If You Missed It

If you can't make a meeting in person, remember that members can participate in meetings remotely and for free via Zoom teleconferencing (see http://zoom.us/, for Apple® OS X® and iOS, Google Android™ and Microsoft® Windows®). Details are provided in e-mailed meeting announcements.

March 21, 2015 (Fairfax)
by Geof Goodrum
Director, Potomac Area Technology and Computer Society
Director1(at)patacs.org

Spring Social

Instead of a Learn 30 tutorial, the Fairfax meeting started with a party to celebrate Spring. The OLLI Hospitality Committee volunteers provided refreshments and Kathy Perrin brought an appropriately green cake for the occasion. See Dan Feighery's photos of the event (including this one) at http://patacs.org/patacsphotos.html.

Thanks to all who helped out!

Q&A Session

One member said that her three to four year old computer was getting slower. Some of the recommendations included using the free CCleaner utility (http://www.piriform.com/ccleaner, Microsoft Windows only) to clean up and optimize the system, add RAM memory, and use a Solid State Drive (SSD) for the system boot drive. For hands-on help with such tasks, members can arrange to bring systems to the 4th Wednesday PATACS Technology and PC Help Desk meeting in Arlington or the Fairfax PATACS PC Clinics in June and December.

There was a question whether others had heard about an offer from Verizon to tune-up a computer. Many thought that this offer might be a scam (see http://www.microsoft.com/security/online-privacy/avoid-phone-scams.aspx).

What computer files and startup programs are safe to delete? Again, one recommendation was to use CCleaner to remove unnecessary files. However, Autoruns from sysinternals is also free and recommended to manage startup programs (see https://technet.microsoft.com/en-us/sysinternals/bb963902.aspx). Others advised doing custom installs (vs automatic installation) of software to de-select unnecessary add-ons, but someone

suggested a useful website called Ninite (https://ninite.com/), which provides a checkbox menu to select popular packages to install as one download without the "junk."

Presentation: Is Your Toaster an Insider Threat

Bob Flores gave some background on how he started working at the Central Intelligence Agency (CIA) as a data guy (statistician by degree), and showed analysts how to make sense of data. After 15 years, Bob went to a new organization centralizing Information Technology (IT) support and eventually became the first Enterprise IT Officer at CIA. Bob left the CIA in early 2009 to start a new company that became Cognitio (http://cognitiocorp.com/), which performs proactive security assessments of Fortune 500 companies.
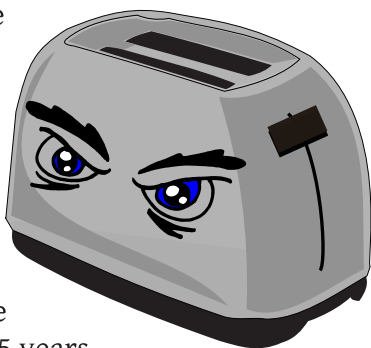
Bob referenced a 1996 paper "Can You Trust Your Toaster?" published by The Terrorism Research Center (http://www.terrorism.org/) to show that security concerns about the "Internet of Things" and data sharing is not new. Everyone has a global voice through social media such as Twitter and capability to post ratings on Yelp!, TripAdvisor, etc., but Bob advised not to trust reviews unless you know the person who signed the review. Frequent shopper programs support targeted advertising. In what has become a Data-centric world, there is a stigma about not being "connected." Bob noted that most data breaches in the news started with a social engineering attack and eavesdropping, not a sophisticated technical attack. Bob discussed how it is impossible to build computer systems that never fail, so companies like Amazon and Google build systems designed to tolerate failures. There is a proof of concept on how to hack car computer systems to take control (see http://www.wired.com/2014/07/car-hacker/). Bob also talked about YouTube videos showing how miniature robot swarms can exhibit complex behavior. In summary, the Internet of Things knows about you, and this knowledge can be exploited.

Bob called for Configuration Management in the home: know what is changing in your home and what it means. Encrypt information that you care most about and use proper key (password) management. Don't use the same password for everything. Bob is a strong proponent of software that creates secure folders for data and passwords (e.g., LastPass, RoboForm); the free version is usually adequate for personal use. Protect the master password for such programs, but share it with someone you trust outside the household (e.g., family member, executor, etc.). Protecting data is very important.

Bob talked about the comprehensive annual breach report that Verizon publishes (http://www.verizonenterprise.com/DBIR/), and said Verizon's recommendations from 2008 (ages ago in IT time) are still true but frequently ignored. Change the default password on your home router first thing. Review your bank statements for unusual activity.

Bob was asked about encryption software such as TrueCrypt and SafeHouse. Bob said he prefers products from domestic companies, and ease of use is important.

When asked about the Mint Personal Money Manager (https://www.mint.com/) to store data, Bob answered that Mint is owned by Intuit in California US, a company that knows the sensitivity of data it holds and that the company's future depends on handling data securely.

Asked about some of the recent online attacks in the news such as those against Sony, Bob said it is difficult to trace the source of such attacks with certainty. Bob also noted that schools and universities are becoming targets.

Future Meeting Topics

Refer to the PATACS Event Calendar on the back cover or http://patacs.org/mtgdetpat.html for meeting time and location.

May 16, 2015 (Fairfax)
Learn 30: Amazon Firestick
Demonstrated by Gabe Goldberg

The Selfish Microbiome
Presented by Professor Patrick Gillevet

Most people are aware that their gut plays host to various communities of microbes that aid in digestion and other vital functions in a symbiotic relationship that benefits both people and bacteria. For the most part these microbial communities are beneficial and even necessary to their human hosts, but sometimes they can get out of balance with the result of illness in the host.

It has become apparent that the human microbiome, studied by Systems Biology, is an integral component of the entire human ecosystem and has far-reaching involvement in social behavior, reproduction, growth, cognition, as well as many diseases. Like the 'selfish gene', which uses individuals to propagate itself, the microbiome uses us to propagate itself, fortunately for the benefit of both organisms. Computers play an essential role in the computational analysis of non-linear systems in ecological modeling relevant to our subject.

Dr. Gillevet has been the lead scientist at the Environmental Biocomplexity and Ecology group at George Mason University since 1996. This group focuses on using state of the art molecular techniques to study problems in Molecular Environmental Sciences and Genomic Evolution. He is Professor in Environment Science and Policy and the Director of Microbiome Analysis Center. His distinguished career includes stints at the Univ. of Illinois, Harvard, NIH, and GMU, and authorship of 110 articles.

In March of 2014 Dr. Gillevet was a member of a series of dives that explored several wrecks, including that of a steam yacht built in 1909 for the Canadian Club Whiskey family and a German U-boat sunk in 1942.

May 27, 2015 (Arlington)
Technology & PC Help Desk

Extended Question and Answer session; discuss topics of interest, share knowledge and get help with technology issues.
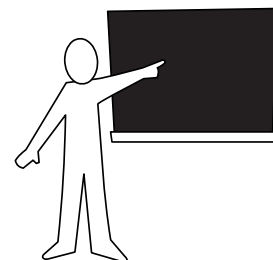
June 20, 2015 (Fairfax)
Moving from PC to Mac
Presented by Lorrin Garson

Help Wanted: Meeting Speakers

Finding presenters for our meeting programs is difficult—your help in the effort to enhance the value we all receive from PATACS membership would be greatly appreciated!

Please consider speaking to your friends at an Arlington or Fairfax meeting. We'd love to feature your take on a smart phone or tablet app. A presentation on these or other topics of interest to you would undoubtedly be welcomed by your PATACS colleagues. We have space in our schedule for 15, 30, 60 and 75 minute discussions—what are you waiting for?

We also have ready-made paragraphs you could use in e-mail communications to help us find speakers. Contact: director2(at)patacs.org

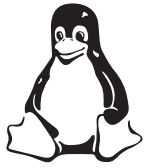## Shopping on Amazon.com? Don't Forget PATACS!

If you shop online at Amazon.com, don't forget to start each session by clicking the Amazon link on the PATACS home page, then continue shopping on Amazon as usual. Doing so earns PATACS a 4 to 6.5% commission on your purchase at no additional cost to you.

Thank you for supporting your user group!

Linux and Open Source News
by Geof Goodrum
Potomac Area Technology and Computer Society
linux(at)patacs.org

What Exactly Is Linux?
by Stuart Jones, MD
Member, Lehigh Valley Computer Group, Pennsylvania
June 2014 issue, The LVCG Journal
www.lvcg.org
stujonesmd (at) gmail.com

Everybody who has used a personal computer (PC)—desktop, laptop, notebook, and tablet, whatever—knows about Windows. Microsoft Windows, to be exact. Most of the PCs in the world use Windows as their 'operating system'. As many know, a computer system is made of hardware (the actual machinery—the physical computer) and software (the instructions installed into the hardware to make it work). The 'operating system' is the most basic part of software—the software that manages the physical computer so that other programs (so-called 'applications software') can make the computer do things that are useful to human beings. For most people, these useful things involve looking up information on the Internet, sending and receiving electronic mail, writing and printing documents, and playing computer games. Most computer users can be happily unaware of what is going on inside their computer, and this is as it should be. A computer, like a toaster, should 'just work'. Though we hear the most about computers when they don't work as they should, for the most part, they do. Microsoft Windows can take some credit for this reliability, though this has depended in part of which version of Windows is being used (the best, by far, has been Windows 7).

Since Windows works so well for so many people, why would anyone wish to use a different operating system? Up to now, most people haven't bothered. A few know that a copy of Windows on your computer costs up to $100, but they are used to paying $400 and up for a computer, and that cost is built into the overall price. Having learned since 1995 how to use any version of Windows, folks are not eager to learn a new way of doing things. A very few people who know a bit more about computers are not happy with the way Microsoft has run their part of the computer business, but for the most part, these folks are ignored by the rest of us.

However, a VERY small group of VERY well educated computer people had complained very loudly for decades about how Microsoft had dominated the operating system business, and how poorly various versions of Windows have worked...from their expert perspective. Another small group of computer experts years ago decided to develop their own computer operating system. This group was led by Richard Stallman, who is best known for his assertion that ALL software should be distributed including its source code (the original computer language

Richard Stallman

text that defines what the software is and does). His group developed a set of outstanding programming tools (programs used to develop other programs, but had difficulty developing their own operating system (GNU). In 1991, this crowd was joined by a computer science major from the University of Helsinki, Finland, named Linus Torvalds. He had written a personal version of an operating system, modeled on an operating system called 'UNIX', which had been built for the very large computers of the 1970's and 1980's. Linus spread his new program over the Internet to a worldwide group of

Linus Torvalds

similarly inclined programmers, who dubbed the results 'Linux', in his honor. (Since Linus and others used the GNU tools, their operating system is sometimes called 'GNU-Linux, to give well-deserved credit to Stallman's group.)
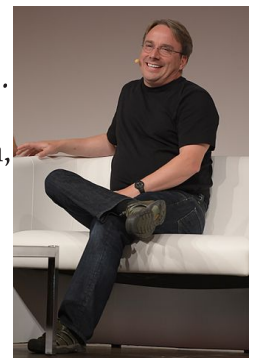
At first, Linux was very limited compared to Windows. However, since Linux cost nothing, and could be downloaded and modified freely, it became popular among computer experts, who formed an international community around improving Linux. Similar programmer communities developed other free and open software projects, which came to include many types of programs usually (in the Windows world) sold for profit. In addition, software was added to the Linux project that created the same sort of 'user interface' (the method people use to make the computer do things) that was provided by Windows (as well as the Apple Macintosh operating system, OS/X)—that is, using icons, a mouse, and keyboard, as well as video graphics (the so-called 'GUI'—Graphical User Interface). The number of computer programmers working on free software projects rapidly increased to number over 100 million people, located everywhere reached by the Internet (which, as we know, now covers nearly all of our planet).

Until recently, this meant little or nothing to most computer owners. However, Microsoft, in perhaps the most stupid business decision ever seen in the software business, first published a new version of Windows (Windows 8) that drastically changed the user interface, to the dismay (and LOUD complaints) of everyone buying a new computer with this installed. They then compounded this idiocy by announcing and enforcing (by frankly unethical actions) 'end of life' for the Windows XP version that was still being used by the majority of computer owners, to force all of them to buy a newer version. They then made the situation far worse by insisting that all these folks change to Windows 8, even though nearly all preferred Windows 7 (which kept the old user interface), and keeping the price of a Windows 7 license higher than one for Windows 8 ($90 minimum, PER COMPUTER). As of April, 2014, Windows XP was no longer updated and supported by Microsoft. This means that anyone still using XP will be in danger of having their computer afflicted with viruses and other malware, and of having their personal data stolen by the criminals who create this garbage.

Add to all this the ongoing economic crisis of 2008 to the present, there are a lot of computer owners who can ill afford the expense of a Windows upgrade, particularly if (as many do) they have 2 or more computers in their household. Fortunately for them, and for all other disgruntled current Microsoft Windows owners (dare we call them victims?), Linux presents a really excellent alternative. Relatively few, unfortunately, have heard about Linux, and those who have mostly think that it is strictly for computer experts (the so-called 'nerdocracy'). Due to the efforts of those millions of free software programmers, this is no longer true. There are versions of Linux that install more easily than Windows, run faster on the same computer hardware, and are EASIER to use than Windows 7, let alone 8. The author's current favorite version is Zorin Linux, which can even be set up to LOOK like Windows XP or Windows 7.

Even those who know more about Linux may be confused by the enormous (several hundred at last count) versions of Linux plus additional programs that are available as 'distributions'. Each of these 'distros' combines the Linux operating system proper with many additional programs that manage the user interface, and also take care of tasks for which Windows users habitually pay $30-$50 (apiece!!) for a program package dedicated to each function (such as listening to music, burning CD's and DVD's, and performing office tasks). Each distribution is put together by a team of programmers (and user interface designers, artists, and documentation writers) who choose what will be included and how it will all work together. The result of their efforts is a package of software that can be run (without being copied to hard disk storage) 'live' on any recent PC, or installed on that PC either replacing Windows, or alongside Windows. (In this last case, the user chooses which operating system to use when the computer starts up or

restarts.) There are special distros designed to be run old older equipment (as old as Intel 486 class!), netbook computers, and even exotic computers that aren't, strictly speaking, PC's. In fact, the Android operating system run by most cellular phones and tablet computers is a distro of Linux, and there is even a distro designed for the XBOX gaming system, that turns this into a full-fledged computer usable for most PC tasks. The server computers that run the Internet (about 95% of them) run Linux, as do some of the very large IBM computers used by banks and stock exchanges. As this is written, if you include all the tablets and cell phones, there are many MORE computers in the world running Linux than run Windows!

Linux is, without a doubt, the largest little-known phenomenon in high technology, and really, ENORMOUSLY, deserves to be better known by ordinary people. Because of the enormous networks of volunteers and paid experts who contribute to the Linux project, as well as the thousands of other free and open software projects around the world, there is an absolutely HUGE community of Linux experts available to help other folks who would like to use this software on their PC's, alongside or instead of Windows. Help is available via the Internet from numerous websites, and also from many regional and national Linux user groups. Paid assistance for Linux users is also available, from consultants and also from large organizations (including IBM!). Entire countries (including, at present, mainland China (!) and the Russian Republic) have adopted Linux as their official government operating system, and a number of medium sized cities across the world have also done so.

Though Microsoft Windows (especially after the company retreats from its current idiocy, which seems imminent) will still have a large presence on PCs, it appears that Linux will conquer a large segment of the PC market, and therefore will soon assume a much larger role in personal computing at the desktop and laptop level.

Regardless, Linux will continue to be developed by its various programmer communities, and will continue to power the Internet, cellular telephones, and a host of other 'smart devices' (such as automobiles), the owners of which will likely remain blissfully unaware that they are using Linux.

Featured Open Source Software of the Month: April 2015

The software described below can be downloaded at the links provided or copied onto a USB flash drive at the PATACS Fairfax meeting. However, please check the online package management tool included with your GNU/Linux distribution first, as installation is often just a click away.

2048 – v1.0.2. https://github.com/ gabrielecirulli/2048. Free MIT License Javascript source code and executables for web browsers, Apple® iOS and Google Android™ created by Gabriele Cirulli. 2048 is a sliding block puzzle game played on a 4x4 grid with the objective of moving numbered tiles with the four arrow keys (or touchscreen) to merge (add) same number tiles to reach a tile with the sum of 2048. The game can be played online at http://gabrielecirulli.github.io/2048/, where there are also links to the official mobile versions on the Apple App Store and Google Play.
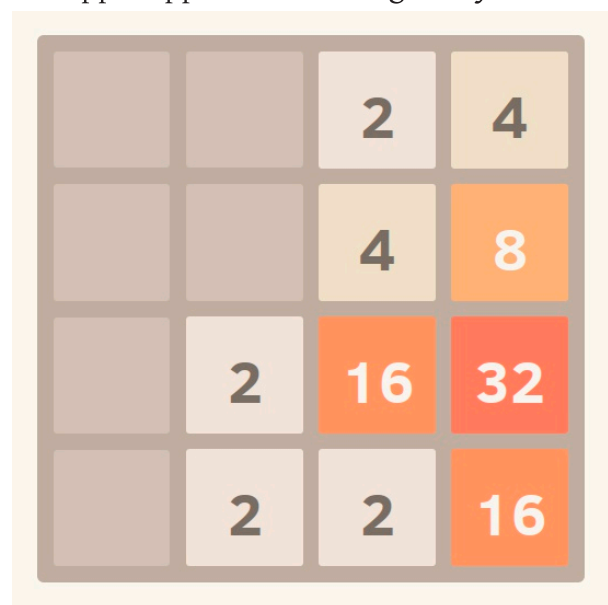
BS1770GAIN – v0.4.1. http://bs1770gain.sourceforge.net/. Free GNU General Public License source code and executables for Microsoft® Windows® and GNU/Linux® by Peter Belkner. The loudness of audio typically varies depending upon the source. The International Telecommunications Union Radiocommunications (ITU-R) standards group defined an algorithm in its BS.1770 standard to measure the loudness of an audio source as well as the true peak audio level. BS1770GAIN is a command line program that implements the ITU-R BS.1770 loudness measurement algorithm and makes it accessible to a user in several ways, i.e., measurement of the integrated loudness, measurement of the maximum short term loudness, measurement of the maximum momentary loudness, and measurement of the loudness range. BS1770GAIN provides two additional measures not related to loudness: measurement of the maximum sample peak (ordinary peak), and measurement of the maximum true peak (peak due to upsampling). BS1770GAIN is also able to write REPLAYGAIN tags with the respective information to a file and leave the task of applying the gain to the playback device, or actually apply the gain to the audio file. The end result: audio files playback at a consistent loudness level regardless of the source.

ProjectLibre™ – v1.5.9. http://www.projectlibre.org/. Free GNU General Public License Java source code and executable for Microsoft® Windows®, Apple® OS X® and GNU/Linux® by Marc O'Brien, Laurent Chretienneau and the ProjectLibre Team. ProjectLibre is an award-winning Open Source application for project management, such as scheduling and tracking progress of interdependent tasks and resources. ProjectLibre is compatible with Microsoft Project 2003, 2007 and 2010 files. ProjectLibre key features include:
• Compatibility with Microsoft Project 2010
• User Interface improvement
• Gantt Chart
• PERT Chart
• Network Diagram
• Earned Value Costing

VLC – v2.2.0. http://www.videolan.org/vlc/. Free GNU General Public License source code and executables for Microsoft® Windows®, Apple® OS X® and iOS (v2.4.1), Google Android™ (v1.0.0) and GNU/Linux® by the VideoLAN Organization. VLC is a cross-platform multimedia player and framework that plays most multimedia files as well as DVDs, Audio CDs, VCDs, and various
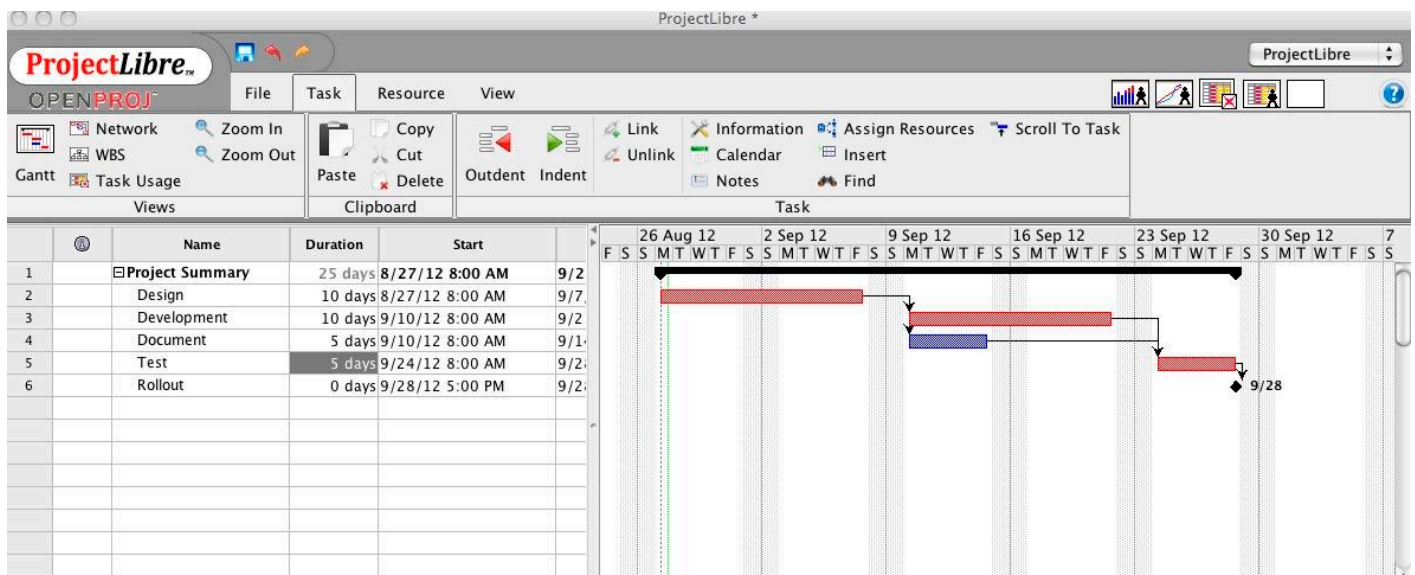
streaming protocols. VLC handles most codecs without additional software. VLC can also convert media types and stream media over a network (e.g., play video and audio files stored on another computer on a home network).

Featured Open Source Software of the Month: May 2015

The software described below can be downloaded at the links provided or copied onto a USB flash drive at the PATACS Fairfax meeting. However, please check the online package management tool included with your GNU/Linux distribution first, as installation is often just a click away.

Double Commander – v0.6.1beta. http://doublecmd.sourceforge.net/. Free GNU General Public License and GNU Lesser Public License source code and executables for Microsoft® Windows®, Apple® OS X® and GNU/Linux® by Alexx2000. Double Commander is a cross platform open source file manager with two panels side by side. It is inspired by Total Commander and features some new ideas.
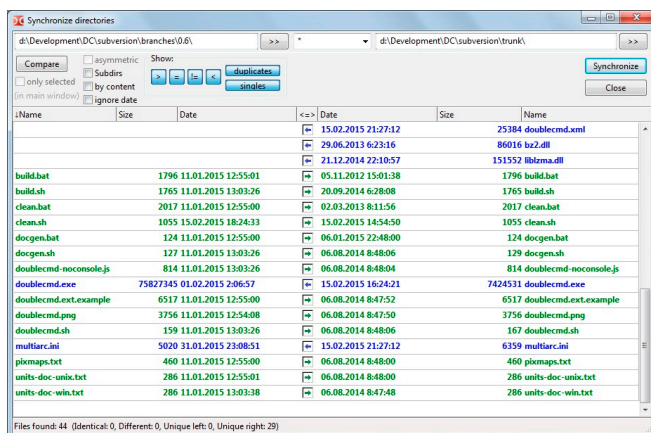
Features include:
- Unicode support
- Tabbed interface
- Multi-rename tool
- Custom columns
- Built in file viewer (F3) to view files of in hex, binary or text format
- Internal text editor (F4) with syntax highlighting

- Archives are handled like subdirectories. You can easily copy files to and from archives. Supported archive types: ZIP, TAR GZ, TGZ, LZMA, BZ2, RPM, CPIO, DEB, RAR.
- All operations work in background
- Extended search function with full text search in any files
- Configurable button bar to start external programs or internal menu commands
- Total Commander WCX, WDX and WLX plug-ins support

GNS3 – v0.8.7. http://www.gns3.com/. Free GNU General Public License source code and executables for Microsoft® Windows®, Apple® OS X® and GNU/Linux® by Jeremy Grossmann, Julien Duponchelle and GNS3 Developers. GNS3 is a graphical network simulator that you can use to learn about computer network design or professionally to design complex computer network topologies. GNS3 can run simulations on virtual hardware or configure devices ranging from simple workstations to powerful Cisco routers. GNS3 supports a user community of over 2 million network professionals and relationships with major corporations. It is based on Dynamips, Pemu/Qemu and Dynagen. SourceForge selected GNS3 as Project of the Month for April 2015.

Oneko-sakura – v1.2pl5. http://www.daidouji .com/oneko/. Free BSD License source code and executables for GNU/Linux® by Tatsuya Kato with bitmaps and enhancements by Kiichiroh Mukose. Ports are available for Microsoft Windows x64, Apple iOS and OS X, Google Android, and other platforms. A web-based version is online at http://webneko.net/. Oneko-sakura creates an animated cat on your screen that chases your mouse pointer (changed to look like a mouse, of course) around the screen, within a window, or to the top of whatever window is active. Other options include a dog chasing a bone, or cartoon characters.

Kernel Source – v3.19.3. http://www.kernel .org/. Free GNU General Public License source code for all platforms by the Linux community.

Strolling Down Memory (Core) Lane

Museums and online resources help preserve computing history

by Gabe Goldberg
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I had very mixed feelings the first time I saw computer technology I'd used in my career exhibited as museum artifacts. And I had a similar reaction to seeing mainframe genealogy ("System/360 begat ...") in computer history books. While the good news is that today's mainframes are close relatives of that first generation on which many of us grew up, it's easy to forget how much things have changed, and how far we've come. (Remember 25MB 2314 disk packs, giant 100MB 3330s and timesharing mainframes with half-megabyte memory?) At the same time, newcomers often lack the perspective to understand how things originated and why the computing world looks the way it does.

So it's interesting and instructive touring real-world and virtual computing museums, lovingly created and maintained by generations of professionals—many of whom designed, built and used the equipment written about and shown.

But where to start? Searching yields about 407,000 website hits.
https://www.google.com/search?q=%22computer+museum%22

Of course, adding keywords such as "mainframe" and "IBM" winnows results to only 127,000 and 66,000, respectively.

Unsurprisingly, the first general search result is the Computer History Museum (http://www.computerhistory.org/). Organized in the 1960s to exhibit Gordon and Gwen Bell's personal technology collection in Digital Equipment Corp.'s Boston lobby, it's now housed in a multi-million dollar showplace in Mountain View, Calif. Its website offers a wealth of overview and in-depth reading material. Exhibits include technology "prehistory;" modern computer origins, development and history; game playing; system restoration; and seminal industry contributors recognized as Museum Fellows, including Konrad Zuse and IBMers Fran Allen, Erich Bloch, Gene Amdahl and Bob Evans.

A major new exhibit, "Revolution: The First 2,000 Years of Computing," includes a mainframe gallery, based around an IBM System/360 Model 30 CPU and showing three 2411 magnetic tape drives and a 1311 disk drive. In short, it's a typical smallish System/360 installation. A small display also describes System/360 solid logic technology (SLT)—halfway between integrated circuits and transistors, chosen when integrated circuits weren't quite mature enough to use on a large scale and transistors were already "old tech." Searching the online Revolution exhibit for mainframes http://www.computerhistory.org/revolution/search?q=mainframe yields more than 60 hits. The main System/360 story is here.
http://www.computerhistory.org/revolution/mainframe-computers/7

Further north along the West Coast, another museum has a different orientation: presenting major historic computing technologies in action, showing how people used them. Founded by Microsoft's Paul Allen, The Living Computer Museum in Seattle includes such blinky-light wonders as Princeton University's huge System/360 Model 91 console panel. Real old-

timers can try their hands and test their memories working on an IBM sorter and keypunch, and try to convince relatives that these were once mainstream computing technology. Non-IBM computers include DEC's PDP-7/8/10KI/11, Sigma 9 and Unisys V380.
http://www.livingcomputermuseum.org/

Many museums cover the whole computing spectrum, exhibiting different amounts of mainframe history and technology. A bit off the beaten path is the American Computer and Robotics Museum in Bozeman, Mont., describing itself as "The world's oldest continually operating museum of its kind" and "Inch for inch, the best museum in the world."
http://www.compustory.com/

In Washington, D.C., the Smithsonian Institution—nicknamed "The Nation's Attic"—of course has computing resources. An online COBOL exhibition lets you "learn about COBOL, or Common Business Oriented Language, one of the first computer-programming languages to run successfully on different brands of computers." The Computer History Collection includes artifacts related to producing, collecting, modifying, manipulating and using information in modern American society, with two dozen mainframe computers or components. There's plenty more to be nostalgic about, including 100 peripherals, 1,000 electronic components and 450 electronic calculators. Plus 150 cubic feet of documentation—which sounds like less than what I had to move whenever I changed programming jobs!
http://americanhistory.si.edu/cobol/introduction/

http://americanhistory.si.edu/comphist/

Overseas are several museums in Germany, where many computers and related technologies originated, and where IBM has for decades had major development and manufacturing facilities. Stuttgart has Computermuseum der Fakultat Informatik, which includes a 4331 Model 2 complete with at least a few of its manuals.

http://computermuseum.informatik.uni-stuttgart.de/index.en.html

http://computermuseum.informatik.uni-stuttgart.de/dev_en/ibm4331/ibm4331.html
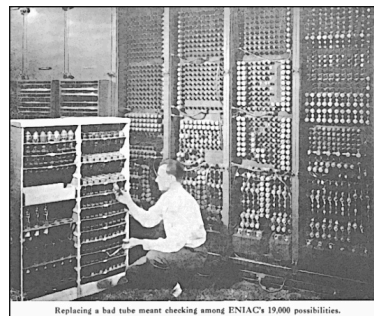
http://computermuseum.informatik.uni-stuttgart.de/cm003_en.html

Not far from Stuttgart, there's indeed history galore was exhibited at the IBM museum in Sindelfingen. Unfortunately, it's moved to IBM's Boeblingen Lab where they're building a new exhibit, but focus has changed and the primary audience is IBM customers. So it's not open to the public.
http://www.theage.com.au/news/Perspectives/History-galore-at-IBM-museum/2005/01/31/1107020294580.html

http://www-03.ibm.com/ibm/history/documents/pdf/HistoryofIBMDataProcessing.pdf

The Heinz Nixdorf Museums Forum in Paderborn, Germany, is billed as the world's largest computer museum. In more than 6,000 square meters of floor space, it depicts the 5,000-year history, present and future of information technology, from origins of numbers and characters in 3000 B.C. to the 21st century computer age. The museum's depth is shown by having separate curators for areas such as "punched card technology, PCs and media history" and "typing machines, office technique, German computers and Nixdorf." While it surprisingly has no IBM mainframes, it features original ENIAC components, two Zuse devices (Z11 and Z23) and a Cray 2.

Replacing a bad tube meant checking among ENIAC's 19,000 possibilities.

http://www.hnf.de/en/ueber-uns.html

IBM itself has a few historic information resources, found by searching IBM.com.
http://www.ibm.com/Search/?q=%22ibm+museum%22

Endicott, N.Y.—where IBM and many technologies/products originated—is represented by its Visitors Center. While not tech-centric, it includes the Thomas J. Watson-IBM room which examines his professional career and development of IBM.
http://www.endicottny.com/VCmuseum.html

The Rhode Island Computer Museum has a diverse collection (from Apollo Jabba to Wang Peripherals) but not many mainframe or IBM items.
http://www.ricomputermuseum.org/

Some museums specialize, such as the Computer Graphics Museum in Salt Lake City, though its presence is still largely online. I'd love to see an IBM 2250 Graphics Display Unit, something I battled with supporting under VM/CMS.
http://computergraphicsmuseum.org/

A group called Mid-Atlantic Retro Computing Hobbyists runs a museum in Wall Township, N.J., with five exhibits: mainframes, minicomputers, homebrew-era computers, business microcomputers and consumer microcomputers.
http://www.midatlanticretro.org/

For more online resources, there's a list of physical and virtual computer museums.
http://ed-thelen.org/comp-hist/merged.html#PhysicalCompMus

http://ed-thelen.org/comp-hist/merged.html#OtherCompVMus

Yahoo's directory lists about a dozen computer exhibits.
http://dir.yahoo.com/computers_and_internet/history/museums/

Wikipedia describes and lists various museum categories: online, North American, European, Latin American, Middle East and Oceania, along with further reading.
http://en.wikipedia.org/wiki/Computer_museum

Many online communities exist for reminiscing and chatting about bygone systems; two such lists are here.
http://www.classiccmp.org/lists.html

Researching this article tempted me to join multiple museums, but I'll content myself with mapping their locations and attempting to connect the dots by visiting as many of them as possible. Perhaps I'll log equipment and systems found on which I worked.

Much has been written on computing's origins and evolution. Two books essential for mainframers are "IBM's Early Computers" and especially "IBM's 360 and Early 370 Systems."
http://www.amazon.com/IBMs-Early-Computers-History-Computing/dp/0262022257/ref=sr_1_1?s=books&ie=UTF8&qid=1377020591&sr=1-1&keywords=ibm%27s+early+computers

http://www.amazon.com/IBMs-Early-Systems-History-Computing/dp/0262161230/ref=sr_1_2?s=books&ie=UTF8&qid=1377020724&sr=1-2&keywords=ibm%27s+early+computers

Sometimes museums are found in surprising places. I describe a friend's home as being decorated in "early mainframe," since he's tastefully placed various mainframe components—large I/O devices and controllers and such, not mere circuit boards or control panels—in rooms and hallways. They made me feel nostalgic, since I'd used and worked on many of them. My wife was less impressed, calling the house a computer mausoleum, proving that one person's interesting museum is another's ... well, let's not call it that. So check out the worldwide assortment of tributes to computing technologies we've all used which shaped today's world. And explore the computing world's diversity; browse a bit beyond System/360 and its descendants to see how others have computed.

This article first appeared on http//www.destinationz.org and is used with the author's permission. Gabe Goldberg has developed, worked with and written about technology for decades. He can be contacted at destination.z@gabegold.com.

Khan Academy and Bank of America Join to Offer Free Financial Education

by Ira Wilsker
March 23, 2015
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WEBSITES:

https://www.khanacademy.org

https://www.bettermoneyhabits.com

http://newsroom.bankofamerica.com/press-release/consumer-banking/bank-america-khan-academy-promote-better-money-habits

https://www.bettermoneyhabits.com/home-buying-renting/deciding-to-buy-or-rent/preparing-to-buy-a-house.html

Over the past several months you may have seen Sal Khan, founder of the Khan Academy (khanacademy.org) appearing in a commercial for the Bank of America, announcing its free online "Better Money Habits" (bettermoneyhabits.com) education program. Started in April of 2013, utilizing the educational and academic expertise of the Khan Academy, and funded by the Bank of America, this free online learning program offers basic financial education to all.

I first wrote about Khan Academy here in this column several years ago after seeing it on "60 Minutes", and was favorably impressed. For those who may not be familiar with the Khan Academy, it is a totally free online educational program offering over 100,000 interactive lessons on hundreds of topics for students at all levels, from K-12 through college. As I type this, Khan Academy is reporting that it has provided billions of individual lessons to 24,063,797 individual "learners", as it calls its users. Khan Academy offers user level appropriate lessons in math (from basic counting to advanced calculus and differential equations), science, biology, economics, business, accounting, finance, arts, humanities, history, computer science, test preparation, college admissions, and now with its partnership with Bank of America, it is also

offering lessons in personal finance.

Originally started by Sal Khan as a way of helping his niece living in a distant city with her math homework by creating easy to follow YouTube videos, Khan Academy rapidly exploded into becoming the premier source of personalized educational and instructional videos. Sal Khan explained how he combined his established method of teaching with his 2013 partnership with Bank Of America, "When I started Khan Academy, my goal was to teach them math the way I wish it had been taught to me. ... If we can teach somebody the underlying principles, we can put them in a position to ask the right questions when it comes to other situations. And that applies to their finances as well." Sal Khan also describes his Khan Academy as, "For free. For everyone. Forever. No ads, no subscriptions. We are a not-for-profit because we believe in a free, world-class education for anyone, anywhere. " His success can be measured by the millions of individual users, and the thousands of classrooms utilizing his instructional videos on a regular basis. I for one, have used Khan Academy videos in several of my college classes, and routinely refer students to the website for additional help with their classes.

While the Khan Academy has partnered with other organizations in the past to enhance its video course offerings, it is the partnership with Bank of America that has received a lot of recent, positive, media attention. In a press release, citing its "corporate social responsibility", Bank of America explains the rationale behind the partnership that created "Better Money Habits". Bank of America said, "Money can seem complicated; learning about money doesn't have to be. We've all heard the statistics—69 percent of people cite money as a top stressor. College graduates today are averaging nearly $30,000 in student debt. 32 percent of U.S. adults recognize their lack of financial knowledge has led them to make poor financial decisions, and 43 percent feel they have missed out on good financial opportunities for this reason. (Source: Bank of

America/Harris Interactive 2013 Poll) BetterMoneyHabits.com is a free service that enables everyone to understand finances through objective and unbiased videos and tools. We want to ensure all consumers have access to all the information and resources you need to have informed conversations with your financial institution and make the best decisions for your situation."

Utilizing a series of short animated videos, BetterMoneyHabits.com offers the users a variety of relevant and easy to understand content covering many of the personal financial issues facing people of all ages. The primary topics, each of which offers a selection of several sub-topics, are Credit, Saving & Budgeting, Debt, Home Buying & Renting, Taxes, Car Buying, Personal Banking & Security, and Paying for School. For example, under the "Credit" heading are a series of videos and integrated "infographics" (large images with sequential information), titled: What is a credit score?; Ways to build credit; Keeping credit healthy; Managing my credit report; and Sal Khan & experts discuss credit. Under the "Personal Banking & Security" heading are videos on: Understanding my bank accounts; Fraud & identity protection; and Basics of the banking industry.

This past week, after one of my classes, I was approached by one of my students asking where she and her fiancée could find information to assist them in understanding the home buying process, specifically for help in deciding if it would be better for them to rent or to buy a house. I showed her the "Home Buying & Renting" section on bettermoneyhabits.com, and opened the sup-topic "Deciding to buy or rent" (bettermoneyhabits.com/home-buying-renting/deciding-to-buy-or-rent/preparing-to-buy-a-house.html). Once opened, the page presented a menu on the left offering three cute animated videos (Is buying a home right for you?, The true cost of renting a place, The true cost of moving to a new place) and a detailed infographic "If you're considering home ownership, here's what you should know". Each of the videos had a full transcript available for download, printing, or viewing. Below the listing of videos was a link to "Key Takeaways" that summarized all of the information presented on the topic, along with a short self-quiz which will display to the user how well he actually comprehended the topic, along with relevant additional information and hyperlinks to supplementary resources. All of the other major topics and sub-topics had a somewhat similar format consisting of animated videos, infographic images containing comprehensive information, and a "Key Takeaways" summary along with a self-test to measure comprehension.

I have been both a fan and an advocate of Khan Academy since its debut on "60 Minutes" several years ago, presenting programs on it at local and statewide academic events, as well as writing about it here. I have been recommending the KhanAcademy.org to individuals to help their own kids with math and other school classes, both elementary and high school levels, as well as college level content. Several of my fellow faculty members have had their own children use the SAT preparation lessons offered online for free from Sal Khan, and some have commented that they were better than the paid SAT prep

classes taken by their kids. Some of the other "test prep" content provided by the Khan Academy includes the MCAT, NCLEX-RN, GMAT, and even the AP Exam in Art History, as well as several foreign college admission exams. I already integrate content from Khan Academy into several of the classes that I am currently teaching, and have encouraged other faculty to do the same. Next fall, when I will again be teaching an academic course "Personal Money Management" at my college (Lamar Institute of Technology), I will be integrating content from BetterMoneyHabits.com into that course as well.

Between KhanAcademy.org and its companion personal finance website at BetterMoneyHabits.com, there is a plethora of information on thousands of topics that would likely be of interest to anyone, regardless of level of educational accomplishment. Both of these websites are most worthy of your time.

Search Options—Windows 8.1
by Rosita Herrick
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October 2014 issue, Sarasota Technology Monitor
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In one of my more energetic phases, I decided to clean up my desktop hard drive last weekend.

I went to the File Explorer search box and looked for the option to search file by Date Modified and could not find it.

After a little research, I realized that the many search options in File Explorer are alive and well if you know how to look for them. And so I decided to post my finding in this corner to save you some frustrations.
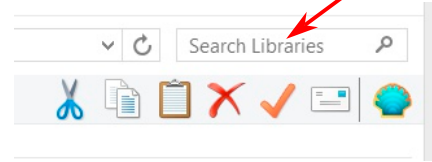
First click on the File Explorer icon on your desktop's status bar.

By the way, notice that with the April update to 8.1 you can place App icons on the task bar.

Once the File Explorer page opens, click on the folder or the group you want to search.
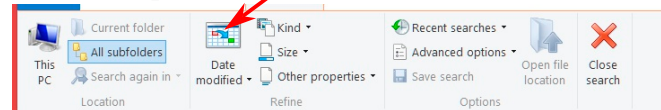
I clicked on the Libraries item and the on the search box

Now, if you look at you screen, on the left side you will see a new tab called Search Tools
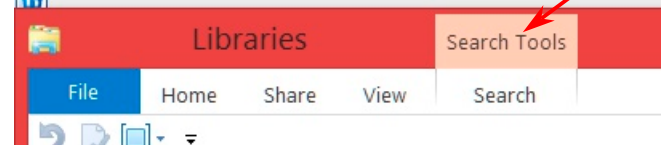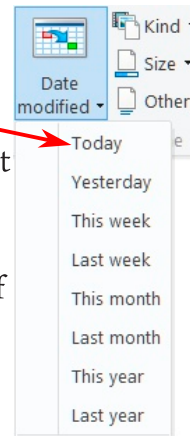

Click on this tab to expand it, and you will see the available options.

To show an example here, I clicked on the Date modified item.

And then selected Today.

The image below shows the file that was found.

As I was composing this article, I thought that it sounded like a lot of trouble. However, once you get used to the steps, it is quite fast.

1. Click on File Explorer Icon
2. Click on folder you want to search or on Computer if you want to search the entire C: drive.
3. Click on the Search Tab
4. Click on the selected search criteria
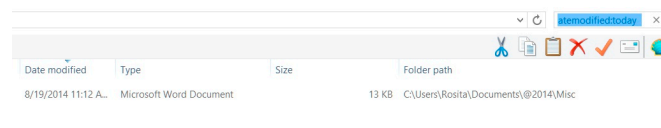
This type of search is quite handy if you just saved a file and don't remember where you saved it or forgot to name the document.

I intend to use it to group all the documents that have not been modified in two years and back them up on an external drive to remove some of the clutter in my Document file.

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May 2015 PATACS Event Calendar

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Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4 Star Wars Day	5	6 7-9pm Arlington General Meeting	7	8	9
10 Mother's Day	11	12	13 7-9pm Online Zoom Meeting	14	15	16 12:30-3:30pm Fairfax General Meeting
17	18 7-9pm Arlington Board Meeting	19	20	21	22	23
24	25 Memorial Day	26	27 7-9pm Arlington Technology & PC Help Desk	28	29	30 July Newsletter Articles Due
31						

Arlington: Carlin Hall Community Center   Fairfax: Osher Lifelong Learning Institute
5711 4th Street South   4210 Roberts Road
Arlington VA 22204   Fairfax VA 22032