

U3A Hillingdon Digital Photo Group

Local and Online (“Cloud”) Image Storage

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Local & Online/“Cloud” Image Storage

- What today is about: How & where members store their images
- Local storage – the basics
 - Things to do, & to avoid
- Local storage – slightly more sophisticated
- Image Storage – file structure – examples
- Online/Cloud storage
 - “Free”
 - “Paid for”
- The results of the questionnaire

Local storage – the basics

- Cameras & phones/tablets store images in 1 of 2 locations:

- Cameras: Was “SD”* cards but now almost exclusively SDHC** cards

(although a few still use Compact Flash “CF” Cards)

- Phones/Tablets: internal memory &/or microSDHC*** cards

- *I would choose cards if the phone/tablet design & operating system allows it – many advantages, like just swapping cards if the first one gets filled up!*

“*”

“SD” = “Secure Digital”- maximum capacity = 2GB

“**”

“SDHC” = “Secure Digital High Capacity”

- many varieties from 4GB-128GB+, & much faster

“***”

“microSDHC” – small versions used in phones/tablets

Transferring images from Phones

- **Phone Wifi connections** – should work via WiFi to your home /local network router but you still need to connect to the PC hard disk or other storage medium
- Alternatives:
 - An app supplied with the phone or downloaded (paid for?) which can access the phone storage and copy the images
 - Attach images to email messages & send those – *but there are size limits to attachments & so it takes time to transfer images*
 - Cloud storage: transfer images to an online service like iCloud, Dropbox, Facebook, etc., (or as provided by your ISP) via WiFi / 3G/4G network connection ., *(could be image file size limits! & can consume a lot of your data allocation),*
& then download them locally to your PC/Other storage
- **Cable Connection** – can be tricky as you may need either a phone with an “On The Go” (“OTG”)-capable microUSB port, or an OTG adapter plugged into it *(not all phones have that option)*
- **Cards** – IMHO, the easiest to use if there are a lot of images and the phone accepts cards as you simply remove the card out and put it in the PC (via a Card Reader if necessary) to read it.

Transferring images from Cameras

- Very much the same as for phones for those cameras with WiFi capability
- However, for most of us, it means either:
 - A USB cable connection to a PC, + File Explorer or an app supplied with the camera
 - Remove the card from the camera and put in directly in the PC SD Card slot, or in an USB port via a USB card reader – and then use File Explorer to access the contents

Local image storage “In-the-PC”

- Windows PC users’ are stored by default in the “My Pictures” folder – *but where, exactly, is that folder?*
 - > C:\Users\”Your name”\ My Pictures (or Pictures)
 - so you can’t “see it directly” if you open File Explorer.
- Apple:
 - Generally the “Photos” folder
 - But can also use the “Pictures” folder
- Personally, I create a separate folder called “Photos” that I can see directly, & I subdivide that by year and event (etc.) – and I believe that others do something similar (*& mine is on a separate “partition” of the disk, and so less likely to be “damaged” / “lost” if the machine crashes or is “upgraded”!*)

Local Storage: PC USB Hard Disks

- Many people use USB-connected hard disks in external enclosures plugged into PC USB ports (*or a MAC “Time Capsule” unit plugged into a USB or Thunderbolt port*)
 - *or sometimes connected via wifi and the local router,*
 - *or even directly if you set the PC/phone/tablet to create a local wireless “hotspot” and have a suitable wifi USB hard disk*
- You treat these like storage on the internal hard disk, but will probably need to create folders manually if you want to find images easily – *but DO disconnect them carefully.*
- Nowadays, you can buy disks of 1TB upwards quite cheaply (~£50), *but do buy:*
 - From “brand-name” companies like Western Digital (WD), Seagate, Samsung, Buffalo, Apple, etc.
 - *and avoid “cheap” “no-name”, s/h **or** “recertified” ones!*
 - More modern “USB 3” units that are 10x faster than “USB 2” units
 - *Try to get ones with 3yr warranties – “should” last longer*

“Network Attached Storage” (“NAS”)

- The next “step” in “local” file storage is a “Network Attached Storage” (“NAS”) unit
- A NAS is like (& *can be*) a USB hard drive except that it is connected to your home network – as opposed to directly to your PC – *and it can be accessed by any PC on the network.*
- It can be:
 - Directly connected to a wired (*as opposed to wireless*) “Ethernet” network port on the (modem/) router, (typically this has 4 ports)
 - If it is a wireless device, connected to the router wirelessly
 - If it is a USB device (*just like one attached directly to the PC*), it can (generally) be plugged into any router with a USB port (*in addition to the Ethernet ports*) – *again, USB 3 is faster*
- The NAS is accessed across the network via File Explorer like a USB drive, but you *need to “Map” the drive to use it* – *in which case you need to read the NAS &/or router manual! ☹*

Local File Back-up Strategies

- Most brand-name USB hard drives/NAS units come with s/w (on disk/downloadable) to set file backups manually &/or automatically
(every day/week/month, or when files in certain folders are updated)
- Alternatively there are standalone apps to do the same
– *generally they cost, but some good ones are free*
- So, find and install that s/w, & you should then be able to back-up files *(and not just your photos)* easily & quickly.
- But what happens if the USB/NAS drive fails in some way or your s/w goes haywire – *would you lose your photos?*
- You need to “think ahead” & consider doing the following:
 - Duplicate the USB or NAS drive, and the files backed-up to it
 - Possibly copy all the files to DVDs – but how long will those last?
 - Use internet online or “cloud” storage – *and this is where it gets mind-boggling difficult to decide which one to use.*

Online / “Cloud” storage

- Online storage systems, or "cloud" services, allow you to store digital media online by uploading from your computer or mobile device. The data is physically held on servers, owned by whoever provides the particular service you use (*Google, Microsoft, Apple & many others*).
- Once you've downloaded & installed software, any files (e.g. photos) you move to the selected 'backup' folder will automatically be uploaded and stored in the cloud – you can usually change the settings so that your data syncs to other devices too (*but that may cause its own problems!*).
- You can access your data via your browser by logging into your online storage account at the company's website.

Online / “Cloud” storage – Risks?

- A big risk with cloud storage is data security, as you rely on the service to keep your files and documents secure. If your account is hacked, the files are immediately available – *so weigh up the risks before uploading sensitive files.*
- Cloud storage companies typically use encryption to keep your information safe and “two-step verification” to ensure only the right person has access to the account
- Make sure you keep all the log-in details securely, or you may not be able to access your files/photos
- Can get expensive due to monthly payments & what happens if you decided to cancel/move the subscription?
- *Also*, there is the risk of the company failing/closing and you losing your photos & data.

Online / “Cloud” storage: How Much?

- The level of storage depends on what you use it for. If you typically only back up documents and emails, then 5GB may be enough. If you want to back up photos/ music /videos then you'll almost certainly need more.
- It's impossible to estimate exactly how many files you can store in a set allowance, as it depends on the resolution of your photos/videos & quality of music files, *but*:
 - As a rule of thumb (??), 10GB should allow for about 4,000 *small (jpg)* photos , 12.5 hours of HD video OR 2,500 songs
 - But most modern SDHC cards are 16GB /32GB or more!
(FWIW, my 9 years of photos, & some recent files are 28-36MB, take up about 800GB, + about 500GB of docs, of space on my NAS units - So 2000GB (“2TB”) online should be “enough” for me! – but most “free services” only allow 20-30GB free)

Online / “Cloud” storage: Which one?

- Most people will “automatically” qualify for some free online storage from MS or Apple if you use their accounts:
 - Most “free services” allow you 20-30GB before you pay.
 - *So the contents of 1 or 2 SDHC cards could break the free limit*
 - Beyond the free limit, annual costs range from ~ £15 (*Knowhow*), £30 (*iCloud*) for 200GB to £60 (*OneDrive*) - £80/yr (*iCloud*, *DropBox*, *Google Drive*) for 1TB (*OneDrive*, *DropBox*), e.g.:
 - MS “**OneDrive**” (*Windows 10/8.1/7*) comes with 5GB free, or 1000GB (1TB) with the Office 365 subscription service
 - otherwise it costs £1.99/month for 50GB or £7.99/month for 1TB
 - Apple “**iCloud**” for iOS comes with 5GB free
 - or £0.79/month for 50GB & up through £6.99/month for 1TB.
 - Adobe Creative Cloud (“Adobe CC”) – I believe that this has something similar but I don’t know the costs/limits

“Free” Online / “Cloud” storage

- So what are the other “free”/ low cost options?
 - There were so many when I looked around that I just copied a lot of MSE stuff into WORD - and then added a lot more!
Free on request – just email me.
- However it appears the following *are* free with high limits:
 - **Amazon Drive** is normally £55/yr for unlimited photo storage – *but it’s free to Amazon Prime subscribers (like me!)*
 - **Google Photos** (*not Google Drive*) has unlimited free photo storage
 - **Flickr** (essentially an online photo-gallery) has 1TB free for photos

“Online / “Cloud” storage Issues 1

- General things I have noticed, or heard of:
 - **Data allowance** - Can eat up your ISP's data allowance, or cause, service limitations *very easily* – especially if you have automatic file synchronization between devices (phone, PC, tablet, etc.)
 - **Speed**: up loading a few relatively small picture files should not be an issue – but uploading significant numbers of large (15MB+) files can/will take a lo.....ng time even if you have a very fast upload link.
 - **Files in multiple folders**: Probably can't upload multiple folders of images at the same time – just one folder's worth at a time!
 - **File verification**: Can misread file format and reject genuine images, especially if jpg & RAW files are in same folder (*e.g. Flickr*)
 - **File Type**: May only accept jpg files & won't upload RAW files (*e.g. Flickr*)
 - **Cost**: Can get expensive due to monthly payments – and what would happen if you decided to cancel/move the subscription?

“Online / “Cloud” storage Issues 2

- **Amazon Drive** (*and probably OneDrive & others*)
 - Significant issues for anyone not using the Windows “My Pictures” image file location – because you have to put all the images in that location for Amazon Drive to work,
but I don’t have enough disk space to do that.
 - Can only deal with files on the PC and not elsewhere on the network (e.g. on a NAS).
- **iCloud** (*and probably others*)
 - Due to the file synchronization methods, if you delete a file from one location (e.g. your PC) that could also result in the deletion of the same file in iCloud and other synchronized devices!
 - However, I *understand* that storing images in the Pictures folder may overcome the issue
- **Do you have experience of any other issues?**

What conclusions *could* be reached?

- **Local storage:**
 - With a bit of practice, it's easiest to do and to control
 - Can be duplicated &/or added to relatively easily/cheaply
 - No on-going costs if you don't need to add more storage
 - Risk of losing data is small but finite – and it's *your* risk alone.
- **Online/Cloud storage:**
 - Not fully under your own control
 - Good for uploading holiday pictures etc., because it makes sure you can access them when you get home
 - Generally slow file uploading,
 - Most are very storage-capacity limited unless you pay extra
 - File synchronization issues *may* result in loss of images on devices
 - No access if you have no internet access for any reason
 - Risk of storage supplier going out of business (some have)
 - Security risks from having an extra online account which you use for WiFi access from vulnerable locations (*hotels, internet cafes!*)

Results of the Questionnaire

- About 2/3rds of Members replied, and so, what do they do?:
 - Thankfully, only a few keep photos solely on their cards or phones
 - A few store only on their PCs
 - Quite a few store on both their PC and a USB-type drive
 - At least one also stores on DVDs
 - A very few (*possibly even just me!*) also store on a NAS (*and I try to duplicate on at least 2 separate drives*)
 - Several use the Cloud (*mainly iCloud, plus 1 on BTCloud*)
- OTOH, about 1/3rd of members never replied, and so I can only hope that they do have some sort of system!
 - *And if you are one of those who does not, then, hopefully, you will have gleaned enough from today make a start!*