Comparing the use of input and output methods and devices

Inputs

Any device that is used to enter data into a computer system is called an input device. There are many different types of input device; each designed to provide an efficient method of data entry in particular circumstances. You will be able to work out from the strengths and weaknesses of each type of input device the sorts of jobs it would be suitable for. When choosing an input device, the following factors should be considered:

- The type of data to be input
- How quickly the data needs to be input
- The volume of data to be input
- How easily the person inputting the data will be able to use the device
- The amount of desk space the device will use (its 'footprint').

The following devices are input devices:

The keyboard is the most commonly used type of input device. It is often called a QWERTY keyboard after the arrangement of the letters on the top row. This arrangement of letters was first designed for use on mechanical typewriters and its purpose was to reduce the number of key jams when the typist was working quickly. Training is needed to use the
Keyboard effectively.
Some of the advantages and disadvantages of keyboards are as follows:

- Good for manual text entry.
- Special keys can be used for special functions.
- Hot key combinations can simplify tasks for expert users.
- Familiar device – even for novice users.

- Mistakes easily made – even by trained users.
- Large footprint – takes up a lot of space on a desk.
- Data input is slow compared to many other devices.
- Of limited use for moving, selecting and drawing.

As the mouse moves, it transmits data to the computer about the speed and direction in which it is traveling. The computer usually represents this data by the position of a pointer on the screen. As the mouse moves, so the pointer on the screen also moves. The user can select items on the screen by clicking a button on the mouse. This combination of data (movement plus selection) makes the mouse useful for selecting items from drop-down menus or performing operations on files represented as icons on the computer screen.
Optical mice have no moving parts and so do not suffer from dirt clogging the mechanism that detects the mouse's movement. Wheel mice have a wheel in the center that allows the user to scroll through documents.
Some of the advantages and disadvantages of mice are as follows:

- Good for inputting movement and speed (converted to position).
- Good for selecting items in a graphic interface or from menus.
- Small.

- Not very good at inputting text.
- Need a flat space to operate on.
- Behaves badly in a dusty or dirty environment.

I also used a scanner, this able me to scan pictures. There are two types of scanner – hand-held and flatbed scanners. Hand-held scanners are small devices that are moved by hand across the document being scanned. They are small and cheap but there are problems when scanning larger images since several scans will be needed to cover the whole page. The individual scans then have to be 'stitched together' by software.
With a flatbed scanner, the page being scanned is placed face down on the glass of the scanner where it remains while the scanning device moves under it. This tends to produce a better quality scan than a hand-held scanner but the device does take up more room.

Some of the advantages and disadvantages of scanners are as follows:

- Good for inputting pictures and line art.
- Good for inputting large amounts of texturing OCR.

- Files can be large, particularly if high-resolution color is used.
- Text can be incorrect. Some characters like zero and the letter O can be confused. Flatbed scanner has a large footprint.

Out puts

Output devices are used to present the information that the user needs in a useable form. The output that is produced may be permanent, for example, when it is on paper, or it may be temporary as on a computer screen.
In any given situation, the choice of output device will depend on the type of output required together with such factors as:

- Initial cost of buying the device
- Running costs
- The device's footprint
- How noisy the device is
- The quality of the output produced
- How quickly the output can be produced.

The next devices are out put devices:

The next out put that I used was the monitor or (VDU) one important characteristic of a VDU is its resolution. This is the number of dots per inch that the screen can display. Higher resolution means a better quality display but it is more expensive.
Because a VDU is heavy, large and requires a lot of power to run, a new type of display screen has been developed for use with laptop computers. This is the liquid crystal display (LCD). This type of display is flat, uses less power and is light. However, LCD displays are expensive to make, particularly in larger sizes.
This allows you to see what you are working with.

Some of the advantages and disadvantages of VDUs are as follows:

- Low running cost.
- Silent operation.
- High quality colors output. Animated output is possible.
- Large screen size provides good output display for DTP and design applications.

- Output is not permanent.
- Large footprint.
- Heavy device.
- Some concern over possible health risks– radiation from high voltage sources inside the device.

I also used a printer, this allowed me to print out the information, and the one that I used was the laser printer, this was a fast way to print of my work, there are disadvantages and advantages for the printer, and they are the following:

- Medium running costs.
- Almost silent printing.
- High quality text and images.
- Fast printing.
- Can print overhead transparencies.

- High purchase cost.
- Produces ozone so has to be used in a ventilated space.
- Colors for the laser printers are expensive.
- Cannot produce duplicate copies while printing top copy. Do not normally take paper sizes larger than A4.

There are two other main out puts that I have not mentioned yet and they are, speakers and LEDs (light-emitting diodes). Speakers allow high-quality sound output from a computer and they are used for both music and speech output. Most modern desktop computer systems come equipped with speakers. Speakers depend on a magnetic field to produce their output. This magnetic field can corrupt the data on floppy disks and it can also interfere with the operation of the computer's monitor to the point where the VDU is damaged. Specially shielded speakers are used in computer systems. A simple speaker is included in almost every desktop computer even if the computer will not be used for music or speech output. This simple speaker can produce beeps to alert the user to error situations.