>PC_Update

September 2018

Throwing darts in a dark room

A group of inventive members got together recently and engineered a high speed sound trigger for photography.

Full story page 3

Photo: George Skarbek/Microcontroller SIG

MELB PC USER GROUP

>PC_Update

Membership application form online

iHelp – get the help you need with your computer
Ph (03) 9276 4088 iHelp@melbpc.org.au
Live chat.
https://www.melbpc.org.au/index.php/ihelp/ihelp-remote-support/

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

Monthly Meeting Live Stream
Tune in here at 7.00pm on Wed 5th September to view the Monthly Meeting live over the Internet. Test Transmission usually commences at around 6.30pm   http://tv.melbpc.org.au

"Where a calculator like the ENIAC is equipped with 18,000 vacuum tubes and weighs 30 tons, computers in the future may have only 1,000 vacuum tubes and weigh only 1.5 tons."

-- Popular Mechanics, 1949

Editorial

I'm back!

I am back in the hot seat after a 5-week holiday in Sweden, Norway, and Iceland. A huge thank you to John Hall for taking care of 2 issues of PC Update while I was celebrating my cousin's 70th birthday in Sweden (we used to play together as kids) and driving a snow-mobile in Iceland. Thanks John, and well done.

Yes, I really did! The young lady is our tour guide

There's a lot of interesting stuff happening in the club at the moment. The Melbourne Computer Club website is now established (though it is dynamic and will always be a Work in Progress) and SIGs are invited to use it to promote their events to the outside world. The Garage at Moorabbin is being transformed into a well-equipped workshop with metal lathe and milling machine. And we have a move towards hands on instant group projects to make "stuff" on Saturday mornings, starting with a high-speed photography setup a couple of weeks ago. So read on, read all about it! And enjoy!   *David*

In this issue

Cover story: Throwing darts in a dark room

Stephen Zuluaga

Recently, we caught up at Moorabbin to use electronics to help us take more interesting photos. What are some ways you're able to speed up your reflexes to capture these images? Well you can outsource that part to some simple but high-speed electronics devices that cost no more than a lunch at a suburban cafe.

But how to photograph something lasting milliseconds?

The idea behind high speed photography is pretty simple. An interesting event happens like a balloon bursting, the electronics sense that this event has happened, and sends a trigger to the camera in time to capture the action. There are some photographic practicalities that you also need to manage, like making sure your camera is ready to capture the image. A camera is mechanically too slow, so instead you trigger an electronic flash in a dark room and have the camera shutter open and ready.

Getting a reliable trigger

When a balloon bursts, it makes a loud sound, and this is what we need to detect. We started out testing some piezo guitar pickups to see how reliably they would provide a detectable voltage on the oscilloscope.

We found that only if we physically knocked them would they provide a voltage that's enough to be reliably picked up by a microcontroller. Luckily when a bunch of project enthusiasts get together, many of them bring their project boxes which are full of project bits. One of us had a microphone circuit with which we could reliably create enough of a voltage spike, so a microcontroller board could interpret it as a balloon burst.

The right programming

The other part of the high-speed photography setup is the programming of the microcontroller, an ESP-8266. This is where we tell the unit to fire the flash once it receives the sound signal from the microphone.

Working out the electronics

Protecting against high voltages

External flashes, especially those from days gone by, can have a lot of volts on their external trigger connector. If excessive voltages get into your micro-controller board, the smoke will surely get out. So we used an opto-isolator to completely isolate the ESP-

Hooking up the electronics on a breadboard

8266 from the flash, a Canon EX580ii. An opto-isolator (aka optocoupler) contains an LED that shines light on a phototransistor. When the LED is turned on the transistor turns on. The connection is all optical, so there's no electrical connection and possibly high voltages can't get from one side to the other.

Getting the shot

Once everything was ready and "bench tested" it was time to put it all to a real live test. The idea is to work in a darkened room. When everything is ready, in the dark, you open the camera shutter (using the B or bulb setting). You then pop the balloon and hope the trigger circuit triggers the flash at a good moment. The flash is so brief (1/1000 second or less) it freezes all move-ment. We set the flash to very low power, which makes it very fast – 1/20,000 second!)

We think the mist in this shot is water vapour (breath), as the balloon had only just been inflated.

We had one person, call them "Lights", on the room light switch. We had one, Dart, throwing the dart, and two on two different Cameras. Oh, and one who shall remain nameless to keep up a steady supply of inflated balloons!

The "firing sequence" is:

1. *Dart* takes aim and calls to *Lights*;
2. *Lights* flicks switch off;
3. *Cameras* activate shutters and call to *Dart*;
4. *Dart* throws the dart, balloon hopefully pops and flash fires;
5. *Cameras* deactivate shutters and check results;
6. *Lights* flick lights back on.

[This story is a very edited down version of an item that was orignally published on the Melbourne Computer Club website. The full story is well worth a read– Ed]

WANTED FOR A NON-PROFIT ACTIVITY

Computer from an earlier time.

Requires RS232 port (D9 connector). A USB adaptor will NOT work.

WHY?

Required to program a marine transceiver used for emergency communications on Tuvalu. The radio programming software runs in DOS - 3 or better.

EXPLANATION:

A small group of amateur radio operators for many years provided emergency communications for Red Cross and regularly attended fire and flood crises. We used encrypted computerised digital messages sent on amateur radio band allocations to register people taking refuge in emergency centres, also for essential Red Cross traffic. These volunteer activities no longer prevail but we still keep the system alive and maintain communication with a couple of Pacific Islands.

Please respond to Peter Carter: pcarter@westnet.com.au 0402648094

Ten Questions: Andrew Boschan

Graham Hurford

Each month we will ask a club member ten questions. Seven will be constant — every member will be asked the same seven questions. Three more questions will be asked and these three will differ from person to person, month to month. This is not meant to be a psychological profile but just a fun way to get to know someone. Questions can be answered in any way the member choses. This month we ask long time member Andrew Boschan MACE SIG Leader.

Q: You are stranded on a deserted island. It has no electrical power. What three things would you want to have with you?

A: Food, shelter and a nice warm cardigan

Q: If you could make one rule that we all must obey, what would it be?

A: Don't be selfish

Q: What is your favourite book?

A: Sorry but impossible to name just one

Q: Can you recite a poem?

A: No

Q: What morals should we program into intelligent machines?

A: Don't be selfish

Q: If you were guaranteed the answer to one question, what would it be?

A: "What's the guarantee?"

Q: If you can go to outer space would you or wouldn't you and why?

A: Yes, when I'm 70 plus so I don't have to worry about gravity.

Q: What were the greatest influences in your life?

A: The Complete Works of Arnold Schwarzenegger

Q: Should Australia become a republic?

A: Yes

Q: What superpower would you most like to have?

A: Selflessness

September monthly meeting

Wednesday 5th of September 2018 –7 pm Sharp.

The guest speaker for the September meeting is Tim Forcey, a local consultant in home energy efficiency. Tim will describe how you can save money and be comfortable by taking steps to transform your home to "all-electric". Say good-bye to gas by using technologies such as heat pumps and rooftop solar PV. And let's not forget the latest ideas in insulation, draught-proofing, window treatments and more!

Tim Forcey is a chemical engineer with 35 years of industrial energy experience with entities such as Esso, BHP, Jemena, and the Australian Energy Market Operator. Over the last 10 years and building on Tim's research at the University of Melbourne Energy Institute, Tim has become one of Australia's leading home-energy-improvement practitioners and commentators. Details at https://melcc.org.au/september2018-meeting-1345

The full meeting agenda will be described in your monthly notice email.

My efficient electric home

Cut your power bills!
Cut pollution!
Wednesday September 5, 7pm
The Melbourne Computer Club, Moorabbin

Progress in The Garage

David Stonier-Gibson

The Garage is a space downstairs at Moorabbin, with entry from the underground carpark. It has long been home to a basic workshop facility and to an impressive collection of parts scavenged from old printers, CD drives etc., that are available to members to make "stuff" from. Typical stuff is a 4 axis CNC router made by member John Shirt under the Microcontroller Workshop (SIG) banner

But in recent months some long held ambitions for the space have started to be realised. How about a fully equipped machine shop/workshop where members can do milling, lathe work, drilling and
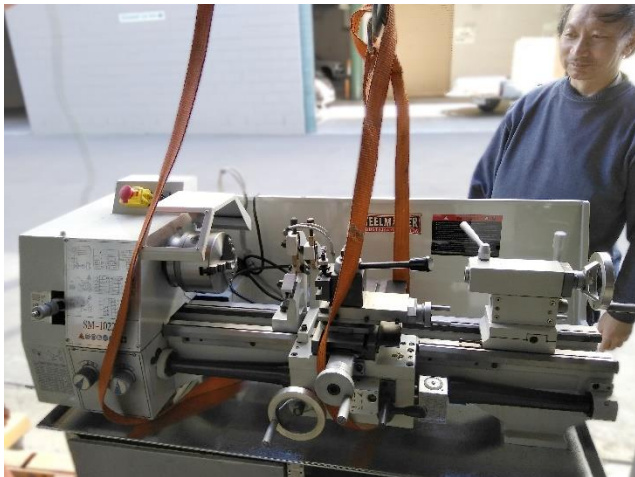
more? The breakthrough came when the SIG was donated some machines by Rae, widow of former member Robert Last. They included a precision (watch maker's) lathe, a turret lathe and a precision milling machine. John Shirt, who is our resident tool maker deemed these machines to be too specialised for our likely kind of use and traded them for something more suitable. So we now have a general purpose lathe with digital readout, a milling/drilling machine with digital readout, and a whole bunch of cutting tools and other goodies. John got more for the original machines than the new stuff cost, so there's a nice amount of cash left over to buy future consumables. All at no cost to Melb PC!

Over the last several weeks a number of volunteers have been working away in The Garage to clear up, clean up, arrange and install the new equipment. The

machines were moved in a few weeks ago, something that took some heavy lifting gear. The moving in was done by John Shirt, Sean Clarke and Phil Lew. Stands for the heavy machines were constructed by John and Brian Davis

This is still very much a work in progress. It takes time when people can only put in a few hours a week. But

the end result should be of immense value to existing members with an ambition to work some metal. It will also help attract new, younger members who want to make things like robots, Moon Rovers or Smarty Sorting machines.

Know Your Library

Clemens Pratt, librarian

Melb PC has a library of over 900 books and magazines at its premises in Moorabbin, and members are welcome to browse and/or borrow books or magazines whenever they visit the club rooms.

Books are located in groupings that reflect the broad subjects covered, and each individual book is coded for unique identification, e.g. the book "Windows 10 for Dummies" has the code OPS-101, where codes starting with OP are for operating systems & OPS-10 is for Windows 10. Any given book could be coded under more than one category, so two lists are available to help you explore.

A hard copy of the coding scheme is on display in the library, and a soft copy is located in the LIBRARY folder on the desktop of computer PC1 in the PC lounge opposite the library itself.

A complete searchable (Excel) listing of all the library books is also located in the LIBRARY folder on the desktop of PC1.

In addition, both these lists are available for viewing/download on the library page of the club's website:
https://www.melbpc.org.au/index.php/services/library/

Other sources

From time to time books become available as free eBook downloads. In particular I have been able to download a number of books from the Bookboon website, most recently "Adobe Photoshop for Intermediate Users" by Steve Bark, who also wrote "An Introduction to Adobe Photoshop" which I obtained as a free eBook download some time ago.

These eBooks were published in hard copy form some time ago (2012), so make your own judgment whether they would be useful to you.

Books that I have obtained in this way have been placed in the LIBRARY page of PC1, allowing members to browse or copy them.
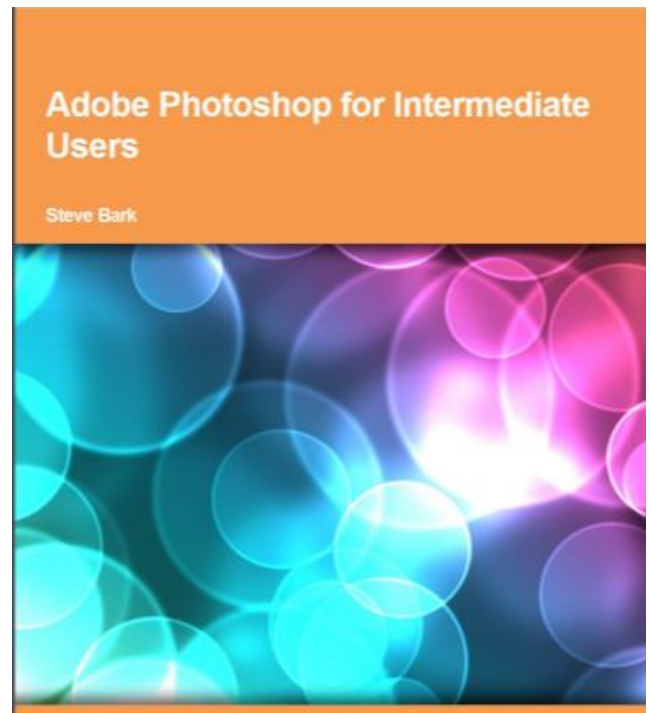
Contacts: Librarian: Clemens Pratt, phone 9802 5501, email cpratt@melbpc.org.au

Assistant librarian Choy Lai, email cplai@melbpc.org.au

Office Volunteers Needed, Monday and Wednesday

We desperately need volunteers to assist in the office to reduce the cost of temporary staff.

Doug Westcott is unable to continue the good work he has been doing on Mondays. Wednesday is the day when the office is staffed solely by volunteers, but Wednesday volunteer, Gordon Loughnan, has had to reduce the time he can spend in the office. So, we have huge hole Wednesday afternoons.

Duties are "light office work" such as updating member records in the computer system, photocopying, answering the phones. The benefits are many:

* Training provided * Pleasant company * Free tea and biscuits * Deep personal satisfaction

If you can spare a day, or even half a day per week, please contact the Secretary, John Swale, by email secretary@melbpc.org.au or by phone 0417 530 766.

Promoting SIGs on the new melcc website

David Stonier-Gibson

As you may be aware, a new website was set up earlier in the year under the Melbourne Computer Club (MelCC) brand. This website is intended as the *outward-looking,* marketing face of Melb PC, while the "old" site remains as an *inward-looking* member services website. The Melbourne Computer Club is a name intended to project a somewhat broader range of interests than just IBM PCs and clones.

The new website is at https://melcc.org.au/. The webmaster is Stephen Zuluaga with myself, in my capacity as Marketing coordinator, having access to create and edit content.
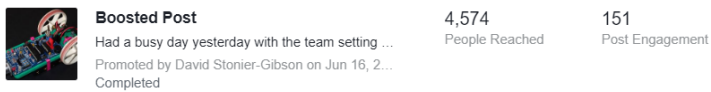
Setting up and "populating" a new website is a big task. In this case we are working to keep it dynamic, with notices of upcoming events, reports on past

Boosted Post	4,574	151	$30.00
Had a busy day yesterday with the team setting ...	People Reached	Post Engagement	Spent of $30.00
Promoted by David Stonier-Gibson on Jun 16, 2...			**View Results**
Completed			

I "boosted"the Facebook post for our recent Open Day. Cost: Less than 1 cent per person

events, interesting "blog" entries, and more. To project an image of an evolving, dynamic club the website must also be dynamic.

Facebook

A lot of people use Facebook, and so potential new members are relatively easy to reach through Facebook. That's why we have also set up a Facebook *page* for The Melbourne Computer Club. This differs from the Melb PC Facebook *group* in two ways:

1. A *page* on Facebook is visible to the whole world, even people who are not Facebook members. That's how come you see some organisations, typically local tradies, who use a Facebook *page* as their one and only online presence.
2. A post on a Facebook page can be "boosted" very easily. That means with a few clicks I can arrange to have it placed in front of thousands of people, in a selected geographic area, in a certain age group, and with selected interests. This is paid "sponsorship" (sounds nicer than advertising!), but the cost is very modest.

Retargeting advertising

We use the new melcc website to publicise details of upcoming events. Hopefully people who see the Facebook promotions will click through to there. But there is more! Once someone lands on the event page at melcc a cookie is set, and they are likely to receive ongoing adverts all around the web. This is called retargeting and is a very cost-effective way of reinforcing the message and reminding someone who

has shown interest in our event. The dollar cost of retargeting is modest, about 3-10 cents per "impression" to people who have already expressed interest by clicking through to our site.

Creating the campaign

There is quite a bit of work setting up a campaign because it requires a theme graphic that reflects the event. Altogether I must create 10 versions of the same design in a variety of *exact* pixel sizes and aspect ratios, from tall and thin to wide and low. For Facebook it cannot have much text (Facebook will reject it); for retargeting it must convey the whole message and hence include necessary text. Then of course there's the copy (text) for the website and the Facebook post.

An opportunity for SIGs

We would like to see SIGs also promoting themselves on melcc, using the whole suite of platforms we have

This screenshot was sent to me by Tim Forcey, this month's invited speaker. I had emailed him about the promotion I am doing, and he went to melcc to have a look. 10 minutes later this popped up on his screen!

been practising with for main monthly meetings and some special events like the recent Open Day. This is first and foremost a mechanism for growing membership by exposing our activities to potential new members. That implies that whatever is promoted should be something attractive to non-members, ideally a special event. To promote your SIG you just provide the content, words and graphics, and we will do the rest.

Contact me for details: davidsg@melbpc.org.au

The month on Yammer

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://yammer.com/melbpc.org.au/ and log in.

Chit Chat

We've been having an interesting and ongoing discussion on the feasibility of using electrically powered aircraft for short haul, low capacity flights. Small two-seat battery powered aircraft already exist and are used in Australia but that's a long way from a regional airliner. A hybrid solution seems more likely than battery alone but either way it's very early days – big money is being spent but there are plenty of obstacles to overcome.

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1130050332

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1143705625

Computing

Turning it off and on again really does work! Cures mystery gremlins such as the screen not turning off when left unattended no matter how many minutes set for the idle time and weird USB issues. We're possibly glad aircraft don't run Windows…..

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1134367435

Security, Scams and Phishing

Tim reported nearly falling victim to a scammer after listing his car on Gumtree. The prospective "buyer" gave various reasons for being unable to call by telephone, only being able to pay via PayPal and wanted the car shipped to the NT:

"Thanks for the response, I would have loved to call you directly but due to the nature i work with the The Australian Army Corps. we do not have access to phone at the moment, which is why I contacted you with internet messaging facility."

Fortunately for Tim his wife was suspicious, and he didn't proceed - she Googled the text of the message which confirmed her thoughts of it being a scam. The take home message for all of us would be don't let your enthusiasm overwhelm your skepticism and use Google to check!

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1137193548

Phones

Our "insider" at a certain telco gave us a glimpse of the future with 5G mobile data speeds and it was "fast"! 3Gbps down and 500Mbps up! Sneeze and your data allowance will be gone? You'll have to wait though, 5G is still being developed and consumer devices have yet to be released.

https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1137193548

DOTW, a weekly feature in the Chit chat group

DOTW is a light-hearted 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.

Recent winners of this prestigious award have been:

- Queensland Railways for the bungled rollout of Queensland's newest fleet of trains, which have been plagued by defects and disability access issues.
- 1st Energy for signing up a Melbourne nursing home resident with early-stage dementia to an energy account and issuing bills of more than $2,500 even though any electricity used by the resident was paid for by her nursing home.
- Any member who does NOT have their freely available photo of Queen Elizabeth prominently displayed.
- Queensland senator Fraser Anning for his maiden speech praising the White Australia Policy and calling for a plebiscite as "the final solution to the immigration problem"
- The Liberal Party for abandoning the task of governing the nation in favour of a week of quite unedifying brawling.

President's Report August 2018

John Hall, President

Succession Planning for Committee 2018-19

As you may be aware, the current Committee was formed by George Skarbek following the problems that we had with a previous President.

As a result, many of the current Committee (including myself) had already served on previous Committees with George and have therefore served for a very long accumulated time on Committee.

Understandably, some of those Members will not be standing for re-election in November including George himself and our Vice President – Frank Maher.

I have therefore invited Stephen Zuluaga to take over the role of Vice President from Frank and the "I.T. Portfolio" from George, and Stephen has kindly agreed to this. Stephen will of course be nominating for election via the normal process at the upcoming AGM but as Stephen has contributed so much to the Club already he will have my full support and recommendation for election to this position. I would encourage all Members to vote for Stephen.

As Stephen is still working full time I have advised the current Committee that future Committee Meetings will be moved from the 3rd Friday at 1:00 p.m. to the 3rd Monday at 6:00 p.m. and that the Meetings will be held in Moorabbin.

This will open the way for more people who are currently still in full time work to join our Committee and if you feel that you would like to assist you will have to submit your nomination by the end of September/beginning October to allow for one month's notice prior to the Election at the Annual General Meeting in the first week in November.

Nominations must be accompanied with a 200 Word statement about why you should be considered for election and you can contact our Secretary – John Swale for submission forms etc.

Position available for SIG Convenor – Video Production SIG

Unfortunately, Richard Balsillie who runs the Video Production SIG on the 2nd Monday of each month at the Ashburton Library has informed me that he cannot continue to run this SIG past November this year.

As you will have read in the August PC Update Magazine – this SIG was first convened in 1997 and I was the Convenor for 12 years from 2000-2012.

As you will understand, this Group is very important to our Club as Videos are the best way of conveying a picture of what our club is all about – (see our promotional Video produced by the Video SIG Members on The Melbourne Computer Club site).

If you feel that you would like to keep this SIG Group going – please contact me at president@melbpc.org.au

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Our Statement of Purpose

The purposes of the Association are to conduct, on a non-profit basis, activities to help members learn and use systems and devices using various technologies, especially computing, software, and communications technology (including the Internet, personal computers & devices), to achieve the following outcomes:

- Advancing computer literacy;
- Advancing education and the exchange of ideas;
- Keeping members up to date on developments in computer and information technology and helping members to exchange information;
- Representing members in public debate in areas of interest including law reform proposals;
- Engaging with similar organisations; and
- Carrying out activities that benefit the Association

SIG Reports

SIGs are our Special Interest Groups. Some SIGs are based on shared interest, such as video editing, or genealogy; others are locality based, such a Mornington Peninsula or Casey. Some SIGs chose to submit reports of their meetings to this newsletter, while others run their own websites for member information.

• East SIG Report – July 2018

Neil Muller

The August meeting opened with M.C. Paul Woolard welcoming members, followed by Q&A conducted by George Skarbek. This month our knowledgable audience only had 2 questions for George.

Q: When saving Excel files 4 or 5 levels down the folder tree, Windows will often object, displaying the error message shown in the graphic below. I suspect I have exceeded the 218 character limit because without changing the file name, the same file can be saved
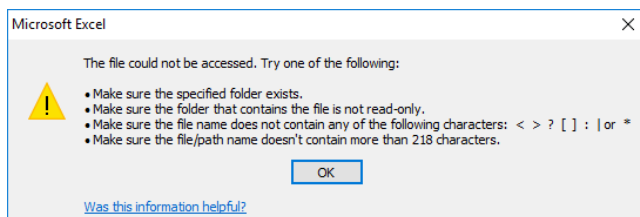
higher up the tree. I then have to drag the file down to the correct folder where it can be opened, saved and operated on as normal. Can you suggest anything that would avoid the need to save the file elsewhere then drag it to the desired folder?

.A: This can be done using the DOS Substitute command "`subst`". What this command does is to assign a drive letter to the particular folder. You substitute a folder, 4 or 5 levels down, for a drive letter. For example, you could call the virtual drive L for long. To do this select Win (Windows Key) + R, type `cmd` to open a DOS box and then type `subst /?` to view parameters. (Alternatively, open the Windows
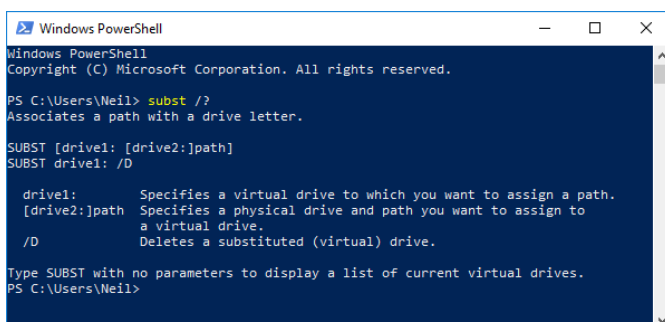
PowerShell and type `subst /?`.) The parameters needed to run the Substitute command are shown in the graphic below. When you next save your Excel file you save it to drive L. You will need to run the Substitute command every time you boot your computer if you wish to use drive L.

Q: I use an iPad and I'm being inundated with advertisements. I don't know where they're coming from but suspect it may be Google.

A: It's unlikely to be Google but I'm not that familiar with iPads to answer you. A response from an audience member: You can now run Microsoft Edge on an iPad with Adblocker installed. You need a second browser in any case as you shouldn't rely solely on Safari the browser Apple supplies.

The next presentation was by **Bryan Paton** on "Hearing Dogs". Hearing Dogs assist people with a hearing

impairment and have the same rights in Australia as Seeing Eye Dogs for the blind. The first Hearing Dogs appeared in the USA in the 1960's. In Australia they first appeared in 1982 when the Lions Club in South Australia picked up the program. It takes 6 to 8 months to train a dog to recognise up to 9 different sounds. To date over 600 Hearing Dogs have been placed, with approximately one dog now housed every 14 days. Dogs are chosen from pounds with a good temperament being the only requirement. Hearing Dogs are easily recognised as they wear an orange vest when in public, displaying the

words "Lions Hearing Dogs". Further information can be found at https://hearingdogs.asn.au

Following his introduction Bryan played a short video on Hearing Dogs. A similar video from America can be found on YouTube at
https://www.youtube.com/watch?v=j8zGeVMph-s

After the break **Stuart Bedford** spoke on "How I use my Smart Phone and what happened when it was broken". To call it a phone is really inapt, as to Stuart (and probably for most of us) it's much more. Stuart then proceeded to outline and briefly describe all the things he uses his "Smart Phone" for.

Firstly it's a phone, then a call recorder, a watch, a timer, a calendar, a radio (TuneIn), an email client, a web browser, a scanner (Scanbot), an appointment diary, a bank, a street directory (Google Maps), a location

viewer (Google Street view), a traffic reporter (VicTraffic for potential roadworks), a compass, a TV (CatchUp TV), a newspaper, a YouTube viewer, a calculator, a barcode QR scanner, a free voice or video phone (WhatsApp), a camera, a video recorder, a social media client, a pedometer and last but not least, a public transport timetable.

So how did Stuart manage when his essential lifeline to the world broke? Stuart was in a dilemma. No phone to call or Google the nearest repair shop. No phone to ask about prices, whether the phone was repairable and how long it might take to repair. So it's off in the car, head for the nearest shopping centre and visit the various phone shops. After some time searching Stuart found a repair booth in the shopping centre that was able to repair the broken charging socket and the phone was back up and running within an hour. What relief!

• Northern Suburbs Linux SIG - August Report

by Paul Addis.

The Melbourne winter kept some members away from the meeting. Maybe a few had migrated North for the worst of the winter, and others may have been unwell or reluctant to leave a warm home. We look forward to their return as the weather warms up.

Linux News was back on the program after last month's intermission. The main item was a video from the movie world of a SIGGRAPH session about the co-operation between the Motion Picture Academy and the Linux Foundation aimed at increasing the quantity and quality of open source software for use in making movies.

Among the contributors were some of the most famous movie companies, such as DreamWorks and Disney. Included in the discussion were software items like Open Neural Networks and Alambie – aimed at computer graphics integration.

The second item concerned Chromebooks and Chromeboxes (CBs). A new-ish program - Crostini - checks and lists the CBs hardware and indicates if they are Chrome compatible. The list includes existing hardware items and those expected to be released in the near future. Certainly worth checking out because of the popularity of Chrome devices, particularly for education.

Recent CBs can run Chrome applications, Android apps, and Linux applications via Crostini inside a container. The container approach prevents damage to the overall system by a rogue application, and Crostini does allow access to files outside the container.

The Open Forum did not attract any questions; maybe all those present at the meeting are/were self-sufficient. There were a couple of discussion points, including …

- Skype no longer supports Linux – perhaps not too surprising since Microsoft now owns Skype.
- Dropbox has an intermittent problem that users cannot always see files across machines. It was noted that Google Docs does not suffer from the same problem.

The main session of the evening was again presented by David Hatton – the topic was the Gnome Layout Manager.

The demonstration Gnome desktop showing both Gnome and KDE applications

Gnome has matured considerably over the past few years, and has attracted a large number of extensions. A GitHub contributor has developed a script which he has called Gnome Layout Manager – a script that automates many routines that users can run to make their desktops look like the just superseded Unity, Windows 10 or MacOS.

The developer warns that the program is only in Alpha status, but it seems stable, and users of Linux distributions such as Ubuntu and Fedora that have a Gnome desktop installed by default could find it useful. Its major usefulness is probably to help people coming to Linux Gnome from other environments to feel more comfortable with a fairly familiar graphical user interface.

The demonstration was set up on a Kubuntu 18.04 installation – the latest Long-Term Support version - with the Gnome desktop also installed. A minor downside of the demonstration arrangement is that the user sees both Gnome and KDE applications shown in the menus - most users would stay with the default Gnome desktop. and hence avoid this effect.
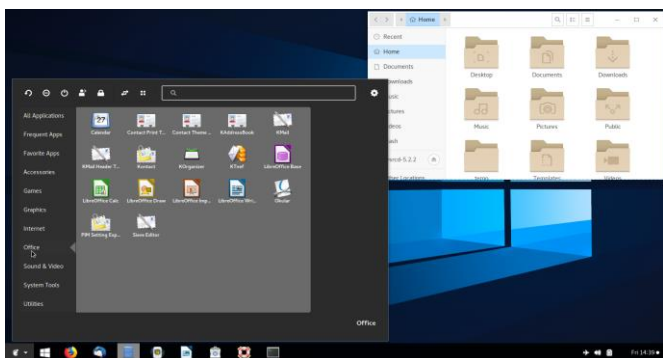
Windows 10 style desktop

The Gnome Layout Manager needs some additional programs, such as Xenity and Wget, and the script (layoutmanager.sh) checks to ensure that they are installed before proceeding. This requires an internet connection.

The script allows the user to choose which graphical interface should be used, and David first chose Unity, with the result that the applications menu was re-
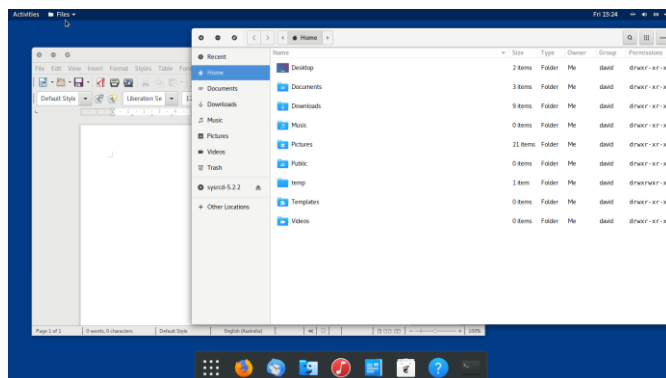
MacOS style desktop

arranged compared to the standard Gnome version. Later he showed the Windows 10 version and then the MacOS version - see screenshots below.

The layouts etc. were not identical to the target versions, due in part to limitations imposed by Gnome. A full MacOS-style dock can be emulated by adding the Docky program to the interface.

Although the script is labelled as "alpha" status by the developer, it does seem stable and allows users coming Windows or MacOS to feel reasonably comfortable with using Linux and Gnome by lessening the transition shock.

APCUG photo contest

The Association of Personal Computer User Groups (APCUG) is a worldwide organization that helps groups devoted to the world of technology including computers, tablets, smartphones, digital photography, genealogy, etc. by facilitating communications between member groups and industry vendors.

APCUG is pleased to announce its 2018 Photo Contest. It will again showcase the talents of its member group photographers!

Somewhere inside of all of us is a creative genius just waiting for the chance to grab the spotlight and APCUG wants to give your members that opportunity. Professional judges will select the 1st, 2nd and 3rd place

winners in each category. So, grab those cameras and smart phones and start shooting!

The contest is open to Melb PC members because Melb PC is a member of APCUG.So let's show 'em what we Aussies can do!

2018 Digital Photo Guidelines

Special Interest Groups – All details

Data Source: Updated: 26-Aug-2018 - 21:42

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

Recent changes are at:https://www.melbpc.org.au/index.php/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

Date Jan	**Third Thu of month**	
Feb-Nov	**Third Thu of month**	
Dec	**Third Thu of month**	
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 - 12:30pm	
Email	beast@melbpc.org.au	
Location	Vermont South Community Centre, 1 Karobran Drive, **Vermont South** Melway:62.G7	
Convenor(s)	Dave Botherway	

Casey - Main Meeting

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)	Jan Whitaker - 9705 9009 jwhit@janwhitaker.com Jan Weiner - 9796 2807 weijan@westnet.com.au	

Casey - Workshop

Date Jan	**No Meeting**	
Feb-Nov	**Fourth Fri of month – 28-Sep-2018 meeting might be cancelled (check with Convener)**	
Dec	**No Meeting**	
Time	1pm - 3:30pm	
Location	Beaconsfield Neighbourhood Centre, 8 O'Neil Road, **Beaconsfield** Melway:214.A1	
Convenor(s)	Jan Weiner - 9796 2807 weijan@westnet.com.au Jan Whitaker - 9705 9009 jwhit@janwhitaker.com	

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	**Third Fri of month**	
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 & 3D Printing

Date Jan	No Meeting	
	Feb-Nov	Second Sun of month. NO meeting in May - Mother's Day.
	Dec	Second Sun of month
Time	10am - 2pm	
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	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	

Everything Apple

Date Jan	No Meeting	
	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	1pm - 3:30pm	
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	No Meeting
	Feb-Nov	**In Recess**
	Dec	**In Recess**
Time		
Email		linuxworkshop@melbpc.org.au
Location		Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)		David Hatton

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

Date	Jan	**Second & Fourth Sat of Jan.**
	Feb-Nov	**Second & Fourth Sat of month.**
	Dec	**Second Sat (only) of Dec.**
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

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 - 9438 1047 kcording@bigpond.net.au

Music

Date Jan	**No Meeting**	
	Feb-Nov	**Third Thu of month**
	Dec	**No Meeting**
Time	7:30pm - 9:30pm	
Email	music@melbpc.org.au	
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8	
Convenor(s)	Bill Sakell - 0430 566 422	
	John Shirt - 0409 568 267	

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	Quest Apartments, 72-84 Upper Heidelberg Road, **Ivanhoe** Melway:31.E8	
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	**Suspended, meet only on request.**	
	Feb-Nov	**Suspended, meet only on request.**
	Dec	**Suspended, meet only on request.**
Time	By arrangement	
Email	programming@melbpc.org.au	
Location	Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8	
Convenor(s)	John Viney	

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	No meeting Jan-2018 - Australia Day
	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

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'Shannassy 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'Shannassy 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'Shannassy 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'Shannassy Street, **Sunbury** Melway:382.E4
Convenor(s)		Kevin Hale - 9740 5786

Tech Projects

Date	Jan	
	Feb-Nov	Sat 1-Sep-2018, Sat 6-Oct-2018 (to be confirmed)
	Dec	
Time		10am - 2pm
Location		Melb PC HQ, Level 1, 479 Warrigal Rd, **Moorabbin** Melway:78.D8
Convenor(s)		Stephen Zuluaga

Video Inner East

Date	Jan	No Meeting
	Feb-Nov	Second Mon in month, except NO meetings in Mar & Jun; and meeting moved to third Mon in July, namely 15-Jul-2018.
	Dec	Second Mon of month
Time		7:30pm - 9:30pm
Email		rbalse@tpg.com.au
Location		Copland Room, Ashburton Library, 154 High St, **Ashburton** Melway:60.C9
Convenor(s)		Richard Balsillie - 9809 4116

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
		tonypickup@optusnet.com.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

Date	**Jan**	**No Meeting**
	Feb-Nov	**First Wed of month**
	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 - 9807 4072

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

A Value Proposition

There was an engineer who had an exceptional gift for fixing all things mechanical. After serving his company loyally for over 30 years, he happily retired. Several years later the company contacted him regarding a seemingly impossible problem they were having with one of their multi-million dollar machines. They had tried everything and everyone else to get the machine to work but to no avail.

In desperation, they called on the retired engineer who had solved so many of their problems in the past. The engineer reluctantly took the challenge. He spent a day studying the huge machine. Finally, at the end of the day, he marked a small "x" in chalk on a particular component of the machine and said, "This is where your problem is." The part was replaced and the machine worked perfectly again. The company received a bill for $50,000 from the engineer for his service. They demanded an itemized accounting of his charges.

The engineer responded briefly: One chalk mark $1; Knowing where to put it $49,999.

September Calendar

MELB PC USER GROUP
V2–updated–28-Aug-2018 **SIG & Other Meetings — Sep-2018**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
LegendSIG meeting at Melb PC HQ, Moorabbin. **Non-Moorabbin meeting.** **Cancelled Meeting** **Changed Meeting** To be confirmed	**Changes** Please advise changes to: calendar-admin@melbpc.org.au	Other SIG (Special Interest Group) information:https://www.melbpc.org.au/index.php/sigs/about/ Recent Changes: https://www.melbpc.org.au/index.php/sigs/about/recent-changes/	**Have A Question?** **Post it on Yammer** Yammer: http://yammer.com/melbpc.org.au/			**1** **Microcontroller Workshop SIG** *Moorabbin* *10am - 2pm*
2...	**3**	**4**	**5** **North East Genealogy SIG** *Quest Apartments, Ivanhoe 10am - 12noon*	**6** **Sunbury Daytime SIG** *New Users 9:30am - 12noon*	**7** **Essendon SIG** *Main meeting Avondale Heights 9:30am - 12noon* **Multimedia Home Entertainment SIG** *Mount Waverley 10am - 12noon*	**8** **Microcontroller Workshop SIG** *Moorabbin 12noon - 5pm* **Raspberry Pi – Moorabbin SIG** *2pm - 4pm*
9 **East Workshop & 3D Printing SIG** *Mount Waverley 10am - 2pm*	**10** **Access (database) and Excel SIG** *Moorabbin 6:30pm – 8:30pm* **Video Inner East SIG** *Ashburton 7:30pm - 9:30pm*	**11** **Investment Tools - WASINT SIG** *Moorabbin 10:30am - 12:30pm*	**12** **Video Production – Sony SIG** *Moorabbin 10am - 12noon* **North East Daytime & Photography SIG** *Heidelberg 10am - 12noon* **Communications SIG** *Moorabbin 7pm – 9:30pm* **Microcontroller SIG** *Moorabbin 7pm – 9:30pm*	**13** **Sunbury Daytime SIG** *Advanced 9:30am - 12noon* **East SIG** *Blackburn South 7:30pm - 9:30pm*	**14** **Essendon SIG** *Open Forum Avondale Heights 9:30am - 12noon* **Hardware SIG** *Mount Waverley 10am - 12noon* **Casey SIG** *Main Meeting Beaconsfield 1pm - 3:30pm*	**15** **Windows Plus SIG** *Moorabbin 10am - 12noon*
16 **Beginners East (BEAST) SIG** *10am - 12:30pm* **MACE (Atari Computers) SIG** *Moorabbin 10am - 2pm* **Genealogy East SIG** *Vermont South 1pm - 3:30pm*	**17** **Mornington Peninsula SIG** *General inc Q&A Mornington 9:30am - 12noon* **Family History Mornington 1:30pm - 4:30pm** **Northern Suburbs Linux SIG** *Watsonia 7:30pm – 9:30pm*	**18** **Everything Apple SIG** *Moorabbin 2pm - 4pm*	**19** **North East Android SIG** *Heidelberg 10am – 12noon*	**20** **Sunbury Daytime SIG** *Main Meeting 9:30am - 12noon* **Bayside SIG** *Brighton 10am - 12noon* **Music SIG** *Moorabbin 7:30pm – 9:30pm*	**21** **Essendon SIG** *Various topics. Avondale Heights 9:30am – 12noon* **Digital Images SIG** *Including Photoshop Mount Waverley 10am - 12noon* **Melb PC Committee** *1pm, Mt Waverley* **PC Update – Articles Deadline**	**22** **Microcontroller Workshop SIG** *Moorabbin 12noon - 5pm*
23 **Website Design SIG** *Tutorials Moorabbin 2pm - 4pm* *Troubleshooting Moorabbin 4pm - 6pm*	**24** **External Booking – Borrett Room** *Moorabbin Owners Corporation – SGM 6pm – 8pm*	**25**	**26** **Video Production – Pinnacle SIG** *Moorabbin 10:00am – 12:30pm* **Mornington Peninsula SIG** *Family History – Advanced DNA (LAST Wed of month) Mornington 2pm - 4pm.* **PC Update– Reports deadline**	**27** **Sunbury Daytime SIG** *Maintenance & Linux (Fourth & fifth Thu of month) 9:30am - 12noon*	**28** *PUBLIC HOLIDAY* **Raspberry Pi - Mt Waverley SIG** *10am - 12noon* **Casey SIG Workshop Beaconsfield 1pm - 3:30pm**	**29**
30						