

CHAPTER 11

COMPUTER IN EVERYDAY LIFE

Computers at Home

Learning Module Objectives

When you have completed this learning module you will have:

- Knew computers and the opportunities offered by their use
- Knew computer games
- Knew Home Working
- Knew Home Banking
- Knew connecting to the Internet

Know Some of the Uses of the PC at Home

- **Common uses for the computer within the home**
 - **Computer games**
 - **Home working**
 - **Home banking**
 - **Connecting to the Web**



Notre Dame University

Computer in Everyday Life – Slide No. 3

Know Some of the Uses of the PC at Home

Computers and the opportunities offered by their use

The greatest advantage in using a computer is its speed in working out repetitive calculations. For instance, let's say that you wish to work out your weekly bank balance. You could list all your expenditure in one column in a page, and list all your income in another column. You could then add up both columns and subtract the total expenditure from your total income and (hopefully) the amount left is what you have left to spend or save.

The trouble with doing this on a piece of paper is that if you suddenly remember that you have omitted an item in either list, then you will have to re-total this column and then re-do the subtraction of one column from the other. This is a clear case where using a computer makes your calculations easier and quicker.

Computer games

The single biggest use of PCs within the home (along with accessing the Internet) is for playing games. The capabilities of the PC have been greatly enhanced over the years and today's games bear very little resemblance to the early "Space Invader" and "Ping Pong" type games. In fact, many PC manufacturers configure PCs with games in mind. Apart from PCs, there are games specific computers such as "Dreamcast", "Nintendo 64" and "PlayStation". These are games consoles rather than general-purpose computers.

Home working

The rise of the Internet and email has been accompanied with a rise in what is called "home working". If you consider the cost of office space, lighting, heating etc compared with the small initial cost of setting up part of the workforce at home with a computer and telecom equipment, then companies can make substantial cost savings. This also has the benefit that people working at home can schedule work around other commitments, including looking after a family. Some research has shown that people working at home miss the "office gossip", however in a properly managed environment, this can be overcome. Additionally distance from the center of operations becomes unimportant, so that people can physically be located in areas where more traditional industry is in decline.

Home Banking Traditionally banks needed branches near to population centers. However, with the rise of the Internet, some banks are increasingly doing away with the branch system and are moving more and more services on-line. In extreme cases, banks are setting up new companies on the Internet that will only deal on-line. While there are security and social implications to this change in direction there are tremendous costs savings available to the banking organizations embracing the capabilities offered by the Internet.

Examples:

Smile <http://www.smile.co.uk>

Egg: <http://www.egg.co.uk>

Connecting to the Web Most PCs are sold now as internet ready PCs. Often they have what is called an internal modem, which means that you simply plug a phone line into the back of your PC, install some software and then you are up and running, connected to the Internet! Once connected to the Net you can send and receive email, surf for information and even conduct your personal banking via the Web.

Computers at Work or in Education

Learning Module Objectives

When you have completed this learning module you will have:

- Knew the uses of CBT (Computer Based Training)
- Knew the Automated Production Systems
- Knew the Design Systems
- Knew types of systems used in business

Know the Uses of Office Applications

- **CBT (Computer Based Training)**
 - **Computer Based Training (CBT) offers a low cost solution to training needs where you need to train a large amount of people on a single subject.**
 - **These programs are normally supplied on CD-ROM and combine text, graphics and sound.**
 - **Packages range from general encyclopaedias right through to learning a foreign language.**

Know the Uses of Office Applications

CBT (Computer Based Training)

Computer Based Training (CBT) offers a low cost solution to training needs where you need to train a large amount of people on a single subject. These programs are normally supplied on CD-ROM and combine text, graphics and sound. Packages range from general encyclopedias right through to learning a foreign language.

Know the Uses of Office Applications

- **Automated Production Systems**
 - **Many car factories are almost completely automated and the cars are assembled by computer-controlled robots.**
 - **This automation is becoming increasingly common throughout industry.**

Automated production systems

Many car factories are almost completely automated and the cars are assembled by computer-controlled robots. This automation is becoming increasingly common throughout industry.

Know the Uses of Office Applications

- **Design Systems**
 - **Many products are designed using CAD (Computer Aided Design) programs to produce exact specifications and detailed drawings on the computer before producing models of new products.**

Design Systems

Many products are designed using CAD (Computer Aided Design) programs to produce exact specifications and detailed drawings on the computer before producing models of new products.

Know the Uses of Office Applications

- **Stock Control**
 - **Stock control is ideal for automation and in many companies it is now completely computerized.**
 - **The stock control system keeps track of the number of items in stock and can automatically order replacement items when required.**
- **Accounts / Payroll**
 - **In most large organizations the accounts are maintained by a computerized system.**
 - **Due to the repetitive nature of accounts a computer system is ideally suited to this task and accuracy is guaranteed.**

Types of systems used in business

Computers are ideally suited to a wide range of business activities. In many cases, the use of computers has results in companies shedding staff and becoming more efficient. The flip side is that many businesses such as banks while more efficient are also becoming more impersonal.

Stock Control

Stock control is ideal for automation and in many companies, it is now completely computerized. The stock control system keeps track of the number of items in stock and can automatically order replacement items when required.

Accounts / Payroll

In most large organizations, the accounts are maintained by a computerized system. Due to the repetitive nature of accounts, a computer system is ideally suited to this task and accuracy is guaranteed.

Voice Mail / Fax

In many companies, the traditional fax machine has been completely replaced by the ability to send and receive faxes directly from a desktop computer. This is far more efficient as you do not have to waste time walking to and from the fax machine. In addition, the quality of the faxes sent and received is much higher. In a similar manor, the traditional answering machine has largely been replaced by voice mail. Using this system, the message can be stored on your own computer and played back when you return to your office.

Email

The phrase Email refers to Electronic Mail, which operates in the same way as the traditional mail system but has the advantage that mail is sent and received instantaneously (on a world wide basis). Most Email packages are very easy to learn and used properly can greatly enhance productivity.

Word processing

A word processing program (such as Microsoft Word) allows you to easily produce letter, memos, etc. You can easily mail merge a list of names and addresses to produce mass mailers, individually addressed to customers or subscribers.

- Spreadsheets** A spreadsheet program (such as Microsoft Excel) allows you to work out a company's income, expenditure and then calculate the balance. It allows you to make 'what if' type projections of how the company will fair in the future and to forecast how changes in prices will affect profits.
- Databases** A database program (such as Microsoft Access) allows you to compile information and then to search this information to extract just the information you require. For instance, if you have a database of all the equipment housed within an office you can very simply produce a report listing only the equipment above a certain value.
- Presentation** A presentation program (such as Microsoft PowerPoint) allows you to produce professional looking presentations, which can be printed out directly onto slides for use with an overhead projector. Alternatively, you can display your presentations directly on a computer screen.
- Graphics** A graphics program (such as Corel Graphics) is used to produce adverts, posters and promotional material by organizations.
- Translation programs** Translation programs allow you to electronically convert text from one language to another. While these programs are far from perfect, their use is becoming increasing common and they are getting better as each new version comes out.

Know the Uses of Office Applications

- Repetitive tasks
- Easily automated tasks
- Mathematical calculations
- Dangerous situations

Where computers might be more appropriate than people

Repetitive tasks

In the past, many repetitive jobs were performed by low skilled, poorly paid workers. Now it is more common to use computers instead.

Easily automated tasks

The phone system is now largely automatic, while in former times all calls were made through an operator. Many other examples exist. How many can you think of?

Mathematical calculations

A computer is ideally suited to performing mathematical calculations. Before computers were widely available accountants used to work on manual, paper-based spreadsheets. Within a spreadsheet, a common task would be adding up a column of figures, and then taking the total, which is added to other columns of figures. If you change one number within a column that is being summed there can be a knock-on effect on many other calculations within the spreadsheet. Re-calculating a spreadsheet could take hours (or days). On a computer, this re-calculation can take seconds!

Dangerous situations

Monitoring polluted or radioactive environments is suited to computer-based robots, where the use of a human would expose that person to unacceptable risks.

Serious space exploration is almost exclusively carried out by unmanned, computer-controlled machines. A recent exploration of Mars involved a computerized 'car', which had to make decisions on its own. It could not be fully remotely controlled from earth, as the time taken for the signal to reach Mars is just too long.

**Where people
might be more
appropriate
than
computers**

Computers have their limits (how do Daleks from the TV series "*Dr Who*" cope with stairs!)

When you are unwell and visit your doctor, it is often a person that you want to talk to, as there might well be other factors affecting your health (maybe personal problems) that you would not feel happy typing into a computer, but would feel comfortable describing to your local doctor, who you may well have known for years! In most of the caring professions, the same is true, whether it be doctors, nurses or social workers. The human touch is important.

Despite the uptake of e-commerce, selling on the Net, banking on the Net and so on, there are many people (myself included) who still like to have the option of a real person that you can talk to, be it the local bank manager or a real person on the end of a telephone sales line! Does anyone really like ringing a large organization and being greeted with a range of buttons to press, in order to communicate with a computerized telephone system. Even ordering cinema tickets can now involve a lengthy phone call, listening to a synthetic voice describing many films you do not want to see, and pressing many buttons!

For many years, science fiction has portrayed images of a thinking, sentient android (Lieutenant Data from *Star Trek* for instance). In reality this is a long way from present capabilities and when it comes to anything requiring creative thought, a human wins every time. Computers in their present form would gain little from studying philosophy for instance. They can memorize the facts, but cannot make the creative leaps that humans can. On a more mundane level, when it comes to even a simple task such as cleaning your home, a human can deal with mess, clutter and items (such as chairs) that have changed their position recently. Even this simple task is beyond a small computer.

Computers are very bad at recognizing and interpreting shapes. They can take photographs and record images on video, but they have no understanding of the meaning of shapes, and will be easily confused where presented with two overlapping shapes. The human process of pattern recognition, as recent research had demonstrated, is vastly more complicated than we used to think. For this reason it is humans, not computers that will examine tissue smears for signs of abnormality within hospitals.

In time things may change, it was not very long ago that a computer was incapable of beating a chess grand master!

Computers in Daily Life

Learning Module Objectives

When you have completed this learning module you will have:

- Knew types of systems used in the Home.

Be Aware of the Uses of Computers in Every-day Life

- **Accounts**
- **Games**
- **Educational**
- **On-line banking**
- **Smart ID cards**
- **Supermarkets**
- **Working from home (Tele-working)**
- **Internet**
- **Bank 'hole in the wall' cash machines**



Notre Dame University

Computer in Everyday Life – Slide No. 11

Be Aware of the Uses of Computers in Every-day Life

Types of systems used in the home

Each month it seems that computers either cost less or get more powerful! When the original PC was released by IBM in 1981 only businesses could afford them. These days it is common to find powerful PCs in the home bought for educational or recreational use. It is odd to think that the computer in your home is many times more powerful than the on-board computers used to land the Apollo spaceships on the moon! Would you fly a spaceship using a home computer?

Accounts

Many people now balance the monthly budget using their computer.

Games

The vast majority of home computers are still used to play games on.

More information:

<http://www.cdmag.com>

<http://games.yahoo.com>

Game cheats! <http://www.magi.com/~jfisher/hints.html>

Educational

Many parents will buy their child a computer in order to take advantage of the vast range of educational software that is now available. While the price of PCs is getting lower and lower, there is the danger here that home education via the computer will be divided into the 'haves' and the 'have nots'.

More information:

<http://www.bbc.co.uk/education/home>

The UK department of education: <http://www.dfes.gov.uk>

Working from home (Tele-working)

If you have a computer at your home, linked to the office via a modem, there is often little real need to travel to the office. Many people find that working at home is more productive, and often far less stressful than fighting your way through the commuters into a large city! Many sales people rarely see their head office as they

communicate with their companies via phone calls or emails.

- Internet** Many people are starting to realize that by using the Internet they can sell to the entire world. If you are not interested in making money from home the Internet offers you a vast range of educational, research and just plain fun opportunities.
- Bank 'hole in the wall' cash machines** Most banks now offer 'hole in the wall' cash machine facilities. Using these machines, you can withdraw cash, check your balance and in some cases even transfer money between accounts. This is often much more convenient for customers, as they offer a 24 hour service (assuming they are not out of order and that the bank has remembered to fill them!). From the bank's point of view, they offer a more flexible service to their customers while reducing their overheads. In fact, most banks have shed huge numbers of front line staff and middle management as a result of implementing new technologies.
- On-line banking** Many banks are now introducing on-line banking. Using your computer, you can connect to the banks computer system (often via the Internet) and control your day-to-day finances from home. The concept of on-line banking has enormous benefits to the banks; they can increase their profits while reducing their investment in staff and buildings. Many customers find the advantage of paying bills and moving money between accounts, from the comfort of their own home as a very attractive idea.
- Smart ID cards** These cards have recently been introduced in many countries and are called smart cards because they contain a memory chip within the card. They can be credited with an amount of 'virtual money' which can then be spent by the card being read by a special machine when you purchase goods or services and this amount is then debited from the card. When all the money on the card is spent, you need to get more virtual money credited to the card.
- More information:** <http://www.smartcrd.com>
Mondex <http://www.mondex.com/>
- Supermarkets** Self-scanning of goods is being introduced in many countries. When you buy goods in many large shops, you are issued with a scanning device, which allows you to scan your purchases as you pick them off the shelf. When it comes to paying for your purchases you know exactly how much it has cost and also has the advantage that the check-out staff do not have to take all the products out of one basket, scan it and then re-package it in another basket. In many ways this is ideal for the customer, as it offers convenience and from the shops point of view they can process orders more quickly, with less staff, and in the process increase profits.
- On-line supermarkets** A recent innovation is the facility to order your supermarket goods on-line and these will be delivered to your door.
- Examples:**
Tesco <http://www.tesco.co.uk>
Sainsburys <http://www.sainsburys.co.uk>
Iceland <http://www.iceland.co.uk>
- Libraries** Libraries use computers to log books in and out. Many libraries now use bar codes to identify individual books, when someone wishes to borrow a book the librarian scans the bar code, this tells the computer system all about the book (title, author, etc.), removing the need for this information to be keyed in. The computer system can also automatically generate reminder letters to members with overdue books.
- Doctors surgeries** A doctor's time is precious (and expensive!) so many now use computers to help organize their day. Patient appointments are logged on a computer system and the computer can also be used to store patients medical records, allowing the doctor instant access to a patients medical history.

Business administration systems

The classic use of a computer is to run business administration systems, and all aspects of this have now been computerized.

Airline booking Systems

Airline Booking Systems have long been computerized. This maximizes profits for the airline companies and is often more convenience for the customer. Many of these airline booking systems have now also been integrated with online airline tickets sales.