Project Design Phase
Solution Architecture

Date	15 February 2026
Team ID	LTVIP2026TMIDS24292
Project Name	LearnHub : Your Center For Skill Enhancement
Maximum Marks	4 Marks

Goals of the Solution Architecture

The solution architecture of LearnHub aims to:

● **Identify the best technological solution** to address skill development and learning challenges faced by students and professionals.

● **Describe the structure and behavior of the system**, including frontend, backend, database, and external services, to all project stakeholders.

● **Define core features and development phases**, such as user authentication, course management, learning modules, assessments, and progress tracking.

● **Provide clear specifications** that guide the design, development, deployment, and maintenance of the platform.

High-Level Architecture Description

The LearnHub platform follows a **three-tier architecture**:

1. **Presentation Layer (Frontend)**
   o Web-based user interface built using modern frontend technologies
   o Allows users to register, log in, browse courses, learn content, and track progress
2. **Application Layer (Backend Services)**
   o Handles business logic such as authentication, course enrollment, assessments, and certifications
   o Communicates with the frontend through RESTful APIs
3. **Data Layer (Database & Storage)**
   o Stores user profiles, course content, progress data, and assessment results
   o Uses cloud-based databases and file storage for scalability and reliability

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Data Flow Overview

- Users interact with the LearnHub platform through the web interface
- User requests are sent to backend APIs for processing
- Backend services validate requests, process logic, and interact with the database

- Processed data and responses are returned to the frontend
- Admin users manage courses, users, and reports through secure access

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Benefits of the Solution Architecture

- **Scalable:** Supports increasing users and courses without performance degradation
- **Secure:** Implements authentication and authorization mechanisms
- **Modular:** Enables easy enhancement and feature expansion
- **Reliable:** Ensures consistent availability and smooth user experience

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Conclusion

The proposed solution architecture for LearnHub provides a robust and flexible foundation that aligns business goals with technology implementation. By clearly defining system components, data flow, and responsibilities, the architecture ensures efficient development, easier maintenance, and long-term scalability of the skill enhancement platform.