Information Systems

Module Code: INFS-111

Programs: BCSS/BBIT

Hardware

- Most visible component of an Information System is known as the **Hardware**
- We will first discuss on **input devices**

Activity for today

- Come up with as many input devices as you can. If you can find the examples for each the better. E.g Keyboard, Scanners, Readers, Pointing devices and gaming devices. (10 minutes discussion)
- Groups present

Keyboards

- Keyboard- a device used to enter characters at the location on the screen marked by *insertion point*.
- Keyboards can be built into a device, attached using a wired cable (via USB or Keyboard port)
- Keyboards contain

1. Alphanumeric keys (input text and numbers)
2. Numeric Keypad (entering numbers)
3. Function keys (issuing commands in some programs

Keyboards

4. Delete and backspace keys (for deleting characters.

5. Control and alt keys (for issuing commands in conjunction with other keys on the keyboard

6. Arrow keys(for moving around within the document

The most commonly used keyboards are:

1. Qwerty
2. Dvorak keyboard

Pointing Devices

- Pointing Devices are used to select and manipulate objects, to input certain types of data and issue commands to the computer example could include mouse and the pen/stylus

A mouse

- It typically rests on the desk or flat surface near the computer and is moved across the surface with the users hand.

Types of mouse

1. Mechanical mouse- have a ball exposed at the bottom surface of the mouse to control the pointer movement
2. Optical or Laser mouse- Track movement with light

Pens/Styluses

- Stylus/digital pen/electronic pen/ tablet – is simply a plastic device with no additional functionality.
- It is a pressure-sensitive device that transmits the pressure applied by the user to the device that the stylus is being used with in order to allow precision.

Pen-Based computers

- Most often, pens can be used with mobile devices and tablet computers.
- Depending on the software being used, handwritten input can be stored as an image, stored as handwritten characters that can be recognized by the computer. These software's are said to have **handwriting recognition**.
- Example of were this can be applied is a Digital form

Graphic Tablets

- Graphic tablets/pen tablet/ digitizing tablet- is a flat, touch sensitive tablet used in conjunction with a digital pen.
- The graphic tablet is basically connected to a computer via a USB port. Anything drawn or written on the tablet is automatically transferred to the connected computer.

Touch Screens

- Touch screens allow the user to touch the screen with his or her finger to select commands.
- Their normally being used in personal computers, mobile devices, mobile phones and consumer kiosk

Other pointing devices

- Gaming Devices- A variety of gaming devices today can be used as

controllers to supply input to a computer. Examples could include:

1. Joystick- can be moved with the hand to move an on-screen object and the buttons pressed to perform their assigned functions.
2. Gamepads-also perform similar functionality however the only difference is that its held in the hand
3. Data gloves-It looks like a hand glove but contains a large number of sensors and has a data cable attached; though the latter is being replaced by means of infrared cordless data transmission. Not only does the data glove allow for full three-dimensional movement but it also senses the position of individual fingers, translating this into a grip

Trackball

- Trackball has the ball mechanism on top, instead of the bottom.
- The ball is rotted with the thumb, hand, or finger to move the on-screen pointer.
- Unlike the mouse that requires more surface area in order to be moved around, the trackball takes up less space. The other advantage it has is that it can easily be used by people with limited hand or finger mobility

Touch Pads

- A touch pad- is a rectangular pad across which a fingertip or thumb slides to move onscreen pointer.
- Although most often found in notebook and netbook computers, touch pads are also available as stand alone devices to be used with desktop computers are built into some computers.

Scanners and Readers

- Scanners and Readers have been designed to convert data that already exists in physical form.
- Cameras capture data initially in digital form.
- Automating the data entry process is called referred to as **source data automation.**

Scanner

- Scanner also known as Optical scanner, captures an image of an object (usually a flat object) in a digital form and then transfers and then transfer data to a computer.
- Text in the scanned image cannot be edited unless **optical character recognition (OCR)** software is used in conjunction with the scanner to input the scanned text as individual characters.

Types of Scanners

1. Flatbed scanner- designed to scan flat objects one page at a time. Flatbed scanners work in much the same way that photocopiers do- whatever is being scanned remains stationary while the scanning mechanism moves underneath it to capture image.
2. Portable scanners- designed to capture text and other data while on the go.

Scanning quality and resolutions

- The quality of scanned images is indicated by **optical resolutions**, usually measured in the number of **dots per inch(dpi)**.
- When the document is scanned, the resolution of the scanned object can be specified.
- The higher the resolution the better the quality of the image

Readers

- Barcode Readers

A barcode is an optical code that represents data with bars varying in width and length.

- Two most common used barcodes include the

1. Universal Product Code (UPC)- the barcode found in the package of the goods in retail shops
2. International Standard Book Number(ISBN)-used in printed books

Other types of readers

- Magnetic Ink Character Recognition(MICR Readers- Is a technology used primarily by banking industry to facilitate check processing.
- Biometric Readers- Are used to read biometric data about a person so that the individual's identity can be verified based on a particular unique physiological characteristic such as fingerprint.
- Digital cameras -allow you to make pictures of physical objects directly in a digital, i.e. computer-readable, forma