**📘 Project Documentation**

**Project Name: Learn Hub: Your Center for Skill Enhancement**

**🧑‍🤝‍🧑 Team Members**

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**📌 Abstract**

**Learn Hub** is a full-stack web application built using the MERN (MongoDB, Express.js, React.js, Node.js) stack. It aims to provide a centralized platform for learners to access a variety of skill-enhancing resources like courses, video tutorials, webinars, project ideas, quizzes, and progress tracking. The platform is designed with a user-friendly interface and robust backend to offer an engaging and interactive learning experience.

**🎯 Objectives**

* Provide a platform for users to browse and enroll in learning modules.
* Track user progress across multiple skill domains.
* Enable administrators to upload and manage educational content.
* Encourage continuous learning through gamification (badges, points, levels).
* Build a scalable and responsive web application using MERN stack technologies.

**🏗️ Tech Stack**

| **Layer** | **Technology** |
| --- | --- |
| Frontend | React.js, Bootstrap, CSS, Axios |
| Backend | Node.js, Express.js |
| Database | MongoDB |
| Authentication | JWT (JSON Web Tokens) |
| Hosting/Deployment | Render / Netlify / Vercel (Optional) |

**🗂️ Folder Structure**

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learnhub/

├── backend/

│ ├── models/

│ ├── routes/

│ ├── controllers/

│ ├── config/

│ └── server.js

├── frontend/

│ ├── src/

│ │ ├── components/

│ │ ├── pages/

│ │ ├── App.js

│ │ └── index.js

├── .env

├── package.json

├── README.md

**🔑 Key Features**

**🧑‍🎓 For Students:**

* Sign up / Log in
* Explore skill categories (e.g., Web Development, AI, Soft Skills)
* Enroll in courses
* View progress dashboard
* Take quizzes and earn points

**🛠️ For Admin:**

* Upload courses (video/text)
* Create quizzes and questions
* Manage users and feedback

**📝 Functional Requirements**

* User Registration & Login with JWT
* Course listing and detailed view
* Admin portal to manage courses and quizzes
* Track user activities and generate reports

**🔐 Non-Functional Requirements**

* Responsive UI (Mobile/Desktop)
* Secure authentication
* RESTful API structure
* Efficient database indexing

**🧪 Testing**

* **Frontend:** Unit and integration testing using Jest and React Testing Library
* **Backend:** Postman for API testing
* **Database:** Manual data validation using MongoDB Compass

**🚀 Future Enhancements**

* AI-based course recommendation system
* Chatbot for live support
* Certificates on course completion
* Integrate with payment gateway for premium features
* **📄 Conclusion**
* Learn Hub is a complete educational platform built with modern technologies. It not only serves students looking to upskill but also provides a flexible and scalable framework that can be extended for institutions or online educators.