Ethical issues

There are many ethical considerations related to computers. A particular one is the **right to privacy**, in particular when using the Internet. Personal information, including images, emails and locations are all stored in many databases. **Cookies** allow websites to track where you visit on the Internet. In addition, personal information such as photographs of houses, is stored with mapping applications on the Internet. On the one side, there are significant advantages to this personal information being stored; on the other side, as these technologies are very new, it is unlikely that the general public are knowledgeable enough to be giving their **informed consent**.

Recent news stories have shown journalists who have hacked mobile phones. The damage to these organisations when caught has been substantial. Other surveillance programmes, such as the USA's PRISM and X-Keyscore programmes have been heavily criticised for spying on personal information.

The **British Computer Society** (**BCS**) has a number of ethical standards it expects members to obey. These include **working within your competence**, **not disclosing confidential information** and **avoiding injury to others** or their reputations.

Cultural issues

Since computers and the Internet have become widespread we have entered what is known as the **Information Age**. This has allowed us to highly **automate** many **low-skill jobs** (such as building a car) and replace them with **higher-skill jobs** (such as creating a robot to build a car). But this makes many people **unemployed** who will find it difficult to become highly skilled to do the alternative jobs. It is now possible to have people across the world carry out work for a company. This is called **offshore outsourcing**. This might, for example, be a call centre job for your mobile phone being outsourced to a call centre in India. Before the **Internet** it may have cost over £1 a minute to make the necessary phone call, but now this can be made free via the Internet and so a company can reduce their costs. These **cost savings** can be passed to customers and mean the company can make greater **profits**, but many low-skill jobs are lost.

Computers and the Internet bring about other cultural issues. For instance, do people with less money have less access to technology? This is known as the **digital divide**. People who live in countries or areas with less money or poor Internet connections may not be able to gain the benefits of the Internet such as **education** or **cheaper bills**. It is also an issue that we are changing our culture by replacing **face to face communication** with **virtual communication**. The increase in **monitoring** people via **Closed Circuit Television** (**CCTV**) and **computer networks** has reduced the levels of **privacy** we have.

Environmental issues

Computers use large quantities of **raw materials** and **energy**. **Data centres**, which house servers that provide **websites** and **online applications**, require huge amounts of energy as they need to run powerful servers, **air conditioning** and **UPS** (**Uninterruptible Power Supply**) **systems**. Around 2% of global energy is used to run data centres, while around 5% of home energy is used for electronics.

Disposing of old computer equipment is costly to the environment. Much **electronic waste**, which includes **toxic metals** such as **cadmium** and **lead**, is dumped on developing countries. Recycling workers and their children in these countries can be affected by **lead poisoning**, which lowers IQ.