

Learning Summary

In this chapter you will learn about:

- **Computer ethics**
- **Free software**
- **Freeware**
- **Shareware**

There are many varieties of software available in the market; without good software, computer systems would have had far less impact on society as a whole.

This chapter will consider a number of common software applications and its key attributes.

9.1 Computer ethics

Computer ethics is a set of principles that regulates the use of computers in everyday life (both commercial and non-commercial).

This basically covers:

- intellectual property rights (for example, is it wrong to copy software without permission?)
- privacy issues (for example, accessing somebody's personal information)
- effect of computers on society

As computers continue to increase in their use in everyday life, ethical standards in their use will continue to evolve and be subject to more and more legislation to protect the individual and to protect the producers of software and associated data.

Copyright is the ownership of intellectual property. The Internet is fast becoming one of the main areas where copyright issues are becoming a major problem. Many users of the Internet believe that freedom of information also means that posting or copying any information is exempt from copyright. Nothing could be further from the truth. But just as serious, as more and more people are turning to the Internet to do research, is the problem of **plagiarism**.

Basically, plagiarism is to take somebody's ideas (whether written or verbal) and claim that these ideas are your own! The last part of this sentence

Universities and colleges often use this software to check if student project work is subject to unacceptable plagiarism!

is the key issue here. It is perfectly acceptable to quote another person's ideas and use these ideas to formulate your own opinions and conclusions; but some form of acknowledgement must be made to indicate that these ideas were not originally your own. These can take the form of references at the end of a document or numbered references on each page (for example, plagiarism²¹) with a note at the bottom of the page indicating the source of the material.

It is of course possible to re-write the ideas in your own words (changing the terminology or adapting the ideas using your own words) – this goes some way to removing the risk of plagiarism. There is also software available which can pick up work which has been taken from the Internet.

9.2 Free software, freeware and shareware

Free software

Free software is where users have the freedom to run, copy, change and adapt available software. The main concept here is one of *liberty and not price*, since free software guarantees the freedom and rights to study and modify software by having access to the source code itself. Basically, the user controls the program and what it does and has the freedom to:

- run the software for any purpose they choose
- study how the software works and change it to meet their own needs
- redistribute copies of the software to friends, family or colleagues as they see fit
- distribute modified versions/copies of the software.

There is no need to pay or ask permission to do any of the above since the software has no copyright restrictions. Free software can be commercial or non-commercial in nature. But the original software or modified versions of it must not contain coding from software which does not fall into this category since the perpetrator would then fall foul of copyright laws!

Freeware

Freeware refers to software that anyone can download for free from the Internet and then use without having to pay any fees (for example, *Adobe PDF* or *Skype*). The usual copyright laws apply to freeware and the user license is an important part of this. Unlike free software, it is not possible to modify freeware or view the source code.

Shareware

Shareware gives users the chance to try out the software free of charge before buying it (for example, *Winzip*). Clearly it is subject to all the usual copyright laws. However, all the features of the full version of the software

are not made available and the user has to buy the full version if they intend to use the software in the future. Usually the copyright holder needs to be contacted before copies of the software can be distributed to other people.

9.3 End of chapter questions

- 9.3.1 (a) Describe the main differences between free software and freeware.
- (b) Explain how computer ethics could affect a user when downloading and running either freeware or shareware.
- (c) A software manufacturer offers a suite of shareware programs containing a spreadsheet, computer-aided design and a word processor. Describe the main advantages and disadvantages to a user of making use of this suite of programs.
- 9.3.2 Explain the main differences between free software, freeware and shareware.