

## **Assignment 6-Unit 3**

### **Hardware and Software**

Angela and David need to buy a computer. They plan to use it to produce letters and newsletters, to create a website, to keep the club accounts, to record members of the club, and to detail stockists of tandems in their area. They have never bought a computer before and have around £1800 to spend on both hardware and software.

#### **Hardware**

##### **Main Processing Unit**

The work they will be doing on the computer is not the most demanding for a computer, so the specification of it will not need to be extremely high.

I would recommend a fast, budget processor, like a Celeron or Duron. These are cheaper than Pentiums and Athlons and for the tasks Angela and David are carrying out, they will not notice much difference in performance. A clock speed of 1000-1500Mhz would be sufficient for their needs.

On the memory front, I would recommend 256Mb of memory, as it is an amount that would make Microsoft Windows XP and Office XP run smoothly, and it is also the standard requirement for most modern software programs. The memory will also be useful as it will allow a large number of files, in this case web pages and graphics, to be open at one time.

A motherboard will be needed, and it will need to be compatible with the processor and memory chosen. There will need to be a sound card and a video card, and as they will not be using these to use graphics intensive programs, such as games, I would suggest that they chose a motherboard with these already built in. into the motherboard to keep costs down. It will need to contain several different types of ports. There will need to be around 4 USB ports (for various peripherals, e.g. digital camera, scanner, printer), a parallel port (for the printer or scanner), two PS2 ports (one each for the keyboard and mouse), and a serial port (some digital cameras still connect this way). This will give them a choice of connection options and extra peripherals.

A modem will be needed to connect to the Internet. I would recommend an internal modem as it takes up less room and does not require plugging into the mains. The modem will need to be a normal dial-up modem, not ADSL or cable, as they do not require broadband. The modem will need to be a 56K modem to increase speeds. I would also recommend the V92 standard of 56k modem, which has a faster upload speed than previous standards, so they spend less time uploading their website. An ISP will also be needed. There are many different ones, but I would advocate the use of a free ISP, where you only pay for the calls, as it does not appear that they will be using the Internet to such an extent where a subscription-based unlimited service would work out cheaper. The ISP also needs to have web space for the users, so the Tandem Club website can be uploaded. Freeserve is an example of an ISP that does this.

### **Input Devices**

The keyboard and mouse are standard for any Windows computer. In this case, both will need to be connected to the PC via the PS2 port. I would recommend an ergonomic mouse with a scroll wheel, as this aids computer usage a great deal. The keyboard should be comfortable to use for Angela and David, but a normal keyboard should be recommended for them, rather than the peculiarly shaped ergonomic ones, which would be a little awkward to understand for a beginner.

I would also recommend a scanner. This will aid them in creating their newsletters and web pages. Photographs of their cycle rides and social gatherings could be scanned and inserted into their documents. Signatures can also be scanned in. For their usage, I would recommend a plain, low-priced flatbed scanner, as these are very simple to use and will do what they need it to. It does not need to be high definition, just around 600dpi, and it does not need a high colour depth. This is because images on the web are compressed and lose quality, and the images in the newsletters will be small.

A digital camera would also be a good idea as it will allow them to quickly get images into the computer, without going through the trouble of scanning them. They would only require basic functionality from it, so one costing around £100 would be adequate.

### **Output Devices**

The monitor is a very important part of the computer set-up as it is the way the user knows what the computer is doing. As Angela and David will be spending quite a while looking at the monitor, I would recommend a fairly large 17-inch model, as this will make computing easier as it is easier on the eyes and reduced the need for scrolling up and down.

Angela and David will need a printer in order to produce hard copies of their documents. I would recommend an inkjet printer, with a fairly high resolution (around 1200dpi) so that they can change between the different resolutions they need. They also need one that is economical to run, which have replacement cartridges that are inexpensive to replace.

Speakers would also be a good idea, as they will open up other uses of the computer in the future, such as digital music, internet browsing, controlling Windows, and multimedia applications.

### **Storage**

The computer will need a hard drive, to store all of the data from the various programs on it. For the needs of David and Angela, I would advocate the use of a 40Gb hard drive. This will allow plenty of room for them to store their programs, documents and images. As they are novices, this size of hard drive will take an extremely long time to fill up, if ever, which is good for them as it means they do not have to worry about technical matters inside the computer.

In order to install the software that they will need, a CD drive is obligatory. They are quite cheap and I would recommend a 52-speed drive, which means that data is read from it extremely quickly, reducing the time needed. The couple have no need for a DVD drive, as they do not require viewing of DVD Video discs or DVD software.

Although floppy disk drives are an old technology, I think that the Williams' computer will need one. This will allow them to create backups of their files, providing they are not too large, and it will also allow them to distribute images to other members of the Tandem Club.

## **Software**

### **Operating System**

All computers require an operating system and usually comes pre-installed, and in this instance, I would recommend Microsoft Windows XP Home Edition. This new version is more stable than previous versions, and offers a lot help to the user, which will aid them in getting to grips with computing. It also comes with a number of built in applications, such as Microsoft Internet Explorer 6, Outlook Express 6, FrontPage Express (needed for web pages), a number of utilities, such as Disk Defragmenter, and inbuilt games, like Minesweepers. It is also compatible with a large amount of software, equipment and utilities. This costs £164 alone, but it costs a lot less when pre-installed.

### **Office Suite**

The Williams' need to create several different types of document with their computer, such as letters, newsletters and accounts. Several different types of programmes would be needed to create these, such as word processing and DTP, but these are often bundled together into an office suite. There are several different ones, such as StarOffice and Lotus SmartSuite, but the one I would recommend is Microsoft Office, in particular, Office XP Standard Edition. This suite contains most of the software David and Angela need; Word, a word-processing program, for letters, Excel, a spreadsheet package, for the accounts, and Outlook, a contact management and e-mail program, for keeping the details of club members and tandem stockists. It also contains a good help system, and as it is widely used, there is a lot of documentation in shops and many computer magazines give advice on it, which is helpful if you are having difficulty. Microsoft Office XP Standard costs around £300, but if either David or Angela were teachers, or had children in education, they would qualify for the discounted Student and Teacher price.

### **Other Applications**

In order for David and Angela to create their web pages, they will need to use a web page editing program, such as FrontPage Express, which is bundled with Internet Explorer for free.

On the subject of web pages, they will need a program to create graphics, and to process the images received from the scanner or digital camera. I would recommend the purchase of Paint Shop Pro, an image-editing program, which is bundled with Animation Shop, which creates animated graphics for the Internet. Paint Shop Pro can work with scanners, which would be useful in this case, and contains

image enhancement, optimisation for the web. This costs £65 for the version 7, the latest, but I would recommend an older version, such as 6, which will be a little simpler to use, and will carry out most of the functions that the newer version does for less money. Version 5 of Paint Shop Pro, although extremely functional, is often given away on the covers of computing magazines for around £5, so this would be a useful way to save money.

In order to create newsletters, a desktop publishing program is needed. There are many different programs of this type, such as Microsoft Publisher, Adobe PageMaker and Greenstreet Publisher. In this case, I would advise the Williams' to purchase Microsoft Publisher 2002. It contains wizards and templates to aid in the creation of newsletters, as well as other documents like posters. As it is part of the Microsoft Office XP family, the interface is very similar, so it will be easy to get to grips with if they understand other Office products. This costs around £100.

## **Health and Safety**

Angela and David will need to be aware of health and safety issues before using their computer.

### **Set-up**

- Do not force cables into ports
- Keep cables tidy, neat, and out of the way
- Do not turn on the electricity before all the cables are in.

### **Usage**

- Organise an electrical safety check at least once a year
- Use an adjustable chair with backrest
- Use a wrist support
- Take regular breaks from the computer
- Position the computer correctly
- Do not consume food or drink near a computer.
- Adjust position in seat so arms are horizontal, mouse is in easy reach and eyes are level with top of VDU.
- Follow instructions on consumables like printer ink and dispose of them correctly.
- Install a screen filter to protect from eye strain
- Keep the screen clean with anti-static screen cleaning solution, not polish to reduce glare
- Adjust position of computer and monitor to reduce glare from lighting

### **Upgrading**

- When upgrading the computer, always turn the power off, be gentle, and take anti-static precautions, e.g. anti-static mat