Centurion University
Shaping Lives... Empowering Communities...

School: ..... Campus: .....

Academic Year: ..... Subject Name: ..... Subject Code: .....

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

Date: .....

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiement :

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

Introduction to Web Evaluation:

1.Web 1.0 – The read-only web with static pages and limited user interaction.

2.Web 2.0 – Introduced user-generated content, social media, and interactivity.

3.Web 3.0 – Focuses on decentralization, data ownership, and blockchain technology.

4.The web has evolved from static information to dynamic, user-controlled ecosystems.

What is Web 2.o

1.Interactive Web – Allows users to read, write, and interact with content.

2.User-Generated Content – Blogs, videos, and social media posts are created by users.

3.Centralized Platforms – Controlled by companies like Facebook, Google, and YouTube.

4.Ad-Based Monetization – Platforms earn money by showing ads and using user data.

5.Social Networking – Enables real-time communication and community building.

6.Limited Data Ownership – Users don't fully control or own their personal data.

*As applicable according to the experiment.
Two sheets per experiment (10-20) to be used.

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

What is Web 3.o

1.Decentralized Web – No single company controls the system; powered by blockchain.
2.User Data Ownership – Users fully own and control their data and digital identity.
3.Smart Contracts – Automated, trustless transactions using blockchain code.
4.Crypto-Based Economy – Uses tokens and cryptocurrencies for payments and rewards.
5.Privacy & Security Focused – Data is encrypted and shared only with user consent.
6.AI & Machine Learning – Adds intelligence to deliver more personalized experiences.

Advantages and Disadvantages:

Advantages of Web2.0

1.User Interaction – Enables sharing, commenting, and collaboration.
2.Easy to Use – User-friendly platforms accessible to everyone.
3.Massive Reach – Social media connects billions of people globally.
4.Fast Content Sharing – Information can go viral quickly.

Disadvantages of web2.0

1.Lack of Data Privacy – User data is collected and sold by companies.
2.Centralized Control – Big tech companies control content and services.
3.Censorship Issues – Platforms can remove or restrict content.
4.Ad-Driven Models – Focus on profits over user experience and privacy.

Advantages of Web3.0

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

1.User Data Ownership – Users have full control over their data and digital identity.
2.Decentralization – No central authority; reduces censorship and manipulation.
3.Enhanced Privacy & Security – Data is encrypted and shared only with permission.
4.Smart Contracts & Automation – Enables trustless and efficient transactions.

Disadvantages of web2.0

•**Complex for Beginners** – Requires knowledge of crypto wallets and blockchain.
•**Scalability Issues** – Slower and less efficient compared to centralized systems.
•**Limited Adoption** – Still growing and not widely used in daily life.
•**Regulatory Uncertainty** – Legal frameworks are not yet clearly defined.

Data Ownership and Privacy:

Web 2.0: Centralized Control

1.Data Controlled by Platforms – User data is stored and managed by companies like Google, Facebook, etc.
2.Limited User Rights – Users have little control over how their data is collected, stored, or sold.
3.Centralized Storage – Data resides on company-owned servers, increasing the risk of breaches.
4.Monetization Without Consent – Companies often use personal data for advertising without full user permission.
5.Frequent Data Leaks – History of data misuse, hacks, and privacy scandals (e.g., Cambridge Analytica).

* Implementation Phase: Final Output (no error)

Web3: User Sovereignty

1.User-Owned Data – Users control their own data through blockchain and decentralized identities.
2.Permission-Based Access – Data is shared only when the user allows it, often through smart contracts.
3.Decentralized Storage – Uses systems like IPFS or blockchain, reducing centralized breach risks.
4.Encryption by Default – Enhanced security ensures data is protected and less vulnerable.
5.Transparency & Trust – Open-source and public ledgers allow users to verify how data is used.

Identity and Access Management:

Web 2.0: Centralized Identity Providers

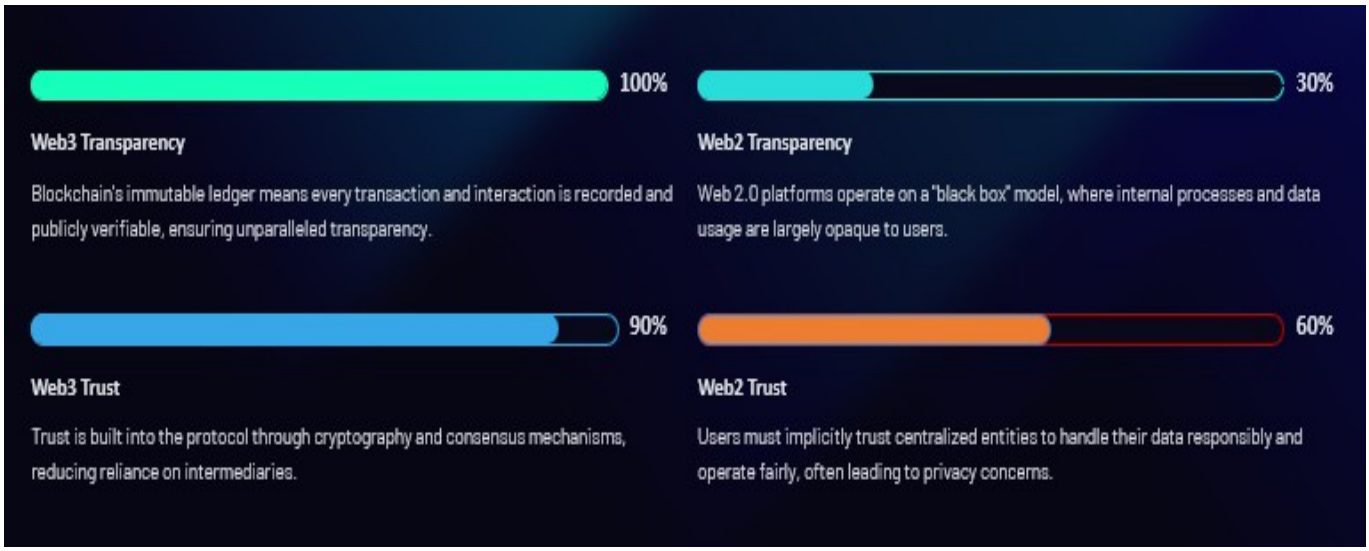
•**Centralized Login Systems** – Users log in using email/password managed by platforms like Google or Facebook.
•**Single Point of Failure** – If login credentials are compromised, the entire account is at risk.
•**Data Linked to Identity** – Personal data (name, email, location) is stored and linked to user accounts.
•**Password Management** – Requires remembering or storing multiple passwords for different platforms.
•**Platform Dependency** – Access is controlled by the service provider, who can block or ban users anytime.

Web3: Self-Sovereign Identity (SSI)

1.Decentralized Identity – Users log in with crypto wallets (e.g., MetaMask) instead of emails or passwords.
2.No Central Authority – Identity is not tied to any one company or platform.
3.Cryptographic Security – Private keys and digital signatures ensure secure and tamper-proof access.
4.Pseudonymity – Users can interact without revealing personal details, protecting privacy.
5.Self-Sovereign Identity – Users have full control over their digital identity and authentication.

**As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.

Transparency and Trust:



Conclusion:

The internet has evolved from static content (Web 1.0) to interactive platforms (Web 2.0) and now toward decentralized, user-controlled systems (Web 3.0). While **Web 2.0** brought connectivity and convenience, it raised concerns over privacy and control. **Web 3.0** aims to solve these issues by giving users ownership, security, and freedom. Understanding this evolution helps us prepare for a more transparent, open, and user-focused digital future.

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
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:

Name :

Regn. No. :

Signature of the Faculty:

**As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.