**REPORT ON LABORATORY EXPERIENCE**

In the computer laboratory we were afforded the opportunity to lay our hands on the system unit. It was a group work and we were charged with the onus to disassemble and reassemble the system unit which was provided to each group in the computer laboratory. In the course of carrying out this task we use some tools which include;

**SCREW DRIVER:** We used it to unscrew nuts from the casing and the motherboard.

**PICKER:** We used it to pick the screws that fell on the motherboard as it was advised not use bear hands on the board.

**BRUSH:** We used it to remove dust from the system casing and the motherboard.

Some other tools like **tweezers, plier, punch down toll, hand lens, etc were also at our disposal in the laboratory.**

Before we laid our hands on the system unit some safety precautions were communicated to us which include;

* Ensure the power source is totally disconnected.
* Be careful while unfastening the screws.
* Avoid direct contact of your hand on the motherboard.
* Ensure your sweat does not drip on the motherboard as it can cause the ICs to bridge.

After disassembling the system unit we were able to see and identify various components that constitutes the computer system.

Among which are hard disk, CD ROM, power supply unit, heat sink, cooling fan, CMOS battery, processor, expansion card, north and south bridge. I also saw the PCI slot, SATA cable, 20 pin ATX connector etc.

I was opportune to touch the processor for the first time. After so much familiarization with the motherboard and its components we reassembled the system unit back to its normal condition. Working in the computer laboratory that day was really a worthwhile experience.

In a nut shell, I was exposed to the following in the laboratory;

* Disassembling and reassembling of the system unit.
* Overview of the computer motherboard.
* Identification of components on the motherboard.
* Formatting and installing an operating system.

**COMPONENTS OF A LAPTOP**

**OPTICAL DRIVE:** The optical drive of a laptop is its DVD or CD drive.

**SYSTEM MEMORY:** This is the random access memory RAM which determines the speed of the computer system.

**SCREEN:** Laptop screen uses thin liquid display (LCD).

**HARD DRIVE:** This is the permanent storage device on which the operating system resides and other applications.

**CMOS BATTERY:** The CMOS battery keeps the CMOS RAM alive even if the system is off. This helps to prevent reconfiguration when the PC is turned back on.

PROCESSOR: The central processing unit is the controlling component of the laptop computer.

**VIDEO CARD:** It is also called graphics card, it generates graphics on the laptop screen.

**TRACK PAD:** It is an input device equivalent to mouse in the computer.

**KEYBOARD:** It is an input device used for keying in characters into the computer system.

**DIFFERENCE BETWEEN PC LAPTOP AND DESKTOP**

|  |  |  |
| --- | --- | --- |
| S/N | LAPTOP | DESKTOP |
| 1 | It is also known as Notebook. | It is also referred to as physical computer unit. |
| 2 | A laptop has a built-in monitor, keyboard, and typically a touchpad (or trackball). | To be fully functional, the desktop is connected to an external monitor, keyboard, and mouse via Bluetooth, WIFI, USB, HDMI, and VGA cable connectors. |
| 3 | The laptop computer is portable i.e can be easily transported and used anywhere. | The desktop is not portable i.e it is not easily transported within offices. |
| 4 | It is an all-in-one computer that uses battery or AC power which can last for several hours. | It is powered by a grounded electrical source through a power supply unit. |
| 5 | To upgrade any laptop aspect would require purchasing a new laptop. | Upgrading of storage capacity, memory, and graphics controller is easy. |
| 6 | Because of the compact design and non-removal of most components in the laptop, it require technical expertise to repair. | It is a lot simpler to fix components in a desktop computer as it allows the removal and replacement of many parts available from different computer. |

**BASIC MAINTENANCE AND TROUBLESHOOTING**

Computer maintenance is the practice of keeping the computer system in a good state of repair. Troubleshooting on the other hand is the act of finding fault and repairing or replacing faulty components with a perfectly working one in the computer system to ensure optimal performance.

Some basic maintenance performed on the computer system to ensure consistence functionality include:

* Creating Data Backup Discs
* Creating System Recovery Discs
* Removing Unused Programs
* Running the Disk clean up
* Program
* Running the Disk
* Defragmenter Program
* Checking for Hard Disk Drive
* Errors
* Understanding Hard Disk Drive
* Space

The universal troubleshooting steps include:

1. **DEFINE THE SYMPTOM:** When a PC breaks down the cause might be as simple as a loose wire or connector or as complicated as an IC or sub assembly failure, but before the intervention of your tool box you might need to have a mastering understanding of all the symptom or signs. By recognising and understanding the signs and symptoms it can be much easier to trace a fault of problem to the appropriate assembly or component.
2. **IDENTIFY AND ISOLATE:** Before you can identify or single out a problem from within a piece of hardware you must be sure that the component or sub assembly is truly the cause of the problem because for a PC to work properly there must be a proper handshake between the hardware and software. Therefore, in some cases the software might be the primary cause of the problem. If the potential faulty area is finally identified you can then move on with the actual repair process and swap the faulty component or sub assembly.
3. **REPLACE OR REPAIR:** Because most computers and their peripherals are built as a collection of sub-assemblies, it is almost easy to replace the sub-assembly out rightly rather than troubleshooting it to its component level. It is obvious that even if you have the time, documentation, and test equipment to repair a defective component, you cannot do so without causing a hassle on other components off sub-assemblies in the computer system.
4. **TEST:** After replacing or repairing the defected component, then you can now test the system to ensure that the initial problem had been solved.

**PORTABLE DEVICES**

This are the devices that are easily moved or carried about. It is a small form factor of the computing device that is designed to be held and used in the hand. This devices include:

* Laptop
* Mouse
* External hard drive
* Keyboard
* Joystick
* GPS
* Light pen
* Portable electrical dictionary
* Mobile phone
* USB device

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