

## 1. Project Overview

**\*\*Project Name\*\*:** LearnHub

**\*\*Tagline\*\*:** Your Center for Skill Enhancement

**\*\*Type\*\*:** Online Learning Platform (OLP)

**\*\*Mode\*\*:** Web Application

**\*\*Technologies Used\*\*:**

- Frontend: HTML5, CSS3, JavaScript, React.js, Axios, Bootstrap, Material-UI
- Backend: Node.js, Express.js
- Database: MongoDB
- APIs: RESTful APIs

**\*\*Purpose\*\*:** LearnHub is designed to provide flexible, self-paced online education to learners of all backgrounds. It enables students to explore new skills, track their learning, and gain certifications. Instructors can create, manage, and deliver courses, while administrators ensure the integrity and smooth running of the platform.

## 2. Key Features

- User-Friendly Interface: Intuitive layout, responsive design, personalized dashboards
- Course Management: Upload/organize content, enroll, track progress
- Interactivity & Engagement: Live chat, forums, webinars
- Certifications: Auto-generated, downloadable
- Accessibility: Cross-device, 24/7 internet access
- Self-Paced Learning: Resume anytime
- Payment Integration: Free/paid options, secure gateway

## 3. Scenario-Based Use Case

**\*\*Learner (Sarah)\*\*:** Registers, browses courses, enrolls, learns, interacts, completes, and certifies.

**\*\*Instructor (John)\*\*:** Creates/updates courses, manages students, engages in forums.

**\*\*Admin\*\***: Manages users, content, platform integrity.

## 4. Technical Architecture

**\*\*Frontend\*\***: React.js, Axios, Material-UI, Bootstrap

**\*\*Backend\*\***: Node.js, Express.js handles auth, CRUD, certificates, payments

**\*\*Database\*\***: MongoDB stores user, course, progress, payments, certifications

**\*\*APIs\*\***: RESTful with JWT auth

## 5. System Modules

- User Module: Register, login, enroll, profile, certificate view/download
- Instructor Module: Create/edit course, manage content/students
- Admin Module: Platform management, resolve issues

## 6. Tools & Libraries

- Frontend: React.js, Bootstrap, Material-UI
- Backend: Node.js, Express.js
- API: Axios
- Database: MongoDB
- Auth: JWT, Bcrypt
- Payments: Stripe / Razorpay

## 7. Deployment & Hosting

- Frontend: Vercel / Netlify
- Backend: Render / Railway / Heroku
- Database: MongoDB Atlas

## 8. Future Enhancements

- Mobile app (React Native)
- AI-driven recommendations
- Gamification (points, leaderboards)

- Multi-language support
- Offline access

## **9. Screenshots**

(Attach the following in actual submission)

- Homepage
- Course Listing
- Course Detail
- User Dashboard
- Instructor Upload Page
- Admin Panel

## **10. Conclusion**

LearnHub bridges the gap between learners and experts with an intuitive, flexible platform for impactful education.