The Rochester Computer Society, Inc.
a computer club open to everyone

MONITOR

Club Picnic – Tuesday, August 9
Our Annual Picnic, at Brighton Town Park
start arriving about 5:30 pm, dinner about 6:30 pm

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Update Upsets

By Greg Skalka
President, Under the Computer Hood User Group

More and more of the things we own and use require updates, and a lot of them require updating more and more. When you think of updates, computers typically come to mind first, but so many other products now allow or require updates that keeping them current can seem overwhelming. Updates can be beneficial to insure safety or improve performance, but there are darker sides to this seemingly perpetual updating as well.

It used to be that the product you bought was the product you had, and updates were only for the correction of serious health and safety issues. When changing the product meant physical manipulation of the product's hardware parts, updates were costly to the manufacturers and usually had to be mandated by law to correct some serious safety error on their part. Mandatory Federal product recalls of automobiles for safety issues were the only way to get problems like gas tanks that ruptured when rear-ended or seat belts that became unbuckled in a crash corrected, so that innocent consumers were not further endangered. Sometimes the nature of the problem and the difficulty in making an update meant the product had to be returned or discarded, as there was no economical way to correct the hazard (a toy with small parts that represented a choking hazard for a small child, for example). While these kinds of hazards and the update of product hardware still occur all too often today, the age of computers changed the paradigm of product updates.

The personal computer was perhaps the first consumer product whose functionality

Special **I**nterest **G**roup

Linux Sig
The workshop is the **third Saturday of each month**, at Interlock Rochester, 1115 East Main St. www.interlockroc.org
Enter through door #7 on the end of building, near *Comics Etc* and Goodman St. Find 'Interlock' on the intercom directory to get buzzed in and go upstairs to suite #200. We have experts on hand to fix problems and answer questions about Linux and FOSS (**f**ree and **o**pen **s**ource **s**oftware). **Bring your system** in so we can help you get the most out of it. Hope to see you there.

The RCSI 'Monitor' newsletter can be found in most public libraries in Monroe County, and many college libraries. *Free* copies can also be found in the following computer stores; Microworx, TSC Electronics, Just Solutions, and Pod Computers.

was less defined by the hardware you bought as the programming it could contain. Since this programming came in the form of firmware (in add-on peripherals) and software that could be purchased later, the computer as a product was a work in progress. Just as functions could be added easily, corrections to existing capabilities could be made without onerous efforts. Most updates could be, and usually were required to be installed by the owner, and this became the norm for computers.

There are many levels of updating possible in a personal computer, and some are typically overlooked by the owners (until something goes wrong). At the lowest lever, the computer's BIOS, or Basic Input-Output System, can often be updated. This is considered firmware (or microcode), which is programming stored in a semi-permanent manner on a non-volatile memory device in hardware (firmware is software that is not easily erased). In the computer, it is the BIOS code that provides the computer a way to understand the components it contains and how to use them in a general manner. BIOS developers often provide updates to their products to correct hardware

compatibility issues and other errors; these updates are downloaded from their web site (perhaps also hosted on the computer manufacturer's site) as a file, and a special programming procedure is typically required to replace the old BIOS file in hardware with a new one. Things can get messed up if you don't follow the update instructions or if you install an inappropriate BIOS file.

The next level of programming in the computer is the operating system; the BIOS helps load this software from a hard drive (or solid-state drive) when booting. Whether you use Windows, Chrome OS, Apple Mac OS or a Linux variant, your OS will require periodic updates to stay current and secure. The amount of control you have over this depends on the OS and the update settings it allows. Chrome automatically installs updates without exception; Windows provides a lot of flexibility in when and if updates are applied.

A third level of programming related to the hardware is device drivers, which apply to internal computer hardware or external connected devices. These drivers also get updated periodically as compatibility issues arise, though most users don't concern themselves with them as long as everything is working.

The final level of programming is the application or program software. Users of Microsoft Office products probably know about program updates to Word and other programs to fix bugs and close security gaps. Updates to other popular applications may be out there, but since they may not be as well advertised by the software vendors, users may not consider any are needed. TurboTax is one program I use that always checks for updates when it starts up; these update both the program and the tax forms it uses.

The ease of updating our technology through software can unfortunately create a culture of incomplete or insufficiently tested products. Manufacturers can rush computers and software to market, knowing that they can provide updates on their web sites later to solve their problems.

When the microprocessor spread from the computer to other products, the software update became the benefit and the bane of these devices as well. In addition to our computers and laptops, we must update our tablets and smart phones as well. My auto navigation GPS receiver can be connected to the manufacturer's web site through a PC (and the Internet) to allow its firmware programming to be updated. It can also download updated mapping information. Many consumer products connected to the Internet, like smart televisions, can require periodic software updates. The IoT, or Internet of Things, will bring a lot more devices in our homes connected to the web, and a lot more update opportunities.

Like many users of technology, I have a love-hate relationship with updates. I do want my devices to be as protected as possible from hackers, so I want known vulnerabilities patched as soon as is possible. I do like new features (when I am expecting them) and I like broken features to be fixed. I don't like updates that provide unexpected changes to my user experience, or that cause a previously working device or application to crash. I also don't like being locked out of the use of my device while a long and unexpected update takes place. I dread the times I'm in a hurry to turn off my laptop and take it somewhere, and as Windows starts shutting down, it says "Updates in progress - Do not shut down your computer". What I want is full control of the update process, something the vendors are not always willing to give.

I have a Chromebook, and am always apprehensive when I see the little up arrow in the lower right corner of the screen that indicates an update is in progress. Google forces Chrome users to take whatever updates it provides, when it provides them. It never says not to shut down, so I disregard the update arrow, trusting Google to work things out and keep my Chromebook protected and operational.

In that regard Microsoft gets a bad rap, as though they generate tons of updates for their software, they do allow a lot of control of the process. I have Windows set to check for updates, but let me choose whether to download and install them. This is supposed to allow me to delay the update until I'm ready, but it still sometimes surprises me. I've had some problem updates at times, and have had to call Microsoft (yes, they provide free phone support for failed updates) when an update resulted in an error message.

I've also found Microsoft updates don't always know best. I recently had two new computers to set up, and spent a few days getting them updated initially. I am embarrassed to admit that one was a new Lenovo desktop computer that I'd bought for myself two years ago but had never gotten around to setting up. The other was a recent purchase by my dad (an HP desktop) that I offered to set up for my mom.

When I plugged everything in to run my new Lenovo, I knew I'd be in for a wait, as there were probably a lot of accumulated updates over the last two years. After asking Windows to check for updates, it took several hours before it came back with 211 important updates that were needed. I let it download and install them, but progress was slow and I had to let it continue overnight.

When I got up the next morning, it was waiting to reboot after the update installation. I let it reboot and went downstairs for breakfast. When I came back, it said something like: "Failed to configure Windows updates - reverting changes".   It had some

problem and wanted to undo all 211 updates. I let it go back to its previous state, and it again asked to try these 211 updates. I'd seen things like this before, where Windows seemed to choke on too many updates all at once. I selected only the first 40, and those installed successfully. I repeated with another 40, and another, until no more updates were shown to be needed. Unfortunately, this took several days to resolve.

My dad's HP PC was much quicker to update, as it was much newer. Windows only reported 34 important updates, and I was able to run it through the three update cycles needed to be current in just one day.

From the May 2016 issue, Drive Light, www.uchug.org, president@uchug.org.

Building or Buying a Computer in 2016
By Bart Koslow
Review Chair, Channel Islands PCUG, CA

Whether you buy or build a new computer, there are a number of important things to know to obtain the best computer for the money you wish to spend. Is it better to build or buy a new computer? Most people will opt for buying a new desktop or laptop for the convenience of not having to build, particularly if they are not technologically or mechanically oriented. There are others who could easily build one if they had the courage. There are many websites where you can find detailed instructions on building a computer. If you are a computer club member, help and advice are always available if you have difficulty. So why not try?

I have always felt it is better to build one. Why? When I build, I get exactly what I want and do not pay for what I do not desire. I often use some drives, keyboards, monitors, cases, DVD burners, etc. from an earlier computer, saving money, but still obtaining the best computer for the money.

Name brand computers have drawbacks. You have to take what you get, even though the computer may not have all the things you would like, and you may get items you do not need. They do not come with the usual (at this time) Windows 10 operating system disk. If you have a major problem, instead of reloading Windows and retaining all of your program connections you may have to start all over again, adding all the programs, etc. that you installed after buying the computer — not a pleasant prospect.

At present, you may download a bootable copy of Windows 10 from Microsoft, which will solve this problem. Name brand computers often have little room for expansion in the event you wish to add drives, internal cards or memory. The motherboards and other hardware may be proprietary, which means you must go back to the manufacturer if you have a problem or need a replacement, and the replacement may cost you more than similar non-proprietary hardware.

Build or buy

There are many things you should know before you proceed. I usually do not buy state of the art because of the expense and because today's state of the art is passé in six to 12 months. Instead, I look for the best price/performance ratio that will fit my pocket book without making too many compromises.

CPU

Whether you build or buy, the CPU is the most important part of any computer and is the part you should decide upon first. In the past, I have used AMD CPUs as they were cheaper for similar performance. This is no longer the case except for budget PCs, so I am now switching to Intel CPUs. I believe the added cost is justified by their better performance, making them a better value. I look for the fastest CPU at a reasonable price. There are hundreds of CPUs with similar names available in a bewildering variety. Compare CPUs. How? Just do a search for CPU speed comparison and you will find https://www.cpubenchmark.net, where you may compare the comparative speeds and costs of any CPU.

Memory

Next, you want to decide on what memory capacity, type and speed you wish. If you are buying, compare whether you are getting 4GB, 8GB, or more. When building you should be looking at the newer DDR4 memory at speeds of 2133 MHz or more. In either case, I suggest not less than 8GB. I will be adding 16GB at a minimum speed of 2133 MHz or more depending on pricing. In most cases, the amount of memory is more important than the speed. What is dual channel memory? For

example, instead of buying a recommended minimum one 8GB module you buy two 4GB modules which work in tandem and supposedly run 20 percent faster. The price is the same. When you buy the memory modules, make sure you buy heat spreaders (for a few dollars) for each module if they do not come with the modules. They should be installed before you place the memory on the motherboard. Before you purchase memory, read the manual to find out which memory is supported by the motherboard. Then go to the motherboard manufacturer's website and find out which manufacturer's memory has been tested and recommended by the motherboard manufacturer. If you buy other memory, make sure you can return it or exchange it in the event it does not work properly in your motherboard.

Drives: go for solid state Most store computers come with the older spinning drives. At present, if you desire one with a Solid State Drive (SSD) you will find them only in more expensive store computers at a cost that may not suit you. I highly recommend that you include an SSD for the boot drive (the one that contains the operating system) in your next computer. SSDs are much faster, more durable, quieter, and smaller. Though they're more expensive, prices are dropping rapidly. If you buy a computer that does not come with an SSD, you can have the spinning drive replaced with an SSD or added afterward, depending on space available. In the very near future, SSDs will be the primary drive in all computers. Most SSDs still use a SATA 3 interface. SATA 3 is limited in speed and is rapidly being replaced by M.2 SSD drives, which can run SSDs at much faster speeds. There are two kinds of M.2 drives — PCI-E and SATA.

The PCI-E interface is faster, as the SATA 3.0 spec is limited to 600MB/s maximum speed, while PCI-E Generation 1 is capable of up to 1000MB/s. Generation 2 is capable of up to 2000MB/s. There is also a newer PCI-E Gen 3 technology that is becoming more common with speeds of up to 4000MB/s.

Motherboard

If building, next and very important is the motherboard. Today you should look for a motherboard that supports your CPU, and dual channel 2133 MHz or more, DDR4 memory. I prefer a full ATX motherboard rather than a mini or micro as it has more slots, both bus and memory, and often more built-in capabilities. Some motherboards also have built-in graphics. The downside is that these may use some of the CPU power. The upside is that it is cheaper than buying a separate graphics card. I prefer the separate card since you usually get better performance, and prices are very low today. The motherboard should support two to four SATA 3 drives that run at a maximum of 600 MB/s, at least two PCI-E devices (hard drives, DVD, CD drives) and at least eight USB ports half of which should be USB 3.0 or 3.1. Buy a quality motherboard. Before you buy your motherboard, go to the manufacturer's site and make sure the CPU and memory you intend to buy is compatible with that motherboard.

Computer case

Your computer case is significant. Almost all cases support both AMD and Intel motherboards. You want an ATX case that has room for expansion. I suggest at least two 5¼-inch external bays, one or more external 3½-inch bays and three or more internal 3½-inch bays for hard drives. My Antec case has eight bays with front panel USB 2.0 connections and holds a standard size ATX motherboard. It has a large (and quiet) 120 mm fan and places for two more 80 mm fans, which I installed to keep the motherboard and CPU cool. Incidentally, air flow of the fans should be in from the bottom front of your case to out at the top rear. A nice feature of the case is the two hand removable screws that enable removing all the case covers without using a screwdriver or nut driver.

I never stand my case on the carpet if there is some air circulation from under the case or from the bottom front, which may be blocked. I place a 1-inch-by-8-inch board (or two 1-inch–by - 4-inch boards) on the carpet and stand the case upon it.

You should make sure you have a power supply with ample wattage. Otherwise, you may have problems that are due to insufficient power. I use a heavy duty 600 watt ATX power supply with a quiet 140 mm or larger fan, which complies with the newer power saving requirements.

Graphics cards

Graphics cards are becoming much cheaper. PCI-Express motherboards support dual (two) linked graphics cards, either NVidia SLI or ATI Crossfire. Make sure if you buy dual cards that they match SLI or Crossfire, and are supported by your motherboard. The dual cards are powerful and extremely fast. Good if you are a gamer, but much too rich for me. If you buy one card, it does not matter if it is an ATI or an NVidia card.

You do want a card that has both a

digital DVI (or DVD) output and HDMI output. Most still have a VGA output as well. Look for at least 1 GB of DDR4 memory on the graphics card. Since I am not a gamer, I buy a low cost video card.

Items to save from the old computer

I transfer from my old computer DVD burners, a fax/modem, a mouse, a keyboard, a printer, a scanner, and a monitor. I still use the fax/modem to send and receive faxes. I install an internal card reader with a USB 3.0 connection in a 3½-inch external bay. Do not forget your Windows 10 operating system license.

Monitor

What about the monitor? I have a 23-inch Acer LCD monitor, and am very happy with it. In my book, bigger is better. There are a number of things you should be aware of when buying an LCD monitor. Do not buy an LCD monitor unless it has a digital connection either DVI or HDMI, or both, as the apparent resolution is much better using the digital connection. It will probably still have an analog VGA connection as well. All LCD monitors have a native resolution, which is usually the one advertised. Important!

Your video card must support the native resolution of the monitor for best results.

An older computer may not support a new LCD monitor in digital mode at its native resolution. In that case, you may have to add or change the graphics card.

Many manufacturers consider it OK if the LCD has eight or fewer bad pixels. If you get one or more, especially in the middle of your screen, you may not like it, or you may not like the monitor in general once you try it out. That is why I would only buy an LCD monitor locally, where I have a return privilege for any reason.

Some monitors can swivel vertically, which gives you a longer page view. Some LCD monitors come with a digital cable, but many do not. You must have the correct digital cable for the monitor, and LCD monitors do vary. Go to www.datapro.net/techinfo/dvi_info.html for a lucid guide to the Digital Video Interface and which cable to use in each situation. You will find buying cables is much cheaper online. The $6 cable is just as good as the MONSTER $141 one, so don't get ripped off.

You still need a printer, and I need a scanner for copying and faxing. The choices are innumerable. I like and use a black and white laser printer for the bulk of my printing. It looks better, is cheaper to run, and like the Energizer bunny just runs and runs and runs. If you buy a laser printer watch out for the ones that need drum replacements in addition to toner cartridge replacements after a certain volume of use. You will end up paying more than the original printer cost. If you require color printing there are many inkjet and color laser printers available, or you may buy an all-in-one inkjet that combines printing, copying, scanning, and faxing. I leave the choices to you.

If you have a little adventure in your soul, you can build a new computer and obtain help from fellow computer club members. If not, you know what to look for. In any event, happy computing.

From the April 2016 issue, The Outer Edge, www.cipcug.org, Bartkoslow@verizon.net.

Privacy? What Privacy?

It may seem like privacy is a thing of the past. I believe we misunderstand privacy, and can control more than we think.

    Privacy is a *huge* topic. So huge I can't really tell you exactly what steps to take, what settings to change, what apps to avoid, or what services to choose.
    Not only are there infinite options, but the options keep changing.
On top of that, there are about as many opinions on the topic as there are internet users. That makes anything I say just one more voice in the crowd …

… not that that's going to stop me.

Two kinds of privacy

    "Privacy" is a really big term, and I want to start by putting a little structure around it. When we talk about privacy, we can be talking about several different things that I'll lump into two buckets.
Implicit privacy. This is the privacy we assume when we use various online services, modern operating systems, applications, and programs to manage our personal information, data, and activities. Each of them has a set of rules, often codified in some kind of formal privacy policy, that controls exactly what level of access they have to your information, and what they might do with that information as a side effect of your use of their software or service.
Explicit privacy. This is the privacy we control more directly as a side effect of the choices we make. For example, choosing to share (or not share) a photo on a social media service is one form of explicit privacy, as are the settings we might use to control who is allowed to see what we might post.
    The biggest difference between implicit and explicit privacy, in my mind, is the amount of control we have over it. We *implicitly* trust that the software and services will do as they say. We *explicitly* decide what to share based on what we believe may happen.

Privacy, policies, and Big Brother

    The biggest topic of discussion in recent months has been the privacy – or lack thereof – assumed when using popular services or software. For example, Windows 10's activity and tracking continues to generate a great deal of concern as the operating system becomes more widely used. Whether that concern is warranted is a topic open to debate.

    Similarly, using any online service involves some amount of tracking. Visiting a simple web site – even *Ask Leo!* – can result in some amount of what might be considered "tracking", typically in relation to advertising display on the site. Some people consider that tracking an invasion of privacy. The most common visible signs are advertisements that appear to follow you from site to site as you navigate the web.

    In reality, all the online services and websites you visit have the ability to collect vast amounts of data derived from internet users. Similarly, any and all software you install has the ability to collect usage information.
    Whether or not you believe Big Brother is watching, the bottom line is that the technology is there should he want to.

The (poor) choices we make

At the other end of the privacy spectrum are the often poor choices we make about what information we share and with whom.

I regularly hear from individuals who actually share a password with a trusted friend or significant other, only to be surprised when their privacy is violated in some way because that trust was unwarranted.

We've all heard stories of individuals losing jobs or job opportunities for statements made, or photos or videos posted publicly on social media. Call your boss names on Twitter, for example, and you have no one to blame but yourself when you're shown the door the next morning. Have you posted "funny" pictures of yourself after imbibing a tad too much alcohol? That could easily be the reason you're not hired for the next job you apply for, or don't get the loan you applied for.

It's sadly common that when it comes to privacy, we're often our own worst enemy.

You're just not that interesting

I've said it over and over: you and I just aren't that interesting *as individuals*. That your operating system might track what you do is pretty meaningless in terms of *personal* privacy. That advertisers might use what you visit and things you click on to tailor what you see is similarly pretty benign.

The companies that collect this data aren't looking at you as an individual. They're looking for trends: they're looking at accumulated data on thousands (if not millions) of users to determine what's being acted on, what's influencing people, and what they might do better.

Even I do it. For example, do I care that you, specifically, looked at my newsletter? At some personal level I do, but I'm not going to sift through information on nearly 60,000 subscribers to see who did and who didn't. On the other hand, if the aggregate number of people who open my newsletter changes in some dramatic way, that's a sign I want to see; that's information I want to be able to act on. I can only do that by tracking the behavior of 60,000 individuals.

The same is true for most any company. Your privacy isn't being violated, because nobody is looking at you, *specifically*. You're just not that interesting.

But you might be interesting to someone, someday

There are two cases in which you might become "interesting".

If you run afoul of the law. This is a non-issue for most people. But what if you live in an oppressive regime, or are subject to investigation for your activities by whatever law enforcement agencies apply to your situation? Even this falls into two sub-categories: the unduly paranoid (sadly, a larger number than one might hope), and the legitimately concerned, for both legal and illegal reasons.

It is important to realize that if you fall into this category (again, depending on where you live), law enforcement may have the right to collect information about you. This can include information we normally brush off as irrelevant – like ad or service usage information collected by your ISP, or the services and software you use. I have to say law enforcement *may* have the right, because laws differ dramatically depending on where you live. Of more practical import, perhaps, law enforcement capabilities also often vary dramatically based on everything from expertise to budget to prioritization of where they choose to expend their limited resources.

Future opportunities. The other case is the one I alluded to earlier: some years from now, perhaps someone will research your history as part of a job application, or something else where your record and your reputation are important. What you post publicly (and in some cases even privately) today may influence their opinion tomorrow.

It's all so scary. What to do?

It'd be easy to read that last section, throw up your hands, and crawl into a hole thinking privacy is a thing of the past, at least when it comes to the internet.

Certainly if you're a criminal, you should be concerned. The only thing really preventing you from being exposed is the limited resources of the various and sundry law enforcement agencies who really do care about *you*, specifically. There are steps you should take, but I'm not the one to help you take them.

For the rest of us living more mundane lives, my advice is actually pretty simple.

First: *stop worrying about being tracked* by the companies that provide the services you use. As I said, they don't care about you as an individual. Certainly there is much room for policy debate about what kinds of information they should and should not collect, and how they should or should not use it, but

in my opinion, this has extremely little chance of impacting you *as an individual*. (And if you're going to worry, then be more consistent. It's always funny to me to get rants about the alleged privacy violations of company "A", sent via an email address provided by company "B", whose activity is on par with "A". Honestly, if the behaviors of the major service providers really concern you that much, I know of no solution other than to walk away from the internet entirely.)

Second: *don't post anything you wouldn't want made public*. Learn the privacy policies and settings of your social media and other applications, and change them and/or change your behavior accordingly. Public once is public forever; there's no calling it back. Think twice about what you post privately as well, since you're *assuming* your private audience won't someday make it public without your approval. This includes not only social media, but also things you share in any form, be it email, text messaging, or other media. We've all seen situations where communications once thought private were made public to great embarrassment or worse.

Privacy remains your responsibility

I remain a strong believer in our wonderfully interconnected world and all the opportunities it presents. Naturally, it brings risk as well as reward.

Ultimately, it's *our* responsibility to be aware of those risks, educate ourselves about the possibilities as well as the practical realities, and make careful choices accordingly.

Ultra High Definition TV – Do I need one?
By Phil Sorrentino, Contributing Writer
The Computer Club, Florida

Ultra High Definition TV seems to be the latest in advertised TV developments (maybe with the exception of curved TV screens). Digital TV became the standard for TV in the United States on Feb. 17, 2009 when the United States switched over from the almost 70 year old Analog TV. By now, most of us have Digital flat panel TVs in our homes, most of which are capable of High Definition TV (HDTV). The term "High Definition" is an indication of the digital format and resolution that the TV can reproduce. Digital TV is delivered in many formats. The most popular, and the highest definition, are 1080p, 1080i, and 720p. The number, 1080 or 720, indicates the number of horizontal scan lines, from top to bottom, that makes up the picture. The "p" indicates "progressive scanning", meaning that every line of the picture is scanned in sequence, line 1, then line 2, then line 3, etc., to the bottom of the picture. This is different from an "interlaced" format such as 1080i. The interlaced format scans every other line (the odd numbered lines) first and then at the end comes back to the top and does the rest of the lines (the even numbered lines). For example, line 1, then line 3, then line 5, etc. to the bottom of the screen, then back to the top for line 2, then line 4, then line 6, etc. to the bottom of the picture. Progressive scanning provides a better picture than interlaced, but requires higher speed circuitry. With progressive scanning, images appear smoother and fast-motion sequences are sharper. (The interlaced format is a hold-over from early TV days, when it was used because of broadcast bandwidth constraints.)

So then what is Ultra HDTV? Well, the TV picture is a rectangle, typically with a 16 by 9 aspect ratio. (Just for comparison, the old analog CRT TVs had a 4 by 3 aspect ratio.) The aspect ratio indicates the ratio of the number of horizontal picture elements or "pixels" to the number of vertical pixels. So for a 1080 screen, with a 16 by 9 aspect ratio, there are 1920 horizontal pixels, and 1080 vertical pixels. So, on a 1080 screen there are 1920 X 1080 pixels, or a total of 2,073,600 pixels. This is the density of a 1080 capable screen. No matter how big the screen is, it must be able to produce that number of total pixels. A practical corollary is that as screens get bigger the pixels get bigger. And as a screen gets bigger, for a given pixel density, the pixels will begin to become noticeable, which will eventually lead to a grainy looking picture. So as screens get bigger it would be beneficial if the pixel density were increased. (Again, just for comparison, analog TVs were about 640 pixels wide by about 480 pixels high, which is the digital Standard Definition (SD) format.)

For big screens, UHD is just what the doctor ordered. UHD doubles the number of pixels in both dimensions, making the pixel density four times that of HD. (UHD is sometimes referred to as 4K, however, 4K really indicates something slightly different; it indicates a 4096 horizontal pixel count which is a motion picture studios production standard.) UHD is then 3840 pixels by 2140 pixels, each dimension is just twice its HD counterpart. With four times the pixel density, TV screens can now grow, maybe beyond the current flat panel production capability.

So the answer to the question of

whether or not I need a UHD TV depends on a few things like the expected distance from the TV screen to the viewer's eyeballs, and maybe more importantly, is there enough interesting video material, like movies, specials, or TV, in the UHD format?

There is a relationship between the screen size and the viewing distance to the screen. The further away from the screen you are, obviously, the smaller the TV will appear. For an HDTV, the ideal distance is to have the screen fill a certain amount of your field of view, though this is not very easy thing to define or specify. One recommendation is to choose a viewing angle of about 40 degrees, which, it is said by experts, will create an "immersive cinematic experience" (CNET's words not mine). For HDTV it boils down to the fact that a reasonable distance to a 55 inch screen is about 9 feet. This is a very soft science, so maybe anywhere from about 7 feet to around 10 feet would be appropriate for a 55 in. screen. This is typical for many homes. If you have an unusually large viewing room, say a very large house or a "media room", a larger screen may be desirable. So, as the room size increases, the screen size can increase and the need for UHD becomes more apparent.

UHD media availability is definitely a consideration. How will UHD content be delivered? HDTV is very new and there may not be any intension of upsetting the broadcast and cable companies with another upgrade in capability for many years, (though this is pure speculation on my part). And, Blu-Ray is the standard for HDTV content on optical disks. A UHD "Blu-Ray" standard is in the pipeline, I'm told, but not for the near future. So, without broadcast, cable or disk as the delivery mechanism, my guess is that UHD content will have to be delivered by download and/or streaming on the internet. Both of which are viable options for high speed internet connections. Netflix, Hulu+ and Amazon are all possible sources of UHD media.

So, if you have a large viewing room, a high speed internet connection, a subscription to a few UHD internet services, and some money burning a hole in your pocket, you may really need one of these UHD TVs (maybe even one with a curved screen).

From http://scccomputerclub.org / Philsorr.wordpress.com ,

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* * * SOFTWARE & COMPUTER TIPS * * *

Easiest Way to Learn Computer Programming

By Prachi Patil

If you are really interested to learn Java then you are at the right place because here in this article you will find an overview of Java basics over here. So here it is a provision for you for as a self guided version. There would be plenty of code examples as you move ahead with this article.

This first article presents the Java system and describes the distinction between its three editions: Java SE, Java EE, and Java ME. You'll also learn about the part of the Java Virtual Machine (JVM) in implementing Java applications.

A general purpose and an object oriented language that looks a lot like C and C++ but is easier to use and allows you to create more programs.

A network-savvy language: TCP/IP network protocols like HTTP and FTP and it can be easily coped up with extensive network library of Java. And they can access the URLs in an easy way as if its is a normal file.

Java is a robust language: Java programs must work because they are used in both client and mission-critical programs, different from Blu-ray players to vehicle-navigation or air-control techniques. Language functions that help make Java effective statements, duplicate type confirming at compile time and play-back, real arrays with computerized extensive variety confirming, and the omission of pointers.

Java is a convenient language: Structure neutrality leads to mobility. However, there is more to Java's mobility than platform-independent bytecode guidelines. Consider that integer type sizes must not differ. For example, the 32-bit integer type must always be finalized and take up 32 bits, regardless of where the 32-bit integer is prepared (e.g., a system with 16-bit signs up, a system with 32-bit signs up, or a system with 64-bit registers). Java's collections also play a role to portability.

Java is a multithreaded language: To improve the efficiency of programs that must achieve several projects at once, it facilitates the idea of threaded

efficiency. For example, a program that controls a Graphical User Interface (GUI) while patiently awaiting feedback from a system relationship uses another line to perform the delay instead of using the standard GUI line for both projects. This keeps the GUI responsive.

Java is a secure terminology: Java applications are used in networked/distributed surroundings. Because Java applications can move to and perform on a network's various systems, it's important to protect these systems from harmful code that might spread malware, grab bank card information, or perform other harmful functions. Java terminology functions that support sturdiness (like the omission of pointers) work with protection measures such as the Java sandbox protection model and public-key security.

Java is a high-performance language: Presentation results in a level of efficiency that is usually more than adequate. For very high-performance application circumstances Java uses just-in-time collection, which examines considered bytecode training series and gathers frequently considered training series to platform-specific guidelines. Following efforts to understand these bytecode training series result in the performance of equivalent platform-specific guidelines, leading to an efficiency boost.

Java is an object-oriented Programming (OOP's): Java's object-oriented concentrate allows developers work on adjusting it to resolve an issue, rather than pushing us to control the issue to meet terminology constraints. This is different from an organized language like C. For example, whereas it allows you concentrate on bank consideration objects, C requires you to think independently about bank consideration state (such a balance) and actions (such as deposit and withdrawal).

Sun fixed the submission issue by considering Java into three main versions. These gradually became known as Java SE, Java EE, and Java ME:

Java System, Standard Edition (Java SE) is the Java platform for creating client-side applications, which run on desktop computers, and applets, which run in Internet Explorer.

Java System, Enterprise Edition (Java EE) is the Java platform designed on top of Java SE, which is used specifically to build up enterprise-oriented server applications. Server-side applications include servlets, which are Java applications that are similar to applets but run on a server rather than a customer. Servlets adjust to the Java EE Servlet API.

For additional information, checkout ***http://crbtech.in/Java-Training/***.

Microsoft "Edge" – The New Web Browser with Windows 10

By Jim Cerny, Chairman, Forums Committee
Sarasota Technology UG, Florida

One of the apps (programs) that come free with Windows 10 is their new web browser called Edge which is supposed to replace Microsoft Internet Explorer. The "e" but with a cut instead of a yellow sash. Although better web interactions with their new browser, my to continue using Internet Explorer or Firefox. icon for Edge is still a white or blue letter Microsoft claims several improvements or experience with Edge has made me decide

In Microsoft's enthusiasm to upgrade and provide again failed in the area of making it easy for users to moved things around, re-configured the appearance, and some new cool features, it seems they once convert to their new version. They have confused the icons and tools. I give Edge, as it exists today a grade of D-minus. I am all in favor of improvements, but I also want to be able to easily do today in the new version what I did yesterday in the old. So, as we all should do, I asked Google about the problems I was experiencing and found much help and equally discouraging comments on the internet from others. I don't need to see videos of all the new wonderful features, I first need to see videos and learn how I can do what I have always done in the past on the new version or upgrade.

My recommendation would be to continue using your current web browser on Windows 10 until Microsoft improves Edge, which will probably take some time. Here are a few areas that were difficult for me in Edge:

FAVORITES (also known as "bookmarks" in some internet browsers) – I am a big fan of using favorites on my web browser. I have hundreds of them. If you upgrade to Win10 on your existing computer, most likely Edge will easily import your favorites from your previous browser program, such as from Internet Explorer, and that's fine. But if you want to import your favorites yourself (by exporting a file from your old browser such as from another computer as I did) you will find that

Edge does not accept or import favorites

from an exported file. The only solution I found for this was to actually install my existing browser program on my new computer, import the favorites to it, then have Edge get the favorites from that old browser program. But if I install my old browser and I am ready to go, why should I trouble myself to convert to Edge at all?

Also be aware that Edge may already have many "favorites" already installed, so you should delete those that you do not want before you have Edge install your list. Once you have your favorites in Edge, sorted into folders, of course, I find that you cannot drag a favorite from one folder into another. You can only drag them out of the source folder into just "favorites" and then you have to go back and drag them from there into your destination folder. Another confusing change is to have two different icons for favorites – one to go to a favorite (an icon of lines) but another (star) if you want to create a new favorite or try to reorganize your favorites. In Internet Explorer you had one icon for favorites and the "organize favorites" option appeared right at the top.

MISSING HOME BUTTON – The home button is not on the tool bar by default, you must go to the "settings" and then to the "advanced settings" list to turn it on. I like having the home button to start over, they should have kept it. Of course when you do this and it appears, it is located in a different place than where it appeared in Internet Explorer.

ASK GOOGLE – Fortunately, you can "Ask Google" anything about Edge and get some answers and help. You will also find that you are not the first person to ask your question or experience your problem. Without Google's on-line help, my difficulties would be, well, much more difficult. By asking Google I can find a way to do what I did before on the old version, or I will find out that it can't be done it at all.

From the May 2016 issue, Sarasota Technology Monitor, www.thestug.org, jimcerny123@gmail.com.

<div align="center">* * * * * * REVIEWS * * * * * *</div>

<div align="right">

What's New
D-Link Wi-Fi Camera
By George Harding
Treasurer, Tucson Computer Society

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This product is an example of Iot (Internet of Things) functionality. You can control a device with your smartphone. In this case, the Camera shows a view of, in my case, my living room, and you can view the image on your smartphone. The idea here is that you can monitor for intruders or others in the camera's field of view. You might be interested in seeing what your cats do while you are out (sleep) or what your teenagers are doing while by themselves or what your daughter allows the boyfriend to get away with.

The product comes with the Wi-Fi Camera, a power cord that is quite long and a Quick Install Guide. The Guide is really brief, being only 4 pages of small print. It tells you what each item is on the camera and tells you to download the smartphone app that takes you through the install process.

I downloaded the app and plugged in the camera, the first step. Next you have set up the connection between your Wi-Fi router and the camera. It would be straight forward normally, but did not work for me.

I had to call Support for help. The product includes a card with the Support telephone number. I followed through several steps that the Support person told me to do, but the connection still didn't work. After a considerable time, the Support person discovered that my router was set with WEP encryption. The Camera only works with WPA encryption. Once that was changed, the Camera worked as it should.

The setup process is fairly complicated. One has to set up a D-Link account and link it to the Camera you have. This involves the usual, user name and password, but also requires the password for the Camera, which is printed on the box and on a separate card in the box. These have to be entered correctly, of course. After all entries are properly made, the Camera connects to the Wi-Fi system and you can control the Camera from your smartphone.

The main thing you get is an image on your smartphone's screen of the area the Camera sees. The Camera has a 180° view, so you get a wide view which is a bit distorted. However D-Link uses a "dewarping" technology to make the image much less distorted than standard fisheye lenses produce. Activity in the view shows up on your screen in a jerky fashion, because the information transfer appears to be about 10 frames a second. But the quality is excellent, up to 1080p.

Another feature that might be handy is the ability to speak to your smartphone and have the Camera repeat. The camera has a built-in microphone which can pick up loud noises and send an alert

to that effect.

    The Camera has six infrared LEDs which provide a view even when the area is dark. The Camera can be mounted anywhere you want, but for the best view, mounting on a wall would be best. The product comes with a couple of screws for this purpose.

    This is a good product with a valuable benefit. I had difficulty installing it, but that was because of the encryption setting on my router. The process probably would have been less troublesome otherwise.

* * * Wi-Fi Camera by D-Link, http://us.dlink.com/, Price $180

    From the www.aztcs.org, georgehardingsbd@earthlink.net.

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Helps Half Hour Notes   by Jan Rothfuss
July 12, 2016
St. John's Meadows

Q: When Windows 10 boots up he gets a message that Windows services cannot be connected.   It works okay.
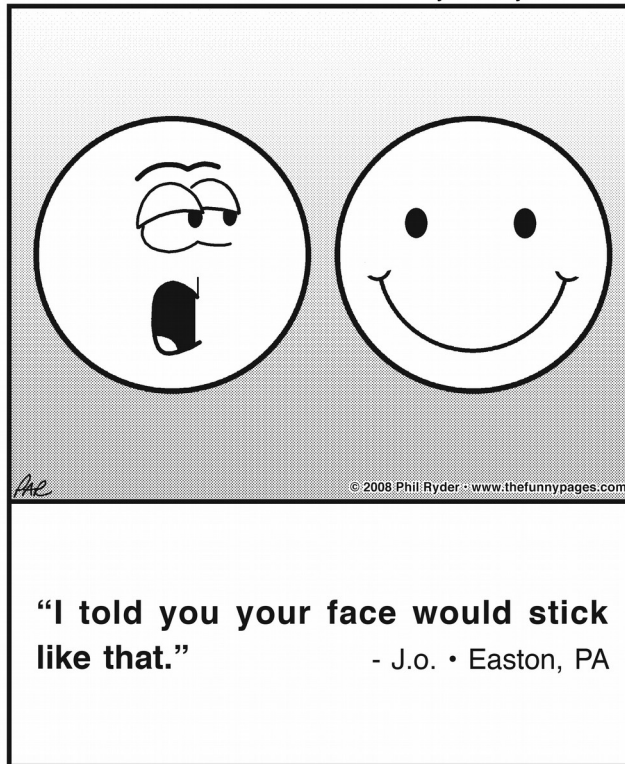**A**: No one else had experienced this. It was suggested that he check for updates and apply any that show up.

Q: A member gets D&C mail but it goes into junk mail in Outlook.
A: It was suggested that he add the D&C email address to the 'white list.' That way they should begin to show up in his inbox. It would also work to simply add the D&C address to your contacts list.

THE JOKE'S ON YOU   by Phil Ryder & **YOU**

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"I told you your face would stick like that."
                                    - J.o. • Easton, PA

From Our Membership

Arthur P. Trimble, 1918 - 2016

I am sad to announce the passing of one of our most dedicated members. Art has been instrumental in helping out the club in many ways, from giving presentations to getting us a meeting location as well as arranging for our newsletter printing. He was a very active member of the St. John's community and if you check his bio, you'll find this comment, *"I love being part of this community and wouldn't want to live anywhere else. I stay busy and that's the way I keep out of trouble."* I personally have found Art to be an inspiration, at 98, he still had a fast walking pace (without a cane), sharp mind and enjoyed dabbling with new technology. His background was primarily photography and with a strong love of nature, would sometimes give presentations to club members, incorporating both of these elements. Art would sometimes buy one of the latest gadgets and share it with club members. He was soft spoken and would take the time to explain what could be done with new devices.

I would like to express my condolences to Barbara and the other members of his family. Thank you Art, for everything.

Tony Dellelo

Mark Zinzow, is leaving our area and I sent him an email:

Well, before you leave, I just want to say that your presentations have been some of the most thorough and best presented programs that we have had in many years. I wish you the best in any new endeavors, but if you get bored, the club members also enjoy presentations via Skype. You are more than welcome to submit articles for re-print in the club's Monitor newsletter, perhaps something like 'The Frugal Techie'. You seem to have a nack for finding some incredible buys and ways of using technology. I want to thank you for all that you have done for our members. Thank you and keep in touch.

Don't forget, Mark's presentation slides can be viewed at http://slideshare.net/msz or http://www.rcsi.org/program.htm.

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Membership: . . . . Steve Staub

Planning Meeting

Held on 1st Tuesday of each month
at 7 pm, at either Sally
Springett's or St. John's Meadows.

Newsletter Printing

The July issue of the Monitor was
printed at St. John's Meadows

Computer Recycling

TSC Computer & Electronics Repair, accepts most electronic waste, including printers. <u>Does not accept crt type monitors or tvs</u>. They are located at 765 Elmgrove Road, Gates. 429-6880, www.tscelectronics.com

Microworx accepts most electronic waste (large monitors/crt's, 50 cents/pound), located at 20 Allens Creek Road. Brighton. 585-271-0050

Monroe County *ecopark*
(Cathode Ray Tube TVs and monitors - $10 each credit/debit card only) 10 Avion Drive Rochester, NY 14624
Phone: (585) 753-7600 (Option #3)

Micrecycle, 49 Stone Street, downtown Rochester, 244-4040, refurbishes computers and accepts used hardware and ***working crt monitors***.