

## February Fairfax Meeting

With wisdom, the February meeting was cancelled to provide the opportunity for you to build a snowman or go sledding. This certainly has been quite a winter!

## Windows 7 Folder Viewer Solution

By Mel Mikosinski

My Windows 7 Folder Viewer settings kept disappearing when I would close and reopen a given folder. I was constantly resetting the Folder Viewer settings every time I opened any given folder. The following outline is my solution to making disappearing Folder Viewer settings a permanent setting.

I: Information about Window 7 concepts “How Windows 7 folders normally operate”.

All Windows 7 folders store a set of operational Folder Viewer’s default settings. Each folder can have a different set of operational Folder Viewer’s default settings.

For a given open folder one can change the operational Folder Viewer’s settings.  
 (1) Some of the Folder Viewer’s option setting changes can become the open folder’s permanent Folder Viewer’s default option settings.



(2) Some of the Folder Viewer’s option setting changes are temporary changes and will disappear when the open folder is closed. (My issue was that I wanted to make these temporary option setting changes permanent. I.E. stored in the open folder’s permanent “Operational Folder Viewer default settings”.)

Permanent changes to all window folders or a given open window folder can be made with the Control Panel / Folder Options program window using the “View” tab’s Advanced Settings options.

Any Permanent Folder Changes to an open file folder will also make permanent changes to all sub-folders inside the open file folder. This includes permanent changes to all sub-sub folders too. These changes will only apply to same type of folders that reflects the type of open file folder. All other types of sub-folders will not be changed.

I I: Following are the actions that are need to be performed to insure that the temporary Operational Folder Viewer option settings were made permanent.

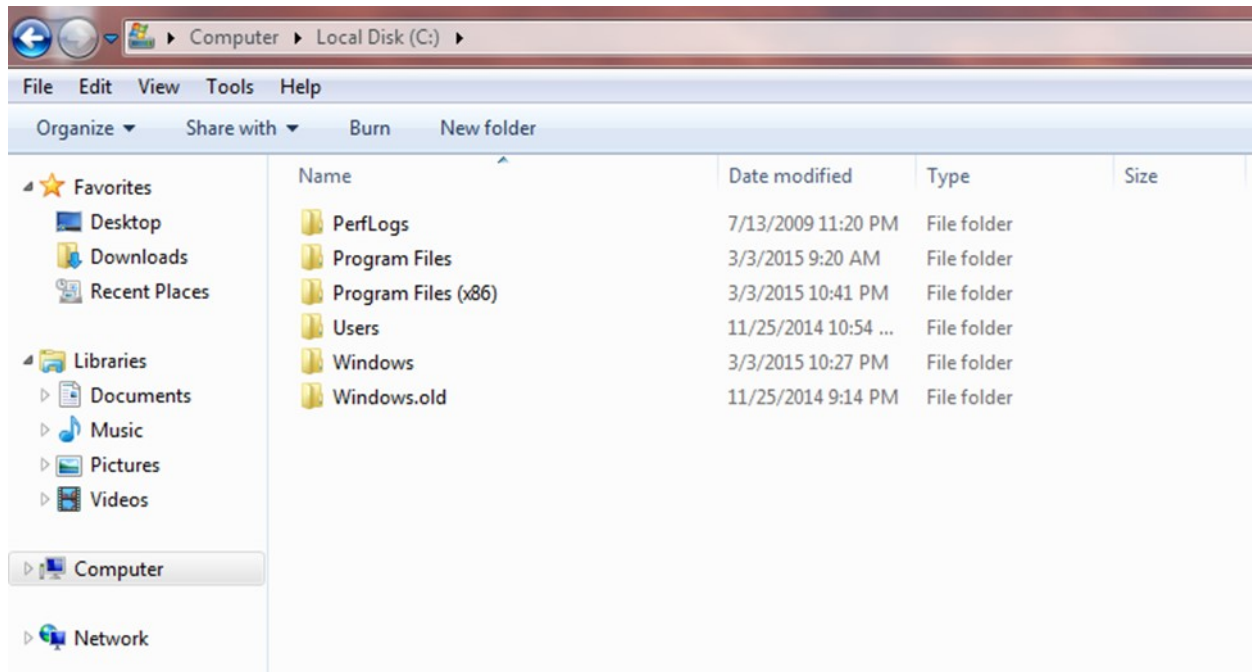
1. Open up the C drive folder or folder you require, and set up the Folder Viewer settings you need/want:

Continued Page 2

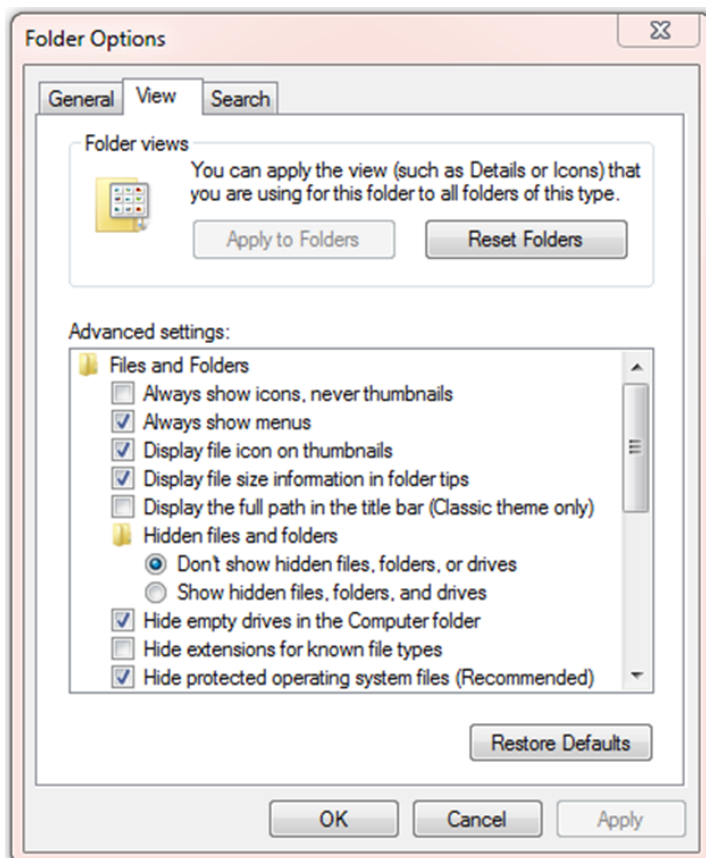


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2. Next, open the Control Panel / Folder Options View tab



3. In the Advance settings window = Click on the File and Folders setting option (Recommend: Hide

file types) “two times”. Double clicking any setting will not change what this setting option was set to, but will turn on the Apply key option. Normally this Apply key option is inactive.

4. Click on the active Apply key. This action will resave all “File and Folder” settings in the open folder and all the sub-folders under the open folder.

5. One of the by-products of this save settings operation is that all the Folder Viewer option settings used in this open folder will also be saved in the open folder and all the open folder’s sub-folders. This “Apply action” will also save all the temporary Folder Viewer option settings used in the given open folder and all other open folder’s sub-folders. (Therefore my Folder Viewer option setting issue was solved)

6. Note: There may be other ways to solve this Folder Viewer issue! However, the above procedure works very well and can be applied at any open sub-folder level you desire.

## Windows 8/8.1 Corner

### Customize the Text on Your PC

By **Rosita Herrick**, Yahoo Forum Moderator, Sarasota Technology User Group, FL

<http://thestug.org/>

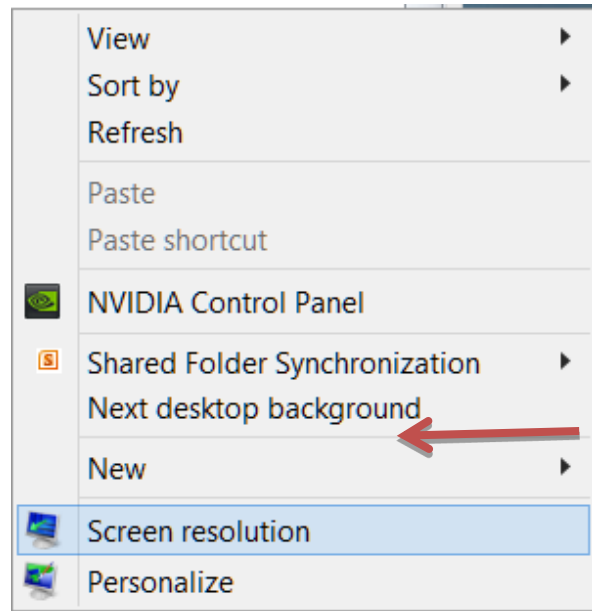
**Rosita (at) thestug.org**

Font sizes:

If the default size of text on your PC, especially on laptops, is small and hard to read, here are the steps to increase it.

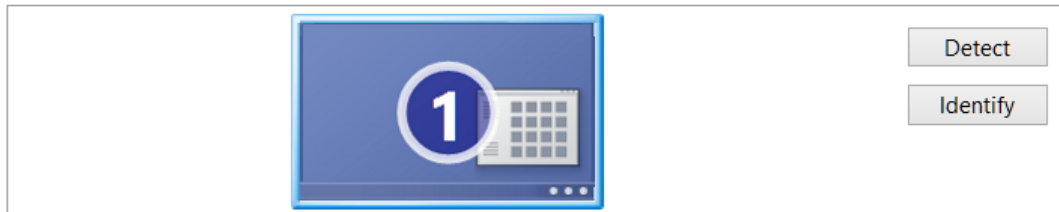
Right click on any empty part of the desktop wall paper

On this new window there are a few choices:



Click on Screen resolution and then click on Make text and other items larger or smaller.

#### Change the appearance of your display



Display: 1. NEC MultiSync P221W

Resolution: 1680 x 1050 (Recommended)

Orientation: Landscape

[Advanced settings](#)

[Make text and other items larger or smaller](#)

[What display settings should I choose?](#)

Continued Page 4

On this new window there are a few choices:

Change the size of all items

Make text and other items on the desktop smaller and larger. To temporarily enlarge just part of the screen, use the [Magnifier](#) tool.

- Smaller - 100%
- Medium - 125%
- Larger - 150%



Custom sizing options

Let me choose one scaling level for all my displays

Change only the text size

Instead of changing the size of everything on the desktop, change only the text size for a specific item.

Title bars    11     Bold

If you use one scaling level, some items might be different sizes on different displays. You'll see this change the next time you sign in.

Apply

You can click on the checkbox and get the choice of size you want to increase for all items or leave the box blank, and as shown below, change the font of specific items

In the Items box I chose Menus, checked the Bold box, and then checked Apply

Change only the text size

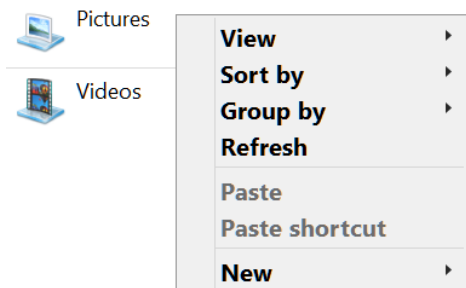
Instead of changing the size of everything on the desktop, change only the text size for a specific item.

Menus    9     Bold

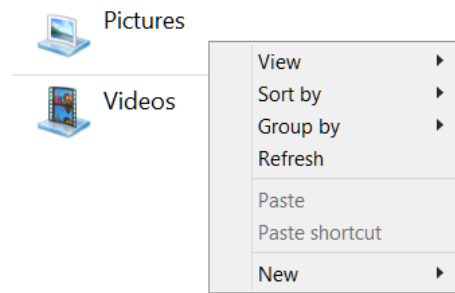
Here are the before and after results.

Apply

Before



After



Reminder: Don't forget to click on the Apply box to finalize the change.

## “Nibblers

**By Jeannine Sloan, Ambassador for Friendship Village, Twin Cities PC Club, Minnesota**

**December 2014 issue, The Digital VIKING**

**[www.tpcpc.com](http://www.tpcpc.com)**

**(at) yahoo.com**

## Mosaically

Photo Mosaic Maker:

If you are thinking of creating a photo mosaic without downloading any additional software, then you can look for free and reliable mosaic generators online.

<http://mosaically.com/>

## Ancient Incans Earthquake Proof Walls

The brilliant ancient civilization figured out how to make seismically stable structures using stones that fit together like Legos. Now it's time to learn from the past. Over 500 years ago, when Incan workers built Machu Picchu, they devised an ingenious building technique to prevent building collapse during Peru's frequent earthquakes. It worked a little like an ancient form of Legos: Every stone fit together perfectly without any mortar. Now California-based architects are using 3-D printers to create a similar design.

<http://www.fastcoexist.com/3037227/>

## Find Large Files

Big files clog up your hard drive and many of them are just garbage that you can delete.

Instead of downloading a utility to find them, you can use Windows Explorer. Simply type 'size:gigantic' into the Search box and Windows will show you all the files that are larger than 128MB in the folder (and subfolders) you're currently browsing. Delete any you're sure you don't need.

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## Make text pin-sharp

Windows provides a utility to fine tune text to match your display. This is called the ClearType Text Tuner and unless you've made use of it, your text won't necessarily be as sharp as it could be. You'll find this utility at Control Panel > Appearance and Personalization > Fonts > Adjust ClearType text.

## Household Repair

DIY guides for many household repairs, ranging from furniture to plumbing solutions.

<https://www.ifixit.com/Device/Household>

## FIXITS

Do it Yourself Tips and Helpful Household Hints on Everything Plus the Kitchen Sink

<http://www.mrsfixit.com/Fixits/index.asp>

## Export Favorites/Bookmarks from Your Browser

To export your bookmarks from Chrome: Click the Chrome menu icon at the top - right corner of your browser window, select Bookmarks, then Bookmark Manager or Ctrl+Shift+o. Click the down arrow beside the Organize menu and select Export bookmarks to HTML file.

To export bookmarks from IE. Click the Favorites icon in upper right corner of browser window, select Add Favorites, click the down arrow next to Add to Favorites, select Import/Export, then Export to a file.

**Continued Page 6**

To export bookmarks from Firefox. Click the Show your bookmarks icon (Ctrl-Shift-B) in upper right of browser window. This opens the Library window. Select Import and Backup, then Export bookmarks to HTML. (Contributed by Dianne Runnels)

### **The Ultimate Manuals Library**

A handy library of PDF user manuals for almost anything.

<http://www.manualslib.com/>

### **Fax Zero**

Fax Zero allows you to send faxes to US and Canada for free. Additionally, it enables you to send faxes to countries outside North America at a fixed pay per use cost.

<http://faxzero.com/>

### **Screen Capture**

Enter the address (URL) of any web page and the screen capture tool will generate a high-resolution screenshot of the full web page as a PNG image that you can download.

<http://ctrlq.org/screenshots/>

### **Use Hidden Characters**

A site for copying the 'hidden' characters that come with the computer's typefaces, to be pasted into emails, tweets, text documents, forums and whatever else you might need. Left click on character to copy, Ctrl+v to paste.

<http://copypastecharacter.com/all-characters>

Microsoft Windows Vista, Windows 7, and Windows 8 include a speech recognition feature <http://www.computerhope.com/issues/ch001561.htm>

### **Crooks Don't Want Anything I Have on My Computer**

Oh, yes they do. They want to infect your computer with a Trojan and make your computer

with a Trojan and make your computer a zombie for their botnet. Criminals use botnets to send out spam email messages, spread viruses, attack computers and servers, and commit other kinds of crime and fraud. If your computer becomes part of a botnet, your computer might slow down and you might inadvertently be helping criminals.

<http://tinyurl.com/llrfoy7>

### **Two Factor Authentication**

List of websites and whether or not they support two factor authentication.

<https://twofactorauth.org>

### **How to Use the Windows Speech Recognition Feature**

Microsoft Windows Vista, Windows 7, and Windows 8 include a speech recognition feature <http://www.computerhope.com/issues/ch001561.htm>

### **Windows Task Manager**

The Windows Task Manager is one of the core programs that ships with every version of the Windows operating system. Designed to provide users with an overview of what is running and happening on the system, it is considered an advanced tool by many. The Task Manager is more or less identical on Windows 7 and earlier versions of Windows while it has changed in Windows 8 and newer versions.

<http://tinyurl.com/kgldd8b>

### **Politics and Psychology**

APA's Psychology Help Center is an online consumer resource featuring articles and information related to psychological issues affecting your daily physical and emotional well-being. This site had an article about the Science of Political Advertising that is interesting.

<http://www.apa.org/monitor/2012/04/advertising.aspx#>

# NFC Stickers and Tags - Useful Technology You May Have Never Heard Of

by Ira Wilsker

**NFC tags** are shortcuts to success. Welcome to explore the limitless opportunities of near field communications at NFCtags.com!

NFC permits reading a variety of physical objects through the use of smart tags. With NFC and smart tag you will be able to instantly pull down a new recipe from a grocery store ad, get detailed information from a movie poster, select college classes, learn how to best serve your favorite wine, and so much more, all with a wave of your phone.

The applications are only limited by the imagination and creativity of the individual. This makes the experience of mobile internet and other mobile services fast and convenient, and presents new opportunities. Mobile NFC is making the 'internet of things' a reality,

NFCtags.com powered by  
**SMARTRAC** ((•))

Choose the right NFC tag

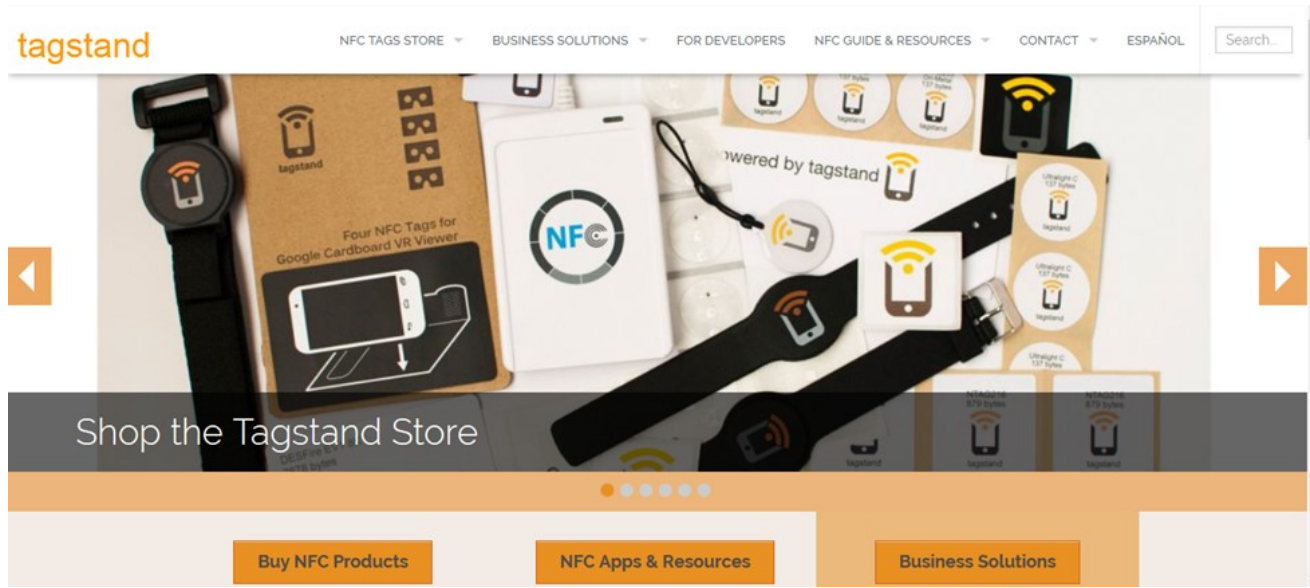
## WEBSITES:

<http://www.nfctags.com>  
<http://trendblog.net/creative-and-useful-ways-to-use-nfc-tags-with-your-smartphone>  
<http://www.tagstand.com>  
<http://nfctags.tagstand.com>  
<http://rapidnfc.com>  
<https://play.google.com/store/search?q=nfc%20writer&c=apps>  
<http://www.nfctags.com/nfc-usecases>  
<http://en.wikipedia.org/wiki/TecTile>  
[http://en.wikipedia.org/wiki/Near\\_field\\_communication#Smartphone\\_automation\\_and\\_NFC\\_tags](http://en.wikipedia.org/wiki/Near_field_communication#Smartphone_automation_and_NFC_tags)  
<http://electronics.howstuffworks.com/nfc-tag.htm>  
[http://kimtag.com/s/nfc\\_tags](http://kimtag.com/s/nfc_tags)  
<http://lifehacker.com/5943006/what-is-nfc-and-how-can-i-use-it>  
<http://youtu.be/zw22iFwDeDQ>  
<http://youtu.be/9xv4S7Afgrs>  
<http://youtu.be/fs8v16yzVOA>  
[http://www.ebay.com/sch/Cell-Phones-Accessories-/15032/i.html?\\_sop=15&\\_nkw=nfc+sticker](http://www.ebay.com/sch/Cell-Phones-Accessories-/15032/i.html?_sop=15&_nkw=nfc+sticker)

I was recently reading the manufacturer's blog for my wife's new OnePlus One smart phone, and was intrigued by a blog post for a technology that I had never previously been aware of, but instantly realized its great potential. This blog column was talking about using the OnePlus One to program and read "NFC Tags", also called "NFC Stickers." In the blog post and its responses, it appears that almost all smart phones and other intelligent devices with "NFC" can securely program and read data from tiny, inexpensive NFC stickers and tags.

Last November, I wrote a column "Using Your Smart Phone as a Credit Card Substitute" where I explained how many of the newer smart phones included an evolving technology called "Near Field Communications", more commonly known by its acronym "NFC". In that column, I explained how NFC may be revolutionizing the credit card industry, as NFC capable smart phones along with appropriate apps, could be utilized instead of a plastic credit card complete financial transactions. The benefit of using a smart phone with NFC over plastic is that the seller is never in possession of

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credit or debit card information that can be illicitly hacked, but still receives prompt payment from the credit card company. NFC utilizes an ultra low power radio transceiver with a typical range of only about 10 cm or about 4 inches; by holding an enabled smart phone or similar device within 4 inches of a compatible point of sale device, and the user securely authorizing payment via a fingerprint, PIN, or other secure method, the payment is processed. The user has his existing credit cards connected to his smart phone via relevant apps, and any awards points or "cash back" bonuses still accrue as if a plastic card has been used.

While this explosive new technology is now being widely implemented in the retail, restaurant, and service industry as a secure method of payment, an entire new industry has appeared which utilizes NFC for purposes other than for processing payments. A quick search on the major search engines as well as eBay, Amazon, and even the websites of several of the local big box stores showed that these NFC stickers and tags are currently readily available, sometimes as inexpensive as only a few cents each. Often smaller than a postage stamp, these NFC tags can be blank in appearance, or purchased imprinted with sports teams logos, smart phone related icons, personal photos, product and company logos, patterns, or other desired facade.

Inside these stickers, which are also about as thin as a postage stamp, is a tiny printed microcircuit that contains a tiny amount of programmable memory, and an NFC transceiver. Some of these stickers are designed for dry indoor use, but many are advertised as waterproof for outdoor use. No battery is included or necessary inside, as these stickers and tags are powered by the low powered radio waves transmitted by the NFC device that is communicating with the sticker. The more modern NFC tags grew out of a "TecTile" technology developed by Samsung in 2012 for some of its Galaxy S III smart phones.

Being a relatively new technology which is also very inexpensive to implement, industry and individuals are still finding practical and entertainment uses for these tags, only limited by minimal memory of the stickers themselves. According to Wikipedia, some of the earliest uses of the Samsung TecTiles was to change the setting of a smart phone to a quiet or an in-car Bluetooth setting; turn on the alarm clock app of the smart phone when the phone was placed in range of a sticker on a night stand; launch selected apps when the phone was close to a programmed sticker; automatically connect to a Wi-Fi network in a coffee shop or other commercial location; show promotional messages and coupons; automatically dial the phone or sent a preprogrammed text message; share vCard or business card contact

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## What's an NFC tag?

by Nathan Chandler

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Soon, your entire world could become a digitally immersive experience. Imagine it -- a physical version of the Web, one in which everything (and maybe everyone) has a digital signature. You'll have instant access to information about products, services, landmarks and even people, all thanks to near field communication (NFC) technology and the smart tags that work with NFC.

NFC isn't a fundamentally groundbreaking technology. Like Bluetooth and WiFi, it's a

NFC tags are programmed with just about any sort of

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- 10 Ways Watches Have Evolved
- How does my iPhone know when someone is typing?
- How could Google Glass detect people's emotions?

information; open a web page; show current location on a mapping service such as Google maps; update Facebook location services; generate "likes" on Facebook; and follow a Twitter user. Each of these tasks can be instantly accomplished by simply moving an NFC enabled smart phone within 4 inches of one of these stickers.

The NFC tags may be quickly and easily programmed by the user from a smart phone app, and can be selectively locked to prevent alteration if desired; only the device that locked a tag can be used to unlock it, a strong security feature. Tags are reusable and can be reprogrammed unless digitally locked, with some tags still fully functional after 100,000 programming and reprogramming cycles. In reality, the major risk to tags is of a physical nature, such as the glue on the back losing its adhesive properties allowing it to either be peeled off of the surface to which it is attached, or simply falling off on its own.

While individual users can readily program their own NFC tags and stickers, a significant industry is growing with commercially produced and programmed stickers, which are already showing up in business establishments or on individual products. Some early uses of these tags were on appliances where moving an NFC device would display the manufacturer's service website on the device. Some grocery companies have placed the stickers on supermarket shelves, with the image of the product printed on the small sticker, which will then create a digital coupon on

the shopper's smart phone if placed in NFC range of the sticker. At some recent professional conferences, stickers strategically placed near the doors recorded the attendance of participants as they entered and exited meeting rooms; some schools and colleges are also experimenting with these NFC tags for automatically recording the attendance of students who wave their smart device near the edge of the door frame as they enter a classroom. Since individual stickers are so inexpensive, and can be programmed in bulk, they can easily be placed in multiple locations and also have multiple stickers at a single location, such as one every 12 inches on the sides of a door frame. Some colleges have started using NFC tags for course registration purposes, better enabling a student to create his schedule.

The website [nfctags.com](http://nfctags.com), which sells NFC tags, apps, and devices, shows a multitude of uses for its tags. In addition to generating digital coupons, NFC tags can also be used for other promotional purposes such as providing affinity membership benefits; automatically displaying a webpage with recipes; enabling instant product customization such as monograms, initials, and images; and offering the consumer other promotional benefits. Games and toys can make use of NFC tags by introducing new features and functionalities, as well as location resources for activities as geocaching. In terms of location security,

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- White NFC Tags
- Clear NFC Tags
- On Metal NFC Tags
- NFC Disc & Asset Tags
- NFC Wristbands
- NFC Keyfobs & Hang Tags
- NFC Cards & Tickets
- Promotional NFC Products
- NFC Starter Packs

**Excellent**  
★★★★★

**NFC Tags. Fast.**  
We hold large stocks of all popular NFC tags and can encode, ID print and custom print in-house.

**NFC Starter Packs**  
A range of brilliant NFC starter packs to get you going. All include wristbands, keyfobs and selection of NFC tags.

**Custom Print Tags**  
RapidNFC are one of the world's leading providers of custom printed NFC products, so why not create your own custom printed NFC stickers!  
Order online today.

these stickers can be used to control access to restricted areas; track the location of employees and visitors to a facility; be used for rapid security checks; maintain accurate healthcare records; and exchange online schedules, all with the swipe of a smart device.

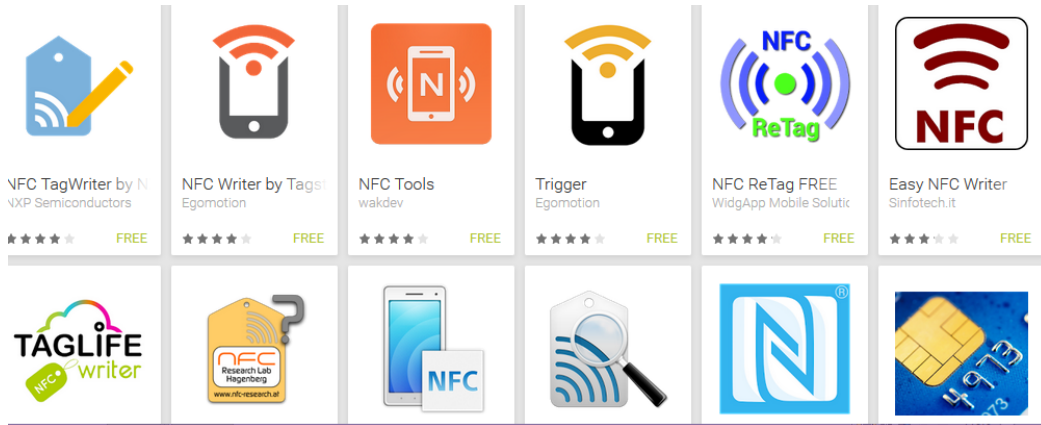
Business and other organizations can program the stickers to download (with the permission of the user) ringtones and apps, menus, instructions, warranty information, and other contemporary information. There are YouTube videos of smart phone users moving their NFC capable smart phones near a sticker on a restaurant table, which then shows any promotions, specials, and coupons which are displayed on the smart phone, and then opens an illustrated, interactive restaurant menu on the phone. The customer can place his food and drink order directly from his smart phone, as well as ordering drink refills, dessert, and other dishes as needed. After dinner, his phone displayed a detailed restaurant check where a tip can be calculated and entered, and then paid using NFC, charging the meal to his selected credit card. All of this technology already exists, and is very cost effective in terms of labor savings, customer satisfaction, the ability of the restaurant to "turn over" tables faster, negate the need for expensive printed menus that must be periodically reprinted to reflect price and offering changes, and even connect to ratings services such as Yelp or TripAdvisor where the

customer can leave reviews of the restaurant and its food.

Already some novel uses of NFC tags are in use; for example, the city of San Francisco has attached NFC stickers to many of its parking meters where consumers can both pay the parking meter ([en.wikipedia.org/wiki/File:Paybyphone.jpg](http://en.wikipedia.org/wiki/File:Paybyphone.jpg)), record the location, and receive automated phone reminders of the time remaining on the meter. In the fashion industry, as advertised on eBay, women can purchase artificial fingernails for under \$2, with embedded NFC and tiny LEDs that light up when near an NFC phone.

([i.ebayimg.com/00/s/MTAwMVgxMDAx/z/lyQAAOSwQJhUI9ld/\\$\\_57.JPG](http://i.ebayimg.com/00/s/MTAwMVgxMDAx/z/lyQAAOSwQJhUI9ld/$_57.JPG)). At least one manufacturer is producing waterproof NFC tags that sell for a little more than a dollar, and can be printed or engraved like a dog tag, and used on pet collars, medical emergency bracelets and necklaces, or other identity needs, and programmed with a web link that when scanned with a smart device would display relevant information. On a pet collar, these tags when scanned will display the owner's information; as a medical tag, can display emergency contact and health information; when worn by a "lost" child, the device can display contact information on the parents. These tags can also be attached to, or built into a key fob, and used

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to find the owner of lost keys. Similarly, these tags can be attached to a cell phone, and scanned by another device to locate the owner of the lost phone; the identical tags can also be attached to luggage, briefcases, laptops, and other frequently lost and found possessions, and then used to locate the rightful owner. At a unit cost often measured in pennies, these NFC tags and stickers can easily be worth more than their weight in gold when used to recover lost items.

With packages of these stickers containing multiple stickers selling for as little as a dollar, and bulk packages of NFC tags dropping the price down to less than a quarter each, it may be an inexpensive exercise to purchase some of the NFC devices and experiment with them. On the Google Play Store are dozens of NFC writers that tags (play.google.com/store/search?q=nfc%20writer&c=apps), many of the apps being free. Similar apps are available for Apple iOS devices. While many of the stickers and apps will work will all contemporary NFC enabled smart devices, some of the stickers are recommended only for specific model smart phones, as

different cell phone makers, and not all of them comply with the industry de facto standards. Still, it may be fun to experiment with the stickers. Watch for our local establishments to more widely attach these stickers to products and shelves. Some tables and nightstands in motel and hotel rooms are getting NFC stickers to securely enable authorized Wi-Fi service, display room service menus, and other hotel information. If you see a restaurant using these NFC stickers, try the digital menu and related services. Of course, you can use it as originally envisioned, as a secure method of payment for goods and services.

It is inevitable that these NFC tags and stickers will be appearing in more widespread locations. If your smart phone or device already has the NFC feature, try using it; you might find it to be fun, as well as a very useful function. If in the market for a new smart phone, strongly consider those that have the NFC feature. Even if you are not using NFC now, you may want to in the future.

## The AMD A10–7800 CPU

By Daniel Woodard, Member,

Dayton Microcomputer Association, OH The Databus  
www.dma1.org dgw (at) dma1.org

Is your computer bogging down, perhaps not powerful enough to handle daily tasks or games? You've surely heard the old adage: "Take two aspirins and call me in the morning." In the same vein, folks often would upgrade both a video card and the processor to try to speed up their PC. Recently, processors began arriving that combined both a traditional CPU and video card (GPU) into one unit. The recently released AMD A10–7800 is one of these, called an APU, or accelerated processing unit.

Although my computer had a fairly competent processor (Phenom II x4), the motherboard's onboard graphics were very weak, to the point where I was seeing huge amounts of lag when I or my kids were playing some basic browser games. I'm one of those folks who like simplicity, so I've enjoyed watching as LAN cards, sound cards and even video cards have been integrated onto the motherboard. This was fine at first, but eventually I found myself wanting to upgrade the video capabilities, and I'd rather be able to do this without having to pull the motherboard or add a video card. I've had video cards in the past, but prefer the fanless variety since they don't add background noise, and there's no fan that can go bad. Silent video cards with huge heat sinks are more of a niche market today, so prices for better performers have climbed up between \$75 and \$100. The AMD A10 range of processors offered exactly what I wanted, using the FM2+ socket. (first released earlier this year) The A10–7800 has what is probably the best built in graphics on a very competent but energy efficient processor. Since the graphics are built into the processor, there is no additional heat sink or fan required — it just uses the same heat sink fan that every CPU has anyway. Another advantage is that if I eventually decide to upgrade in a year or two, I can simply and quickly upgrade both the CPU and video elements of my system just by pulling the CPU and inserting a new one — no muss, no fuss.

My prior CPU was the Phenom II X4, running at 2.8 GHz. It drew 95 watts and put out quite a bit

of heat. The first thing I noticed about the new A10 CPU was that the heat sink was about half the size of that required for the old Phenom II. I hadn't expected it to be much smaller, considering that now there was also essentially a video card crammed in there as well! AMD's press release mentions that the processor supports UltraHD (4K) monitor resolutions. The A10–7800 (formerly known as Kaveri) also is touted as having 12 compute cores — 4 CPU and 8 GPU. It runs at a base clock frequency of 3.5 GHz, activating a turbo frequency of 3.9 GHz if an application is demanding. It has 512 video shader cores and a listed 65 watts of drawn power. Also incorporated is AMD TrueAudio, a built in DSP processor that provides dedicated positional sound effects calculation (including echo, etc.) for games. At the time of this writing, the processor is available for around \$140.

As I had mentioned, my main reason for wanting an upgrade was extreme slowdown/lag when playing browser games. I had also noticed an occasional lockup once or twice a month, and decided it was time to install new components. I used Browsermark and PCMark 8 to compare my system before and after the upgrade. Originally I had the AMD Phenom II x4 925 CPU and onboard Radeon HD 4250 video.

Phenom II x4 925 (4 core, 2.8 GHz, 95 watt) A10-7800 (4 core, 3.9 GHz, 65 watt)

Winrar 156 Megabyte compress 109 seconds 114 seconds

Hyper Pi 8m calc., 22 iterations 5 min. 26 seconds 4 min. 26 seconds

142 Watts full load, 83 W at rest 115 Watts full load, 60 W at rest

# of transistors: 758 million # of transistors: 2.41 billion

PCMark 8 casual Gaming 7.8 fps 28 fps

Browsermark Score 1,888 3,758

(full load vs. at rest tested using Handbrake, h.264/mpeg4 video, doesn't include monitor)

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Hyper Pi 8m calc., 22 iterations 5 min. 26 seconds	4 min. 26 seconds
142 Watts full load, 83 W at rest	115 Watts full load, 60 W at rest
# of transistors: 758 million	# of transistors: 2.41 billion
PCMark 8 casual Gaming 7.8 fps	28 fps
Browsermark Score 1,888	3,758

(full load vs. at rest tested using Handbrake, h.264/mpeg4 video, doesn't include monitor)

I performed a variety of benchmarks, such as using Winrar to try to compress a 156 Megabyte video file. This may not have been the best choice of file, since they are already highly compressed, but the resulting times were very close, even though the newer CPU clearly uses a lot less power to do the same job. Hyper Pi, which calculates Pi using as many cores as the CPU possesses, showed a marked improvement over the old Phenom II.

If you'll refer to the chart above, you can see that the A10-7800 has roughly three times as many switches/transistors as the Phenom II 925 did. To put that in perspective, my first computer, a TI 99/4a from about 1982, had a CPU with 8,000 transistors, while my first IBM clone in around 1990 had 275,000. Put another way, let's say that each switch represents a person. In that case, my first PC had close to the equivalent of my home town's population toiling away in there, while today it is roughly the equivalent to the population of Asia. Clearly, it won't be too long before there are more switches in my computer's processor than there are people alive.

I was also able to borrow a "Kill A Watt" energy testing outlet device from my Dad to get some interesting readings. For example, now I know that my monitor uses up about 27 watts, with the PC using another 60W when the system is not doing much of anything at the desktop. Without the monitor, the new A10 based system uses 115 watts when doing mpeg4/h.264 video file encoding, vs 142 watts on the old Phenom II system. With the side of the case cover off, I definitely could hear the APU fan become a bit noisier during the video encoding, (when the processor kicked into 3.9 GHz turbo mode) but it wasn't noticeable at all with the case closed. Considering

the performance per Watt used, this would be a great choice for a power limited system — if you want to upgrade capabilities without having to upgrade a system's power supply, for example.

Browsermark showed roughly a doubling of ability, while PCMark 8 showed nearly a quadrupling of casual gaming frames per second. Ultimately, I got what I wanted out of the upgrade — browser games are playable again, with no lag for detailed animations in games and such. The system now also has the capability of playing various games with 3D effects, such as mrst and third person shooters — something I definitely could not have done on my old system.

It wouldn't be fair to finish this review without at least trying a few games. The A10-7800 was able to handle a game called *King's Bounty* that needed a video card upgrade to play about three years ago, due to numerous rendered battle animations. For the past decade, many of the first and third person shooters and other 3D games have used the Unreal Engine. (UE) I downloaded game demos using the UE2, which was used to make many games from about 2003 to 2008, and the system worked flawlessly. I tried another game that was made with UE3, which was used from about 2009 to present, and again, it did a decent job, but not at the highest resolutions.

The next version of the Unreal Engine is UE4, which is currently being used by developers to make games that will come out starting in 2015, and probably for the next 5 years or so. Using a recently released demo of UE4, I was only able to get frame rates of about nine to fourteen frames per second, which is not playable. However, it is still orders of magnitude above what I would have

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gotten with any motherboard's onboard graphics, and probably about 15% better than a stand-alone R7 240 video card. To be fair, the UE4 development system is meant to push even high end video cards at this point — cards that probably cost more by themselves than this processor does. It makes sense for them to do this, because it takes at least a couple of years to develop the games. Also, today's \$350 Radeon R9 or Geforce GTX video cards will be equivalent to a middle of the road \$120 card 3 or so years from now. APU's such as the A10-7800 are very unlikely to ever interest either of these two groups: overclockers or video card enthusiasts. AMD wasn't going after either of these markets, so it shouldn't be a surprise. What AMD wanted to do was to offer a relatively inexpensive option for people who like to have what you might consider some mid-range graphics built into the processor. Intel has also started doing this, with Intel graphics built in to a number of their processors now. At least for present, AMD definitely has the upper hand as far as video game framerate on these, however. Looking over numerous online benchmarks, I found that the Intel processors could crunch numbers a bit faster, but that the AMD APU's often had double the game framerates. I guess if you spend most of your time compressing files or doing intensive calculations, Intel might be a better choice. However, if anyone in your house plays games, the AMD APU would probably be a better investment. In a nutshell: I give the A10-7800 a 9.5 out of 10 for energy efficiency and for being able to cram this much video processing ability into an APU. It would probably play 95% of the games out there currently, and you could easily spend \$60 to \$70 on a stand-alone video card that would not outperform this. That said, this is probably a better choice for those who occasionally try first person shooters, considering that it is unlikely to perform well in graphics heavy titles coming out in 2015 and later. For those who leave their PC's on all the time, the savings on an electric bill alone would likely pay for the cost of the A10-7800 in one or two years. This is especially true if your current system has older (released 2010 or before) stand-alone video cards or processors that draw 90W or more.

## Mac Tips of the Month

Ernie Cox, Jr.,

Member, Computer Club of Green Valley, AZ  
Green Bytes [www.ccgval.org](http://www.ccgval.org)  
ecoxjr (at) cox.net

Create, Find, & Modify Notes with Siri in iOS <http://osxdaily.com/2013/03/11/create-find-modify-notes-with-siri-in-ios/>

How to Format Text & Insert Pictures Into Notes in iOS <http://osxdaily.com/2014/11/20/format-text-insert-images-notes-ios/>

50+ Tips & Tricks for the iPhone 6 & iPhone 6 Plus!  
<https://www.youtube.com/watch?v=TIh-DudoPFI>

iPhone 6 – Complete Beginners Guide  
<https://www.youtube.com/watch?v=KSgOm6hW2Zw>

How to manage your iCloud security and Apple Pay settings from the Web  
<http://appleinsider.com/articles/14/11/29/how-to-manage-your-icloud-security-and-apple-pay-settings->



## April 18 Fairfax Meeting What is Computer Forensics?

Presented by Bob Osgood,  
Director – Computer Forensics and Data Analytics Engineering, George Mason University

Computer forensics is a field where computer science, computer engineering, law, and ethics are combined with the goal of collecting, analyzing, and reporting on digital evidence, so the evidence can be admitted to a court of law. The briefing will present an overview of computer forensics to include what Mason is doing in this area.

Bob Osgood is the Director of Computer Forensics and Data Analytics at Mason and retired after 26 years as an FBI Agent with extensive experience in digital forensics.

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26	27	28	29	30		

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