BENEFITS OF USING ICT

- Very fast computational speed
- Increased productivity
- Technical Support
- Quality support
- Less Errors
- Diligence
- ETC..

APPLICATIONS OF ICT

- Communication
- Data storage and processing
- Research
- Product design and simulation
- Broadcasting
- Education
- Automation
- Specialized software
- Graphics design

CLASSIFICATION OF COMPUTERS

Computers can be classified according to;

- Usage
- Implementation Technology
- Design Features

USAGE: 1

Super computers

- Is a computer that leads the world in terms of processing capacity, particularly speed of calculation, at the time of its introduction.
- Are used for highly calculation-intensive tasks such as weather forecasting, climate research, molecular modeling, physical simulations (such as simulation of airplanes in wind tunnels, simulation of the detonation of nuclear weapons). Military and scientific agencies are heavy users

SUPERCOMPUTERS…

- Tianhe-2, a supercomputer developed by China's National University of Defense Technology, retains its position as the world's No. 1 system with a performance of 33.86 petaflops/s (quadrillions of calculations per second) counting a total of 3,120,000 cores. The total CPU plus coprocessor memory is 1,375 TiB
- In computing, FLOPS (for Floating-point Operations Per Second) is a measure of computer performance, useful in fields of scientific calculations that make heavy use of floating-point calculations. For such cases it is a more accurate measure than the generic instructions per second.

SUPERCOMPUTERS…

- A petaflop is a measure of a computer's processing speed and can be expressed as a thousand trillion floating point operations per second.
- 1 tebibyte = 2^{40} bytes = 109951162776bytes
- 1 terabyte (TB) =10^{12} bytes = 100000000000bytes

USAGE: 2

Main Frame Computers

- large, powerful, and expensive computers used mainly by large companies for bulk data processing (such as bank transaction processing).
- mainframes support thousands of simultaneous users who gain access through "dumb" terminals

MAINFRAMES..

- Some mainframes have the ability to run (or "host") multiple operating systems and thereby operate not as a single computer but as a number of "virtual machines".
- In this role, a single mainframe can replace dozens or hundreds of smaller PCs, reducing management and administrative costs while providing greatly improved scalability and reliability.

SUPERCOMPUTERS VS. MAINFRAMES

- Supercomputers focus on problems which are limited by calculation speed while mainframes focus on problems which are limited by Input/output and reliability
- Supercomputers are optimized for complicated computations that take place largely in memory, while mainframes are optimized for simple computations involving huge amounts of external data accessed from databases
- Supercomputers used by science and the military, while mainframes target business and civilian government applications

USAGE: 3

Mini- Computers

- are a largely obsolete class of multi-user computers which made up the middle range of the computing spectrum, in between the largest multi-user systems (mainframe computers) and the smallest single-user systems (microcomputers or personal computers)
- They usually took up one or a few cabinets, compared with mainframes that would usually fill a room.
- Today they are referred to as "servers", (typically file server and

USAGE: 3

Workstation

- A workstation, such as a Unix workstation, RISC workstation or engineering workstation, is a high-end desktop or deskside microcomputer designed for technical applications
- Workstations usually offer higher performance than is normally seen on a personal computer, especially with respect to graphics, processing power, memory capacity and multitasking ability

USAGE: 4

Micro-Computers

A personal computer is an inexpensive microcomputer, originally designed to be used by only one person at a time.

- Personal / Desktop Computers (PC)
- Laptops
- Notebooks

USAGE 5:

Hand-held Computers

- Personal Digital Assistant – PDA

handheld devices that were originally designed as personal organizers, but became much more versatile over the years. A basic PDA usually includes a clock, date book, address book, task list, memo pad and a simple calculator.

- Mobile Phones
- Tabs


acer


12:25

USAGE 6:

Wearable Computer

- is a small portable computer that is designed to be worn on the body

during use

CLASSIFICATION BY IMPLEMENTATION TECHNOLOGY

- Mechanical
- Electro-mechanical e.g. relays
- Electrical

CLASSIFICATION BY DESIGN FEATURES

- **Digital vs Analog**

Digital computers process discrete numeric or symbolic values, while analog computers process continuous data signals. Analog- robotics

- **Storage**

Development of the first stored-program computers of the type used today.

CONTD…

- **Binary vs Decimal**

A significant design development in digital computing was the introduction of binary as the internal Numeral system. This removed the need for complex carry mechanisms required for computers based on other numeral systems, such as the decimal system.

- **Programmability**

The ability to program a computer - provide it with a set of instructions for execution- without physically reconfiguring the machine is a fundamental design feature of most computers.

CLASSIFICATION BY CAPABILITY

- **General-Purpose Computers**

By definition a general-purpose computer can solve any problem that can be expressed as a program and executed within the practical limits set by; the storage capacity of the computer, the size of program, and speed of program execution.

- **Special Purpose Computers**

These computers are programmed once in the factory and only seldom, if ever, reprogrammed.

CONTD…

- **Single-Purpose Computers**

Single-purpose computers were the earliest form of computing device. Given some inputs they could calculate the result of the single function that was implemented by their mechanism.

COMPUTER INFORMATION SYSTEMS

Elements of a CIS

- (a) People
- (b) Data/information
- (c) Methods (Procedures)
- (d) Equipment(hardware and software)
- (e) Communication

COMPUTER SOFTWARE

- Operating System

Graphical User Interface(GUI) & Command Line User Interface(CLI)

- Application Software
- Utility Software
- Proprietary Software
- Software for mobile

ASSIGNMENT

- ~~Choose two ICT innovation~~
- Invented in the last decade
- That you think is the best

Link to the Milledium Development Goals

- Due Monday