

Input and output

Input:

Mouse

A mouse is a hand-held device you move on your desk to point to and select items on your screen. When you move the mouse, the mouse pointer on the screen moves in the same direction.

Standard Mouse

A wire connects this type of mouse to the computer that looks like a mouse's tail. A mouse is moved over a flat horizontal surface, usually a rubber mouse pad, and its position is read by the computer the standard mouse has two buttons and a tracker ball.

Advantages: allows users to do tasks without using a key board and speeds up the amount of thing you can do in the same amount of time.

Disadvantages: the tracker ball may become clogged and the mouse wont work as efficiently

Infra red Mouse

Uses an infra-red beam to detect the mouse's movement. You do not need a mouse-mat and can use any surface to move the mouse on.

Advantages: They respond more quickly and precisely than standard mice they don't require wires so there are less wires and less chance for wires to get tangled, it also means that you are not restricted to a small area. disadvantages: they are more expensive.

On most computers, a keyboard is the primary text input device. The keyboard also contains certain standard function keys, such as the Escape key, tab and cursor movement keys, shift and control keys, and sometimes other manufacturer-customized keys.

QWERTY Keyboard

A standard keyboard named after the first six letters in the top row. This keyboard was actually designed to slow down typists who kept jamming the early mechanical typewriters. Now everyone still uses the less-efficient QWERTY keyboards because, as the saying goes, it is hard to teach an old dog new tricks.

Advantages: most common layout of keyboards many people recognise this keyboard allows people to touch type

Disadvantages: none

Ergonomic Keyboards are computer keyboards that have been designed for maximum comfort.

Prolonged use of a computer keyboard can result in Repetitive Strain Injury (RSI). Ergonomic keyboards are shaped in a way that makes typing more natural, and reduces the risk of getting RSI from using your computer for lengthy time periods

Advantages: stops people from causing harm to themselves, they are more comfortable to use.

Disadvantages: people may not be able to touch type in the same ways and it may take long to work out how to touch type using these keyboard , as the key layouts may change.

Concept keyboard

A concept keyboard is a flat board that contains a grid of buttons. Each button can be programmed to follow instructions. An overlay sheet is placed on the grid with an explanation for each button. They are used in primary schools with young children. Many modern fast food restaurants have overlays with either a description or picture of the meals that are available to make ordering easier.

Advantages: allows users to use shortcuts to open new programs form their keyboards, a task can be carried out by pressing just one key.

Disadvantages: none

Digital camera

A digital camera allows you to take pictures and to store a digital photographic image that can be read by a computer. You can then transfer the images directly from your camera on to your computer.

Advantages: allows users to chose pictures they want before they are developed, allows users to edit and enhance their images .

Disadvantages: none

Digital Video Camera

A portable, hand-held camera resembling a movie camera but recording on video cassettes for input into the computer for later playback or editing on screen.

Advantages: allows users to edit and enhance moving pictures on their computers and put them onto video cds , super vcd's or DVD's.they also have enhanced picture quality compared to normal tape video cameras

Disadvantages: none

Scanner

Scanners are now a cheap and common way of getting images into a computer. They can also be used with OCR (Optical Character Recognition) software to scan in text.

computers are generally used in the provision of public information and are found in places such as airports.

Advantages: allows users to scan in anything they want and enhance it , some also have handwriting recognition software witch converts tour writing into text documents, allows you to photocopy at home.

Disadvantages: some things that are scanned may not be the same quality as the original copy.

Video digitiser

A video digitiser takes an image from a video camera or television and converts it so that it can be used by, and stored on, a computer. Video sequences captured using a video digitiser are often used in multimedia presentations.

Voice recognition (microphone)

A microphone is used with a voice recognition system. This can be used with a word processing program to enter text. It can also be used as part of security systems - only certain digitally stored voices have access.

Advantages: allows user to speak out aloud their documents which the computer will type when the speak

Disadvantages: some word may not be written correctly as different people speak in different ways.

Joystick

A device you can plug into your computer to control the movement of objects, such as a car or plane, in many games. Better control of objects on the screen makes games more realistic

Advantages: allows the user to play games more easily as they don't have to use the keyboard which can be complicated when playing a game .

Disadvantages: not all games support certain types of joysticks.

Other input devices

Light pen

sensors

Tracker ball

Specialist

Barcode reader

Barcodes are different groups of vertical bars that can be read by an optical scanner. Barcodes are printed on nearly every product that you can buy.

Advantages: they are cheap to produce and very durable. they also increase speed of service.

Disadvantages: none

Touch screen

A touch screen is a special type of VDU, which has a grid of light beams or fine wires criss-crossing the screen. When the screen is touched (usually to choose an on-screen option), the computer senses where you have pressed. Due to the vast amount of information they can store, touch screen operated

Advantages: allows users to get to icons and other things quicker, it also makes the systems more user friendly, they are also useful for when keyboards and mice can't be used.

Disadvantages: none

OMR (Optical Mark Reader)

An optical mark reader reads marks made by pencil on a printed form into the computer. OMR systems are suited to reading pre-printed forms and check-boxes such as National Lottery number selection sheets and multiple-choice exam papers

Advantages: makes processes faster. e.g. when someone is getting the lottery if a person entered the numbers into the computer it would take longer than using the optical mark reader

Disadvantages : none

MIDI (Musical Instrument Digital Interface)

A MIDI system allows you to attach a musical instrument to your computer, for example a musical keyboard. You can then store a musical sequence on a computer and then have the computer play it back to you.

Advantages: allows users to manipulate the sounds they have created and allows them to edit certain parts of the music.

Disadvantages: none

Magnetic strip

Magnetic strips are built into many plastic cards such as cheque guarantee cards, cash-point cards and personal identity cards. The magnetic strip on the back of the card can hold the personal details of the card owner and, with the necessary PIN, will allow access to secure information e.g. bank account details.

Advantages : allows data to be stored in a small portable device . allows quick and efficient reading of certain data and information held on the card

Disadvantages: may not work if strip is interfered with , easy to copy data to other devices .

MICR (Magnetic Ink Character Reader)

Magnetic ink characters are the strange looking numbers that appear at the bottom of cheques. These characters are used because they are very difficult to forge or damage. Banks use MICR to read the numbers from the bottom of cheques to obtain data such as account numbers and bank sort codes

Advantages : stops people from finding out confidential information.

Graphics tablet

A graphics tablet consists of a flat pad (the tablet) on which the user draws with a special pen. As the user draws on the pad the image is created on the screen. Using a graphics tablet a designer can produce very accurate on-screen drawings.

Advantages: allows users to draw anything they want just like drawing on paper but it is presented in a digital form which is shown to the user on the screen.

Output Devices

These provide the results of the action of input & processing devices & include

Monitors or Visual Display Units(VDUs)

Monitors or VDUs are the most common output device and include desktop monitors and Liquid Crystal Displays (LCDs).

Advantages: allows the users to see the output of the input .

Disadvantages: without it you cant do anything.

Printers

Laser printers produce a very high quality output, are very quiet and very fast although quite expensive to buy.

Ink-jet printers are cheaper to buy, offering black and white or colour printing with reduced levels of quality and speed.

Dot-matrix printers are not so common today. They are comparatively noisy and low quality but are cheap to run and ideal for draft copies

Plotters

A plotter can be used to produce high quality, accurate, A3 size or bigger drawings. They are usually used for Computer Aided Design (CAD) and Computer Aided Manufacture (CAM) applications such as printing out plans for houses or car parts.

Speakers

Converts electrical energy from computer into vibrations by an electromagnet

Output sound

Used for multi-media amplification

Need a sound card

Around £15-£100