New syllabus 2022-23

Chapter 16
Societal Impacts-
Digital footprint,
Netiquettes,
Data protection,
IPR,FOSS

Informatics Practices

Class XI (As per CBSE Board)

Digital Footprint –

A digital footprint is data that is left behind when users have been online. There are two types of digital footprints which are active and passive.

An active digital footprint is where the user has deliberately shared information about themselves either by using social media sites or by using websites.
 A passive digital footprint is made when information is collected from the user without the person knowing this is happening.

Examples of active digital footprints
- Posting on Instagram,Facebook, Instagram, Twitter, and other social media platforms
- Filling out online forms, i.e. when signing up to receive emails or texts
- Agreeing to install cookies on our devices when prompted by the browser
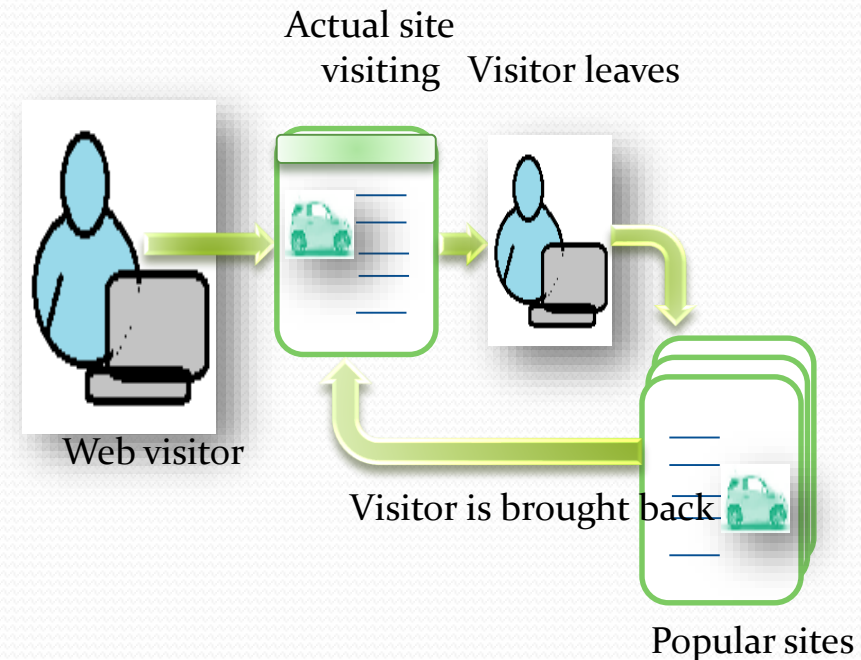
Examples of passive digital footprints
- Websites that install cookies in our device without disclosing it to us
- Apps and websites that use geolocation to pinpoint our location
- Social media news channels and advertisers that use our likes, shares, and comments to profile us and to serve up advertisements based on our interests

How digital footprint is being used for marketing purposes

Digital footprints are also known as cyber shadow, electronic footprint, or digital shadow are generally collected with the help of tracking cookies .these cookies are created while using popular sites. Whatever we search is stored in these along with our dates, GPS relevant data. These are shared by actual site we are visiting to the popular sites.

Popular sites in tern analyze these data and revert back in the form of advertise later on.

For e.g. we search for a flight from x location to a particular date.

Next day if we open search engine, ads automatically popups even if we have booked out tickets.

Actual site visiting   Visitor leaves

Web visitor

Visitor is brought back

Popular sites

why we should care about managing our digital footprint

For following four reasons
1. To protect our reputation
2. To make safe personal information
3. To prevent financial loss
4. To preserve our freedom

Risk due to digital footprint
- Privacy concern
- Scam
- Identity theft

How to manage digital footprints

- Enter name into several search engines
- Double-check privacy settings, but don't trust them
- Create strong, memorable passwords
- Keep all our software up to date.
- Review our mobile use. Delete useless files(temp.)
- Build reputation through behavior.

Net or communication etiquettes

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

Net or communication etiquettes

Do
- Keep Messages and Posts Brief
- Use Discretion
- Protect Personal Information
- Obey Copyright Laws
- Help Others
- Respect other people's privacy
- Verify facts before reposting
- Check messages and respond promptly
- Thank others who help you online
- Show good sportsmanship when playing online games

Don't
- posting inflammatory /offensive comments shout
- respond to Internet Trollers
- Post private or embarrassing images/comments
- Name-call or express offensive opinions
- Exclude people or talk behind their backs
- Stick to the topic
- spam others by sending large amounts of unsolicited email.

Social Media Etiquettes

- Avoid over-automation.
- Be authentic and genuine.
- Don't be overly promotional.
- Handle your hashtags carefully.
- Don't bad-mouth your competition.

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

Consequences of Unprotected Data/Data breaches
- Suffer from security breach/attack
- Physical data loss
- Hit with a virus
- Targeted by hackers
- Suffer from DDoS(Distributed denial of service)
- Lose of money
- Intellectual property at risk
- Damage downtime

How we can protect our personal data online

- Through Encrypt our Data
- Keep Passwords Private
- Don't Overshare on Social Networking Sites
- Use Security Software
- Avoid Phishing Emails
- Be Wise About Wi-Fi
- Be Alert to Impersonators
- Safely Dispose of Personal Information

Intellectual Property (IP) – is a property created by a person or group of persons using their own intellect for ultimate use in commerce and which is already not available in the public domain.

Examples of IP Property which are, an invention relating to a product or any process, a new design, a literary or artistic work and a trademark (a word, a symbol and / or a logo, etc.),

Intellectual Property Right (IPR) is the statutory right granted by the Government, to the owner(s) of the intellectual property or applicant(s) of an intellectual property (IP) to exclude others from exploiting the IP commercially for a given period of time, in lieu of the discloser of his/her IP in an IPR application.

Why should an IP be protected?

➢ IP is an assets and can be exploited by the owner for commercial gains any manner

➢ IP owner may intend to stop others from manufacturing and selling products and services which are dully protected by him

➢ IP owner can sell and/or license the IP for commercial gains

➢ IP can be used to establish the goodwill and brand value in the market.

➢ IP can be mention in resumes of it's creator and thus show competence of it's creator

➢ IPR certificate establishes legal and valid ownership about

Kinds of IPRs

- **Patent** (to protect technologies - The Patent Act)
- **Trade Mark** (to protect words, signs, logos, labels –The Trade Mark Act)
- Design (to protect outer ornamental configuration –The Designs Act)
- Geographical Indications (GI) (to protect region specific product –The Geographical Indications of Goods Act)
- **Copyright** (to protect literary and artistic work –The Copyright Act)

IPRs are protected in accordance with the provisions of legislations of a country specific. In India, IPRs can be protected and monopolized as per the act. Some of them are

1- The Patent Act, 1970,

2- The Designs Act, 2000,

3- The Trade Mark Act, 1999,

4- The Geographical Indications of Goods Act, 1999,

5- The Copyright Act, 1957,

6- Protection of Integrated Circuits Layout and Designs Act, 2000,

7- Protection of Plant Varieties and Farmers Rights Act, 2001, and also Trade Secret

Plagiarism is
"the act of presenting the words, ideas, images, sounds, or the creative expression of others as it is your creation or your own."
The word *plagiarism* is derived from the Latin word *plagiare*, which means to *kidnap* or *abduct*.

Why is it important to understand Plagiarism?
- Plagiarism is stealing of intellectual property
- Plagiarism is cheating
- Plagiarism is an *Academic offence*
- Plagiarism is *Academic theft*!

Two Types of Plagiarism

- Intentional Plagiarism

  *Copying other's work

  * Borrowing/buying
     assignments

  * Cut , paste from
     electronic resources

  * Downloading essays/text
     from the Internet and
     presenting as our own
     work

- Unintentional Plagiarism

  * Not knowing how to
     acknowledge or
     incorporate sources of
     information through
     proper paraphrasing,
     summarizing and
     quotation

  *Careless copying or cutting
     and pasting from
     electronic databases

  *Quoting excessively

  * Failure to use our own "voice"

How to avoid plagiarism

1: Use your own ideas

2: Cite the sources-When someone else's ideas are used, always acknowledge the sources and tell your reader WHERE THE IDEAS ARE FROM.

3: Rewrite other's ideas in your own words

4: Take careful notes

5: Develop your writing skills

copyright infringement

Copyright infringement occurs when a party exercises any of the creator's exclusive rights to the work without permission.

- Illegally downloading music files
- Downloading licensed software from an unauthorized site
- Recording a movie in a theater
- etc

Trademark infringement

Trademark infringement is defined as the unauthorized use of a trademark or service mark.

A **software license** is a document that provides legally binding guidelines to the person who holds it for the use and distribution of software.

It typically provide end users with the right to make one or more copies of the software without violating copyrights. It also defines the responsibilities of the parties entering into the license agreement and may impose restrictions on how the software can be used. Software licensing terms and conditions usually include fair use of the software, the limitations of liability, warranties and disclaimers and protections.

Benefits of Using Licensed Software

- Using Unlicensed Software Against the Law
- The Right Software License Can Save our Money
- We can Receive Around-The-Clock License Support

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

Reason for copyright our software

Our work(software development) is an asset

Protect our rights

It protects our software structures

It protects software code,sequencing and organization

It enhances protection against license agreements

Difference between licensing and copyright

Copyright is a type of intellectual property protection and licensing is a kind of risk control measure that can be applied to control copyright loss exposure, so the licensor (copyright owner) can grant permission that usually takes the form of a licensing agreement to use its copyrighted material. This agreement specifies the exact material to be used, purposes the work could be used for and the duration of the license.

Free and Open Source software(FOSS)

FOSS is a kind of software that all allows users to not only freely run the program for any purpose, but also provides users access to its source code. Moreover, it also allows us to modify as we wish, as well as freely distribute copies of the original version or their altered version.

Following criteria must be met for FOSS

- Source code must be included.
- Anyone must be allowed to modify the source code.
- Modified versions can be redistributed.
- The license must not require the exclusion of other

Example of Free and Open source software

- As Operating system – linux,Ubuntu
- As dbms – mysql,mongodb,SQlite
- As Programming language – java,php,python
- As internet browser/webserver – chromium,firfox/ apache http server,apache tomcat

Types of Software based on use:

❑ Free Software – Free Software are those which are freely accessible, freely accessible, freely used, changed,improved, copied and distributed. It provides all types of freedom. The term 'Free' means'Freedom' at very little or No cost. The Source Code is also available with Free Software.

❑ Open Source Software: Open Source Software can be freely used, changed, improved, copied and Re-distributed but it may have some cost for the media and support for further development.Source Code is also available with OSS. It can be modified and redistributed with some guidelines. The License may restrict source-code from being distributed and modification to maintain the Author's integrity. A software which is FREE as well as OPEN, called Free & Open Source Software (FOSS) or Free Libre & Open Source Software (FLOSS).

Types of Software based on use:
- ❑ Proprietary Software: These Software are neither open nor freely available. They must have some cost and Source codeis also not given since it is property of the developer organization. No change, copy and distribution are allowed.
- ❑ Freeware:These are available free of cost. They can be used, copied, distributed but no modification isallowed because Source Code is not available.
- ❑ Shareware:These software are freely used, copied and distributed for a certain period of time. After expiry,you have to purchase or uninstall them. Modification is not possible due to non-availability of thesource code. These are the Demo version and freely distributed for trial