*TC/PC Exists to
Facilitate and Encourage
the Cooperative Exchange of
PC Knowledge and
Information Across
All Levels of Experience*

November 2014

General Meeting
Tuesday, November 11, 2014
7:00 PM

Build Your Own PC

Presenter: Lee Kaphingst

Location: Summit Place
8505 Flying Cloud Dr
Eden Prairie, MN 55344

Lee Kaphingst has built four computers from scratch. The first one, he recalls, almost had him tearing his hair out, but he kept at it and the next three went smoothly. At the November meeting Lee will show us how its done. He will be bringing various components and parts and then demonstrate and explain the process of adding each and getting it to work. He has great tips on what to look for in quality components, what is key to getting a smooth running and powerful system, where you can cut corners, and what suppliers to seek out for the best parts and the best deals. If you've always wanted to try this yourself or you need to upgrade components on your current PC, this can provide the step-by-step help you need. This promises to be a really interesting meeting. 💻

The Digital Viking

The Digital Viking is the *official monthly publication of the Twin Cities PC User Group, an all-volunteer organization dedicated to users of IBM-compatible computers. Subscriptions are included in membership. We welcome articles and reviews from members.* The Digital Viking is a *copyrighted publication and reproduction of any material is expressly prohibited without permission. Exception: other User Groups may use material if unaltered and credited.*

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Contact Sharon Walbran at:: SQWalbran@yahoo.com

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Payment must accompany order unless other arrangements are made in advance. Place make checks payable to: **Twin Cities PC User Group**

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Visit www.tcpc.com for meeting details.

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Last Month's Meeting—My SmartPhone's Smarter Than Your SmartPhone
By Sharon Walbran, TC/PC Users Group

A panel made up of Steve Kuhlmey, Curt Trout and Jack Ungerleider, and representing Apple's iPhone and different Android phones, respectively, gave us a wealth of valuable and practical information on smartphones. Jack suggested using the website www.sensorly.com to explore maps displaying the coverage by particular carriers in the geographic areas you live/work/visit as a means of judging what carrier to go with, since you would want to make sure your area(s) have good coverage. Curt pointed out that that coverage can vary from block to block so keep that in mind. In well-traveled areas, especially along freeways where the cell phone towers tend to be built, various carriers have worked out sharing privileges with other carriers so that roaming charges are not a problem, but they are still an issue in ill-served areas. Steve mentioned that his Family Plan, although a bit spendy, was cost-effective when other family members, who did not have to live in the same household, could be added at a very low monthly rate. Jack mentioned that Sprint's Family Plan even allowed other family members who lived anywhere in the United States. All were in agreement that whether you purchased the phone outright and did not have a contract or you signed up for a contract and got a free or low-cost phone, the costs worked out to be the same in the end. It's just in the one case you are making monthly payments for the phone. Curt mentioned an app he and Sheri had used on trips, which was WAZE, that allows users to add information on traffic situations, accidents, backups, etc. to share with other travelers on the same stretch of road. A very informative meeting! Thanks for giving us useful information we can use on our next smartphone purchase.⌨

Upcoming Meetings

Tuesday, December 9, 7PM—Microsoft Store Visit. We will be meeting at the Microsoft Store at the Mall of America where Brady Mutter, Marketing Manager, or his store manager will be giving us a tour of the current products available and their features as well as upcoming products we can look forward to in the new year. This is always an exciting visit and sometimes includes coupons for our group, but we'll have to wait and see.

Tuesday, January 13, 7PM—3D Printing Update. Jack Ungerleider and Bill Ryder will bring us up to date on the progress they are making using their 3D printers and give us a demo and offer tips on what the latest models are featuring.⌨

Windows Lab - Adware
By Phil Chenevert, a CCCC member and instructor for Computer Lab Workshops, Cajun Clickers Computer Club, LA, March 2014 issue, Cajun Clickers Computer News, www.clickers.org, ccnewsletter (at) cox.net

     DEFINITION - 1) Generically, adware (spelled all lower case) is any software application in which advertising banners are displayed while the program is running. The authors of these applications include additional code that delivers the ads, which can be viewed through pop-up windows or through a bar that appears on a computer screen. The justification for adware is that it helps recover programming development cost and helps to hold down the cost for the user.
     Adware has been criticized because it usually includes code that tracks a user's personal information and passes it on to third parties, without the user's authorization or knowledge. This practice has been dubbed spyware and has prompted an outcry from computer security and privacy advocates, including the Electronic Privacy Information Center.

Noted privacy software expert Steve Gibson of Gibson Research explains: "Spyware is any software (that) employs a user's Internet connection in the background (the so-called 'backchannel') without their knowledge or explicit permission. Silent background use of an Internet 'backchannel' connection must be preceded by a complete and truthful disclosure of proposed backchannel usage, followed by the receipt of explicit, informed consent for such use. Any software communicating across the Internet

absent of these elements is guilty of information theft and is properly and rightfully termed: Spyware."

A number of software applications, including Ad Aware and OptOut (by Gibson's company), are available as freeware to help computer users search for and remove suspected spyware programs.

The Chrome browser has a neat plug in called ABP that blocks almost all ads.⌨

Merging Photos
By Larry Piper, President, Midland Computer Club, MI, April 2014 issue, Bits and Bytes Newsletter, mcc.apcug.org, webbyte (at) yahoo.com

Ever see a row of photos at the top of a Facebook or website page? I'll bet it crossed your mind that this would be a good idea for one of your own projects.

I'll bet your next thought was that it would take a powerful photo editing tool, most likely Photoshop, to accomplish this horizontal photo montage'. Sure enough, when you did some cursory checking, words like 'layers' and 'flattening' began to appear. Or maybe you found how-to ideas for creating a photo collage', which is NOT what you had in mind.

I too went down this same road. I also discovered that the most recommended solution is to use Paint, a free program that comes with Windows. I found the Paint solution not very intuitive and a little time consuming to use. Then I discovered another solution that had been right in front of me for a number of years. It is also a free program, IrfanView. This little utility has been around since the days of Windows 95. It will open virtually every graphic file type—as well as most sound and video file types. I use it as a fast image resizer. But right there in the opening screen under the Image drop-down menu is the choice Create Panoramic Image. Perfect!

IrfanView gives you the choice of horizontal or vertical merging of photos. You add the photos you want, rearrange their order and then hit the Create key. Save the resulting photo-merge, give it a name and you are good to go. You could even resize the final image if it is too big or too small for your application.

So what about merging photos of different pixel size or resolution. No problem. I ran a few tests where the height dimensions were five times different. IrfanView makes the horizontal photo montage' a constant height. The same thing occurred when merging photos of very different resolution. Again, the merged photos were a nearly constant total pixel size. The overall picture quality has been reduced substantially, but who cares when it is being viewed over the Internet.

IrfanView is the product of Irfan Skiljan, who lists himself as graduate of Vienna University. Be sure to get the latest version which is 4.37 as of this writing.⌨ Go to Page 1

Music and Video Files: Modify Them to Your Needs
By Phil Sorrentino, Staff Writer, The Computer Club, Inc., Sun City Center, FL, June 2014 issue, The Journal, www.scccomputerclub.org/, philsorr (at) yahoo.com

Music and Video files that you produce with your video camera, or voice recorder, are not always exactly what you want. Now, I'm not suggesting that you can change the artistic quality of the file, but that you can change the file length or size to accommodate your particular needs. With either an audio or a video file, the particular file may be too long, or it may contain sections that are not needed. So, it would be nice to be able to cut off the beginning, the end, or remove a slice somewhere in between. I'm sure there are many other ways to accomplish these tasks, but I have found that Windows Movie Maker (to modify video files) and Audacity (to modify audio or music files) are good choices, and both of these software applications are free. Windows Movie Maker is provided by Microsoft and can be downloaded at www.windows.microsoft.com/en-us/windows/get-movie-maker-download, and Audacity is provided by Sourceforge and can be downloaded at

A multi-media presentation, or "movie" as Movie Maker (and many other commercial packages) calls it, is a collection of pictures, videos, and music, organized as a movie, used to tell a story. It may be the story of your latest vacation, your last birthday, the last big holiday, your youngest grandchild, or a pictorial history of someone, something, or some organization. If you have appropriate pictures, videos, and music, Movie Maker can easily put them together to create a movie to express your particular point of view. So, obtaining the pictures, videos and music is usually the first step in producing your movie. Pictures are probably the easiest; you just review the pictures, improve their quality if needed, and then put them is an appropriate sequence. Videos are a little more difficult because they usually need to be shortened, and possibly have inappropriate sections removed. Music, or audio, is easy if you have good recordings, but sometimes you may want to remove certain portions, like bad scratches or pops, or a long lead-in or long lead-out. Or you might only want a few words out of a lengthy oration.

Movie Maker can be used as a tool for modifying video clips. (Once the video clips are the way you want, you can then add them to your movie.) After opening Movie Maker, click "add videos and photos", and navigate to the video clip that you want to modify. Select the video clip and it will be added as the only item in your movie. The video clip will be imported and shown as a series of Video blocks. Now you can play your video clip using the Play and Pause buttons, and identify the pieces to be removed. Select "Edit," under Video Tools, and you will see the "Split" tool. Move the Movie Cursor (the dark vertical bar) to the first point where you would like to split the video. If you are going to remove the beginning, move to the point where you would like the video to begin. Click the Split tool. This will create two videos, one before the split and one after the split. Right click the video piece to be removed and select "Remove." This will delete that piece of the video. Now you can move through the video and identify pieces to remove and pieces to keep. Just move the Cursor to the locations to split the video and use the Split tool. Then Remove the unwanted pieces and save the good piece as a new video with a new name. Usually you will find pieces to keep and pieces to remove interspersed. If you want to save many pieces, you will probably have to find a piece to save and delete everything else, and then start over with the original video and isolate the next piece and delete everything else. So it may be very tedious if you want to save a lot of small pieces from one larger video, but it will surely be worth the time and effort. Once you have video pieces, you can join them by starting with a "File-New" movie and adding the video pieces using "add videos and photos." Put them in the proper sequence and add a "transition" in between so they will flow smoothly, then save it as a new video.

Audacity is an Audio Editor and Recorder. Audacity is very comprehensive and can do many things. One of those things is that it can be used as a tool for modifying audio (sound or music) files. After opening Audacity, click File-Open and navigate to the audio clip that you want to modify. The audio clip will be imported and shown as a graph of the amplitude of the audio. (Both Left and Right channels will be displayed if the audio is in stereo). Now you can Play your clip using the Play and Pause buttons and identify the pieces to be removed. No, or very low, volume periods will be indicated by just a horizontal line with no amplitude. The Audio Cursor can be placed on the recording by Right-clicking on a point in the recording. A section of the recording can be selected by pressing the Right Mouse button while on the recording, and dragging the Mouse to the end of the area to be selected. Then using the File-Export Selection, the selected section can be saved as a new audio file with a new name. I found this tool very helpful in separating multiple cuts from an audio recording of a complete side of a vinyl recording (a record album for those of us over 40). I had converted my old vinyl recordings to .mp3 files, just before giving them away. To save time I converted the recordings a side at a time. So for each vinyl album I ended up with two .mp3 files, each about 20 to 25 minutes, and each having 12 to 16 cuts (songs) in each .mp3 file. So, the individual songs were separated by about 2 seconds of silence (no amplitude), making them easy to identify, once you have listened to the cut using Audacity.

As you can see from these basic directions for modifying a video file with Movie Maker and an audio file with Audacity, the process is very similar, even though the displays look very different and the displayed file representations look very different. The results are very similar too; it's a modified file that will be useful in your next Movie Making project.⌨
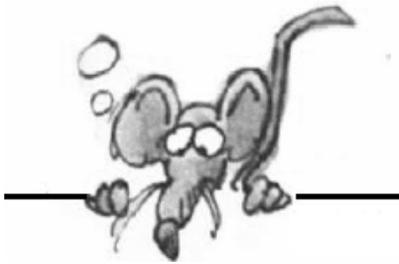
NIBBLERS

By Jeannine Sloan

When Boredom Hits

Check out Folkstreams for old documentaries about bootleggers, clock-makers, fiddle players, and other forgotten-about corners of the world Quote from site: "*A National Preserve of Documentary Films about American Roots Cultures* streamed with essays about the traditions and filmmaking. The site includes transcriptions, study and teaching guides, suggested readings, and links to related websites." http://www.folkstreams.net/

UbuWeb is run by a poet and experimental artist named Kenneth Goldsmith, who puts up whole .pdfs of anthologies and books of all sorts, as well as art films, experimental music, and other types of content. It's a treasure-trove. http://www.ubuweb.com/

View the Milky Way at 10 million light years from the Earth. Then move through space towards the Earth in successive orders of magnitude until you reach a tall oak tree just outside the buildings of the National High Magnetic Field Laboratory in Tallahassee, Florida. After that, begin to move from the actual size of a leaf into a microscopic world that reveals leaf cell walls, the cell nucleus, chromatin, DNA and finally, into the subatomic universe of electrons and protons.
http://micro.magnet.fsu.edu/primer/java/scienceopticsu/powersof10/

Every few weeks we pick a new site to be added to our collection of useful, useless, fun, terrible, eclectic, bizarre and downright fun websites. Here are the most recent 10 additions. http://www.brainbashers.com/funsites.asp Drill down on the brainbashers site of find more fun stuff. Go through this great collection of documentary movies and watch free documentaries online. Share your thoughts and enjoy TDF. http://topdocumentaryfilms.com/

How To Tell If Your Computer Has A virus or Malware

If you ever noticed the following symptoms, your PC is most likely (over 90%) already infected by a virus:

- Some strange information and images show up on the screen
- The CD-ROM tray pops out without any reason
- Some program automatically runs
- A program attempts to access the Internet without your authorization
- Friends or acquaintances tell you that they received your message but you never sent an E-mail
- There are tons of "No Subject" or "No Address" emails in your inbox
- Your operating system frequently freezes or crashes
- You cannot start your computer or operating system
- Software is running slower than a turtle
- Files and Folders are lost or contents are modified without your authorization
- The hard drive is frequently being accessed *(the LED indicator*

light for the hard drive is blinking crazy fast)
- You either cannot open IE or it opens itself randomly without your authorization. Read more at http://dottech.org/165955/

Airplane Mode
"Airplane mode" on electronic devices suspends any signal transmissions from your PC to comply with airline regulations.

Scan First, Then Download
VirusTotal is a free service that **analyzes suspicious files and URLs** and facilitates the quick detection of viruses, worms, trojans, and all kinds of malware. Simply copy the URL (address) of the app you want to download, browse to VirusTotal website and paste the URL into the proper field. Instructions can be found here: http://www.howtogeek.com/howto/30508/ The site to bookmark is here:
https://www.virustotal.com/

Autorun Disabled
AUTORUN.INF files are no longer allowed to run programs automatically. INF files were once a fruitful vehicle for malware authors. Here is Microsoft's article about the patch that fixed it:
https://technet.microsoft.com/library/security/ms14-060

London's Red Phone Booths Are Becoming Solar-Powered Charging Stations
Solarbox gives old phone booths a coat of new green paint, and installs a solar panel on the top. In a single day, the panel provides enough power to charge about 100 phones or tablets at maximum charging speed. A battery in the booth stores extra energy, so the charger keeps working even if at night or on one of the city's many cloudy days. The charging station is free to use, funded by ads from companies like Tinder and Uber, and the founders decided to also offer free ad space to promote local artists, musicians, and social enterprises.
http://www.fastcoexist.com/3036929/

Free Online Education Sites
Coursera is an education platform that partners with top universities and organizations worldwide, to offer courses online for anyone to take, for free. https://www.coursera.org/ The **Khan Academy** is probably the most famous educational website out there. It was started in 2006 with the mission to provide "*a high quality education to anyone, anywhere.*" Meanwhile, the site provides over 3,000 videos on subjects from science to humanities, which have been delivered to millions of people. More than just videos, the site also offers short exercises to help students practice the knowledge they have acquired by watching the video material – all of it for free.
http://www.khanacademy.org/
Academic Earth's vision is to offer "*a world-class education for everyone on earth*". The site offers free online classes and indepth online learning through video lectures from university professors. Interestingly, Academic Earth has partnered with the same universities as Coursera

and many more. In addition to Princeton, Stanford, and Berkeley, you will find video lectures from UCLA, Harvard, and Yale. Moreover, Academic Earth has partnered with the Khan Academy. http://academicearth.org/

Find That URL or Hint Later

The Nibbler has so many helpful urls but I can't remember which ones are in each. I've devised a way to help. Now I'm saving them with long descriptive names to help me retrace my way back to a certain item. Here's an example name: "*Nibbler 10_17_14 urls Scanfirst and Academic world class free classes* Of course you could also just save the urls as bookmarks, but this is a way to find them when I'm not going to use them right away.
Contributed by Dianne Runnels

Downloading Video

Video can be downloaded from Facebook and other known video-services! Just copy URL of the page and paste into the search box to download. At savevideol.com there are instructions and lists all the sites from which you can download. Check it out: http://savevideo.me/

Convert or View Files

The site supports a multitude of file format categories: documents, video, audio, picture and e-books. The files can be opened for viewing or can be converted to a different format. Worth bookmarking. http://docspal.com/

Algorithm Awareness

To explore the issue of algorithmic awareness, in 2013 three colleagues and I built a tool that helps people understand how their Facebook news feed works.
http://www.technologyreview.com/view/531676/algorithm-awareness/

Security Videos

Trend Micro has put videos on YouTube that educate about our dangerous behavior. Short videos are sometimes the easiest way to be reminded of the thing that its easy to do but might put us in danger. These videos do advertise Trend Micro's products but that doesn't negate their value.
http://www.youtube.com/playlist?list=PLZm70v-MT4JrhmqQRT3ICjCG7sMctoL-S

Open Access

When we say "open access" we are referring to the practice of making scholarly research available online for free upon publication (or soon after). Open access policies should aim to remove barriers and encourage scholarly and educational reuse of research. Copyright restrictions sometimes undermine scientific ideals of openness and collaboration; good open access rules help to bypass traditional copyright limits by encouraging full use of open licensing systems that enable sharing.

WebMD symptomchecker

With Symptom Checker, you can:

✔ Identify possible conditions related to your symptoms
✔ Instantly access health information based on your symptoms
✔ Print out a Doctor's Report

Symptom Checker. Take the first step and see what could be causing your symptoms. Then learn about possible next steps. http://symptoms.webmd.com/#introView

Drones With Little Brooms Could Keep Solar Panels Clean
Being cleaned can help solar panels pump out as much as 35%
more power. No human help is needed, apart from charging batteries. Drones have many advantages over robots. Read more here: http://www.builderonline.com/newsletter/drone-patrol-uavs -withbrooms-can-clean-solar-panels_t

EWG
Environmental Working Group's website allow consumers to rate their food for nutrition, ingredients and processing to evaluate how healthy it is. Check it out: http://www.ewg.org/foodscores#

Windows 10: Our Complete Guide To Microsoft's Next Os
Windows 10 is a one-size-fits-all OS, providing "One store, one way for applications to be discovered, purchased, and updated. Read more: http://www.digitaltrends.com/computing/windows-10-features-news-changes-release-date/#ixzz3HSOa6nbg

OK Go
Music, dance and hi-tech mixed. Love it. http://www.digitaltrends.com/music/robot-unicycles-drones-make-ok-gos-latest-video-coolest-yet/

Origin of Programming
In 1843 Ada Lovelace said: "…any piece of content, data, or information—music, text, pictures, numbers, symbols, sounds, video— could be expressed in digital form and manipulated by machines." She went on to describe how to do it and her description is what we call programming today. From the book "The Innovators"

Special Interest Groups (SIGs)

Most SIGs will meet at Edina Executive Plaza, Conference Room #102, 5200 Willson Road, Edina, MN
 Confirm with a SIG group if they meet elsewhere.
For more info contact the SIG Leader(s) listed here.

Get SIG announcements!
Link from www.tcpc.com

Board of Directors*
All members are welcome! Check www.tcpc.com for location.
Selected Saturday mornings

Linux on Saturday
This is for the Linux newbie and those trying to come over from Microsoft to a different operating system.
First Saturday @ 9 AM-Noon
Note: No Meetings June-August

Jack Ungerleider   612/418-3494 c
                 jack@jacku.com

Picture Perfect
Explore how to use your digital camera and learn how to use a variety of software for editing, organizing, and sharing images and video.
Second Tuesday 6:00—7:00 PM
Every other month
Right before the general meeting
Sharon Walbran   SQWalbran@yahoo.com

Microsoft Access
All levels. Presentations by expert developers within the group and by MS reps.
Third Saturday 9:00 AM—Noon
Note: No Meetings June-August

Steve Kuhlmey   952/934-8492
                 steve@kuhlmeysystems.com

Microsoft Office
Addresses the use, integration, and nuances of the Microsoft Office applications.
Combined with Systems on Saturday
Third Saturday of the Month
Note: No Meetings June-August

Steve Kuhlmey   952/934-8492
                 steve@kuhlmeysystems.com

Web Page Design
Discussion and demonstration of HTML, web publishing software and page design.

Second Tuesday @ 6:00-7:00 PM
Every other month
Right before the general meeting.

Jack Ungerleider   612/418-3494 c
                 jack@jacku.com

Microsoft Word for PC & Mac
Any level user can be proficient and efficient in basics and advanced features of Word..
Combined with Systems on
Third Saturday 9:00 AM—Noon
Note: No Meetings June-August

Tom Ostertag   612/951-5520 w
                 651/488-9979 h
Curt Trout   651/484-4569 h
                 ctrout@troutreach.com

Systems on Saturday
For all levels of computer challenges and any type of computer-related question. Incl. Q&A
Meets 3rd Saturdays 9:00 AM-Noon
Note: No Meetings June-August

Curt Trout   651/484-4569 h
                 ctrout@troutreach.com

Directions to **Edina Executive Plaza** for **Systems on Saturday, Access, Word and Picture Perfect SIGs**: Take Highway 100 to the 50th Street/Vernon exit. [If you have come from the north, cross back over Highway 100 to the east side.] Take the first right and go past Perkins [The golf course will be on your left.] and continue on the east frontage road (Willson Road) to the next building—5200 . There is ample parking in the building's lot. Conference Room #102 is on 1st floor.

Directions to **Summit Place** for **General Meetings**:
Proceed to Eden Prairie Center Flying Cloud Drive . [Flying Cloud Drive runs along the West side of the Eden Prairie Center.] Once you have driven past Eden Prairie Center (on the left) along Flying Cloud Drive you will come to a stop light at Prairie Center Drive. The next intersection with a stop light and left turn lane is Fountain Place. Turn left at Fountain Place and go straight into the parking lot. Turn left again to the first covered entry way of Summit Place. There is plenty of parking in the large parking lot in front of the first Summit Place covered entry way. When you enter the door at the first covered entry way, ask to be directed to the Performance Room for the TC/PC meeting. For a map of more detailed directions and *info on Web SIG and Board meeting*, check the TC/PC website.

Help yourself by helping others!

Join the team & share your knowledge with others.

Contact TC/PC at www.tcpc.com

November

December

SUN	MON	TUES	WED	THU	FRI	SAT
						1 Linux and Open Source on Saturdays 9:00—Noon
2	3	4	5	6	7	8
9	10	11 Gen Mtg 7:00 PM Build Your Own PC 6PM Pic Perf SIG	12	13	14	15 Windows & MS Office (including Access) 9:00-Noon
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6 Linux and Open Source on Saturdays 9:00—Noon
7	8	9 Gen Mtg 7:00 PM Microsoft Store at Mall of America	10	11	12	13
14	15	16	17	18	19	20 Windows & MS Office (including Access) 9:00-Noon
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28	29	30	31			Go to Page 1

With All of the Media Reports About Massive Data Breaches, What Can WE Do?

by Ira Wilsker, iwilsker(at)sbcglobal.net

WEBSITES:

http://consumerist.com/2014/10/10/kmart-announces-credit-and-debit-card-breach-that-began-in-september/

http://consumerist.com/2014/10/10/do-you-ever-shop-anywhere-congratulations-your-data-will-be-hacked/

http://www.usatoday.com/story/tech/2014/10/02/home-depot-data-breach-credit-card-fast-food/16435337/

https://www.annualcreditreport.com

http://www.verizonenterprise.com/DBIR/2014/

http://www.verizonenterprise.com/DBIR/2014/reports/rp_Verizon-DBIR-2014_en_xg.pdf

http://www.bloomberg.com/news/2014-10-10/sears-s-kmart-says-hackers-stole-payment-card-data-in-attack.html

http://www.kmart.com/en_us/dap/statement1010140.html

http://consumerist.com/2014/10/02/chase-data-breach-hit-76m-households-7m-businesses-account-info-not-stolen/

https://www.creditkarma.com

Tonight (October 12) on the CBS news magazine "60 Minutes" , the Director of the FBI, James B. Comey, discussed how the internet is a very dangerous place. Director Comey explained that because of the massive data breaches, the billions of dollars that can be illicitly accrued by cyber crooks, and how it is often impossible to arrest and prosecute the villains because they are mostly in nations that will generally not cooperate with American law enforcement, that cybercrime on a massive scale is rampant. The most likely source of the malware that has wreaked such havoc on our retail and banking industry has been Russia, where stolen credit and debit card information is readily and openly bought and sold. While most of the high profile data breaches and outright financial crimes are perpetrated against big businesses, it is almost always we the consumers who are actually being victimized.

Just this weekend (October 10), K-Mart acknowledged that its payment system had been compromised (kmart.com/en_us/dap/statement1010140.html). In an official corporate press release, Alasdair James, President and Chief Member Officer of Kmart said, "I am reaching out to inform our loyal Kmart customers of a recent payment security incident. On Thursday, Oct. 9, 2014 our IT team detected that our Kmart store payment data system had been breached and immediately launched a full investigation working with a leading IT security firm. The security experts report that beginning in early September, the payment data systems at Kmart stores were purposely infected with a new form of malware (similar to a computer virus). This resulted in debit and credit card numbers being compromised." Later in the statement Mr. James stated, "There is also no evidence that kmart.com customers were impacted. ... I want our customers to be aware of the situation and I suggest that customers carefully review and monitor their credit and debit card account statements. If customers see any sign of suspicious activity, they should immediately contact their card issuer. More guidance is also available on our website, kmart.com and customers can contact our customer care center at 888-488-5978."

The advice presented by Mr. James that consumers need to carefully monitor credit and debit card statements for suspicious activities is sound, and is a repetition of the guidance previously offered by executives of other corporate victims of similar attacks.

According to an article published online at the "Consumerist" on October 10, the "top five" retailer credit and debit card thefts were the 2008 hack of Heartland Payment Systems where 130 million cards were compromised, followed by TJX Companies (2007, 94 million cards), Home Depot (2014, 56 million cards), Target (2013, 40 million cards and 110 million total records stolen), and CardSystems Solutions (2005, 40 million cards). While these data thefts from large retailers have garnered most of the publicity, again according to the Consumerist, there have also been millions of additional credit and debit cards compromised from smaller retail businesses, including recent breaches at Jimmy John's, Dairy Queen, P.F. Chang's, UPS, Albertsons, Jewel-Osco, ACME, Shaw's, Sally Beauty Supply, Goodwill, some Marriott hotels, Neiman Marcus, and Michael's craft stores. Most of the retailers that were recently compromised had their "POS" or "Point of Sale" systems compromised. Online financial services, as well as other companies with a strong online presence can also be compromised, such as the recent data breach at J.P. Morgan Chase in which personal and private data (but probably not credit and debit card information) from 76 million households and 7 million businesses was stolen, again probably by Russian hackers.

As we approach the peak shopping season of the year, many of us have some rational suspicions or fears about using our credit and debit cards at local and national businesses, as well as online. In the back of our minds may be the nagging doubt, "Will this card information be stolen?". In years past, there was a credible fear of a sales clerk or checker who might swipe our cards twice, once through the legitimate payment system, and then illicitly and immediately a second time through a simple device that reads and saves the magnetic stripe information. This allowed our information to be used by others for nefarious purposes. In last year's Target data theft, malware had been embedded into the payment system itself, such that even if we personally swiped our own cards at the checkout, with our cards never leaving our possession, our payment information was stolen at the instant that we swiped our own cards. International cyber crooks have found that it is much more efficient and profitable to steal credit and debit card information by the millions through compromised payment systems, rather than the small numbers of local thieves stealing our information for predominantly local criminal purposes.

These massive data breaches and hacks beg an answer to the rhetorical, "So what can we as individuals do about it?" According to the Consumerist, " Here's a cheerful thought: there is absolutely nothing that you can do about this situation. Individual consumers are pretty much powerless to prevent retail hacks." That does not mean that we as individuals are totally helpless, or that we must accept some degree of victimization. Certainly, there may be an increasing number of people who may prefer to pay with the traditional and anonymous cash, rather than digitally disclose private information, a sure way to prevent the information from that transaction from being used against us. Even though virtually all major credit and debit card companies offer a "no fraud guarantee" of some type, where the credit or debit card company will absorb any timely and properly reported unauthorized transactions, there is still a lot of aggravation and grief if the user is victimized, even if the losses will eventually be covered by the card issuer.

The Consumerist has several recommendations that we should all implement in order to minimize the threat, and to better recover if we are victimized by these cyber thieves. As has been mentioned many times previously in this column, for online purchases and financial transactions, use complex randomized passwords, which should be changed periodically (many say at least every six months or even more frequently), and never use the same password on multiple websites. Most financial websites offer and utilize a multi-factor authentication process, where in addition to a username and password, an additional security question must be answered, or a randomly selected term or number must be manually entered. When setting up these security questions, avoid using questions and answers that can be readily found on social networking websites (such as Facebook and Twitter), or other simple public information websites. Think about how many times you might have said something on a social network about your first car, favorite color, favorite flower, sibling's name, honeymoon location, favorite vacation spot, pet's

name, and other information that could be readily used by others to complete your authentication sequence. Some of the more secure financial institutions actually select questions from old credit reports and other sources that unauthorized third parties will likely have easy access to, such as "what was your street address in the summer of 1983?"

While mostly localized, ATM and credit card skimmers are surprisingly common; these are devices placed by the thieves on the ATM or point of sale device, typically invisible to the casual user, that reads or skims a credit or debit card simultaneously as it is being scanned by the legitimate device. If using a PIN based card, such as a debit card, be sure to cover the keypad as you enter your PIN, preventing dishonest viewing by others, as tiny cameras are often placed with the illegal skimmer in order to read the PIN as the user enters it on the keypad.

Obviously, be very careful in reviewing monthly credit card and banking statements for questionable transactions. Be cognizant that many fraudulent transaction are in small odd amounts, as they will be less likely to be noticed and questioned by the victim than large, round numbers. If anything questionable is found, contact the financial institution immediately.

It is not just credit and debit transactions that are being used to deprive us of our personal assets, but also other forms of credit and medical fraud. While there are commercials on TV touting a variety of credit reporting and credit score services, be aware that most of those, including some of those with the word "Free" prominently in their name, charge monthly or annual fees for the services that others may offer for free. The real source of free credit reports, as established by law, is Annual Credit Report dot Com (www.annualcreditreport.com), where each individual can get a legitimately free credit report from each of the three major credit reporting companies (Experian, TransUnion, Equifax), every 12 months. If any improper or unauthorized credit was extended, or erroneous data appears, instructions are provided in order to properly challenge questionable data. While not so much an indicator of fraud, many people like to monitor their credit scores, of which each of us have several different scores compiled for different purposes. Some credit card companies, such as Discover Card, now disclose credit scores directly on the monthly statement, as well as online, while an advertiser supported website, CreditKarma (creditkarma.com) offers free credit scores without ever asking for any form of payment.

Since the credit card companies are absorbing the massive losses from these frauds and scams, they are gradually implementing enhanced physical security directly on the credit and debit cards, such as embedded microprocessors, dual factor authentication, variable account numbers, and other technology that would otherwise make stolen credit and debit card data worthless.

Since many of us will be doing a lot of our holiday shopping online, there is one tactic that may provide substantial protection form online credit card fraud. Most of the credit card companies offer a free service where the user can create some form of virtual wallet, where a unique, one time use credit card number is created for each transaction, and the user can often pre-determine a limit on each of these virtual accounts. Since the account numbers cannot be reused, they would be worthless to data thieves. Some of the new virtual wallets, such as those offered by Google and Apple, may allow us to utilize our mobile devices to make secure financial transactions, rather than by using a plastic card. Some online payment services are offering a USB dongle that creates a new unique account number every few seconds, making previous account numbers obsolete as the new numbers are created.

Inevitably, this will be a classical "cat-and-mouse" game; as new security devices and methods are created, the cyber crooks will find a way or method to defeat them. This is a war that we must win. Our financial health is at stake.⌨   Go to Page 1

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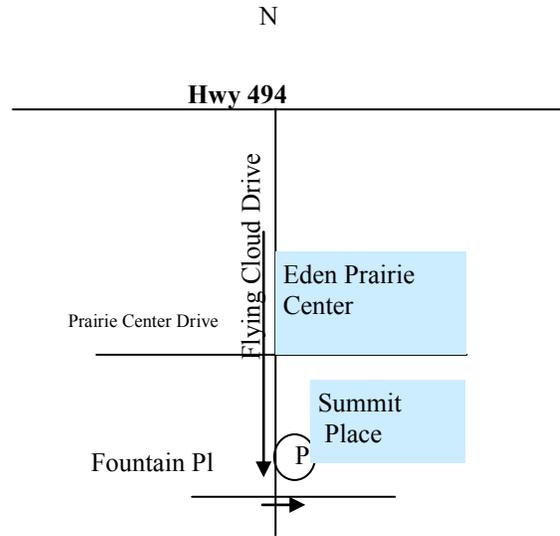
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