



School: ............................................................................................................. Campus: ....................................................... Academic Year: ...................... Subject Name: ........................................................... Subject Code: ..........................

Semester: ............... Program: ........................................ Branch: ......................... Specialization: .......................... Date: .....................................

(Learning by Doing and Discovery)

**\* Coding Phase: Pseudo Code / Flow Chart / Algorithm**

OBJECTIVE:

The term "Web2" describes the second generation of the internet, which brought user-generated content, social networking, and interactivity. It is based on company-controlled centralized servers, which facilitate information access and sharing while granting organizations substantial control over user data. Twitter, YouTube, and Facebook are well-known examples. Despite offering a seamless and intuitive experience, Web2 presents issues with data ownership, privacy, and centralized control.

Web3 represents the decentralized internet, built on blockchain technology. It focuses on returning ownership and control of data to the users, enabling peer-to-peer interactions without intermediaries. It supports concepts like smart contracts, cryptocurrencies, decentralized applications (dApps), and distributed file storage. Examples include Ethereum, IPFS, and Uniswap. Web3 offers better transparency and security, but faces challenges such as scalability issues, complex user interfaces, and higher technical knowledge requirements.

# \* Software used

* Laptop/PC
* MS Word / PowerPoint
* Stable Internet connection
* Communication tool like Google Meet or Zoom.

**Theory/Concept:**

The second generation of the internet, known as Web2, saw the development of user-driven, interactive, and collaborative websites and applications. Platforms for real-time content creation, sharing, and interaction were introduced. Web2 has produced social media, blogs, e-commerce, and streaming services. Web2 is centralized, though, which means that a limited number of businesses manage the servers, data storage, and decision-making. Speed, scalability, and user-friendliness are made possible by this structure, but it also raises concerns about censorship, privacy, and the lack of user data ownership.

Web3 is the next evolution of the internet that aims to give users ownership of their data and decentralize control. Peer-to-peer transactions, decentralized apps (dApps), and thrustless systems—where the network is not governed by a single entity—are made possible by it. Uniswap for decentralized finance, IPFS for decentralized storage, and Ethereum for smart contracts are a few examples. Although Web3 provides immutability, security, and transparency, it also has drawbacks like scalability issues, complicated user interfaces, and slower transaction speeds.

The debate between Web2 and Web3 revolves around a trade-off:

* Web2 provides convenience, efficiency, and mass adoption but lacks decentralization and user control.
* Web3 ensures security, transparency, and autonomy but struggles with accessibility and widespread use.

Web3's decentralized infrastructure, security, and user data sovereignty, along with Web2's speed and usability, would be combined in a redesigned hybrid model to create a more secure, transparent, and user-powered internet.

PROCEDURE:

* Researched Web2 and Web3 concepts from reliable sources.
* Formed teams for groups to discuss the advantages and disadvantages of each.
* Presented arguments and counterarguments.
* Listed the two models' limitations.
* Brainstormed concepts for a Web2–Web3 hybrid model.
* Made a table of comparisons and recorded findings.

OBSERVATION:

1. Web2 offers high speed, scalability, and a smooth user experience due to centralized control.
2. In Web2, user data is stored and controlled by companies, leading to privacy concerns.
3. Web3 ensures decentralization, giving users full control over their data.
4. Web3 uses blockchain, making it more transparent and secure against centralized attacks.
5. Web2 platforms are easier to use and require minimal technical knowledge.
6. Web3 platforms require wallets, keys, and blockchain knowledge, making them harder for beginners.
7. Web2 is already widely adopted, while Web3 adoption is still growing.
8. Web3 faces scalability challenges, whereas Web2 handles large-scale operations efficiently.
9. Monetization in Web2 benefits companies, whereas Web3 enables direct earning for users through tokens and NFTs.
10. A hybrid Web2–Web3 model can combine user-friendly interfaces with decentralized backends for better balance.

## \* Implementation Phase: Final Output (no error)

\* Observations

# Web2 offers high speed, scalability, and a smooth user experience due to centralized control.

# In Web2, user data is stored and controlled by companies, leading to privacy concerns.

# Web3 ensures decentralization, giving users full control over their data.

# Web3 uses blockchain, making it more transparent and secure against centralized attacks.

# Web2 platforms are easier to use and require minimal technical knowledge.



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| **Rubrics** |  |  |  |
| Concept | 10 |  |  |
| Planning and Execution/  Practical Simulation/ Programming | 10 |  |  |
| Result and Interpretation | 10 |  |  |
| Record of Applied and Action Learning | 10 |  |  |
| Viva | 10 |  |  |
| **Total** | **50** |  |  |

***Signature of the Student:***

***Signature of the Faculty:***

