

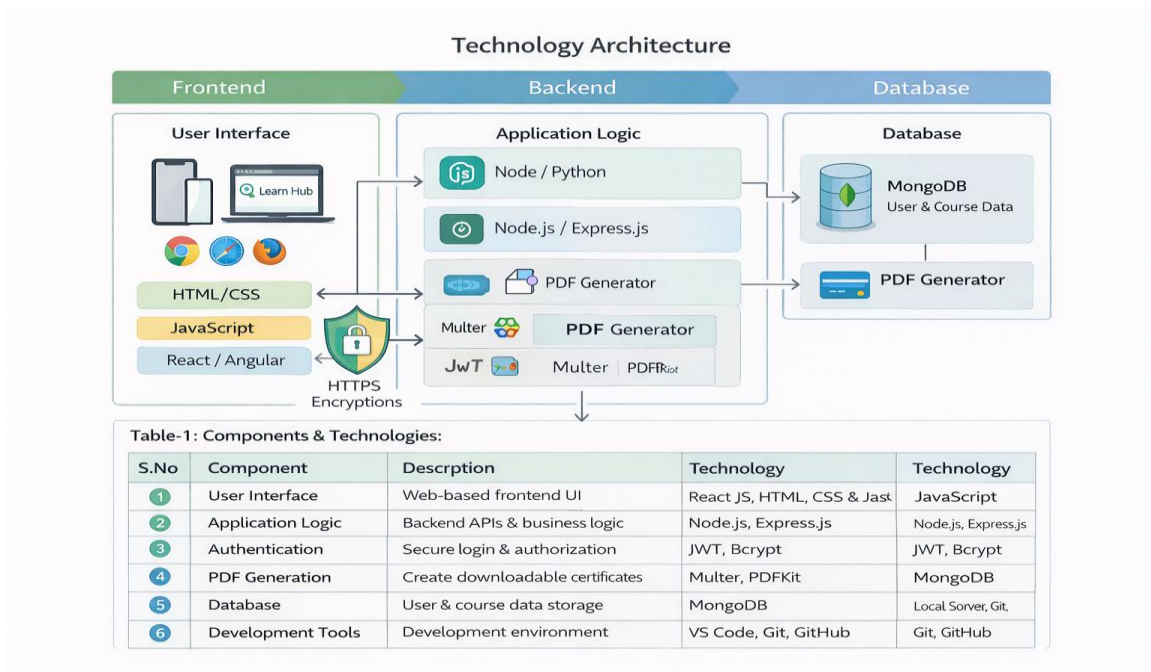
# Project Design Phase-II

## Technology Stack (Architecture & Stack)

Date	20 February 2026
Team ID	LTVIP2026TMIDS70508
Project Name	Learn Hub : Your Center for Skill Enhancement
Maximum Marks	4 Marks

### Technical Architecture:

The Learn Hub platform follows a 3-tier MERN architecture consisting of Frontend (React), Backend (Node.js & Express), and Database (MongoDB). External APIs such as Payment Gateway services are integrated for secure transactions.



**Table-1: Components & Technologies**

S.No	Component	Description	Technology
1	User Interface	Web-based frontend UI	React JS, HTML, CSS, JavaScript
2	Application Logic	Backend APIs & business logic	Node.js, Express.js
3	Database	User & Course Data Storage	MongoDB
4	Authentication	Secure login & authorization	JWT, Bcrypt
5	File Handling	Video uploads & certificate generation	Multer, PDFKit
6	Development Tools	Development environment	VS Code, Git, GitHub

**Table-2: Application Characteristics**

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	MERN stack usage	React, Node.js, Express
2	Security	Password hashing & token auth	JWT, HTTPS
3	Scalability	3-tier scalable architecture	Cloud deployment
4	Availability	Cloud hosting with uptime	Render / Vercel
5	Performance	Optimized APIs & DB indexing	MongoDB indexing