>PC_Update

July 2019

MELB PC USER GROUP

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Melbourne PC User Group Inc. is a member of the Association of Personal Computer User Groups

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Membership application form online

Responsibility for content in this club newsletter lies with individually named authors.

Monthly Meeting Live Stream

Tune in at 7.00pm on Wed 5th June to view the Monthly Meeting live over the Internet. Test transmission usually starts ~6.30pm   http://tv.melbpc.org.au
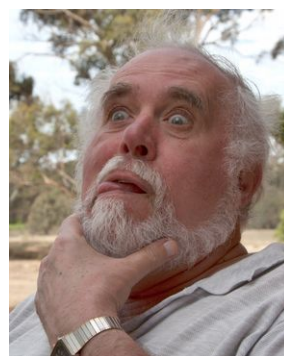
*Please remember to always bring your membership card to meetings.
Up to date calendar and SIG list are linked from our* homepage

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Editorial

Moving forward

This is to be my penultimate issue of PC Update. Next month will be my last and Hugh Macdonald will take over while I go swanning around Europe and Scandinavia.

This *may* also be the penultimate PC Update in this format. Hugh and I, ably aided by IT guru and Vice President Steven Zuluaga, are exploring alternative formats that will greatly lighten the workload on the editor. So we are trying for a more modern, online format. We are still experimenting, but the hope is we will find a way to reduce the burden of page formatting while at the same time opening the door for reader feedback and preserving the ability to produce a printer-friendly pdf version. While the prettiness of the pdf version may suffer, it will still be readable. On the upside, the online version will work equally well on desktops, laptops, smartphones and tablets. My observation has been that even among the more "senior" members the smartphone is becoming the dominant "content consumption" device.

Internal cross promotion

We currently have only two SIGs that regularly submit monthly meeting reports. I would like to see more not only report on their activities but also promote their meetings in advance. Our club will become much more lively if we can foster more interaction between the various SIGs. A new newsletter format will facilitate this by making it easier to submit and edit content.
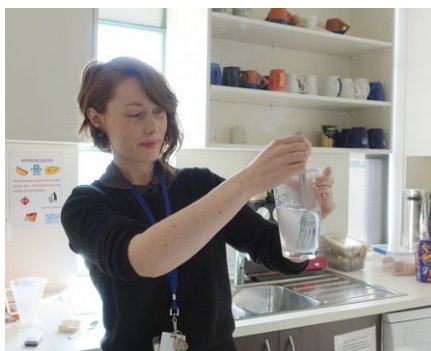
In this issue

Gel electrophoresis at Moorabbin

David Stonier-Gibson

The Science and Technology SIG met at Moorabbin on Sunday 16th June to experiment with gel electrophoresis.

Electrophoresis is a scientific technique that can separate the molecules in a solution according to molecular weight. A small sample is placed in a suitable medium and subjected to an electric field. This causes the molecules in the solution to start moving through the medium under the influence of the field. Smaller molecules move more easily (faster) than larger ones, so after a while the sample has separated into bands of different molecular weights. We did *gel electrophoresis*, where the medium is an agar gel made up with a conductive solution.. Filter paper soaked in a suitable electrolyte can also be used as a medium.

Mixing the agar (1%) in the hot electrolyte (1% bicarb)

Dani Martin led the session. She brought in a bunch of small plastic storage boxes, pop sticks and all the "chemicals" a.k.a. common kitchen materials: bicarb of soda, agar agar and food dyes. Our "samples" were different mixes of food dye colours, which would subsequently separate in the electrophoresis process.

The first step is to make up an electrolyte solution of about 1% bicarb. Then make a 1% agar solution in the very hot electrolyte. Pour into a plastic box to a depth of about 15-20mm. Suspend a comb made of pop sticks so as to create small wells 1/3 of the distance from one end. When the agar sets and the comb is removed you have a slab of gel with wells for the samples. You then cut away and remove about 30mm of gel from each end to form two troughs. You then bend stainless steel wire to form electrodes in the troughs and fill the whole thing with electrolyte solution so it fills the troughs and just covers the top of the gel. The samples can now be carefully pipetted into the sample wells and a voltage can be applied. We used a 50V server power supply for some experiments and a stack of five 9V batteries for others. The voltage is not super critical but needs to be in the order of 1V per mm of electrode spacing. After 5 minutes you can see the colours in the samples start to separate, and after 20-30 minutes you have very clearly separated colour blobs.

Making a comb out of pop-sticks. This is used to mould sample wells in the agar gel

Gel electrophoresis is used in DNA analysis. Next time we will be looking at how DNA is extracted from a plant.

Securing your computer for disposal

David Stonier-Gibson

Trevor Hudson recently sent me a video describing a detailed process for securely disposing of an old computer. Please let me know if you would like this to be screened at a monthly meeting.

The video links below is the "lead" video. It provides a broad brush outline of all the steps for making sure nobody can get your old data It in turn links to a whole series of videos with details of each step.

Trevor's YouTube video

A Bump, a Wiggle, and a Blob

David Stonier-Gibson

The guest speaker at the June meeting of Microcontroller SIG was Claudio Paganini, a mathematician at Monash University. I had advertised the meeting widely within the club, and was gratified to see a number of members turn up who had never been to Microcontrollers before, in addition to a brand new club member and some new non-member faces.

(I would like to see a lot more cross promotion between SIGs!)
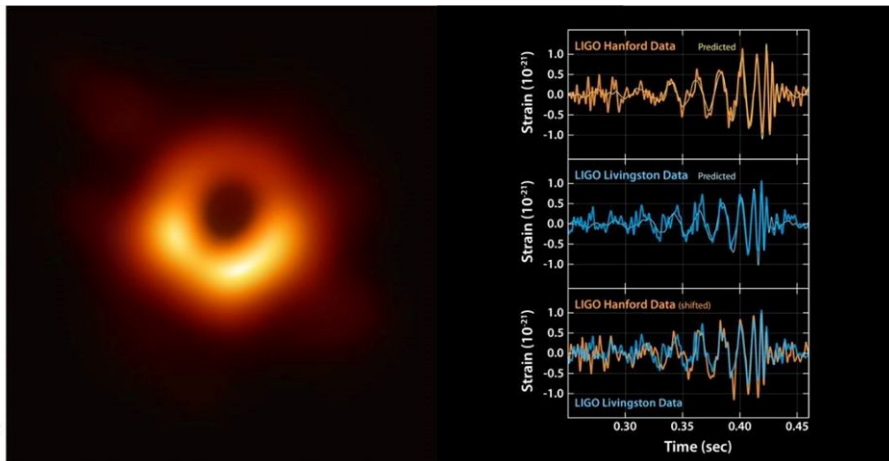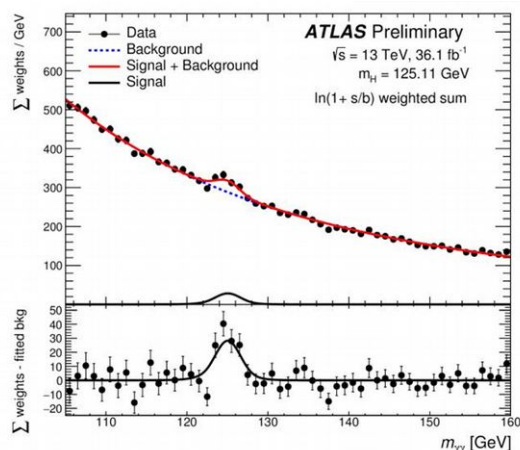
Claudio's talk was around the three significant results in fundamental physics in the last 10 years or so: The Higg's boson, gravitational waves, and the nature of black holes (with the very first image of one). Each of these discoveries has tended to confirm existing theories rather than challenge the status quo, so no new physics has come out of them. A major dichotomy between two fundamental theories remains unresolved: General Relativity, which describes gravity, and quantum field theory which describes the Standard Model of particle physics.

Claudio gave us an overview of the working of the "bits of kit" used in these different investigations, and also the costs and number of authors writing papers on each investigation:

- **The Large Hadron Collider** (LHC) for Higg's boson: $12.1 billion, first paper 2932 authors, follow up paper 5154 authors;

- **The LIGO (USA) and VIRGO (Italy)** gravity wave detectors: $1.1 billion, 1011 authors;

- **The Event Horizon telescope**, a network of several radio telescopes world wide, for black hole imaging: personal Guestimated cost $120-150 million (no official data), 349 authors.

The point Claudio was making is that this is Big Science in all aspects, but has not returned any world-shattering breakthroughs. which all three have lived up to their expectations, yet so far none of them has produced anything unexpected.

The next proposed round of particle research is a $30 billion colossus, 4 times the size of the LHC. For gravitational wave detection there's LISA, a constellation of 3 spacecraft orbiting at the L1 Lagrangian point. The proposed "next step" for black hole imaging is also space based – a long baseline telescope although that is not very concrete at the moment.

Claudio observed that most major advances in astronomical observation are being made with space based instruments, the initially flawed but eventually highly successful Hubble space telescope being their granddaddy. He is of the opinion that there is dubious value in spending $30,000,000,000 on an even larger particle collider, which at the moment has to be considered purely explorational research. There is a substantial chance that it will simply confirm existing particle physics and do little if anything to resolve the standoff between General Relativity and the Standard Model.

Another interesting aspect of Claudio's talk was the common thing that limits the performance of all instruments, something any Member with a background in electronics or communications will be all too familiar with: *noise*. Noise is the unwanted signals generated within an instrument or outside it (nothing to do with sounds). There are many sources of noise. For example communications satellites passing over a radio telescope (external noise source) or internal noise like random clicks and plops that are generated in all electronic components (even humble resistors). In the LIGO gravitational wave detector, which is a laser interferometer, each arm is 4km long but can detect a change in that length of *one ten thousandth* of the diameter of a proton. Just to make it interesting gravitational wave events like two black holes merging are one-shot events – you'd better catch it first time, there's no replay!

[Thank you Claudio for reviewing this article and fixing up my clumsy reporting. Ed.]

Heisenberg was right about uncertainty
… in a certain sense

Howard Wiseman

The word uncertainty is used a lot in quantum mechanics. One school of thought is that this means there's something out there in the world that we are uncertain about. But most physicists believe nature itself is uncertain.
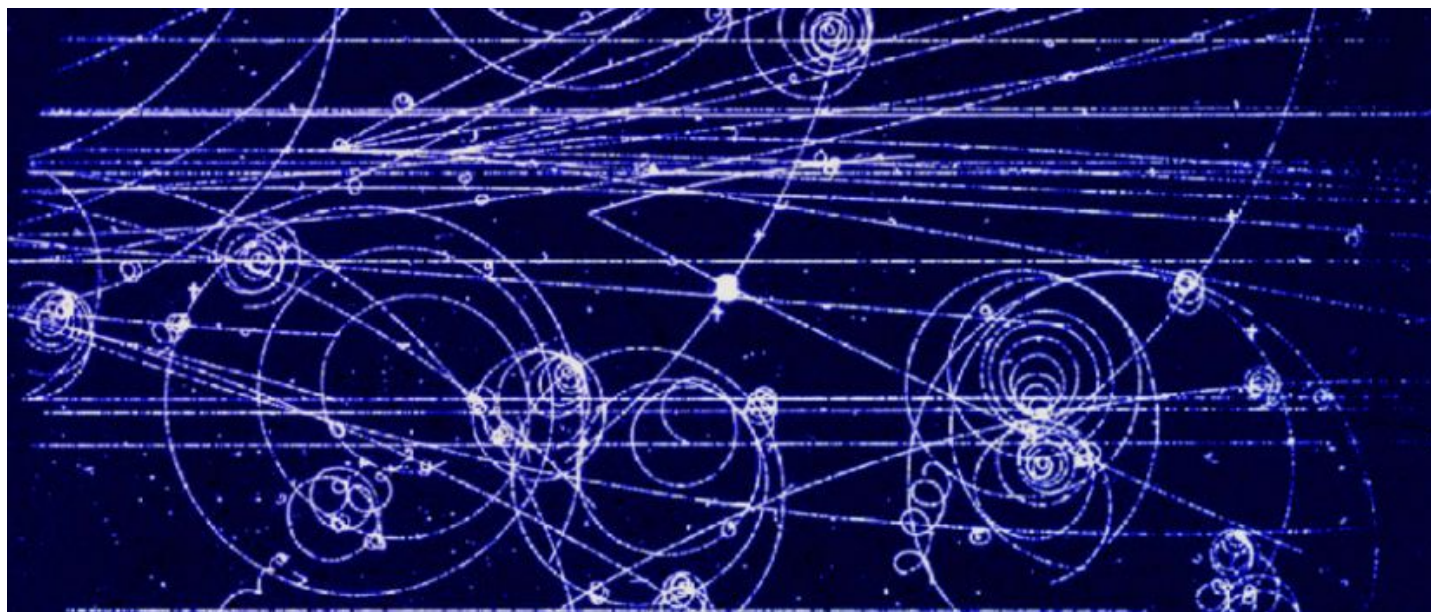
Intrinsic uncertainty was central to the way German physicist Werner Heisenberg, one of the originators of modern quantum mechanics, presented the theory.

He put forward the Uncertainty Principle that showed we can never know all the properties of a particle at the same time.

Read more: Explainer: Heisenberg's Uncertainty Principle

For example, measuring the particle's position would allow us to know its position. But this measurement would necessarily disturb its velocity, by an amount inversely proportional to the accuracy of the position measurement.

Was Heisenberg wrong?

Heisenberg used the Uncertainty Principle to explain how measurement would destroy that classic feature of quantum mechanics, the two-slit interference pattern (more on this below).

But back in the 1990s, some eminent quantum physicists claimed to have proved it is possible to determine which of the two slits a particle goes through, without significantly disturbing its velocity.

Does that mean Heisenberg's explanation must be wrong? In work just published in Science Advances, my experimental colleagues and I have shown that it would be unwise to jump to that conclusion.

We show a velocity disturbance — of the size expected from the Uncertainty Principle — always exists, in a certain sense.

But before getting into the details we need to explain briefly about the two-slit experiment.

The two-slit experiment

In this type of experiment there is a barrier with two holes or slits. We also have a quantum particle with a position uncertainty large enough to cover both slits if it is fired at the barrier.

Since we can't know which slit the particle goes through, it acts as if it goes through both slits. The signature of this is the so-called "interference pattern": ripples in the distribution of where the particle is likely to be found at a screen in the far field beyond the slits, meaning a long way (often several metres) past the slits.

But what if we put a measuring device near the barrier to find out which slit the particle goes through? Will we still see the interference pattern?

We know the answer is no, and Heisenberg's explanation was that if the position measurement is accurate enough to tell which slit the particle goes through, it will give a random disturbance to its velocity just large enough to affect where it ends up in the far field, and thus wash out the ripples of interference.

What the eminent quantum physicists realised is that finding out which slit the particle goes through doesn't require a position measurement as such. Any measurement that

gives different results depending on which slit the particle goes through will do.

And they came up with a device whose effect on the particle is not that of a random velocity kick as it goes through. Hence, they argued, it is not Heisenberg's Uncertainty Principle that explains the loss of interference, but some other mechanism.

As Heisenberg predicted

We don't have to get into what they claimed was the mechanism for destroying interference, because our experiment has shown there is an effect on the velocity of the particle, of just the size Heisenberg predicted.

Particles going through two slits at once form an interference pattern on a screen in the far field. There are bands (dark) where they are more likely to show up separated by bands (light) where they are less likely to show up. Wikimedia/Neko-JaNekoJa/Johannes Kalliauer, CC BY-SA

We saw what others have missed because this velocity disturbance doesn't happen as the particle goes through the measurement device. Rather it is delayed until the particle is well past the slits, on the way towards the far field.

How is this possible? Well, because quantum particles are not really just particles. They are also waves.

In fact, the theory behind our experiment was one in which both wave and particle nature are manifest — the wave guides the motion of the particle according to the interpretation introduced by theoretical physicist David Bohm, a generation after Heisenberg.

Let's experiment

In our latest experiment, scientists in China followed a technique suggested by me in 2007 to reconstruct the hypothesised motion of the quantum particles, from many different possible starting points across both slits, and for both results of the measurement.

They compared the velocities over time when there was no measurement device present to those when there was, and so determined the change in the velocities as a result of the measurement.

Read more: We did a breakthrough 'speed test' in quantum tunnelling, and here's why that's exciting

The experiment showed that the effect of the measurement on the velocity of the particles continued long after the particles had cleared the measurement device itself, as far as 5 metres away from it.

By that point, in the far field, the cumulative change in velocity was just large enough, on average, to wash out the ripples in the interference pattern.

So, in the end, Heisenberg's Uncertainty Principle emerges triumphant.

The take-home message? Don't make far-reaching claims about what principle can or cannot explain a phenomenon until you have considered all theoretical formulations of the principle.

Yes, that's a bit of an abstract message, but it's advice that could apply in fields far from physics.

Howard Wiseman is Director, Centre for Quantum Dynamics, Griffith University.

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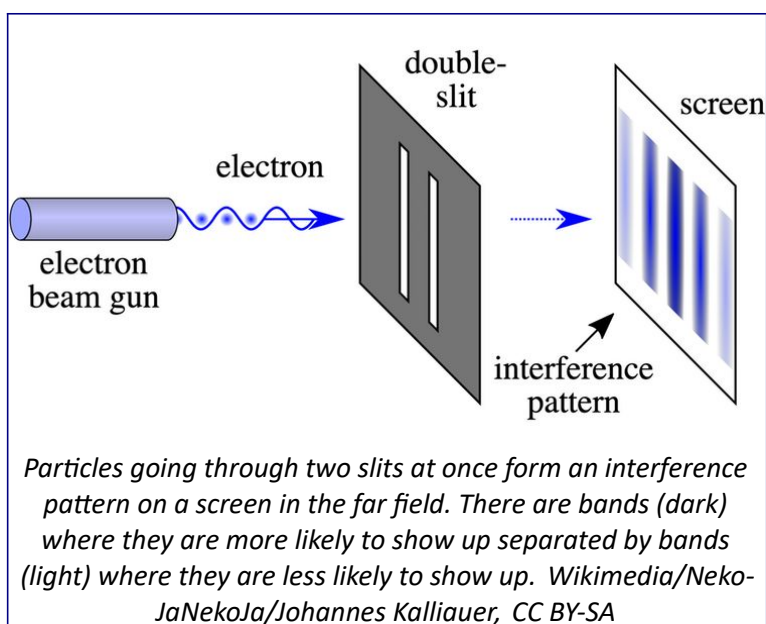
A programmer and an engineer were sitting next to each other on an airplane. The programmer leans over to the engineer and asks if he wants to play a fun game. The engineer just wants to sleep so he politely declines, turns away, and tries to sleep. The programmer persists and explains that it's a real easy game. He explains, "I'll ask a question and if you don't know the answer you pay me $5. Then you ask me a question and if I don't know the answer I'll pay you $5." Again, the engineer politely declines and tries to sleep.

The programmer, now somewhat agitated, says, "OK, if you don't know the answer, you pay me $5, and if I don't know the answer, I'll pay you $50!" Now, that got the engineer's attention, so he agrees to the game. The programmer asks the first ques-

tion, "what is the distance from the earth to the moon?" The engineer doesn't say a word and just hands the programmer $5.

Now, it's the engineer's turn. He asks the programmer, "what goes up a hill with three legs and comes down on four?" The programmer looks at him with a puzzled look, takes out his laptop computer, looks through all his references and after about an hour wakes the engineer and hands him $50. The engineer politely takes the $50, turns away, and tries to return to sleep.

The programmer, a little miffed, asks, "Well? What's the answer to the question?" Without a word, the engineer reaches into his wallet, hands $5 to the programmer and returns to sleep.

July Monthly meeting

The July monthly meeting will be held Wednesday July 3 at 7pm.

Fighting cybercrime

In 2018, Asha Rao attended the 4th Intergovernmental meeting on Cyber Crime, organised by The UNODC (United Nations Office on Drugs and Crime) at the UN Head quarters at Vienna. Her talk will outline the lessons learned from her observation of this meeting, what different countries are doing about tackling cybercrime, and what it means for educational programmes in cyber security.

Asha Rao is currently Professor and Associate Dean (Mathematical Sciences) within the School of Science at RMIT University, Australia. She is an Australian 2019-2020 Superstar of STEM. An algebraist by training, she has applied algebraic techniques to communications, resulting in highly ranked publications. The impact of her research in risk which addresses issues such as fraud and money-laundering has resulted in invitations to participate in national and international bodies.

A touch of science - horticulture.

Of interest to all gardeners: After the break one of our new young members, Paul Hattam will be giving a talk about the difference between *dicots* and *monocots*, two different branches of angiosperms or flowering plants. He will be showing the difference between the two, from those you can see with your own eye to the microscopic. Paul has a background in both healthcare and horticulture.

Meeting agenda

Please note that the MC may alter the agenda at any time at his discretion.

- 6:45 Registration in QR system. Buy your raffle tickets!
- 7:00 sharp. Meeting start, MC is Peter Bacon
- Guest speaker: Asha Rao – fighting cybercrime;
- Social break, Raffle;
- Q and A with George Skarbek;

- Paul Hattam - botany
- What's New? with George Skarbek. An interesting roundup of computer and technology news from around the world;
- 9:30: Close

Please remember your membership card or a photo of the QR code on your phone

Monthly raffle prizes

Prizes for this month's raffle at the meeting are:

1. TP-LINK Smart WiFi Plug with Energy Monitoring. It works using your existing WiFi network and the Kansa app which is available on iOS and Android.
2. HD 1080P Mini Hidden SPY Camera. Mini size, suitable for all occasions such as having lessons, meeting, taking part in the concert, and interviewing, etc.
3. Brilliant Taka Task Lamp. This task lamp is perfect for your home office or workspace.

The meeting will be streamed live at http://tv.melbpc.org.au

There will be no WAFFLE SIG / supper this month because Fong's restaurant is closed for a holiday.

Book review

Life after Google:

The fall of big data and the rise of the blockchain economy. George Gilder

Tim McQueen

At last, a thought provoking book that's somewhat optimistic about the future of technology. However, one may not agree with all Gilder's attitudes. He opens the book by outlining the morass of security measures required to navigate today's technology. He believes security should be designed in from the bottom up rather than bolted onto finished products and is against the centralisation of user data in the "walled gardens" of the current tech giants.

Gilder traces the intellectual development of computing from Hilbert's "we must know and we will know", and Gödel's concept of incompleteness and inconsistency. A major premise is that von Neumann based his work on the former (Hilbert) and overlooked the latter (Gödel) . He follows Page's, Brin's (and Schmidt's) interest in Burning Man as reflected in Google's principles.

Gilder frequently quotes the legend of King Midas who mistook gold, wealth's monetary measure, for wealth itself. One of his major contentions is that the world economy did very well for some 300 years under the gold standard, but has staggered since that was abandoned and is in danger of total collapse. He posits that the value of gold is a reflection of the time it takes to extract it. So any replacement for the gold standard should also have a time dimension. He suggests that bitcoin and blockchain may provide an alternative to the gold standard. However, bitcoin has the inherent weakness that Satoshi designed it as a deflationary currency - a maximum 21,000,000 bitcoins can ever exist in a peiod of 131 years (https://en.bitcoin.it/wiki/Deflationary_spiral). Gilder examines the development of bitcoin and other blockchain currencies and projects. "Smart contracts" - self-executing, based on blockchain technology, implemented on computers, may be Turing complete systems. If they are, they run into Turing limits and are not adequate replacement standards for gold.

Gilders sees Google's provision of everything for "free" as a return to the barter system. He contends that the advertising model that has underpinned Google's success is decaying. Customers are finding ways to avoid ads, especially on smartphones which have become major tools.

Peter Thiel (and others) believes the American education system has failed. Tuition costs have risen steeply without any apparent corresponding gain in outcomes. Therefore, Thiel funds entrepreneurs to skip college and form companies to develop promising ideas. Several of these proteges have renounced Silicon Valley's software obsession and see opportunity in returning to manufacturing. Gilder looks at Google's data centres and outlines how Google has modified and simplified off-the-shelf hardware to attain speed and redundancy. He sees how others can follow similar methods to bypass Google's current advantages. Gilder analyses the familiar 7-layer communications model, but postulates that it is now more of a 2-layer model. The physical layer, the data link, remains, but the higher layers are being merged in discrete single purpose software applications. This could lead to the reestablishment of the Internet on decentralised peer-to-peer principles.

Gilder doubts the hype expressed for AI. Basically, by assuming our brains are unintelligent electrical and chemical components linked together, and trying to reproduce them, we fall into the Gödel-Turing paradox of self-reference.

He outlines some emerging technologies using these ideas. Another interesting concept Gilder raises is the fact that we are essentially alone when we use the Internet. Advances in speech recognition and synthesis could lead us towards a more conversational interaction with the web.

His conclusion: The universe is hierarchical and multi-dimensional. Any successful system of the world must incorporate the full complexity of human life and mind.
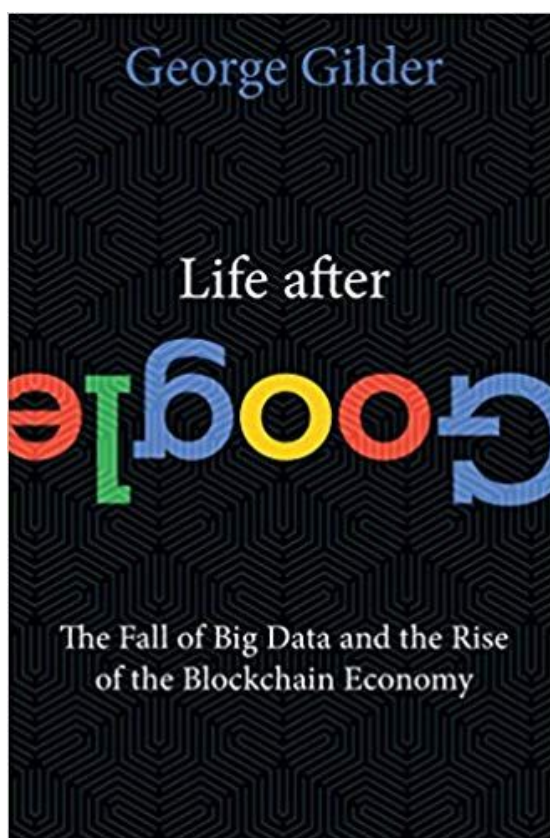
High-Tech Remembering

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

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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.

In the panic of the realization of what I had just done

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 of Under The Hood User Group (UTHUG), San Diego.

East SIG Report – June 2019

Neil Muller

The June meeting opened as usual with M.C. Paul Woolard welcoming members, followed by Q&A conducted by George Skarbek.

Q: I want to wipe my hard drive so data can't be recovered from it afterwards. To do this I selected an option in cCleaner to clean and wipe the drive. When the program commenced it indicated that the process would take 12 hours 40 minutes to complete. I left cCleaner running overnight and when I checked its progress the next morning it still had 11 hours to go. Is there a faster way to do this?

A: What you're doing will work but there is a slightly better way. Copy what you need from the drive and then format the drive. Don't do a quick format but a normal format. A quick format will only get rid of the directories and the file allocation table but the data can still be recovered from the drive. A full format will write on every

The Library window opens and on the left side select All Bookmarks (1)

sector whether it's used or not so may take more than an hour. That won't give you the security you need so copy a dozen or so BluRays disks, DVDs, videos etc to fill the drive then delete them. "At this stage the average hacker is out of the loop".

For a CIA style clean you can used the built in DOS command "Cipher". Cipher makes 3 passes over the drive, however if you've run format first, one pass will be enough as there is no real data on the drive. The DOS command is Cipher /w:E where E is the drive you're wiping. When run the first pass writes binary zeros over the whole drive, the second pass writes binary ones over the whole drive and the third pass writes random numbers over the whole drive. Cipher can also be used to encrypt files.

Q: I still use Internet Explorer but would like to move to Firefox as it's more secure. Can you suggest how I can copy my bookmarks and favourites over from Internet Explorer to Firefox?
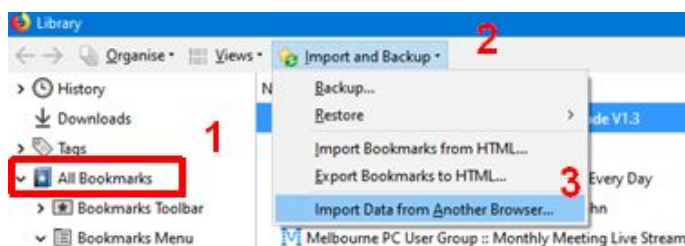
A: The easiest solution is to Import these from within Firefox. Firefox will ask what browser and give you a selection of browsers to import from. Tick Internet Explorer and that's all you have to do. I suggest you save them as well.

The procedure is as follows:

- In Firefox, click on the Library icon in the toolbar and then click Bookmarks

- At the bottom of the list of bookmarks click on Show All Bookmarks

- Next click on the Import and Backup toolbar button (2) and then click on Import Data from Another Browser (3)

- Select Microsoft Internet Explorer and click Next.

- Check the items you want to import from Internet Explorer to Firefox and click Next.

Q: In Windows 10 I've set the taskbar to disappear when not in use. When I wish to use the taskbar again I move the cursor back down to the bottom of the screen and the taskbar reappears. However when using Word 2010, if I move the cursor down to the bottom of the screen the taskbar will not reappear as it does for other programs.

A: I can't explain that behaviour as the taskbar should reappear. A work around would be to resize the Word window so that it's no longer full screen and then move its window up a small amount exposing the bottom of the screen. You should then be able to bring up the taskbar by moving the cursor down below the bottom of the resized Word window to the bottom of the screen.

Q: Has anyone taken up Brave as their browser? (N.M. Brave is a free open source web browser for Windows based on the Chromium web browser. A key feature of the browser is that it blocks ads and website trackers. Brave supports Chrome extensions and claims performance comparable to or faster than Google Chrome.)

A: [Dave Botherway] Sometimes I've found it a little slow on the internet

Q: I'm using Thunderbird for emails and when I send an email with a large attachment Thunderbird no longer saves the outgoing email. I have plenty of disk space so that should not be the cause of the problem. What alternative would you suggest for sending emails with large attachments?

A: I use Outlook and don't have any trouble saving outgo-

ing emails with large attachments. George opened the question up to members of the audience, unfortunately other Thunderbird users have not encountered this issue. Audience member: It might not be a problem with Thunderbird but the email itself.

George: That would be worth investigating.

Following Q & A George Skarbek presented tips on how to "Keep your Passwords Safe". The techniques shown were developed by George and others he's refined over the years.

First up George summarised the most common methods for saving passwords. These were using the Web Browsers autocomplete function, Password vaults (e.g. LastPass, KeePass, 1Password etc.) and DIY systems. The pros and cons of each were presented and discussed.

George then outlined the dos and don'ts needed for keeping passwords safe. Characters to use in passwords and the naming of the password file were recommended.

George followed this by suggesting a simple DIY password manager based on Microsoft Excel and suggested a preferred layout. He noted that Excel makes a very good password manager because it has very good encryption built in. George stressed that the Excel file must be encrypted to be secure.

Excel makes a very good password manager because it has very good encryption built in

For users looking for more extreme password protection the following methods were suggested.

- The first was to hide a letter or symbol within the password by using another letter or symbol in its place. For example, if a letter "b" appears in the password it will always be entered as another character say "W".

- A second extreme suggestion was the naming of the file and where to store it on your computer. Name the Excel file starting with an A, change the extension to dll and store the file in the Windows System32 folder. There are over 170 dll files starting with A in that folder so it's unlikely the file would easily be found.

George's final suggestion on the naming of passwords was to use an algorithmic password. This is one where you never have to look at your password file. George gave the following example:

If your name is Fred then use an algorithm, starting as:

{ Fred$7 (Note the space after opening the curly bracket. A space is considered a character and one people rarely use so is a good choice in a password. It's also an easy character to use as it doesn't require the use of the keyboards Shift key)

After your selected number, add two letters that relates to that password. Say the second and third letter and reverse these. If the password is for Westpac, then your password will be { Fred$7se

Finally George noted that it's all well and good to protect your password while living but plan for those who will need this information when you die.

George's full presentation can be found on the East SIG website.

After a break, Trevor Hudson introduced his series of videos on "How to securely prepare your computer for disposal". The video of the above name is the master for a suite of videos Trevor has prepare over the course of the last year. All 12 videos of the series are available on YouTube, with URLs for each listed in the description panel below the master video. All the videos are short in length at around 5 minutes.

After a brief introduction Trevor took advice from the audience and played 6 videos as requested by the East SIG audience. These were:

- How to Change Windows Login Password

- How to Delete all Browsing History in Mozilla Firefox

- How to Remove Saved Passwords

- How to Get Data off Corrupted HDD

- How to Factory Reset Vista PC

- How to Overwrite Deleted Data using DOS

Final tips from the audience were;

1. (George) When disposing of a computer to a friend, create a new account and then delete the old user.

2. (Richard) When deleting data from Firefox, make sure Sync is not on or you may lose all Firefox data on your other PC's.

Northern Suburbs Linux SIG – June Meeting

Paul Addis

In the Linux News session Nick Vespo showed a video of advice on choosing your first Linux distribution. The video described two available tools: the first was the simpler of the two, involving the user in making decisions about "important" matters such as whether they wanted to resulting system to be fully open source. There were only about ten decisions to be made and then the tool displayed a list of suitable distributions with each one marked with the decisions and how it matched with the user's choices. It was a neat but basic approach to the decision-making process.

The second tool had a similar basis, but involved the user in many more decisions, on often quite technical subjects. A comment from the floor was that the tool would obviously be more complex and technical because it originated in Germany.

Advice from another source was that whichever distribution was chosen the user should stick with it, provided that it fulfilled the user's requirements. You should only change distribution if you find something that your chosen distribution cannot do. Moving distributions because, for example: this one has a prettier interface, or that one seems to start up faster can result in 'distro-hopping' and the user spending all his/her time in learning about the latest choice, and not doing the tasks that they wanted the system for in the first place.

The last item in the session was a brief look at Distrotest.net. This web site lists a large number of distributions and allows users to "test it before you hate it". The systems run more slowly than on the user's own hardware because the desired distribution is downloaded and run under Qemu. Nonetheless, a user can get a feel of the distribution without making a commitment. They currently claim to host 223 Linux distributions with 696 versions in total.

The Open Forum started with John Hollow describing an open day at Monash University at which people could see (and sometimes use) old items of computer-related equipment. One featured item was a teletype machine that could be used to create paper tape (perhaps for a program to be tested),or as a computer terminal.

John showed an integrated development environment (IDE) with three panes in a window, with one pane showing the program listing, another showing text input and output for the program, and the third pane showing graphical output. A demonstration of the He-Man program was shown.

This is a version of the fairground game where a man (usually) tries to ring a bell at the top of a wooden column by striking a peg with a hammer, sending a device up a track in the column. The simulation involved the user in hitting the Enter key on the teletype machine as hard as possible and reading the score in the text display window. Apparently users could strike the key as hard as possible and be more likely to break a finger than damage the machine.
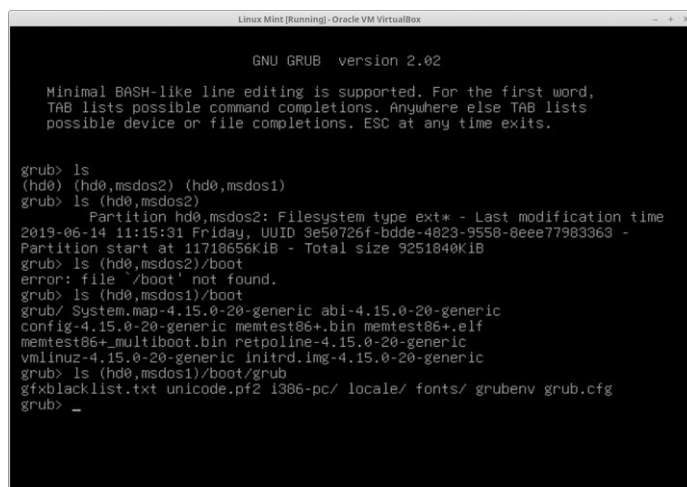
After the social break, we were treated to another of David Hatton's Random Bytes sessions.

The first item related to repairing or correcting problems with Grub during the boot process, which sometimes manifest themselves with a somewhat intimidating prompt of

grub-rescue >

At this point, it helps to know a few grub-rescue commands which are a subset of the normal grub commands. David used a virtual machine installation of a typical grub menu to demonstrate how you can attempt a recovery by using the grub-rescue commands to locate and set up grub-rescue to boot using an existing linux bootloader. Some of the commands with typical responses are shown in the screenshot below. A more detailed summary will be uploaded to the SIG website in due course

The second topic covered in the session was Crow-translate, a graphical front-end for language translation services, offered by Google, Yandex and Bing. This program needs to be downloaded from the github project site at

https://github.com/crow-translate

When started, the program puts an icon in the system tray rather than starting immediately in a desktop window. Clickng on this icon brings up the program window.

The program window is split into two panes, with the source material typed or pasted into the left pane, and the translation into the selected language in the right pane. The author claims that 117 different languages are supported, and that the program will translate and speak text in any application that supports text selection. It is available for both Linux and Windows.

The illustration below shows two paragraphs from separate sources translated from English to French.

The third topic was a brief rundown on a command line version of the seemingly ever-present speedtest – handy if you want to monitor your NB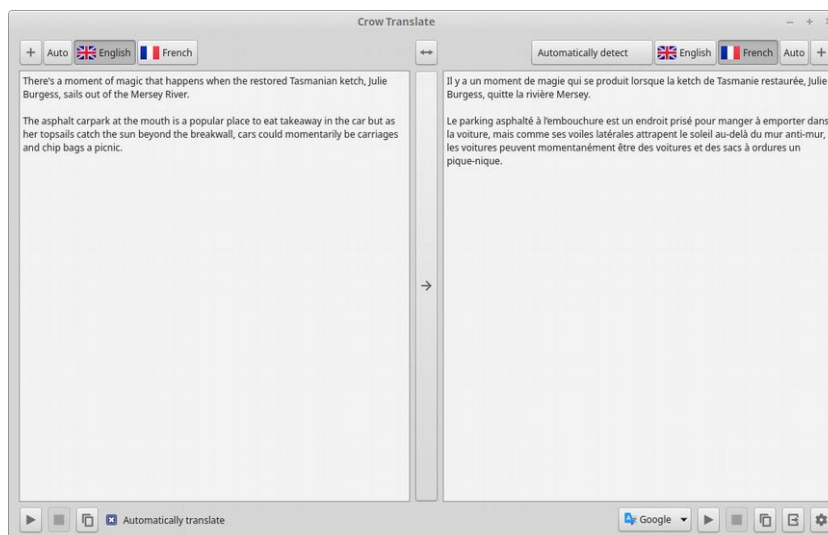N connection performance ! While the actual numeric results need to be treated as approximations rather than accurate measurements, such a program can give a good idea of how consistent the performance is, and can be readily set up as a cron job to monitor results over a period of time.

Crow Translate in operation

The package is usually called speedtest-cli and it can be installed from your distribution repository in the normal way. There are a number of options, summarise by typing

speedtest-cli --help

One of the useful options is --csv which will give speedtest results in a format easily imported into a spreadsheet, and thus a cron job can be set up to save to a file using something like

speedtest-cli --csv >> speedtest-log.csv

It may have been the fascination of the meeting or the cool evening outside that made attendees a little reluctant to leave, but they did…. Eventually.
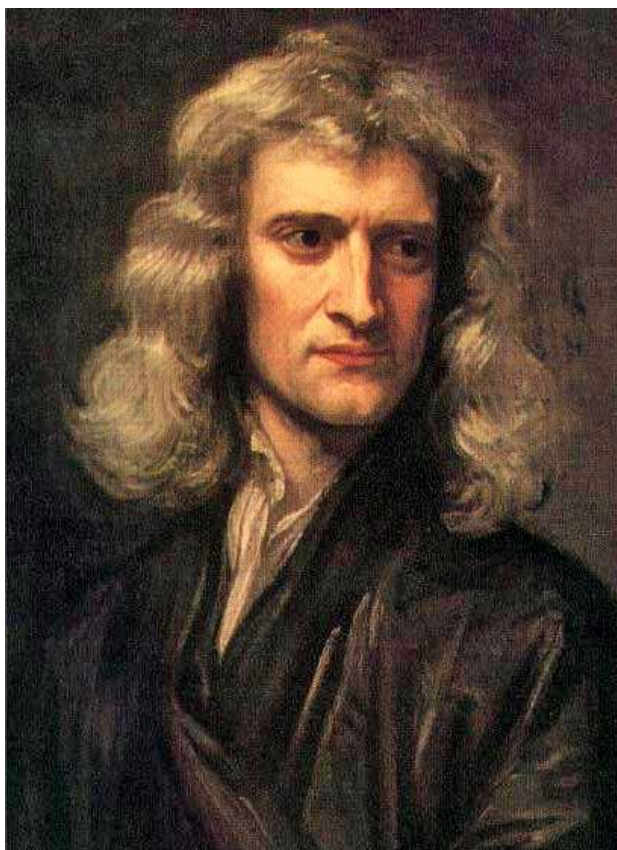
Two mathematicians, Joe and Richard , were having dinner in a restaurant. They were arguing about the average mathematical knowledge of the American public. Richard claimed that this average was woefully inadequate while Joe maintained that it was surprisingly high.

"I'll tell you what, " said Richard, "when I get back from the bathroom we'll ask our waitress a simple calculus question. If she gets it right, I'll pick up dinner. If not, you do, okay?"

They agreed, but once he'd left Joe called the waitress over. "When my friend comes back, " he told her, " he's going to ask you a question; you should respond 'one third x cubed' no matter what the question is; got that? There's twenty bucks in it for you." She happily agreed to the gag.

Richard returned from the men's room and called the waitress over. "The food was wonderful," he stated, "incidentally, do you know what the integral of x squared is?"

The waitress looked startled, then pensive, almost pained. She looked around the room, at her feet , made gurgling noises, (Joe was starting to sweat) and finally said, "Umm, one third x cubed?"

Joe beamed in relief as an astonished Richard paid the check and a clearly irritated waitress muttered under her breath, "... plus a constant."

Yammer May 2019

Dennis Parsons and Roger Brown

Once upon a time there were newsgroups. Now we have Yammer, the online forum for Melb PC users. Within it are different groups for members with varying interests. It's also where you are likely to hear club news first. To access Yammer simply have your Melb PC login name (@melbpc.org.au email address) and password handy, click this link: https://www.yammer.com/melbpc.org.au/ and log in

Security, Scams and Phishing

Peter V recounted how a friend was very nearly scammed out of $2500 by one of those recorded phone messages threatening to cut off his Internet if he didn't press "1" to talk to a technician. He was convinced to register for Internet banking and subsequently discovered that money had been withdrawn from his account. The bank had flagged the withdrawal as suspicious and he was fortunate they accepted it as fraudulent activity and the money was refunded after about a week.

We all thought Peter's friend was very lucky that the bank handled it the way they did and he wasn't out of pocket. So close to being a very expensive lesson for him.

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=195866244669440

Computer Help

I recently encountered an older model Garmin GPS that was no longer able to pick up any satellite signals, despite having an unobstructed view of the sky. A factory reset didn't fix matters so I presumed hardware failure. Having nothing to lose I decided to install the latest available firmware version and much to my surprise the fresh firmware returned the GPS unit to full working order.

The GPS date rollover that occurred in April was suggested as a cause but the unit had been working for weeks after that, and it seems unlikely that the Chinese warship in port in Sydney would influence a single GPS belonging to a retiree in SA!

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=180368944193536

Windows 10

With the end of support for Windows 7 now less than six months away Harry raised the question of what to tell the less tech savvy user – if their hardware passes the Windows 10 compatibility test is there an alternative to paying Microsoft $225 (or more)? Dave mentioned the free upgrade process still works as he'd used it only a few weeks previously (early June) – you can't beat free so worth a try.

Rob suggested a web site that sells "refurbished" product keys at a considerable markdown but the consensus was to avoid those due to dubious legality and every possibility that while key might work initially it will subsequently fail. Greg mentioned buying a cheap laptop (sub $450) from the EOFY sales – might not suit everyone but for users

with undemanding needs such a system would be entirely adequate.

And of course Linux running a lightweight desktop will happily run on anything that might struggle with running Windows – something that low end hardware is susceptible to.

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=205990223093760

NBN Questions and Comments

Peter S is planning for the arrival of NBN via FTTC and was wondering about using the phone extension socket in the centre of his house rather then the primary socket in his office at the front of the house, the aim being to provide better WiFi coverage throughout his house. It was suggested using an FTTC connection via an extension could cause problems but there was no harm in trying it. Other options discussed were using the primary socket and a WiFi extender placed in the centre of the house or running an ethernet cable to a a second WiFi router.

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=203395936829440

DOTW is a lighthearted look at some of the sillier events of the week. Don't take it too seriously and do pop over to Chit Chat and vote each week. Thanks to those of our members who occasionally 'feature' for taking the gentle humour in such good part.

Latest winners of the DOTW poll were:

Salim Mehajer who, having just been released from prison, was re-arrested and spent a night in the cells after breaching bail conditions, by emailing one of the eight witnesses he is not allowed to contact.

Disgraced former Auburn deputy mayor Salim Mehajer (AGAIN) whose prolonged application to lift bail restrictions will "go down in the record books", according to a frustrated judge.

Lawyers for the Catholic Church fighting a compensation claim by a man who was abused as a child by Gerald Ridsdale for refusing to acknowledge that the church's hierarchy knew the notorious priest was a serial paedophile

Cancer fraudster Belle Gibson for her continued failure to pay a $410,000 fine for breaching consumer law.

Special Interest Groups

As of September we will stop publishing the calendar and SIG list in PC Update. Why? A significant amount of work goes into simply getting the formatting right, and the same information is on the website and constantly updated. The home page https://melbpc.org.au has calendar links in the lefthand sidebar, and the SIG list is in the top menu. The time spent doing this would allow one or two more *interesting* items to be included!

Data Source: data-source for SIG-List   Updated: 21-Jun-2019 - 23:07

Amendments: Please advise changes/corrections to: calendar-admin@melbpc.org.au

Recent changes are at: https://www.melbpc.org.au/sigs/about/recent-changes/

Access (database) and Excel

Date Jan	No Meeting	
Feb-Nov	**Second Mon of month (inc. Public Holidays)**	
Dec	**Second Mon of month**	
Time	6:30pm - 8:30pm	
Email	access@melbpc.org.au	
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8	
Convenor(s)	Craig Evans craig_evans@racv.com.au	

Bayside No meeting in July

Date Jan	**Third Thu of month**
Feb-Nov	**Third Thu of month**
Dec	**Third Thu of month. Arrive 11:30am for 12noon start. Christmas lunch.**
Time	10am - 12noon
Email	bayside@melbpc.org.au
Location	St Stephens Church Hall, 111 North Road (cnr Cochrane St), **Brighton** Melway:67.F7
Convenor(s)	Peter Carpenter - 9596 3441
	Brian Fergie
	Les Johnston

Beginners East (BEAST)

Date Jan	**No Meeting**
Feb-Nov	**Third Sun of month**
Dec	**Third Sun of month**
Time	10am - 12noon
Email	beast@melbpc.org.au
Location	Vermont South Community Centre, 1 Karobran Drive, **Vermont South** Melway:62.G7
Convenor(s)	Dave Botherway

Casey

Date Jan	**No Meeting**
Feb-Nov	**Second Fri of month**
Dec	**Second Fri of month. (Christmas function - check location/time etc with Convener)**
Time	1pm - 3:30pm
Location	Beaconsfield Neighbourhood Centre, 8 O'Neil Road, **Beaconsfield** Melway:214.A1
Convenor(s)	Phillip Rocke
	philliprocke@optusnet.com.au
	Helen Ventura
	Ross Bradbury

Communications

Date Jan	**No Meeting**
Feb-Nov	**Second Wed of month**
Dec	**Second Wed of month**
Time	7 - 9:30pm
Email	phil@melbpc.org.au
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	Phil Lew - 0418 567 019

Digital Images

Date Jan	**No Meeting**
Feb-Nov	**Third Fri of month**
Dec	**No Meeting**
Time	10am - 12noon
Location	Wadham House, 52 Wadham Parade, **Mount Waverley** Melway:61.E12
Convenor(s)	Ian Bock - 9807 3701
	bockey@melbpc.org.au
	George Skarbek

East

Date Jan	**No Meeting**	
Feb-Nov	**Second Thu of month**	
Dec	**Second Thu of month (starts 6:30pm)**	
Time	7:30pm - 9:30pm	
Email	east@melbpc.org.au	
Location	Eley Park Community Centre,	
	87 Eley Rd,	
	Blackburn South Melway:61.H5	
Convenor(s)	Paul Woolard - 9877 1059	
	Ian Dewhurst - 0438 480 500	

East Workshop

Date Jan	**No Meeting**
Feb-Nov	**Second Sun of month. NO meeting in**
	May - Mother's Day.
Dec	**Second Sun of month**
Time	10am - 12noon
Email	eastwsh@melbpc.org.au
Location	Wadham House, 52 Wadham Parade,
	Mount Waverley Melway:61.E12
Convenor(s)	Paul Woolard - 0417 566 209
	pwoolard@melbpc.org.au
	John Swale (3D printing)
	- 0417 530 766

Essendon - Main meeting

Date Jan	**No Meeting**
Feb-Nov	**First Fri of month**
Dec	**No Meeting**
Time	9:30am - 12noon
Email	essendon@melbpc.org.au
Location	Nancye Kirchner Neighbourhood
	Centre, Doyle Street (corner
	Somerset St),
	Avondale Heights Melway:27.D6
Convenor(s)	John Guegan - 9317 7114

Essendon - Open Forum

Date Jan	**No Meeting**
Feb-Nov	**Second Fri of month**
Dec	**Second Fri of month. (Christmas**
	Function, starts 10:30am)
Time	9:30am - 12noon
Email	essendon@melbpc.org.au
Location	Nancye Kirchner Neighbourhood
	Centre, Doyle Street (corner
	Somerset St),
	Avondale Heights Melway:27.D6
Convenor(s)	John Guegan - 9317 7114

Essendon - Various topics

Date Jan	**No Meeting**
Feb-Nov	**Third Fri of month**
Dec	**Second Fri of month**
Time	9:30am - 12noon
Email	essendon@melbpc.org.au
Location	Nancye Kirchner Neighbourhood
	Centre, Doyle Street (corner
	Somerset St),
	Avondale Heights Melway:27.D6
Convenor(s)	John Guegan - 9317 7114

Everything Apple

Date Jan	**Third Tue of month**
Feb-Nov	**Third Tue of month**
Dec	**No Meeting**
Time	2pm - 4pm
Email	everything-apple@melbpc.org.au
Location	Melb PC HQ, Level 1, 479 Warrigal Rd,
	Moorabbin Melway:78.D8
Convenor(s)	Peter Emery
	everything-apple@ausom.net.au
	Sam Fiumara

Genealogy East

Date Jan	**No Meeting**
Feb-Nov	**Third Sun of month**
Dec	**Third Sun of month**
Time	12:30pm - 2:30pm
Email	geneast@melbpc.org.au
Location	Vermont South Community Centre,
	1 Karobran Drive,
	Vermont South Melway:62.G7
Convenor(s)	Denis Street

Hardware

Date Jan	**No Meeting**
Feb-Nov	**Second Fri of month**
Dec	**Second Fri of month**
Time	10am - 12noon
Location	Wadham House, 52 Wadham Parade,
	Mount Waverley Melway:61.E12
Convenor(s)	Kelvin Cording - 9438 1047
	kcording@bigpond.net.au
	John Hall - 9803 2731
	johnhall@melbpc.org.au

iHelp

Date Jan	Approximately 6 monthly
Feb-Nov	Approximately 6 monthly
Dec	Approximately 6 monthly
Time	7pm - 9pm
Email	ihelp@melbpc.org.au
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	Dave Simpson - 9276 4095

Investment Tools - WASINT

Date Jan	No Meeting
Feb-Nov	Second Tue of month
Dec	Second Tue of month
Time	10:30am - 12:30pm
Email	wasint@melbpc.org.au
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	Richard Solly

Linux Workshop - Moorabbin

Date Jan	In Recess
Feb-Nov	In Recess - seeking volunteer leaders
Dec	In Recess
Time	
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8

MACE (Atari Computers)

Date Jan	Third Sun - BBQ - check with Convener for location
Feb-Nov	Third Sun of month
Dec	Third Sun of month
Time	10am - 2pm
Email	maceatari@gmail.com
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	Andrew Boschan andrewbosc@gmail.com

Microcontroller

Date Jan	Second Wed of month
Feb-Nov	Second Wed of month
Dec	Second Wed of month
Time	7pm - 9:30pm
Email	microcontroller@melbpc.org.au
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	David Stonier-Gibson John Hollow - 0417 031 164 Phil Lew - 0418 567 019

Microcontroller Workshop

Caution: Possible power blackouts Saturday 6th July

Date Jan	Second & Fourth Sat of Jan.
Feb-Nov	Second & Fourth Sat of month.
Dec	Second & Fourth Sat of month.
Time	12noon - 5pm
Email	microcontroller-workshop@ melbpc.org.au
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	John Shirt - 0409 568 267 Rob Brown - 0419 285 806 Steph Lancaster

Mornington Peninsula - General, Q&A

Date Jan	Third Mon of month
Feb-Nov	Third Mon of month
Dec	No Meeting
Time	9:30am - 12noon
Email	peninsula@melbpc.org.au
Location	Mornington Community Information and Support Centre, 320 Main St, **Mornington** Melway:104.E12
Convenor(s)	Terry Said - 0427 750 327 dulnain@gmail.com Ian Thomson iaroth@netspace.net.au Colin Ackehurst

Mornington Peninsula - Family History

Date Jan	Third Mon of month
Feb-Nov	Third Mon of month
Dec	No Meeting
Time	1:30pm - 4:30pm
Email	peninsula@melbpc.org.au
Location	Mornington Community Information and Support Centre, 320 Main St, **Mornington** Melway:104.E12
Convenor(s)	Colin Ackehurst colin_a_ackehurst@bigpond.com

Mornington Pen. Family History: Adv.DNA

Date Jan	last Wed of month (5th Wed if there is one, otherwise 4th Wed)
Feb-Nov	last Wed of month (5th Wed if there is one, otherwise 4th Wed).
Dec	No Meeting
Time	2pm - 4pm
Email	peninsula@melbpc.org.au
Location	Mornington Community Information and Support Centre, 320 Main St, **Mornington** Melway:104.E12
Convenor(s)	Colin Ackehurst colin_a_ackehurst@bigpond.com

Multimedia Home Entertainment

Date	Jan	No Meeting
	Feb-Nov	First Fri of month
	Dec	First Fri of month
Time		10am - 12noon
Email		MHE@melbpc.org.au
Location		Wadham House, 52 Wadham Parade,
		Mount Waverley Melway:61.E12
Convenor(s)		David King
		Kelvin Cording

Music

Date	Jan	In Recess
	Feb-Nov	In Recess - seeking volunteer leaders
	Dec	In Recess
Time		
Location		Melb PC HQ, Level 1, 479 Warrigal Rd,
		Moorabbin Melway:78.D8

North East Android

Date	Jan	No Meeting
	Feb-Nov	Third Wed of month
	Dec	Second Wed of Dec - join with North East Daytime SIG - end-of-year breakup
Time		10am - 12noon
Email		ne-android@melbpc.org.au
Location		Hawdon Street Community Hall,
		80 Hawdon Street,
		Heidelberg Melway:32.A4
Convenor(s)		Colin Lampshire
		9857 5372 or 0413 640 408
		lampshir@melbpc.org.au
		Kelvin Cording - 9438 1047

North East Daytime and Photography

Date	Jan	No Meeting
	Feb-Nov	Second Wed of month
	Dec	Second Wed of month
Time		10am - 12noon
Email		neday@melbpc.org.au
Location		Hawdon Street Community Hall,
		80 Hawdon Street,
		Heidelberg Melway:32.A4
Convenor(s)		Colin Lampshire
		9857 5372 or 0413 640 408
		lampshir@melbpc.org.au

North East Genealogy

Date	Jan	No Meeting
	Feb-Nov	First Wed of month
	Dec	First Wed of month
Time		10am - 12noon
Email		negen@melbpc.org.au
Location		Hawdon Street Community Hall,
		80 Hawdon Street,
		Heidelberg Melway:32.A4
Convenor(s)		Lynn. Hammet
		lynnhammet@gmail.com

Northern Suburbs Linux

Date	Jan	Third Mon of month
	Feb-Nov	Third Mon of month
	Dec	No Meeting
Time		7:30pm - 9:30pm
Email		nslig@melbpc.org.au
Location		Community Meeting Room, Watsonia
		Library, 4 Ibbotson St,
		Watsonia Melway:20.E4
Convenor(s)		David Hatton
		Nick Vespo

Online

Date	Jan	Available online at any time
	Feb-Nov	Available online at any time
	Dec	Available online at any time
Time		Available online at any time
Email		kazkev@melbpc.org.au
Location		Melb PC Yammer online forum
Convenor(s)		Kevin Martin
		Evening only - 5964 7627
		or 0407 343 162

Programming

Date	Jan	In Recess
	Feb-Nov	In Recess - seeking volunteer leaders
	Dec	In Recess
Time		
Location		Melb PC HQ, Level 1, 479 Warrigal Rd,
		Moorabbin Melway:78.D8

Raspberry Pi - Moorabbin

Date	Jan	Second Sat of month
	Feb-Nov	Second Sat of month
	Dec	Second Sat of month
Time		2pm - 4pm
Email		raspi-moorabbin@melbpc.org.au
Location		Melb PC HQ, Level 1, 479 Warrigal Rd,
		Moorabbin Melway:78.D8
Convenor(s)		Mohan Gupta - 0421-214-081
		Rob Brown - 0419 285 806

Raspberry Pi - Mt Waverley

Date Jan	**Fourth Fri of month**
Feb-Nov	**Fourth Fri of month**
Dec	**No Meeting**
Time	10am - 12noon
Email	raspi@melbpc.org.au
Location	Wadham House, 52 Wadham Parade, **Mount Waverley** Melway:61.E12
Convenor(s)	John Hall - 9803 2731
	johnhall@melbpc.org.au
	Lance Lloyd - 9884 5559
	lancelloyd@melbpc.org.au

Science & Tech Projects

Date Jan	**First & Third Sun of month**
Feb-Nov	**First & Third Sun of month**
Dec	**First Sun of Dec (no second meeting in Dec)**
Time	1pm - 5pm
Email	tech-projects@melbpc.org.au
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	Stephen Zuluaga
	Dani Martin

Sunbury Daytime - New Users

Date Jan	**No Meeting**
Feb-Nov	**First Thu of month**
Dec	**First Thu of month**
Time	9:30am - 12noon
Email	sunburydaytime@gmail.com
Location	Sunbury Senior Citizens Centre (back room), 8 O'Shanassy Street, **Sunbury** Melway:382.E4
Convenor(s)	Kevin Hale - 9740 5786

Sunbury Daytime - Advanced

Date Jan	**No Meeting**
Feb-Nov	**Second Thu of month**
Dec	**Second Thu of month**
Time	9:30am - 12noon
Email	sunburydaytime@gmail.com
Location	Sunbury Senior Citizens Centre (back room), 8 O'Shanassy Street, **Sunbury** Melway:382.E4
Convenor(s)	Kevin Hale - 9740 5786

Sunbury Daytime - Main Meeting

Date Jan	**No Meeting**
Feb-Nov	**Third Thu of month**
Dec	**No Meeting**
Time	9:30am - 12noon
Email	sunburydaytime@gmail.com
Location	Sunbury Senior Citizens Centre (back room), 8 O'Shanassy Street, **Sunbury** Melway:382.E4
Convenor(s)	Kevin Hale - 9740 5786

Sunbury Daytime - Maintenance & Linux

Date Jan	**No Meeting**
Feb-Nov	**Fourth Thu and Fifth Thu of month.**
Dec	**No Meeting**
Time	9:30am - 12noon
Email	sunburydaytime@gmail.com
Location	Sunbury Senior Citizens Centre (back room), 8 O'Shanassy Street, **Sunbury** Melway:382.E4
Convenor(s)	Kevin Hale - 9740 5786

Video Production

Date Jan	**No Meeting**
Feb-Nov	**Second Mon of month**
Dec	**Second Mon of month**
Time	7pm - 9:30pm
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	John Hall - 9803 2731
	johnhall@melbpc.org.au

Video Production - Pinnacle

Date Jan	**No Meeting**
Feb-Nov	**Fourth Wed of month**
Dec	**No Meeting**
Time	10:00am - 12:30pm
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	Wayne Spicer - (03) 5971 1617
	spisawn@optusnet.com.au
	Tony Pickup - 9878 0706
	tonypick@melbpc.org.au

Video Production - Sony

Date Jan	**Second Wed of month**
Feb-Nov	**Second Wed of month**
Dec	**Second Wed of month**
Time	10am - 12noon
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)	Roger Wragg
	rdwragg@fastmail.fm

WAFFLE - wine & fine food lovers event

No meeting this month (July 2019)

Date Jan	**No Meeting**	
	Feb-Nov	**First Wed of month. Cancelled for Jul-2019 (proprietors on holidays).**
	Dec	**First Wed of month**
Time	9:35pm (after the Monthly Meeting)	
Email	phil@melbpc.org.au	
Location	Fong's Chinese Restaurant, 725 Centre Rd (cnr Francesco St), **Bentleigh East** Melway:77.J1	
Convenor(s)	Phil Lew - 0418 567 019 Tom Rado - 0407 955 747 trado@melbpc.org.au	

Website Design - Tutorials

Date Jan	**No Meeting**	
	Feb-Nov	**Fourth Sun of month**
	Dec	**No Meeting**
Time	2pm - 4pm	
Email	webdesign@melbpc.org.au	
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8	
Convenor(s)	Fleur Stephens - 0407 330 963	

Website Design - Troubleshooting

Date Jan	**No Meeting**	
	Feb-Nov	**Fourth Sun of month**
	Dec	**No Meeting**
Time	4pm - 6pm	
Email	webdesign@melbpc.org.au	
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8	
Convenor(s)	Fleur Stephens - 0407 330 963	

Windows Plus

Date Jan	**No Meeting**	
	Feb-Nov	**Third Sat of month**
	Dec	**No Meeting**
Time	10am - 12noon	
Email	winplus@melbpc.org.au	
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8	
Convenor(s)	John Swale - 0417 530 766 Barry Stone	

July Calendar

SIG & Other Meetings — Jul-2019

MELB PC USER GROUP

Latest version of this Calendar is at: https://www.melbpc.org.au/ (see Quick Links) This version is: V1–updated–21-jun-2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Legend SIG meeting at Melb PC HQ, Moorabbin. Non-Moorabbin meeting. ~~Cancelled Meeting~~ Changed Meeting To be confirmed	**1**	**2**	**3** North East Genealogy SIG *80 Hawdon Street Heidelberg* *10am - 12noon* **MONTHLY MEETING** *Melb PC HQ, Moorabbin* *7pm – 9:30pm* **NO / WAFFLE** *Fong's on holiday.*	**4** Sunbury Daytime SIG *New Users* *9:30am - 12noon*	**5** Essendon SIG *Main meeting* *Avondale Heights* *9:30am - 12noon* Multimedia Home Entertainment SIG *Mount Waverley* *10am - 12noon*	**6** **Chance of power blackouts at Moorabbin**
7 Science & Tech Projects Group *Moorabbin* *1pm - 5pm*	**8** Access (database) and Excel SIG *Moorabbin* *6:30pm – 8:30pm* Video Production Group *Moorabbin* *7pm - 9:30pm* *Please confirm if meeting on Queen's Birthday.*	**9** Investment Tools - WASINT SIG *Moorabbin* *10:30am - 12:30pm*	**10** Video Production – Sony SIG *Moorabbin* *10am - 12noon* North East Daytime & Photography SIG *Heidelberg* *10am - 12noon* Communications SIG *Moorabbin* *7pm – 9:30pm* Microcontroller SIG *Moorabbin 7- 9:30pm*	**11** Sunbury Daytime SIG *Advanced* *9:30am - 12noon* East SIG *Blackburn South* *7:30pm - 9:30pm*	**12** Essendon SIG *Open Forum* *Avondale Heights* *9:30am - 12noon* Hardware SIG *Mount Waverley* *10am - 12noon* Casey SIG *Beaconsfield* *1pm - 3:30pm*	**13** Microcontroller Workshop SIG *Moorabbin* *12noon - 5pm* Raspberry Pi – Moorabbin SIG *2pm - 4pm*
14 East Workshop SIG *Mount Waverley* *10am –* 12noon	**15** Mornington Peninsula SIG *General inc Q&A* *Mornington* *9:30am - 12noon* — *Family History* *Mornington* *1:30pm - 4:30pm* Northern Suburbs Linux SIG *Watsonia 7 – 9:30pm*	**16** Everything Apple SIG *Moorabbin* *2pm - 4pm* Melb PC Committee *Moorabbin* *7pm*	**17** North East Android SIG *Heidelberg* *10am – 12noon*	**18** Sunbury Daytime SIG *Main Meeting* *9:30am - 12noon* **Bayside SIG** No meeting this month	**19** Essendon SIG *Various topics.* *Avondale Heights* *9:30am - 12noon* Digital Images SIG *Including Photoshop* *Mount Waverley* *10am - 12noon*	**20** Windows Plus SIG *Moorabbin* *10am - 12noon*
21 Beginners East (BEAST) SIG *Vermont South* *10am – 12noon* MACE (Atari Computers) SIG *Moorabbin* *10am - 2pm* Genealogy East SIG *Vermont South* *12:30pm - 2:30pm* Science & Tech Projects Group *Moorabbin 1pm - 5pm*	**22**	**23**	**24** Video Production – Pinnacle SIG *Moorabbin* *10:00am – 12:30pm*	**25** Sunbury Daytime SIG *Maintenance & Linux (Fourth & fifth Thu of month)* *9:30am - 12noon*	**26** Raspberry Pi - Mt Waverley SIG *10am - 12noon* **PC Update – Articles Deadline**	**27** Microcontroller Workshop SIG *Moorabbin* *12noon - 5pm*
28 Website Design SIG *Tutorials* *Moorabbin* *2pm - 4pm* — *Troubleshooting* *Moorabbin* *4pm - 6pm*	**29**	**30**	**31** Mornington Peninsula SIG *Family History – Advanced DNA (LAST Wed of month)* *Mornington* *2pm - 4pm.* **PC Update – Reports deadline**	**Changes** Please advise changes to: calendar-admin@melbpc.org.au	**Other SIG (Special Interest Group) information:** https://www.melbpc.org.au/sigs/about/ **Recent Changes:** https://www.melbpc.org.au/sigs/about/recent-changes/	**Have A Question** **Post it on Yammer** **Yammer:** http://yammer.com/melbpc.org.au/

As of September we will stop publishing the calendar and SIG list in PC Update. Why? A significant amount of work goes into simply getting the formatting right, and the same information is on the website and constantly updated. The home page **https://melbpc.org.au** has calendar links in the lefthand sidebar, and the SIG list is in the top menu. The time spent doing this would allow one or two more *interesting* items to be included!