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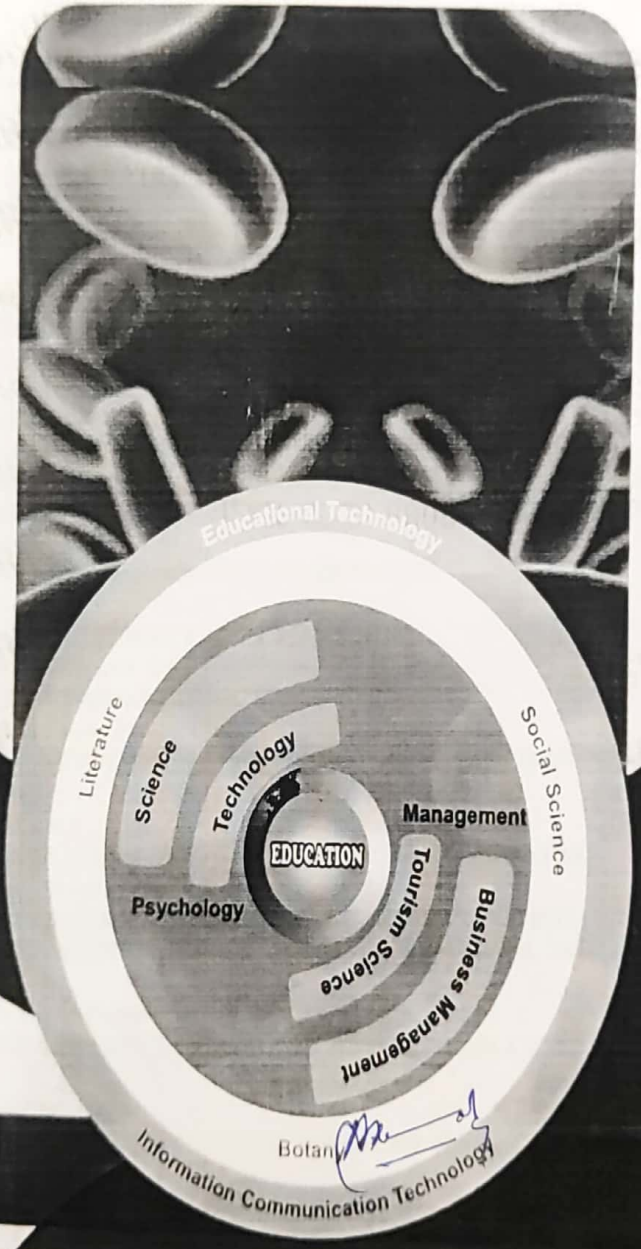

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Emerging Technology- III

HISTORICAL DEVELOPMENT OF WEB3.0 AND ITS IMPACT ON LIBRARY SERVICES

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Abstract

This paper aims to explain the historic development of Web from the first generation to the second generation and third generation of the Web. It describes the importance of Web 3.0 and its other sub-functions to the librarians and their importance in the libraries. The basic purpose of this study is to overview an insight about the upcoming technologies.

Keywords: *Web3.0, Library Services*

Introduction: 21st Century is said to be the digital Era. Today is digital world, which is concerned with creation, sharing and using information in digital form. World Wide Web is larger collection of interconnected documents of contents. Patrons demand is changing in Library to Library. The world of information technology is undergoing rapid changes in the history of civilization. The growth of the amount of content on internet, it has become difficult for users to find and utilize information and for content providers to classify and catalogue documents. The World Wide Web first introduced in the year 1991.but, later, as a technology advanced new versions web standard in the form of web 1.0, web 2.0, web 3.0 came into existence.Web 2.0 and Web 3.0 are obviously considered more advanced and easy to use when compared with Web 1.0. Web 3.0 is third generation of the web. Web 3.0 brings us great technologies such as semantic web, cloud computing, mobile devices, new social media applications and new search technologies. The internet has changed the way we think of information and technology. The web of documents has convert into a web of data. The semantic wave embraces three stages of internet growth. The first stage, 1.0, was used as a Read only medium. Web 2.0started as Read and Write medium. Now the current version of the Web 3.0 is the semantic web which allows the users to Read, Write and Execute web.

WEB 1.0, 2.0, and 3.0

Web 1.0: is an old internet that only allows people to read from the internet. It was define as Web of information connections. According to the Tim Berners Lee considers the Web as "read-only" Web. It provides very little interactions where user can exchange the information together but it was not possible to interact with the website. The role of the web was very passive in nature. Web 1.0 is a system of interlinked, hypertext documents accessed via the internet. The primary focus of web 1.0 was one way communication. However, this is exactly what most website owners wanted. Their goal for a website was to establish an online presence and make their information available to anyone at any time.

Characteristics: Web 1.0 Technologies includes core web protocols HTML, HTTP and URI. The major characteristics of web 1.0 are as follow They have read only content Establish an online presence and make their information available to anyone at any time. It includes static web pages and use basic Hypertext Mark-up Language.

Limitations: The major limitations of Web 1.0 as follow

The Web 1.0 pages can only be understood by humans (web readers) they do not have machine compatible content. The web master is solely responsible for updating and managing the content of website Lack of Dynamic representation.

Web 2.0: Web 2.0 is the second stage of development of internet, in web 2.0 we focus more on user generated data and make World Wide Web more interactive.The term Web 2.0 is commonly associated with web applications that facilitate interactive information sharing, interoperability, user-centred design and collaboration on the World Wide Web. A Web 2.0 site gives its users the free choice to interact or collaborate with each other in a social media dialogue as creators of user generated content in a virtual community, in contrast to websites where users are limited to the passive viewing of content that was created for them. Examples of Web 2.0 include social networking sites, blogs, wikis, video sharing sites etc.

Characteristics:

Participation: Every aspect of Web 2.0 is driven by participation. The transition to Web 2.0 was enabled by the emergence of platforms such as blogging, social networks, and free image and video uploading, that collectively allowed extremely easy content creation and sharing by anyone. Contrary to the traditional web which was somewhat one-sided, with a flow of content from the provider to viewer, Web2.0 allows the users to actively participate online.

Standards: Standards provide an essential platform for Web 2.0. Common interfaces for accessing content and applications are the glue that allows integration across the many elements of the emergent web.

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Decentralizations: Web 2.0 is decentralized in its architecture, participation, and usage. Power and flexibility emerges from distributing applications and content over many computers and systems, rather than maintaining them on centralized systems. It is about communication and facilitating community

Openness. The world of Web 2.0 has only become possible through a spirit of openness whereby developers and companies provide open, transparent access to their applications and content.

User Control: A primary direction of Web 2.0 is for users to control the content they create, the data captured about their web activities, and their identity. This powerful trend is driven by the clear desires of participants.

Identity: Identity is a critical element of both Web 2.0 and the future direction of the internet. We can increasingly choose to represent our identities however we please, across interactions, virtual worlds, and social networks. We can also own and verify our real identities in transactions if we choose.

Web 3.0: it is the third stage of development of the World Wide Web. Web 3.0 is a web where the concept of website or webpage disappears, where data is not owned but instead shared, where services show different views for the same web. Those services have to be focused on content and personalization, and both will be reached by using vertical search. Web 3.0 is the next evolution of the internet. some hypothesize that web 3.0 will combine the best bits of both web 1.0 and web 2.0 but will be a more user focused, personalized, intelligent, controlled or semantic web experience.

Definition of WEB 3.0: The term Web 3.0 was first coined by John Markoff of the New York Times and he suggested Web 3.0 is the third generation of the web in 2006. The Web 3.0 can be also stated as "executable Web". According to Nova Spivack, the Chief Executive officer at Radar Networks, "Web 3.0 is a set of standards that turns the web into a big database". Steve Spadling defines Web 3.0 as "highly specialized information silos, moderated by a cult of personality, validated by the community, and put into content with the inclusion of met-data through widgets". Conrad Wolfram stated "Web 3.0 is where the computer is generating new information, rather humans ".

Features of WEB 3.0: Web 3.0 or semantic web is an extension of the current web in which information is given well-defined meaning, better enabling computers and people to work in cooperation. The basic features of Web 3.0 are as below.

Intelligence: The most promising feature of web 3.0 will be web with intelligence i.e. intelligent web. Applications will work intelligently with the use of human-computer interaction and intelligence. Documents in different languages can be intelligently translated into other languages in web 3.0.

Virtualization: Web 3.0 would be a web with high speed internet bandwidths and high end 3D Graphics, which can better be utilized for virtualization.

Personalization: Personal or Individual preferences would be considered during different activities such as information processing, search, formation of personalized portal on the web.

Interoperability: Interoperability implies reuse, which is again a form of collaboration. Web 3.0 will provide a communicative medium for knowledge and information exchange. When a person or a software programmed produces formation on the web and this information is used by another, then the creation of new form of information of knowledge takes place.

Application of WEB 3.0 in Academic Library System:

Mobile Web: Internet is not just limited to computers but to our mobiles. it will be operating system independent i.e. we will be able to use applications of Android, Blackberry, etc.

The most of the changes in sematic web may not be immediately beneficial this is not the case with the real world web. Mobile phones with high processing power, high specification cameras and GPS receivers, offer a new way to provide information services.

Smart Board Foster New Learning in the Library: Smart board facility the ability to teach the important life skills of how to find information and research. Once we engage the smart board technology, the world open up.one of the benefits of having smart board in this central location is that every teacher and student has access. Teacher reinforce classroom content through interactive. Smart board enhanced lessons the personal interactions engage the students and they pay more attention. The smart board also group interactions and sharing.

Web OPAC: One of the key aspects of Library 3.0 is Web OPAC. A Web OPAC is a library catalogue on the Web or Intranet. Users can search the required information by connecting to Uniform resource Locator (URL) are forming a part of visible or invisible.

Ontologies: The classification systems for book classification has been changed into ontologies to represent domain knowledge in machine process able form. These are the techniques to give riches semantic relationship between terms and thoughts of knowledge. These give more standardization in managing the web contents instead of merely indexing the terms.

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Search and Browsing Services: An important part of the full text search is the ability of the search engine to refine the query to reflect a user's expectations. during the query expansion step all words provided by the user are mapped to one or more types, e.g. a topic, a keyword.

Social Book marking: is a centralized online service which allows users to add, annotate, edit, and share bookmarks of web documents. when user browses digital library, some articles and materials seem to him more valuable than others. Common practice is to bookmark those resources.

Geo Tagging: This helps users to find specific information located at specific location.it is simply a marking of various media or digital contents like images, photographs, videos, websites. Most of the cell phones and mobile devices have GPS (Global Positioning System) facilities etc.

Blog: A blog is a discussion or informational website published on the World Wide Web consisting of discrete, often informal diary-style posts. Blog allows users to extend the information space related to each resource with their own comments and thoughts. Current readers can easily deliver new knowledge for future readers.

Conclusion: This paper provided an overview from the evolution of the web. Web 1.0, web 2.0 web3.0 were described as generation of the web. The characteristics of the generations are introduced and compared. It is concluded web as an information space has had much progress since 1989 and it is moving toward using artificial intelligent techniques to be as massive web of highly intelligent interactions in close future. Web 3.0 will be more connected open and intelligent with semantic web technologies distributed databases nature languages processing, machine learning, machines reasoning and autonomous agents.

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