy Kimmel to complain that he was tired of waiting for an announcement for the next *Iron Man*. So, taking matters into his own impatient hands, Downey previewed his (mock) Kickstarter project to raise $200 Million for *Iron Man 4*. With a motto of "You can never have too many Iron Men," his Kickstarter project went down in flames. But Marvel soon announced that "Iron Man 4" has been green-lighted for production.




## Comedians and Their Bizarre Projects

In July through September 2012, Brooklyn comedian Myq Kaplan ran a Kickstarter campaign asking for just $1 to mail a letter to Kickstarter asking for a definition of "Conceptual Art," which is a category that Kickstarter allows for creator projects. Kaplan's campaign actually raised $400 from 162 backers. I have no idea if he ever got his answer on "Conceptual Art". But he's now $399 richer for having asked Kickstarter the question in the most round-about way possible.

In May 2013 comedian Kurt Braunohler had his Skywriting Joke (*www.happyplace.com/23905/comedian-uses-kickstarter-to-skywrite-a-joke-over-los-angeles-funny*) funded. He'd also given his Kickstarter backers a choice of brief jokes, with the winner skywritten over Los Angeles.

A hoax Kickstarter Project that supposedly ran from May to June 2013 involved a couple comedians looking for $600 Billion to build an Orbital Deathray (*www.amazingsuperpowers.com/2013/05/orbital-deathray-kickstarter/*). Their motto was "Help crowdfunding make crowd-destroying a reality!" Although I naturally couldn't find the project on Kickstarter, their pitch-video was all over the internet and on YouTube. So I guess even a fake Kickstarter project can still function as a "Platform For Unknown Comedians To Get More Publicity."

## Best of Kickstarter—2012

If you want to see what recent projects Kickstarter is most proud of, have a look at this slideshow of their most unique (*www.kickstarter.com/year/2012*) 2012 funded projects. Two and a half million people pledged over $300 Million to Kickstarter projects last year, from 177 countries.

Did you know that 10% of the films at Sundance are Kickstarter funded? Kickstarter also funded the graphic paperback, FUBAR, which hit the *New York Times* Best Sellers List. (So now Publisher's Weekly calls Kickstarter "the #2 publisher of graphic novels.") Philadelphia got funds to open the world's first pizza museum, while Georgia got a new bus stop, and Atlanta got funding for their first squirrel census. Globally, a Kickstarter project opened the first hackerspace in Baghdad, funded a photography exhibition to travel across Afghanistan, and opened up to UK creators.

And in the WhyBNormal? category, how about a group of friends who created an irreverent card game called "Cards Against Humanity," and sold 100,000 copies—enough to top Amazon's charts. MaKey MaKey created the world's first "banana piano," and one musician was funded to write songs for all his backers—including grandma. In addition, Kickstarter even funded their first marriage proposal project last year.

(Special thanks to Kickstarter.com (*Kickstarter.com*), Cracked.com (*Cracked.com*), BusinessInsider.com (*BusinessInsider.com*), Buzzfeed.com (*Buzzfeed.com*), and TechDirt.com (*TechDirt.com*).)

Marilyn is a freelance writer and humorist, with a special interest (besides computers and technology) in Science Fiction. Besides short stories published in various magazines, she also has some new e-books available on Amazon Kindle: *Hunting Monster Aliens (*www.amazon.com/s/?_encoding=UTF8&camp=1789&creative=390957&field-keywords=Hunting%20Monster%20Aliens%20martin&linkCode=ur2&rh=n%3A133140011%2Ck%3AHunting%20Monster%20Aliens%20martin&tag=comput0b9-20&url=search-alias%3Ddigital-text*)* is an on-going series of novellas, about a wise-cracking team of ghost investigators who occasionally turn into alien-monster hunters. *Culture Crash! A California Yankee Transplanted to Texas (*www.amazon.com/gp/product/B00CKXF8GQ/ref=as_li_ss_tl?ie=UTF8&camp=1789&creative=390957&creativeASIN=B00CKXF8GQ&linkCode=as2&tag=comput0b9-20*)* is a collection of humor essays chronicling her adventures in her new home-state.

ComputorEdge 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: Tips and Thoughts from Readers

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

"Trial by Fire," "IE 10 and Do Not Track," "Privacy For All?" "Unlock and Delete Unwanted Files," "The Demise of JC Penny"

## Trial by Fire

[Regarding Jack Dunning's May 31 article, "Protecting Against Power Surges":]

The power outage that occurred in September 2011 was my trial by fire. I discovered the disaster recovery plan for power outage for the network center I maintained was severely deficient. I had to manually shut down over 80 servers before the UPS battery was drained. Afterwards, I pushed management to have network management cards installed on every UPS and configured to automatically shut down all servers if the battery level dropped below 30%. There's nothing like an actual emergency to test a contingency plan just to see if it really works.

-Joe Shelton, San Diego, CA

## IE 10 and Do Not Track

[Regarding the June 7 Digital Dave column:]

To set the state of the "Do Not Track" header in IE 10, go to Internet Options/Advanced Tab/Security/Always send Do Not Track header. I'm sure I turned on Do Not Track when I set up Windows 8 initially but somehow it was changed. May be worth checking.

-Ron Cerrato, San Diego, CA

## Privacy For All?

[Regarding the June 7 Digital Dave column:]

Good information, thanks. However, although I know Apple isn't your thing, I think this would have been a better article if you had located and included parallel information about Safari.

-Kay, Carlsbad, CA

*The Safari on a Mac has "Block cookies" set by default to "From third parties and advertisers."*

*-Dave*

Looks like Dave partially answered the Safari question with "The Safari on a Mac has a "Block cookies" set by default to "From third parties and advertisers." —Dave". What about the DNT Header? The 3rd party cookie options have been well documented since the days of Windows 98. The DNT header is the new thing for us to be aware of. As Dave correctly points out compliance is now optional, but if we all use it, the governing bodies may require compliance.

-Ron Cerrato, San Diego, CA

## Unlock and Delete Unwanted Files

[Regarding the June 14 Digital Dave column:]

I have successfully used a program called File Unlocker to remove files that are being used by a program that I no

longer want. Like Dave says, the *.tmp files should be safe to remove, but be careful, you could make a wanted program unusable!

Here is the file link to Unlocker (*www.emptyloop.com/unlocker/*).

-Dave Bisbee, Chula Vista, CA

The above mentioned Unlocker program is good for files that are in use. However the other reason you may not be able to delete is permissions. Even if the account has administrator privileges, the NTFS system might not grant those rights to the files. Go to Properties => Security Tab, click Edit and then adjust the permissions; you may have to go to Advanced to take ownership of the folder and/or files, close the dialogs and begin with properties again to modify the rights.

-Stephen, San Diego, CA

You can use File Assassin, a free download program, that will get rid of files that refuse to go away. It can be downloaded from several sites such as download.cnet.com or the original source MalwareBytes.com. It can be used within Windows or at the command prompt. It gives you several options to deal with files that refuse to cooperate. Before you get carried away, check the date and time stamp for the files you want to get rid of. If the files are current (within the last 24 hours) leave them alone.

-Don Davies, Ramona, CA

## The Demise of JC Penny

[Regarding the June 14 Wally Wang's Apple Farm column:]

Wally failed to mention that the *biggest* problem for JC Penny was Ron Johnson who single handedly destroyed that company.

-Gene, Escondido, CA

*Yep, I completely agree. Ron Johnson came from running Apple's retail stores and tried to shove his ideas that worked for Apple on to JC Penny, which didn't work. You can read what I wrote about Ron Johnson in a past column.*

*-Wally Wang*

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*ComputorEdge* always wants to hear from you, our readers. If you have specific comments about one of our articles, please click the "Tell us what you think about this article!" link at the top or bottom of the specific article/column at ComputorEdge.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 "ComputorQuick 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 ComputorEdge E-Books (*www.computoredgebooks.com/*).

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