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# WEB 3.0

## MOST IMPORTANT NOTES FOR MAINS



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## **GS 3- SCIENCE AND TECHNOLOGY**

### **WEB 3.0**

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Syllabus topic: Awareness in the fields of IT, Space, Computers, Robotics, Nano- technology, Bio-technology and issues relating to Intellectual Property Rights

## **WEB 3.0**

### **INTRODUCTION**

While creating the World Wide Web (WWW), its inventor Tim Berners Lee imagined that the internet will be a collaborative medium where all meet together, read and write. But the current situation is a bit different where global tech giants act as gatekeepers to control the internet.

### **EVOLUTION OF WORLD WIDE WEB**

- **Web 1.0 [1990 – 2000]:**

- It is regarded as the first generation of the World Wide Web. Also known as the **Syntactic web** or **read only web**.
- Mostly, Web 1.0 was limited to searching the info and reading what's already there.
- There was very little in the way of user interaction or content contribution. It was pretty disorganised and overwhelming, and soon it came to be dominated by AOL, Compuserve, early Yahoo and other portals. These online service providers were the gateway to Web 1.0.

- **Web 2.0 [from mid-2000s]:**

- This phase was characterised by enhanced user experience and made the W3 interactive. Also known as **Social Web** or **read-write web**.
- It enabled users to participate in content creation on social networks, blogs, sharing sites and more. Search engines (Google) and social media platforms (Facebook, Twitter) driven by user-

generated content disrupted the media, advertising and retail industries.

- Web 2.0's business model relies on user participation to create fresh content and the resultant data being sold to third parties for marketing purposes.
- **Web 3.0 [yet to arrive]:**
  - It is the next stage of the web evolution. It would make the internet more intelligent, or process information with near-human-like intelligence through the power of AI systems.

### **WEB 3.0?**

- Web 3.0 is the next version of the internet, where services will **run on BLOCKCHAIN**. It is a **decentralised internet** that runs on a public blockchain, which is also used for cryptocurrency transactions.
- It will be permissionless and democratic. For instance
  - Facebook will not be able to maintain a database of billions of users that can be potentially used to influence elections nor Twitter will not be able to censor posts.
- In a Web 3.0 universe, people will control their own data and will be able to move around from social media to email to shopping using a single personalised account, creating a public record on the blockchain of all of that activity.
- All **data will be interconnected** in a decentralised way, unlike the current generation of the internet (Web 2.0), where data is mostly stored in centralised repositories.

## WHAT'S WEB 3.0?

- Hailed as the third version of the internet
- Simplistically, it can be described as Internet on blockchain
- **MAIN IDEA:** Have decentralised ownership
- Requires a complete overhaul in regulatory thinking
- Global rise of cryptocurrencies, non-fungible tokens (NFT) forming the base for rise of Web3

## **BENEFITS OF WEB 3.0**

- Privacy issues in WEB2.0:
  - Presently, a huge amount of data is generated when consumers search, shop or upload videos and pictures. All this data is stored in the servers of the companies that the people interact with. This means that intermediaries become custodians of user data and profit from it via advertising.
  - For such companies, the more time consumers spend creating content, the more data the company can collect, helping it to improve its AI algorithm and its advertising engine, a key revenue model for the company.
  - This gives rise to issues of privacy, wherein user data is shared for profit without their consent.
- Issue of Ownership of Data:
  - Presently, only centralised repositories are the ones that own user data and profit from it.

- In Web 3.0, users can own and be properly compensated for their time and data.
- Any information that users share on Web 2.0 is stored with a **cloud service provider** used by an online service, whether it is food delivery or e-commerce, whereas in Web3.0, all services are built on top of a **blockchain**.
- Cloud is controlled by giants such as Amazon, Google and Microsoft, and is centralised. In the case of blockchain, data is distributed across networks and no single entity owns the information.
- Solve issue of Plagiarism:
  - Plagiarism is widespread online. It's very easy to copy original content and build a following around it on social media. Those who copy content get compensated way more than the original content creator. Plagiarism makes it harder for creators to get adequately compensated.
  - Web3.0 might help address that issue. The transparent nature of blockchain makes it easy for anyone to track the originator of content.
- Companies that own networks have unilateral power over who gets network access, how revenue is divided, what features are supported, etc. That makes it harder for start-ups, creators and other groups to grow their internet presence. Decentralising the web removes these hurdles for new start ups.
- Encourage Innovation and growth of start ups.

### **CHALLENGES FOR WEB 3.0**

- The challenge of decentralised networks is that they are public goods. Without a central entity to control decisions and capture profits, it is hard to incentivise their maintenance and development.

- Crypto helps solve this problem through decentralised coordination and providing economic incentives for development.
- A lot of work has to be done to lay the foundation for Web3 —meaning that users, developers, tech companies, and others would have to come in on agreements around how the Web3 protocols would work.
- Only when this work gets going, and when financial incentives align behind it, will Web3 start to get real.

### **WEB 3.0 IN INDIA: CURRENT SCENARIO**

- **Indian TikTok rival Chingari** recently shifted from a Web 2.0 model of incentives for content creators to a Web 3.0 model. The start-up raised over \$19 million in October 2021, which will help it build its token called '\$GARI' on the Solana blockchain.
- A range of Indian start-ups like **Biconomy, Polygon, EPNS, Persistence, and Vault** are working to put together the technological building blocks to make Web 3.0's mass adoption a reality.
- By one estimate, Web 3.0 can help India contribute an **additional \$1.1 trillion of economic growth** to its GDP over the next 11 years.

### **WAY FORWARD**

- Risks such as capture of communities by specific groups, inadequate grievance redressal, misuse for illegal activities, and entry of fraudulent actors may emerge, so it becomes necessary for governments to recognise and regulate web3.0.
- **Govt must acknowledge the potential of web 3.0** in empowering startups, small digital businesses, and consumers, and creating an enabling environment to help realise such potential.
- **Need to reach out, listen, and genuinely engage with stakeholders** to understand the potential, risks and challenges of web 3.0.
- **The Ministry of Electronics and Information Technology (MeitY) can lay down overarching principles** for governing 3.0, with a focus

on self and co-regulation. Knee-jerk reactions such as outright bans should be avoided, and nuanced risk-based regulations will be essential.

Web 3.0 has emerged as a new tech buzzword. The term incorporates a bunch of next-gen ideas, all pointing towards elimination of the dominance of the big tech companies over the internet. Some see Web 3.0 as the future of the internet, while some caution against being overly optimistic about what it can potentially deliver. The government with participation of all stakeholders need to study its prospects, challenges and possible threat so that a near ideal system that safeguards privacy, provide security and prevent monopoly can be established.






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