

UNIT 1

Computer Users

INTRODUCTION

A **computer** is a device that processes **data** according to a set of instructions known as a **program**. The equipment is known as the **hardware** and the programs and data are the **software**. A special set of programs, called an **operating system**, provides an interface for the user and allows applications programs to communicate with the hardware. Common **applications programs** include **wordprocessors** for creating and editing texts, **spreadsheets** for calculating mathematical formulae and **databases** for storing data in a way that allows the data to be sorted and searched. **Anti-virus programs** are used to detect and remove **viruses** (harmful programs that can reproduce themselves and attach themselves to other programs). Some operating systems have **graphical (user) interfaces** that allow the computer user to select items from **menus** (lists of choices) and to start programs using an input device called a **mouse**. This is done by pressing a button on the mouse i.e. **clicking** the mouse. The main device for inputting the data is a typewriter-style **keyboard** and the output is commonly displayed on a **monitor** screen that looks like a small television screen.

There is a range of sizes and types of computer. Those designed for use by one person at a time are known as **personal computers (PCs)** although the term PC is usually only applied to personal computers that are compatible with the standards laid down by the company known as **IBM** (International Business Machines). Personal computers include **desktop** computers (for use on an office desk) and **handheld** computers that can be carried around by the user. Electronics can be added to desktop computers by plugging in **expansion cards** (electronic circuit boards that can be plugged into special sockets called **expansion slots**).

It is also possible to build all the main parts of a computer into one electronic integrated circuit packaged as a single electronic **chip** (the common name for a microchip; an electronic integrated circuit in a small package) i.e. the '**computer on a chip**'. This enables computers to be built into other devices including household devices such as washing machines and fridges and to be incorporated into plastic cards i.e. **smart cards**, which are able to store information such as health records, drivers' licences, bank balances, etc. Devices that include a computer circuit are commonly referred to as **smart devices**. A **multimedia computer** can process different forms of data including text, graphics, **audio** (sound), animation and video. This enables computer systems to be used for a combination of education and entertainment, sometimes referred to as **edutainment**.

Unlike most machines, computers do not have a fixed purpose. They are multi-purpose tools. They can be used in a very wide variety of situations and are found in a wide range of systems including security systems, cars and phones. Advanced systems, known as **expert systems**, enable computers to 'think' like experts. Medical expert systems, for example, can help doctors diagnose an illness and decide on the best treatment. As computer systems are developed, they are becoming more common and are gradually being used for more and more purposes. How they are developed, and for what purposes they are actually used in the future, can be influenced by computer users. A variety of devices known as **peripherals** can be added externally to a computer. One of the most common peripherals is a **printer** used for printing the computer **output** (the processed data or signals that come out of a computer system)

on paper. A **digital camera** allows photographs to be input to a computer for editing.

Not all computer systems are **compatible** i.e. they cannot use the same programs and data. *Connecting computers together to form a network* can provide the '**connectivity**' required to enable computers and software to communicate and to share resources. Networks connected together form an **internet**. The connection of networks throughout the world is known as **the Internet** (note that a capital I is used) or, more simply, **the Net**. Various communication services are available on the Internet, including **email** (electronic mail) for sending and receiving text messages and **IRC** (Internet Relay Chat) which allows users to communicate using text messages in **real-time** i.e. without any delay, while the users are **logged on** (connected to a network system account, normally using a password) to the system. An Internet service called **FTP** (File Transfer Protocol) is used for transferring data or program files between the powerful **server** computers that provide the network services and the **client** computers that use these services e.g. downloading music files. Note that copying data from a larger server system to a client is referred to as **downloading** and copying from the client to the server is known as **uploading**.

One of the newest and most popular services available on the Internet is **the World Wide Web (WWW)** which is often simply referred to as **the Web** (note the use of the capital W). The Web contains interlinked documents called **webpages**. A set of related webpages stored together on a server computer is called a **website**. Websites, such as Dogpile and Askjeeves, give the user

access to special programs called **search engines** that are designed to allow the user to find relevant webpages on the Web. An Internet system designed to provide free, interactive access to vast resources for people all over the world is sometimes referred to as an **information superhighway**.

Services such as these allow people to **telecommute** (use their computers to stay in touch with the office while they are working at home). Computer uses mentioned in this unit include producing greetings cards; learning, using three-dimensional graphics programs called 'Splat the Cat' and 'Pets 3'; using the Microsoft Word wordprocessing program including features such as **clipart** (ready-drawn graphic images that can be inserted into documents); communicating on the Internet using email and chat programs including the use of **email attachments** (other types of files e.g. video files attached to simple email text messages); distance learning and **videoconferencing** (a form of communication over a network that uses video cameras so that the people taking part can see and hear each other); electronic classrooms or boardrooms; **browsing the Web** (moving from webpage to webpage using a Web browser program); selling, using a website; painting; scanning pictures; downloading music and creating **CD-ROMs** (compact disk read only memory, commonly referred to as **CDs**). CD-ROMs are storage devices that use laser light for reading and writing data. The most common storage device is a **hard disk** (a set of aluminium disks coated in a magnetic material and enclosed in a vacuum-sealed case) used for storing the operating system and applications programs as well as the user's data.