Where to store electronic information/files

Backups

Physical Storage

- Hard Drives (HDDs) and Solid-State Drives (SSDs):
  - These are commonly used for local storage on computers and laptops. HDDs are older technology, offering large storage capacity but slower access speeds, while SSDs offer faster access and are more durable.
- SD Cards:
  - These are removable storage media used in devices like smartphones, cameras, and tablets.
- External Hard Drives:
  - These are portable storage devices that can be used for backups and transferring data.
- Optical Discs:
  - CDs, DVDs, and Blu-ray discs are another option for storing data, especially for archiving or distributing larger files.

Cloud Storage

- Cloud Services:
  - Services like Google Drive, Dropbox, OneDrive, and iCloud offer remote data storage and access from anywhere.
- Benefits:
  - Cloud storage provides convenience, accessibility, and backup features, but also relies on internet connectivity.
- Examples:
  - Google Drive is a popular option for storing documents, spreadsheets, and other files.

Other Considerations

- Data Security:
  - Consider encryption and other security measures, especially when storing sensitive information.
- Accessibility:
  - Choose a storage method that allows you to access your data easily when needed.
- Backup:
  - Having a backup solution is crucial to protect against data loss, whether it's another physical storage device or a cloud service.
- Data Retention:
  - Consider how long you need to retain the data and choose a storage method that meets your long-term needs.
- Data Type:
  - Different data types, like documents, photos, and videos, may be best stored on different media or platforms.
- Cost:
  - Compare the cost of different storage methods, including the cost of storage space and any associated fees.

Hard Disk Drive (HDD)/Solid State Drive (SSD)/SD/CD - Backups

- Most PCs come with backup software built in and will try to point you to backup to OneDrive (Windows) or other cloud based solution.
- You can change the location and use a hard disc location either internally or externally.
- If using an internal drive you may need to split it into 2 drives by creating a partition. So one physical drive but 2 drives in file manager like C: and D: drives.
- If using an external drive no issues other than it can only be for backups not any other storage types.

HDD/SSD/SD/CD - Storage

- By default windows PCs set aside an area in the file structure to store your files (My Documents, My Photos, My Videos etc) under C:\Users\<your logon id>, accessed by points in the file list.
- You can ignore these defaults if you wish and create your own file structure, which in turn can be on the main drive or a different partition/external drive.
- It is a good idea to use a partition or external drive in case something goes wrong with the main drive/operating system and you have to do a restore.
- Hard disks can crash so keeping 2 copies of important files would be useful.

Cloud based storage

- What is cloud storage? It is basically somebody else's computer.
- Big companies have an array of large computers with very big hard drives in them that are accessible across the internet. They have lots of security ways of keeping your data safe.
- But they are big targets for hackers!
- Very handy because you just need to copy your files there and then all the rest of the work is done for you and they will guarantee 99.***% accessibility, but what happens if there is a power cut?
- They can be costly.

Advantages of Cloud Storage

- **Total cost of ownership**: Cloud Storage enables organizations to move from a capital expenditure to an operational expenditure model, allowing them to adjust budgets and resources quickly.
- **Elasticity**: Cloud Storage is elastic and scalable, meaning that it can be scaled up (more storage added) or down (less storage needed) depending on the organization's needs.
- **Flexibility**: Cloud Storage offers organizations flexibility on how to store and access data, deploy and budget resources, and architect their IT infrastructure.
- **Security**: Most cloud providers offer robust security, including physical security at data centers and cutting edge security at the software and application levels. The best cloud providers offer zero trust architecture, identity and access management, and encryption.
- **Sustainability**: One of the greatest costs when operating on-premises data centers is the overhead of energy consumption. The best cloud providers operate on sustainable energy through renewable resources.
- **Redundancy**: Redundancy (replicating data on multiple servers in different locations) is an inherent trait in public clouds, allowing organizations to recover from disasters while maintaining business continuity.

Disadvantages of Cloud Storage

- **Compliance**: Certain industries such as finance and healthcare have stringent requirements about how data is stored and accessed. Some public cloud providers offer tools to maintain compliance with applicable rules and regulations.
- **Latency**: Traffic to and from the cloud can be delayed because of network traffic congestion or slow internet connections.
- **Control:** Storing data in public clouds relinquishes some control over access and management of that data, entrusting that the cloud service provider will always be able to make that data available and maintain its systems and security.
- **Outages**: While public cloud providers aim to ensure continuous availability, outages sometimes do occur, making stored data unavailable.

Cloud Storage (cont.)

- Off-site Storage: Data is not stored on your own computer or device, but instead on servers maintained by a cloud service provider.
- Internet Access: You access your stored data via the internet, using a web browser, mobile app, or other software provided by the service.
- Scalability: Cloud storage can be scaled up or down depending on your needs, offering flexibility for both individuals and businesses.
- Advantages: Includes data backup, easy sharing, accessibility from anywhere, and reduced need for physical storage devices.
- Disadvantages: Reliance on a stable internet connection for access, potential security concerns if the service is compromised, and less direct control over data.
- Types: Cloud storage can be categorized into public (open to anyone), private (protected by a firewall), and hybrid (a combination of both).

To backup your iPhone to iCloud

- You can also back up your iPhone wirelessly using an iCloud account. Here's how:
  - 1. Connect your device to a WiFi network.
  - 2. In System Preferences, tap the option with your name at the top of the screen.
  - 3. Click iCloud, then iCloud Backup.
  - 4. Click Back Up Now.

Automatically back up your Android device

- 1. Open your device's Settings app.
- 2. Tap Google All services.
- 3. Under 'Backup and restore', tap Backup.
  - Tips:
    - • If this is your first time, turn on Back up your device with Google One and follow the on-screen instructions.
    - • Select the data that you want to back up: Photos and videos, Device data or both.
- 4. Turn Backup by Google One on or off.