REPORT ON INTERNAL PARTS OF A SYSTEM UNIT AND THE MOTHERBOARD.

BY: GROUP 5

UNIT: FUNDAMENTALS OF COMPUTER SYSTEMS

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SYSTEM UNIT

This is the part of the computer that houses the primary devices that perform operations and produce results for complex calculations.

There are four types of system units/computer chassis;

1. Full-tower
2. Mid-tower
3. Mini-tower
4. Small Factor Form (SFF)

The system unit that Group 5 used was of the mini-tower type and among the key components it houses, the motherboard is among the main.

THE MOTHERBOARD

This is an electronic circuit board in a computer which has the necessary slots to connect hardware components and ensure that all the components work in a coordinated manner. At a minimum, it includes one or more Central Processing Units (CPU) and the main processing activity of the computer takes place on it.

There are 6 types of motherboards, namely;

1. AT Motherboard
2. ATX Motherboard
3. LPX Motherboard
4. BTX Motherboard
5. Pico BTX Motherboard
6. Mini ITX Motherboard

We used the **ATX motherboard**, which can fit in the mini-tower form factor.

The motherboard also contains ports.

**Ports** are the inputs or connection points used by the motherboard to interface with electronics both inside and outside the computer.

**Integrated ports** are those that are part of, directly wired to, the motherboard. They include;

1. Internal ports- Are used to connect devices inside the system unit.
2. External ports- May be connected to the motherboard directly or by circuit boards that are inserted into slots on the motherboard.

**Examples of Ports** observed.

1. USB (Universal Serial Bus) Ports
2. VGA Port (Video Graphics Array)
3. Ethernet Network Interface Controller
4. Analogue/ Digital Audio Input/Output
5. HDMI Connector (High-Definition Multimedia Interface)
6. DVI (Digital Visual Interface) Connector

**Cable connectors**

1. PCI slot (Peripheral Component Interconnect)
2. PCI-E 16x slot
3. PCI-E 1x slot
4. Northbridge
5. CPU-Fan connection
6. Socket
7. DIMM slots
8. ATX power connector
9. IDE connectors/PATA connectors
10. Southbridge
11. SATA connections
12. Front Panel Connections
13. External USB
14. CMOS battery

**Generation and technology of the motherboard**

The different motherboard models which support different generations of processors.

A processor socket is basically the mechanism through which a CPU is firmly attached to a motherboard, while a chipset is the motherboard software that combines to allow all the various components to communicate.

Here are the most important chipsets and sockets;

|  |  |  |
| --- | --- | --- |
| **Socket** | **Supported CPU** | **Chipset** |
| LGA 1700 | 12th Generation | Alder Lake |
| LGA 1200 | 11th & 10th Generation | Rocket Lake (11th)  Comet Lake (10th) |
| LGA 1151 | 8th and 9th Generation | Coffee Lake (8th)  Coffee Lake(9th) |
| LGA 2066 | Skylake-X/Kaby-Lake x | X299 |

**Expansion slots**

-They are sockets on the motherboard that are used to insert an expansion card or circuit board, which provides additional features to the computer.

-Such features include;

Video processing, sound, advanced graphics, memory, modems, Interface adapter, solid state drives, Power-on self test, advanced multi rate codec, BIOS, Expansion Read-only memory, security devices, RAM memory.