

Artificial Intelligent - Based Study Planner & Organizer

AI-Based Study Planner & Organizer is a web application that uses artificial intelligence to create, manage, and improve personalized study schedules for students.

What this system does

- Helps students plan their study time
- Creates a smart study schedule using AI
- Tracks progress and improves the plan automatically

Working of the System

- Student creates an account and logs in
- Student enters:
 - Subjects
 - Syllabus topics
 - Exam dates
 - Daily free time
- AI analyzes:
 - Subject difficulty
 - Deadlines
 - Student's weak and strong subjects
- System generates:
 - Daily and weekly study timetable
- AI:
 - Gives more time to weak subjects
 - Gives less time to strong subjects
- Student marks tasks as completed
- System tracks progress
- AI updates the study plan automatically
- Before exams:
 - Extra revision time is added
 - Mock tests are suggested
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Implementation (How it is built)

Frontend (User Interface)

- Student-friendly dashboard
- Features:
 - Add/edit subjects

- View study schedule
- Calendar and task list
- Progress bar

Backend (Main Logic)

- Handles:
 - User login and authentication
 - Task management
 - Study schedule generation
- Connects frontend with AI and database

AI Module

- Uses simple AI logic to:
 - Set priorities
 - Allocate study time
 - Adjust plan based on performance
- Learns from:
 - Completed tasks
 - Missed tasks

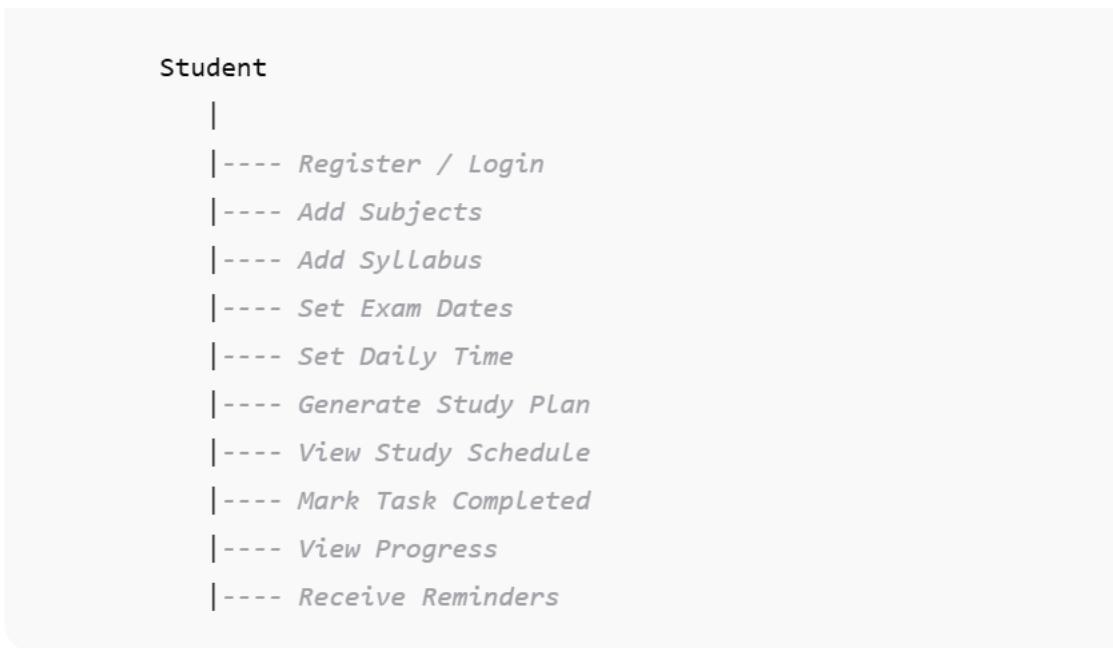
Database

- Stores:
 - User details
 - Subjects and tasks
 - Study history
 - Progress data

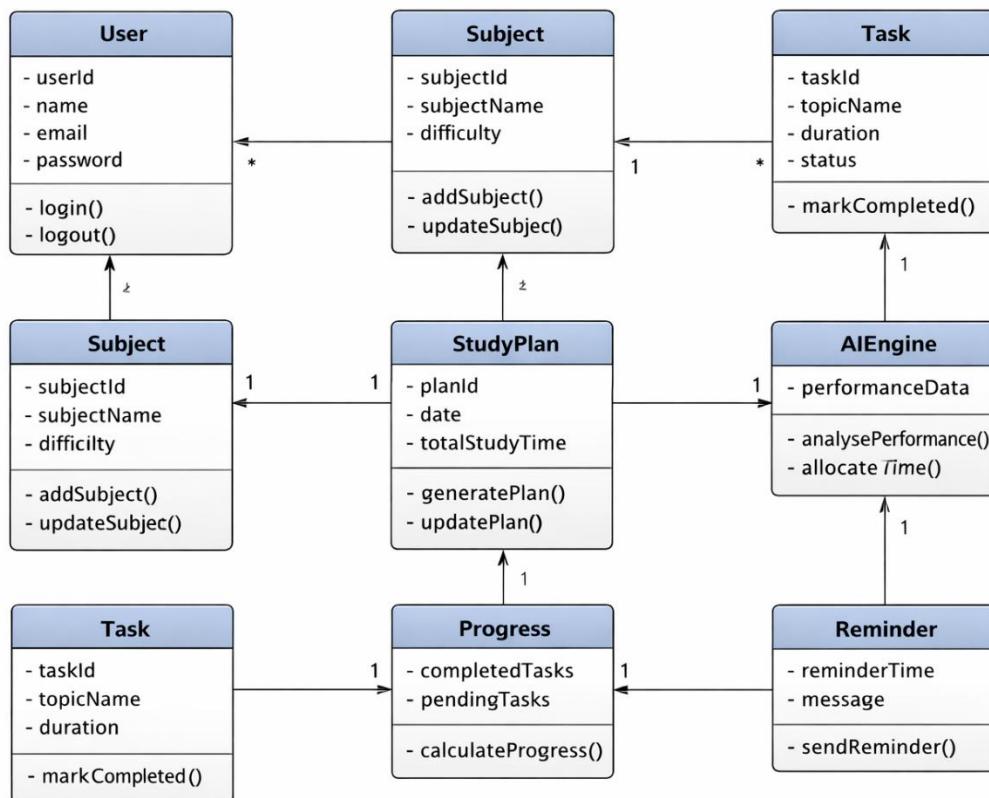
Advantages

- Saves time for students
- Reduces stress
- Improves productivity
- Personalized for each student
- Easy to use

Use case Diagram:



Class Diagram:



Language used:

Frontend: React (JavaScript)

Backend: Node.js (JavaScript)

AI Module: Python

Database: MongoDB

Work partition:

Member 1: Frontend Development (UI)

- Build user interface using **React**
- Create pages:
 - Login / Signup
 - Dashboard
 - Study Planner
- Display:
 - Subjects list
 - Daily / weekly schedule
- Handle user input and form validation
- Connect frontend with backend APIs

Member 2: Backend Development (Server)

- Develop server using **Node.js & Express**
- Create REST APIs:
 - User authentication
 - Add / update subjects
 - Add / update tasks
- Handle requests from frontend
- Send responses to frontend

Member 3: AI Logic Development

- Implement AI logic for study planning
- Calculate:
 - Subject priority
 - Time allocation
- Analyze:
 - Completed tasks
 - Missed tasks

- Generate optimized study schedule
- Update plan automatically

Member 4: Database Development

- Design database schema
- Create collections / tables:
 - Users
 - Subjects
 - Tasks
 - Study plans
- Implement database operations:
 - Insert
 - Update
 - Delete
- Optimize database queries

Member 5: Integration & Testing

- Integrate:
 - Frontend + Backend
 - Backend + Database
 - Backend + AI module
- Test:
 - APIs
 - UI functionality
 - AI outputs
- Fix bugs and errors
- Improve system performance

What is JSON?

JSON (JavaScript Object Notation)

is a **standard data format** used to send and receive **data** between systems.

Frontend, Backend, Database, and AI modules communicate with each other using JSON.

Why is JSON used?

- It is **simple** to understand
- It is **human-readable**
- It allows **fast data transfer**
- It is **supported by almost all programming languages**

