Topic 6 - Resource management

System Resources

6.1.1 Identify the resources that need to be managed within a computer system

For a computer to function properly it needs to manage its resources properly. The types of resources that are usually managed include:

- Primary memory (RAM)
- Secondary storage (space on the hard drives)
- Processor time
- Bandwidth
- Caches
- Sound and Graphics processors
- Network connectivity

6.1.2 Evaluate the resources available in a variety of computer systems

There are many types of computer systems available now and almost all of them have different resources available that need to be managed. Some of the computer systems include:

1. Mainframe:
    - Processor time
2. Server:
    - Primary memory
    - Secondary storage
    - Bandwidth
3. Desktop PC:
    - Primary memory
    - Secondary storage
4. Laptop:
    - Battery charge
    - Primary memory
    - Secondary storage
5. Cell phone:
    - Battery charge
    - Primary memory
6. Digital Camera:

6.1.3 Identify the limitations of a range of resources in a specified computer system

6.1.4 Describe the possible problems resulting from the limitations in the resources in a computer system

Role of the Operating System

6.1.5 Explain the role of the operating system in terms of managing memory, peripherals and hardware interfaces

6.1.6 Outline OS resource management techniques: scheduling, policies, multitasking, virtual memory, paging, interrupt, polling

6.1.7 Discuss the advantages of producing a dedicated operating system for a device

6.1.8 Outline how an operating system hides the complexity of the hardware from users and applications

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