Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	26 June 2025
Team ID	LTVIP2025TMID59525
Project Name	Learn Hub
Maximum Marks	4 Marks

Technical Architecture

Learn Hub is built on a robust and scalable 3-tier architecture that ensures smooth user experiences and efficient data handling. It includes:

● Presentation Layer (Frontend): Provides a responsive and user-friendly interface for students, teachers, and administrators to interact with the platform.

● Business Logic Layer (Backend): Manages core functionalities such as user authentication, course management, enrollment tracking, and role-based access.

● Data Storage Layer: Maintains user data, course content, enrollment history, and progress tracking using a secure and scalable NoSQL database.

The system also uses third-party libraries for UI components, authentication, and data management to enhance development speed and user experience.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Interactive web UI for learners, instructors, and admins	HTML, CSS, JavaScript / React Js etc.
2.	Application Logic-1	User registration, login, course enrollment, progress tracking	Node.js, Express.js, JWT
3.	Application Logic-2	Admin functionalities: dashboard, content & user management	React js, Node js
4.	Database	Stores user profiles, appointments, provider datas	MongoDB

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
5.	Open-Source Frameworks	Modern development libraries and component tools	React.js, Node.js, Bootstrap, MUI
6.	Scalable Architecture	3-tier architecture with REST API connectivity	Microservices pattern using Express

References:

React.js Documentation

Node js Best Practice

JSON Web Server Referance