



Topic: 1.7.2 Ownership

Intellectual Property

One of the more controversial areas of computer ethics concerns the intellectual property rights connected with software ownership. Some people, like Richard Stallman who started the Free Software Foundation, believe that software ownership should not be allowed at all. He claims that all information should be free, and all programs should be available for copying, studying and modifying by anyone who wishes to do so [Stallman, 1993]. Others argue that software companies or programmers would not invest weeks and months of work and significant funds in the development of software if they could not get the investment back in the form of license fees or sales [Johnson, 1992]. Today's software industry is a multibillion dollar part of the economy; and software companies claim to lose billions of dollars per year through illegal copying ("software piracy"). Many people think that software should be ownable, but "casual copying" of personally owned programs for one's friends should also be permitted [Nissenbaum, 1995]. The software industry claims that millions of dollars in sales are lost because of such copying. Ownership is a complex matter, since there are several different aspects of software that can be owned and three different types of ownership: copyrights, trade secrets, and patents.

One can own the following aspects of a program:

- Zak The "source code" which is written by the programmer(s) in a high-level computer language like Java or C++.
- Zak The "object code", which is a machine-language translation of the source code.
- Zak The "algorithm", which is the sequence of machine commands that the source code and object code represent.
- Zak The "look and feel" of a program, which is the way the program appears on the screen and interfaces with users.





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Consequences of Uses of Computing: Legislation

The way you use data and computers is subject to the law of the country you are living in. Across the world different countries have different laws, for the exam you only need to learn about the laws that affect the United Kingdom.

You must be familiar with the following legislation:

Copyright

Software copyright refers to the law regarding the copying of computer software. Many companies and individuals write software and sell it for money, these products are copyrighted and you cannot copy the code or the program without the permission of the maker. This, they believe protects the work of the programmers, rewarding them for their efforts.



Copyright symbol Public domain symbol Copy-Left symbol

Other companies and individuals release software under Free and Open Source software (FOSS) licenses. These licenses allow users the right to use, study, change, and improve a program's design through the availability of its source code. Some adherents of FOSS believe it creates better software in the long term, and others believe that no software should be copyrighted. FOSS licensed products are heavily used in running the World Wide Web and in the creation of popular websites such as Facebook. Open Source licenses generally mean that if you create software that makes changes to open source code, and choose to release it, you must release your new code under the same Open Source license, this is called Copy-Left. Some free software is in the public domain, meaning that you can use it for whatever purpose you wish, if you make a software product involving changes to public domain sources code, you don't have to release your code into the public domain.

Copyright in most works lasts until 70 years after the death of the creator if known, otherwise 70 years after the work was created or published (fifty years for computer-generated works).

In summary the act specifies that users are not allowed to:

- use copyright material without permission
- use patented design without permission
- edit programs without permission
- copy or distribute software without permission

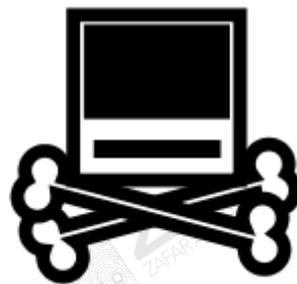


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Computer Misuse Act 1990

The Computer Misuse Act 1990 deals with people who *crack* computer programs or systems. Crimes might include removing the Copyright protective measures from a commercial software product, breaking into a school database to change grades, hacking into a companies' website and stealing customer credit card details, creating viruses and Trojans, and so on. It was recognized in the late 1980s that the increase in business and home use of computers required legislation in order to protect against their exploitation. To this end, in 1990 the Computer Misuse Act was established.

Under the act, three new offences were created:



It prohibits:

- 1) Unauthorized access to computer material
 - a. There must be proof that the perpetrator accessed the data, and that he was unauthorized and wasn't aware of the fact that he was unauthorized.
- 2) Unauthorized access with intent to commit or facilitate commission of further offences
 - a. To prove ulterior intent, it must be shown that they wished to use the information in order to commit a further offence.
- 3) Unauthorized modification of computer material
 - a. Unauthorized modification also includes deliberate introduction of a virus onto a computer system.





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"Obtaining access" means; "Causing the computer to perform any action the results in it": Copying/moving data, Erasing/altering data, using a program; or causing the computer to output programs or data.

A difficulty with computer crime is that it can cross physical and national borders; the Computer Misuse Act recognizes this fact and gives British Courts the jurisdiction where a "significant link" with Britain can be demonstrated in instances of computer-related crime. America has its own Computer Fraud and Abuse Act.

Regulation of Investigatory Powers Act 2000 (measures to restrict access to data made available through the Internet and World Wide Web)

The Regulation of Investigatory Powers Act was passed in 2000, and introduces the power to intercept communications with the aim of taking into account the growth of the Internet. It regulates the manner in which certain public bodies may conduct surveillance and access a person's electronic communications. Supporters of the act claimed this was an excuse to introduce new measures, some of these included being able to force someone to reveal a cryptographic key for their data, with failure to do so resulting in up to 2 years imprisonment. As we have seen in packet switching, data can be read in transit between hosts. However, the act goes further than allowing this:

- enables certain public bodies to demand that an ISP provide access to a customer's communications in secret;
- enables mass surveillance of communications in transit;
- enables certain public bodies to demand ISPs fit equipment to facilitate surveillance;
- enables certain public bodies to demand that someone hand over keys to protected information;
- allows certain public bodies to monitor people's internet activities;
- prevents the existence of interception warrants and any data collected with them from being revealed in court.

Software License

A software license is a legally binding agreement that specifies the terms of use for an application and defines the rights of the software producer and of the end-user.

All software must be legally licensed before it may be installed. Proof of purchase (purchase orders, receipts, invoices or similar documentation are acceptable) must be maintained by individuals or departments.

Software licensing can be a confusing subject. There are different types of licenses and licensing contracts, and different vendors may use different terms to describe their licenses. Here are some key terms to help you navigate through these murky waters.





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Freeware. In general, freeware is available at no cost and with no restrictions. Freeware tends to be simple software designed to perform one or two tasks.

Shareware. Shareware is free to try out. You usually have to pay if you want to continue using it. Some shareware relies on the honesty of users to pay up when they should.

Open source business software. Open source software can be freely adapted by anyone with the knowledge and inclination to do so. The open source system has created many useful pieces of software that are the product of loose collaboration between many people, all over the world.

Commercial/Proprietary Software

Proprietary software consists of software that is licensed by the copyright holder under very specific conditions. In general, you can use the software, but you are not allowed to modify the software or distribute it to others.

Many proprietary software applications are also commercial, meaning that you have to pay for a license. However, many other proprietary software applications are free. The fact that software is free does not mean it is not proprietary.

