

Unit-4-Societal Impacts

Digital Footprint

A digital footprint, sometimes called digital dossier is a body of data that you create while using the Internet. It includes the websites you visit, emails you send, and information you submit to online services and can be traced back by an individual.

It is of two types-

1. **A passive digital footprint** is created when data is collected without the owner knowing. A more personal aspect of your passive digital footprint is your search history, which is saved by some search engines while you are logged in.
2. **Active digital footprints** are created when a user, for the purpose of sharing information about oneself by means of websites or social media, deliberately. An "active digital footprint" includes data that you

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intentionally submit online. Sending an email contributes to your active digital footprint, since you expect the data be seen and/or saved by another person. The more email you send, the more your digital footprint grows.

Publishing a blog and posting social media updates are another popular ways to expand your digital footprint. Every tweet you post on Twitter, every status update you publish on Facebook, and every photo you share on Instagram contributes to your digital footprint.



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Net and Communication Etiquettes

Netiquette is short for "Internet etiquette." Just like etiquette is a code of polite behavior in society, netiquette is a code of good behavior on the Internet. This includes several aspects of the Internet, such as email, social media, online chat, web forums, website comments, multiplayer gaming, and other types of online communication.

While there is no official list of netiquette rules or guidelines, the general idea is to respect others online. Below are ten examples of rules to follow for good netiquette:

1. Avoid posting inflammatory or offensive comments online.
2. Respect others' privacy by not sharing personal information, photos, or videos that another person may not want published online.

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3. Never spam others by sending large amounts of unsolicited email.
4. Show good sportsmanship when playing online games, whether you win or lose.
5. Don't troll people in web forums or website comments by repeatedly nagging or annoying them.
6. Stick to the topic when posting in online forums or when commenting on photos or videos, such as YouTube or Facebook comments.
7. Don't swear or use offensive language.
8. Avoid replying to negative comments with more negative comments. Instead, break the cycle with a positive post.
9. If someone asks a question and you know the answer, offer to help.
10. Thank others who help you online.

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Data Protection

Data protection refers to the practices, safeguards, and binding rules put in place to protect your personal information and ensure that you remain in control of it. In short, you should be able to decide whether you want to share some information or not, who has access to it, for how long, for what reason, and who be able to modify some of this information

Personal data is any information relating to you, whether it relates to your private, professional, or public life. In the online environment, where vast amounts of personal data are shared and transferred around the globe instantaneously,

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It is increasingly difficult for people to maintain control of their personal information. This is where data protection comes in.



Intellectuals Property Rights (IPR)

- Intellectual property refers to intangible property that has been created by individuals and corporations for their benefit or usage such as copyright, trademark, patent and digital data. It is therefore unethical to copy or steal the creativity and efforts of someone else.

Intellectual property is divided into categories which are-

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- Industrial property which majorly speaks about protecting inventions on the other hand
- Copyright majorly protects literary and artistic works.

INDUSTRIAL PROPERTY

Which include inventions (patents), commercial names, industrial designs, trademarks, geographic indications and designations etc.

Plagiarism

- Plagiarism means not giving authors credit after copying that author's work.
- It involves lying, cheating, theft and dishonesty. For example, copying papers written by other people and professional and claims it as written by you can be an example of plagiarism.
- It can be classified as
 1. Accidental/unintentional
 2. Deliberate/intentional

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Accidental/unintentional Plagiarism	Deliberate/intentional Plagiarism
1. Involves careless paraphrasing (changing the words or sentence construction of a copied document), quoting text excessively along with poor documentation.	Includes copying someone else's work, cutting and passing blocks of text or any kind of information from electronic sources without the permission of the original author.
2. Accidental Plagiarism cases are less serious	Deliberate plagiarism that may result in serious implications

HOW TO AVOID PLAGIARISM?

Plagiarism should be avoided by the following simple measures:

- Use your own ideas and words.
- Always provide a reference or give credit to the source from where you have received information.
- Cite the name of the website, a URL or the name of authors, and acknowledge them if you have used their

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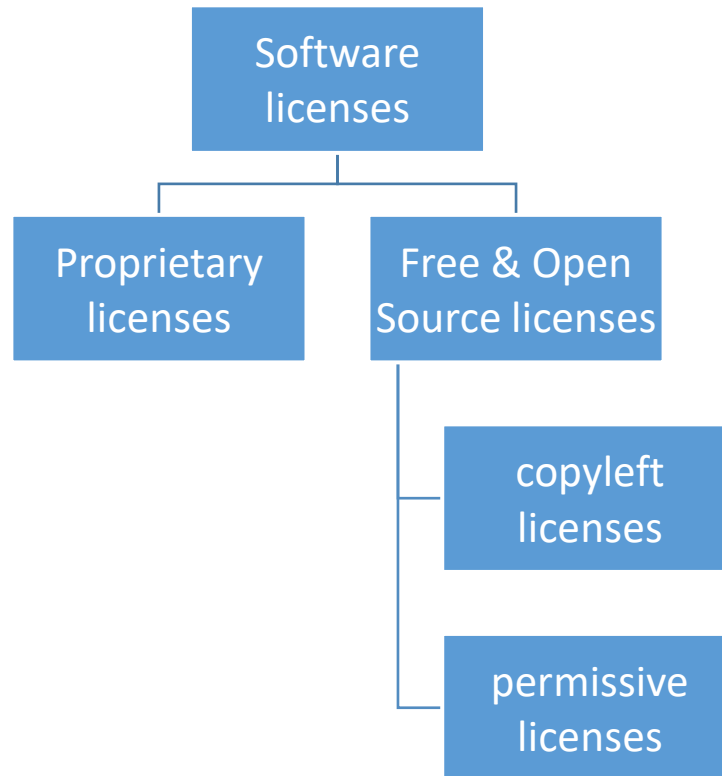
work after rearranging the order of a sentence and changing some of the work.

- Take the information in the form of bulleted notes in your words.
- Use online tools to check for plagiarism.
- Develop your writing skills.

Licensing and copyright

- A Software license is a legal permission or right to use or redistribution of that software.
- The software can run on a certain number of computers as per license agreement.
- The software license usually answers questions such as-
 1. Can you copy, modify or redistribute it?
 2. Where and how many times can you install the software?
 3. Can you look at the underlying source code?

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PROPRIETARY LICENSES

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FREE AND OPEN SOURCE SOFTWARE

- Refers to software that users can safely run, adapt and redistribute without legal restraint, and which emphasizes freedom.
- Open source software (OSS) is software with a source code that is publically available under general public licenses

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that give users the right to study, modify and distribute that software and emphasizes security, cost saving, and transparency.

- Hence FOSS (free and open source software) allows using, copying, studying and modifying the software and the source code to be openly shared and allow copyrights to other users.

PERMISSIVE LICENSES

- Permissive licenses provide a royalty-free license to do virtually anything with the source code.
- They permit using, copying, modifying, merging, publishing, distributing, sublicense and/or selling ,but distribution can only be made without the source code as source code modifications can lead to permissive license violation.

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- In the case of copyleft licenses, source code has to be provided.
- Distribution and modification of source code is permitted. Example General Public License (GPL), Creative Commons

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copyright

It is a form of protection given to the authors of “original works of authorship”. This is given in the field of literature, dramatics, music, software, art etc. This protection applies to published as well as unpublished work.

Software copyright is used by software developers and proprietary software companies to prevent the unauthorized copying of their software. Free and open source licenses also rely on copyright law to enforce their terms.

Copyright protects your software from someone else copying it and using it without your permission.

When you hold the copyright to software, you can-

- Make copies of it.
- Distribute it.
- Modify it.

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Cyber Crime

- Cybercrime is defined as “cybercrime (computer crime) is an illegal behavior, done through electronic operations, that targets the security of computer systems and the data processed by them”.

- In other words cyber crime is a crime in which the offense is done using a computer or we can say a computer is the object of the crime. Common types of cybercrime include identity theft, unauthorized computer access, online bank information that and online predatory crimes. Cybercrime includes a large range of activities but it can be classified into 2 categories :

- Crimes that target computer networks or devices. These types of crimes include viruses and denial of service (DoS) attacks.

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- Crimes that use computer networks to advance other criminal activities. These types of crimes include cyber-stalking, phishing and fraud or identity theft.

Cyber Laws

Cyber law is the part of overall legal system that deals with the Internet, cyberspace, and their respective legal issue. Cyber law covers broad area including freedom of expression, access to and usage of the Internet, and online privacy. Generally cyber law is known as “Law of the Internet”.

Importance of Cyber Law:

1. It covers all transaction over internet.
2. It keeps eyes on all activities over internet.
3. It touches every action and every reaction in cyberspace.

Hacking

Hacking is identifying weakness in computer systems or networks to exploit its weaknesses to gain access. Example

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of Hacking, Using password cracking algorithm to gain access to a system

Computers have become mandatory to run successful businesses. It is not enough to have isolated computers systems, they need to be networked to communicate with external businesses. This exposes them to the outside world and hacking. Hacking means using computers to commit fraudulent acts such as fraud, privacy attack, stealing corporate/personal data, etc.

Phishing

Phishing is an attempt to capture a user's login password and credit card details by including a URL in a spam e-mail that links to a fake website controlled by the attacker as a trustworthy entity.

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Cyber Bullying

Cyber bullying is the harassment or bullying executed through digital devices like computers, laptops, smart phones, and tablets. The platforms where cyber bullying can occur include social media, chat rooms, and gaming platforms where people can view and participate in the sharing of content.

The different types of cyber bullying involve causing humiliation through hateful comments on online platforms/apps, or through SMS or messaging. It comprises posting, sending or sharing negative, nasty or false information about another individual for causing humiliation and character assassination.

Indian-IT Act, 2000

- Information technology act 2000/ITA-2000/IT act is an act of the Indian parliament notified on 17 oct 2000.

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- This primary law deals with cybercrimes and electronic commerce in India.
- It consists of 94 sections that are divided into 13 chapters and 4 schedules
- A person of others nationalities can also be indicated under the law if the crime involves a computer or network located in India, which means the law applies to the whole of India.
- The IT Act,2000 has provisions that permits the interception, monitoring of traffic data

The cyber laws in India and the provision for legal action and punishment have been explained -

Section	Offense	Penalty
67A	Publishing images containing sexual acts	Imprisonment up to seven years and/or fine up to 10 lakh
67B	Publishing child porn or predating children online imprisonment	Up to five years and/or fine up to 10 lakh On 1 st conviction
67C	Failure to maintain records	Imprisonment up to three years and/or fine up to 2 lakh

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68	Failure/refusal to comply with orders	Imprisonment up to seven years, and/or possible fine
69	Failure/refusal to decrypt data	Imprisonment up to three years, and/or fine up to 1 lakh
70	Securing access or attempting to secure access to protected system	Imprisonment up to ten years, and/or fine
71	Misrepresentation	Imprisonment up to three years, and/or fine up to 1 lakh

IT Act, 2000 Amendment

- A major amendment was made in 2008.
- It introduced section 69, which gave authorities the power of “interception/monitoring/decryption” of any information through any computer resource.
- It also introduced 66A which penalized sending of “offensive messages”.

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- Amendments also contained penalties for child pornography, cyber terrorism, and surveillance.
- The act was passed in December 2008 and came into force in October 2009.

E-Waste, Hazards and Management

E-waste broadly covers waste from all electronic and electrical appliances and comprises of items such as computers, mobile phones, digital music recorders/players, refrigerators, washing machines, televisions (TVs) and many other household consumer items.

E-Waste Hazards

- Mostly all electronic waste comprises of toxic chemicals such as lead, beryllium, mercury etc.

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- Improper disposing of gadgets and devices increases the amount of these toxic chemicals thus contaminated the soil, causing air and water pollution.
- The contaminated water which is highly polluted it thus making it harmful for drinking purposes.
- Improper e-waste recycling, such as by open burning and acid baths creates hazardous and toxic compounds like- dioxins, furans and acids.
- Damage to the immune system
- Skin disease.
- Multi ailments.
- Skin problems

E-Waste Management

E-waste management requires proper recycling and recovery of the disposed material. The recycling and recovery process includes following steps-

1. **Dismantling**:- removal of parts containing valuable items such as- copper, silver, gold, steel and removal of

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parts containing dangerous substance like- mercury, lead, Beryllium etc.

2. Separation metal and plastic

3. **Refurbishment and reuse**:- it means used electrical and electronic items that can be easily remodel to make it's to reuse.

4. **Recovery of valuable materials**

5. **Disposal of dangerous materials like-** mercury, lead, Beryllium etc and disposed off in underground landfill sites.

Awareness about health concerns related to the use of Technology

Today, computer technologies provide people with many benefits, educational activities can be designed, online shopping is available, it is possible to get in touch with people overseas and to chat with them. It is possible to search for anything and sometimes. It is even possible to do one's job at home without going to his or her office. If these technologies, which dominate our lives more each passing day, are not used carefully.

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Then it is inevitable for people to end up with certain illnesses like-

1. Neck strain
2. Vision Problem
3. Sense of isolation
4. Sleeping disorder
5. Stress
6. Loss of attention
7. Problem in social relationships of individuals.
8. Computer anxiety
9. Internet addiction etc.

In order to avoid these problems-

- One should learn how to use these technologies without experiencing any problem rather than avoiding using them.
- Some of the users of computer technologies are not even aware of their health-related problems that they have.
- Some of those who are aware of their illnesses see a doctor for various reasons. Users of computer

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technologies should immediately take education on the healthy use of these technologies.

- If the necessary precautions are not taken about this issue, individuals may have serious health problems, and the institutions may face a serious decrease in work force as well as financial losses.