NETWORKING & SYSTEM ADMINISTRATION LAB

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Aim

Identify major components of a computer system, Such as:

- ❖ Mother board
- ❖ Ram Modules
- ❖ Daughter Cards
- ❖ Bus slots
- ❖ SMPS
- ❖ Internal Storage Devices
- ❖ Interfacing Ports

Procedure

Mother board

The motherboard serves as a single platform to connect all of the parts of a computer together. It connects the CPU, memory, hard drives, optical drives, video card, sound card, and other ports and expansion cards directly or via cables. It can be considered as the backbone of a computer.

Ram Modules

Random-access memory (RAM) is a form of computer memory that can be read and changed in any order, typically used to store working data and machine code. A random-access memory device allows data items to be read or written in almost the same amount of time irrespective of the physical location of data inside the memory, in contrast with other direct-access data storage media (such as hard disks, CD-RWs, DVD-RWs and the older magnetic tapes and drum memory), where the time required to read and write data items varies significantly depending on their physical locations on the recording medium, due to mechanical limitations such as media rotation speeds and arm movement.

Daughter Cards

A daughtercard or daughterboard is a type of circuit board that gets added to an existing one. Its name is appropriate for its use, since it is connected to a "motherboard" or "main board." The motherboard is the primary circuit board for a device. It is usually in the device as it is shipped from the factory. A daughtercard may be added later.

♦ Graphics Cards: A graphics card is an expansion card for your PC that is responsible for rendering images to the display. A graphics card provides high-quality visual display by processing and executing graphical data using advanced graphical techniques, features and functions.

♦ Network Cards: network interface card (NIC) is a hardware component without which a computer cannot be connected over a network. It is a circuit board installed in a computer that provides a dedicated network connection to the computer. It is also called network interface controller, network adapter or LAN adapter.

♦ Audio Cards: A sound card (also known as an audio card) is an internal expansion card that provides input and output of audio signals to and from a computer under control of computer programs. The term sound card is also applied to external audio interfaces used for professional audio applications.

Bus Slots

An expansion slot is a socket on the motherboard that is used to insert an expansion card (or circuit board), which provides additional features to a computer such as video, sound, advanced graphics, Ethernet or memory.

SMPS

A switched-mode power supply (SMPS) is an electronic circuit that converts power using switching devices that are turned on and off at high frequencies, and storage components such as inductors or capacitors to supply power when the switching device is in its non-conduction state.

Switching power supplies have high efficiency and are widely used in a variety of electronic equipment, including computers and other sensitive equipment requiring stable and efficient power supply.

A switched-mode power supply is also known as a switch-mode power supply or switching-mode power supply.

Internal Storage Devices

Most computers have some form of internal storage. The most common type of internal storage is the hard disk. At the most basic level, internal storage is needed to hold the operating system so that the computer is able to access the input and output devices. Hard disk, also called hard disk drive or hard drive, magnetic storage medium for a computer. Hard disks are flat circular plates made of aluminium or glass and coated with a magnetic material.

3 types of internal storage

♦ Optical
♦ Magnetic
♦ Semiconductor.

♦ <u>RAM</u> Computer memory or Random Access Memory (RAM) is your system's short-term data storage; it stores the information your computer is actively using so that it can be accessed quickly.
♦ <u>ROM</u> which stands for read only memory, is a memory device or storage medium that stores information permanently. It is also the primary memory unit of a computer along with the Random Access Memory (RAM). It is called read only memory as we can only read the programs and data stored on it but cannot write on it.

<u>Interfacing Ports</u>

A port is a physical docking point using which an external device can be connected to the computer. It can also be programmatic docking point through which information flows from a program to the computer or over the Internet.

Serial Port

- Used for external modems and older computer mouse
- Two versions: 9 pin, 25 pin model

Parallel Port

- Used for scanners and printers
- Also called printer port
- 25 pin model

PS/2 Port

- Used for old computer keyboard and mouse
- Also called mouse port
- Most of the old computers provide two PS/2 port, each for the mouse and keyboard

Universal Serial Bus (or USB) Port

- It can connect all kinds of external USB devices such as external hard disk, printer, scanner, mouse, keyboard, etc.

- Most of the computers provide two USB ports as minimum.

- USB compliant devices can get power from a USB port.

VGA Port

- Connects monitor to a computer's video card.

- It has 15 holes.

- Similar to the serial port connector. However, serial port connector has pins, VGA port has holes.

Power Connector

- Three-pronged plug.

- Connects to the computer's power cable that plugs into a power bar or wall socket.

Firewire Port

- Transfers large amount of data at very fast speed.

- Connects camcorders and video equipment to the computer.

Modem Port

- Connects a PC's modem to the telephone network.

Ethernet Port

- Connects to a network and high speed Internet.

- Connects the network cable to a computer.

- This port resides on an Ethernet Card.

Game Port

- Connect a joystick to a PC

- Now replaced by USB

Digital Video Interface, DVI port

- Connects Flat panel LCD monitor to the computer's high-end video graphic cards.

- Very popular among video card manufacturers.

Sockets

- Sockets connect the microphone and speakers to the sound card of the computer.