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Not Your Father's 3D Camera!

February 20, 2015

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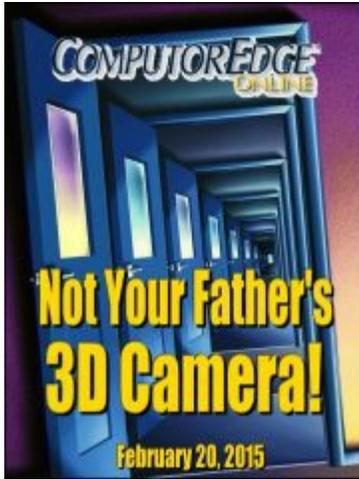
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Not Your Father's 3D Camera!

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Digital Dave

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

Galaxy S5 Question; Tabbed Browsing and IP Numbers; Windows 8 and Picture Locations.

Galaxy S5 Question

Dear Digital Dave,

I have a problem with my Samsung smartphone. I know you're real good with PCs, but I thought I'd ask you about my Android device, after all it is a multitasking computer that also happens to work as a phone. In fact I prefer it for many tasks, such as checking my e-mail, especially since it is usually with me and unlike my computer doesn't need Wi-Fi and boots up really fast.

One such task I like is to listen to Pandora while others include view videos on YouTube or Facebook, and watch movies on Netflix. I don't have a problem when I use an external speaker connected by an audio cable or when I use the phones internal speaker. Where I do have a problem is when I use my Bluetooth headphones. It will repeatedly, and intermittently, drop out. It doesn't stop and continue where it cutout, it stops all sound and then picks up leaving any transmission during the silence lost in the ethers. I have owned previous Galaxy phones and have not had this problem.

The cutting out is not happening during phone calls. I can have the phone within two feet of the headpiece, but it will still do it. Do you know what's going on?

*Paul Anthony
San Carlos, CA*

Dear Paul,

It sounds like a Bluetooth problem. It could be in the headphones or the phone itself. You say that you don't have the problem during calls—is that also on Bluetooth?

The reason I suspect a hardware rather than a software problem is because the symptoms are a complete cutout rather than a stutter where the music starts and stops without skipping

anything. If you had a faulty speaker connection on a stereo you would experience the same thing. If it were a software problem, then I would suggest making sure the Bluetooth app is up-to-date, going into Settings, forcing Bluetooth to stop, clearing the cache, then restarting the phone. (It wouldn't hurt to do this anyway.) It could be a bad connection in the Bluetooth headphones or a circuit going bad.

I would test the smartphone's Bluetooth with another Bluetooth device. If it continues to be a problem, then there is an issue with the Bluetooth in the smartphone. Is it time for an upgrade? Can you return it under warranty? It worked in your other Galaxy phones, it should work now.

Digital Dave

Tabbed Browsing and IP Numbers

Dear Digital Dave,

OK, these two following items aren't existing problems, but are requests for a little education:

ISSUE #1: For simplicity sake, let's say I have a PC hooked directly to an ISP Modem. Obviously, my PC has a specific IP Number. But, let's say that I open five tabs in a browser and do various different things in each one (like log-in to various financial accounts at one time, for example).

Now, the question: With only one IP Number how does the browser keep each Tab's information straight, since I have only one IP Number?

ISSUE #2: I've tried to protect myself with NAT Routers, Hardware and Software Firewalls, and various Anti-Virus/Anti-Malware/Anti-Spyware programs. But, one thing worries me:

Given that most things go through a browser and the browser (and other things, like Windows Update) get automatically updated without a whimper of complaint from any of the above protections, why could Hackers not emulate a "Firefox" update or "Windows" update that looks like a legitimate update, but actually is spyware, sending every password, etc. back to the Hacker?

In advance, thanks for any light you may shed on these two items.

*AJ Dalton
Bonsall, CA*

Dear AJ,

Those are both good questions.

You're not the first to wonder how Web browsers and Web servers keep everything straight. After all we can have many Web pages open in various browsers and the servers always respond to the correct page. If indeed the Web server only depended upon your IP address to return pages then it would be impossible for everything to be kept straight. But that's not the case.

Most Web servers listen on port 80 for incoming traffic (port 443 for encrypted traffic). But that's only for the initial contact. When a Web browser contacts a Web server, it not only provides its IP address, but an open port address—usually above 5000. It's telling the server to respond at that IP address on the designated port. When the server responds, it uses the assigned port and also assigns one of its ports for the Web browser to use in continued communication. It's the port numbers which separate the tabs and Web queries.

If you open a new tab and load another Web page, another open port is assigned to the new connection. The server responds in the same manner. Since there are literally thousands of unassigned ports available, it's possible to continue opening pages without any conflict until your browser and/or CPU get bogged down with all the open pages.

The port on your computer is only opened temporarily while communicating with the Web server. Once the connection is broken the port again becomes unassigned and is by default closed to traffic.

On your second question, the scoundrel who wants to hack your computer by pretending to be a legitimate update would need to find a way to intercept all traffic going to the update site. You could say that the update servers are hardwired into the software. Whenever the software looks for an update, it always goes to the same IPs. Those IPs are owned by Google, Microsoft, Firefox, or whoever is doing the update.

To reroute those IPs without being detected would be nearly impossible. The bad guys would need to find a way to get the specific numbers assigned to themselves—which would be pretty difficult. IP addresses are controlled internationally by the [Internet Assigned Numbers Authority \(IANA\)](#) in hierarchal fashion. While it all starts here, other ISPs are assigned blocks of IP within certain parameters. Once an IP is assigned and continues in use, traffic will only be directed to that location.

The reason that you see no activity from your security software is that when you installed the package it became a trusted piece of software.

If a virus infects your computer, then it is conceivable that the real IP could be intercepted and redirect to the wrong place, but if your computer is infected then you already have a problem. I have not heard of automatic software updates being hijacked, but that doesn't mean it can't happen. For the most part as long as you have a legitimate copy of the software from the proper source, there is very little risk in automatic updates.

Even if a hacker managed to intercept your update transmission, it is most likely encrypted just like a secure Web page. This would make the data stream useless to anyone but the software's legitimate servers.

Digital Dave

Windows 8 and Picture Locations

Dear Digital Dave,

I bought a new computer with Windows 8 over a year ago. I restored all of my old documents from a XP computer. I have always managed photos and document images in my own folder system of my choosing. I did start some new folders in Windows 8 and had no need to look for the older photos until recently.

Most if not all were gone and I had some empty folders. I have two users on this computer, 'keith's' and 'mywife's'. Her area has never been used and I thought empty. I have now found the old pictures in generic folders in both This PC\keith's(keiths-pc)\Pictures\All Pictures and in This PC\mywife's(keiths-pc)\Pictures\All Pictures.

Did Windows 8 pirate these images to set up in some kind of their own standard and if so how can I defeat what they are doing? Even images from Web sites like buttons and advertising windows are mixed in. About 3000 images were collected and redistributed to this system. I can see a need for a standard if all you are saving is just simple photos and other photo programs want to find them. But I don't want some very personal document images hijacked too. I hope you can shed some light on this.

*Keith Sears
Highlands Ranch, Colorado*

Dear Keith,

I regularly get questions about the location of image files in Windows 7 and beyond. It can definitely be confusing. While I can't say exactly why your photos ended up where they did, I can possibly clear up a couple of things.

First, the folders you found in your and your wife's account are most likely the same folder. They just happen to appear in both accounts because you're using the same hard drive and the folders and files have not been limited by user. I would guess that if you delete a file in one it would also be deleted in the other.

Second, there are two ways that files are located in Windows 8. The first is in folders on the hard drive. That would be the actual physical location of the files. If you copied your images

to specific folders on the hard drive then they should still be there. (Although it's not that difficult to move an entire group of files elsewhere.)

There are also Libraries in Windows 7 and 8. Libraries don't store your files, but merely act like a folder displaying the images in any folders included in the library. Libraries only point to file locations. It may appear that there are multiple files if you included more folders with the same images, or even the same folder twice, but deleting one could delete them all. There may be only one original included in different ways. Make sure that when moving files that you are using the folders on the hard drive and not the Libraries folders.

While I can't be sure what happened, it appears that at some time you used some type of photo collection software which scoured your drive for image files and placed all the images in the same All Pictures folder. This would account for all types of images appearing there and your original folders being empty.

Digital Dave



Intel's 3D Camera

“Will the Intel RealSense Camera Spark Another Industry or Is It a Fad?” by Jack Dunning

The RealSense camera is 3D in dimensions, not perception. What are the applications for this type of technology?

When new technology markets come into existence it is usually as the result of a hardware trigger. It may not be the first device of its type, but it is suddenly good enough to get people excited. This was the case for the laser printer as it (along with the original Mac) spawned the desktop publishing industry—eventually killing the small print shop.

It could be said that the iPhone created the smartphone industry. There were other personal devices similar in function, but Apple put it all together in a way that completely changed the cell phone forever. The Apple iPad was not the first tablet computer, but it is the one which sparked the consumer demand for the one-handed computing device. Virtually every technological wave can be traced back to a particular piece of hardware which caught our attention and generated a new market.

By the same token not every hardware innovation sparks a new industry. The introduction of 3D TV turned out to be a flop and the impact of the smartwatch and Google Glass are questionable. Sometimes it may be just a matter of timing. In others cases the technology may not be good enough. We are always looking for the next great invention which will take the world by storm. The only way we find out what's next is by putting new products out there

and watching what happens.

Intel RealSense 3D Camera

Whether the Intel RealSense 3D Camera is a spark for a new industry or merely another passing fad is impossible to predict. But before we can explore the possibilities we must understand what it is. But, first, let's look at what the RealSense camera isn't.

When we think of 3D cameras, we envision two lenses separated by an appropriate distance to allow the parallax between the two eyes to distinguish distance. Later, the captured images are presented to the left and right eye respectively giving the sensation of 3D vision. There are a number of ways this is done. The two image 3D technique is used in the old 3D viewers. It's how 3D movies which require special polarized glasses (or the old red and blue lens cardboard glasses) do the job. It is the principle behind 3D TV. Most of the work in 3D has been devoted to using two lenses to capture the same object from slightly different angles. But this is *not* what the RealSense 3D Camera does.

The [RealSense camera](#) is not designed to deliver what we normally think of as 3D. The key to RealSense is depth measurement, not depth perception from the perspective of our two eyes, but the distances measured from the camera to the objects.

Yes, RealSense does take a picture which can be viewed on your computer screen, but it doesn't naturally render an image which looks 3D. When the image data is saved, it includes the distance each pixel is from the camera. This yields 3D data about a 2D image. RealSense cameras include three specific parts (see Figure 1). "Devices with Intel® RealSense™ 3D camera have three lenses: a conventional camera, an infrared camera, and an infrared laser projector. Together, the three lenses allow the device to infer depth by detecting infrared light that has bounced back from objects in front of it."



Figure 1. "Devices with Intel® RealSense™ 3D camera have three lenses: a conventional camera, an infrared camera, and an infrared laser projector."

There is only one 2D camera for rendering the visual image. The infrared laser projector illuminates the objects in the frame, then the infrared camera records data based upon speed-of-light timing techniques used for measuring distances. In essence the resulting data is a record of the color of each pixel and how far away it is from the camera. This approach produces totally different possible uses from the old two-camera 3D devices.

Image Editing

Since there is distance data saved with each object in an image it is possible to change the focus of the picture after it is taken. That means a closer object can be brought into clearer view or a more distant object can be sharpened (see Figure 2). One possible use may be to eliminate all background in a photo, then replacing it with a virtual location. No need for your mother to see your messy room when Skyping.



Figure 2. The two women are in focus (top). Touch the man in the background to bring him in focus (bottom).

The usefulness of these capabilities will be determined by the software people who build the applications. To further explore these editing features, see "[Hands-On With Intel's RealSense Snapshot Camera.](#)"

Measurements from Photos

Included in the same linked article from Tom's Hardware is how to obtain dimensions from the RealSense camera images (see Figure 2). Since the distance of an object is known, its 2D

dimensions (height and width) can be calculated (see Figure 3). Results vary depending upon the image, but it definitely works for approximations.

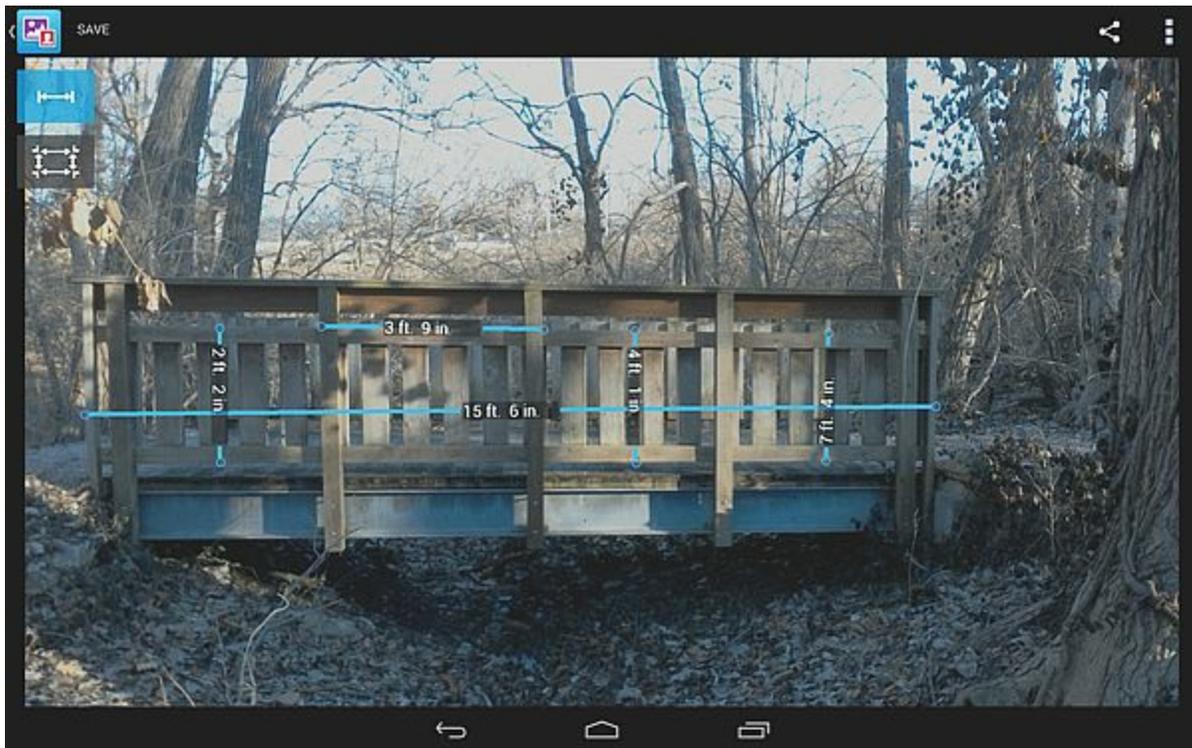


Figure 3. Dimension of objects in the RealSense photos can be measured.

To watch a video review of this capability check out [this demo](#).

As the technology improves this capabilities could become important in engineering and construction—especially for bidding and estimating.

Motion Detection

Infrared technology for 3D motion detection has been around for a long time. Microsoft uses it in its [Kinect device for Xbox](#) to interact with and control the console. However, the idea of using hand gestures to controlling games and devices has never caught on—yet. People seem to prefer their joysticks.

The RealSense camera may bring 3D control to another level. "This visual data, taken in combination with Intel® RealSense™ motion-tracking software, creates a touch-free interface that responds to hand, arm, and head motions as well as facial expressions." See Figure 4. It all depends upon the software, but the accuracy of RealSense may add more capabilities.



Figure 4. The 3D RealSense camera is capable of 3D Control.

Another important use for RealSense may be an [aid for the blind](#). "Intel says 3D camera, designed for laptops and tablets, may also help the blind" by detecting nearby objects and the motion of people and traffic, then emitting an audio or physical (vibration) alarms.

3D Scanning

As 3D printing grows in popularity the need to do 3D modeling increases. By turning an object before the RealSense camera, it's possible to capture the model in measured three dimensions (see Figure 5).



Figure 5. RealSense can be used for 3D modeling.

Now Available on a Notebook Near You!

There are a number of computers now offering a built-in RealSense camera as [Asus](#), [Acer](#), NEC, Dell, HP, Fugitsu, and Lenovo integrate the technology into their products. There are plenty of manufacturers willing to take a chance.

Whether the Intel RealSense camera is a true hardware trigger or merely a passing fad is undetermined at this time. If designers and software engineers build useful applications with it, then it could spawn new industries. But this will only be done if people recognize uses for the device that are not obvious to the casual observer. While it is interesting technology, I won't be rushing out to buy a computer or tablet with RealSense. But, what do I know? A couple of years from now it could be all the rage.

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:

Recently released is Jack's FREE AutoHotkey book, [AutoHotkey Tricks You Ought to Do with Window](#), available exclusively at ComputerEdge E-Books in the EPUB for e-readers and tablets, MOBI for Kindle, and PDF for printing formats.

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[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](#).

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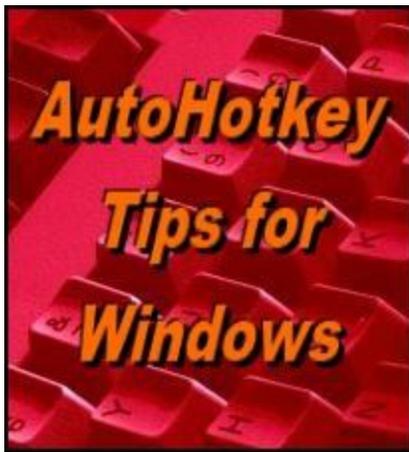
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**Yet, One More
Reason to Use
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Free Software!**

Automatically Find Buttons by Color in Windows Programs

“Yet, One More Reason to Use AutoHotkey Free Software!” by Jack Dunning

This little know AutoHotkey command will scan a section of a window or image for a specific color. Use it to select colors in Windows Paint.

When controlling the Windows Paint program, the built-in shortcut keys are great for selecting tools. In AutoHotkey it's as simple as sending the appropriate key combinations with the *SendInput* command. However, changing colors is not as easy. While the color editing window can be opened by sending shortcut keys to Paint (*SendInput {Alt}hec*), there is no way to select particular colors with these key sequences. It can only be done with a *Click*.

New to AutoHotkey? See our [Introduction to AutoHotkey!](#)

We could predetermine the coordinates of the color needed and use the [Click command](#) to select a color, but what if that color has been moved to a different box—which is easy in Windows Paint? Fortunately there is a very cool command in AutoHotkey called [PixelSearch](#) which will seek out and deliver the location of any desired color in any window. While I've known of the existence of the *PixelSearch* command, I've never used it before.

The *PixelSearch* command scours a designated area of a window looking for a particular color. If it finds the target, it retrieves the coordinates of that pixel. In Paint those coordinates can be used for a *Click* location to select the color. There are other specialized uses for this AutoHotkey color finding command. From forum comments I've seen that gamers often use the *PixelSearch* command to find the location of particular types of objects, e.g. magical, weapons, on the screen.

Finding a Color in a Window with AutoHotkey

Before searching for a particular color pixel in a window, the *PixelSearch* command requires the color name in hexadecimal code. There are a couple of ways to get this information.

This narrows the search and saves some processor time. The coordinates for the color selection palette in Windows Paint color were identified as shown in Figure 2. The search area is restricted to the color selection palette to ensure that any sections of the window which may also contain the same search color are not included.

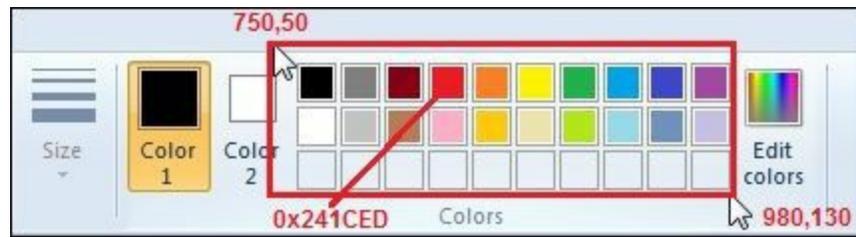


Figure 2. The search area as identified by Window Spy for the PixelSearch command is bound by 750, 50 and 980,130. The color code is 0x241CED.

The *PixelSearch* command is written as follows:

```
PixelSearch, Px, Py, 750, 50, 980, 130, 0x241CED, 3, Fast
```

The coordinates for a pixel found with the color *0x241CED* (red) is saved in the variables *Px* and *Py*. The command uses the same section coordinates and color as shown in Figure 2 above. The number 3 parameter tells AutoHotkey to accept any color which is within three shades of the original. Adding the *Fast* parameter speeds up the search. The *Fast* mode searches line by line from top to bottom stopping on the first successful hit. Figure 3 (top) shows a *MsgBox* of the coordinates returned by the *PixelSearch* command. Figure 3 (bottom) shows where the *Click* command would be issued to select the color red in Windows Paint.

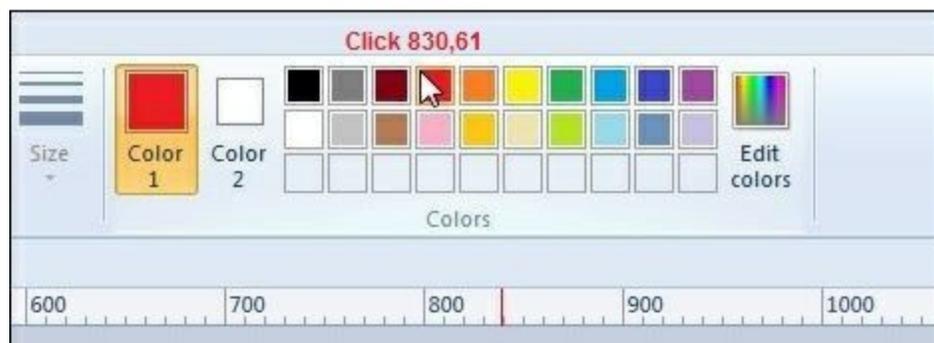
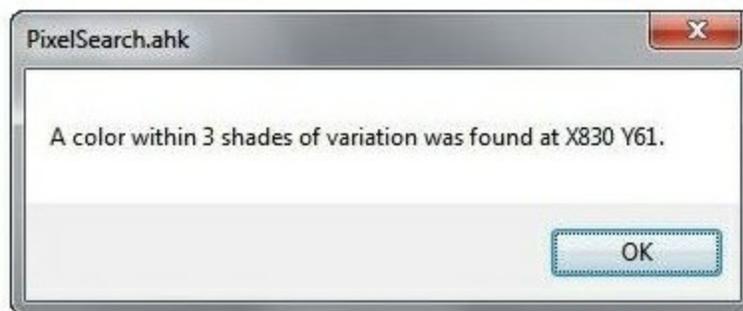


Figure 3. The coordinates of the first matching pixel (top). Where the Click command would select the color red (bottom).

The top portion of Figure 3 is displayed by adding the following snippet of code:

```
If ErrorLevel
    MsgBox, That color was not found in the specified region.
Else
    {
        MsgBox, A color within 3 shades of variation was found at X%Px% Y%Py%.
        Click, %Px%,%Py%
    }
```

If the color is not matched (*If ErrorLevel*), then a message box is displayed stating that the color was not found. Otherwise, the coordinates and the number of shades of variation are shown as in Figure 3 (top) and the Click command is issued at that same location as shown in Figure 3 (bottom).

Warning: Using this technique could be problematic when looking for black or white. Even within the search area there may be pixels (black lines) which will yield a positive result without actually finding the location of the proper selection button.

Make a Box and Fill It with Red

A [few weeks ago](#), I offered a short AutoHotkey script which made a box then filled it with the current color. Using that same script, I've used the *PixelSearch* technique in a modification of that script to find the red selection button, then fill the box with red:

```
!d::
    SendInput {Alt}hsh
    Sleep 100
    SendInput {Right 3}{Enter}
    Sleep 200
    Click Down 200,300
    MouseMove 200, 200, 50, R
    Click Up
    Click 40,200
    PixelSearch, Px, Py, 750, 50, 980, 130, 0x241CED, 3, Fast
    Click, %Px%,%Py%
    SendInput {Alt}hk
    Sleep 200
    Click 250,350
Return
```

The script encloses the lines of code with *!d::* and *Return* creating a hotkey combination (ALT+D) for easier testing and reloading.

Three lines of code have been added to the original script. First, *Click 40,200* is added to

Click outside the drawn box making sure it is deselected before changing the color. Otherwise the box would remain as a selected object and turn red when the new color is selected.

Second the *PixelSearch* command is used to find the red color selection button (*PixelSearch, Px, Py, 750, 50, 980, 130, 0x241CED, 3, Fast*).

Third, the color red is selected (*Click, %Px%,%Py%*).

As shown in the [linked previous column](#), the script concludes by selecting the Fill tool and clicking inside the box to fill is with the color red (see Figure 4).

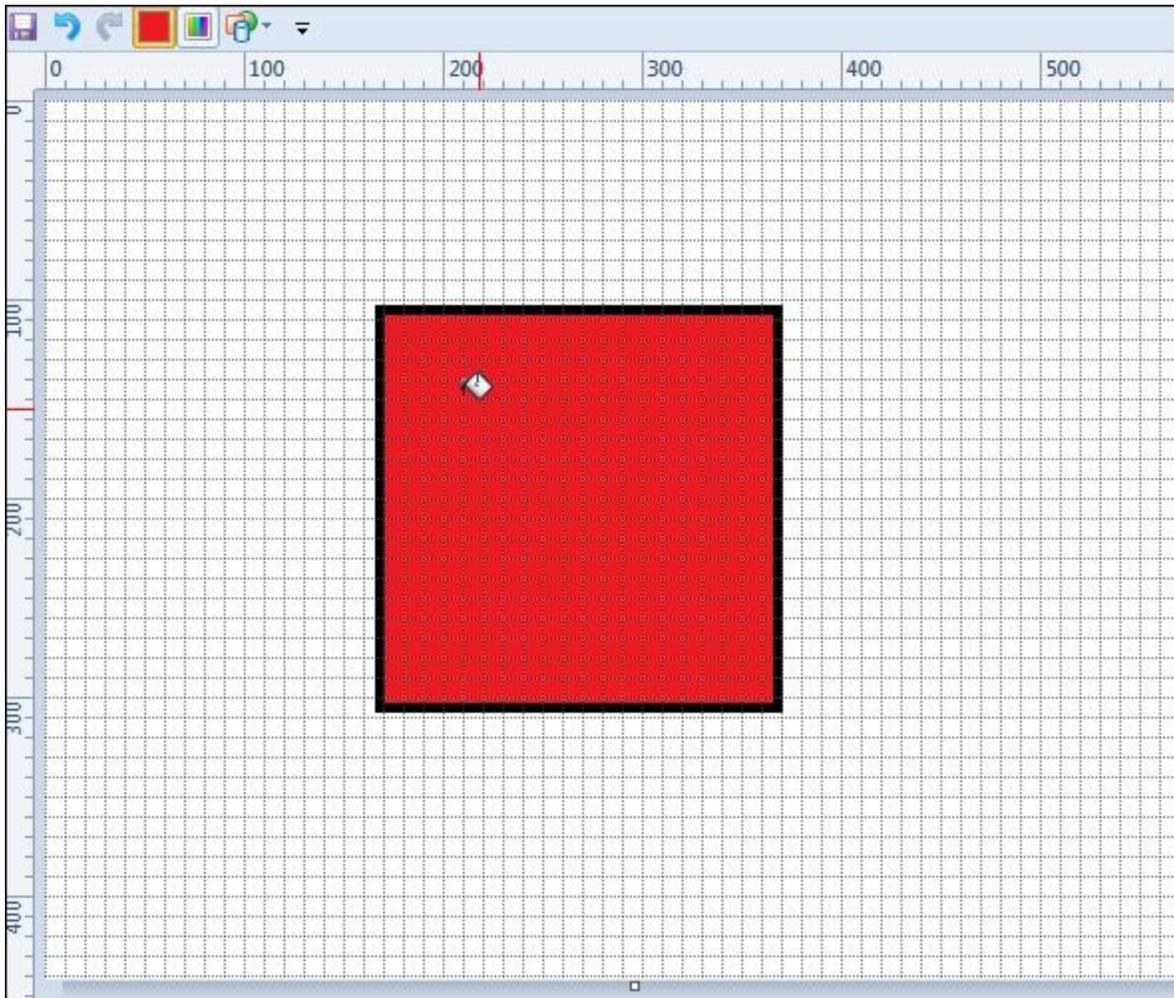


Figure 4. After the script selects the color red, the black box is filled.

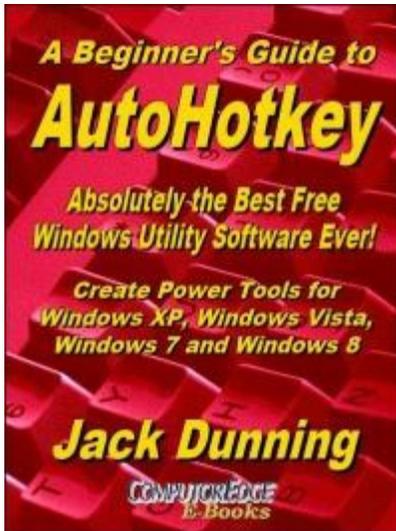
This is the first time I've had an occasion to use *PixelSearch*. It's pretty impressive, but I'm not sure how many other applications there are for it. I can see how it might be used for a child's game for learning colors or searching game screens. I suppose that if you're in the right field, the AutoHotkey *Pixel* commands could be important in controlling your software.

* * *

Check out many of the way AutoHotkey can be used! See these [Free AutoHotkey Scripts and Apps](#).

Free! [AutoHotkey Tricks You Ought To Do With Windows!](#) This e-book includes both those tips and the reference material (Table of Contents and indexes) from the other three AutoHotkey books. Pick up a copy free and share it with your friends.

* * *



The 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](#) (preferred, EPUB format for iPad, Android, and computers; MOBI for Amazon Kindle; and PDF for printing) offers a gentle approach to learning AutoHotkey. (Also available from [Amazon](#) for the Kindle and Kindle software on other devices.)

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.

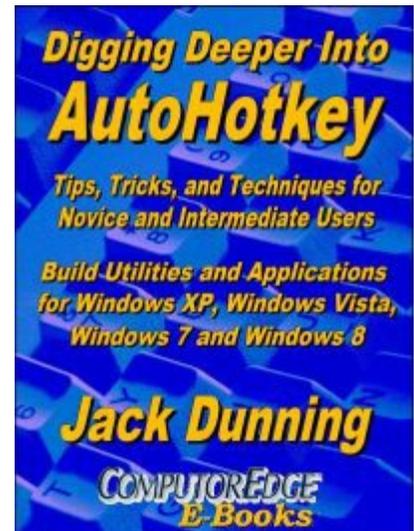
Based upon the series of articles in *ComputerEdge*, Jack takes you through his learning experience as he explores writing simple AutoHotkey scripts for adding repetitive text in any program or on the Web, running programs with special hotkeys or gadgets, manipulating the size and screen location of 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!](#)

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* * *

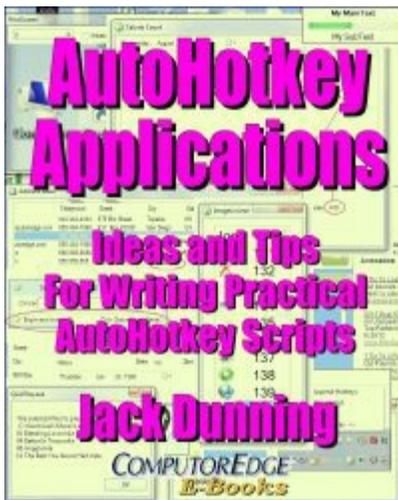
Jack's second AutoHotkey book, [*Digging Deeper Into AutoHotkey*](#) (preferred, EPUB format for iPad, Android, and computers; MOBI for Amazon Kindle; and PDF for printing) is comprised of updated, reorganized and indexed columns from *ComputerEdge* is now available. Since the columns were not all written 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. (Also available from [Amazon](#) for the Kindle and Kindle software on other devices.)



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

* * *



Jack's third AutoHotkey book [*AutoHotkey Applications*](#) (preferred, EPUB format for iPad, Android, and computers; MOBI for Amazon Kindle; and PDF for printing) is an intermediate level book of ideas and applications based primarily on the AutoHotkey GUI command. The book emphasizes practical applications. The book is not for the complete beginner since it builds on the information in the other two books. However, if a person is reasonably computer literate, they could go directly to this book for ideas and techniques without the other books. There is an extensive index to the ideas and techniques covered in the back of the book. (Also available from [Amazon](#) for the Kindle and Kindle software on other devices.)

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

[For a PDF version for printing on letter size paper for inclusion in a standard notebook of AutoHotkey Applications 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:

Recently released is Jack's FREE AutoHotkey book, [AutoHotkey Tricks You Ought to Do with Window](#), available exclusively at ComputerEdge E-Books in the EPUB for e-readers and tablets, MOBI for Kindle, and PDF for printing formats.

ComputerEdge E-books is offering his [AutoHotkey Applications](#), an idea-generating intermediate level e-book about using the AutoHotkey Graphical User Interface (GUI) command to write practical pop-up apps for your Windows computer. (It's not as hard as it sounds.)

[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

“Denial, Delusion, and Desperation” by Wally Wang

Wally Wang's Apple Farm

Denial, Delusion, and Desperation; Apple Building an Electric Car?; Announce the Time.

Most businesses get it wrong. They always look for a threat from a competitor who's offering similar products or services. Then they focus all their time and energy dealing with this direct competitor while completely ignoring the threat from indirect competitors.

In the old days, movie theaters saw other movie theaters as rivals. However, they failed to notice that the real threat to their business wasn't other movie theaters but the exploding popularity of movie rental services first from Blockbuster Video, then from streaming video offered by Netflix. While movie theaters could plan for the competition from other movie theaters, they had no answer for dealing with indirect threats from DVD rental services and streaming video competitors.

Only lately have you seen movie theaters fight back by offering gourmet food, comfortable seats, 3D glasses, and special nights for parents bringing crying babies to a theater. By offering something that indirect competitors can't offer, movie theaters are trying to attract people who want an experience beyond just watching a movie, which is all their indirect competitors can offer.

The future is clear for anyone willing to look. Your biggest threat will come from where you least expect it. The problem is that most people aren't willing to look. Instead people seem to go through three stages of Denial, Delusion, and finally Desperation.

At one time, the computer book business was extremely lucrative. That's because people needed information since most programs were fairly complicated to use such as Microsoft Office or Windows. Since programs only changed versions every few years, a computer book could sell for several years. Because computer books rarely needed updating, publishers could print books in large numbers to reduce the overall cost of each book, thereby increasing the profit per book.

The computer book business seemed so rosy that few authors heeded every warning that

trouble was lurking ahead. First, the cost of printing, storing, and distributing heavy computer books kept increasing. That by itself wasn't so bad but then the Internet became readily available to almost everyone. Now instead of buying a bulky computer book, people could easily find the answers to their questions using a search engine.

Then book stores started dying because fewer people were buying printed books. Then major programs started going through rapid updates. Instead of three or more years, major programs started going through updates every two years, and then every year. Apple releases a new version of iOS and OS X every year, which means by the time a computer book on OS X gets written, printed, and shipped to a bookstore, that book has less than a year to sell before it's completely out of date.

That means publishers can't print as many copies, which increases their overall cost per book to print. That also means book stores buy fewer computer books so they don't get stuck with obsolete books. Just visit any remaining book store in your neighborhood and notice how the computer book section has shrunk from several shelves to one or two with far fewer copies of any individual title.

At one time, I earned my living entirely from computer book sales, mostly from [*Microsoft Office for Dummies*](#). Today the amount of royalties *Microsoft Office for Dummies* earns in one year is equal to the amount of money it used to earn in one month. Imagine if you suddenly had to stretch your monthly income to last a year and that's the fate most computer book authors are in right now.

In the old days, computer book authors fought to write books on anything related to Microsoft because that's where the money was whether it was Windows, Microsoft Office, or C#. Then something changed. Microsoft completely missed the mobile computer revolution (thanks to Steve Ballmer, who earned a multimillion dollar bonus for his "leadership").

Suddenly, not only were computer books no longer as lucrative as before, but Microsoft knowledge was no longer as lucrative as before. Here's where most computer book authors went through an initial stage of Denial.

"PCs will be around forever," one computer book author calmly told me. "Everyone will always use Windows," another computer book author said. "Microsoft isn't going anywhere," yet another computer book author assured me.

In a way they were right, but they assumed that also meant that the world would continue paying top dollar for knowledge of Microsoft products. However as the world slowly shifted to iOS and Android, the Windows experts simply denied that Microsoft computer books could possibly be in trouble. Rather than look at the growing trends and the threats from all sides (increasing printing costs, decreasing book sales, Internet access to information that computer books used to provide, the shift to mobile computing, etc.), so many Windows experts found it easier to deny that life could ever possibly change for the worse.

As Apple took over the mobile computing market first with the iPhone and then with the iPad, many Windows computer book authors grudgingly admitted that their world was changing. However, rather than follow the money by learning about the iPhone, iPad, and Macintosh, many Windows computer book authors placed their faith on Windows Phone to compete against the iPhone and Surface tablets to compete against the iPad.

Their theory was that Microsoft was such a cash cow in the past that it would still be lucrative to stick with Microsoft today. Such a delusion meant that they continued to ignore the most profitable part of the mobile computer market, which was the iPhone and iPad.

Many Windows computer book authors also leaped on the Android bandwagon, assuming that Android would become the new Windows. Unfortunately for them, Android device manufacturers often customize Android to differentiate their Android devices from rival Android manufacturers. That means using Android on a Samsung phone will not always be identical to using Android on an HTC phone. The PC world never had to worry about this because a Dell PC ran Windows XP exactly the same as a Hewlett-Packard PC.

Even worse, people often bought PCs just to use Windows. Hardly anyone buys a mobile phone just to use Android. Instead, people buy a mobile phone because they want a mobile phone, and the cheapest phones just happen to run Android.

The typical Android user spends [far less money](#) buying digital products than iOS users, and Android users also spend less time browsing the Internet than iOS users. Since using Android is basically simple and few Android users care to learn much about Android, books about Android failed to sell like previous books about Windows.

Even writing books about OS X or iOS was futile because Apple rapidly updated both operating systems and made the iPhone and iPad relatively easy to use without making people read a manual or take a class. In the old days, most people couldn't use an Windows PC without reading a book or taking a class. Today, most people can use an iPhone or an iPad without relying on a book, so the whole mobile computer market also helped make computer books irrelevant.

Strangely, many Windows computer book authors went from the stage of Denial ("Everyone will always use Windows.") to Delusional where they believed Windows will make a massive come back with Windows 7/8/RT/10 and life will return back to the prosperous early days when everyone used a Windows PC and needed a book to teach them how to use it.

In the desktop market, Windows still dominates with a 90 percent share. However if you include mobile computers like smartphones and tablets, Windows now only has a 15 percent share. People didn't abandon Windows so much as they embraced iOS and Android. While Microsoft was focused on beating back direct competitors to Windows like OS X and Linux, they missed the mobile computer revolution that represented their worst indirect competitor.

With so many people using iOS and Android, there's less of a market for Windows experts.

That means most Windows computer book authors are seeing plummeting book sales with no hope in sight. After first denying that Windows could possibly be in trouble, then getting delusional that Windows could make a comeback and return to its glory days, most Windows computer book authors are facing the Desperation stage where their Windows computer book income is rapidly shrinking and their knowledge of Windows is no longer as profitable.

What can they do? They can write more computer books, but the entire computer book market is dying, so that's not an answer. They can stick with Windows and hope Windows 10 will take over the market again, but if that doesn't happen, they're already behind learning iOS, OS X, and Linux because other experts have filled their places long ago.

Their only hope is that Windows 10 will magically take over the mobile computer and wearable computer market while still dominating the desktop market. Maybe that will happen, but the odds are that people won't suddenly throw away their iPhones and iPads (and Apple Watches along with their Android devices) just to use Windows 10.

Basically, those computer book authors who clung to Windows for too long are now in the same situation that reality TV stars face after their shows go off the air. At one time, [Jon Gosselin](#) of "Jon & Kate Plus 8" fame was making \$10,000 a night just to appear in a nightclub. Now he's working as a waiter and making far less each night.

Yet this current crisis of many computer book authors could easily have been avoided if they had simply looked ahead. The time to look for alternatives isn't when you're desperate, but when life is going well so you have plenty of time and money to develop alternatives.

Imagine riding in a car that's heading towards a cliff. Only if you look straight ahead can you see the cliff, but if you look anywhere else, life looks rosy and comfortable. That's the initial stage of Denial by refusing to admit that there could be trouble ahead.

Now as the car reaches the edge of the cliff, you can still look behind you and see a peaceful scene, but if you look straight ahead, you can't avoid the danger. So rather than deal with impending trouble, most people prefer to indulge in wishful thinking, which is the Delusional stage.

That's when people hope that life will magically return back to the past in much the same way that you could wish that a car rolling towards the edge of a cliff will magically stop on its own and roll back up the hill where it's safer.

During this Delusional stage, there's still time to change, but most people prefer to substitute hope for action and wish for the past instead of changing in the present. Just read [these excuses](#) Blackberry fans use to insist why Blackberry phones still have a chance to see an example of delusional thinking.

Finally as the car hurtles off the cliff, you can look everywhere and see the danger. That's when Desperation sets in and that's when it's too late to save your current situation. Just ask

Radio Shack how long they stayed in the Delusional stage before finally declaring bankruptcy when they hit the Desperation stage.

It's easy to avoid desperation by always planning for the worst especially when times look their best. Unfortunately when times are good, most people close their eyes and assume that times will never change, and then they wake up one day and act surprised when it has changed.

At one time, McDonald's was the fast food leader. Now with declining sales, they're gradually facing tougher competition from other hamburger rivals. At one time, K-Mart and Sears were the leading retailers. Now Walmart has taken over and K-Mart and Sears will likely fade away. At one time, Windows was the dominant computer operating system. Now iOS and Android have taken over with little chance that Windows 10 will magically push them aside.

The lesson is simple. If life is going well, stay vigilant and start developing alternatives just in case. If life isn't going as well, hurry up and make drastic changes now. If your life is already falling apart, look to the past for how you might have ignored warning signs and resolve not to miss them the next time around.

It's never too late to change but it's always possible to get blind-sided at any time, so be ready. Just ask all those Windows or Blackberry experts who stubbornly avoided learning anything else if they would have made different choices earlier if they could do it all over again.

Apple Building an Electric Car?

One of the oddest rumors is that Apple is building an electric car. For evidence that this isn't wild gossip, Apple has hired several [automotive engineers](#). At first, people assumed Apple was simply researching their CarPlay system for how to make the entertainment system in a car easier to use. Now it appears that Apple is actually working on [redefining the automotive industry](#).

When you think of the typical Big Three auto makers, you see little innovation. For years, the auto makers resisted raising [fuel efficiency standards](#) because their big profits came from selling gas guzzlers. When gas prices shot up and people lost their jobs, suddenly gas guzzlers weren't selling and GM and Chrysler had to ask for a government bailout.

Even earlier, the Big Three resisted air bags, seat belts, and other safety features because they cut into profits. Historically, the Big Three auto makers have never cared about the consumer but only cared about maximizing profits at the expense of the consumer.

In far too many industries, the consumer is considered a sucker to be fleeced and the company's own workers are considered a nuisance that need to be paid as little as possible, preferably by shoving them into [company towns](#) where the company can overcharge workers for rent, utilities, and food. Early company towns even paid workers using company scrip so they couldn't spend their money anywhere else but in company stores that overcharged for

everything.

When you have a history of companies that think of money first and the general public dead last, you wind up with companies that routinely pollute and poison nearby residents, build shoddy and dangerous products that kill their own consumers, and create work places that ignore safety standards because they cost too much since killing or maiming their own workers is cheaper. If you want to see how American companies used to treat workers and the environment in the past, just look at what companies are doing by freely polluting and underpaying [workers in China](#) today.

At one point, wealthy business leaders in America even considered a military coup to overthrow Franklin D. Roosevelt and replace him with a Fascist dictator, which is detailed in the book [The Plots Against the President](#) by Sally Denton. Their goal was to establish a more favorable environment for their own businesses to thrive in the absence of government interference.

In 1938, Germany even awarded Henry Ford the Grand Cross of the German Eagle for his support. During World War Two, both Ford and General Motors subsidiaries in Germany helped build [weapons for the Nazis](#) and funneled the profits back to Ford and GM corporate headquarters.

With the checkered past of the Big Three auto makers that ignores people in favor of profits, the auto industry is ready for real competition. The Big Three auto makers basically hold a monopoly over the American auto industry (despite failing to keep out foreign car imports through the same government they ignored when it came to raising fuel efficiency standards).

If Apple could make personal computers easier to use, simplify smartphones while making them more versatile, and redefine tablets and laptops while standing up for worker rights in other countries (which every other computer company completely ignored during their heyday of the 80's and 90's), perhaps the idea of Apple building an electric car isn't that far-fetched after all.

Most likely, Apple will use their research into cars to improve their CarPlay in-dash entertainment system and research improvements in [battery technology](#) that could later improve battery life for MacBooks, iPhones, and iPads.

Apple may never develop their own car, but at least the company tries to focus on the consumer first because that's the best way to maximize profits. While other companies in practically every industry try to build the cheapest products possible that fall apart so you have to buy a new one shortly afterwards, Apple strives to build the best products possible. Just witness the decline of iPad sales because older iPads continue working well.

Wall Street would rather see Apple build shoddy iPads that fall apart and need replacing because that would increase sales of iPads over time. Apple would rather build products that keep working even if it means declining growth in iPad sales because that builds loyal and

repeat customers.

Which type of company would you rather buy a car from?

* * *

When working on a computer, it's easy to lose track of time. If this is a problem for you, let your Macintosh announce the time using its computer synthesized voice. Just click the Apple menu and choose System Preferences.

When the System Preferences window appears, click Date & Time. Then select the "Announce the time" check box.

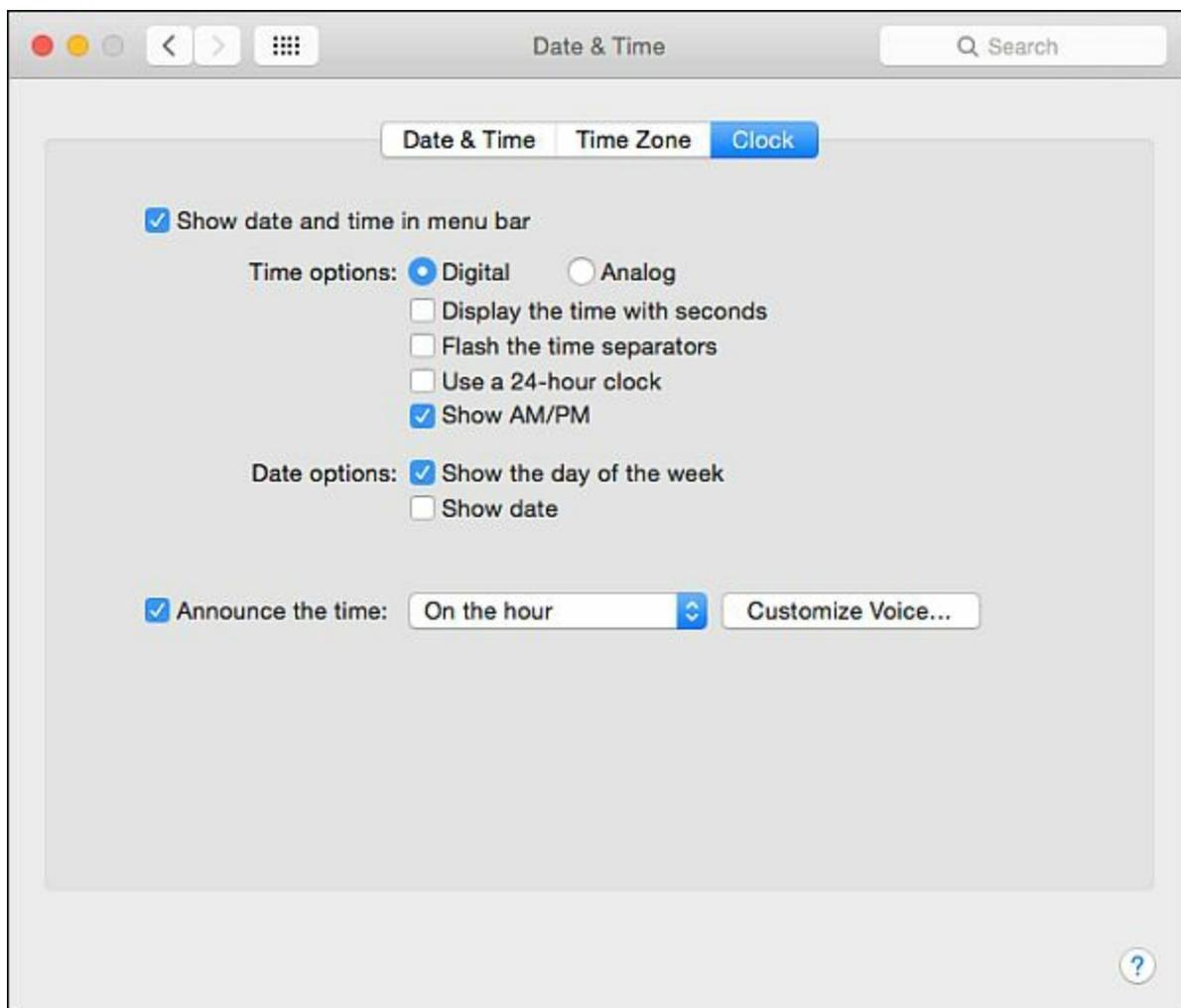


Figure 1. You can make your Macintosh announce the time out loud.

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](#)

[Math for the Zombie Apocalypse](#)

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

[Making a Scene: The Science of Scene Structure.](#)

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](#).



Editor's Letters: Tips and Thoughts from Readers

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

"TurboTax Turmoil," "POZ and Router Logon—Solved," "Archaic Universities"

TurboTax Turmoil

[Regarding Jack Dunning's January 30 [article](#), "TurboTax Turmoil":]

Thank you for the TurboTax article. I had the Deluxe Edition (from Costco) thinking that it still handled a Schedule C. If I have to submit my social security number to Intuit, they have lost me as a customer forever.

-Ed Tyson, San Diego CA

My fifth grade math teacher had us fill out form 1040s. We were not old enough to be scared of taxes, and it was great practice in using what he had been teaching us.

-Jim Amos, Denver, CO

While I am a superuser on TurboTax Live Community (aka Xpert Xchange), and have free use of TurboTax Premier, I still submit my tax forms on paper and simply use the computer to cross-check my calculator numbers. In my view it is criminal to charge for a state filing in any of the states I've resided in as their online and paper forms simply copy a few numbers from the federal return and add or subtract a few numbers related to easily found items like municipal bonds before computing my state tax. Even when I've had to file in multiple states the process has been no more complicated.

-Stewart A. Levin, Menlo Park, CA

Hey, Jack, thanks for the article about these changes. Thanks also for the competitor comparison. Not sure which way I'll go this year, but there's a fair chance I may decide to use one of the other products. Interestingly, I wasn't aware (because I never really checked) of how much cheaper some of the others are.

-Ray, La Mesa, CA

POZ and Router Logon—Solved

[Regarding the January 30 [Editors Letters: Tips and Thoughts from Readers column](#):]

To recap this issue, my original problem was that whenever I entered the router's address in the browser I received various search findings instead of the router's login page. A number of you have suggested other ways to enter the address, each of which provided me with the same search findings. The solution is to prevent the browser from using the address bar to search in the first place. In IE Internet Options, Manage add-ons, at the bottom of the page, uncheck the box "Search in the address bar and the search box on the new tab page." That solved the problem in IE. Maybe someone else can offer the solution when using Chrome.

-POZ, San Diego

Archaic Universities

[Regarding the January 30 [Wally Wang's Apple Farm column](#):]

The day has finally arrived when I can completely agree with Wally!

-Jim Amos

ComputerEdge always wants to hear from you, our readers. If you have specific comments about one of our articles, please click the "Tell us what you think about this article!" link at the top or bottom of the specific article/column at [ComputerEdge.com](#). Your comments will be attached to the column and may appear at a later time in the "Editor's Letters" section. If you want to submit a short "ComputerQuick Review", or yell at us, please e-mail us at ceeditor@computoredge.com. If you would like to review our recent e-books, please visit [ComputerEdge E-Books](#).

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