6/6/20

IT254 - Web Technologies and Applications

Written Assignment

Q.1) Submit a report on the features, differences and possible future enhancements of Web 2.0 and Web 3.0.

A.1)* **Web 2.0 :-**

The term 'Web 2.0' refers to the websites that emphasize user-generated content, ease of use and interoperability for end users. Due to the overarching focus on end-users, and their active participation, Web 2.0 is sometimes referred to as Participative, or Social Web. The term was invented by Darcy DiNucci in 1999. Examples of such websites include Wikis, blogs, social networking sites, etc.

→ **Features :**

- Users are permitted to retrieve and classify information collectively. For example, sites have a searching functionality that allows access to information by simply typing a keyword. Also, users are allowed to tag posts, not having to depend on pre-made categories and helping to classify information
- The content present in Web 2.0 is dynamic and responsive to user input. For example, users can decide what kind of post they like or don't like on social media websites. This allows the site to show content tailored to the user's interests.

- In Web 2.0, information flows to the site users from site owners and by ~~means of~~ vice versa by means of evaluation and online commenting. In most sites, if the site owners roll out changes, they get a response from their users through comments. These are then evaluated to form future strategy.
- Web 2.0 has allowed the Internet to transition from a small "read-only" user base to a huge "read-and-write" user base.

→ Future Enhancements :-

Most experts say that we are today experiencing Web 2.0. In the future, Web 2.0 is expected to transition to Web 3.0.

x Web 3.0

The term 'Web 3.0' refers to the evolution of web utilization and interaction which involves altering the Web into a database. Also called the 'Semantic Web', it envisions the upgradation of the backend of the web, after the focus on the frontend in Web 2.0.

→ Features :

- Semantic Web : Web 3.0 foresees the development of Natural Language Processing (NLP) to such an extent that web technologies will be able to comprehend the meaning of words, rather than keywords or numbers.
- Ubiquity : Content is accessible by multiple applications and every device is connected to the web (Internet of Things).

- Artificial Intelligence : In Web 3.0, computers can learn the power of machine learning and NLP to distinguish information like humans and provide faster and more relevant results.
- 3D Graphics : The three-dimensional design is used widely in Web 3.0. Museum guides, computer games, ecommerce are just some examples of cases where 3D Graphics will be used. (Virtual Reality)
- Connectivity : With Web 3.0, information is more connected due to semantic metadata. Hence, user experience is improved due to leveraging of all available information.

* Differences between Web 2.0 and Web 3.0 :

- While Web 2.0 is "read-write" focussed, Web 3.0 will be more "portable and personal".
- Web 2.0 has a community focus while Web 3.0 will be focussed on the individual.
- While Web 2.0 predominantly uses XML and RSS, Web 3.0 will use a mix of RDF, RDFS, and OWL.
- Advertising will transform, from the interactive advertising of Web 2.0 to the behavioural advertising in Web 3.0.
- In Web 3.0, Wikipedia is set to be obsolete, due to the rise of the Semantic Web. In Web 2.0, Wikipedia is an important pillar of the Internet.

* Future Enhancements :

Web 3.0 is predicted by some experts to be 10-15 years ahead in the future. According to them, we are in a transition from Web 2.0 to 3.0 right now.