

## Evolution of Web Towards Web 3.0

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### Abstract

Every day lot and lot are innovation are made. Some organization makes money and some made some significant products ,but some tech have the potential to change the future of the world. Like the new technology web 3.0 is changing the world by its potential. Web 3 uses is increasing day by day. Web 3.0 is better than the previous web types (Web 1.0 and web 2.0). If we dive into web 1.0 then, web 1.0 provide static information whereas web 2.0 provides interactive information and we have the control to create the information like we do post photo on social media but now web 3.0 opens new way to do disruptive things. The web 3 which is advanced from the both an integrated web experience where machine could understand the data and can change it just like the humans. It provide the safest data protection with better speed.

**Keywords:** Web 3.0, blockchain, web evolution.

### Introduction

Centralization helped billions of people, the internet and created a stable robust infrastructure.at the same time a larger amount of entities have a strong hold on the internet, unilaterally deciding what should and should not be allowed. Web 3.0 is the answer to this predicament. Instead of having internet controlled by large tech companies, web 3.0 embraces decentralization, and is being developed operated and is user-owned .it puts the power in hands of individuals (users) instead of the tech companies Web 3.0 was originated by ethereum, cofounder gevin wood. He placed his words into the answer of every question that was felt by crypto adopters. Internet requires a lot of trust, people today relies on the by trusting the companies which act in public's best interests. Web 3.0 is a next evolution of internet. It goal is to change the web and make decentralized, open, and trustless, giving the control over content and audience back to users. After the tremendous growth in decentralised

finance, then NFT applications, Web 3.0 is rising as one of best growing sector in the blockchain space, also with blockchain.

### Web technologies

www or world wide web was proposed in 1991 by Tim berners-lee at CERN based in Geneva. Www allows computers users to give the address of webpages. The portable browser is formed by CERN as freeware in 1992.WWW is a collection of variety of information stored in the networked computers in the whole world. It have webpages which contain images, texts, videos and other multimedia . It have hyperlinks which connect two or more webpages in one go.

### History of internet-

Internet was formed by the dozens of scientists, as technology rapidly changes and it is difficult to give credit to one person. Many engineers and programmers developed new new features and

technology day by day. The idea of world wireless system was given by NIKOLA TESLA in the early of 1990s. And the one who visions of it like PAUL OUTLET and VANNEVAR BUSH have searched on the online Storage systems. Internet is a complex of many networks. It is a decentralized system where billions of files are composed. They are dynamic and can expand exponentially. It is now widely used.

Search engines-

Search engine is a program which searches through the data present in webpages for particular information. The importance of search engines can be measured by two main condition :-

1. Indexing exhaustivity
2. Term specificity

The processing of document representation by assigning content descriptions is indexing or Terms to the document.

#### **Web 1.0:**

World wide web was invented by Tim Berners-Lee in 1989 at CERN. He developed almost world's first web server, web browser, website till 1990. The first step of the world wide web evolution mainly known as web 1.0, is a content Delivered by network that provides displaying information on various websites. it could be use as a personal website and costs each user per the pages viewed.

Earlier web 1.0 was use only as the read -only web because web were static, ISP-managed. It is developed during this which is basically called online digital photography website where User used to share, store and print the images.

Web 1.0 includes-

1. Static pages- In this, pages cannot be changed even if the user wants. Therefore websites are more informational.
2. contents from Server File system- In web 1 , contents were stored directly to the websites and didn't have a different database.
3. Server slide includes or common gateway interface provides the pages to be formed-Web hosting servers needs support for server sliding

thereby during web1.0 web server Required only to submit the form.

4. for alignment and the positions on a page frames and tables were used- Html tags were used for making the layout and the look of the webpages.

#### **Web 2.0:**

Darcy Dinucci coined the web 2.0 in 1999 , where she wrote in her article "Fragmented Future". It comes in the term where users can read and write both which means user could create And make the content. In web 2.0 javascript or ajax were formed for the better advancement of the webpages or could say Updated by involving these also to help a web pages to look not only representative but could Do many operations or make more dynamic. This web 2.0 has increased the use of the internet in a huge form where devices are enabled like mobiles, laptops and smartphones. Two biggest platform and search engine was developed with the help of web 2.0 is formed which is GOOGLE AND FACEBOOK. it is also called as the participative social web. it is upgraded so that one can dynamically changes the content. Many factors are there for using the Web 2.0 like APIs is used where software programs could enable By self, Webpages could access from the billions of the user online. Here informations are travelled between the owner of the site and the site's users through online.

#### **Web 2.0 disadvantages-**

1. Using of wiki- depreciation of books and libraries. Translated sentences or words are not in an ease manner to understand.
2. social platforms- user profiles and some personal info are easily get accessed. Uploaded files or images could easily save by anyone.
3. RSS- risk of getting drift and amass RSS feeds from web pages that we do not really eeded. It was not applicable on all web pages
4. blogs- it isn't private Could have disagreements or impolite comments
5. email- reply isn't immediate Easily could send viruses or frauds.

**Web 3.0:**

Web 3.0 was found by Gavin Wood in 2014, in the Parity technology company. For him, web 3.0 is an organization where several things would be handled by one. And in a more Democratic version. It provides a more decent way than Google or other platforms also. It is the future of world wide web evolution. In this transformation takes place where web is directly transforms in database block chain. In this no individual entity owns the data, it works on the principle of data sharing. In this semantic web helps to enhance the ability to create, share and connect contents Through keywords search capability. And the AI helps to differentiate the information just like the human does, so that it

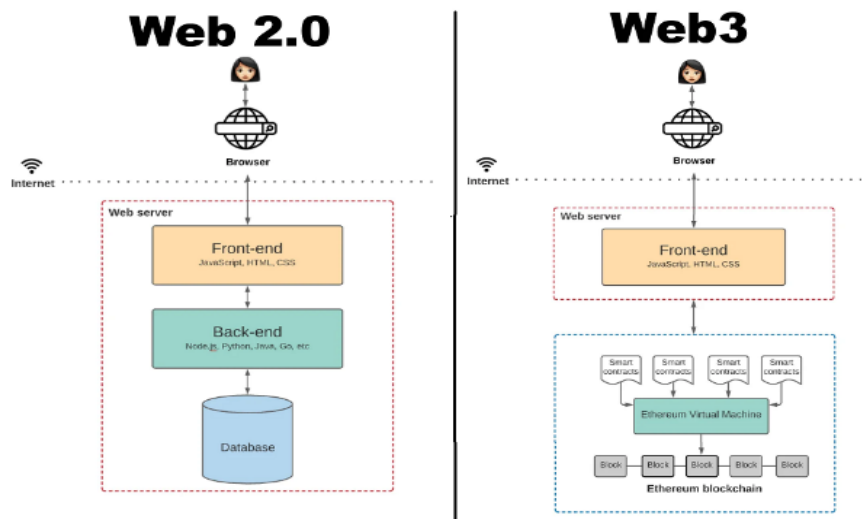
Could be way more faster and show more relevant results. Connectivity is the most important thing working out here where a large communication Could be seen which involves utilising the data more specifically.

**Web 3.0 features**

1. Underlying file system
2. Digital identities
3. Micropayments
4. Trust
5. Semantic data and information
6. Software negotiating with software
7. Artificial intelligence
8. 3d graphics
9. Complete connectivity or called ubiquity.

**Table 1: Difference between web 3.0 and 2.0**

web 2.0	web 3.0
1.Used to read and write.	Compact and futuristic.
focus on community.	focus on individual.
applications used here is web.	smart applications is used here.
state of data – network dependent.	state of data – entities own the data and their share.
example-ajax, java script (fig. no 1).	examples-ai, machine learning (figno 1).



**Figure 1:**

**Advantages of web 3.0 -**

- Encryption of data and security Here the users have full control on their data information, data can be stored and have a eye on the security side by side. can choose whom to share the data and as on.
- Usage of semantic web- In this semantic web will be able to help to create, share and connect contents through keywords search capability. Main purpose is to connect them through the network.
- No control of others-Here big companies like google, apple are not allowed to have the power Control of someone’s data. Even government can’t interfere in it. It basically assured highly security of the data.
- No restrictions- Anyone can make their address or connect with numerous users around the world. Any users beside of their income or gender or origin and soon can use this feature. Money could be transferred digitally irrespective of where you are in the world digitally.
- Easier to understand , work and use- Web 3 offers users a very variety and adequate information. It is easy to understand and with the benefit of personalization , it becomes More adaptable and productive to work on or search on or connect on.

**Web 3.0 disadvantage-**

1. Not accessed by every devices- These features are not easily access by every and each devices. They have not the option to run on the web 3.0 technologies. Only fewer devices have the option as for web 3.0 more advance gadgets Are needed.

2. Internet time will be increased which is not good for the health as if people would give more and more time to the

virtual experiences , the production of a healthy lifestyle would be disturbed. As More addiction to anything leads to huge disturbance.

3. For Newcomers it will be little bit hard to understand the scenario, as these technologies are not easily accessed by every devices and there are many updates left for making this quite work to.

4. Privacy concern – as it has an advantage of it but disadvantage too as anyone could tell your public and private information that you put on online platforms. This makes a concern for your privacy.

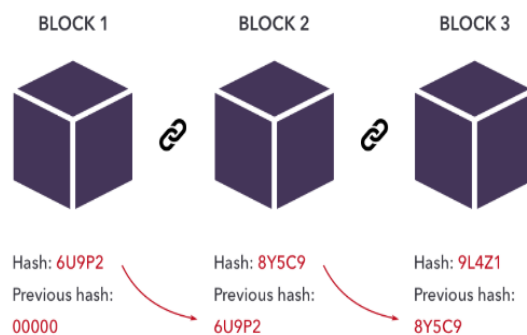
5. It needed more modern devices.

6. Common people cannot have that much control which a big financiers of the company or owner of a company have.

**The three major parts are-**

**Blockchain**

A blockchain is a list of records and those records are known as blocks, they are encrypted and joined with each other using cryptography. Blockchain, is also refered Distributed Ledger Technology (DLT), it made the digital asset unalterable and transparent through the use of decentralization and cryptographic hashing technique. we know business runs on information. Thus information must be received faster and more accurately. Blockchain is the best way to pass the data is pars the information quick and safely. refer to *figno2*. This network can do many things including tracking orders, payments, accounts, production and much more.



**Figure 2:**

To understanding blockchain technology in a much better way so, take a example when we create a document and share it with a group of people and the document gets distributed inspite of copied or transferred. This creates a decentralized distribution chain which gives everyone to access the document at the same time. No one changes the document from another party, while all modifications to the doc are being recorded in real time, this makes changes completely transparent to the public. obviously, blockchain is more complicated technology than a Google Doc

Figure no

### Smart contracts

A "smart contract" is simply a program that runs on the Ethereum blockchain. It is a collection of code and data that occupy at a specific address on the Ethereum blockchain. Smart contracts are a type of Ethereum account. Which means that, they have a balance amount and they able to send transactions over the network. However they are not controlled by any users, inspite being deployed to the network and runned as a program. Then the user accounts can connect through a smart contract by submitting the transactions which is executed through a function defined on the smart contract. Smart contracts have a set of defined rules, like a regular contract, and automatically implement them via the code. Smart contracts cannot be deleted by default, and association with them are irrevocable. Smart contracts has a lot of benefits, they have high efficiency, speed, and accuracy. It provides trust and transparency to a user. They have high security levels that can't be breached easily. There's no third party involved, and the encrypted data of transactions are shared only between participants, so there is no probability of the data alteration for personal benefit. Records of blockchain transactions are encoded.

### Cryptocurrency

Crypto is a digital asset. It is encrypted form of assets peer to peer transaction. It follow an algorithm of cryptographic. It work on the principal of blockchain network.it contain many digital currencies like bitcoin,ethereum, shibu,dogcoin etc. It is a secured way of transactions. It have transperency. It is

decentralised and cost effective. It has flaws also like illegal transaction, vulnerable to hack and data loss

Web 3.0 is more than a set of useful and new technologies and services. Web 3.0 technologies offer an array of services to make a true online classroom a reality. Because of its very nature Web 3.0 services will be having positive impact on teaching and learning. Web 3.0 technologies offer benefits of

3D-wikis, 3D Labs; Intelligent Agent based search engines, Virtual environments like Avatar and Semantic Digital Libraries etc. In our vision of the Web 3.0, we foresee a scenario where such ubiquitous technologies will create a convergence of real and virtual environments, where the user

will seamlessly interact with humans and machines either through virtual means or in the real world. These benefits can be directly aligned to the existing best practices in online education, and make further authenticated and effective educational environment.

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## CONCLUSION

Web 3.0 is disruptive technology it will completely change the world. Web 3.0 is the most innovative and futuristic thing in this era. We should also contribute in the field of this technology. Web 3.0 is started from 2020 and it we goes to 2035 as the researchers as estimated. Web 3.0 is the way towards the new techs which leads the new job opportunity. Many resources to create a real e-Learning environment. Due to its nature web 3.0 services will do have had a great impact on learning and education. This research paper sets that, as it were predecessor, Web 3.0 technology, once stable and advanced will continue to transform e-Learning discipline It is makes the future technology in next level. We are still in the starting face. Lot of enovations and it will also supports the new innovative tech which may be change the world like Web 3.0 is doing.

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