25 Years DACS

DACS.doc

A Computer & Technology Newsletter

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Next Meeting, February 6:

Net Neutrality Matters to Connecticut - With Brian Jackson

Directors' Notes

Danbury Area Computer Society Board Meeting Minutes Wednesday, January 3, 2018

The meeting was called to order at 7:07pm by the DACS President, David Green.

In attendance were Board members Richard Corzo, Dick Gingras, Bert Goff (by phone), David Green (President), and Andy Woodruff. Also present was Charlie Bovaird. The minutes were taken by Richard Teasdale.

(Names in italics denote responsibilities for actions.)

- Acceptance of the Minutes of the 12/6/2017 Board Meeting was deferred, pending distribution of a minor correction.

Reports

- The December Treasurer's report was unavailable at the time of the meeting.
- The Membership report was received by e-mail from Jim Scheef.
  - o 87 paid-up members (including 3 new), and 10 in-grace, for a total of 97.
  - o 41 people attended the 1/2/2018 General Meeting, including 15 visitors.
  - o The Board discussed follow-up efforts with General Meeting visitors, during and after meetings. Various potential measures were mentioned, including in-person contact during the meeting, plus follow-up by e-mail and Meetup, after it. The Board agreed that the role of the Membership Committee has changed, and the function that consists of reaching out to potential new members has been lost. It would be good to continue the practice of quickly surveying and welcoming visitors immediately before each General Meeting presentation.
- Press Releases:
  - o David reported that the Press Release was distributed to the CiviCRM recipients, as usual.
  - o Dick reported that he is working on a list of additional recipients for Press Releases.
  - o Cindy asked about the success of the Press Releases in bringing in attendees to the General Meetings. Richard pointed out that information about which channels of communication are most successful is now being captured in a Google form.
- Webmaster's report:
  - o Richard reported no significant problems on the DACS website.

Old Business

- Programs:
  - o Richard has contacted Brian Jackson, one of the cofounders of Danbury.io, who indicated a willingness to speak on the subject of Net Neutrality. *Richard* will confirm with him for the February General Meeting.
    - Preview: *Richard*.
    - Review: *David* will contact Jim Scheef about writing the Review.
  - o *Andy* will contact John Patrick, who may know a potential speaker about Bitcoin.
  - o *Andy* will contact Best Buy for a possible speaker about Wearable technology.
  - o John Patrick will speak at the May General Meeting about Home Automation.
  - o *Dick* will contact the Apple Store to ascertain their interest in presenting to a General Meeting. (Their policy has always been to insist that events be held in the store but there appears to be a possibility that the policy will change.)
- Renovation of the Resource Center (RC):
  - o Dick is still awaiting an answer from Bruce Tuomala as to whether a donation of used carpet may be available from the Matrix Center.
  - o Other discussion about Renovation of the Resource Center was deferred.

New Business

- Snacks for General Meetings:
  - o Bert will provide snacks for February, and David will bring beverages.
- Options for the future of DACS were discussed at length.
  - o David's term as President will end in March. He has expressed the intention not to continue as President beyond that month.

IN THIS ISSUE

Membership Information

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An International Association of Technology & Computer User Groups

2015 Newsletter Contest apcug First Place

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Apple User Group

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HelpLine

Our former telephone HelpLine has been replaced by our web-based DACS Community Forum at *http://forum.dacs.org*. We have topic-specific forums where DACS members can post questions. Questions may be answered by Workshop leaders or other DACS members. If none of the categories fit your question, just post it to the Ask DACS forum.

Topic	Forum
Linux	Linux Workshop
Desktop publishing and website design	Web Site Design Workshop
Mac and iPhone/iPad/iPod touch	Apple Workshop
Online/small business	Online Business
Single board computers	Single Board Computers
Smartphones & Tablets	Mobile Devices Workshop
Social media	Social Media
Video capture/processing	Video
Windows	Windows Workshop

o No other candidates for President have come forward.

o The legal structure of DACS as a corporation requires there to be a president.

o One option is to simply disband DACS, shutting down its operations entirely.

o Another possibility for DACS might be to become a Meetup, under the umbrella of the Hackerspace. Andy reported that he has discussed this idea with Mike Kaltschnee. It was agreed to invite Mike to the next Board Meeting, to allow for further discussion of the idea. (Andy will contact him.)

o The next meeting was provisionally set for Wednesday, January 31, instead of February 7, to allow it to take place before the February General Meeting.

o The Board also discussed the possibility of transferring to another organization the DACS name and status as a 501(c)(3), given that that status has considerable value.

o David proposed wording for an amendment to the by-laws, to provide methods for dissolution of DACS. The Board decided that it is not necessary yet to move forward with the amendment.

The meeting was adjourned at 8:52 pm.

—Richard Teasdale

Uncle DACS Wants YOU!

We rely on volunteers for all our activities. Current positions include:

President and Vice President:

Social Media: Help DACS post interesting technical content

Painters: Help with the renovation of our resource center.

Workshop Leaders: Organize a group, or join an existing one.

February Meeting Preview

Net Neutrality Matters to CT - Brian Jackson

By Richard Corzo

Date: February 6, 2017, 7:30 pm
Danbury Hospital Auditorium
Presenter: Brain Brian Jackson

OUR SPEAKER FOR THIS MONTH on the subject of Net neutrality will be Brian Jackson, a software engineer who cofounded the danbury.io Meetup group, which meets at the Danbury Hackerspace. Brian was quoted last month for an article "Owners see perils for small business in net neutrality reversal" in the Westchester & Fairfield Business Journal. Now he will give his perspective to the DACS audience.

Net Neutrality is the idea that sources of information on the Internet must be granted equal access to consumers. Brian will cover its history, recent events, and why these events are newsworthy. The talk will also cover how the recent FCC ruling against Net Neutrality may affect consumers and business owners in Connecticut.

Who is for this change and why? Who is against the change and why? How was the old regulation enforced? How does this change? An audience member should leave with a better understanding of how Net Neutrality, or the lack of it, will affect them personally.

Brian Jackson has spent the last two decades in software engineering roles within development, quality assurance, operations, and management across the finance, consumer products, and media industries. He is back in Connecticut after a stint in California with Apple and subsequently Lucasfilm.

Today he is a DevOps engineer for Lucasfilm's ILMxLAB helping to create immersive Star Wars experiences for fans to step into a galaxy far, far away. Recent ILMxLAB projects he has contributed to include "Star Wars: Secrets of the Empire", a hyper-reality experience at The VOID located at Disneyland and Walt Disney World, and the Academy Award-winning "Carne y Arena". Locally he's the co-founder of danbury.io, a monthly tech meetup for web developers and designers, and a co-host of the DevOps podcast "Code Monkey Talks". Listen to episodes at codemonkey.fm.

Media Matters

Facebook Extra

By Bob Schultz,

FACEBOOK IS EITHER LOVED or hated by computer/smart phone us ers. Some think it is a way for people to show how important they are or how much "stuff" they have. Others believe it is a way to maintain or find lost friends. But either case there are hidden files you may like to know about. Here are five areas of concern Facebook has addressed.

1. Did you know that Facebook looks out for you by filtering messages that may be spam? You can checkthese filtered messages by going to the hidden file and if there are filtered messages you can access this folder by inserting the following address [*https://www.facebook.com/messages/*] into the browsers search bar. Click on the "clog" icon. This will open a window with several selections. Open "Connection Requests." In the next menu click on "See Filtered Requests." If Facebook detected any suspicious messages, they will be noted.

2. There is another feature Facebook uses to help control your privacy. It is a help that Facebook asks your permission to use a tag when someone tags you in a photo, but maybe you missed it and don't want it tagged. You can review these photos by checking you Activity Log.

To access the Activity Log, just click the "View Activity Log" button located on the bottom right side of your desktop cover photo. In the menu that comes up you can select what you want to see.

3. Have you ever been at a friend's house, used their computer on Facebook and realized when you got home you never logged out. Do not fear Facebook has made it possible to sign out from home.

Open Facebook and click on the drop-down arrow in the upper-right corner of the home screen and select "Settings". Next click "Security and Login". Look for the "Where You're Logged In". In this section, find the device you want to log off from by clicking the three vertical dots on the left side then select "Log Off."

4. For whatever reason you don't want anyone posting on your timeline but you. Simple. Go to "Settings" and then choose "Timeline and Tagging". Click on "Edit" on the "Who can post on your timeline" section and set to "Only Me".

5 If you do not care what anyone comments on a post, you can eliminate the notifications by turning off notifications for that post. To do this, just go to the post, then click on the little arrow pointer on the upper right corner of the post's header then select "Turn off notifications for this post."

Bob Schultz *is editor, Lake-Sumter Computer Society, FL. His article was published in the October 2017 issue, NewsBytes (www.lscs.us; Editors (at) lscs.us), and is reprinted by permission for APCUG-member groups.*

January Meeting Review

Artificial Intelligence and the Dawn of Deep Learning

By Andy Woodruff

A PALPABLE EXCITEMENT engulfed the auditorium when Andrew Ribeiro began speaking about artificial intelligence. People were interested in learning about what may be one of the next frontiers.

Andrew is a co founder of Knowledge Exploration Systems and co organizer of Danbury AI. He studied computer science at Western Connecticut State University. Regarding his interest in artificial intelligence, he explained that his own interests revolve around philosophy, psychology, mathematics, and computer science. "There is no field other than artificial intelligence that brings these subjects together … [in] such a cohesive and exciting manner."

Andrew defined artificial intelligence (AI) in two ways:

- AI researcher John McCarthy defines AI as "the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable."
- Andrew's own definition is simply "the investigation of intelligence with mathematics."

He further broke down AI into two subcategories:

- strong AI that would "have a mind in exactly the same sense human beings have minds", according to AI researcher John Searle.
- weak AI that "simply mimics a human and does not have internal processing isomorphic to human minds".

Andrew categorized the uses of AI into three broad areas:

- cognitive science applications, such as machine learning, genetic algorithms, and neural networks
- robotic applications, such as visual perception and navigation
- natural interface applications, such as speech recognition and virtual reality

Andrew made it clear from the outset that his understanding of artificial intelligence (AI) is based on underlying fundamental principles and both pure and applied mathematics. He told us a great deal about the fundamental principles, including:

- "constructionism"
- the notion of "complex systems"
- "black box intelligence"

For instance, he explained "constructionism" and quoted Seymour Papert:

- From constructivist theories of psychology we take a view of learning as a reconstruction rather than as a transmission of knowledge. Then we extend the idea of manipulative materials to the idea that learning is most effective when part of an activity the learner experiences as constructing a meaningful product."

More examples of underlying fundamental principles include logic, language, symbolic reasoning, and rules of deduction that produce intelligent behavior.

Regarding mathematics, Andrew described "mathematical modeling" and said it is key to the study of AI. Mathematical modeling is the effort to "find parallels between the broad universe of mathematical abstractions and instances of those abstractions in the real world." Specifically, given a "real world instance of structure", one can develop a "space of mathematical abstractions" that models the real world. This is mostly applied mathematics and some pure mathematics. Andrew intentionally avoided showing any actual math in this introductory presentation, but he made it clear that a real understanding of AI would be based on extensive mathematical tools, including linear algebra, calculus, and stochastic systems.

Andrew stressed that an understanding of AI involves multi-disciplinary learning. He mentioned a few examples of connection between AI and other fields:

- Electrical engineering and AI both include the study of "control theory", which is "the control of continuously operating dynamical systems … using a control action in an optimum manner without delay or overshoot and ensuring control stability."
- Engineering and AI both use cybernetics, which is "the scientific study of control and communication in the animal and the machine." (quoted from Norbert Wiener)
- Cognitive psychology and AI both have parallels to behaviorism.

Andrew described neural networks in depth. An "artificial neuron" (a model of a

Intel;, *Cont. on page 11*

Workshops

Workshop Notes: February 2018

Apple. Focuses on all aspects of the Mac and iPhone operating systems.
Contact: Richard Corzo (*applesig@dacs.org*).
Meets 2nd Tuesday, 7 p.m. at DACS Resource Center.
Next Meeting: Cancelled

Jobs. Networking and jobs search

Contact: Charles Bovaird, 203-792-7881 (*aam@mags.net*). Go to DACS Community Forum (*http://forum.dacs.org) for job listings*.

Linux. Helps in installing and maintaining the Linux operating system. Also of interest to Apple owners using OS X.
Contact: Dave Mawdsley, *linuxsig@dacs.org*

Meets 3rd Wednesday, 7:30 p.m. at the DACS Resource Center.
Next Meeting: Feb 21.

PC Maintenance. Review of PC hardware and OpSys maintenance and use.
Contact: Charles Bovaird, 203-792-7881 (*aam@mags.net*). Go to DACS Community Forum (*http://forum.dacs.org*).

Online Business Workshop. Informal member gathering sharing ideas on creating an online source of income.
Contact: Steve Harkness (*onlinebizsig@dacs.org*)
Meets second Monday in Brookfield, or by Webinar.
Next Meeting: Check *dacs.org*.

Single Board Computers Workshop. Explores small cheap computers like Raspberry Pi, Arduino, Netduino, Beaglebone, and more. Meets at 7:00 p.m on the 3rd Thursday at the DACS Resource Center.
Contact: Jim Scheef (860-355-0034)
Next Meeting: Cancelled

Video Workshop. Explores all aspects of video capture and production, including both inexpensive and professional choices for cameras and editing software.

Meets on the 3rd Thursday of certain months, typically at 7:00 pm at the Resource Center. Check the Calendar for details.
Contact: Andy Woodruff (awoodruff@dacs.org)
Next meeting: Check dacs.org

Web Development/Design Web Development/Design This workshop is looking for a new moderator. Being a workshop leader is a great way to share information, learn new techniques, promote your business, and interact with like-minded people. Extensive web knowledge is not required, but a willingness to open a topic for discussion and enjoy the contributions and feedback from the attendees. Meets every 3rd Tuesday of the month, but repeating date can be changed if needed.

Contact *avanommeren@dacs.org,* or *webmaster@dacs.org* .
Next meeting: TBA–Look for updates

Let's Meet Up

Have you ever wondered who the other members of DACS are, what their interests are, and whether they have experience and knowledge that could benefit you? Would you like to be able to identify and contact the other members, sharing information with them, but without having to disclose your e-mail and phone details?

Your Board has recognized that one of the benefits of DACS membership should be the means to communicate with each other in this way.

At the July general meeting, we began with a quick series of introductions, giving attendees an opportunity to communicate their interests.

The Board has discussed at length how to promote communication between members, and has looked at the pros and cons of a number of ways to do this. The general meeting introductions were our first effort in this regard; another one we would like to offer is a resource already in use by DACS: Meetup.

DACS has been a user of Meetup for several years, to distribute and share information about general meetings and workshops. For this service, we pay fees. Now we would like to leverage the full potential of Meetup, by encouraging its use for individual DACS members as a channel of communication.

If you are not already a user of Meetup, please go to *www.meetup.com* and sign up to become one. There is no charge for individual users. After you have joined Meetup, you can join the Danbury Tech Meetup (emphasizing DACS' broader technology focus), and see a list of upcoming meetings.

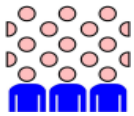
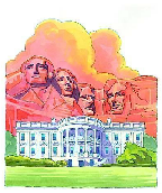
Meetup gives you an opportunity to create a profile of your interests. If you wish, you can upload a photo of yourself. You will also find that there is a Message function, which allows you to send private messages to other Meetup users, without using e-mail. We hope that the resources of Meetup will prove to be a valuable addition to DACS membership.

Question: What is Meetup?

Answer: according to Wikipedia, "Meetup is an online social networking portal that facilitates offline group meetings in various localities around the world. Meetup allows members to find and join groups unified by a common interest, such as politics, books, games, movies, health, pets, careers or hobbies."

February 2018

Danbury Area Computer Society

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			31  **Board of Directors** 7:00 PM	1 **Danbury Hackerspace Open House** 7:00 PM	2 	3
4	5	6 **AI Developer Meetup Hackerspace** 7-9 PM  **General Meeting** 7:30 PM	7	8 **Danbury Hackerspace Open House** 7:00 PM **Membership Committee** 7:00 PM Jim Scheef 860-355-0034 Cancelled	9	10
11	12 	13  **Apple** 7:00 PM Richard Corzo *applesig@dacs.org* Cancelled	14	15 **Danbury Hackerspace Open House** 7:00 PM **Single Board Computers Workshop** 7:00 PM Jim Scheef 860-355-0034 Cancelled	16	17 
18	19 	20  **Danbury Inventors' Meetup Hackerspace**	21  **Linux** 7:30 PM Dave Mawdsley *linuxsig@dacs.org*	22 **Danbury Hackerspace Open House** 7:00 PM	23	24
25	26	27	28			

Jan 2018

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Mar 2018

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Hand Tools

An Apple User Tries an Android Phone

By Richard Corzo

WHILE I WAS VISITING over New Year's my sister recently picked out a Google Pixel 2 to replace her three-year-old Samsung phone with a cracked screen. I have an iPhone 6s and had no plans to get a new phone until next fall, but I was curious to do some more research on the Pixel 2 when I got home. I got more interested as I learned about what it had to offer. I had been thinking that I was not particularly excited about the features

that the latest iPhones were offering, such as wireless charging and portrait mode photography. As for the iPhone X in particular, I was wary of the notch at the top of the screen, the taller display (wider in the horizontal position), and the missing home button. I figured next year's iPhone X successor would have the same issues.

The Pixel 2 and larger Pixel 2 XL are Google's newest phones to offer a pure Android experience. Someone has termed them the "iPhone" of Android phones, as they have hardware and software designed by one company, Google, and don't have an additional skin and bloatware apps added by the Android phone makers like Samsung and LG. Google has also promised that they will receive software updates directly from Google for three years. Owners of other Android phones have to wait for their phone's manufacturer and then their cellphone carrier to update the software after Google releases a new version of Android, and manufacturers lose interest in releasing updates for their phones after just one year or two.

I was more interested in the smaller Pixel 2 as I wanted something that would fit in my pocket, and the Pixel 2 would only be slightly larger than my iPhone 6s. Reviewers noted how fast the Pixel 2s were compared to other Android phones, despite having the same processor and no more RAM. They especially praised the camera. There was some warning about the Pixel 2 XL's display—which, like the phone, is from LG—as having dull colors, a blue shift when tilted slightly off axis, and some screen burn-in noticed in the area of the on-screen Android navigation buttons. Google addressed two of these with a software update. The blue shift is a limitation of the display hardware and can't be addressed with a software update. The smaller Pixel 2 is manufactured by HTC and has a Samsung display panel, so it does not exhibit the same pronounced blue shift that OLED panels can sometimes exhibit.

I was also impressed by the transfer process Google offered from a previous Android phone or iPhone. It was just a matter of connecting your phone's charging cable to the Pixel 2's supplied USB-C to USB-A adapter during the Pixel 2's startup process. I was not a Verizon customer like my sister, which is the only carrier in the U.S. to offer the phone, so I ordered a Pixel 2 directly from Google. It arrived in just a few days.

The Pixel 2 comes with a USB-C cable and power adapter that enables fast charging. It also comes with a USB-C to 3.5 mm headphone adapter with a built-in DAC, since there is no built-in headphone jack. One nice thing about Google's adapter is that it will work with any device, such as a computer or another phone, that has a USB-C port. I follow the included instructions to beginning the switch to the Pixel 2. iPhone users are warned to turn off iMessage and FaceTime on their iPhone. (You can continue to use those on any iPad or Mac that you use.) This is to ensure that you will receive future text messages on the Android phone. I removed my SIM card from the iPhone and inserted it into the Pixel 2. Then I connected my iPhone to the Pixel 2 and was soon asked what data I wanted transferred—contacts, text messages, photos, and music. I entered my Google account, which is not a Gmail address, that I only have for using YouTube. I did not request that my contacts to be transferred, which I'll explain in a bit.

In general, I avoid using Google services with the exception of YouTube, so I am not a particularly good candidate for switching to an Android device. If you already use Google Maps, Gmail, Google Contacts and Calendar, you will feel more at home in Android. Since I wanted to avoid Google tracking my life as much as possible, I looked to find alternatives in Android. Instead of Chrome I use Firefox or the Dolphin browser. The latter has plugins for the LastPass password manager and Xmarks bookmark manager that I use. Of course, I changed the default search engine from Google to DuckDuckGo. Since my contacts and calendar are in iCloud, I needed a way to continue using them on Android. I found SmoothSync for Cloud Contacts and SmoothSync for Cloud Calendar in the Google Play Store. These are not free, but work well and allow me to sync my iCloud contacts and calendar between Android and my iPad and Mac.

Since this was a new phone I wanted to see if my voicemails were available, but I did not find them in the Phone app like I would on iOS. I searched the Google Play Store and found the AT&T Visual Voicemail app. I had trouble getting it working so I wound up in a chat with AT&T. They asked for my new phone's IMEI number, so they could update their end. After that the Voicemail app started working and I saw my past voicemails, albeit without the text transcripts that I used to get in the iOS Phone app. My text messages showed up in the built-in Messages app without a hitch.

I had transferred my music and it showed up in music apps like Google Play Music and Amazon Music. However, I soon realized that I wanted a way to continue using iTunes to manage my music, as that is how I make it available on my iPad and Apple TV. I found doubleTwist, which is an Android app as well as a Mac or Windows desktop application that allows you to sync your iTunes music and playlists with your Android device. I had to purchase an in-app upgrade to enable the AirSync feature for wireless syncing. It worked, but I wound up with a second copy of every song. I didn't find an efficient way to eliminate just the duplicates, so I wound up deleting all the music files using an Android file manager, and started the sync over again. This took several hours, but was ultimately successful. So, if you plan to use doubleTwist, don't transfer your music using the Google transfer process. One nice feature of the doubleTwist app is that it filled in a lot of missing album cover art.

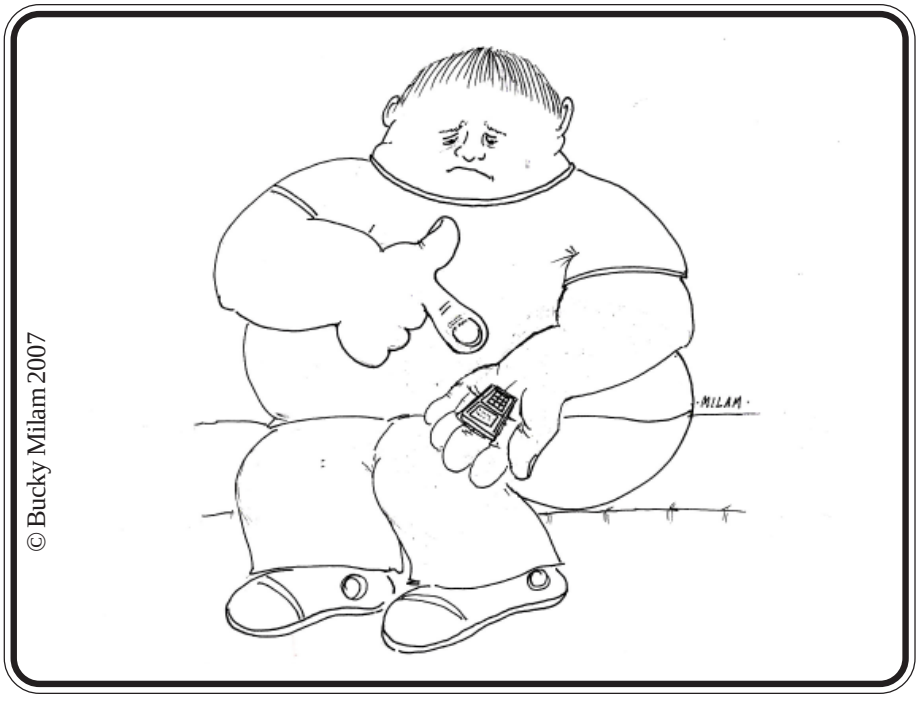
The same apps, Instagram, Meetup, Snapchat, Twitter, etc., are often available for both iOS and Android, but sometimes you will need to find a substitute. For a simple shopping list, I had been using ShopShop which I could sync between my iPhone and iPad using DropBox, but there was no Android version. I found the cross-platform OurGroceries as a capable substitute.

We should also talk about the in-car experience. My iPhone has a Bluetooth connection with my car, allowing me to listen to the songs on my phone as soon as I turn on the car, if I have Bluetooth selected on the car's touch screen display. I can also connect with a USB cable, giving me a choice of an iPod interface on the car's display for just music playing and leaving my phone screen for a navigation app, or Apple CarPlay which offers Apple Maps for navigation and a choice of music apps using the car's touch screen.

With Android, there is Android Auto that takes over the car's display like Apple CarPlay, and I found that worked well, giving me a choice of Google Maps or Waze, plus a choice of music apps: Google Play Music, Amazon Music, or doubleTwist. So far, my Bluetooth experience with the Pixel 2 has not been so successful. At first, I could not get music to automatically start without interacting with the phone. I had the three music apps so I had to hunt for options related to Bluetooth connections and managed to find some, although it was confusing as to which app might take control. I also had trouble with the same song repeating over and over again. I again had to hunt for the music app that might be the culprit. I found one that had a repeat-single-song option selected and am crossing my fingers that things will go better on my next car trip.

At this point, I want to relay my experience with battery life, which has been fairly poor for me so far. It's a challenge to get to the end of the day without needing to recharge. Granted, my usage may be heavier at this point since I am setting up a lot of things on a new phone. I have been going into the Battery settings which shows the apps making most use of the battery. In some cases, you can disable an app from running in the background. We'll see if I can improve the situation

I want to conclude with the things I do like on the Pixel 2 versus my iPhone 6s. It's got a slightly larger display, 5" versus 4.7", at a higher resolution, and the display is AMOLED which has better contrast due to having true blacks. The fingerprint reader is on the back but is really fast and works well with Android Pay. I like paying for things with my phone like I did using Apple Pay on my iPhone. The always-on display is nice, showing the time, date, and notification icons even when the phone goes to sleep. I also like the optional Now Playing feature which identifies songs on the lock screen whenever it hears a song it recognizes, based on a locally stored database. It doesn't send audio to Google's servers. If I can get a handle on the battery life, I will be happy with my switch until Apple comes out with a phone I can get excited about again.



Storing the memories

High-Tech Remembering

By Greg Skalka

AS WE GET OLDER, our human memory seems to fail us. For some of us, this seems to start at a relatively early age, while others have good recall into our twilight years. Sometimes we have a greater problem retaining short-term memories, like what we had for dinner the night before or where we left our car keys, but can recall in detail events of many decades ago. Most of us just slowly start forgetting things. Of course, a blow to the head or a stroke can degrade even the best of memories.

Our technology today is filled with memories of various kinds - volatile and non-volatile, fast and slow, large and small capacity. The SDRAM (synchronous dynamic random access memory) used for the main storage in most computers and smartphones is the ultimate in short-term memory. If power is removed, all the information stored in it quickly fades away. Flash memory (for small capacity applications) and magnetic media like hard drives (for large capacity) are non-volatile, and can retain their stored data for long periods of time without power. All of these memory types can suffer losses of data due to electrical, magnetic and cosmic ray abuse, and do also degrade over time just from normal use.

In these respects, the memories in our tech devices suffer from the same issues as our human, brain-based memories. Just as with our brains, semiconductor and magnetic memories lose their ability to reliably store information over time. Abuse to these memory devices, through actions like static discharge, extremes in temperature or mechanical shock (to a hard drive) can cause permanent damage, as a concussion or stroke does to a brain.

One means of information loss in our tech memories that does not really have an equivalent in the brain is in deletion. Information in semiconductor memories or hard drives can be deleted or overwritten. We humans don't really have a way to intentionally delete or forget information (this might be convenient for lost loves or humiliating experiences), though trauma may cause memories to be repressed or unconsciously blocked. In theory, therapy may be able to recover repressed memories in humans. In theory, there are also techniques that may be effective in recovering deleted files in semiconductor and magnetic memories.

Deleting a file from your computer (stored on a hard drive, or in semiconductor memory device like a flash drive or memory card) does not initially eliminate the data file, but instead removes the file's location from the computer's file system. In Windows, the deleted file goes into the recycle bin, from which it can be easily recovered. Even if the recycle bin is emptied, the file's data remains in the storage media until it is overwritten. Special software tools (data recovery software) can often recover these deleted files from hard drives, USB flash drives and memory cards. I recently had need of such software, as I accidentally deleted photos and videos from the memory card in my smartphone.

When my wife and I went on vacation to Nebraska to view the total solar eclipse on 8/21/17, I left my Windows laptop at home and instead traveled with my smaller and lighter Chromebook. For its main job, it was well suited - accessing the internet and viewing web pages while on travel. It was less capable at its secondary task, copying photo and video files from the many cameras we took with us to a mass storage.

With four still and four video digital cameras being packed for this trip, I did not want to bring the multiple memory cards for each camera that would be necessary to hold all the files we would generate over the week we would be traveling. On past trips, I'd simply copied the contents of the memory cards from the cameras to the hard drive in my laptop, and then erased the cards for reuse. Since the Chromebook has no large internal storage, I planned to use it to copy my photos and videos to an external USB hard drive I brought.

I practiced copying these files before we left, and this all worked well for the files on my digital still cameras and digital video cameras. For some cameras, I removed the SD memory card and used the Chromebook's SD card reader. For others, I accessed the camera memory through a cable between the camera and the Chromebook's USB port. I also copied the photos and videos from the memory card in my smartphone, also through a USB cable. Since I had switched the micro SD card in my phone to be a 128 GB card the day before we left, I was in no risk of filling it up and really did not need to copy from it, but I did it anyway to be consistent. This later proved to be a big mistake on my part.

I am very familiar with the Windows file manager, but not so much with the file manager in the Chrome OS. While copying the folders of photos and videos from my Samsung Galaxy J3 Prime, an Android-based smartphone, to the external USB hard drive late one night in our hotel room, I got an error message that some files did not copy. I should have stopped right there and then, but haste and late nights make waste. I decided to delete those incompletely copied folders from the hard drive and try again, but due to my lack of familiarity with the Chrome OS file manager, I accidentally deleted the photo folders on my smartphone instead.

In the panic of the realization of what I had just done, I doubled down on my error and immediately copied those folders back from my external drive to the smartphone memory card. After reviewing the photos now on the smartphone, I found many photos and videos, including all I had taken in the last few days on the trip, were missing.

Fortunately, I finally stopped and calmly took stock of my situation. I had deleted all the photos from my smartphone, but fortunately I had backups of all but for the last few prior days of my trip. The photos taken with my smartphone were mainly just supplementals; most of my photography was done with my digital cameras. There were only a few cases where I had lost unique photos not duplicated by my cameras, amounting to perhaps several dozen files. If those missing smartphone photos were lost forever, it would not be the end of the world for me, but I would still like to get them back. If I stopped further photography with my smartphone, I could try to recover the missing files when I returned home. Unfortunately, I had already copied back to the memory card the files I did have on the external drive, and so may have already overwritten some files, and thus lost them forever.

When I returned home, I started looking for a solution to my deleted file problem. A web search turned up many software options for file recovery from memory cards. There were a few programs that were free, but many were not. I then recalled a program I had seen demonstrated at one of the Southwest User Group Conferences. I believe it was Terry Currier of the WINNERS group (WINdows usERS) that gave the presentation, and one program he recommended and demonstrated was Recuva. I decided to make this attempt with something I had seen, rather than an unknown.

Recuva is produced by Piriform (*www.piriform.com*), the same company that makes CCleaner. Recuva comes in a free version, as well as a Pro version for $19.99 (both as downloads). My recollection was that Terry used the free version,

so I downloaded it and installed it on my Windows 7 laptop. To make things as simple as possible for Recuva, I removed the micro SD card from my phone and put it in an SD adapter I could plug into my laptop's memory card reader, rather than connect through a USB cable on the phone.

When Recuva starts, it uses a wizard to simplify the process, though you can easily skip it. Being relatively unfamiliar with the program, I used the wizard, which asks just a few simple questions of the user. The first wizard screen asks you to select the type of files you are trying to recover. Since it would not allow the selection of multiple types (pictures and video), I selected "all files". In the next screen, I specified the location of the SD memory card (drive letter). The final screen had a start button, which initiates the search for deleted files. It also has a check box for "deep scan", which I skipped initially.

The first pass took only a few minutes and found 32 files. I selected them all to be copied to a folder on an external hard drive. I examined the folder and found the files recovered were all JPEG photos, almost all from before my trip, and none of the ones I really wanted.

I ran through the wizard a second time, this time with the deep scan selected. It took about two hours, but this time Recuva found 351 files. I had it save them all to a second hard drive folder. There were a lot of files that I already had from back-ups, but there were also the JPEG and MP4 files that I was looking for. It appears that Recuva was able to recover all of the missing files that I could remember.

It will take me a while to sort through them and remove the duplicates, but between the back-ups and what Recuva recovered, I believe I did not lose a single file in my accident. Now I can view those photos and videos and relive those moments. I'll be more careful in deleting files with my Chromebook in the future, and I'm sure glad Recuva works so well and is there when I'm not so careful. I sure wish there was a Recuva program for the human memory.

Greg Skalka *is president, Under the Computer Hood User Group, CA [www.uchug.org, president (at) uchug.org. This article was published in the October 2017 issue, Drive Light, and is reprinted by permission for APCUG member groups.*

***Intel**, Cont. from page 5*

biological neuron) has weighted inputs, a method of aggregating these inputs (including summing, threshold/bias, and activation bias), and output(s). He explained that neural networks are the core building blocks of a biological nervous system; they function in AI as "amazingly useful" mathematical models to "describe the connectivity of distinct things". He detailed several neural network topologies, with neurons arranged in various ways.

I started this review by writing that audience members were interested in learning about AI because it may be one of the next "frontiers". It was clear from Andrew's talk that AI is not a new frontier but rather an already highly developed field!

Entry Data

Can You Beat the Bots?

By David Kretchmar,

WHEN TICKETS FOR a musical I wanted to see (Book of Mormon) went on sale at the Smith Center's website, I immediately went on line to buy tickets. I was surprised to learn that only a few scattered seats remained, even though tickets had only been on sale for a few hours. Yet ticket scalpers had plenty of seats available - for double or triple their original selling price.

When the play returned to the Smith Center last year I went on online the minute as soon as tickets were available (12:00 A.M.) and I could score 4 tickets for great seats (about 5th row center orchestra) at a reasonable price, but I noticed many good seats had already been sold. How could this be, I wondered?

The answer is, of course, Bots; they are software robots that enter multiple orders, sometimes many thousands of times instantly, for scarce items. Often popular items such as show, and sporting event tickets, popular electronics, and hot children's toys are the target of Bots.

Since the dawn of the Internet, scalpers have been using shopping Bots to scoop up online ticket sales within seconds of their being offered. They then sell the tickets for huge markups. Often shoppers will place orders and tickets will disappear from their virtual shopping carts before they can check out.

Congress acted to stop ticket scalping by passing the Better Online Ticket Sales Act of 2016 AKA the Bots Act of 2016, but the new regulations apply only to event tickets. The popular East Village and then Broadway play Hamilton is credited with helping to precipitate the legislation. The Broadway show sold out more than a year in advance, and $200 face value tickets were going for $800, shutting out even members of Congress.

This holiday season Shopping Bots will again be used to snatch up hot toys and electronics as soon as they become available online. Then they will only be available on sites such as eBay, or maybe Craig's list where they will be sold at inflated prices. But if your grandchild just must have the latest incarnation of a certain toy (remember "Tickle Me Elmo" a few years ago), the outrageous price will often be paid rather than having to deal with a very disappointed kid.

Many vendors have attempted to limit the power of shopping Bots with software programs, with limited success so far. Vendors identify Bots by their Internet

IP address, but Bots have learned to disguise these. Bots can also pay in a variety of way to obscure the fact they are Bots. In this cat and mouse game of vendors vs. Bots the Bots have usually eventually been successful.

Some vendors are having some success addressing the issue. Adidas, the sports shoe manufacturer, has initiated a new program called Confirmed. This App lets a buyer reserve and pay for shoes online, then pick them up in person at a retailer (you go brick and mortar!). You might have noticed some online sellers require potential buyers to put an item in their virtual shopping cart before the price is revealed. This is partially designed to prevent shopping Bots from zeroing in on a good price and blocking out retail buyers.

You can do some things to prevent Bots from stealing your successful on line buying experience. Learn what the suggested retail price of an item is before you shop, and don't pay any more. The biggest way to defeat scalpers is to shop early. And ...

good luck with that toy!

David Kretchmar *is a computer hardware yechnician and member of the Sun City Summerlin Computer Club, NV.*

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dacs.doc

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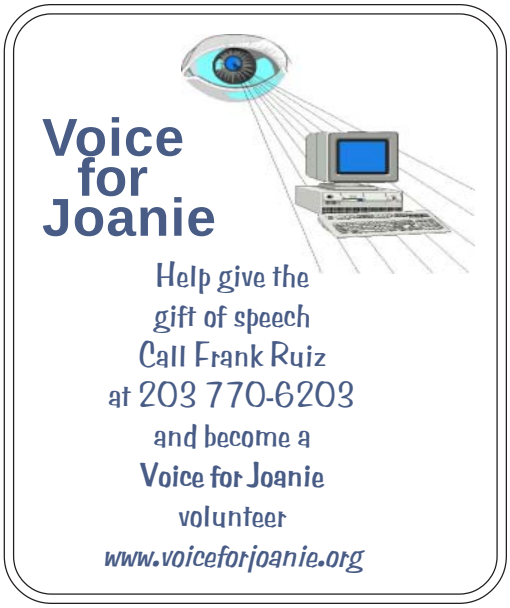

Future Events:

February 6
Net Neutrality
Brian Jackson

March 6

April 3
TBA

May 7
John Patrick