



THE WYSIWYG



\$3.00

December 2015

Volume 27, Issue 10

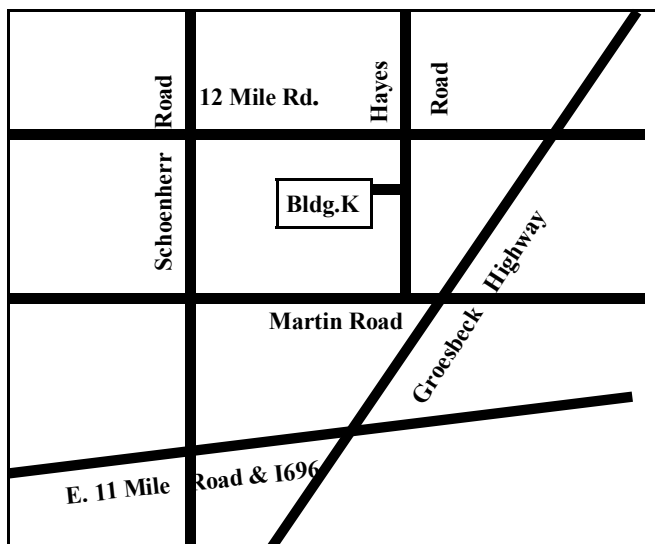
STERLING HEIGHTS COMPUTER CLUB

PO Box 385

Sterling Heights, MI 48311-0385

**MAIN MEETING: TUESDAY DEC 1
6:30 PM (changed from 7:30)**

Macomb Community College
South Campus
14500 E 12 Mile Road, Warren
John Lewis Community Center
(Building K)



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This Month's Main Meeting Topic:
 "Privacy/security web sites and utilities relating to Windows 7-10, smartphones, and android devices.",
 presented by member Mike Bader

PC SIG Meeting:

December 29, starting
at 6:45 at the
Sterling Heights
Public Library

The SIG will plan to meet every other month, at this location, if people continue to attend.

Sterling Heights Public Library

The Sterling Heights Public Library, at 40255 Dodge Park Road, is located just south of Utica Road. A large sign reading "City Center" marks the driveway to the library and parking. The Programming Center, where the meeting is held, is just inside the front door of the library.



Guests and visitors are welcome. People can attend any SHCC meetings during two consecutive months before deciding to become a member or not. Meetings include the main meeting and SIG. July and August don't count since there is no main meeting. Membership includes admission to all SHCC functions and the newsletter. Membership is open to anyone. It is not limited to the residents of Sterling Heights.

DUES: \$25/YEAR

CLUB ADDRESS: PO Box 385, Sterling Heights, MI 48311-0385
CLUB E-MAIL ADDRESS: Info@SterlingHeightsComputerClub.org
CLUB WEB PAGE: http://www.SterlingHeightsComputerClub.org

Resource People:

Family Tree	Rick Schummer
Firefox	Don VanSyckel
FoxPro	Rick Schummer
General Computer Questions	Jack Vander-Schrier
Hardware	John Rady
MS Publisher	Rick Kucejko
MS Word	Rick Schummer
Spreadsheets	Rick Schummer

SHCC Coordinators:

Associate Editor	Rick Schummer
Door prizes	Don VanSyckel
Greeter for visitors	Jim Waldrop
Newsletter publisher	Rick Kucejko
Novice SIG	Paul Baecker
Program Coordinator	Mike Bader
Publicity	Patrick Little
Resource People	open
PC SIG	Jack Vander-Shrier
Welcome & check-in desk.	Jim Waldrop
Web Site	Don VanSyckel
Web Watch column	Paul Baecker

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(Call Jack after noon)

2015 SHCC Officers

President: Don VanSyckel
 V. President: Mike Bader
 Secretary: Rick Kucejko
 Treasurer: Paul Baecker

Four Month Meeting Schedule:

DECEMBER 2015

- 1 - SHCC – Privacy/security web sites and utilities relating to Windows 7-10, smartphones, and android devices.”, presented by member Mike Bader
- 2 - COMP meeting
- 6 - SEMCO meeting
- 29- PC SIG

FEBRUARY 2016

- 2 - SHCC – Main Meeting
- 3 - COMP meeting
- 7 - SEMCO meeting
- ? - PC SIG

MARCH 2016

- 1 - SHCC – Main Meeting
- 2 - COMP meeting
- 6 - SEMCO meeting
- ?- Novice SIG

JANUARY 2016

- 5 - SHCC – Main Meeting
- 6 - COMP meeting
- 3- SEMCO meeting
- ? - Novice SIG

Other Computer Clubs:

As a member of SHCC, you can attend meetings of other clubs where we have reciprocating membership agreements, at no charge.

Computer Club of Marysville and Port Huron (COMP)

Time: 1st Wednesday, 7:00PM
 Place: Mackenzie Bldg, Room 201, St Clair Community College, Clara E McKenzie Library-Science Building, 323 Erie St. Port Huron, MI (810) 982-1187
 Web Page: http://www.bwcomp.org
 Reciprocating: Yes

South Eastern Michigan Computer Organization (SEMCO)

Time: 2nd Sunday at 1:30PM
 Place: Altair, 1820 E Big Beaver Road, Troy, MI 48083
 (248) 840-2400
 Web page: http://www.semco.org
 Reciprocating: Yes

Royal Oak Computer Club

Time: Every Wednesday at 12:30
 Place: Mahany/Meininger Senior Community Center 3500 Marais Ave. Royal Oak, MI 48073
 248-246-3900
 Reciprocating: No

Newsletter submissions are due 10 days before the club meeting, but the earlier the better. They should be sent to :
 WYSIWYG Publisher
 5069 Fedora, Troy, MI 48098
 OR at the e-mail addresses: newsletter@SterlingHeightsComputerClub.

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The President's Pen

by Don VanSyckel



We had a great meeting last month. Several different things happened. First, before the meeting, people were buying raffle tickets. More on the raffle later. After the meeting started we had election of officers. As has happened before, we had one person nominated for each office. The current officers were each elected to another one year term.

We were pleased to welcome Mr. Richard Tapaninen from Micro Center in Madison Heights as the presenter. Mr. Tapaninen presented "What's Hot For The Holidays" which he has done in years past. This year was very interesting. Not only for the stuff that he showed but also the discussion of the industry and where things are headed. Mr. Tapaninen works at the Miro Center store across from Oakland Mall. I encourage you to say hi when you're in the store. It's always good for presenters to know they're appreciated.

At the end of the meeting we held the raffle drawing. A member had donated two computers loaded with Linux and an Android tablet. The officers decided to do a raffle for these items since they were considerably out of norm of our door prizes. I asked Mr. Tapaninen to draw the winning raffle tickets. I was surprised when he pulled Mike Bader's ticket. Mike is our VP. Then Mr. Tapaninen pulled a second ticket which was from Rick Kucejko, our secretary. I was shocked. Mr. Tapaninen pulled a third winning ticket and to my relief it wasn't another officer. The proceeds from the raffle will be used for future door prizes.

A couple of items have crossed my path that seemed legitimate but weren't. So I'd like to take this opportunity to remind all my SHCC friends of a few safety tips.

1) No one is going to give you money, for any reason or under any circumstances. So don't click that link no matter how curious you are. Simply delete the email.

2) Before clicking any link in any email, always hover over it and observe the destination in the lower corner of your email reader. If the email address doesn't match the email content, don't click the link. Remember to read the entire link address in the lower corner. A popular trick is to set up under a seemingly valid name. For example: google.com.ru Looks like Google, right? The domain is "com.ru"not google.com Don't be fooled or be in too big a hurry.

3) Be leery of any company that's using gmail for business. Come on now; domains cost \$10 to \$30 per year and offer email and email forwarding. So why would any honest company do business via a free email account that offers no security or authentication.

4) Stay away from online gambling sites. Regardless of the URL address, virtually all of them are located outside of the US and no rules apply. That's no rules apply. It doesn't matter what the web site states. If you need to gamble make a trip downtown to one of the casinos or there's bus trips to Mount Pleasant and Kalamazoo.

If you don't understand any of the items above, ask someone. If they don't know ask someone else or ask the question at the SHCC meeting.



If your dues are paid the month they are due, as shown on the invoice the club sends, you automatically get an extra month of membership. This policy has been in effect for many years but newer members may not be aware of this "free month" policy.

Last Month's Meeting

Last month we were treated to "What's Hot For the Holidays" presented by Mr. Richard Tapaninen of micro Center, Madison Heights. Lots of interesting stuff was talked about. It was a great meeting.



Member Ads

Ads are available free to SHCC members, and are limited to computer related items for non-commercial purposes. Any ad shall be a maximum of twelve newsletter lines of text.



6:30 PM Main Meeting Time

Club meetings will need to start at 6:30, and finish around 8:00. We all need to be done and out the building by 8:30.

Food is not permitted in the room before or during the meeting per our current rental agreement with the college.



Door Prizes

A raffle was held during the November meeting, instead of the normal door prize drawings. The winners of the raffle were:

Mike Bader won the tablet

Rick Kucejko won a computer with Linux Mint 17.2 installed

Don Hjelle won a computer with Linux Mint 17.2 installed



New Project Fi Wireless Phone Service Available From Google

by Ira Wilsker

WEBSITES:

<https://fi.google.com/about>

<https://fi.google.com/about/network>

<https://fi.google.com/about/plan>

<https://fi.google.com/about/experience>

<http://www.engadget.com/2015/04/22/google-project-fi>

<http://www.fool.com/investing/general/2015/05/02/is-googles-fi-the-cheapest-phone-service.aspx>

<http://money.cnn.com/2015/04/22/technology/google-project-fi-wireless-service/index.html>

<https://googleblog.blogspot.com/2015/04/project-fi.html>

<https://fi.google.com/coverage>

<https://fi.google.com/about/faq>

<https://store.google.com/category/phones>

One of the annoyances of modern telecommunications technology is its penchant for having inadequate coverage or dead spots in areas other than the major metropolitan areas. When traveling with family and friends, who in aggregate have smart phones and other devices from T-Mobile, AT&T, Verizon, and Sprint, the one constancy is that we all do not have the same level and degree of broadband wireless coverage at any given time. For example on a recent trip through the Piney Woods to a final destination in northern Louisiana, we had two of the above carriers represented in the car, and while both services each had some data connectivity during most of the trip, at differ-

ent locations only one or the other had data connectivity, with several areas of dead spots for both. The data connection results from the Louisiana trip somewhat matched the varying degree of connectivity we had with multiple carriers on an earlier trip through central and southern Mississippi by way of southern Louisiana. It has become obvious to us that there are distinct qualitative gaps and coverage dead spots in each of the individual carriers' coverage, often in contradiction to those carriers online coverage maps.

Google, well known as an innovative technology organization, is now making available in much of the country a "new" wireless phone service that may potentially reduce the number of dead spots and weak signal strength areas. Google's new "Project Fi", originally announced earlier this year, is now starting to offer more "invitations" to sign up for its service which currently combines the 4G LTE networks of T-Mobile and Sprint, along with over a million high quality Wi-Fi hotspots, thus greatly improving cellular coverage, as the combination of coverage from multiple carriers is synergistic. The Google Project Fi system automatically and seamlessly connects to, and switches between, whatever mode of connection and carrier provides the strongest and fastest connection at that instant. If a participating 4G LTE network is unavailable at any particular location, Project Fi will then automatically attempt to seamlessly connect the user to the next fastest available network which may provide service at 3G or 2G speeds. According to Google, "Through new technology developed with our partners, Project Fi puts you on the best available network between Wi-Fi and two 4G LTE networks. This means you get access to more cell towers and 4G LTE in more places."

Project Fi connected smart devices can also place and receive calls and text messages, as well as access data, when connected to any of the more than one million participating Wi-Fi hotspots. Google has identified over a million Wi-Fi hotspots that it has determined to be fast and reliable, with Project Fi connected phones utilizing these hotspots whenever possible in order to minimize any wireless data charges, as there is no charge for data or other usage when connected to Wi-Fi. The integrated communications hardware built into Project Fi compatible phones and smart devices will seamlessly "hand off" calls and data connections between cellular providers and Wi-Fi hotspots, depending on location, speed, and signal strength. In order to properly secure the Wi-Fi connection when utilized, Project Fi and its compatible hardware devices automatically encrypt all of the user's data while on a hotspot, thus creating a secure connection generally safe from eavesdroppers and hackers. This Wi-Fi connection is especially secure, because in the words of Google, "When Project Fi automatically connects you to an open Wi-Fi network, we help protect your data by sending it through a secure connection, known as a Virtual Private Network (VPN). This secure connection protects your data from being looked at by other users on the open Wi-Fi network."

For those who may own multiple compatible devices (a selling point not lost on Google), any device that supports the Google Hangouts app can also be used to send and receive calls, text messages, and video text messages over the Project Fi connected device. Currently, most Android devices (tablets and smart phones), iPhones, iPads, iPod Touch, Mac powered computers, Windows computers, and Chromebooks can utilize their own native versions of the Google Hangouts app to access the system. Users of the Gmail email service can also send and receive texts from a widget in Gmail when using a computer. Project Fi will automati-

cally synch the appropriate message content between all connected devices. All domestic texts and calls placed from any connected device through Project Fi are free, but there may be a nominal charge for international calls and texts.

For those interested in signing up for service with Google's Project Fi, an invitation can be requested through the link on any of the Project Fi websites, or directly from fi.google.com. Prior to sending an invitation to the user, Project Fi checks for local availability at the user's zip code, and is currently sending out only a limited number of invitations as the network is being developed and expanded. I had actually applied for a Project Fi invitation about 6 weeks ago, and just received my invitation a few days ago. While I would really like to try the service, I do not (yet) have a compatible smart phone, as the only readily available primary devices are a few of the Nexus models, notably the recent models manufactured for Nexus by Motorola (some of the Nexus 5 and 6 models), and the newly released Nexus models manufactured by Huawei and LG. While most of the Nexus branded phones sold directly by Google are unlocked and will work on many of the major domestic and international carriers, only a few of the newer models will work on the Project Fi system. Specifically, Project Fi currently requires a Nexus 6, Nexus 6P, or a Nexus 5X, which are available directly from Google (store.google.com/category/phones) in the \$350 to \$650 range (no contract), but are also available from several online third party sellers at deeply discounted prices. Personally, I am strongly considering purchasing one of the Project Fi compatible, Motorola manufactured Nexus 6 phones with 32 GB of internal memory for slightly less than \$300, or the similar model with 64 GB of internal memory for under \$350. While these phones are fully compatible with my current cellular provider by simply inserting my current SIM card into the phone, I would more

likely use the new Nexus phone with the Project Fi provided SIM card which will allow access to what Google calls its "Network of Networks". At present, these are the only phones supported by Project Fi, while it is likely that others manufacturers will be offering Project Fi compatible phones in the future. While all of the recent Nexus phones are running the latest version of Android, and are typically the first to receive any Android updates and upgrades, the radio hardware incorporated in these Project Fi phones is what makes them different than their competitors, regardless of operating system. These particular models of Nexus phones are unique in that they utilize a cellular radio that can contact the towers of several different carriers, utilizing several different cellular protocols; Google describes this in simple terms, "... imagine if your car radio only supported AM or FM radio instead of both!"

Some of the early reviews of the Project Fi wireless service have claimed that it is generally among the lowest cost providers of unlimited text and talk phone service, with users only paying for the cellular high speed data that they actually use, recognizing that any data access over Wi-Fi networks is always free of charge. Google offers Project Fi with what it calls its "One Simple Plan" with no contract, which for \$20 per month (plus the inevitable taxes) includes, "... unlimited domestic talk and text, unlimited international texts, Wi-Fi tethering to use your phone as a hotspot, and access cellular coverage in 120+ countries." Cellular data carries an additional "budgeted" fee of \$10 per GB per month for data over a cellular network (Wi-Fi data is always free), but the user only pays for the cellular data actually used; any data overage collected in any month is automatically credited the next month. When opening a Project Fi account, the user sets a cellular data budget, which at \$10 per GB, is billed on a monthly basis. Any overage is promptly credited, as explained by Google, "If your data

usage at the end of the month is less than your data budget, you'll get a credit for approximately one cent per MB. For example, if your data budget is 2GB and you use 1.265GB, you'll get a \$7.35 credit. ... if your data budget is 3GB and you use 2.2GB, you'll get \$8 (for 800MB of unused data) to use next month to lower your bill." In my opinion, this is a very fair system of determining cellular data charges, making it often more economical than the fees charged by other carriers, as many of their users end up paying for data that they never use; my current data plan with another major carrier includes 10GB of data which I pay for every month whether I use it all or not, but in reality I only use a tiny portion of that data most months. Potentially, Project Fi could be a significant money saver for me.

At present, the \$20 per month no-contract, unlimited talk and text plan with the \$10 per GB cellular data charge is the only plan available; there is not yet a "family plan" available, although several published pundits have indicated that Google may be considering such a plan. Users who have an existing plan with another carrier can easily port (transfer) their current phone number to a phone on Project Fi. Likewise, users who already have a Google Phone account (other than Project Fi) can have their Google Phone number work on their Project Fi phone. If a user has one of the Nexus branded Project Fi compatible phones, and desires to change to a different carrier, it may only be necessary to swap the Project Fi SIM card with a SIM card provided by the new carrier (some carriers do not use SIM cards). Since there is no contract with Project Fi, there are no termination or cancellation fees connected with the account.

My current cellular contract has expired, and I had purchased my current phone outright from a major online seller without any subsidy or contract, so I am free to change carriers if I wish. A new Nexus phone compatible

with Project Fi, as well as the Project Fi service are available at very competitive, even potentially money saving, price points. The holidays are approaching. Maybe a new phone

with Project Fi might mysteriously show up at my house.

This article was reprinted with permission of the author, Ira Wilsker.

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The Tip Corner

by Bill Sheff, Lehigh Valley Computer Group, Pennsylvania
www.lvcg.org nsheff@aol.com

A while back I was searching for an image that I wanted to put in a small video I was making. The next thing that happened was a screen came up with a warning of multiple trojans and viruses, with a voice override telling me not to try and remove anything, but to call this number. The top of the screen purported to come from Microsoft. Well, that is not the way Microsoft does business, so I did not try and call the number, but no matter what I tried, I could not get rid of the screen and vocal that accompanied it. Finally, I went to Task Manager (Control>Alt>Delete) and ended the browser session.

When it went away I did a malware check, ran CCleaner and scanned for viruses with Avast, and found nothing malicious. CCleaner cleans out the cookies and temp files routinely, so I am trusting that my computer is clean. To turn this into a tip: Be aware that bad things can come even from so called good sites. Be prepared to run checks on your computer periodically. In addition have an up-to-date backup you can reinstall. Additionally, when I do downloading, I put the files into a subfolder in my Download folder. And I then run a scan on the subfolder – especially if there is an .exe or .com file that you want to load on your computer. Don't be paranoid, but do be careful.

The End of XP

In a past column I mentioned that you could switch to Ubuntu, a Linux program which is faster than XP and is more secure. But if switching sounds

too daunting for us newbies, let's look at some other alternatives.

One option is to stick with XP but take the computer off-line. That certainly removes any threats and you have the program you are used to using. But if you need the Internet what do you do? As mentioned in that past column, you could switch to Ubuntu. You can then use a Windows Emulator such as Wine to run programs. This is not a free program and it could take some time to set up and run.

You could also set up your computer to do a dual boot with both XP and Ubuntu, and only go on-line with the Linux operating program.

One of the reasons people do not want to upgrade (besides cost) is the hassle of moving files to another machine. I keep all my data on an external drive that plugs into a USB2 port, so I can switch machines and be able to have all my data right at hand. I also use a 1TB drive that is USB3, but works on a USB2 port, where I keep the Document folders of each machine that I have. (and I have three PCs, two tablets and a smart phone.) All your data files are in your document folder and the public folder. My tip column can start off being written on my PC, but I will sometimes switch if the machine has to be used by someone else. All I do is unplug the external drive from the PC and plug it into the Laptop and I am off and running.

Another reason people do not want to upgrade is the hassle of rein-

stalling their programs. And it is true, some of them will not work on the new machine. However, as I have often stated, there are so many free – or very reasonably priced – programs out there just waiting to be downloaded. For example, you have Microsoft Office, probably an older version. Hop on the net and download Open Office or Libre Office for free, and they will read your old Microsoft files easily. And that includes Excel and PowerPoint like programs included.

I would not advise trying to load an updated Windows program on your old machine. Your old machine is sadly lacking in memory, and Microsoft is a memory hog. It will run slow and clunky or not at all on the older machines. So the last choice is:

Buy a new computer. You could probably use your existing monitor, or even plug your computer into your TV set, so the cost is not that bad. You can search on line for some very good deals. I would suggest that 4GB of RAM as a minimum, but some of the new machines come with up to 16 GB or even more. And Microsoft is offering a free upgrade to Windows 10 which will speed up the Windows 8.1 on the newer machines. I believe that the offer is also for Windows 7. But the key is RAM. And the new machines do so much more. HDMI for TV hookup, USB3 ports for super transfer speeds to name just a few items that should wet your whistle. And if you start using an external drive, there is no hassle with copying files.

Transferring Files

Along with the external drives I use for data and backup, I also

have a few other external drives that I use for special projects, such as music and video files. I have a few of them around. They were obtained when I moved up to a new computer. I took the hard drive out of the computer before I donated it (good security), and purchased an external housing which provided connection to electrical power and a USB connection. It is a simple matter to reformat the drive using the quick format which essentially just removes the FAT (File Allocation Table) that points to the programs and data on the disk. The files are not deleted but are no longer read. And as you use the drive the old data is overwritten.

When you are ready to throw away the old drive, don't just throw it away. Drill a hole through the disks, and hit it a few times with a mallet.

Find Your Android Phone

When I misplace my phone in the house, I use another phone to call it, and then trace the sound to locate its position. But what if it was not left in the house, or even worse, stolen? What to do? Google to the rescue.

On any computer, open a browser and go to androiddevicemanager.com and sign into your Google account.

Select the Android Device, you're looking for. A map will show you where your phone is located.

You then have a few options at your disposal. If the phone is nearby you can have it ring. You can lock the phone to prevent someone else from using it until you get to it. And if you think your

phone has been stolen you can erase all of your data. You can provide an alias for your phone by clicking the little pencil symbol and type in the name you want for your device.

Be aware that ring and locate are enabled by default on most phones, but to make sure the options to erase and lock the phone are available, you'll want to look under your phone settings, then find Device administrators, and make sure Android Device Manager has permission to erase and lock your device. A neat safeguard for your phone.

Libre Office Portable

Many of us have taken advantage of the free LibreOffice Suite. It is a suite that contains a word processor, spreadsheet, presentation tool, drawing package and database. Now you can get the Libre Office Suite as a Portable program that will fit on a flash drive. It is packaged in PortableApps.com format so it can work with the PortableApps.com platform and its automatic updater and app store, which means it can work with other portable menus. But it can also work by itself from a USB, cloud or local drive. This is a full-featured portable version of LibreOffice which includes all the programs I mentioned above. This means you can put a thumb drive in your pocket and plug it into your tablet while traveling on a bus or plane. And like the big version this is also open source and completely free. Find it and other information at <http://libreofficeportable.org>.

Your Next Computer

With Windows 10 about to become a reality for most of us sometime soon, perhaps now is the time to consider what you want in a computer.

The first question is desktop or laptop. Both have their strong and weak points, but with laptops getting more and more powerful plus the ability to plug into a larger monitor or even a large TV tips the scale towards the laptop. True you can't add any cards, but today's motherboards usually have everything you need.

Because of their small size, laptops are usually more expensive than desktops, however if you want to save some bucks look around for a used or refurbished machine. A refurbished computer is a computer that has been returned to the company and has been checked out as good but cannot be sold again as new. All major computer manufacturers have a refurbished section showing all their available refurbished products. Buying one of these computers instead of a new computer can save you hundreds of dollars.

If you plan to buy a used one, double check that there is no physical damage and all the ports are in good working order.

Today many computers have the restore disks right in the hard drive, so make sure you do have the capability to make a set of restore disks if the machine did not come with them. With a refurbished machine you usually get the same warranty as with a new machine. But most warranties do not transfer to a new owner when buying a used machine.

I will not comment on whether or not to get a PC or MAC, but be aware that any software for a MAC machine will cost a lot more than for the PC, and also there is a lot more freeware to be had with Windows.

Make sure the CD drive is able to support at least DVDs. A plus if it comes with Blu-ray. I haven't heard of a device that will not burn or play plus/minus R or RW discs, but ensure that it does.

Even if all you plan to do is send emails to the kiddies, memory is the

most important. Microsoft is a memory hog. They say that you need one to two GB of RAM, I say don't even look at a machine with less than 4 GB. The more memory, the faster the machine.

Most users today are using broadband Internet. A cat 5 port is a must for those of you who still think a phone hookup is good enough for you. But trust me, pay the extra and get broadband. There are so many downloads available that speed is really a necessity.

Both Intel and AMD are quality processors. Just insure that they are fast enough. Dual and quad core motherboards are getting to be pretty standard now.

Sound and video cards on the motherboard are also pretty good. But if gaming is your thing the fast screen changes might require a faster video card with its own memory, which you won't find on a laptop.

You should have an USB port and HDMI Microphone and earphone

plugs. Try and get a machine with a USB3 rather than a USB2. While the attached externals will work with either, a USB3 external drive will transfer at 150MB/s or ten times faster than the USB2. You can add hubs onto the ports so, if you are unhappy with the keyboard of a laptop, you can purchase a mouse/keyboard bluetooth set to give you the capability of a regular desktop.

Very little documentation comes with today's machines. Some give you a manual on the hard drive, but you can always go to their site and download one.

Know what the return policies are in case of problems. Usually, you cannot bring the device to the store you purchased it from for repairs, but usually you can return it if you find it is not what you wanted.

This article has been obtained from APCUG with the author's permission for publication by APCUG member groups.



Another Massive Malware Attack On Android Devices

by Ira Wilsker

WEBSITES:

<http://img.talkandroid.com/uploads/2015/11/>

Look-

[out_map_torjan_virus_android_security_100615.png](http://img.talkandroid.com/uploads/2015/11/lookout-new-sneaky-android-adware-tries-to-root-phones/)

<http://www.ghacks.net/2015/11/06/lookout-new-sneaky-android-adware-tries-to-root-phones/>

<https://thystack.com/security/2015/11/04/trojanised-adware-including-newcomer-shuanet-infects-20000-recoded-android-apps/>

http://virusradar.com/en/Android_TrojanDropper.Shedun.N/description

http://securitynewswire.com/securityvirus2012/article.php?title=Android_Shedun.C.Gen

<https://blog.avira.com/shedun/>

http://www.virusradar.com/en/Android_TrojanDropper.Shedun.O/description

<http://betanews.com/2015/11/05/shuanet-shiftybug-and-shedun-malware-could-auto-root-your-android/>

<http://www.extremetech.com/mobile/217544-new-android-adware-tries-to-root-your-phone-so-you-cant-remove-it>

<http://www.talkandroid.com/272855-new-android-malware-virus-puts-millions-of-devices-at-risk/>

<https://threatpost.com/shuanet-adware-rooting-android-devices-via-trojanized-apps/115265/>

<http://www.stopbadapp.com>

<https://play.google.com/store/apps/details?id=com.secure.privacyshield>

<http://www.techsupportalert.com/content/best-free-antivirus-app-android.htm>

Another coordinated malware attack on Android devices has been detected. This particular family of malware has evolved through at least three modifications, each apparently to evade the defenses and tools that have been created to prevent their infection of Android devices, and make their removal very difficult, if not impossible. These three related malware threats are known as Shuanet, Shiftybug (also called "Kemoge"), and Shedun (also known as "GhostPush"), and are known as a type of malware "Adware", which is designed to generate revenue for the malware authors by generating paid advertisements on Android devices. While adware is generally considered more of an irritant than a threat, Android devices thus infected can later become vulnerable to more nefarious types of threats.

Android powered devices have become a target of malware authors because of its massive user base, with nearly two billion Android powered devices in use, according to Wikipedia. While Google explicitly designed Android as a secure operating system, with its apps running in a virtual "sandbox" where an app can theoretically not infect the operating system, the miscreants who create and distribute malware have uncovered a "chink" in the Android armor that has enabled them to "root", or gain "privileged control"

over the operating system. This gives the malware access to the core operating system, allowing them to alter or replace system applications, modify system settings, "sideload" questionable apps, and run specialized apps (the malware apps) that would otherwise require the highest administrator level permissions; these permissions are typically denied to the typical Android user in order to protect the system and device. This malware tricks the system into believing that it has the requisite top level administrative authority, and places itself in the otherwise well protected heart of the operating system, making it nearly impossible to remove. While Google has released patches to the Android operating system that could close this vulnerability, relatively few users have been able to install these patches on their devices because the patches have to be "pushed" to the devices by third parties, such as the cell phone providers or device manufacturers, which only a few have done.

These three particular malware have been infecting thousands of Android powered smart phones, tablets, and other devices every day, according to Lookout, a leading Android related security company. According to Martin Brinkmann, in his column "Lookout: New, sneaky Android adware tries to root phones" published by ghacks.net on November 6, 2015, "Lookout stated that it discovered the adware, dubbed Shuanet, in more than 20,000 popular re-packaged applications including Facebook, Candy Crush, New York Times, Snapchat, Twitter or Whatsapp." These 20,000 "re-packaged apps" were generally downloaded by the users from third-party sources, and not directly from the Google Play Store, even though it has been widely rumored that Google did detect and immediately remove a handful of purloined apps from the Play Store. While by default most Android devices will only download apps from the Google Play Store, it is a very simple process for users to go to their device settings and allow app downloads from third party sources.

According to Brinkmann, "These apps function normal for the most part, and the only indicator that something is not right is the occasional ad popup they display on the device. This is one of the few indicators users get on their device that something is wrong. Good news, and that is just cold comfort, is that the malicious code is only designed to display adware on the user's device." The problem is that these same techniques could be used to install more dangerous malware on the unpatched devices that could theoretically be used to steal user data and information, or worse.

Several of the publishers of Android security software now list Shuanet, Shiftybug, and Shedun as malware that they can detect and prevent from being installed on an otherwise "clean" device, but at present, there is no really effective way to totally remove these infections already present without totally wiping out the operating system and all of the data on the device, and installing a fresh copy of Android on the device. While a gross inconvenience and somewhat time consuming to do, this procedure may only result in a device that may still be vulnerable to future infection, unless an updated and security patched version of Android is installed. Likewise, the user of this recently renewed software must resist the temptation to download apps from "less than reputable" third party sources, although some third party app vendors, such as Amazon, routinely scan their available apps for malware before making them available for download. If users have backed up their apps by saving copies of their associated APK files (install files) before wiping the device, these users could immediately reinfect their devices by reinstalling the same APK files, some of which may have been previously infected; rather than risking another infection, it may be better to download fresh copies of all apps from the Google Play Store, Amazon, or another totally reputable source, and not getting apps and APK files from questionable sources.

Several of the major Android security companies are reportedly developing ways to mitigate and control the ads appearing as a result of these malware "Adware" infections. One particular product which claims to control these illicit ads is "Ad Clean & Antivirus Security", published by Hong Kong based StopBadapp (stopbadapp.com), and available from the Google Play Store. According to the StopBadapp website, "Our work protect mobile life of people and organizations from becoming victims of adware, spyware, malware, greyware, and other bad apps." Among the illicit ads supposedly minimized with this product are "Push ads", "Shortcuts ads", "Float ads", "Popup ads on home screen", "Disturb Interstitial ads", and "Pop up browser and redirect download link to Play". While the "Ad Clean & Antivirus Security" app is itself free, there are optional in-app purchases ranging from \$2.99 to \$29.99.

While it is a shame that some people would illicitly make money by bombarding us with unwanted and intrusive ads on our Android devices, it is especially aggravating that the malware that is bring us these irritants cannot be easily removed from our devices. It is especially onerous that the same technology that is bringing us this malware can also potentially be used to bring even greater threats to our privacy and personal security. According to a November 6 article on Threatpost, "Shuanet Adware Rooting Android Devices Via Trojanized Apps", by Michael Mimoso, quoting a report from Lookout Security, "We expect this class of trojanized adware to continue gaining sophistication over time, leveraging its root privilege to further exploit user devices, allow additional malware to gain read or write privileges in the system directory, and better hide evidence of its presence and activities." Google, device manufacturers, cell phone providers, and the security software publishers will inevitably become more involved in the security of our connected devices in order to protect their markets.

While we wait for security technology to catch up "cat and mouse" style with the intellectual bad guys who create this rubbish, there are things that we as Android users can do to enhance our protection to a significant degree. As with other forms of computing, we really do need a comprehensive security app in order to protect our Android devices; several excellent free security apps are available, and these security apps are evaluated and rank ordered on Gizmo's TechSupportAlert.com at techsupportalert.com/content/best-free-antivirus-app-android.htm. Many of the better known commercial publishers of desktop security software also publish either free or paid security apps for Android, and may be worthy of consideration. We also should be very

wary about downloading apps, and avoid questionable sources, reserving our app downloads from the Google Play Store or know vendors such as Amazon.

While Android by far has the greatest installed base of smart device users, it is inevitable that the technology utilized by these cyber crooks will be ported over to other operating systems, specifically Apple's iOS. Users of these other smart device operating systems should not be smug and belittle Android users, as you might very well be the next target of these bad guys

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Computer Experiments

by Dick Maybach, Brookdale Computer Users' Group, NJ

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In the early days of PCs, we had no choice but to experiment with them. Back then, what today are simple changes required changing hardware and software configurations. Since a PC was more of a toy than an essential appliance and stored no important information, if a problem arose it affected nothing except the PC itself. Contrast this with today, where we rely on our PCs for essential communication, for filing our taxes, and for storing important information. All this makes us reluctant to experiment lest we lose an important asset. The result is that as we come to depend more and more on our PCs, we tend to know less and less about them.

The solution is to use a safe "sandbox" where we can experiment without risk, and we can implement one with either hardware or software. This isn't always necessary; for example writing computer gaming software usually doesn't endanger the PC on which it runs. In fact, all modern operating systems restrict what applications can do, in particular, they are usually pre-

vented from making changes in the operating system or other applications. However, applications are allowed to modify user files. If this concerns you, create a separate account for your experiments.

There are several approaches you could use: boot from a live CD-ROM, dual boot two operating systems on one PC, or use a virtual machine, an old PC, a Raspberry Pi, or an Arduino. One or more of these probably suits your purposes.

In the live CD-ROM approach, you use a special operating system that runs from a read-only medium rather than a hard disk. Such media also include live DVDs and live memory sticks. You can use these on any PC that will boot from a CD-ROM or a USB device. (Booting a live media on a Mac can be problematic, with many people reporting problems. There is a utility that creates a live USB memory stick that boots on a Mac, <http://www.makeuseof.com/tag/how-to-boot-a-linux-live-usb-stick-on-your-mac/>, but

I haven't tried it.) The advantages of this approach are that it doesn't require any changes to the host hardware or software and that when you power down and remove the live medium the host system is unchanged. However, there is a substantial performance penalty because of the low data-transfer rate of the live medium, especially if it's a CD-ROM or DVD. Also it is generally not possible to update the live OS or to add applications to it. Almost all live CD-ROMs are Linux, and the main uses are to see if your hardware is Linux compatible and to run diagnostic or high-security software.

In the dual-boot approach, you either partition your hard disk or add a second disk, install a second operating system, and modify the disk boot record to allow you to choose which system to run at boot time. Because this requires making substantial changes to your software configuration, you must proceed carefully. The best time to do it is on a new PC that isn't storing any vital data. Thus, when you acquire a new PC, if you think you might be interested in trying dual boot at some later time, you might set it up for it immediately. This is also possible on a Mac, see <http://www.notebookreview.com/howto/in-progress-how-to-dual-boot-from-a-mac-into-windows/>, but again I have no experience with this. There is no performance penalty here, except for the disk space that the second operating system occupies, since whichever one is running has the full use of the PC. Only one operating system can be running at any time, and switching between them requires a reboot. Files can usually be transferred between the operating systems by reading from and/or writing to the idle operating system disk area, but in some situations you may have to transfer using a USB memory stick or external disk.

If you have a fairly powerful computer, using a virtual machine is the most convenient way of experimenting. A virtual machine manager is an

application program that runs on your main operating system (called a “host”) and provides an environment for a second operating system (called a “guest”). As far as the guest knows it has its own hardware. This does not require modifying the host hardware or software, as the virtual machine manager is just another application. A popular VM program is the free VirtualBox, <http://www.virtualbox.org/>, with versions available for Linux, OS X, and Windows. The performance penalty is small provided the host CPU has virtual machine support features. The host computer also must have enough resources to run the host and guest OS simultaneously, in particular enough RAM (at least four and preferably eight Gbytes) and disk space (allow at least eight Gbytes for each guest). It’s very easy to add and remove guests, and the guests can be updated and can accept the installation of new applications. Since both guest and host operate at the same time, you can simultaneously run tasks on both. If the host PC is networked, the guest appears as a separate PC on the network.

If you have an old PC, you can use this for your experiments. It probably isn’t fast and may have limited RAM and disk capacity, and you probably can’t run the latest operating system, but this may not affect your experimenting at all. If it is very slow, try to figure out why. Often, the problem is not enough RAM, and this is cheap to fix. Since you are probably reluctant to put much money into a relic, you should consider switching it to Linux, which reduces all your future software expenses to zero, and at the same time makes available hundreds of applications. Some Linux distributions are designed to run well on old, slow hardware.

Rather than reuse an old PC, you could purchase a Raspberry Pi, <http://www.raspberrypi.org/>, a complete PC available for less than \$100 if you can use an existing display. Although it’s tiny, about the size of a credit card, it

has similar performance to an old PC, and since it uses Linux, the software is free. Because it has an Ethernet port, it’s suitable for building network servers (multi-media, file sharing, Web, etc.). And because it’s completely separate from your home PC, it’s safe for hardware experiments where it’s connected to external devices. If you completely destroy the Raspberry Pi card, it can be replaced for about \$40. There is an active community interested in the Pi with the result that many books, magazine articles, and support Website are available.

Another hardware solution is the Arduino, <http://www.arduino.cc/>, which like the Pi is credit-card sized, but this is a programmable controller rather than a computer. It runs as a USB peripheral to a Linux, OS X, or Windows machine, and is programmed in a variant of C++ using free software. It has no operating system but typically runs only one program, which starts at power-on and runs until power-off. There is a free compiler to code applications for Linux, OS X, and Windows using essentially the same language as does the Arduino. Thus learning a single language al-

lows you to process on a PC data that you input from an Arduino. While you would experiment with networks, servers, and operating systems with the Pi, you would use the Arduino to explore programming and electronics. This approach is especially attractive for controlling external devices, since unlike a PC, it has terminals that can input and output voltages. It too has an active community, with many books, magazine articles, and support Websites available.

As you can see, you have many ways to experiment without endangering your tax records or your collections of photos, video, or music. You can choose the one that fits your purpose and your pocketbook. Remember that both Windows and OS X have restrictive licenses that limit where they can be used. Before you spend significant time or money, be sure your use conforms to the appropriate license. With Linux, you can ignore this issue.

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Technologies Introduced at Google I/O

by Ira Wilsker

WEBSITES:

<https://events.google.com/io2015/>

<https://play.google.com/store/apps/details?id=com.google.android.apps.photos>

<http://www.cnet.com/google-io/>

http://en.wikipedia.org/wiki/Google_I/O

<http://www.androidcentral.com/google-io-2015>

<http://www.slashgear.com/tags/google-io-2015/>

<http://www.usatoday.com/story/tech/2015/05/28/google-io-android-apple-microsoft-facebook-gopro-youtube/28067763/>

<http://www.csmonitor.com/Technology/2015/0529/Google-I-O-reveals-big-changes-in-Android-M-video>

<http://www.theverge.com/2015/5/28/8676769/google-io-2015-highlights-announcements-recap>

Most of us are familiar with Google as the ubiquitous search engine, even to the point that the term “Google” has become synonymous with the term

"search". I often hear people use the trademark "Google" as a verb, in the context of, "I am going to Google this", or, "Go Google it." In several previous columns here, I have expounded that Google is much more than a search engine, with frequent announcements about new hardware (such as Google glasses), new software (the recently announced "Android M"), and new web based services (Google translate, Google Maps, and many more). In San Francisco, on May 28 and 29, 2015, Google held its annual developers conference which it calls Google I/O. An annual event since 2008, Google I/O is the premier event where it announces and displays its latest technological advances, some of which were immediately made available to the public, others may become available in the coming months, and some quietly may disappear.

While there were over a dozen major new Google products and services announced at Google I/O 2015, one of the announcements that may have had the most profound impact on over a billion existing smart devices was the announcement of the upcoming release of "Android M", which some pundits have labeled "Android 6.0" In general appearance, the new Android M looks very similar to the current Android 5.x, commonly known as "Lollipop"; it offers the user several new or enhanced features. Some of these features are an automated backup of installed apps; a "Deep Sleep" mode Google is now calling "Doze" which preserves battery power and extends battery life while the device is not in active use by using the device motion sensor to put the device in "Deep Sleep" when there is no detected physical movement during a preset period of time; alarms and important notifications will still be fully functional as appropriate. Android M will include an integral finger print scanner to prevent unauthorized use of the device, as well as support for improved USB connectivity, including the new "Type C" USB connections.

Many of us Android users are all too well aware that approving lengthy permission on newly installed or upgraded apps can be a headache, as well as a potential security and privacy risk; Android M will offer faster and improved app permission controls and notifications. Google made the "preview" developer build of Android M available at the conference, and the first smart devices running Android M should be available later this year.

A convenience and performance improvement that may also be available shortly in updates and upgrades to existing or new apps will be the incorporation of Google's Chrome browser and other popular apps within the other apps themselves. Now, when the user clicks on a hyperlink within an app, a window appears offering the user the choice of installed apps which can perform the intended function; with the new "Chrome in all of your apps", function, also called "Chrome Custom Tabs, will automatically open the integral Chrome browser when clicking on a link within an app. This will offer the user significant performance improvements as well as greater speed by preloading web page components. In addition to a version of a browser that can be integrated into an app, other integrations will offer automated opening of other apps, such as Twitter, which will instantly appear when a link to a Tweet is tapped.

While Apple with its "Apple Pay" service, as well as several independent third parties, is offering a secured electronic payments system directly from the smart device to the sellers account, Google I/O announced the implementation of "Android Pay" as a competitive and secure method of electronic payments directly from a smart device. If the smart device has "NFC" or "Near Field Communications" hardware capabilities, Android Pay will work on participating payment networks by simply holding the smart device within 4 inches of a compatible "POS" or "Point of Sale" terminal, and conducting the transfer

instantly after verification of the user's identity via a phone fingerprint sensor or PIN number. A replacement for Google Wallet, Android Pay will run on capable Android devices running "KitKat" (Android 4.x) or later, and will shortly be preinstalled on new smart phones sold by T-Mobile, AT&T and Verizon. Google announced (promised) that 700,000 stores will shortly accept Android Pay as a secure method of payment, without the data theft risks of multiple retailers having access to users' credit card numbers.

At Google I/O, on May 28, Google announced the immediate availability of an updated and enhanced version of Google's "Photos" app, which is now available for free download from the Google Play Store at play.google.com/store/apps/details?id=com.google.android.apps.photos. Versions of Photo are also available for Apple devices running iOS, as well as desktop web based versions. This new release of Photos offers the user the option to automatically upload and backup photos, videos, and some other content from the smart phone or tablet directly to the Google cloud. Through the backup settings the user can select to only use Wi-Fi connections to save data charges, or to use other over the air connections for the uploads. What is especially nice about Photos is that if the user selects to store photos and videos in "High Quality", defined by Google as "photos up to 16MP, video up to 1080p", which may include photos at a high quality adequate to be later printed or posted online, Google is offering unlimited free storage. If the user chooses to backup photos and videos in their original resolution, free storage is limited to the amount of cloud storage allocated when the Google account was created, with nominal storage charges for cloud storage in excess of that amount. Photos in the cloud can also be automatically grouped in a sequential timeline, or into topic folders based on the content of the images.

As an experiment, using Photo, I purposely uploaded high resolution (very large size) photos and videos to my limited storage in the cloud and then uploaded the same photos and videos to the unlimited free cloud storage using the "High Quality" setting. I then downloaded some of each to both my smart phone and my desktop PC, and tried viewing and printing them; with 8 1/2 x 11 size photo quality paper on my inkjet printer at the highest photo quality setting, there was no noticeable difference between the original quality, and Google's reduced file size "High Quality" selection. Published articles have stated that the quality differences are not noticeable until photos are printed at poster size. I am now automatically backing up all of my photos at the "High Quality" level to the free, unlimited Google cloud service.

Google's newly enhanced Photo app has several other free functions, which I have been having a lot of fun with. Photos offers the option for "Assistant" to automatically create movies, collages, and animations from uploaded images by using intelligent photo recognition, which can identify similar faces, images, objects, and other similar content, and then create appropriate new images and videos. Many users may be unaware that a potential privacy and personal security risk may be included in many of the photos taken with smart phones, tablets, and better digital cameras; these devices often contain a GPS chip that "tags" the photos with the GPS coordinates of the device when the photos and videos are taken. This GPS information, often invisible unless the image is opened with appropriate viewers, has been utilized in the past to identify the locations of homes, personal valuable possessions, children's play areas, and other sensitive data. Photos offers the option to automatically remove this "geo location" information from photos and videos when uploaded to the cloud.

Several other new or improved Google products and services were

announced at Google I/O 2015. One potential problem with Google Maps that I have written about in the past, was Google Maps dependency on a live data connection when used on the road for routing purposes. The problem has been that since the Google Maps app is dependent on the data connection to download and display maps and traffic information, if the user is in an area where there is no decent wireless data connection available, Google Maps loses much of its otherwise excellent functionality. Google announced that offline maps and other data, including points of interest, will be selectively available for download, and stored on the device, negating the need for a live data connection while in use. Without a live data connection, some functionality, such as real-time traffic displays will not be functional.

Other new products and services announced at Google I/O 2015 included "Android Wear" which will enhance Android functionality on watches as well as other wearable items. The new Android powered watches will have an "always on" display, which will continuously display chosen content, updated as necessary. Google demonstrated Google Maps on the new watch, which displayed much of the same travel content as a smart phone. Directions and road displays will be interactive, changing as the user is in motion. In order to conserve the limited battery power of the new Android watch, the display may be shown in a black and white mode, rather than full color. Other devices and services displayed include "Project Brillo", a technology that will incorporate Android into the "Internet of Things" or "IoT" which I have recently addressed in this column. Project Brillo will incorporate "Weave" which is a new communications technology incorporating Wi-Fi, Bluetooth, and other communication methods, that will allow smart devices around the home or business to communicate with each other. Google mentioned electronic home integration

that would allow enhanced home energy savings and security by interconnecting lights, door locks, thermostats, and other home automation devices. The much discussed "HBO Now" subscription video streaming service will shortly be coming to Android devices, breaking Apple's current monopoly on HBO Now.

Several other new technologies incorporating video, entertainment, security, and other innovative ideas were introduced at Google I/O 2015. It will be interesting to see which ones make it to the market place and prosper and survive, and which ones will quietly disappear into the dustbin of failed new technologies. This is going to get interesting.

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**If your e-mail or mail address changes, please e-mail:
secretary@SterlingHeights
ComputerClub.org**

SHCC Emergency Cancellation

Sterling Heights Computer Club meets at Macomb Community College (MCC). We will meet if MCC is open and will not if MCC is closed. MCC closure is announced with other school closings on many local TV and radio stations and on their web site. All members of SHCC have an email address. One of the SHCC officers will send an email to the addresses SHCC has on file alerting members to the event cancellation. If your email is broken, call an officer; don't leave a message, call another officer if you don't talk to someone live. It is your responsibility to keep the email address you have listed with SHCC current.



WYSIWYG WEB WATCH (www)

by Paul Baecker webwatch@sterlingheightscomputerclub.org



This column attempts to locate sites containing valuable, amusing and free content, with no overbearing pressure to purchase anything. Send your favorite entertaining, helpful or just plain useless sites (a description is optional) to the e-address noted above, for inclusion in a future WYSIWYG.

Don't fall victim to keyloggers: use these important anti-keylogger tools.

<http://www.makeuseof.com/tag/dont-fall-victim-to-keyloggers-use-these-important-anti-keylogger-tools/>

Motherboard BIOS firmware update can trigger Windows 10 Inactive.

<http://www.guru3d.com/news-story/motherboard-bios-firmware-update-can-trigger-windows-10-inactive.html>

From start to finish, inside a PayPal Phishing scam.

http://www.itworld.com/article/2997803/security/from-start-to-finish-inside-a-paypal-phishing-scam.html?phint=newt%3Ditworld_today&phint=idg_eid%3D5392a04cd05d830a67aa8eee99738298#tk.ITWNLE_nlt_today_2015-10-27

Starting in 2016, Windows 10 will automatically download itself onto some computers. Peruse your Windows updates before allowing them to install on your PC, so that you know what MS is installing onto it.

http://www.itworld.com/article/2999541/microsoft-to-users-youll-download-windows-10-and-youll-like-it.html?phint=newt%3Ditworld_today&phint=idg_eid%3D5392a04cd05d830a67aa8eee99738298#tk.ITWNLE_nlt_today_2015-10-30

<http://blogs.windows.com/windowsexperience/2015/10/29/making-it-easier-to-upgrade-to-windows-10/>

Six mandatory steps for a safe upgrade to Windows 10.

<http://www.makeuseof.com/tag/6-mandatory-steps-safe-upgrade-windows-10/>

Five factors that could affect your browser speed.

<http://www.makeuseof.com/tag/5-little-known-factors-affect-browser-speed/>

Five reasons why Windows 10 might make you switch to Linux.

<http://www.makeuseof.com/tag/reasons-windows-10-make-switch-linux/>

Meet the Ubuntu family -- brief descriptions of 9 Ubuntu Operating Systems.

http://www.itworld.com/article/2998305/linux/meet-the-ubuntu-family.html?phint=newt%3Ditworld_today&phint=idg_eid%3D5392a04cd05d830a67aa8eee99738298#slide1

What you should know about Facebook's searchable public posts.

https://www.maketecheasier.com/facebooks-searchable-public-posts/?utm_source=newsletter&utm_medium=email&utm_campaign=27102015

Google is secretly recording your voice: here's how to make them stop.

<http://www.makeuseof.com/tag/google-is-secretly-recording-you-heres-how-to-make-them-stop/>

Windows 10 Start Menu Search not working? Here's the fix.

https://www.maketecheasier.com/fix-windows-10-start-menu-search/?utm_source=newsletter&utm_medium=email&utm_campaign=26102015

How to run Disk Check in Windows 7 to check a selected hard disk for file system errors and bad sectors.

<http://www.sevenforums.com/tutorials/433-disk-check.html>

Linux application "TimeShift" provides functionality similar to the System Restore feature in Windows and the Time Machine tool in Mac OS.

<http://www.ubuntugeek.com/timeshift-provides-system-restore-functionality-in-ubuntu.html>

https://www.youtube.com/watch?v=qp__5t7J-P8



NOTE: Many of the links in the digital newsletter connect to the Internet if clicked. For those that do not, copy the link into your browser, and reach the web site that way.

World Wide Web Column on the Club Web Site

Check out the WebPageReviews section on the club's web site. You can see past web sites reviewed in this column on our club web page. They are arranged into various key word categories to help locate a specific site.

