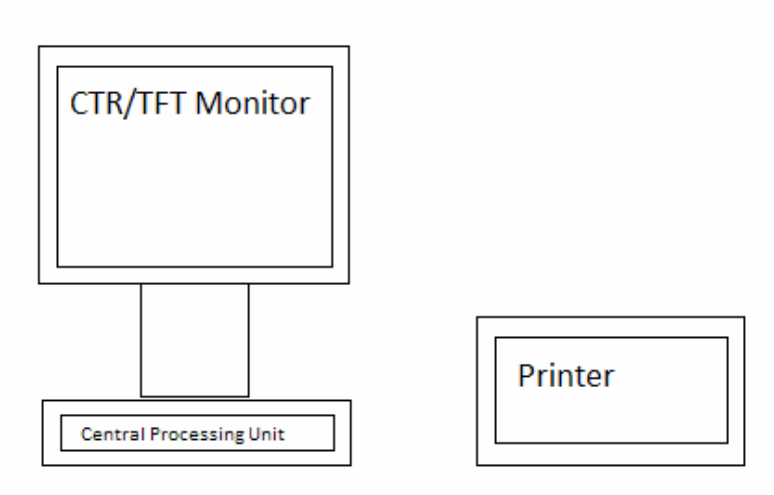
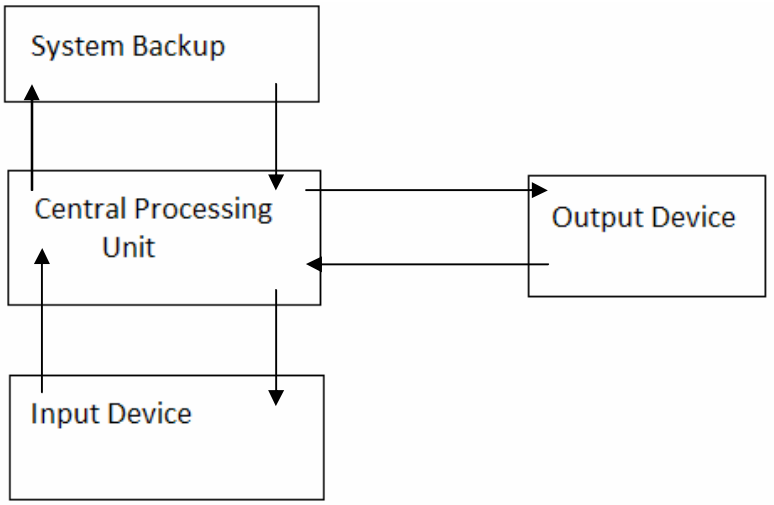
Hardware Report

For a computer to work there are two sections that enable us to use ICT the way we do, the hardware (title of this report) and the software (see my software report). Hardware is something that the individual can use and is the input and output devices controlled by the CPU (Central Processing Unit). Mouse, keyboard, scanners and joysticks are all examples of input devices – we tell the computer what to do with them. Printers, dot matrix and screens are all output devices – we get what we have been doing on the computer displayed to us or transferred onto a different type of media e.g. paper – this is the transition from a computerized system to paper based.

A basic system looks like this:



We can also look at the system like this:



I am working on a Thintune Model WLV101; this is where I am based to do my work i.e. my workstation. This is then linked to an IBM server using Citrix Thin Client software that allows us as a school to send applications and the use of the internet to other locations on the campus. The individual workstation has 64Mb (megabytes) of RAM (Random Access Memory) and 133MHz (Megahertz) processor that is then connected to the terminal server via a CAT SA 100Mb cable with a core 1Mb between servers and switch. The data i save at my workstation is not stored locally, however, is sent to a mainframe server located away from the main station. In the case of data becoming corrupt, deleted or lost, there is backup made elsewhere in the school that is provided by a UNIX based server.

The hardware described above is my schools way of setting up a server that is appropriate to them and cost efficient for them. Although, there are alternatives to Thinclient systems, they are called Thickclient servers. These servers give the user the option that if the server crashes they can save their work either to the hard drive stored within the workstation (this is not available on Thinclient) or instead their work can be saved externally on a CD±R/RW/ROM, DVD±R/RW/ROM or even on a memory stick which consists of flash memory inside usually formatted to FAT32.

My Hardware

Name: Keyboard
Function: Input

Description: A QWERTY keyboard is made up of many keys; over 100 and is an input device because when a key is pressed it sends a signal to the CPU this then appears as letters on whichever software is being used. Most computers use a PS/2 keyboard which is a 6 pin circular DIN; this is the type of keyboard I am using.

How was the keyboard used?: The keyboard is the most used piece of hardware in any construction of a system. The keyboard is used to input data into the data base from the data capture form and to write letters etc. to customers.

Benefits: The QWERTY keyboard is one of the easiest input devices to use after the mouse. Most people in modern day society know how to use it and so the ease of use and speed is faster. When a letter needs to be written it is easy to use because all the

keys are in one place. There are also shortcut keys on some keyboards that can be used to increase the speed of opening a programme. For example, Ctrl+S can be pressed to save a document quickly.

Drawbacks: A keyboard was only designed to be able to input text into the programme not to insert images, design logos or anything else practical in that sense. Because of this initial drawback it is not always convenient in every piece of software. The best use of a keyboard comes in word processing software, where large amounts of text need to be entered. The keyboard is most definitely the best way of inputting text however; it is only useful to its full extent if the user can touch type because this is an extremely fast way of typing and saves the user looking at the keyboard and the screen.

Name: Mouse
Function: Input

Description: The mouse is another most commonly used device, the other one being the keyboard. The most common mouse is now a laser mouse which has a tracking laser on the bottom, two buttons; left and right, and a scroll mechanism that is useful for scrolling up and down large documents. There is a cursor displayed on screen that enables the user to make a selection on screen, for example menu selection and icon selection to launch a programme. Using specific graphic design software a mouse can be used to create pictures on screen.

How was the mouse used?: The mouse was used to open programmes, make menu selections, highlight text etc. The mouse is mainly used alongside the keyboard to perform different tasks e.g. compose a query within a database.

Benefits: The mouse is an extremely basic piece of software, however, without it moving around the computer system would be extremely hard. The mouse allows access to the whole screen; it is useful because if the user relied just on the keyboard they may for example have to press three buttons to do something yet with a mouse it can be done in just one click.

Drawbacks: The mouse is very simple and because of this, the simplicity is its main drawback, however more and more mouse's with extra buttons are becoming available. The mouse's functions are limited for the user and they can only perform

straightforward tasks, sometimes using the keyboard would be easier because it would save going through menu's and clicking to find what the user wanted.

Name: Monitor
Function: Output

Description: A monitor is a screen that displays what is happening on the machine. Without it, the system would be impossible to use. The monitor is the most used output device for the obvious reason. In today's world they are all mainly colour and are often described as VDU's (visual display units).

How was the monitor used?: When the Type a Flight system was being created the screen was used so I could see what I was doing when creating the new logo etc.

Benefits: Monitors allow the user to see what they are doing when doing anything on the computer. It means that because the CPU can be visual the user can get easy access to most things.

Drawbacks: When viewing things on the monitor, if the window selected is not big enough not all the information within that window will be able to be seen.

Name: Ink-Jet Printer
Function: Output

Description: An ink-jet printer is used for relatively fast, high quality printing. The device uses a nozzle to apply the ink to the page. Most ink jet printers use two cartridges, a colour, which has yellow, cyan and magenta and the second cartridge is just black. With this printer black and colour can be on the same page.

How was the printer used?: This printer was used to print out all of my work, it was especially useful for the media which had the logo on because it displayed this in full colour and for my technical guide as this was also in colour to aid the user of the guide.

Benefits: Depending on the setting of the printer, the print outs can go from very bad to extremely good. This is a great device for graphical printing because it means that black and colour can be on the same page and the graphic is in full colour so can be used to its full potential.

Drawbacks: If the user only wants to print in black and white this is not a good printer, a laser would be better as it is faster for that printing. This device is also a lot slower than a laser printer, noisier too.

Listed above was all the hardware I have been using throughout this project. Compared to what is available on the high street the hardware I am using is rather basic – yet five years ago it was probably top of the range – an indication to how fast technology is moving. A new advancement by Intel lately is to use multiple core processors which means that the processor has more than one lane to process data down – Intel's Quad Core means that the processor has a staggering four lanes to process data down; increasing processing speeds immensely! Most CPU's support over 4GB of RAM, giving the user the efficiency whilst using the system because with such large RAM support it is possible for whole programmes to be brought into it – because the RAM is faster than the hard drive it means the user does not experience hangs or lock ups as much as when the processor relied on the hard drive completely. Hard drive sizes are now reaching in excess of 1TB (terabytes) on the home system which is 1000GB! This means that the user seems to have what is infinite amounts of space.

Hardware Sub System