Comprehensive Analysis Of Web Technologies

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Abstract: This study has been undertaken to investigate the determinants of stock returns in Karachi Stock Exchange (KSE) *Abstract*— Web technology is used for the communication among the different devices using the internet. It refers to various tools and technologies like HTML, JS, PHP and other frameworks. The goal of this study is to provide detailed information regarding Web technologies and their educational effects, as well as to compare these technologies. Several sources, including Web 1 Web 2 Web 3 Web 4 and Web 5 were utilized to test the document analysis method. A comparison of the results obtained conforms with the results obtained. The results show that Web 2 and Web 3 technologies are the most popular. Web 4 and Web 5 on the other hand, are technologies that will be employed in the future. In the years to come, due to advancements in online technology, educational materials have also altered using these web technologies.

Keywords: Web services, web technology, web applications, Web 1.0, Web 5.0, Web 2.0

I. INTRODUCTION

Since 1989, when the internet became widely used, there have been countless twists and turns in web development. the web has been referred to as html (hypertext markup language) for the majority of the internet's history[2]. HTML is currently a structure within which texts ar contained and messages ar supposed to be introduced one-sidedly with the help of purchasers. Web1.0 innovation is built on this idea. Tim Berners-Lee designed web 1.0 in 1989 [3]. The clients of web1.0 were idle, and the forward one-way in innovation was developed from the web software engineer to the clients.The present circumstance has restricted the clientconnection with the substance and hence expanded the requirement for the advancement of another WebInnovation. Fig. 1 shows data about the chronicled improvement of web innovations. Web 2 emerged to incorporate new online activities, many of which could not have been achieved in Wb 1 [4].Web 3 is considered to be the next frontier in web technology which beholds the potential of intelligent information and semantic web, it provides semantic search and navigation methods over the massive data. The Web 4 or Symbiotic Web is used to build more powerful interfaces based on the metadata. These services will be autonomous, proactive, collaborative and self-learning based on the semantic and latest trends like ML, AI, etc. The development of web technologies also enables the emotional digital space such as the case of Web 5, which is designed to enable computers to interact with humans by measuring and computing their effects and emotions through neuro technology so that web experiences are more personalized and exciting [5].
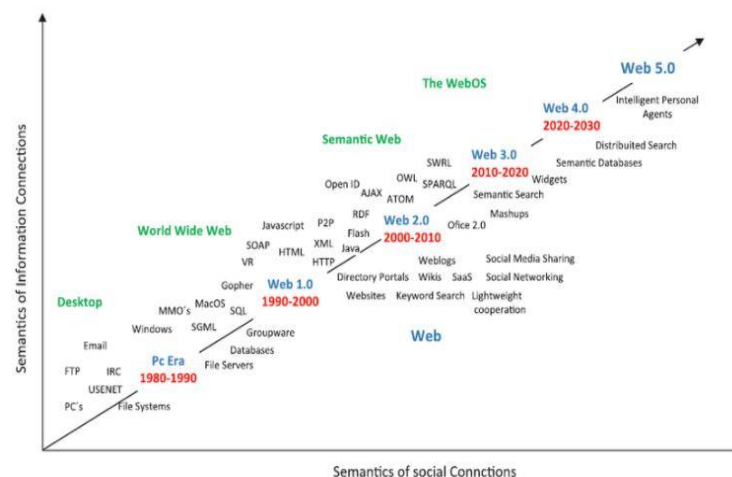

Fig. 1: Development of Web Technologies [1]

The technological process that began with Web 1 and is the foundation of the global network. Web 2 has moved from a static to a dynamic framework. There has been a change as a result of this metamorphosis. The shift from a document-oriented to a human-focused structure in internet applications. during this situation, social networks, blogs, as well as video sharing websites were created to facilitate two-person connection. Web technology has been upgraded to Web 3 as of 2010. In 2010, the internet, also known as web technology, evolved into a self-managing framework, which is controlled by the user. That is to say, there has been a shift to semantic web technology.

In 2010, the user-controlled internet, or web technology, matured into a self-managing framework. That is, there has been a shift to semantic web technology. Web 2 and Web 3 technologies are used by today's internet users. However, it is expected that the introduction of new web technologies shortly, such as Web 4 and Web 5 may cause uncertainty in people's minds, even if these technologies are not fully understood and accepted.

In 2021, the world of websites and their development has seen a rapid evolution. In [20], the recent development in this area are studied and the comparison of two mostly used Node.js and Python backend technologies was done.

Our study's purpose is to give a comprehensive overview From Web 1 through Web 5, there are a variety of web technologies to choose from. This paper is organized as follows: Section II has method used for the study, comparison result is presented in section III and the conclusion is given in section IV.

II. RESEARCH METHODOLOGY

The goal of this analysis is to produce info on internet technologies and to check the supported their options.The document analysis technique was employed in this study in this context. [6] define document analysis as the examination of materials that contain info concerning the events that area unit the topic of the investigation.While analyzing the paper, there are several steps to do. These include (1) obtaining documents, (2) verifying their legitimacy, (3) deciphering documents, (4) evaluating data, and (5) putting data to work [7]. To begin, we did a literature search using terms like "Web X. Y., Web technologies, Web services" on digital databases, websites, and blogs.The data acquired at the conclusion of the scan was also in order to arrive at accurate facts, various sources were compared.

II. COMPARISON AND RESULTS

Below section has the details of Web 1. to Web 5 , then we have given the comparison table.

Web 1: Web 1. may be a unidirectional internet innovation made-up by Tim Berners Lee (WWW), a unidirectional internet innovation thatallows clients to access data for the first time [8][9]. Clients can acquire current data and access content provided by many web servers using this invention, which is regarded as the main time frame of the web. Clients have no ability to comment, contribute, or offer material because site pages are created in a static style. On the sites, the association is limited to the client investigating only through page joins. Clients, in other words, have a latent and purchaser job. Hypertext Markup Language (HTML) is used to create websites, and HTML code data is required to create another website. Graph 2depicts the overall structure of the internet 1.
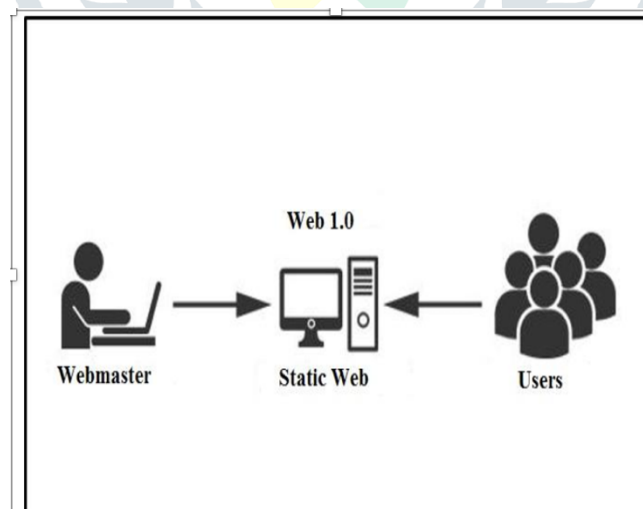

Fig.2: The Web's General Structure 1 [10]

Web 2. Client-based content and expansive social association are developments created conceivable by net a pair of.0 innovation. Video sharing, visits, expedited administrations, net applications, vocalisation IP, email, moment informing, podcasting, picture sharing, weblogging, and numerous other internet-based associations have beenacknowledged through Web 2. innovation [3][11].

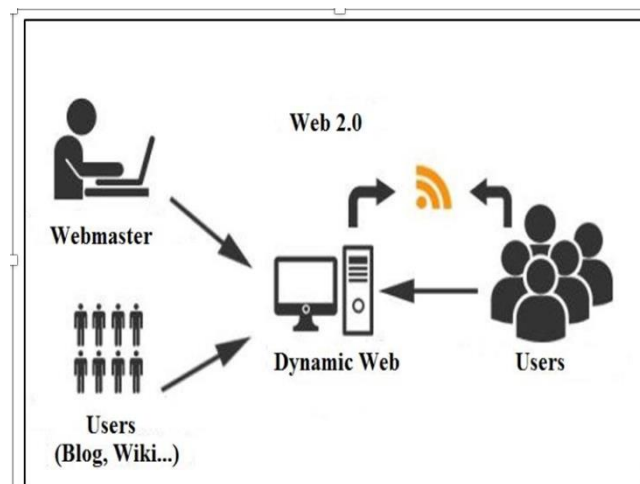Fig. 3 gives data on the functioning engineering of Web 2 innovation.

Fig. 3: Web 2 Technology [10]

The web destinations on which they effectively participate are depicted by Web 2 innovation. Clients have become both written and understandable online innovation as a result of Web 2 innovation. The development of web composing styles for some individuals to make and keep up with shared content, the development of web composing styles for some individuals to make and keep up with shared content, and the development of web composing styles for some individuals to make and keep up with shared content have all inspired the change to Web 2 innovation in internet advances [12].the development of individual internet-based information (counting messages, schedules, photos, and recordings)

From our PCs to the administrations that enormous organizations will endlessly have,development of connection styles that place an emphasis on internet relationships between people rather than only between records

Web 3[13]called attention to lately on the web, interpersonal organizations have acquired extraordinaryprominence by individuals and social orders in various ways. Individuals can talk about their thoughts, contemplations andthoughts through Web 3 innovation, Rather than simply archiving them, as in previous online advancements. The social web is now seen as an appealing technique for connecting people all over the world as a result of this breakthrough. [14] describes the Semantic Web, a Web 3 invention, as an approach for machine-interpretable metadata and a fantasy for another product period. From the early days of the internet to the present day, the Semantic Web has evolved into an expression that promotes "Open" data and emphasises data rather than manipulating it.

Web 3 has the potential to be portrayed as a third option era web, given by the combination at a fewarising innovation patterns. These are given in [15] as follows:

1. Associate all over
2. Correspondence in the network
3. Make a move.
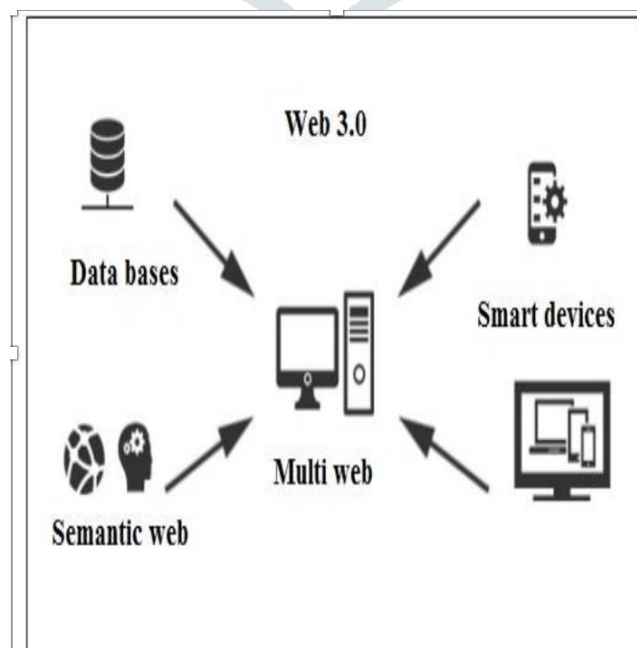4. Create a new character
5. Ingenious web

Fig. 4: Web 3 Technology [10]

Web 4. With Web 4. correspondence between PCs that are not under the client's control has been moved to a new level. Individuals will wish to communicate with computers and the virtual world using Web 4. dubbed the "Harmonious Web" and dubbed the "innovation of the post-2020" [16][17]. Overall, With the advancement of the internet, man-made materials,

Machines will want to read the client's orders as well as the other way around in brainpower applications. Are reflected in the response. This interaction is characterized as a "read composesimultaneousness web" [18]. For instance, Web 4 upgrades:"The fridge that illuminates you about the food that passed the lapse date" or "savvy vehicles that run the warmingframework by telling you how long you'll be home subsequently". The fact that Web 4 will make it similarly anticipated benefit from Augmented Reality innovation [19]. For instance, Web 4 includes enhanced Reality or 3D introductions, and understudies can use current innovation slides in programmes like Prezi and PowerPoint. What's more, instructors will actually want to utilize savvy fake insight robots during their talks.

Web 5Web 5 innovation, as most would consider being normal to have all gadgets associated with the Internet, is calledPassionate or clairvoyant web [18]. With this innovation, progressed counterfeit insight robots, symbols, and 3D virtual conditions are supposed to happen in daily existence. In addition, with Online 5, visualisation frameworks can be used for everyday gatherings; clients can converse with web material through the headset, and the information will be shaped by the client's facet articulations.

Table 1 presents a comparison from version 1 through version 5 of Web technologies

Table 1: Web Technology Comparisons from Web 1.0 to Web 5.0 [10]

Web 1	Web 2	Web 3	Web 4	Web 5
It was created by Tim Berners Lee and spans the years 1989 through 2004.	Tim O'Reilly created it, and it spans the years 2000 through 2010.	Tim Berners Lee created it, and it covers the years 2010 to 2019.	Web 4 often known as intelligent machines, spans the years 2019-2025.	The end of 2020 is covered by Web 5 which is regarded as "future technology."
Web technology that is static.	The Semantic Web is a type of web technology.	Web technology that is Symbionet or ultra-intelligent	Emotional or psychic web technologies.	
Only static stuff is displayed on the screen: text and graphics.	Video display and 2D materials are examples of dynamic content.	All media environments, 3D portals	3D virtual animations, intelligent personal agents, and the Internet of Things	Robots, avatars, intelligent systems, and holograms are examples of advanced technologies.
FTP, Yahoo, and Netscape are all examples of search engines.	Blog, Twitter, Facebook, YouTube, and Flickr are some of the most popular social media platforms.	Widgets, Semantic Wiki, and Semantic Blog are all examples of semantic databases.	Smart homes and cars are examples of intelligent items. EyeOS and GlideOS are two intelligent operating systems.	Wefeelfine.org is a website dedicated to emotional robots.
Only study it.	Reading and Writing	Customization	All	All
Please code, masters. Engineers	Persons	Sensors and Services	operatives	Automatic intelligence Bots
Education reflections: The programmer provides one-sided access to instructional knowledge.	Speed and convenience in accessing information (Email, instant messaging, wikis, and other social media contexts.) are important considerations in learning.	Smart course contents and search engines, semantic web applications, virtual training laboratories, 3D educational games, virtual worlds and avatars, 3D encyclopedias, semantic digital libraries, and other educational reflections	Artificial intelligence bots, intelligent instructional agents, increased reality and 3D course materials, web storage and package that doesn't need installation, and so on are all examples of educational reflections.	Reflections on education: instructional technologies that add up of somebody's emotional modification, photograph practices in courses, and so on.

III. CONCLUSION

This review provides description on the various different sorts of web advancements in the improvement of web interaction. Similarly, a close examination of the Web developments expected to progress from net one to net five has been conducted. net developments, that began within the Nineties and have an extended history of improvement, can before long be challenged by new ideas. net four and net five innovations, that are remarked as good frameworks, can gain added price during a kind of completely different areas of everyday life, from recreation to coaching, as a result of predicted Web advancements. This cycle is remembered to bring a large number of cutting-edge innovation items likewise individual specialists, robots, keen homes, and brilliant vehicles.

Web advancements are termed for the new applications that Web innovations bring to the table. This interaction began with Web 1 and continues with Semantic Web. As examination, publicising, commerce, shopping, data stages, and many more improvements are already happening, Web 4 and Web 5 can bring new experiences to life. The rapid progress of online technology is also advancing at a similar rate in the sector of training. Showing approaches and tactics that rely on PC networks and applied strategies are expected to evolve rapidly from one day to the next. The gains in internet advances are seen during this assessment to be educational reflections and substantial contributions to the present sector. the utilization of linguistics internet and 3D conditions in education, above all, has unfolded new horizons and offers the impression that even a lot of opportunities and new showing ways are out there within the future. Beginning with Web 4.0, distributed storage, computerised reasoning-based canny frameworks, and virtualization frameworks place significant demands on web developers.

IV. ACKNOWLEDGEMENT

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