

Comparative Analysis of Web2 and Web3  
  
**Objective/Aim:**  
  
 To study and understand the differences, advantages, and disadvantages between Web2 and Web3, and explore the  
evolution of the internet.



**Apparatus/Software Used:**

* Laptop/PC
* PowerPoint/Word for documentation
* Internet for research

**Theory/Concept:**

**Web2: (Read + Write)**

* The current version of the internet (2004–present).
* Enables user-generated content on centralized platforms (e.g., Facebook, YouTube).
* Companies own and control user data.
* Accessible and stable.

**Web3: (Read + Write + Own)**

* The next generation internet built on blockchain (2014–future).
* Allows decentralization and user ownership of data and digital assets.
* Uses smart contracts, NFTs, and crypto wallets.
* Examples: Ethereum, IPFS.

**Key Differences:**

* Ownership: Web2 - centralized; Web3 - decentralized.
* Data Privacy: Higher in Web3.
* Security: Web3 uses blockchain for enhanced security.
* Censorship Resistance: Web3 is resistant to censorship.
* Complexity: Web3 has a steep learning curve compared to Web2.



**Procedure:**

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1. Studied theoretical concepts of Web2 and Web3.



1. Created a PowerPoint presentation comparing features, advantages, and disadvantages.
2. Analysed how decentralization impacts data ownership and security.
3. Documented observations in a comparative table.
4. Discussed practical scenarios where Web3 can improve current Web2 limitations.

**Observation Table:**

| **Feature** | **Web2** | **Web3** |
| --- | --- | --- |
| **Definition** | Current version of the internet (Read + Write) | Next-gen internet (Read + Write + Own) |
| **Control** | Centralized, controlled by companies | Decentralized, controlled by users |
| **Data Ownership** | Companies own and control user data | Users own and control their data |
| **Examples** | Facebook, YouTube, Instagram, Google | Ethereum, IPFS, Filecoin, decentralized apps |
| **Privacy** | Lower privacy; data sold for ads | Higher privacy; data secured by blockchain |
| **Accessibility** | Easy to use, user-friendly | Requires understanding of blockchain concepts |
| **Security** | Prone to data breaches and hacking | Enhanced security using cryptography and blockchain |
| **Censorship** | Can be censored by companies or governments | Censorship-resistant due to decentralization |
| **Scalability** | Highly scalable with centralized servers | Faces scalability challenges currently |
| **Transparency** | Limited transparency; hidden algorithms | Transparent and open through blockchain |
| **Monetization** | Ad-based revenue; user data monetized | User can earn directly (crypto, tokens) |
| **Environmental Impact** | Low (in usage phase) | Higher in PoW systems (due to energy consumption) |