PrepTrack — Study & Interview Preparation Planner

1. Introduction

1.1 Purpose
PrepTrack is a Study and Interview Preparation Planner designed as a Full Stack Development learning project. It helps users organize study schedules and interview preparation in a structured manner while demonstrating core full-stack concepts such as CRUD operations, REST API design, and database integration.

1.2 Target Audience
• Final-year students
• Job seekers preparing for interviews
• Competitive exam aspirants
• Developers learning full-stack application development

1.3 Learning Outcomes
• CRUD operation implementation
• RESTful API design
• MongoDB schema design using Mongoose
• Frontend–backend integration
• Full-stack application architecture
• State and data management

2. System Overview

2.1 User Roles
User: Plans study sessions and manages interview preparation data (Single-user system for initial scope).

2.2 Core Features

- Study session planning with time slots
- Interview question and topic tracking
- Revision status and confidence level monitoring
- Company-wise preparation organization
- Centralized preparation dashboard

3. High-Level Architecture Frontend

(React or Angular) → REST API → Node.js + Express Server → MongoDB Database Key Principle: Simple monolithic architecture suitable for beginner-level full stack projects.

4. Database Design (DB-First Approach)

4.1 Database
- MongoDB (local or cloud-based)
- ODM: Mongoose

4.2 Collections
The studySessions and interviewQuestions collections are designed to store structured preparation and progress data.

5. Backend Design

Technology Stack:
- Node.js
- Express.js
- MongoDB
- Mongoose

6. Frontend – React / Angular

- React
- JSX
- CSS
- React Router
- Axios / Fetch

7. Security Considerations

• Input validation
• Error handling
• Secure API design practices

8. Development Workflow

• Modular feature development
• REST API–first approach
• Incremental testing
• Version control using Git

9. Future Enhancements

• User authentication and authorization
• Visual analytics and progress charts
• Notifications and reminders
• Mobile-responsive UI
• Cloud deployment

10. Conclusion

PrepTrack demonstrates the application of full-stack development concepts using a real-world preparation planning use case. The project focuses on simplicity, structured data handling, and scalability, making it suitable for academic submission and interview discussion.