

Issue 217

SPRING 2022

ISLE OF WIGHT PC USER GROUP



HOT KEY

April 2022



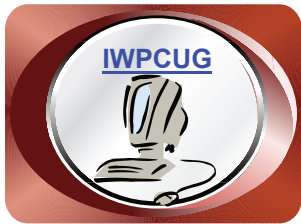
Dan B

At our January meeting Daniel Buttery gave us a talk on the subject of old computers.

In this issue

Pages

Future Meetings	2
Committee Members	3
Chairmans Report	4
Kaspersky Anti Virus.....	4
VueScan Software	5
Hard Disk Woes.....	6-9
Useful Resources	9
Starlink Internet.....	10-11
Navigating Media on your Hard Disk.....	11
SATA to USB cable link for 2.5" drives	12
Battery Pack Recycling Adventure.....	12-14
Fun With Google	14-15



The Isle of Wight Personal Computer User Group

We welcome anyone who has an interest in computers and related technology and what you can do with them.

We are a group which seeks to exchange ideas and new information.

Membership is £12 per annum

Our meetings are normally held on the first Wednesday of each month from 7.00 to 9.00 pm. Until further notice these will be held online via Zoom.

Visitors are always welcome.

If you would like to know more about us, you are most welcome to come along to one of our meetings, or you can contact one of our Committee Members listed on page 3.

The Club web site address is www.iwpcug.org

We also have an e-group discussion area on

Groups.io: <https://groups.io/g/iwpcug>



FUTURE MEETINGS

<u>Date</u>	<u>Subject</u>	<u>Speaker</u>
6 April	Windows Photo App	Mike Hoar
4 May	Programming the Game of Life	Richard Burkill
1 June	TBA	
6 July	TBA	

ISLE OF WIGHT PC USER GROUP COMMITTEE

Chairman : David Groom

Secretary : Susanne Bone

Treasurer : Mike Hoar

Membership and Database Secretary : Roger Skidmore

Committee Member : Steve Sutters

Treasury Supervisor : Phil Rogers

Note

Contact details removed prior to publishing on the internet.

Suggestions for new events, topics or speakers for talks are always welcome.

Please contact Steve Sutters, or any committee member, with your ideas. If necessary we may be able to find a speaker for your subject.

Chairman's Report

Although there are no confirmed details for the June & July meetings we do have two different speakers who have indicated they probably are available, hopefully we shall firm up the details soon, and I will update the web site.

I have heard back from the Riverside Centre, at the moment they can not accommodate our meetings as the centre is not staffed in the evenings. We will need to make a decision on whether to seek an alternative venue, or continue with our Zoom meetings.

I realise that we should have asked members to approve the minutes of the AGM at either of the March or April meetings, we will now do this at the start of our May meeting.

David Groom

Kaspersky Anti Virus

There would appear to be no current need to be worried if you are using antivirus software from the Russian firm Kaspersky. The following note was published by the UK's National Cyber Security Centre on 29 March.

“We've had enquiries from people worried about their home IT. It almost certainly remains the case that nearly all individuals in the UK (and many enterprises) are not going to be targeted by Russian cyber attack, regardless of whether they use Russian products and services.

If your personal laptop uses Kaspersky AV (or other products):

- it's highly unlikely to be directly targeted
- it's safe to turn on and use at the moment

However, you may need to move to a new AV product if Kaspersky itself becomes subject to sanctions, since the AV product would likely stop getting updates (and AV software is only effective if it's updated regularly).”

From www.ncsc.gov.uk/blog-post/use-of-russian-technology-products-services-following-invasion-ukraine published under the [Open Government Licence](#)

VueScan Software

Some years ago I wanted to get an older scanner working on my new computer, and found that the manufacturer had not updated drivers for the latest version of Windows. After a little searching I came across VueScan available at www.hamrick.com. VueScan supports over 6,500 scanners from 42 manufacturers, and the program will run on Windows, Mac and Linux computers. Jon Honeyball writing in PC Pro Magazine in 2021 said “It's the benchmark for driving scanners and, to be blunt, nothing comes close”, and he's been using it for nearly 20 years!

If you can't find a driver for your scanner, or you feel that maybe the scanner software doesn't have all the features you might like, then its worth trying out VueScan. There is a search box on the home page to allow you to determine if your scanner is supported, and the detailed search results show which features of the scanner will be available in the software.

The program will scan printed documents, and can produce single or multi-page PDFs, and the professional version has inbuilt Optical Character Recognition, though I've not tried using this.

Photos can be scanned to JPEG or TIFF formats, and if you put multiple photos on the flatbed of the scanner you can scan each to these to a different output file. The professional version includes support for film and slide scanning

You can test the trial version of VueScan for as long as you'd like with flatbed scanning, Film/Slide scanning and ADF (Automatic Document Feeder) scanning. Scans from the trial version will have a watermark that can't be removed later. If your scanner isn't working in the trial mode, it will have the same problem in the paid mode.

You can use VueScan on up to four different computers that you personally own, with any combination of operating systems, and any number of scanners, both x32 and x64, with a single license.

Currently the Standard Edition costs £29.95 and the Professional Edition costs £79.95, these are one off payments entitling you to continual free updates, which are regular as support for new scanners are added.

David Groom

Hard Disk Woes

In mid January it became apparent that the hard disk on my main Windows 10 computer was beginning to fail. Dear reader I have a confession to make - in the Summer 2000 edition of Hotkey I wrote about my lessons learnt in not backing up my hard drive and said how I had now put in place a regime to backup the data, and I ended the article with the sentence "one other thing I need to do is clone my whole hard drive". I'm afraid to say I had never done this, so although I had a backup of my data I had no backup of the programs I use on a daily basis. Fearing that my hard drive was about to fail I now decided this was an appropriate time to clone it.

I use Acronis True Image to do my daily backups of data and this also has an option to clone the hard drive. I proceeded to install a second hard drive in the machine and then asked Acronis to clone to it. After a while Acronis came up with with a message saying that it could not clone the hard drive because there were errors on the drive. I ran CHKDSK -f to repair the drive and then tried Acronis again - with the same result. I tried CHKDSK - r which was a much longer process and should mark failing sectors of the hard drive as unreadable and not to be used - after many hours it finished. I rebooted the machine and it would not boot! Luckily after a while I managed to repair the system and log in.

Roger had recommended Macrium Reflect for hard drive cloning so I next tried this. I downloaded and installed it, and tried to run it. Sadly it too complained about my hard disk having errors and was not able to proceed.

I then remembered that Dad used to many years ago clone hard drives using Gparted. I downloaded the latest version of Gparted burnt it to a CD, rebooted the machine and then tried to copy the partitions from the old hard drive to the new one, but it failed with the message there were errors on the hard drive.

I remembered then a few years ago I successfully cloned a Linux installation using the free program Clonezilla. I downloaded Clonezilla to a CD ran it and a number of hours later it failed to clone the drive. Whilst researching why that might be I then came across references to RedoRescue which claimed to be an improved version of Clonezilla. I downloaded RedoRescue, burnt it to a CD and ran the program only for it a few hours later to fail saying errors on the hard drive. However I did note that in RedoRescue rather than cloning a hard drive (which essentially means that every file from the first hard drive is copied across to the second hard drive so that it becomes an exact copy) there was also the option to to make an image file from the files on the first drive. In this scenario a single compressed image of all the files is created and you

can then restore this image back to another hard drive. I had nothing to lose so I decided to try this I set about RedoRescue creating an image and three-and-a-half hours later it completed with no errors, this appeared to be an improvement! I then used RedoRescue to write back the contents of that image file to a clean hard drive this process took one-and-a-half hours and completed with no errors. I then disconnected the original hard drive rebooted the machine using the new hard drive and was pleased to see the windows logo appear. I was less pleased to see a message informing me there were errors and Windows was attempting an automatic repair, with a further message later saying the automatic repair was unsuccessful. The machine did have the option to reboot to the troubleshooting menu, I tried a number of options in the troubleshooting menu but got nowhere.

I realised that Clonezilla also had the option to backup a drive to an image and then restore that image so I decided to try that, after a few hours Clonezilla threw up an error message saying there were errors on the hard drive and it could not proceed, but this time it did actually say I needed to start Clonezilla with the `-recovery` option. I had no idea how to do this, so I looked on Google. The first few articles that popped up in the Google search did not relate to Clonezilla and the recovery option but instead related to a programme called ddrescue.

Reading one of these articles (datarecovery.com/rd/how-to-clone-hard-disks-with-ddrescue) I read that "ddrescue is frequently recommended for hard drive cloning and because it doesn't truncate files or write zeros to it's output file it can be run successfully to fill in bad sectors that were missed in earlier passes". This gave me hope that it might be the program I needed to clone from my hard drive that was failing. The website indicated that it might be best to download system rescue CD which included ddrescue on it. This was a larger installation which needed to be burnt to a DVD rather than CD.

Ddrescue is run from the command prompt, I had to be careful when typing the relevant command to run it to make sure I was cloning from the failing disk to the good disk. Having triple checked what I was doing I started ddrescue which informed me the process was going to take 4 hours to complete. I left the program running and then in the early afternoon came back to find it said it had finished - importantly there were no error messages. I turned off the machine and unplugged the old hard drive and with some

trepidation switched the machine back on to boot from the new installation. The Windows logo appeared, a black screen appeared with a circular ring of little white dots showing something, but who knows what was happening. Those little white dots disappeared and the mouse cursor was replaced by a tiny blue spinning circle, after a number of minutes the Windows logon screen appeared, I looked on my desktop appeared and saw all the programs which I was expecting to see.

The computer did appear slow to boot up and of course I was aware that I had copied a system which was failing so I thought that it would be a good idea to try and check that the Windows installation in particular was not damaged. Whilst googling the windows command ‘SFC /scannow’ I came across reference to the Windows Deployment Imaging Service and Management tool (DIIS). After some research it appeared that running DISM might be a good idea. DISM detects and fixes corrupt files in the component store of the Windows system image so that SFC can work properly. DISM has three relevant options to repair a Windows image ‘check health’, ‘scan health’, and ‘restore health’, and it was suggested I run them in that order. So I started with the ‘CheckHealth’ option and very quickly got the message "no component store corruption detected". One website ([windows Central.com/how-to-use-dism-commsnd-line-utility-repair-windows-10image](http://windowscentral.com/how-to-use-dism-commsnd-line-utility-repair-windows-10image)) said that ‘scanhealth’ performs a more advanced scan to determine if the OS image has any problems and so I decided to try that. This was a longer process. At 65% it informed me “The WOF driver encountered a corruption in the compressed file's Resource Table.”. A look online suggested I needed to run the command the DISM command ‘StartComponentCleanup’ (which took over an hour), then reboot the computer and run “dism.exe /online /Cleanup-Image /RestoreHealth”. Sadly 41% through running this I got the message “The WOF driver encountered a corruption in the compressed file's Resource Table.”!

Further googling led me to believe that I could reinstall Windows and keep all my programs settings and files, this seemed such a drastic option that I thought it would be best to backup my now working hard disc. I ran Acronis True Image to clone the hard disk and left it running as it was a process that was going to take many hours. After it completed I tried booting from the backup disk but it would not boot. I then decided to repeat the process but this time using ddrescue to make the backup. This was successful - so I now had

two good hard disks with working Windows installations (all be it with slightly corrupted system files) I then proceeded to do an inplace upgrade of Windows 10 after 4 hours the upgrade was only 66% complete so I left it running overnight. In the morning it looked like the upgrade had completed without errors I then ran both DISM and 'SFC /scannow' and no problems were reported. It looked like I now had a fully functioning Windows installation which was a relief.

Lessons learnt

- 1) when you recognise that you need to take a clone of a hard disk do not wait for four years to do it.
- 2) Never give up. If a program you've tried to use won't achieve the task you are looking for then you may well find another program that will.
- 3) It is possible to reinstall Windows 10 over the top of an existing instalation and still keep all your programs, settings and files.

David Groom

Useful Resources

A number of useful (free) resources have turned up via Computer Active and other sources:

Hirens Boot CD is an old favourite, now improved and only available for USB stick: www.hirensbootcd.org/download/

Similar bag of tools but mostly Linux oriented is Parted Magic: <https://partedmagic.com>

And an amazing free universal PDF creator and toolkit: <https://en.pdf24.org/>

If you want to see what is hogging your disk space try WizTree from: <https://diskanalyzer.com/>

And "Rufus" is still the go-to ISO to bootable USB tool: <https://rufus.ie/en/>

Roger Skidmore

Starlink Internet

Starlink, one of Elon Musk's ventures, is aiming to provide high-speed, low-latency broadband internet across the globe. Customers can expect to see download speeds between 100 Mb/s and 200 Mb/s and latency as low as 20 ms in most locations.

Anyone who remembers intercontinental telephone calls from a few decades ago (prior to fibre optic cable links) will know that communication via satellite can be notoriously laggy due to the vast distances involved. So to move more data with minimal delays, Starlink satellites occupy much lower orbits than traditional satellites. Because the satellites are in a low orbit, the round-trip data time between the user and the satellite – also known as latency – is much lower than with satellites in geostationary orbit. Service is provided by a constellation of multiple (currently over 2,000) satellites that orbit close to Earth, at about 550km, and cover the entire globe, as can be seen from the first image on the back cover. The two groups shown in a straight line are satellites launched at the same time which have not yet been moved to their deployment position.

Apparently over 100,000 hardware kits have already been delivered to users of the service. Currently it would appear that the service is operational in the USA, UK & continental Europe, Australia, New Zealand & Chile. Availability in other countries is pending (the Philippines is likely to be the first Asian country to get the service), probably due to the need to seek regulatory approval in each country, and also the need to have a ground station (for connection of the Starlink service to the wide internet) operational in the vicinity.

In 2019, shortly after the deployment of Starlink's first satellites, the International Astronomical Union warned of unforeseen consequences for stargazing due to the proliferation of satellites in orbit. The company redesigned its satellites in order to minimise reflection of sunlight. Another improvement in the latest batch of satellites is that they use laser communication between satellites (while still using radio communication between the satellite and the ground). The interlinking between satellites enables sharing of capacity more efficiently by making use of otherwise wasted satellite capacity over regions without ground stations, and they also enable the provision of service to areas where it is impossible to put a ground station.

Oddly it's not easy to find costs of using the service from the Starlink website, but the initial purchase of the hardware appears to be about £550. You then have to set up the satellite dish yourself. Monthly costs of using the service are reported to be £84. Earlier this year the company announced it was

offering a premium service with download speeds up to 500Mbs, but the cost in the USA would be \$2,500 for the hardware and \$500 monthly.

Each satellite weighs approximately 260kg and when folded into the payload bay of the launch rocket each satellite is around 3.2m x 1.6m, and 20 cm thick. At the end of their serviceable life the satellite is de-orbited so that it re-enters the earths atmosphere and burns up. There are concerns that due to the large numbers of satellites in the Starlink constellation, that the mass of material that will be vaporised in the atmosphere will have unforeseen consequences on the nature of the upper atmosphere.

David Groom

Navigating Media on your Hard Disk

A long time ago I acquired about 14Gb of "ripped" CD's. I stored them on my HDD partition labelled "E" (for Extras). I never could navigate them easily with Windows Media Player because a ripped CD is put into a little sub-folder of its own together with cover label and other odds and ends.

Meanwhile under My Music I had an assortment of MP3's; WMA's and so on listed under various folder headings. Again, not easy to organise or catalogue.

Lately I thought to find a better media player to search and organise my sound files. I started with "Foobah" which seemed pretty good but insisted on lumping my two collections together. Same sort of problem with "MusicBee". Both worked but didn't quite appeal my simple brain. In desperation I tried "MediaMonkey" (www.mediamonkey.com). A much bigger download but it did everything I wanted.

Then I had another search and found this review blog:
<https://rigorousthemes.com/blog/best-windows-media-player-alternatives/>
where my cherished MediaMonkey came only in 7th position.

The moral is, don't stick with what Windows gives you. Look around and find something better. I'm sticking with MediaMonkey but could you find something better?

Roger Skidmore

SATA to USB Cable Link for 2.5” Drives



This cable can be used to connect a 2.5” SATA drive to your computer to look just like a USB drive. It’s been done before, but not this neatly. Available from various sources and recommended by PCPro magazine last year. I bought mine from Amazon for less than a tenner. This device turns a bare hard drive into a "caddy" without having a physical caddy.

With this you can treat a 2.5” SSD or HDD the same as a USB stick, but of course having a much larger capacity. You can easily inspect old backup drives without inserting them into your computer case, and of course back up directly to a spare hard drive. It is not recommended for larger more power hungry 3.5” mechanical drives.

I use Syncback free for my backing up (from www.2brightsparks.com).

Roger Skidmore

Battery Pack Recycling Adventure

Over the past few weeks I have been taking 18650 cells (Note from the Editor: ‘An 18650 battery is a lithium-ion battery. The name derives from the battery’s specific measurements: 18mm x 65mm which is larger than an AA battery’) out of laptops and found most of the cells have usable capacity and cell health. I now have hundreds of cells that I am in the process of testing. For the cells to work well together they need to be well matched by :-

Voltage (fully charged 4.2 volts)

Capacity (measured in measured in ampere-hours Ah or more typically mAh so 1,000 mAh = 1 amp)

Internal resistance (IR) measured in ohms. High power cells have a low internal resistance and can can output many amps of continuous current.

These would be used for vaping, electric vehicles and power tools. Lower output cells have higher IR and would be used for torches and laptops. Very high IR would indicate a worn out cell which could not provide much current and have a low capacity.

It is best to use identical batteries (same maker, specification and batch) but with age their capacity and IR changes. I'm using all different types of 18650 cells so have bought 3 chargers to make sure they can maintain 4.2 volts and test for IR and capacity. I then write these figures on the batteries or put the faulty ones in the recycling box.

My technique is to crack the cases open in a vice and have a tug of war with the nickel connecting strips to pull apart the spot welds. Then gently bench grind the + and - ends to remove the metal left over from the spot welds to get a smooth surface. Safety gear includes safety specs, thick gloves, respirator for bench grinding and a fire bucket with sand in case a cell catches fire. I have seen a few tiny sparks when the nickel strips have shorted the cathode and anode but nothing to worry about. Also I store all the batteries in a back yard shed just in case a cell shorts. So far most of the cells have become no more than tepid to the touch with a charging current of 1 amp. Two did get hot so they were thrown out. Bought lots of 18650 4 cell holders so I can easily take batteries in and out and the holders can be wired in series and parallel to get the current and voltage needed.

The only battery pack I had problems with came from a Dyson device. The connecting strips were very close together and there were many sparks flying off it as I cut them with side cutters so I went outside. One battery had a small blue flame coming from it so I threw it on the ground. It went out and after testing found it to be in as good state of health as the rest of the pack so will use in the future. All the laptop battery packs were well behaved though.

Think how wasteful it is that most faulty Lithium cell packs are not usually taken apart and the good cells used again. I know it takes time to sort the good from the bad but what about the pollution of throwing them away (not all the parts are used again even if they are properly disposed of) and the cost of buying new ones?

I've enjoyed salvaging and learning about batteries. Look fwd. to projects like

making an ebike battery out of them. Sean Colson has generously given me 3 new Samsung 30Q batteries which are now powering my very bright ebike lights. Some people make a 'power wall' with them which can be charged by solar panels or off peak electricity. With the war in Ukraine our energy prices are set to rise even more and this could make many more people consider renewable energy sources.

Just be careful when taking apart Dyson battery packs.

Stephen Sutters

Fun With Google

Google has added “Easter Eggs” into many of its products and services. Easter Eggs are hidden features or messages, inside jokes, and cultural references inserted into media. They are often well hidden, so that users find it gratifying when they discover them, helping form bonds between their creators and finders.

Try typing the following suggestions into a Google Search and see what happens when the search results are displayed. There are many more suggestions to be found at the Wikipedia page at the bottom of this article.

1) “askew” then when the results are displayed you will see that the whole screen is tilted downwards by a few degrees.

2) “do a barrel roll” then when the results are displayed they spin through 360 degrees.

3) Heads or tails? Just type “flip a coin” into Google and one will appear under the search bar.

4) Heads or Tails only gives two choices, if you want more then type “roll a die”. The results show a standard six side dice, but you can click on the dice to remove it, and then add one of the other dices with options of 6,8,10,12 or 20 sides. Multiple clicks give you the option to roll more than one dice at the same time.

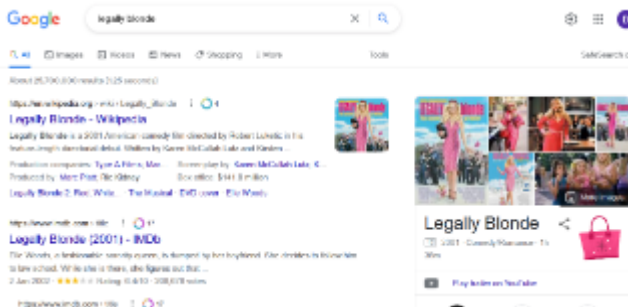
5) "cha cha slide" initially adds a glittering microphone next to the link to the official music video. Click it and then keep clicking the image that appears where the microphone was. This makes more sense if you are familiar with the original song.

6) “dvd screensaver” after a few seconds causes the Google logo on the top right corner of the page to bounce around the screen, shifting colours between blue, red, yellow, and green every time it hits the page boundaries.

7) "googly eyes" will cause a pair of googly eyes to slide from the top of the page to cover each letter "O" in the top Google logo.

8) Searching something which does not match (such as random nonsense text) any documents shows a cartoonish fisherman trying to catch a fish in somewhere with ice. Clicking on the fisherman will play an animation of the him catching a random object (i.e., a fish, a can of fish, a boot, or a bent can) in a hole, and then tossing it in a bucket. The boot and the bent can will make the fisherman sad, and the fish and the can of fish will make him smile.

9) "legally blonde" shows a pink handbag next to the Knowledge Graph (see bottom right of the image below), which when clicked, has protagonist Elle

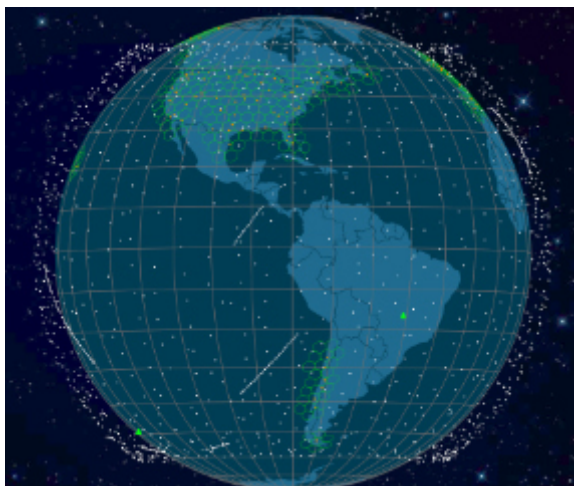


Woods' pet chihuahua Bruiser jump out of the purse and walk to a pink salon chair which dresses him in his "signature sweater". He then walks back and jumps into the purse, with Elle saying, "Hi, I'm Elle Woods, and this is Bruiser Woods, and we're both Gemini vegetarians." Once the animation is complete, the colour of the links on the page change from their usual blue to pink to match Elle's "signature look".

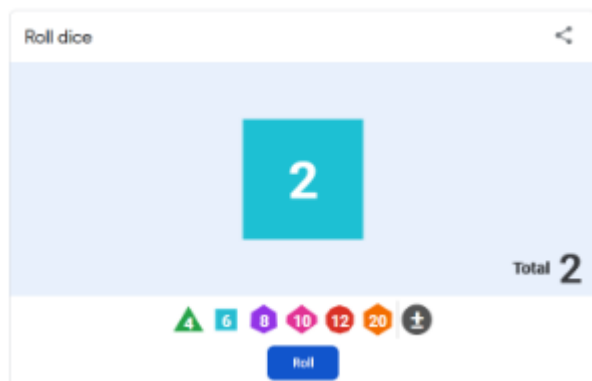
10) "mars 2020" will show the Ingenuity helicopter in the Knowledge Graph, that when clicked, flies around the screen.

11) "stopwatch" and "timer" will provide interactive timing methods; the stopwatch counting up and the timer counting down. Both tools are shown for each search term. Variants such as "set a timer for 10 minutes" can be used.

The above suggestions were taken from https://en.wikipedia.org/wiki/List_of_Google_Easter_eggs and is available under a CC BY-SA 3.0 licence



Screenshots taken from <https://satellitemap.space> the white dots on the left image shows just how many Starlink satellites there are (see page 11). The right hand image shows two satellite positions over the UK, together with the position of base stations at Goonhilly and Chalfont Grove.



The result of typing “roll a die” into Google, see page 14.

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