



Chapter 10: Ethics

Learning objectives

By the end of this chapter you will:

- understand the importance of computer ethics
- understand the difference between free software, freeware and shareware
- understand the ethical issues involved in electronic communication.



Computer ethics would say that this is wrong to do without the author's permission. Taking the content without the author's permission could be seen as stealing. The author may have taken a lot of time and effort to create the image or content and should be recognised or paid if a person wants to use it. By seeking the owner's permission it gives them the opportunity to ethically allow a person to use their work.

The act of taking another person's work and trying to pass it off as our own is called **plagiarism**. The least we should do if we use the work of another is credit them in our own work. In order to protect their work a person can choose to **copyright** it. A country will usually have a law that governs copyright. This law will have a process that a person needs to go through (usually completing an application) to copyright their work. Once a person's work has a copyright, this gives them the legal right to sole distribution of their work and means they can charge other people money to use it. If another person steals work that has a copyright, this would be breaking the law and there will be set consequences for this. When a person has got a copyright on their work they can display the copyright symbol. This is usually a letter C in a circle.



KEY TERM

Plagiarism – stealing the work of another without making reference to the source where it was obtained.

Copyright – legally protecting work to give the sole right to distribute the work, often with payment.



Figure 10.02 The copyright symbol

Jane Goodall is an author. In early 2013 she wrote a book called *Seeds of Hope: Wisdom and wonder from the world of plants*. The book was about genetically modified crops. When people started reading the book it was famously noticed that much of the text had been taken from well recognised sources such as Wikipedia. The text had been copied without any credit to the original source being made. Further investigation was made into the extent of the plagiarism and it was found that various interviews in the book were also not her own work and had been copied from other sources. Goodall apologised for the plagiarism, but her reputation was damaged as a result.

It is very important to understand who owns our data and information as in some cases uploading it to the World Wide Web may mean that we no longer do own the rights to it. For example, it is written into the terms and conditions of some social networking sites that if we

upload images or content, they become the property of the site. This may mean that even if we delete them from the site they can still keep a copy and distribute it if they want to.

TEST YOURSELF

- 1 Find out what copyright laws exist in your country.
- 2 Research, using the internet, another famous case of plagiarism.

10.03 Free software, freeware and shareware

SYLLABUS CHECK

Distinguish between free software, freeware and shareware.

One product that people own and copyright is software. We may need to pay for software but in some cases it can be provided free of charge. Software that we can use for free can sometimes have certain conditions placed on its use. We will look at three different types of software that we can use for free.



KEY TERM

Free software – software that we have the freedom to run, share, copy and change.

Freeware – a copy of software given to a person free of charge that cannot be changed or redistributed due to copyright.

Shareware – a free trial or limited version of software.

Free software

Software that is classed as **free software** means that we have the right to run, copy, share and change the software. We can do all this without seeking any permission. The 'free' part of free software is more about the freedom to do whatever you want with the software, it is not in reference to the price paid for the software. A person may still charge or be charged a fee to distribute the software.

Therefore, if a store gives us a free copy of a piece of software, this does not mean that it is classed as free software. This is because we may not have the freedom to share and distribute the software. Unless we do, it is not classed as free software.

Even though we may have the freedom to change and distribute this software, or obtain a copy free of charge, we should not be unethical in how we do this. If we obtained a copy of free software for little or no charge, then distributed the software for a large fee, would this be ethical?

Freeware

Freeware is software that has a copyright but the owner of the software chooses to give away a copy for free. This means that the author does not charge a fee for the software but they still retain the copyright for it. Therefore we cannot do anything other than use the software, we cannot copy it, amend it or share it as we do not own the copyright. If we wanted to do anything with the software other than run it, we would have to ask the owner's permission to do so.

If a software company gave us a free copy of their software that they still retain the copyright for, then we shared this with our friends and family, would this be ethical?

Shareware

Shareware is software that is sometimes distributed or free, but if we like the product the owner will often request a fee. An example of this would be a free trial of a piece of software. Some software companies will distribute a full version of their software as a trial. When the trial time, for example a 30-day period, is up they will require us to pay a fee to continue using the software. Some software companies may give away a version of their software that is limited in features from the full piece of software. To use the full version of the software the company will require us to pay a fee. Both of these, until a version is purchased, are classed as shareware.

TEST YOURSELF

Think of any free software, freeware or shareware that you have used?

10.04 Ethics in electronic communications

SYLLABUS CHECK

Show understanding of the ethical issues raised by the spread of electronic communication and computer systems, including hacking, cracking and production of malware.

When we communicate with others using the internet or other networks, we can put the information we exchange at risk. These risks can include hacking, cracking and malware.

Our data is very precious to us, so we should keep it as safe as possible. For the same reason, we should not try and steal anybody else's data. Doing this would be unethical. Many people will try to obtain our personal data as it can be very valuable. They can use it to sell to marketing companies so they can target us with advertisements. They could also use it to commit identity theft.

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KEY TERM

Hacked – access gained to a system unlawfully by breaking through security methods.

Cracked – access gained to a system, software or website with the purpose of changing or defacing it.

Malware – a computer program designed to disrupt or damage a computer system.

If we store our personal data on our computer or we provide a company with it and they store it on a computer, if the computer is connected to a network this data could be **hacked**. This means that someone could try to gain unlawful access in order to steal our data. They normally do this through writing a computer program that enables them to gain access. Gaining access in this way would be unethical. The data a hacker may access is not their data and they do not have any ownership rights to it.

A software company could be at risk of their software being **cracked**. When software is cracked a person breaks into the software, disregarding the copyright, and changes the software. They could also crack the software by breaking the need to register the software to use it. A fee may be charged by the software company to use their software, but cracking the software would mean the software could be used without paying this fee. Both changing software that has a copyright and cheating a software company out of their fee is unethical.

A hacker and a cracker are different: a hacker aims to get past a security system, often with the aim to prove they can; a cracker will break into or change a system, website or software with the aim to amend or deface it.

Our computer system can also be affected by **malware**. Malware can be downloaded onto our system in a number of ways. It can often be attached to email communications and is downloaded onto our computer when we open the attachment or click a link. Malware is often used to disrupt or damage our computer system. In a strange sense some people believe it is entertaining to create malware programs that will damage other people's computer systems. To create a program and use it for this purpose is unethical. Damaging another person's property for any reason is wrong, especially when it is for their own entertainment.

To learn more about hacking, cracking and malware, see Chapter 2 and Chapter 9.

TEST YOURSELF

If a hacker tries to gain access to a computer system, other than their own, that stores their data, is this unethical?

Summary

- Ethics regulate the use of computers. They provide guidelines and laws for their use.
- Not everyone will agree on a set of ethics as what one person thinks is right, another may think is wrong.
- The act of taking another person's work and trying to pass it off as our own is called 'plagiarism'.
- Copyright allows a person to protect their work. It means that a person must seek the owner's permission in order to use their work.
- Software that is classed as free software means that we have the right to run, copy, share and change the software. We can do all this without seeking any permission.
- Freeware is software that has a copyright but the owner of the software chooses to give away a copy for free.
- An example of shareware is a free trial for software. It is software that is distributed for free at first, but a fee is required for continued use.
- Hacking is gaining unauthorised access to data on a computer, normally with the aim of stealing it.
- Cracking is breaking into a system or software with the aim of changing or defacing it.
- Malware is often used to disrupt or damage our computer system. Malware can often be attached to email communications and is downloaded onto our computer when we open the attachment or click a link.

Exam-style questions

- 1 Define the term 'computer ethics'. (2 marks)
- 2 Explain why ethics are necessary when using computers. (2 marks)
- 3 If a company gave you a free version of their software and encouraged you to try and improve it and share it with the online community, what kind of software would this be? (1 mark)
- 4 Explain how malware can be distributed using electronic communications. (2 marks)
- 5 Explain why it might be unethical to use an image taken from the internet in a commercial website. (2 marks)