Unit 1.5 Legal, Moral, Cultural and Ethical Issues

The Computer Misuse Act 1990

- Covers hacking and other malicious use of computers
- Frequently updated as technology changes
- Contains three primary offenses:
1. Unauthorised access to computer materials.
2. Unauthorised access with intent to commit further offences.
3. Unauthorised modification of computer material.

Computers in the Workforce

- Computers increase efficiency and productivity.
- This reduces labour costs giving lower prices to consumers.
- Computers can easily conduct repetitive and tedious roles, reducing the need for humans to.
- This can contribute to rising unemployment.
- Manufacturing roles have been badly hit by this
- There is a rise in services being offered online only.
- This reduces costs to the business.
- This can exclude those without online access.

Analysing Personal Information

- Large amounts of data from different sources can be pulled together. This is known as big data.
- This can identify patterns or other connections.
- This data can reveal a lot about individuals and their behaviour.
- It can also be used to target advertisements.
- Many people argue large companies should be more transparent about how they are doing this.
- People argue organisations have a responsibility to share trends they find.

Environmental Effects

- Technology evolves quickly and is more widely accessible than ever before.
- Modern devices are not always designed to be repaired if they break.
- This results in a huge number of devices being thrown away.
- Computer components are toxic and can cause environmental damage if not correctly disposed of.
- Electronic waste is sometimes shipped to countries with lower disposal standards.
- Computers and associated servers and equipment require huge amounts of electricity to power and cool them.
- This is often generated by burning greenhouse gasses.

Layout, Colour Paradigms and Character Sets

- Web designers should consider who will be using their sites when creating them.
- The Equality Act 2010 makes it illegal to discriminate against a group of people.
- Those with visual impairments may need to enlarge text or alter contrast.
- Websites should provide alt text for images.
- Transcripts of audio should be provided for those with hearing impairments.
- Web designers should consider how colours are interpreted in different countries.
- Some colours are regarded as unlucky in certain cultures.
- Web content may need to be translated into different languages.
- Unicode is the preferred character set due to its large number of characters.

The Regulation of Investigatory Powers Act 2000

- Covers the use of investigation and surveillance by public organisations
- Requires Internet Service Providers and mobile phone providers to provide certain information about their users to an authorised authority if requested
- Requires ISPs to install suitable monitoring hardware on their network
- Controversial as smaller organisations such as local councils can make use of its powers
- Some feel that is it is improperly used and an invasion of privacy

The Data Protection Act 1998

- Applies to data stored electronically and on paper
- Covers personal data, defined as data which either alone or in conjunction with other data can be used to identify a living person.
- Any individual who can be identified by personal data is know as the data subject.
- Superseded in 2018 by the European General Data Protection Regulations

Eight specific protections are provided for data subjects
1. Personal data shall be processed fairly and lawfully.
2. Personal data shall be obtained only for one or more specified and lawful purpose.
3. Personal data shall be adequate, relevant and not excessive for its purpose.
4. Personal data shall be accurate and up to date.
5. Personal data shall not be kept for longer than is necessary.
6. Personal data shall be processed in accordance with the rights of data subject.
7. Appropriate technical and organisational measures shall be taken against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data.
8. Personal data shall not be transferred to a country or territory outside the European Economic Area, unless that country or territory ensures an adequate level of data protection

The act provides three rights to data subjects:
1. The right to request a copy of the data held about them
2. The right to correct inaccurate data held about them
3. The right to prevent the use of their data for marketing purposes

Censorship

- Restricting what content people can view, publish or access.
- ISPs block illegal content such as that associated with extremism.
- Some people worry that this can be misused or used to push certain ideas or beliefs.
- Some promote a Free Internet with no filtering at all.
- Censorship may also exist at a smaller level within a workplace.
- It may be used to maintain employee productivity or maintain the security of the network.

Offensive Communications

- Unauthorised copying of software, music or other content is theft.
- The Internet has made this easy and widespread.
- The Internet increases anonymity.
- People are sharing more information than ever online.
- There has been an increase in cyber bullying and stalking.
- The Malicious Communications Act 1998 makes it an offense to send indecent or offensive messages online.

The Copyright, Design and Patents Act 1988

- Protects works such as logos, photos, software code and music.
- Applied automatically to original works.
- Expires between 25 and 70 years after the author's death.
- Extended in 1992 to include computer software

Automated Decision Making

- Used to control what is shown first on social networking feeds.
- May create an "echo chamber" where people are not exposed to views which challenge their own.
- Used in application processes such as for mortgages or credit cards.
- Relying entirely on automated decisions could mean people are unfairly treated.
- Used in driverless cars.
- Raises many ethical concerns.
- Algorithms must be written and tested to avoid bias.

Monitoring Behaviour

- People's computer usage may be monitored and tracked.
- Computers may be used to track people in other ways such as via CCTV.
- Employers may monitor the computer use of their employees to ensure productivity.
- These technologies are used to track and prevent crime.
- Some people believe this is unethical.
- Others argue this is essential to maintain safety and security.
- What should and should not be monitored?

Artificial Intelligence

- The ability of a computer system to behave in a way which replicates human intelligence, analysis and decision making.
- Backed by a large knowledge base.
- Used in systems designed to replicate system experts.
- Used to analyse huge datasets.
- Used in medicine to form diagnosis
- Used in neural networks for pattern and fraud identification.
- Used in voice recognition.
- Raises privacy concerns.
- What rights might a sentient AI have?
- Who is responsible when things go wrong?