| Date | 10-10-2025 |
| --- | --- |
| Team ID | SWUID20250199287 |
| Project Name | Social Media App |

**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

**Technical Architecture – Social Media App**

The Social Media platform is designed with a **scalable 3-tier architecture** that includes the **presentation layer (frontend)**, **business logic (backend)**, and **data storage layer**. This architecture ensures **high performance, security, and seamless integration** with third-party services (e.g., cloud storage for media, notification services, OAuth providers).

**Table 1: Components & Technologies**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
| 1 | User Interface | Web-based interface for users to interact with posts, feed, messaging, and notifications | HTML, CSS, JavaScript / React.js |
| 2 | Application Logic – 1 | User authentication, post creation, feed generation, media upload | Node.js, Express.js |
| 3 | Application Logic – 2 | Messaging system, notifications, friend/follow management | Node.js, React.js |
| 4 | Database | Stores user profiles, posts, media, messages, likes, comments | MongoDB |

**Table 2: Application Characteristics**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Characteristics** | **Description** | **Technology** |
| 1 | Open-Source Frameworks | Frontend and backend frameworks used for rapid development | React.js, Node.js, Bootstrap, Tailwind CSS |
| 2 | Scalable Architecture | 3-tier architecture with RESTful APIs for modularity and easy scaling | MVC Pattern |
| 3 | Real-Time Capabilities | Supports instant messaging, notifications, and live updates | Socket.io, WebSockets |
| 4 | Media Handling | Efficient storage and streaming of images and videos | AWS S3 / Cloudinary |

**References:**

[**React.js Documentation**](https://react.dev/)

[**Node js Best Practice**](https://nodejs.org/en/learn/getting-started/introduction-to-nodejs)

[**JSON Web Server Referance**](https://www.npmjs.com/package/json-server)

[**https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d**](https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d)