

Web 3.0 – Future Of The Internet.

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Abstract— In an ongoing organized world, the Web has emerged as the most practical method of communication. During the early improvements of the Internet, there was a bit of thought that one day the progress of this Internet web would be a huge blow. In such a short time frame, Web 2.0 and now Web 3.0 have reached exceptional heights in the Internet industry. The split from Web 1.0 to Web 2.0 was advertised in virtually 10 years. However, shortly after Web 2.0, another Web 3.0 advance has increased interest and many inquiries from engineers, customers, and controllers. What is really needed at this stage, what are the driving variables, how unique are they in terms of Web 2.0 and the Semantic Web

Keyword – Semantic web, web1.0, web 2.0, block chain, Decentralized

I. INTRODUCTION

Web 3.0 is a new era of the World Wide Web, where Web 2.0 innovations are closely linked to the Semantic Web, allowing both humans and machines to access and use data stored on the Web. With Web 3.0, machines actually have to perform tasks that require human insight, significantly reducing time and effort on the Internet. Web 3.0, aimed at making the Internet a better and smarter organization, is the predecessor of the complete Semantic Web and replaces Web 2.0. After quite a long time working on a centralized framework, the Internet will leap forward with the help of blockchain and its decentralized center. Migrating to Web 3.0 addresses the next stage of the Web, with freedom of information, practices, and common activity paths as standard. Web 3.0 innovation is returning privileges to customers by focusing on collaborative collaboration and discouraging collaboration with a unified organization. However, this change is difficult to understand, and of course many high-tech business visionaries and regular web consumers still don't know exactly what Web3 means. Web 2.0 provides important authority for collaborative use of the Internet, allowing individuals to connect to information and contribute to their perspective through wikis, web journaling, personal communication environments, and more. Models: Wikipedia, Blogger, Digg, Technorati, Stumble upon, MySpace, Facebook, Flickr and more. The idea behind the use of the Semantic Web is to capture and decode specific situations and ideas of information. Then, when the

customer searches for an answer, Web3.0 provides the end customer with the most reliable and meaningful results. Therefore, this third era of the Internet is the era of evaluating customized connections to machines and websites, just as we are talking to other

II. What is Web 3.0

In the semantic web, the data is analyzed and interpreted in terms of context, concept, and relatability. Because of this web 3.0 applications can provide the most accurate and relevant results to the end-users.

Data are connected in a decentralized way-usually in a blockchain. This is a major leap forward from the current web 2.0's centralized architecture.

Web 3.0 is going to be considerably more secure, scalable, and offer better privacy for users. Most big tech companies make insane profits by exploiting user data as users have little to no control over it.

Web 3.0 will make it possible for users to have greater control and if they wish to share the data then to be compensated for it. As a result, users will retain privacy and ownership of their data while making it available for companies to target them.

Web 3.0 will also allow sites and applications to use data more effectively and tailor information to individual users.

III. KEY FEATURES OF WEB 3.0

The main aspect of web 3.0 is:

Open – "Open" in the sense that it was built using open source software, developed by an open and available community of developers, and realized for the public.

Untrusted – The decentralised network offers freedom to users to act publically associated in camera whereas not associate negotiator exposing them to risks, thus "trustless" info

No Permission – Anyone, including users and contributors, can contribute without the permission of the state body.

Popularization – Web 3.0 makes the web offered anytime, anywhere. At some purpose, devices connected to the web are not any longer restricted to computers and smartphones, as in internet a pair of 0. With the IOT this technology allows the event of assorted new kinds of good devices. Web 3.0 could be a new generation of the globe Wide internet wherever internet a pair of 2.0 technology connects to the 3.0 sanctionative each humans and machines to access and use data hold on the net.

Web 3.0 allows machines to perform tasks that need human intelligence, considerably reducing time and energy on the net. With the goal of creating the web a stronger and smarter network, Web 3.0 is the forerunner of the whole linguistics internet and therefore the successor to internet a pair of 2.0.

Semantic Web: Semantics is the study of relationships between words, patterns, and data. In a semantic web, machines can analyze and establish relationships, just like humans do, between information on it.

A semantic web would consider both of the following two sentences same:

I love Programming

I <3 Programming

Semantics would help web apps to decode meaning, emotions, and hidden patterns to deliver a better online experience.

AI Driven: Web 3.0 heavily relies on AI techs like Big Data, Data Analytics, Machine Learning, and Deep Learning. Apps and sites are getting smarter to understand the mood, emotions, and expressions of their users. Some websites are so advanced that they can even understand sarcasm!

In Web 2.0, this was mainly a human-driven rules-based process susceptible to corruption, bias, and oversight. The process was also too slow to meet the increasing demands of millions of users.

Ubiquitous: Ubiquity refers leads to accessibility, openness, transparency, and innovation. Not only the people with resources, but those with limited resources too can make use of Web 3.0 services.

As most of the processing is done at the backend, users can use even simple and cheaper devices to connect and transact.

Spatial and 3D Graphics: Web 3.0 is going to be more spatial thanks to 3D graphics and AR/VR innovations. The lines between the real world and the cyber world have started to blur as multiple new 3D virtual worlds evolve.

Immersive technologies like Augmented Reality (AR) and Virtual Reality (VR) are used in gaming, medicine, engineering, tourism, education, and many other areas.

IV. HOW DOES WEB 3.0 WORK ?

The idea behind web 3 is to make glancing through the Internet lots quicker, less complicated, and extra talented to cope with even complicated hunt sentences inside the blink of an eye.

In an internet 2.0 utility, a purchaser desires to cooperate with its frontend, which imparts to its backend, which in addition speaks with its facts set. The entire code is facilitated on included servers that are shipped off customers via an Internet program.

Web 3 has neither focused facts bases that keep the utility country nor an included net server in which the backend intent dwells. All matters being equal, there's a blockchain to manufacture packages on a decentralized country system and stored up via way of means of unknown hubs on the net.

V. EVOLUTION OF WEB

(1.0 TO 2.0 TO 3.0)

1. Web 1.0 :-

In the 1960s, Web 1.0 was a static format with just text browsers like ELISA, followed by HTML, which improved the visual attractiveness of the pages, and the first visual browsers like Netscape and Internet Explorer. Web 1.0 is the first stage of the World Wide Web's evolution. There were formerly only a few content creators. On the other hand, most users on Web 1.0 were content consumers.

2. Web 2.0:-

Tom O'Reilly invented the phrase Web 2.0 in 2004 to describe the second generation of website models. Websites that emphasise user-generated content, ease of use, and interoperability for end users are referred to as Web 2.0.

3. Web 3.0:-

With technologies like AJAX, Web 3.0 originally debuted in 2006 in an article by Web 2.0 critic Jeffrey Zeldman. Web 3.0 is a concept that refers to a number of advancements in web usage and cross-path interaction. In this case, the data is shared rather than owned, and services display diverse views of online data.

VI. COMPONENTS

The web 3 contains the principles and apparatuses of XML, XML Schema, RDF, RDF Schema and OWL that are coordinated in the Semantic Web Stack. The Web Ontology

Language Overview depicts the capacity and relationship of every one of these parts of the web 3.0:

1. XML gives an essential grammar to content design inside archives, yet connects no semantics with the importance of the substance held inside. XML isn't at present an important part of Semantic Web innovations by and large, as elective linguistic uses exists, like Turtle. Turtle is a true norm, however has not experienced a proper normalization process.

2. RDF is a basic language for communicating information models, which allude to objects ("assets") and their connections. A RDF-based model can be addressed in XML language structure.

3. RDF Schema broadens RDF and is a jargon for depicting properties and classes of RDF-based assets, with semantics for summed up pecking orders of such properties and classes.

4. OWL adds more jargon for depicting properties and classes: among others, relations between classes (for example disjointness), cardinality, correspondence, more extravagant composing of properties, qualities of properties (for example evenness), and listed classes.

VII. BENEFITS OF WEB 3.0

Web 3.0 it is decentralized is a word used to describe a system where no single person or group has control it's the opposite of centralized where one entity controls everything decentralization has been around for quite some time and now more than ever before we're realizing the true potential it's faster web3 technology is a new and improved version of the current technology.

VIII. BEST WEB 3.0 APPLICATIONS

Web 3.0 is already being deployed to a variety of uses and apps in multiple industries. The cutting-edge technologies increase productivity and enhance customer satisfaction.

Let us examine some of the best applications:

1) Siri, Alexa, and Google Assistant:



The voice assistants from the top three tech companies in the world – Siri from Apple, Alexa from Amazon, and Google Assistant from Google – use the semantic web. This software leverage voice recognition and natural language processing to help users do things they could not do earlier. Today these assistants can offer answers to a variety of questions from their users.

2) Facebook Meta:



If it were a nation, it would be the most populous one on the earth. The leading social network platforms Facebook and Instagram from the Meta are increasing in their reach exponentially and impact users' lives daily. Users find and create new communities and bonds with the help of Web 3.0 technologies. Apps build around the Facebook universe further increase customer interaction and engagement.

3) Flickr:



The photography and photo-sharing website Flickr allows users to search, create, upload, and share their pictures with people they care about. With over 17 million active visitors per month, Flickr has one of the largest public databases with thousands of categories and billions of photos in them.

IX. FUTURE OF THE INTERNET:

Web 3.0 creates an ecosystem for users, by users, and of users. The end-users would be in complete control of their data on the internet and will drive the business of the future.

The creator-driven economy where creativity, innovation, and uniqueness rules would be supported by technologies of

Web 3.0. according to use, the future of the internet is bright because of the following reasons:

- More trustworthy because of decentralized public records
- No more dependent on centralized authorities and data repositories
- Personalized interactions with users
- Faster and superior search results driven by AI
- No more dependency on mediators
- More peer-to-peer communication and connectivity

X. CONCLUSION

Web 3.0 is about the web's backend, about developing tremendous machine-to-machine communication. When the Web 3.0 ui gains traction, it will fundamentally change how we use the Internet. Humans will no longer be required to conduct tough jobs such as conducting Internet research and retrieving precise information.

All of these duties will be performed more easily by machines. All we have to do now is examine the data, update it as needed, and build any new object we want.

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