January 2017

Visit our website at www.pcs4me.com Ken Johnson, Newsletter Editor

CALENDAR

SIG = Special Interest Group

This Week's Schedule

January 14 - Saturday - 1:10-2:50 PM
General Meeting - Leader: Ray Carlson
Location: Prescott Public Library; Founders Suite A & B

First Hour: Featuring Bob Gostischa from Avast

Bob will discuss "Tips for Staying Safe Online and Preventing Identity Theft". He will show you how to use the tools that make visiting the Internet safe and enjoyable. You need to have the right tools and exercise caution in order to avoid the dangers "out there" online. Bob's short promotional video

Second Hour: Phil Ball will present Tips and Tricks with insights into various topics that assist with regular computer activity.

In addition to the presentations, the following are typical events which take place at our General meetings:

1) We hold an informal Flea Market in which you are encouraged to bring in your excess computer equipment or software and make them available for others to enjoy at no charge. Please deposit give-away items on the table in the back marked "Free Stuff." Any items left here at the end of the meeting are subject to disposal.
2) If you have items that are just too good to give away, you may set up a separate table and hold your own sale.
3) We conduct a raffle of gift cards at the end of the meeting, so make sure to get a pair of tickets from whoever is in charge and place one on the item you'd like to win.
4) We will also accept your used ink and toner cartridges for recycling. They are turned in to Think4Inc for credits which PCS uses to purchase office supplies from them.

Future Meetings:

January 21 - Saturday - 1:10-2:50 PM
Smartphone SIG - Leader: Murray Smolens
Location: Prescott Public Library; Founders Suite A & B

Murray Smolens will discuss Smartphone-related topics.

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Future Meetings, continued:

January 28 - Saturday - 1:00- 3:00 PM
Leader: Ray Carlson - President of the Prescott Computer Society
Location: Prescott Public Library; Founders Suite A & B

PCS will be assisting the Prescott Public Library in presenting a program about the unique features of Windows 10 and how it differs from Windows 7. There will be a Question and Answer session at the end of the presentation. While this meeting was initially begun as a training program for Library personnel, it has been opened to the public and anyone is welcome to attend.

Note that these dates are correct at time of publication but are subject to change.
Up to date information can be found on our website, www.pcs4me.com

Unless otherwise noted, our meetings are usually held in the Founder's Suite at the Prescott Public Library.

Prescott Computer Society
Officers & Board of Directors
2015-2016

Officers:		General Directors:	
President	Ray Carlson	Joan Baum	Murray Smolens
Vice Pres	Phil Ball	John Carter	Dick Mason
Secretary	JB Burke	Ken Johnson	
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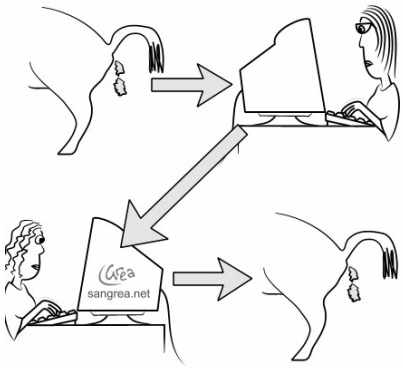
HOW COMPUTERISATION MADE OUR WORKING LIVES SO MUCH EASIER



Schematic diagram: How the internet works

HELPING OLD PEOPLE FEEL MORE AT HOME WITH COMPUTERS

It's time to renew your dues

if you haven't already done so.

The good news: **again this year, dues are only $24.** Please make checks payable to "PCS" and present them to any Board member (gold nametag) or mail your check to:

Treasurer Prescott Computer Society
PO Box 11954
Prescott, AZ 86304

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The AMD A8-7670 Processor: A Review

By Daniel Woodard, Member, The Dayton Microcomputer Association, OH

www.dma1.org

http://www.majorgeeks.com/ les/details/3dmark.html

http://www.geeks3d.com/gputest/

DGW (at) DMA1.org

Would you consider yourself a gamer on a budget? If so, then AMD has a processor for you, the Godavari A8-7670K APU. Built using a 28nm process, the 95 Watt 7670K incorporates a Radeon R7 GPU (graphical processing unit) and fits in an FM2+ motherboard socket. The processor runs at a base speed of 3.6 GHz, and ramps up to 3.9 GHz as needed. The graphics portion of the chip runs at 757 MHz and has 384 stream processors.

The processor might appeal to those who already have an FM2+ based motherboard, or want something similar to a base line video card, but with the ability to upgrade easily. These processors have both the CPU and GPU combined into what AMD is calling an APU, or Accelerated Processing Unit. It might also appeal to those who want to minimize system fan noise, since there is no additional fan on a separate video card. A person who wants to keep total wattage under control (for example, to work with an existing system power supply) might also want one of these, since the combined CPU and graphics power usage is under 100 watts. Another plus is that the APU supports running DDR3 RAM at 2133 speeds, a jump up from some of the earlier models. The K at the end of the name also designates that this is a Black Edition, meaning that hobbyists can tinker around with the clock multiplier of both the CPU and GPU portions of the chip. I personally wanted to upgrade my A4-7300 based system, which I had built in late 2014, mostly because there were a few games my kids play where it did not quite keep up with demands. Otherwise, the A4-7300 had been quite an excellent choice for casual games, multimedia and productivity software for about $45.

I first did some “everyday computing” type comparisons between an A4-7300 dual core processor running at 4 GHz and the A8-7670K. I started out running Hyper Pi, which is a multicore computation of Pi, out to 16 million digits. This took 11 minutes and 43 seconds on the A4, but only 9 minutes and 34 seconds on the A8-7670K.

Next, I took a folder containing a mix of files totaling 454 megabytes and used Winrar to do a compression. It took 4 minutes and 27 seconds on the A4, but 5 minutes and 25 seconds on the A8. The results were rather shocking at first—why would a processor with 4 cores take *longer* than one with 2 cores? Then I realized that I was using a very, very old version only “saw” the first core on each processor, which would give the 4 GHz A4 an edge. version of Winrar—almost ten years old. It was very likely that this However, as soon as I installed the latest version of Winrar and ran it using the A8, I saw the total time to compress the files drop to only 51 seconds! It was quite the *Aha!* moment for me—I had never before seen quite such a vivid example of why it is so important to upgrade software to more recent versions. Using the older versions of the software had been causing me to take about five times as long to accomplish the same task.

For the final part of the everyday computing benchmark test, I used Handbrake to compress a 44 minute 720p kid video to h.264/mpeg4. On the A4-7300, this took 28 minutes and 52 seconds, giving an average frame rate per second (fps) of 45.6. Using the A8-7670K, this took only 14 minutes and 40 seconds, giving an average fps of 89.6—converting the file in roughly half the time.

For 3D gaming comparisons, I used the 3DMark Sky Diver test, followed by the Geeks 3D GPU Test suite. The 3DMark Sky Diver test is exactly what it sounds like: a sky diver (glider, really—there are arm winglets like a flying squirrel) going through various scenes, putting the video card under strain to assess its capabilities, and giving an overall numerical score for comparison. For the Sky Diver test, final results for the A4 were 2,126 and for the A8 were 4,294—roughly double the ability. I also tested a Pentium G3220 based system I have with an actual Radeon R7 240 video card installed, and it finished the Sky Diver test with a score of 4,082. The Radeon R7 240 video card sells for about $60 retail. As you can see from the results,

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the A8-7670K has a slightly better 3D performance than a stand-alone $60 video card from about 24 months ago offers. That they have managed to build this into a processor and still stay under 100 Watts of power draw is an accomplishment.

I also ran the Geeks 3D GPUTest suite, which offers a batch of different tests. These include something called furmark, tessmark, GiMark, Pixmark, Plot3D, and others. Many of these are a lot of fun to watch, so I would recommend trying it if you like to watch animations, fractals and such. Rather than putting the number results from all of these here, I'll just summarize by saying that the tests show an average 110% video performance increase from the A4-7300 to the A8-7670K, again more than doubling.

For a real-world gaming test, I used a Steam game called BeamNG.drive which my oldest son has loved playing with for the past year. It is essentially a 3D car physics simulation where players can drive a variety of vehicles through many different environments. On the A8 I obtained roughly 33-35 frames per second in game, while on the A4 the game showed an average of just 17-18 fps. The slower frame rate was still playable, but seemed very jerky in comparison. A person would definitely not want to go back to the slower frame rate after getting used to the better play of the A8-7670K for a few hours.

The A8-7670K is available for roughly $105 to $110, and sometimes under $99 during sales. From reports on line, it appears that overclocks of 4.5 GHz are easily accomplished with a decent heat sink. For folks who aren't interested in overclocking, this is definitely one of the first processors around the $100 price point that can competently allow 3D gaming at low to medium resolutions. If AMD continues to make advancements on their APU's, then we might actually see some folks doing budget gaming builds and returning to PC gaming (Steam, etc.) rather than buying game consoles.**Ω**

Device Transparency (DT)

By Eric Moore, President, Computer Users' Group of Greeley, CO

May 2016 newsletter, Random Access

www.cugg.org

moore.e.s@att.net

As computer users increasingly have multiple devices—laptops, desktop computers, tablets, smartphones—on which they keep important data, being able to seamlessly access a file from any location or device becomes a challenge. Say if you are on a business trip with your laptop and smartphone, but realize you forgot to copy a report from your desktop computer to one of your mobile devices, you may find it a challenge to get what you need. Remote control software such as LogMeIn can allow you to remotely connect to the computer to download the file you need. Dropbox provides a means of sharing files with yourself and others through a cloud-based storage. VPNs and collaboration services such as Microsoft SharePoint are other possibilities for getting access to a file you need while away from home or the office.

"Device transparency" (DT) is a concept which could provide a seamless means of managing your files from any of your devices. Whether you need to transfer a photo from a smartphone to your laptop, play a music file residing on a Mac PowerBook on your Android device, or access a Word document from home on your tablet computer, device transparency would make this all possible. In a paper published at http://www.brynosaurus.com/pub/net/devtransp.pdf, researchers with MIT and the Max Planck Institute for Software Systems describe how such an ideal service would function. (At the time of the paper's writing, there was no service they were aware of that provided all of these features they propose.)

To summarize, the service would provide a means by which "metadata"—information about your files—would be shared between your devices. Such information would include the file types, names, and on which devices the files are stored. Without you needing to be consciously aware of where a particular file is located, you would be able to download the file from the device on which it is stored and open it on any other device you are using (provided it has sufficient storage space).

The only requirement is that the device that has the file you need is "linked" into the file sharing service, is powered on, and has an ac-

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Adobe DC to some extent has such features, although it is geared toward working with PDF documents. Services such as Dropbox are available for multiple devices and operating systems, so they can to some extent meet such needs, provided you carefully configure the software on each device to share the files you need. One downside to sharing your files through Dropbox is that they must be uploaded to the "cloud"—which is simply a server that the vendor provides for storing your files. This may be a privacy concern, depending on the contents of the files, and could be costly in terms of the amount of storage space required (especially if you have a large music or photo collection). DT would mitigate this issue, as the files would not be stored in the cloud. It would also alleviate the need of every one of your devices synchronizing copies of all your files. Instead, the sharing of metadata would enable every device to be "aware" of your complete collection of files, so you can download what you need when you need it. Although the metadata may require many megabytes of storage, it would not be nearly so great as the storage space for the files themselves—especially high-fidelity photos, movies, and music files—which could require hundreds or thousands of megabytes of storage.

Device transparency is an interesting concept which could revolutionize how we work without our multiple computing devices. I am interested in seeing if such a service is developed sometime in the future. Depending how well-designed (easy-to-use) it is, and what measures are taken to protect users' privacy, I might consider using such a service for my laptop, desktop PC, and tablet computer. **Ω**

Open Source Software of the Month

By Geof Goodrum, Potomac Area Technology and Computer Society

July 2016 Issue, PATACS Posts

www.patacs.org

linux (at) patacs.org

Gargoyle – v2011.1. http://www.ifarchive.org/indexes/if-archiveXinterpreters-multiXgargoyle.html

Free GNU General Public License and others for Microsoft® Windows®, Apple® OS X® and GNU/Linux® by Tor Andersson and Ben Cressey. Gargoyle is a cross-platform player for text and illustrated text games, also known as Interactive Fiction (IF) that supports all of the major formats, including Agility, Alan 2 and 3, Frotz (glk port), Glulxe, Hugo, Level 9, Magnetic, Scare, Tads 2 and 3. Gargoyle is based on the standard interpreters for the formats it supports, which are copyrighted and freely distributable under various open source licenses. The Gargoyle home page is at http://ccxvii.net/gargoyle/.

IF content is available for download at the Interactive Fiction Database (http://ifdb.tads.org/) and the Interactive Fiction Archive (http://www.ifarchive.org/).

[Screenshots at http://ccxvii.net/gargoyle/screenshots.html]

KeePass – v2.33. http://keepass.info/. Free GNU General Public License source code and executables for Microsoft® Windows®, Apple® OS X® and GNU/Linux® by Dominik Reichl. KeePass is a password manager, which helps you to manage your passwords in a secure way. You can put all your passwords in one database, which is locked with one master key or a key file. So you only have to remember one single master password or select the key file to unlock the whole database. The databases are encrypted using the best and most secure encryption algorithms currently known (AES and Twofish). You can drag and drop passwords into most windows or use a hot key to type your login information into windows automatically. You can also quick copy user names and passwords to the clipboard with a double-click on a field in the password list. And KeePass can import data from a variety of formats like CSV, while the password list can be exported to formats such as TXT, HTML, XML, and CSV. KeePass also includes a strong password generator.

[Screenshots at http://keepass.info/screenshots.html]

Kernel Source – v4.6.2. http://www.kernel.org/. Free GNU General Public License source code for all platforms by the Linux community.

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License source code and executables for Microsoft® Windows®, Apple® OS X® and GNU/Linux® by the Krita Foundation. Krita is a 2D sketching and painting application designed for concept artists, illustrators, matte and texture artists, and the VFX industry. Krita has been in development for over 10 years and has had an explosion in growth recently. It offers many common and innovative features to help the amateur and professional alike. Krita 3.0, the Animation Release, includes animation support integrated into Krita's core with animatable raster layers and onion skinning, Instant Preview for better performance painting and drawing with big brushes on big canvases, an improved user interface, broader tablet support and more multilayer features. NOTE: OS X will support Instant Preview and Big Canvas scaling in the 3.1 release.

[Screenshot at https://1015253982.rsc.cdn77.org/wp-content/uploads/2016/05/krita-3.0.png]

Lua – v5.3.3. http://www.lua.org/. Free MIT License source code and executables for Microsoft® Windows®, Apple® OS X® and GNU/Linux® by PUC-Rio. Lua is a powerful and fast programming language that is easy to learn and use and to embed into your application.

Lua is designed to be a lightweight embeddable scripting language and is used for all sorts of applications from games to web applications and image processing. It supports procedural programming, object-oriented programming, functional programming, data-driven programming, and data description.

Lua combines simple procedural syntax with powerful data description constructs based on associative arrays and extensible semantics. Lua is dynamically typed, runs by interpreting bytecode with a register-based virtual machine, and has automatic memory management with incremental garbage collection, making it ideal for configuration, scripting, and rapid prototyping.

Tesseract OCR – v3.0.4.01. https://github.com/tesseract-ocr/tesseract. Free Apache License source code and executables for Microsoft® Windows®, Apple® OS X® and GNU/Linux® by Ray Smith, Zdenko Podobny et al. Tesseract is an Optical Character Recognition (OCR) engine and command line program to convert images of printed text (e.g., photos, scanner output) into plain text and HTML documents, or PDF images with searchable text. Hewlett-Packard originally developed Tesseract and released the software as Open Source in 2005. Google oversees current code development. Graphic interfaces are available (see https://github.com/tesseract-ocr/tesseract/wiki/3rdParty **Ω**

Google Virtual Tours

By Geof Goodrum, Potomac Area Technology and Computer Society

May 2016 Issue, PATACS Posts

www.patacs.org

Director1(at)patacs.org

Explore and plan travel with Google Street View!

https://www.google.com/maps/streetview/

Google Data Center, Lenoir, NC

Google provides a guided video tour and Street View virtual access to its data center in Lenoir, North Carolina.

https://www.google.com/about/datacenters/inside/streetview/

McMurdo Station, Antarctica

Take a walk inside the Crary Science Center.

https://www.google.com/maps/streetview/#antarctica/crary-science-center

Yosemite National Park

Hike the steep and well-named Mist Trail.

https://www.google.com/maps/streetview/#us-national-parks-and-historic-sites/yosemite-national-park-mist-trail

The Bluebird Cafe, Nashville, TN

Famed local venue for Nashville's songwriters and musicians.

https://goo.gl/maps/a7u7yE36RKK2 **Ω**