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**August 1, 2014**

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## A Show for the Technophile

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# Digital Dave

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

*Finalize a DVD After Recording?; Unwanted Windows Programs.*

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## Finalize a DVD After Recording?

*Dear Digital Dave,*

*Is there a way to finalize a DVD (-R or +R) after the fact? In other words, after a recording session has ended? My research has produced no usable results.*

*Thanks for your help and thanks for your ComputerEdge online contributions! I read them daily.*

*Dana*

*Colorado Springs, CO*

Dear Dana,

The process of finalization of a CD/DVD closes out the data adding any special formatting needed to play on any device. If all you're doing is adding data files as backup, then you may not want to finalize the disc since this will prevent anything else being written to it. If it is music or video that you want to play on another device, then you definitely want to finalize (close) the disc after adding all the files.

Most disc burning programs have finalization included as part of the sequence. You should be able to put the disc back in the drive and read the data with the same program. If so, then finalization or closing should be an option.

Be sure that the program reads the disc information first so that all the data previously added appears in the program's directory. I've heard that with some software if the files on an unclosed disc are not reread (don't appear in the list) before finalization, the disc might be finished as a blank disc. (This shouldn't happen with good software, but there's no accounting for everything out there.)

If you used Windows disc burner then you should be able to close the disc by reinserting it

into the drive, opening Windows Explorer (🗨️+E), selecting the disc icon, clicking the disc burner, and selecting Close session on the toolbar. See this article on how to [close/finalize discs](#) in Windows.

Digital Dave

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## Unwanted Windows Programs

*Dear Digital Dave,*

*I just got a new computer from HP. It was having an issue so I called HP. They took control and deleted CCleaner which I've always used and said it can conflict with McAfee security and I did not need it. What do you think about this?*

*Marian*

*Aquebogue, New York*

Dear Marian,

In my opinion, the unwanted program is McAfee security. It is known to cause some hassles with other software. Plus, it comes on many new computers as a free trial. Then, in 30 days, they want you to pay for a subscription.

One of the first things I do with a new computer is uninstall McAfee (and other pre-installed junk) and download [Microsoft Security Essentials](#). It's free!

If you have Windows 8 or 8.1, then Windows Defender security (the Windows 8 version of Security Essentials) is built in. At most, you may need to enable it after you rid yourself of McAfee. (Normally, only one antivirus program can be active at a time.) You will then be free to install your beloved CCleaner.

Some people are concerned about the ratings of various antivirus packages. At times Microsoft Security Essentials has done poorly in lab tests. However, I've been using it exclusively for years without a problem. But that may be due to the fact that I try to practice safe computing. I don't download unknown files, follow suspect links, or open strange files.

Digital Dave

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## OSCON: A Computer Show for Nerds

**“Open Source Enthusiasts Gather to Share Their Love of Free Software”** by Jack Dunning

*Jack takes a day to meet the people and explore the offerings of open source software.*

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Last week I attended [OSCON 2014](#) in Portland, Oregon. OSCON (Open Source Convention), sponsored by the technical book publisher [O'Reilly](#), is the ultimate symposium for nerds. It's all about that free software called open source and attracts attendees from all over the world. It's not a huge event like the Consumer Electronics Show and it is unlikely to interest the average person, but if you're really into all things computer, then you'll find plenty here.

The main thrusts of the event are the numerous seminars about various open source software packages. In fact unless you have a specific interest in "Optimizing Your Perl Development," "Introduction to Apache Hadoop," "Real-time: HTML5 and Node.js," or any of the multitude of other enigmatic seminars (the full package is about \$2000) on very specific pieces of software, you may be overwhelmed. However, if you're a technophile and want to meet like-minded people, then this could be the place for you. (If you just want to mingle with insiders and possibly get a job offer, you can get a \$25 Exhibit Hall pass for a couple days of the show. It includes a free lunch sponsored by Google.)

I only toured the Exhibit Hall because I didn't see any seminars with a compelling interest for me. (AutoHotkey has not risen to the level of general recognition to get the attention of this crowd. And, no, I didn't eat the lunch because I ate a decent breakfast shortly before arriving.) But I think that was enough to get the general flavor of the event for most *ComputerEdge* readers. Among the exhibitors were a few notables such as LibreOffice, Apache (who now



The story of open source software is a battle between zealots working to provide free programs to the populace and the evil empires (Oracle is at the top of the list) which try to eliminate the public competition at every turn. Whether it's LibreOffice which sprung out of the undoing of OpenOffice or MySQL which is now being chased by the open source MariaDB, history is replete with the same theme.

It starts when the original open source developer either tries to go commercial or, more commonly, the original source is purchased and closed with the idea of making a buck—but the open source community rebels. Since the software core is freely available, a new branch of the product emerges as a free alternative to the original. This is what happened when [Oracle tried to close the OpenOffice](#) suite of applications (word processing, spreadsheet, etc.). The OpenOffice development group abandoned Oracle (who had acquired Sun System, the original OpenOffice owner) and started the [LibreOffice](#) open source suite. Eventually, Oracle threw in the towel and turned the project over to the [Apache Software Foundation](#). While OpenOffice is still free and is regaining support through Apache, LibreOffice seems to have the momentum.

This is not unlike what occurred with AutoHotkey. Originally, the Windows utility program to use was AutoIt, but in 2006 the developers abandoned the free GNU General Public License (GPL). Chris Mallett, who due to a lack of response from the AutoIt community had started writing AutoHotkey a few years earlier, continued developing AutoHotkey as free open source software. A vibrant support community with very capable developers has since grown up around AutoHotkey making it absolutely the best free Windows utility software ever. (Want to know more about AutoHotkey? See our [Introduction to AutoHotkey!](#))

The story of [MySQL](#) open source relations database system falls along the same lines. There is a convoluted history of how Oracle got its hands on MySQL, but it did and the community was outraged. One of the cofounders of MySQL, Michael Widenius, started MariaDB as an open source alternative which has attracted wide support. (Widenius was in attendance at OSCON manning his own booth showing his personal support for the open source community.)

Oracle has become one of the most notorious computer companies. Outside of the general hostility from the open source community, the debacle with Cover Oregon (Oregon's Obama Care Web site which has never worked to this day) was an Oracle contract. There is plenty of finger pointing to go around, but it's safe to say the Oracle's reputation was not enhanced.

## Cryptic Company Names

Other than the big well known companies, I was struck with how obscure most company names were. As I stood in front of a booth it was almost impossible to tell what they were doing. If the name ended with DB, then I knew it was some type of database software. For example, MariaDB, as mentioned, is actually an offshoot of MySQL introduced by MySQL's

co-founder, Michael Widenius, with the goal of supplanting MySQL with MariaDB. This reaction was ignited when Oracle took over MySQL. (MySQL was named for Widenius' oldest daughter while MariaDB is named for his youngest daughter.) Other database packages shown were InfiniDB and MongoDB. See the trend?

The use of clever yet opaque names makes the problem of reaching people that much more difficult. I would stand in front of various booths trying to figure out what they did. Everything needs to be explained to me and, even then, I came away wondering what they really do.

## Most Notable New Development

The thing about hardware is it's hard. You can see, touch and feel it. Most of OSCON consists of software which defies easy description, much less a good visual representation. Even when software is explained, it consists of abstract concepts floating around in your brainpan. That's why I was fascinated by the FirePick Delta. It is a real object (see Figure 2).

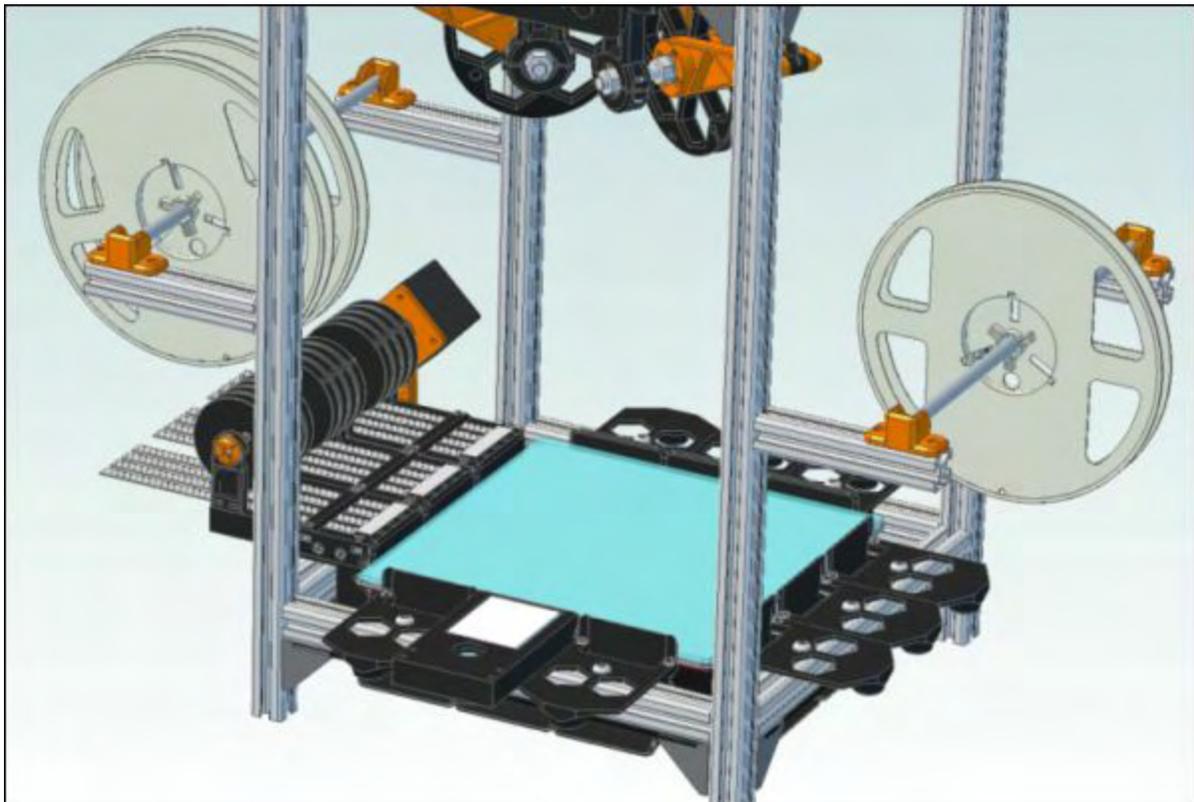


Figure 2. The FirePick Delta is a home garage type of device for stuffing parts onto printed circuit boards.

The [FirePick Delta](#) may do for printed circuit board assembly what the [3D printer](#) is doing for small parts manufacturing. It's a desktop machine that picks up small chips (from rolls of tape), places them accurately on a prefabricated PC board, and attaches them. While this can be done by hand, it's pretty clumsy and requires very tiny hands. Once the FirePick Delta is available, prototyping small runs of PC boards will be possible without the huge expense

encountered in today's manufacturing processes.

The FirePick Delta is based upon open source plans and hardware which means you can build one of your own ("[FirePick with delta configuration, 300mm x 300mm base, Raspberry Pi, and Arduino controller...](#)"). To be fair, the FirePick wasn't actually working at OSCON, but the person who built it was able to demonstrate how it operated by moving the arm manually. There is still a little work to be done.

## BYOC (Bring Your Own Computer)

If you are the type of person who would attend (and enjoy) this type of conference, don't forget to bring your own computer for the seminars—as if you ever go anywhere without it (see Figure 3).



Figure 3. It looks like all the attendees who spent the big bucks to go to seminars needed to bring their own computer.

## Freebies Galore

As I previously stated, OSCON is not the ideal show for the average computer user. I attended for two reasons. First, I thought that maybe I would find some interesting open source products to write about for *ComputerEdge*. The second reason was my brother, who lives in Seattle, asked if I wanted to go with him. (He was a systems person at Boeing.) Since, as far as I knew, this was the first show he was attending which didn't involve plant life and it had a remote connection with what I do, I said. "Why not?"

I've been to a lot of shows of various types over the years and one thing that is always popular is free stuff. Exhibitors give away candy, pens, toys, t-shirts and various other items to stuff into tote bags (also free). At most shows you need to kiss up to the vendors before you get any of the good stuff, such as t-shirts. There are just too many people at the big shows to offer the better (and more expensive) freebies to everyone. But at OSCON you didn't even have to ask for anything. If you merely hesitated in front of a booth trying to figure out what the company did, you'd usually be offered something. When they had small sizes, I picked up t-shirts for my grandkids.

T-shirts are considered primo freebies for any type of show. When you get one you really feel like you scored. It doesn't matter what's printed on the it. I've been at shows where people needed to jump through a number of hoops (plus place an order) to get a t-shirt. Not at OSCON! Unbelievably, I even turned down a few offers because they didn't have the right size. Who does that?

The most useful swag I picked up was an LED flashlight from HP. I had to pretend to watch a canned presentation while pressing response buttons on a remote, but it was worth it. It's the best flashlight I've seen for peering into the darkness behind a computer while reading port labels and serial numbers. (HP also had a tedious drawing for a tablet computer, but I didn't win.)



Figure 4. Other than the plethora of t-shirts, the flashlight and thumbdrive were the most useful freebies at OSCON.

The second best freebie was a USB flash drive from Rentrak which looks like a tiny TV remote. It only holds one gigabyte, but I've already made use of it. What makes it unique is its appearance. Since it looks like a TV remote, I can immediately recognize it. I have a bunch of SD cards and thumb drives laying around, but they all look alike. I have no idea what is on which device.

## Maybe Next Year

I'll probably go back again next year. It gives me an excuse to get out of the house. I wonder what it would take to get a booth for AutoHotkey. Humm.

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*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](http://www.computoredge.com). He can be reached at [ceeditor@computoredge.com](mailto: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 offering is 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?"](#)

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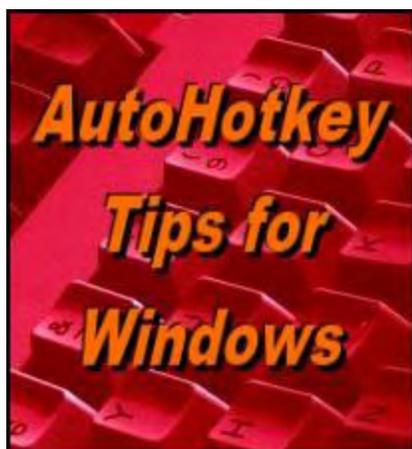
[Misunderstanding Windows 8: An Introduction, Orientation, and How-to for Windows 8 \(Seventh Edition\)!](#)

[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.



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

## Calorie Counting Revisited with AutoHotkey

**“After One Year, the Calorie Counting Script Comes Out of the Drawer for New Features”** by Jack Dunning

*Very few people stay on a diet for more than a couple of weeks. But that is two weeks every year. It's time to add new features to the Calorie Counting AutoHotkey app.*

---

It's been almost a year since I first started working on the Calorie Counter script, but lately I've taken a closer look at some possibilities left undone. In particular, I felt that it would be a good idea to use the food details already pulled into the app from the Web as a personal food dictionary. This would save the time of doing a search after the food had already been entered at least once. The trick would be to reformat the diet history data as a list of individual food items, display it in a reasonable format for selection, and quickly add a food item to the main Food Information view for editing. But first, let's review how the Calorie Count script works.

*The latest version of the Calorie Count app has been uploaded to the [ComputerEdge AutoHotkey download site](#). If you just want to run the app without using AutoHotkey, then a standalone EXE file for loading it on any Windows computer (just extract and double-click) is included in the [CalorieCount.zip download file](#).*

## How the Calorie Count App Works

The Calorie Count app is designed to record daily calorie totals in a way that the user does as little typing as possible. Rather than maintaining a food dictionary, it pulls the data from the Web site [CalorieCount.About.com](#). After a food keyword is entered into the Food Search field, a click of the Food Search button opens the default Web browser (only tested with Google Chrome, Firefox, and Internet Explorer) and navigates to the Calorie Count Web site. Once the user finds the desired food item on the site, a specific area of the page is highlighted for importing the text into the app. The key combination CTRL++ALT+C copies the text and parses it into the appropriate Food Information fields (see Figure 1). (There is also an Import Selected option in the right-click menu of the *CalorieCount* System Tray icon.)

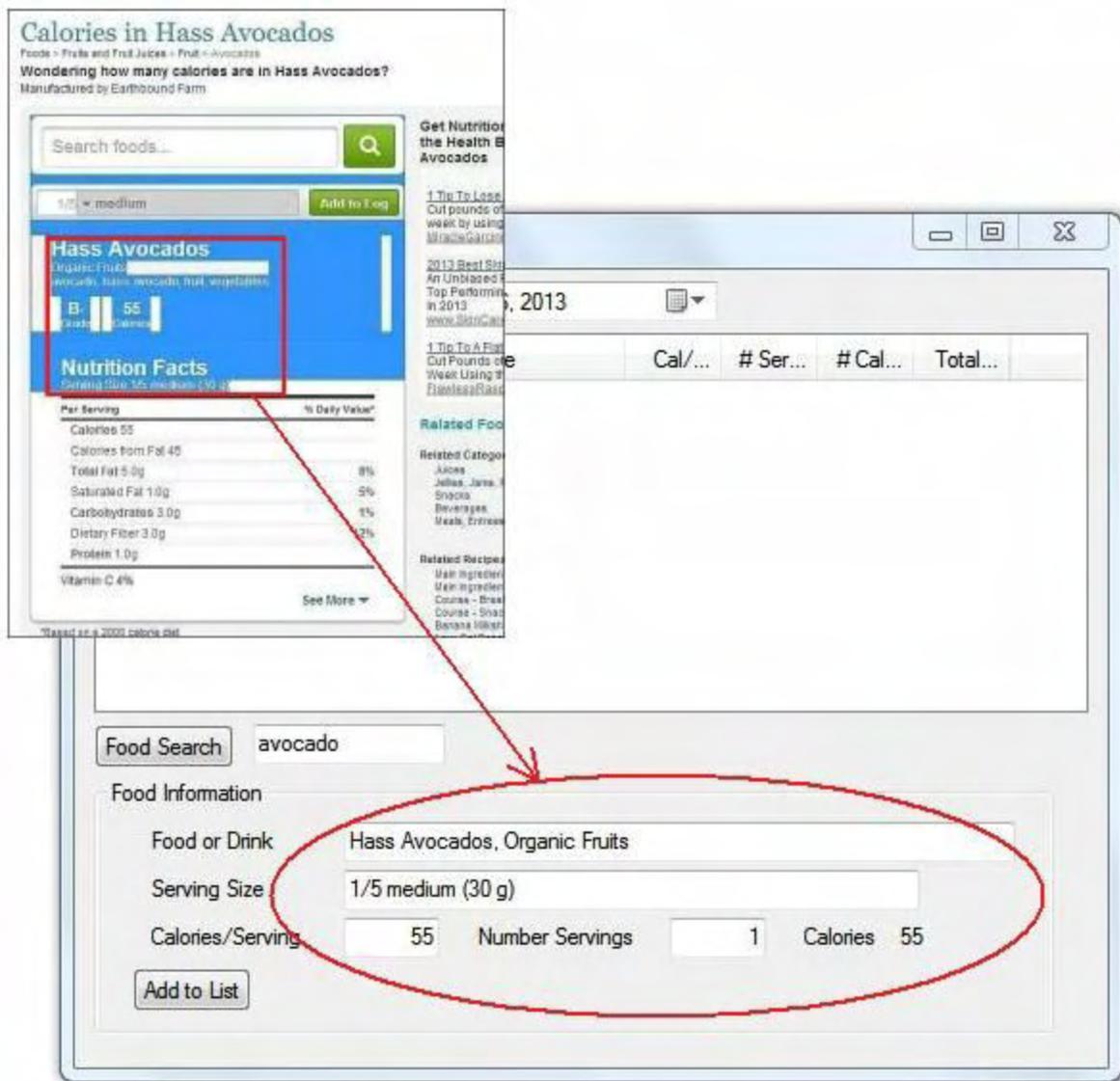


Figure 1. After the selection is made, the hotkey combination CTRL+WIN+ALT+C copies the food name, serving size, and number of calories from the Web site to the Food Information editing field in the Calorie Count window.

The exact technique for selecting information on the Web page is covered in "[A Free Windows Calorie Counting App](#)." Once the data is in the Food Information fields, the Number of Servings can be adjusted. All of the data can be changed to suit the user before adding the food to the list. To Edit or Delete an item already on the list, right-click and make the appropriate selection from the menu (see Figure 2).

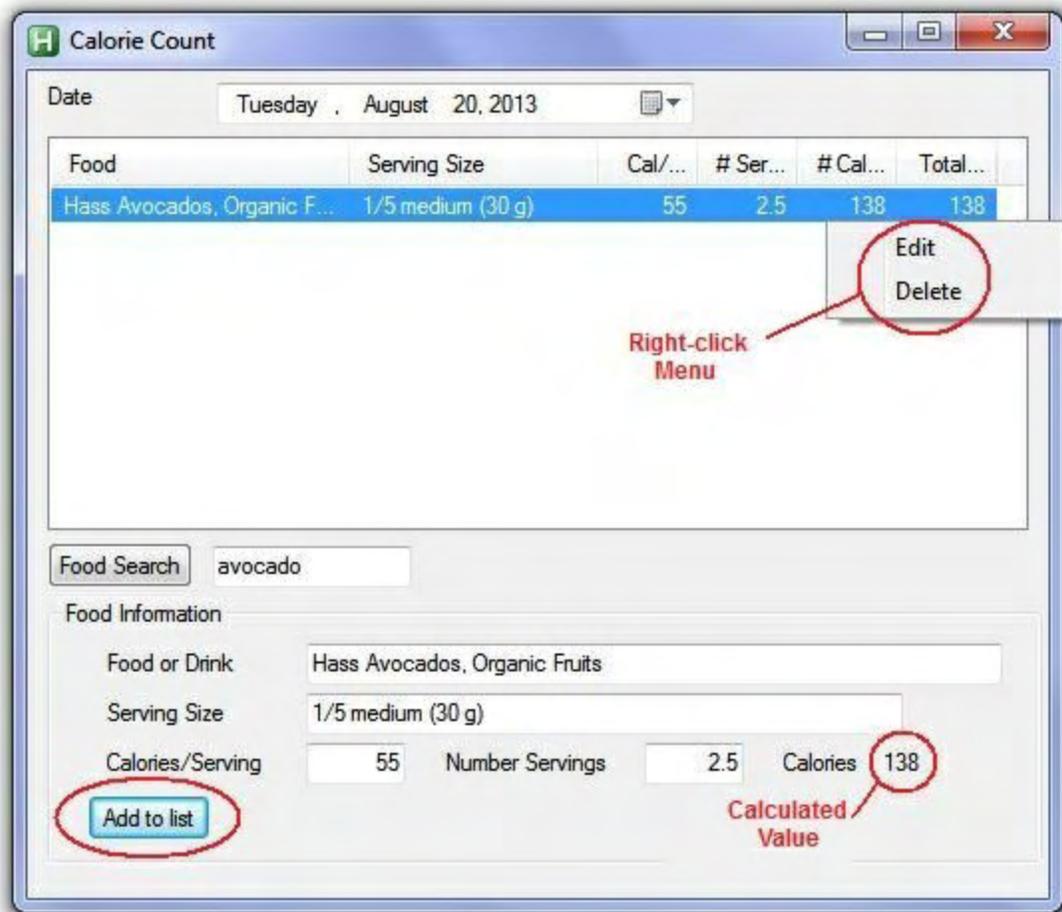


Figure 2. Click "Add to List" to insert the data into the ListView. Right-click on an item for options to Edit or Delete an item.

The number of calories per food item and the running daily total of calories are automatically calculated (see Figure 3). The food items are listed by day and the [DateTime GUI control](#) in the upper left-hand corner allows the user to change the day with either the pop-up calendar (right side) or by directly selecting the month, day, or year and entering a new date or using the up/down arrows. Weight is tracked on a daily basis by entering the amount in the Weigh-in field in the upper right-hand corner.

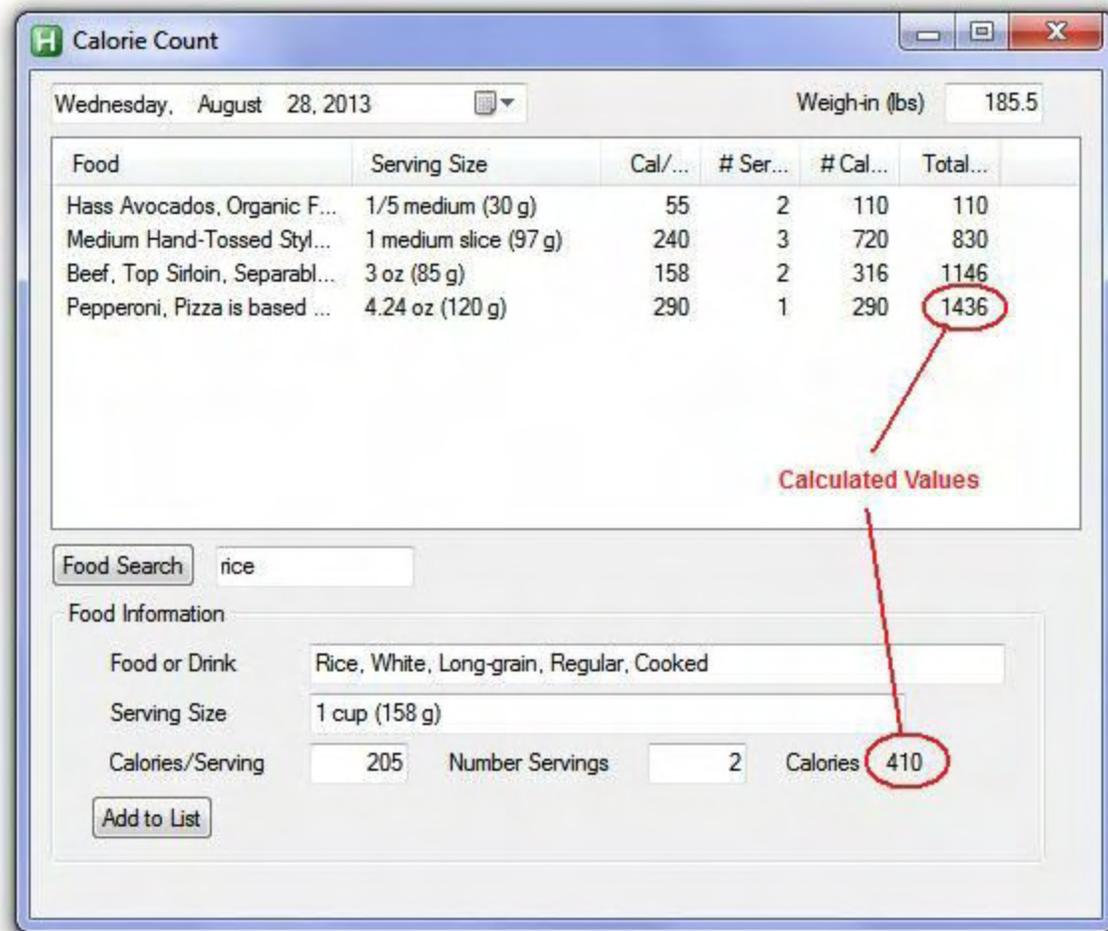


Figure 3. When food is imported into the Calorie count app the total calories are automatically calculated and displayed next to the text "Calories." The Total Calories column in the ListView is recalculated every time there is a change.

The Calorie Counter script is not designed to be a complete diet program, but rather a quick replacement for writing down daily calories in a small notebook. (This script was written to show what might be done with the [ListView GUI control](#).) It is fast and saves the data in a file when exiting the program. The script also makes an incremental backup at the same time. (If the user opens and exits the app on a regular basis, it may be necessary to delete some of the incremental backup files which start to accumulate. The incremental backup was added as an example of how that type of backup might be done, but it may be a bit excessive. I may change this in a later version.)

The main drawback to last year's version was that every time the same food items was needed, the user needed to either go back to the Web search or find it on another day and right-click => Edit, click the Update button to make it ready for "Add to List", then switch back to the current day before adding it. There had to be an easier way to do it.

## Changes to the Calorie Count App

My first shot at improving the Calorie Count app was to add a Copy option to the right-click menu as shown in Figure 4. This was an improvement since I no longer needed to click the Update button before the data could be added to any given day. However, I still needed to search through the various days to find the food I wanted, select the right-click Copy option, then return to the current day. That's too many steps and a little tedious. (I don't cover the AutoHotkey subroutine for the new Copy menu item in this column since it is merely a stripped down version of the Edit subroutine discussed in the AutoHotkey columns listed below.)

I opted to rework the data in the *CalorieCount.txt* file to create a list of all previously entered food items. The data items would need to be in alphabetical order while eliminating duplicates. Then, I would need a way to display the list for selection without too much complication or taking up too much space on the computer screen. I decided to use the Tab GUI control which adds tabs to any AutoHotkey window, see Figure 4. That way a click of each tab would switch between the Daily Calories tab and the Food List tab which holds the food history.

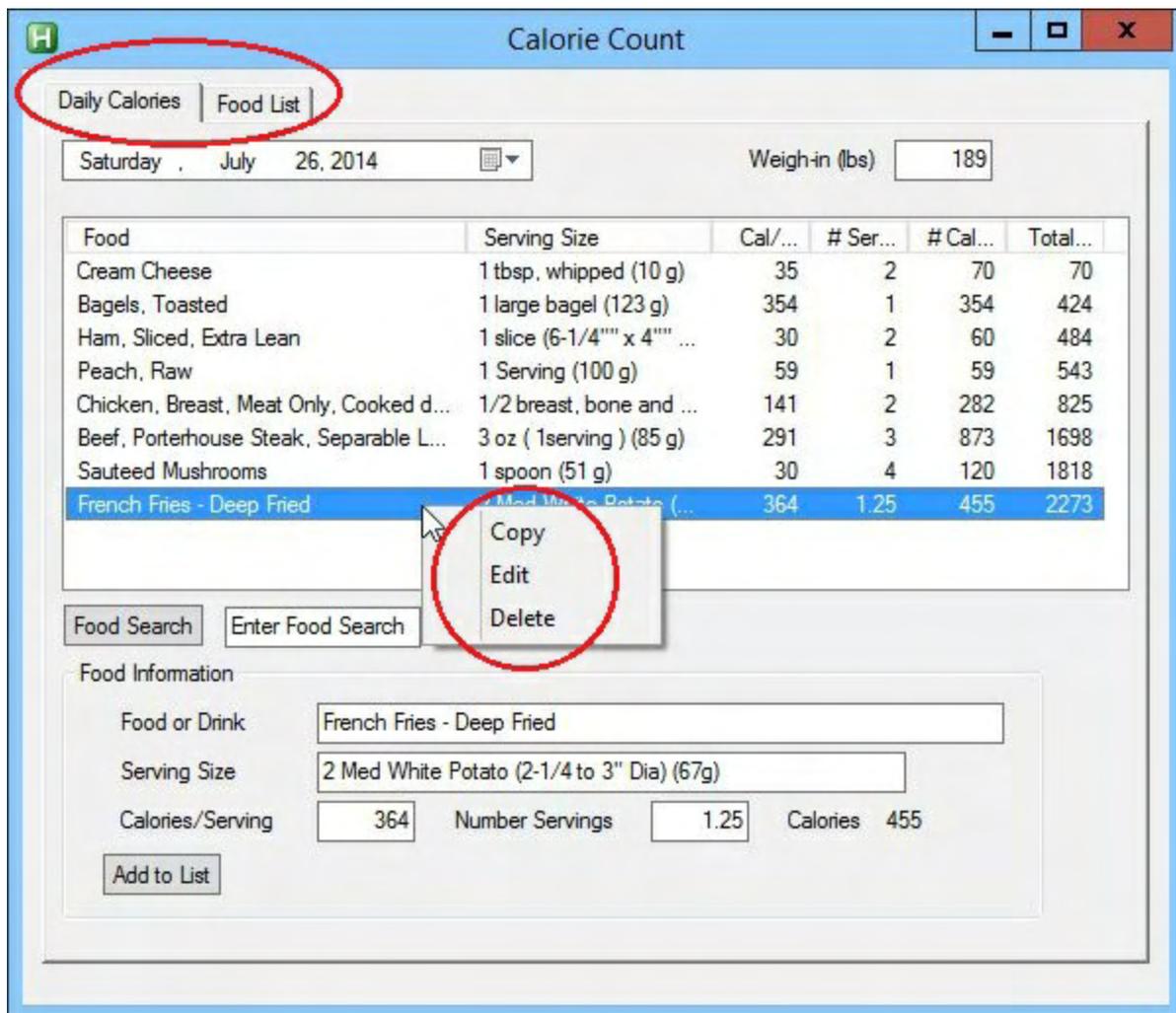


Figure 4. The latest version of the Calorie Count AutoHotkey script adds tabs for picking food details from the user's history. Plus a Copy option is added for any item already in the daily list.

I looked at a number of the other GUI controls for displaying the food list, but settled on *ListView* because it had the most flexibility and power, see Figure 5. However, the built in *ListView* functions only work on the last *ListView* created unless specifically reset. I would need to keep track of which *ListView* was active.

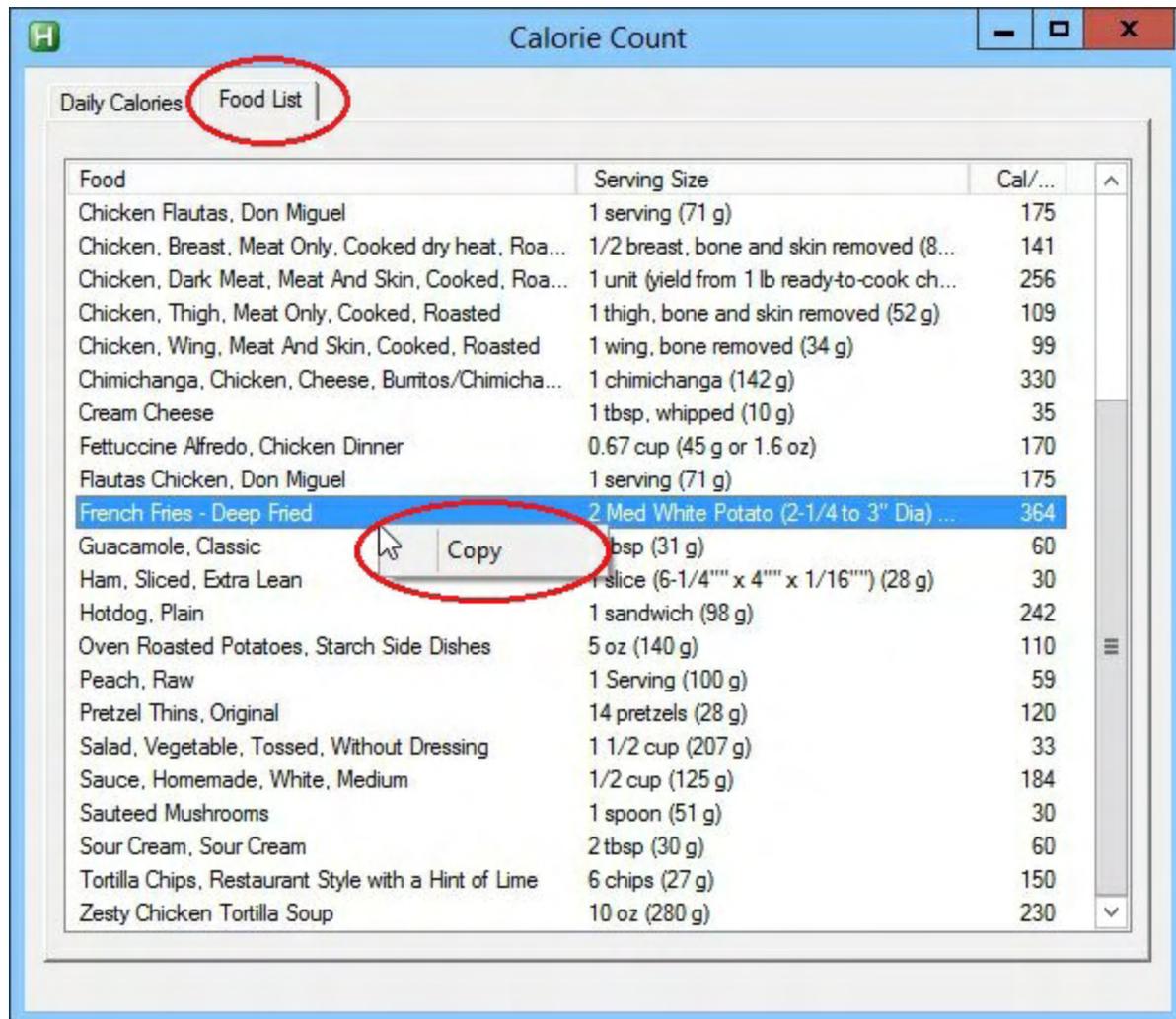


Figure 5. The Food List includes only one of each type of food previously added to the database. When Copy is selected from the right-click menu, the data is sent to the Food Information editing fields, then the Daily Calories tab (as shown in Figure 4) is immediately selected.

Now a previously entered food item can be selected for adding to the Daily Calories list by merely clicking the Food List tab, right-clicking on the target food and selecting Copy (currently the only option) from the menu. The data is added to the Food Information fields under the Daily Calories tab and the view is automatically switched to that same tab. If the list gets too long (a diet that last longer than a week or two), then hitting a letter on the keyboard will jump focus to the first item in the list which starts with that letter.

## Modifying the Calorie Count Script

There are a few modifications needed in the Calorie Count script. In fact, there are too many to explain in this column. It may take a couple of weeks. Listed here are three main techniques used in this new iteration of Calorie Counter which deserve particular attention:

1. How to sort a variable to eliminate redundant items—the same food entered on more than one day (*Sort* command).
2. How to display multiple lists without adding to the desktop space required (*Tab* command).
3. How to use multiple ListView controls (the best way to display the list) in the same script (*Gui, ListView* command).

None of these are beginning level AutoHotkey techniques, but they can all be used in a variety of apps. If you're not familiar with the writing of the Calorie Count script, then you can get up-to-date with the following AutoHotkey columns:

["A Free Windows Calorie Counting App"](#)

["The Calorie Counter App Update"](#)

["Making Calorie Count Import Work with More Web Browsers"](#)

["Build Your Own Special Purpose Calculator"](#)

["Putting a Data File in a Variable"](#)

These columns have since been updated and included as chapters 13 through 16 in the *AutoHotkey Applications* e-book available at [ComputerEdge E-Books](#) (preferred with the common EPUB format, PDF for printing, and MOBI for Kindle) and [Amazon](#) (Kindle only).

## Creating the Food History List

In the original script the entire *CalorieCount.txt* data file is read with the [FileRead command](#) into the variable (*CalorieCount*) for use in this app. This was done to eliminate disk access and the continual rewriting of the data file once the program is loaded. The only downside is if you happen to have a computer crash during a session, you will lose all of your changes. (Data is only saved when the program is closed.) This means that the entire food history is contained in the *CalorieCount* variable. Therefore, with a little manipulation, we can create a new variable which sorts the data and eliminates most of the duplicates. Most of the work is done with the [Sort command](#) which puts any variable in alphabetical order.

The *CaloriesCount* variable is already sorted in date order. By default the *Sort* command places variable data in order based upon what's found in the beginning of each line. In order for the list to be sorted by the food name that name needs to be first in each line terminated by a carriage return. The easiest approach might be to write a new variable with only the data needed (food name, serving size, and calories per serving) placing the food name first.

The following AutoHotkey routine parses the *CalorieCount* variable while creating a new

variable, *FoodList* which contains only the food name, serving size, and calories per serving:

```

Loop, parse, CalorieCount, `n
{
  If (A_index = 1 and SubStr(A_LoopField, 1, 1) = "x")
  {
    Continue
  }
  Else
  {
    Loop, Parse, A_LoopField , CSV
    {
      RowData%A_Index% := A_LoopField
    }

    StringReplace, RowData2, RowData2, ",", |, All
    StringReplace, RowData3, RowData3, ",", |, All

    FoodList := FoodList . """" . RowData2 . """, """" . RowData3 . """, " . RowData4
  }
}
Sort, FoodList , U

```

This is a modified version of the routine with creates the variable *CalorieCount* from the *CalorieCount.txt* data file. The *Sort* command orders the *FoodList* while stripping out duplicates.

## How It Works

The *Loop, Parse, CalorieCount, `n* line uses the [Loop, Parse command](#) to read through the variable *CalorieCount* line by line. The *`n* is the new line character which marks the end of each line of data in the file and tells the *Loop* to jump to the next line. This loop on each iteration puts the line data into the built in variable *A\_LoopField* until it reaches the end of the file.

The *If (A\_index = 1 and SubStr(A\_LoopField, 1, 1) = "x")* line is there to make sure that the first line of the data which holds window positioning information is skipped ([Continue command](#)). The work starts in the *Else* portion of the *IF* conditional.

The *Loop, Parse, A\_LoopField , CSV* line creates a secondary loop which parses (breaks apart) each line contained in the variable *A\_LoopField*. A food item line in the *CalorieCount* variable contains seven pieces of data in the CSV (Comma Separated Values) format. (CSV format is discussed in the "[New Windows Address Book](#)" AutoHotkey column and Chapter Eleven of the [AutoHotkey Applications](#) e-book.) As each line from the main loop is parsed, the data value is placed in the built in variable *A\_LoopField* on each iteration of the secondary loop.

These individual data items can be captured by assigning each to a variable with the `RowData%A_Index% := A_LoopField` line. `A_Index` is another built in variable which keeps track of the iteration number within any loop. By concatenating it to `RowData` (or any other new variable) with `RowData%A_Index%` each data item is assigned its own variable (`RowData1`, `RowData2`, `RowData3`, ...) for later use.

Only `RowData2` (food name), `RowData3` (serving size), and `RowData4` (calories per serving) are needed for the new `FoodList` variable. On each iteration of the main loop, those variables are saved to the new `FoodList` variable in CSV format:

```
FoodList := FoodList . """" . RowData2 . """, """" . RowData3 . """, " . RowData4 . "`r`r
```

The `FoodList` variable will later be parsed when added to the new Food List `Listview`.

There are complications when a double quote (") appears within text data in CSV format file since quotes and commas are used to delimit text fields (""). In AutoHotkey double quotes which appear within data (for example, " for inches) are generally preceded with another double quote (""") to prevent misinterpretation. (I spent a great deal of time on this issue with last year's version of this Calorie Count script.) Here the simplest way to deal with the problem is to remove all the double quotes by substituting another character:

```
StringReplace, RowData2, RowData2, ", |, All
StringReplace, RowData3, RowData3, ", |, All
```

In this case, the vertical line (|) is used. At a later step (before the data is added to the Food List `Listview`), the process will be reversed adding the double quotes back into the data. Now the data needs to be sorted.

## Using the Sort Command

The [Sort command](#) is a powerful, fast tool for arranging data within variables in alphabetical (or numeric) order. The `Sort` command rewrites a variable placing each line of the variable (terminated with a carriage return) in order based upon the included options. There are a number of options (including functions) which can be added to the command, but the most useful one for this application was `U` (Unique) which eliminates duplicates.

The `Sort`, `FoodList`, `U` worked well, but, since it only eliminated a duplicate if the entire line matched, there could be more of the same item (and at least one blank) if even the slightest edit was made before entering the food item into the Daily Calories. For now, this is good enough. The variable `FoodList` is in alphabetical order and contains everything needed for the food history list. There will be another opportunity to further filter the list when it is added to the new `Listview`.

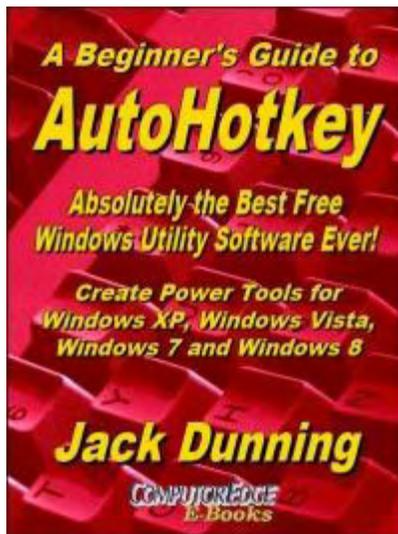
Next week, I will address the problem of expanding the capacity of the Calorie Count window

(without taking up more space) by adding tabs.

\* \* \*

Recently released and free from ComputerEdge E-Books! [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 below. 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.

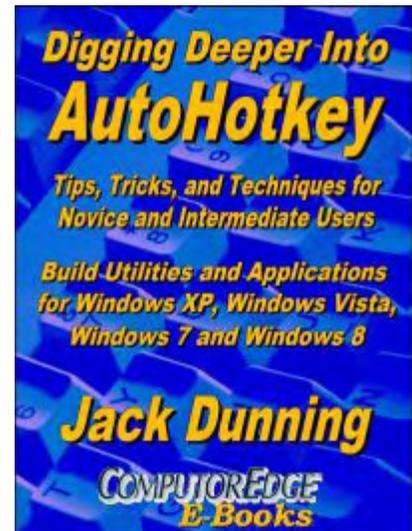
Based upon the series of articles in *ComputerEdge*, Jack takes you through his learning experience as he explores writing simple AutoHotkey scripts for adding repetitive text in any program or on the Web, running programs with special hotkeys or gadgets, manipulating the size and screen location of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

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

\* \* \*

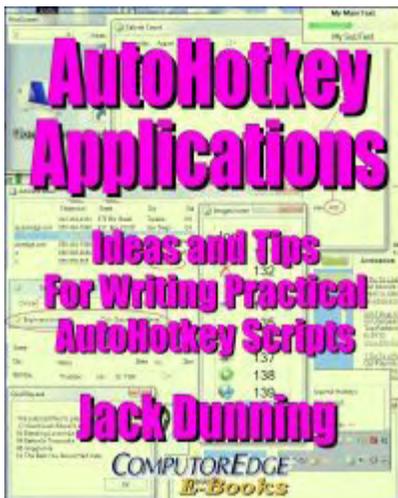
Jack's second AutoHotkey book, [\*Digging Deeper Into AutoHotkey\*](#) (preferred, EPUB format for iPad, Android, and computers; MOBI for Amazon Kindle; and PDF for printing) is comprised of updated, reorganized and indexed columns from *ComputerEdge* is now available. Since the columns were not all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



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!](#)

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*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](http://www.computoredge.com). He can be reached at [ceeditor@computoredge.com](mailto: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 offering is 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

**“Apple's Increased Research and Development Budget”** by Wally Wang

## Wally Wang's Apple Farm

*Apple's Increased Research and Development Budget; Viewing iPhone/iPad Content on a Computer; Windows Developer Announces Macintosh Software; The Internet of All Things; Wildman Phil Interactive E-Book; Stellar Mail Converter.*

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In 2013, VW, Samsung, Microsoft and Intel all spent more money than Apple in research and development. Yet while Apple has released the iPod, iPhone, iPad, MacBook Air, and Mac Pro over the years, what kind of innovation have other companies gotten for spending more money than Apple?

Strangely, Apple has suddenly increased their research and development budget to an extent not seen since 2006 right before Apple released the iPhone. Analysts speculate that Apple's sudden [budget increase](#) for research and development means that the company will likely release a new product soon such as their rumored wearable computer tentatively dubbed the iWatch.

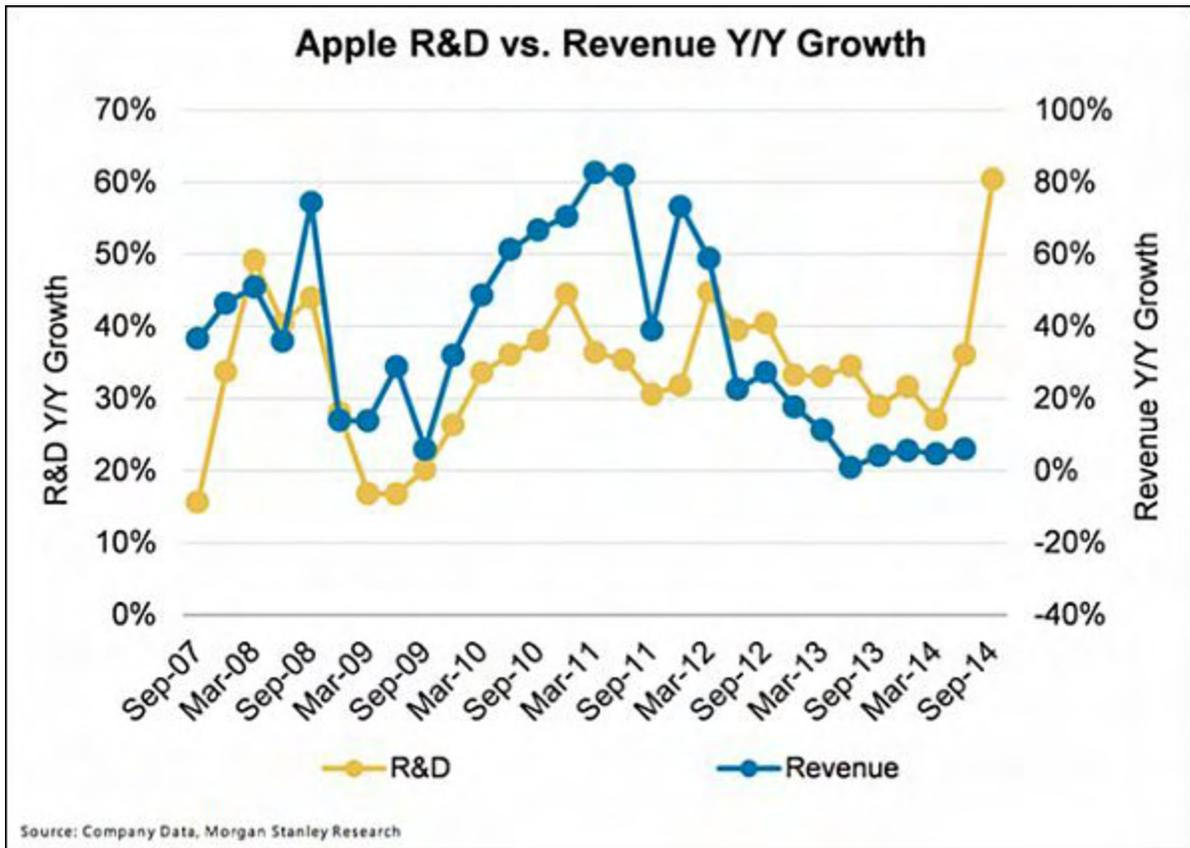


Figure 1. Apple's research and development budget has suddenly skyrocketed.

Of course if you simply study Apple's own hints about their [HealthKit](#) software development kit, you can see the future right in front of your face. HealthKit lets you store health-related data in a database, yet the type of health information involves obscure data such as sleep patterns and Vitamin D levels. How can you reliably get this data without a wearable computer that can accurately track this information for you automatically?

A larger iPhone is obvious this fall along with a wearable computer. You can also expect greater use of Siri for controlling your car using [Apple's CarPlay technology](#) as well as using Siri to control your home using the [HomeKit](#) software development kit. With Apple targeting so many different markets, it's obvious that their research and development budget is busy pursuing new opportunities beyond the traditional PC, smartphone, and tablet markets.

This fall promises to be a busy one for Apple. Not only will they release OS X Yosemite, but they'll likely also release brand new Macintosh models just in time for the holiday buying season. Next, expect the release of iOS 8 to coincide with the release of the new iPhone along with the rumored iWatch computer too.

While the PC market continues to struggle with flat or declining growth, Macintosh [sales rose 18 percent](#) in the last quarter. How can more expensive Macintosh computers continue selling while less expensive Windows PCs struggle?

The only negative news regarding Apple involves declining iPad sales for the second quarter in a row. While some people think the tablet market was just a fad, it's more likely that people don't see a need to upgrade their tablets with the same frequency as they upgrade their smartphones.

For many people, the iPad 2 still works just fine, especially given new software updates from Apple. When you don't need to keep buying new tablets because they keep working, tablet sales have to keep reaching new customers. Tablet sales aren't falling because tablets aren't useful but because they are useful and don't need to be replaced as often.

Overall, the tablet market actually [grew 11 percent](#) in the last quarter. However sales of low-end Android tablets are likely eating into sales of iPads. Low-end tablets will continue growing in popularity, but manufacturers will earn razor-thin profits on each one. In the meantime, Apple can continue raking in profits from existing iPad users every time they buy music, books, or apps through Apple's various online stores. Sales of iPads may not keep growing, but Apple still sells around \$30 billion dollars worth every year, so the tablet market is [far from over](#).

The future for Apple continues to look rosy. Wait for this fall to see updated Macintosh models along with a new iPhone model. Then wait for the HealthKit, HomeKit, and CarPlay revolution to arrive too. Chances are good Apple's growth is far from over while the same can't be said for rivals like Blackberry or Dell Computers.

## Viewing iPhone/iPad Content on a Computer

If you have an iPhone or iPad, you can capture static images by pressing the on/off button at the same time you press the Home button. You should hear a noise to confirm you captured an image and then look in your Photos app to see that image. Now you can transfer that image to your computer through its USB cable.

However, if you want to capture video of an iPhone or iPad screen, you're out of luck. One clumsy method is to hold a video camera over your iPhone or iPad screen. A far better solution is to use a unique program called [AirServer](#), which works on both Macintosh and Windows PCs.

Just run AirServer on your computer and connect your iPhone or iPad to that computer with its USB cable. Now swipe up from the bottom of your iPhone/iPad screen and look for the AirPlay icon. Tap this AirPlay icon and you can choose to connect your iPhone/iPad with your computer.

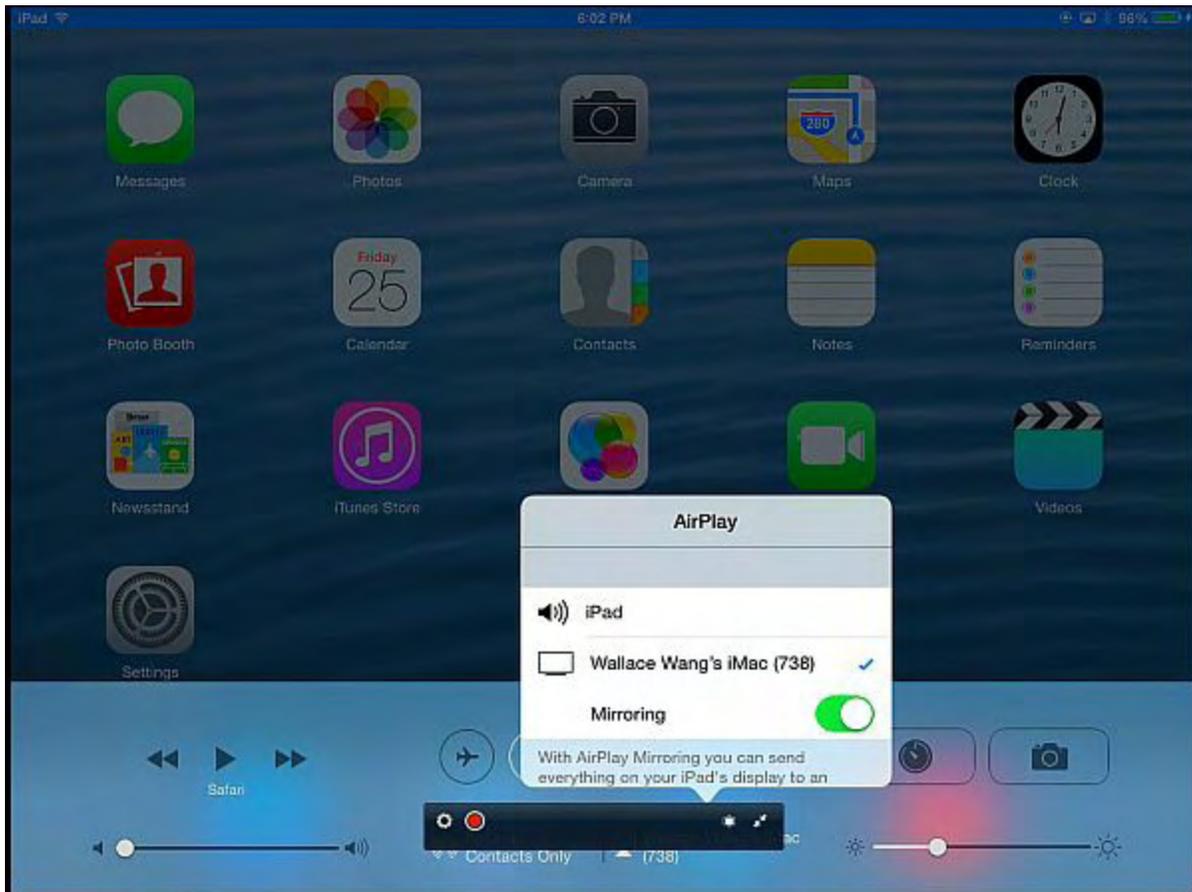


Figure 2. AirServer lets you connect the image on an iPhone/iPad to a computer.

Once you connect, everything you see on your iPhone/iPad screen gets mirrored to your computer screen. Now you can demonstrate actions on an iPhone/iPad in front of others so you don't need everyone crowded around your tiny iPhone/iPad screen.

Even better, AirServer lets you record video of your iPhone/iPad activity. Now you can capture video demonstrating different apps or create tutorials for showing people how to do something such as connect their iPhone/iPad to a company network. (Download an [AirServer demonstration video](#) recorded from an iPad.)

For iOS developers, you can demonstrate a prototype of your app in a conference room and let everyone see how your app works by watching the much larger computer screen instead of the tinier iPhone/iPad screen.

If you regularly FaceTime your friends or colleagues, you can use AirServer to capture both the video and audio of your call. If you play games, capture video of your game to show others your techniques.

If you need to capture video of any activity on an iPhone/iPad screen, you'll want to use AirServer. After you capture video, you can modify that video by changing its brightness, contrast, or hue. AirServer saves your video as QuickTime files so you can later import them

into a dedicated video editing program for more sophisticated editing if you want.

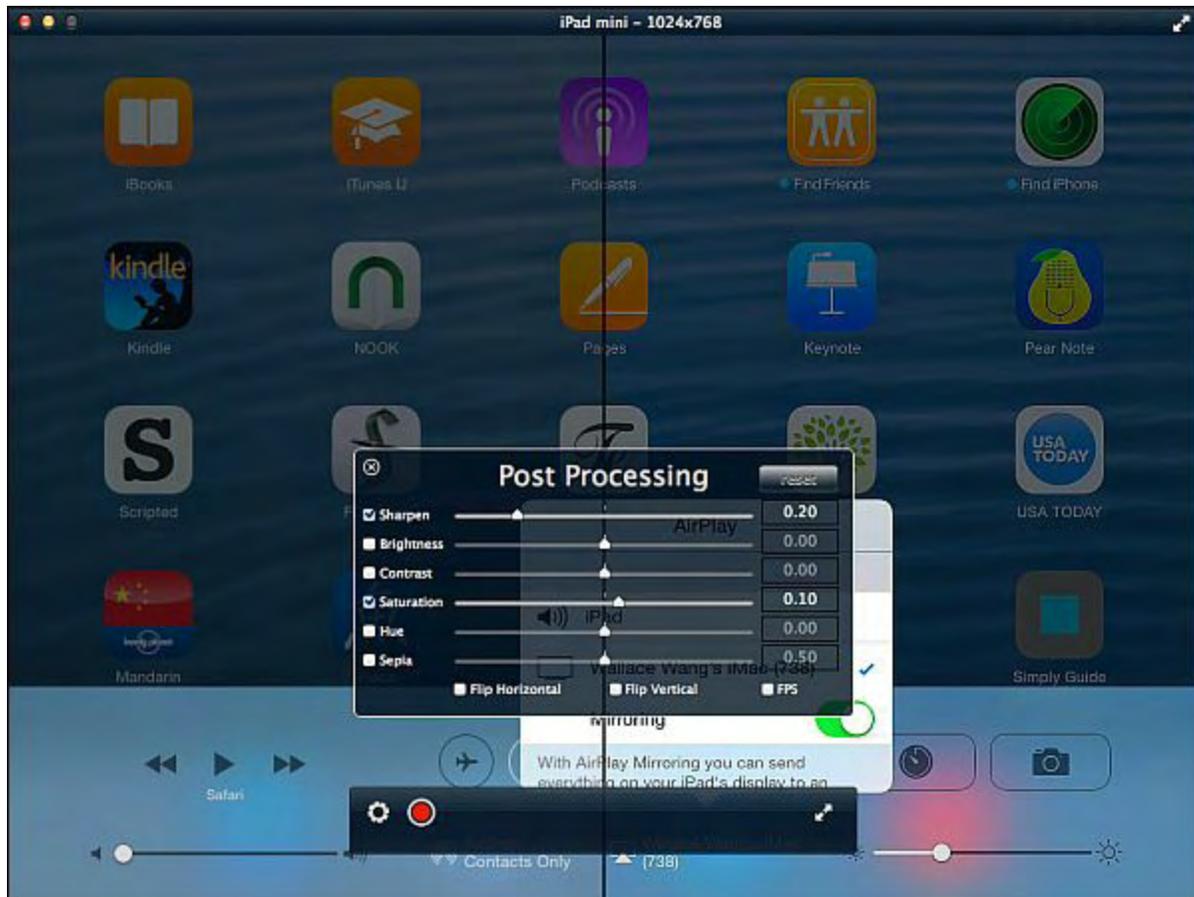


Figure 3. AirServer lets you modify your captured video.

If you're just a casual iPhone/iPad user, you probably won't need a program like AirServer. However, if you use your iPhone/iPad for work, AirServer can be a crucial program that you won't realize you need until you actually start using it. If you need to display the contents of your iPhone or iPad to a larger screen and need to capture both the audio from your iOS device along with additional audio captured by your computer microphone, get AirServer. Its low cost (\$15 and up) and ease of use means you won't be disappointed.

## Windows Developer Announces Macintosh Software

For 25 years, Serif created software strictly for Windows. However they're now releasing several programs [specifically for the Macintosh](#). Most likely the company saw the growing opportunity with the Macintosh market and realized that they could no longer remain a Windows-only software company any more.

Serif's Macintosh software suite will consist of Affinity Designer, Affinity Photo, and Affinity Publisher. Affinity Designer is a vector-based drawing program designed to entice away users hesitant to sign up for Adobe's monthly subscription program. Affinity Photo will let you edit

photographs while Affinity Publisher will provide desktop publishing features.

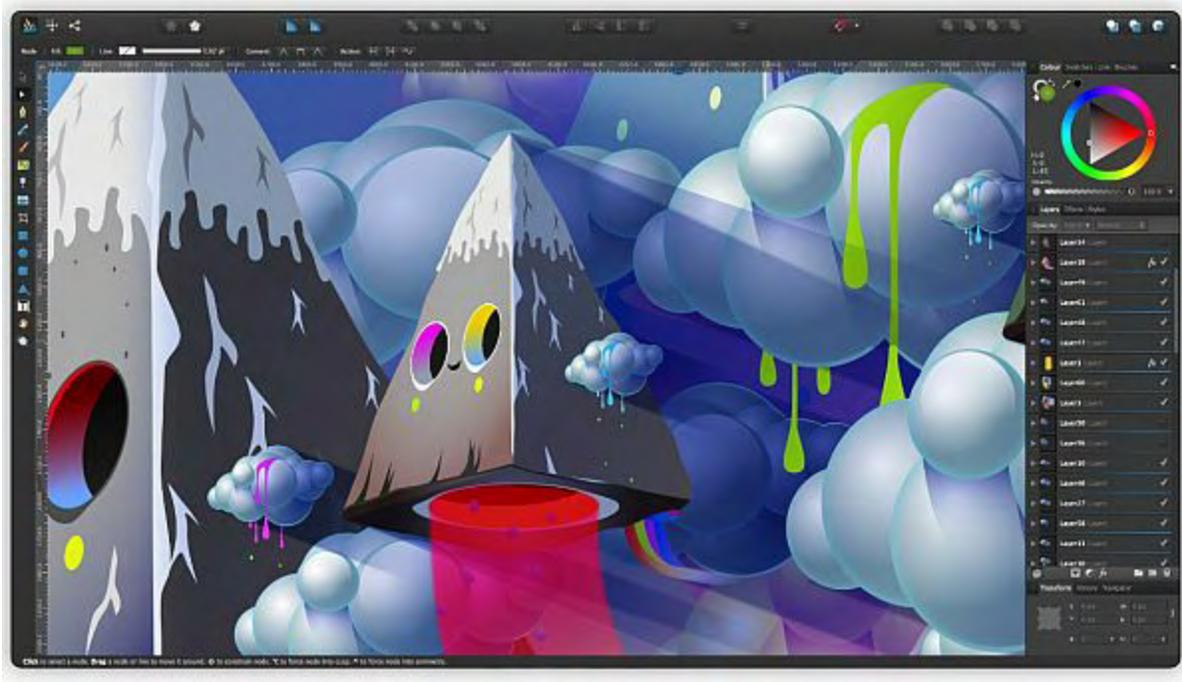


Figure 4. Affinity Designer can meet the needs of Photoshop and Illustrator users.

Amazingly, Affinity Designer will only sell for \$49.99 but you can actually test a [beta version](#) of the program for free. Since Affinity Designer takes advantage of OS X features like OpenGL, Grand Central Dispatch, and Core Graphics, you can be certain that Affinity Designer won't just be a weak port of a Windows program but a dedicated OS X program right from the start.

With companies like Serif recognizing the growing Macintosh software market, it won't be hard to find more software designed specifically for OS X. If you want a computer that can run Windows software (either through virtual machine software or as a dual boot option) and OS X specific software, your only choice is to get a Macintosh. If you want a more limited computer with access to a smaller library of available software, you already know which computer you can buy.

## The Internet of All Things

There's a growing trend to connect everything to the Internet. While some people may claim that the Internet is useless because it doesn't exactly duplicate the features of a 2400 baud modem and an electronic bulletin board system (BBS), most people accept that the Internet has given us more choices than previous technology couldn't deliver.

Now a company called SST has found a unique use for microphones connected in a network. They developed a program called ShotSpotter, which uses multiple microphones to pinpoint

the [location of gunshots](#). In tests, ShotSpotter detected gunfire faster and more accurately than people could do by calling the police.

ShotSpotter works by noticing the distance that sound travels to reach multiple microphones. The faster sound reaches a particular microphone, the closer the gunfire is. By tracking sound through multiple microphones, ShotSpotter can pinpoint the location of the gunshots.

In Kruger National Park in South Africa, ShotSpotter can help authorities locate poachers firing at wild animals. Since the national park is so large, it's nearly impossible for park authorities to watch the entire area so ShotSpotter helps them zero in on gunshots that signal the arrival of poachers.



Figure 5. ShotSpotter lets authorities locate gunshots by triangulating sound.

Cities such as Miami, Milwaukee, Boston, Oakland, and Washington, D.C. are testing ShotSpotter and the company is looking at installing ShotSpotter in college campuses to help police locate gunmen in school shootings. Put ShotSpotter technology in public school buildings and now the police will be able to track the location of gunshots and the gunman.

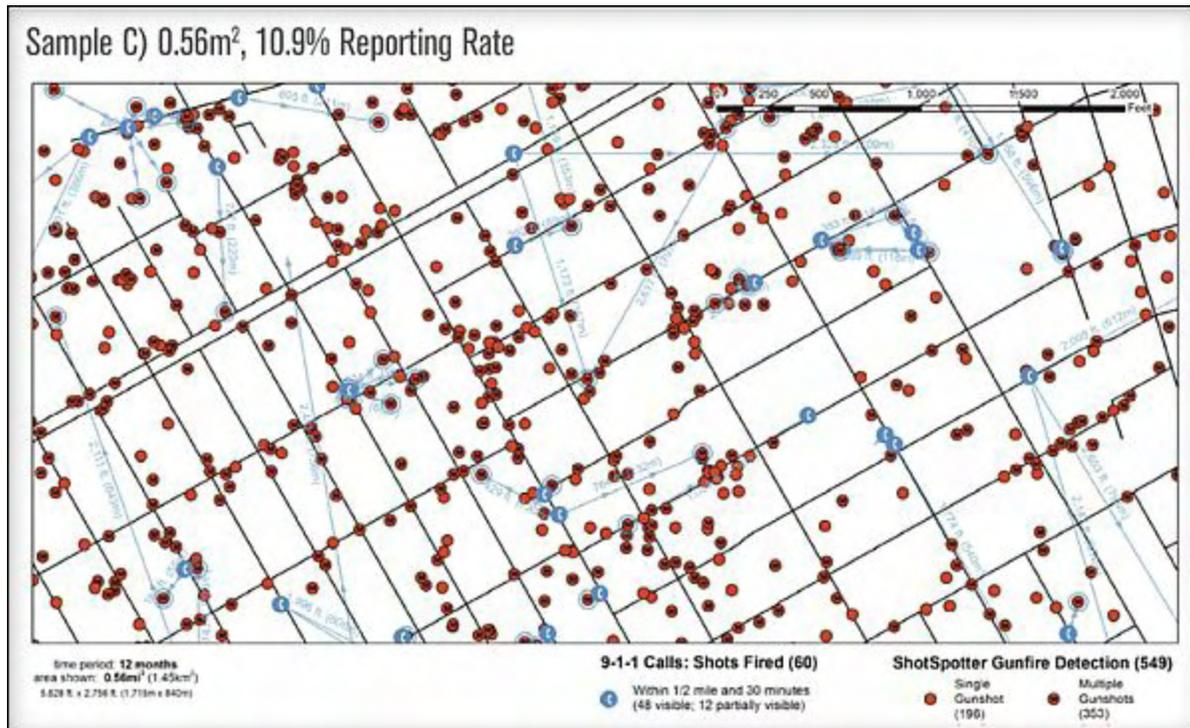


Figure 6. ShotSpotter can create maps of gunfire to help police identify more dangerous neighborhoods.

The idea of connecting multiple items to the Internet forms the basis for Apple's HomeKit. While most homes won't need technology like ShotSpotter to detect gunfire, you can already see the benefits of connecting seemingly trivial items like microphones to a network. By using your imagination, you can already see how connecting more than just computers to the Internet can tackle seemingly difficult problems. While ShotSpotter focuses on gunfire, other systems could track traffic flow on roads so you can get real-time updates on traffic jams and the best roads to avoid delays.

Scale this technology down to your house and you can see how HomeKit could help you track movement of an intruder so police will know how many intruders to expect and exactly where they might be in your home. Use the same technology to keep track of your pets so you can watch them from afar and even put out food for them remotely using various feeding devices connected to the Internet.

The Internet is more than e-mail and Web pages, but a communications medium that has yet to be fully exploited. While unimaginative people cling to obsolete technology and angrily defend their choices in the absence of facts, people with imagination can see possibilities and take advantage of them to help solve problems that current technology can't solve on its own.

When new technology arrives, just ask yourself if it solves a problem that was difficult or impossible to solve before. If so, then you'll know that that new technology is worth pursuing for the future.

## Wildman Phil Interactive E-Book

Around Arizona, Philip Rakoci is a local legend better known as "Wildman Phil." As Wildman Phil, he travels to different schools and community events, teaching kids about the wonders (and dangers) of the local wildlife that thrives in the desert that fills Arizona such as rattlesnakes, scorpions, and lizards.

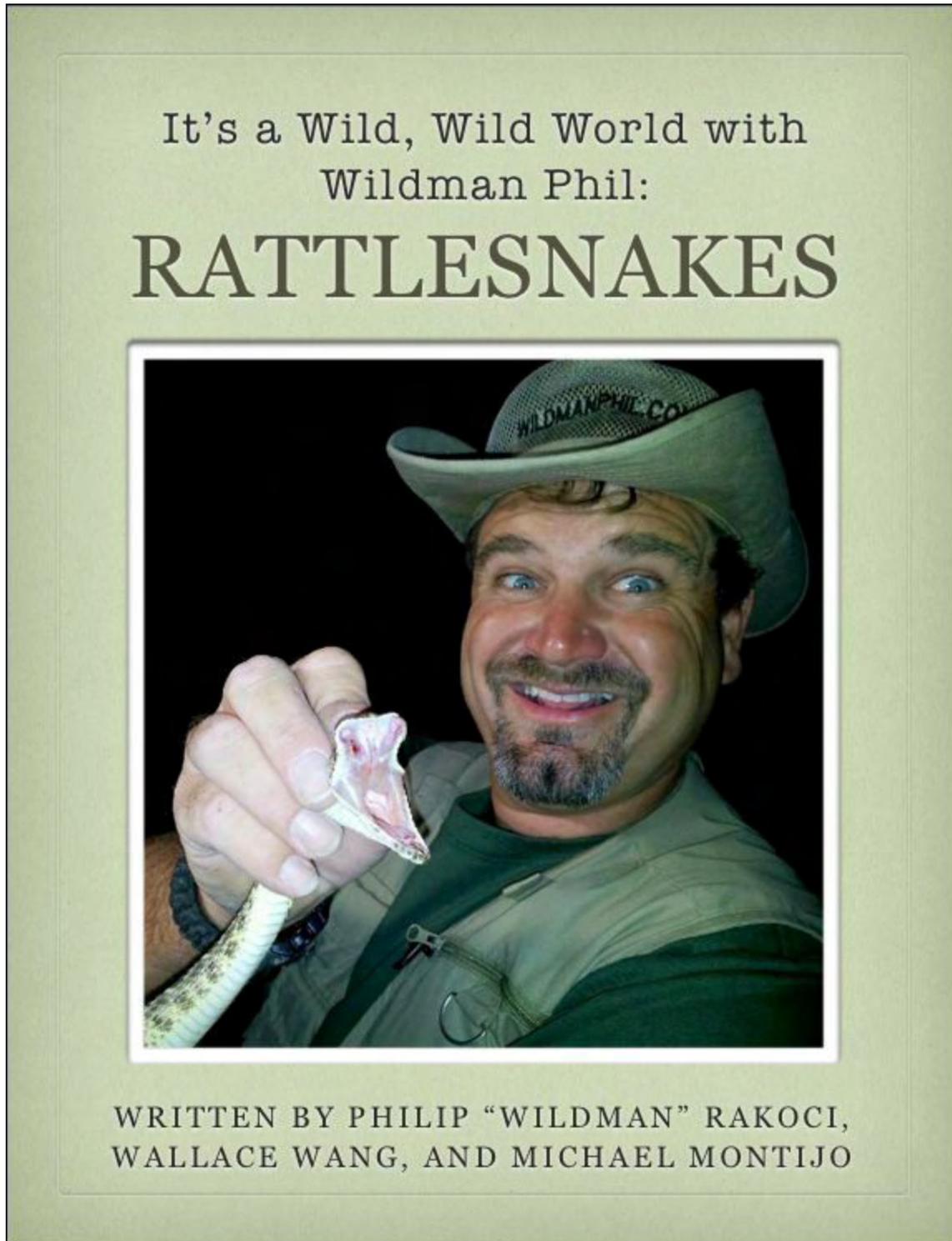


Figure 7. Wildman Phil has created an iBook to teach kids about rattlesnakes.

To further promote himself and his lessons about desert animals, Wildman Phil has put together an [interactive e-book](#) about rattlesnakes that runs exclusively on iBooks for the Macintosh or iPad. His iBook includes pictures, games, and video so kids can see snakes attacking and eating each other along with watching venom dripping out of a rattlesnake's fangs. By taking advantage of the interactivity available in iBooks, Wildman Phil could go beyond the static text and pictures of ordinary e-books and provide a richer interactive experience for readers.

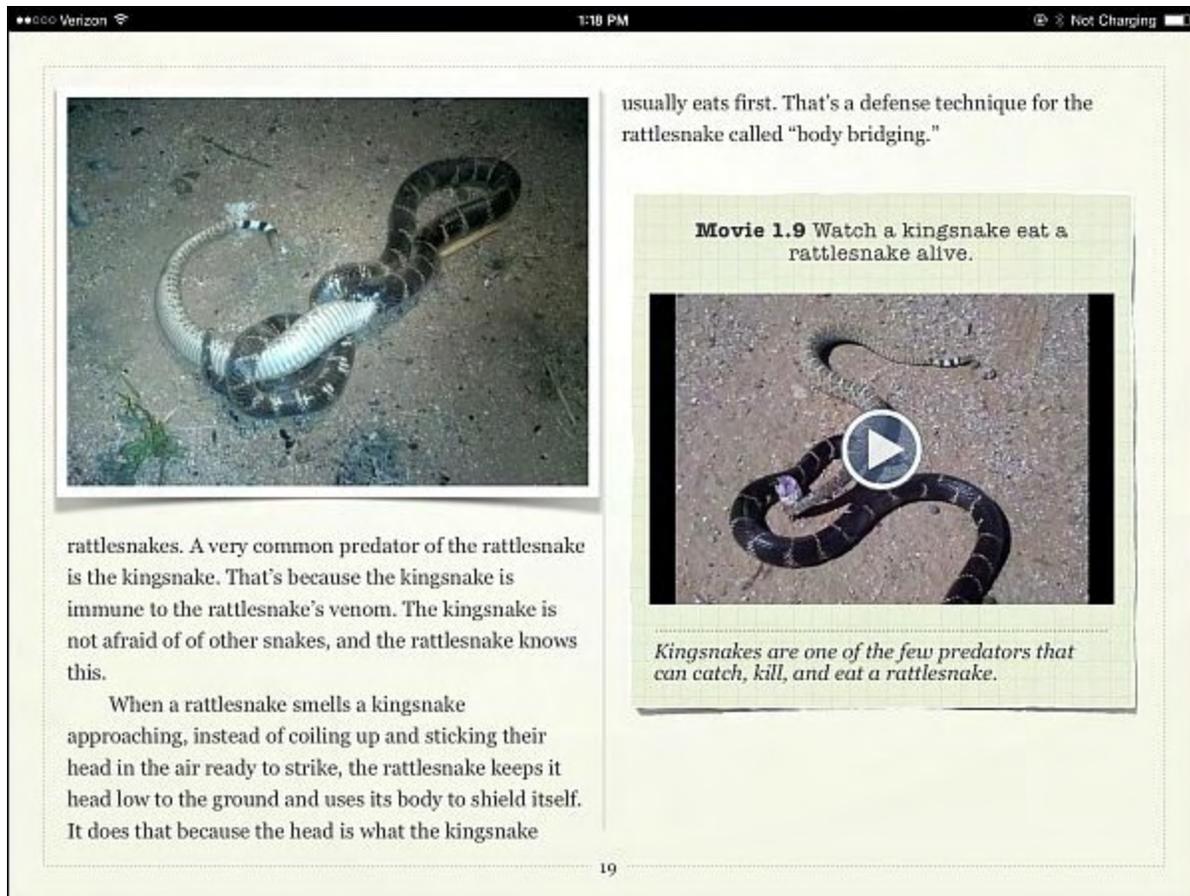


Figure 8. iBooks can incorporate interactivity and video.

Although Wildman Phil had plenty of knowledge about desert animals along with accompanying video footage, he had no idea how to self-publish his information. After I showed him the capabilities of Apple's free iBooks Author program, Wildman Phil immediately understood the capabilities and appeal of interactive e-books and how it could reach his audience.

Although Apple's iBookstore reaches far fewer people than Amazon's Kindle e-book store, iBookstore offers interactivity that ordinary e-books can't offer. For now, ordinary e-books will remain popular, but eventually as people experience interactivity, they'll start demanding more interactive e-books and turn away from static e-books.

If you're self-publishing novels as e-books, there's little reason to learn the capabilities of iBooks Author. However, if you want to start learning about the future, grab a free copy of [iBooks Author](#) and start experimenting. What you learn today will likely prepare you for the future, which far too many people neglect to do and then wonder why their present looks so dismal when they never prepared themselves beyond the next day.

\* \* \*

Although Apple has a reputation for developing software that's easy to use yet still powerful, one glaring exception is the Mail program that comes with OS X. Mail isn't a bad program, but it's not always what people need. In case you want to switch to another mail program, your biggest hassle will be exporting your current messages from Mail and importing them into your new mail program such as Microsoft Outlook or Thunderbird.

To export files, first look for your Mail inbox messages in a special .mbox file. To find this file, click on the Finder icon on the Dock, click the Go menu, and Go to Folder command. When a Go to Folder dialog box pops up, type the following and click the Go button:

```
~/Library/Mail/V2
```

This will let you view folders for each e-mail account currently defined in Mail. Opening an account folder lets you find your .mbox file containing all saved messages for that particular account. If you just want to export individual Mail messages, look for the .emlx files.

Now use a program like [Stellar Mail Converter](#). This program can convert Apple Mail .mbox files to Microsoft Outlook files (or vice versa). Stellar Mail Converter can also convert Thunderbird files to either Apple Mail or Microsoft Outlook files.



Figure 9. Stellar Mail Converter can export your Apple Mail messages to Microsoft Outlook format.

With Stellar Mail Converter, you can either import your existing messages into Mail or get your current messages out of Mail and into another program. Now you can freely use whatever e-mail program you like best.

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*In the early days, before Wally became an Internationally renowned comedian, computer book writer, and generally cool guy, Wally Wang used to hang around The Byte Buyer dangling participles with Jack Dunning and go to the gym to pump iron with Dan Gookin.*

*Wally is responsible for the following books:*

[\*Microsoft Office 2013 For Dummies\*](#)

[\*Beginning Programming for Dummies\*](#)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

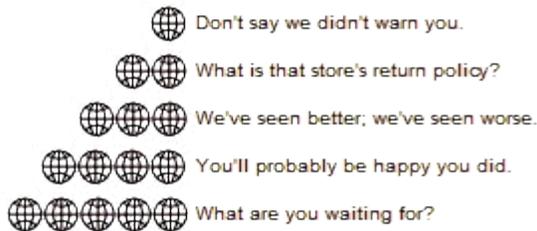
[\*The Elements of a Great Script: Die Hard\*](#)

[The Element of a Great Script: Back to the Future](#)

[The Elements of a Great Script: Rocky](#)

[The Elements of a Great Script: It's a Wonderful Life](#)

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](mailto:wally@computoredge.com) or you can follow him on Twitter [@wallacewang\\_com](#).



## Worldwide News & Product Reviews

**“The latest in tech news and hot product reviews.”** by Charles Carr, News and Reviews Editor

*Doom Creator Opines of the State of PC Computing; New Memory Catches Manufacturers' Eyes; Joe Solves a Tech Mystery; This Odyssey Might Not be Worth the Trip; Verizon Ellipsis 7 Tablet.*

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### Doom Creator Opines of the State of PC Computing

James Brightman over at [GamesIndustry.biz](http://GamesIndustry.biz) noted that Rochester, New York's Strong Museum recently held a special ceremony to add John Romero's old Apple II Plus computer to its growing collection of historically important video game artifacts.

Brightman wrote, "While Romero definitely sees parallels between the old PC garage development days and the rise of the indie scene in the last few years, there were many more barriers for developers to contend with back then—most notably publishers who acted as gatekeepers."



"It's so much easier now. The whole game industry was created by indies. The publishing companies like Sierra, Broderbund, etc... the games that they published were sent to them by indie developers. The big publishers of the early '80s were indie publishers. And nowadays because there are so many SDKs to create with and people can put their apps out there on a store without any real publisher intervention, everybody can publish. There's no stopping anybody. Minecraft was put up on a Web page—you can publish on the Web, you can publish through app stores, there's no one stopping you," Romero said.

Brightman: He added that the big challenge for today's crop of developers is to get better at marketing. "Now everybody just needs to get wise about how to advertise and market; but really it's so much easier now. I can't even imagine making a game in 1983 and somehow

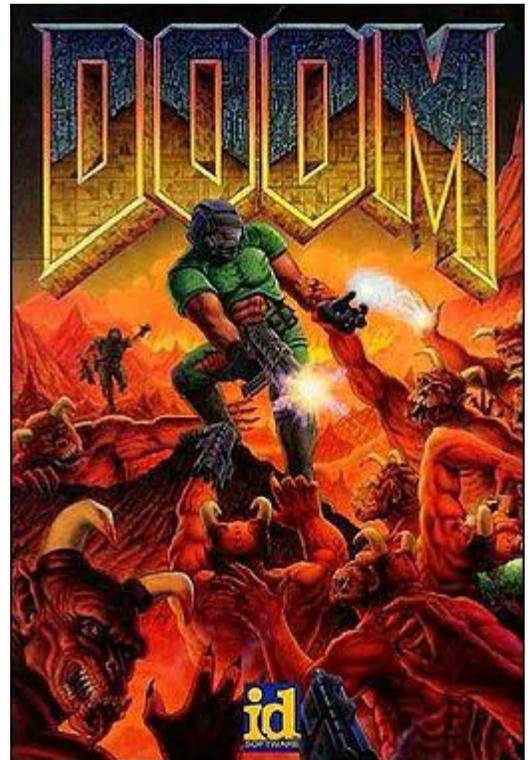
getting it in a store. That's hard to do because of all these barriers between me and that store. Other people have to make decisions on it. If anybody wants to make a game nowadays, they can make their own decisions," Romero said.

Similar to how Romero and other developers altered the games business with quality shareware games, the Doom designer believes that free-to-play is similarly shaking up the industry for good.

"With PC you have free-to-play and Steam games for five bucks. The PC is decimating console, just through price. Free-to-play has killed a hundred AAA studios," he remarked.

"It's a different form of monetization than Doom or Wolfenstein or Quake where that's free-to-play [as shareware]. Our entire first episode was free—give us no money, play the whole thing. If you like it and want to play more, then you finally pay us. To me that felt like the ultimate fair [model]. I'm not nickel-and-diming you. I didn't cripple the game in any design way. That was a really fair way to market a game," Romero continued. "When we put these games out on shareware, that changed the whole industry. Before shareware there were no CD-ROMs, there were no demos at all. If you wanted to buy Ultima, Secret of Monkey Island, any of those games, you had to look really hard at that box and decide to spend 50 bucks to get it."

Brightman continued, "Romero sees the games platform landscape now being dominated by PC and mobile. Consoles, he said, are not only being hurt by the free-to-play trend, but also by their inherently closed nature."



"The problem with console is that it takes a long time for a full cycle. With PCs, it's a continually evolving platform, and one that supports backward compatibility, and you can use a controller if you want; if I want to play a game that's [made] in DOS from the '80s I can, it's not a problem. You can't do that on a console. Consoles aren't good at playing everything. With PCs if you want a faster system you can just plug in some new video cards, put faster memory in it, and you'll always have the best machine that blows away PS4 or Xbox One," Romero commented.

And as much as Romero loves bleeding edge technology, he remains skeptical when it comes to virtual reality. The designer believes that VR headsets still require too much effort for many players.

"Before using Oculus, I heard lots of vets in the industry saying this is not like anything we've seen before. This is not the crap we saw back in the late '80s. I was excited to check it out and

I was just blown away by just how amazing it was to just be in an environment and moving my head was just like mouse-look. I thought that was really great but when I kind of step back and look at it, I just don't see a real good future for the way VR is right now. It encloses you and keeps you in one spot—even the Kinect and Move are devices I wouldn't play because they just tire you out," he remarked.

"Really the best optimal design for games is minimal input for maximum output—that's the way that games work best. When you watch people playing with a mouse and keyboard, you see them barely moving their fingers and hands but on screen you see crazy movement and all kinds of stuff. Everyone always goes for the path of least resistance and that kind of input is it. Until it can fix the path of least resistance, I can't see how VR is going to be something that's popular."

Romero added that VR makers are going to have a tough challenge in building up an installed base for developers as well. "The only way to hope that it'll be popular is to include it with every computer sold. And being on PC there's no way—you'd have to get in with Apple or somebody that can actually have it built in because everyone else is like a free agent. I can't see VR being the next big thing for games because we've had many of these peripherals that were non-standard come through—the early '90s until now there's always a weird peripheral to do something. "Ultimately," he said, "VR could serve a cool niche for some of the hardcore gamers with good PC rigs."

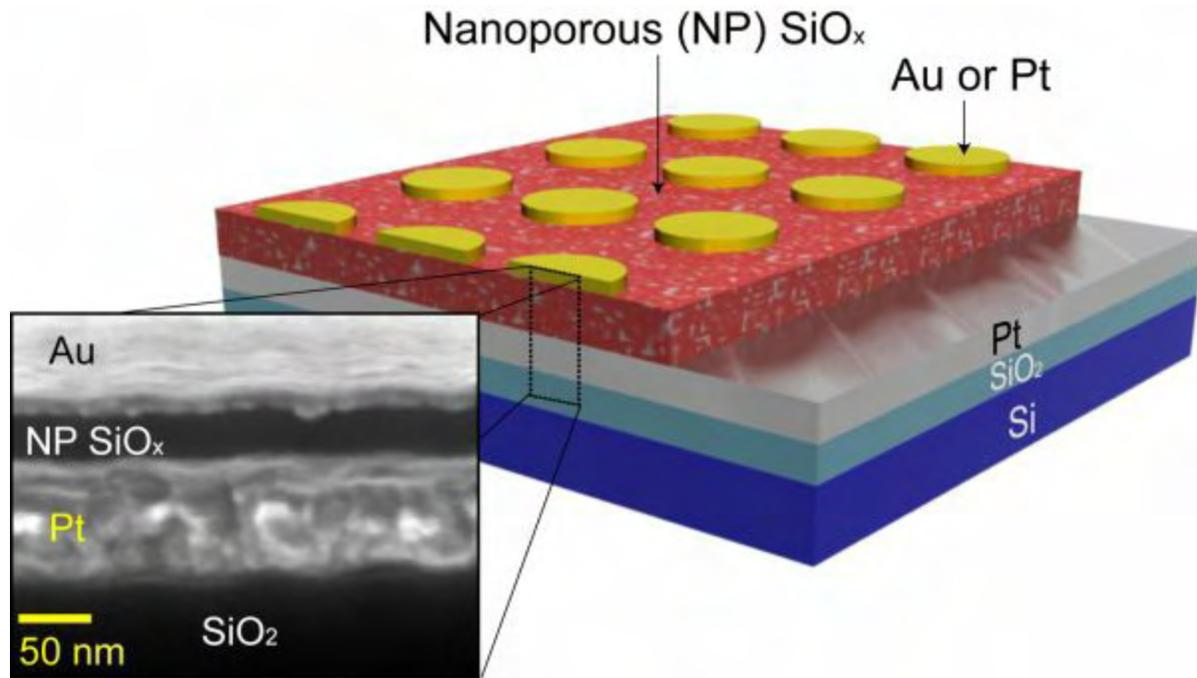
Read the entire interview [here](#).

## **New Memory Catches Manufacturers' Eyes**

David Ruth from Rice University writes in with info about an exciting breakthrough in storage called RRAM:

Rice University's breakthrough silicon oxide technology for high-density, next-generation computer memory is one step closer to mass production, thanks to a refinement that will allow manufacturers to fabricate devices at room temperature with conventional production methods.

First discovered five years ago, Rice's silicon oxide memories are a type of two-terminal, "resistive random-access memory" (RRAM) technology. In a new paper available online in the American Chemical Society journal *Nano Letters*, a Rice team led by chemist James Tour compared its RRAM technology to more than a dozen competing versions.



This scanning electron microscope image and schematic show the design and composition of new RRAM memory devices based on porous silicon oxide that were created at Rice University (Credit: Tour Group/Rice University).

"This memory is superior to all other two-terminal unipolar resistive memories by almost every metric," Tour said. "And because our devices use silicon oxide—the most studied material on Earth—the underlying physics are both well-understood and easy to implement in existing fabrication facilities." Tour is Rice's T.T. and W.F. Chao Chair in Chemistry and professor of mechanical engineering and nanoengineering and of computer science.

Tour and colleagues began work on their breakthrough RRAM technology more than five years ago. The basic concept behind resistive memory devices is the insertion of a dielectric material—one that won't normally conduct electricity—between two wires. When a sufficiently high voltage is applied across the wires, a narrow conduction path can be formed through the dielectric material.

The presence or absence of these conduction pathways can be used to represent the binary 1s and 0s of digital data. Research with a number of dielectric materials over the past decade has shown that such conduction pathways can be formed, broken and reformed thousands of times, which means RRAM can be used as the basis of rewritable random-access memory.

RRAM is under development worldwide and expected to supplant flash memory technology in the marketplace within a few years because it is faster than flash and can pack far more information into less space. For example, manufacturers have announced plans for RRAM prototype chips that will be capable of storing about one terabyte of data on a device the size of a postage stamp—more than 50 times the data density of current flash memory technology.

## Joe Solves a Tech Mystery

Longtime *CE* reviewer, Joe Nuvolini, doesn't have a review for us this time, just some useful advice.

Bear with me on this one, folks. This is a long tale about a problem I had recently that took about three months to resolve. I'll tell you now that the fix for the problem was minuscule.

On the first of April 2014 my old flat screen TV gave out. It was only two years old which surprised me. The brand was Insignia and I bought it from Best Buy in 2012. The set was dead as a doornail so I decided to replace it. I called Frank, my TV transporter and we headed to Best Buy where I purchased an RCA 50" LED set.

Shortly after installing it I noticed that the sound and picture would go out for about two seconds and then return. I lived with the problem beyond the Best Buy return time so I called RCA and they scheduled a repair about two weeks out.

The technician and I agreed it was most likely the power supply board. One was ordered and arrived in about a week.

A week or so later the technician returned and installed it. It did not fix the problem. RCA referred me to the manufacturer, On Corp, and they were very helpful. They said I could try a repair again or they would arrange a return to Best Buy.

I choose "door number two." When I got the case number, I called Frank and we returned the RCA to Best Buy. I then purchased a 55" Samsung Smart TV.

When I hooked it up, I had the same problem! (See screen capture of the TV after it came back on.)



As you can see the HDMI1 bar is at the top of the screen as it is when you power up. Other thing I tried was plugging the set into another outlet and on a different circuit, but to no avail.

The power glitch didn't affect any other appliances—even the small flat screen in my bedroom. I called the city and they came and checked the electrical feed to the house and it was fine.

I finally realized that the TV in my bedroom was on coaxial cable while my Samsung was on my 50' HDMI cable, which I had to utilize the Pythagorean theorem from high school days to make it reach.

I went to my crawl space where the Dish receiver was and inspected the HDMI connection. It looked good but just to check, I unplugged it and plugged it back in.

The result, problem solved. Sometimes it's the little things that make the difference.

There must have been one of the contacts that wasn't quit making a good connection. I called both RCA and On Corp, explained what the problem turned out to be, and apologized for all the trouble I had caused them.



## This Odyssey Might Not be Worth the Trip

Title: Abyss Odyssey

Developer: ACE Team

Publisher: ATLUS

Web site: [abyssodyssey.com](http://abyssodyssey.com) and [store.steampowered.com](http://store.steampowered.com)

Price: About \$15

Rating: T for teen

Abyss Odyssey is a new platformer that takes place in a seemingly medieval Chile with a fairly cookie cutter storyline. "A great evil has plagued the earth and you are the only one that can save the world!"

Sounds enticing right? Well, the game plays pretty much as great as the story line sounds. As with any platformer, the game is extremely linear and must be progressed in a certain way. That's okay, but the lack of a good story made it difficult for me to remain engaged.

You start out as Katrien, a fencer, and set out to the center of the "Earth" to battle the demon there. However—and here's the problem, for me—any time you die on your excursion you get sent packing back up to the top unless you have a token to keep going. One plus is that you *do* get to keep gold and experience each time you die—so, at least, you start again stronger, but still have to get all the way back to where you died. There isn't much reward tied to restarting once you die, though, so this makes it pretty difficult to keep playing.



As you advance and level up, you unlock new characters, but boy-oh-boy, is it a pain in the abyss. Combat is extremely dry and repetitive; every enemy seems to take a quite a bit of button-mashing to defeat. It took me almost an hour-and-a-half of dying to unlock the next character, the Ghost Monk (who, in reality, was just as weak, but ran slower).

There are combination moves and unique abilities, but for me they took second place to button mashing as they only seemed to frustrate every time I attempted to perform one.



The audio and visuals in the game are very pleasing so I won't take away from that, but the lackluster gameplay and dry story kept them from making the game anymore worth playing.

On the plus side, one of Abyss Odyssey's big points is that levels are generated randomly as you progress so that every play-through is different. Unfortunately, I was never able to make it far enough through the game to see this feature implemented in reality so it really isn't something I can comment on.

Sadly, I only made it a few hours before shutting down Abyss Odyssey and putting it back on my figurative Steam games shelf.

If the game sounds like your kind of thing, grab a copy off Steam for \$15, maybe less when it goes on sale. But I would recommend that you pass on this one.



Review contributed by: Jeremy Halligan

## Verizon Ellipsis 7 Tablet

Product category: Tablet computer  
Manufacturer: Verizon  
Model: Ellipsis 7  
Web site: [www.verizonwireless.com](http://www.verizonwireless.com)

Price: Three options:

\$49.99 with a two-year agreement

Verizon EDGE divides full device cost split into 20 monthly payments of \$12.49/mo. After 30 days with at least 60% of your phone's price paid off, you're eligible to upgrade.

\$249.99 full-price. Upgrade whenever you want. No contract required (activation fees apply).

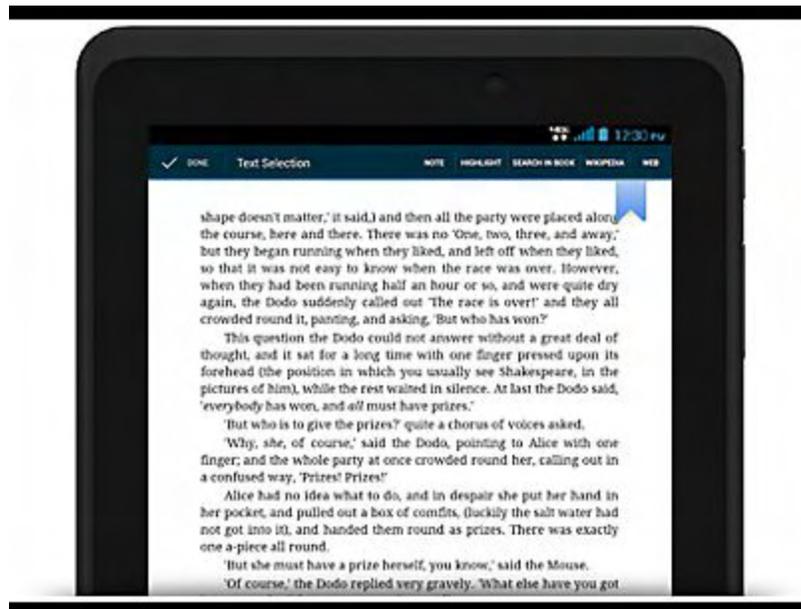
If you're looking for a tablet that is fast, comfortable, and versatile, Verizon's Ellipsis 7 is a pretty good option. But read on for some important caveats.

The 7" HD IPS display (1280x800) looks great. I compared it to a Google/Asus Nexus 7 and was hard pressed to see any real-world difference. Colors are bright, crisp, and graphics are plenty fast thanks to a 1.2 GHz quad-core processor. You can easily run any game you want to download from the Google Play store or elsewhere.



The Ellipsis 7 comes with built-in Verizon 4G LTE, which the company claims is up to 10 times faster than 3G—so that's pretty awesome. There's only one little problem. This baby is 4G *only* so make sure you're covered or you're going to feel pretty silly sitting next to someone who can actually pick up 3G, even if only at a fraction of the speed of your theoretical 4G.

The Ellipsis 7 has very comfortable, padded edges. The tablet feels so "safe" you might not even need a case for it (uh...maybe get one anyway).



The 3.2 megapixel rear-facing camera is not anything to write home about—or video chat, for that matter. Verizon's own specs admit as much. It does the job for Skyping and such, but it's not the device that's going to make you donate your old digital camera to Goodwill.

The Ellipsis 7 has a (pretty measly) 8GB onboard but you can add up to 32GB more with an optional memory card.

The 4000 mAh battery is not too bad. I was able to get a day's use without a recharge, even after watching most of a movie, listening to a bunch of vintage Stones jams, and surfing the Web for a couple of hours. It was a close thing, but I made it. Some people have complained that the Ellipsis 7 loses battery charge just sitting sleeping. I'm not sure why that is, but I was able to get much better battery life by turning off some of the features users might not need all the time like Wi-Fi and Bluetooth and closing down (if they let me) apps that gulp power.



I liked the sound of the dual, front-facing speakers. You're going to want to plug in external headphones or speakers for quality sound, but they definitely do the job for casual use.

Google's Android Jelly Bean, which the Ellipsis 7 comes loaded with, is a great OS. 'Nuff said.

Verizon has a nice app called Redbox Instant that lets you browse and play thousands of movies and other media. Of course, you can also use other apps from lots of other providers to watch, buy, and download media as well.

So, like I said at the top, the Verizon Ellipsis 7 is a pretty good option if you're in the market for a tablet, just remember to be sure there's 4G everywhere you're going to need it because it won't do 3G. Period. Not even a little.

Finally, when talking about the Ellipsis 7 or *any* cellular-enabled tablet it should be noted that, if you've already got a great phone that can serve as a Wi-Fi hotspot, you might not really need (or need to pay for) a tablet that has cellular built-in—especially if you always carry the phone with you anyway.



*Specs (from Verizon):*

#### *Design*

*7" HD IPS Display (1280x800), 216PPI*

*Virtual QWERTY Keyboard with SWYPE technology*

#### *Dimensions*

*Dimensions: 7.72" (H) x 4.94" (W) x 0.4" (D)*

*Weight: 12.7 oz.*

#### *Technology*

*Technology formats: 4G LTE (B13)*

#### *Operating System*

*Android™ 4.2.2 (Jelly Bean)*

#### *Memory / Processor*

*Memory: 8GB internal (formatted capacity is less) / 1GB RAM  
Supports up to 32GB microSD card (sold separately)*

### *Processor*

*Processor: 1.2GHz Quad-Core Processor*

### *Battery*

*Standard Battery: 4,000 mAh*

*Usage Time: up to 12.28 hours*

*Standby: up to 6.53 days*

### *SAR*

*SAR: Body-0.83 W/kg*

### *Video*

*3.2 Megapixel Rear-Facing Camcorder*

*VGA Front-Facing Camera Camcorder*

*Video Recording - record video in 1080p @ 12 fps or 720p @ 22fps*

*Video Quality: Fine, High, and Medium*

*Video Player supports: AVC1(H264), S263(H263), MP4V(MPEG4), VP80(VP8), WMV3, WVC1, DIV3, DIV4, DIV5, XVID (divx3,4,5,xvid), MP2V (MPEG2), MPEG4 record, and H264 record formats*

### *Camera*

*3.2 Megapixel Rear-Facing Camera*

*VGA Front-Facing Camera*

*Camera Resolution: 3M pixels, 2M pixels, and 1.3M pixels*

*Color effect, Scene mode, and White balance*

### *Music*

*Audio formats supported: MP2, MP3, AAC, HE AAC v1/v2, FLAC, Vorbis, APE, AMR-NB, AMR-WB, MIDI, G.711, WMA, ADPCM, and WAV*

*Create, download, and manage playlists*

*Headset: 3.5mm Audio Jack*

### *Bluetooth*

*Version 3.0*

*Bluetooth Profiles Supported: HSP, HFP, SPP, DUN, A2DP, AVRCP, OPP, FTP, BIP, BPP, PBAP, GAVDP, AVDTP, AVCTP, HID, PAN, and MAP*

### *Connectivity*

*Mobile Hotspot - Connect up to 8 Wi-Fi-enabled devices in 4G*

*Wi-Fi® Connectivity: 802.11 b/g/n*

*Micro USB 2.0 charging*

*Device Software Update - upgrade firmware over the air*

*Google Chrome for Android**MS Exchange, Gmail, Yahoo, AOL, Hotmail, POP3/IMAP4/SMTP, etc**Communication**Languages supported: 57**Tools: Alarm, Calculator, Calendar, Camera, Clock, Email, Gallery, People, Sound Recorder, and Video Player**Virtually limitless contacts (limited by 8GB on-board memory)**Apps: Amazon Kindle, Flipboard, Google, Google+, Hangouts, iHeartRadio, Local, Maps, Messenger, Movie Studio, Navigation, Play Books, Play Games, Play Magazines, Play Movies & TV, Play Music, Play Store, Redbox Instant, Voice Search, and YouTube**Verizon Apps: Email, My Verizon Mobile, Verizon Messages, and VZ Navigator®**Games: Plants Vs Zombies*

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

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

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

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

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

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

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

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

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

Learn more at [www.charlescarr.com](http://www.charlescarr.com).



## Editor's Letters: Tips and Thoughts from Readers

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

*"Another PhraseOMatic Feature," "What About Auto Hide?" "Solid State Drives"*

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### Another PhraseOMatic Feature

[Regarding the July 11 [A Cool Little App for Inputting Common Phrases](#) column:]

Jack, what a wonderful article you wrote about PhraseOMatic. I am happy you find it as useful as I have, and it is my sincere hope this will bring it to a wider audience. I will try to be responsive to inquirers about how it works, etc.

One item that may be worth mentioning (I may add it as a comment to the article) is that in the latest version I worked hard to allow a phrase file to have no header (which might be intimidating to completely new users). So even a raw text file with just phrases in it can be loaded and used as a Phrase file. Now obviously I prefer the greater flexibility that comes with a properly formatted file (submenus, comments, etc.). However, there are times when a text file might be exported from another application (such as from a simple Excel file). Such a text file could then immediately be loaded as a new Phrase File.

Your Web site, columns, and now e-books, while full of great content, are a refreshing change from so many "programmer to programmer" sites that assume a high level of expertise on the part of the visitor. I really enjoy your plain spoken writing style and how you explain things to people without appearing to "talk down" to them because they may be novices. I am recommending your suite of AutoHotKey books to my friends who want to get started with the software.

I hope to make further contributions to *ComputerEdge*.

Again, thanks.

-Douglas Abernathy, Fort Worth, TX

### What About Auto Hide?

[Regarding the July 18 [How to Remove the ComputerEdge Navigation Menu—Permanently! column:](#)]

Windows has auto hide. The status bar is in auto hide on PC PVR when the mouse goes to bottom the status bar comes up! Can the mouse go to the left of the screen to cause the navigation menu to pop out to the right? Can Web pages do that or is auto hide an MS feature?

-Walter, San Diego, CA

*While autohide is a Windows feature tied to the Windows Taskbar, it is possible to implement similar features in Web pages—probably with Javascript. However, it would only work for those Web sites that did the programming and most people would have no idea that it was implemented unless given detailed instructions.*

-Jack Dunning

## Solid State Drives

[Regarding Jack Dunning's July 18 [article](#), "A Look at Solid State Drives for the PC":]

The trouble is MS Windows 7 own backup/restore doesn't back up any other drives that is not the system "C:" drive. Also the "Explorer" library is defaulted to system "C:" not to "E:" where I keep my files.

-Walter, San Diego, CA

*That's strange because when I looked in Change Settings in Windows 7 Backup and Restore and selected a drive for backup, I had the option of backing up any of the other non-selected installed drives, plus Libraries which can include virtually anything from anywhere. All I needed to do was pick "Let me choose" in the "What do you want to back up?" screen.*

-Jack Dunning

Jack, thank you very much for such a quick response to the request to re-educate us readers on the workings of solid state drives and explain what has happened in the marketplace to them since *ComputerEdge* Magazine last had a lengthy article on this. You answered my questions. It indeed seems that these drives will not be replacing magnetic hard drives anytime soon (if ever).

It's interesting to look at how bad humans have been at predicting the distant future with respect to technology. In the 1990's, it was predicted that digital audio DVD's would replace CD's. That never happened. The Jetsons (first made in the 1960's) were a prediction of life 100 years later (in the 2060's). We are now in 2014, over 50 years after the first Jetsons

season was made, or halfway to the end of that vision, and I do not see us our society anywhere close to life as it was predicted in that show. Video screens are ubiquitous, and we are spied on daily—those are the main things I remember in the show that have come to be.

Your article on solid state drives also has me thinking more about the vulnerability of my flash drives. I have five of them that I take with me every day for work. There are many files that I create or modify at work, and later transfer to a permanent desktop machine. Others I keep with me for whenever I suddenly need them. If a solid state drive will abruptly stop working with no prior notice, I guess the same will eventually happen with these flash drives, some of which are 5 to 8 years old. (By the way, my flash drives are kept secure in pouches to avoid damage from water or being jostled too much).

-Jay, San Diego, CA

Thanks to Jack Dunning for his article on SSDs. I'm building a new high-end computer and wasn't sure if I needed an SSD for the operating system or not. Going to use one now with a couple of 2TB HDDs for data and backup.

Thanks,

-bb

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*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](http://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](mailto:ceeditor@computoredge.com). If you would like to review our recent e-books, please visit [ComputerEdge E-Books](#).*

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