

## **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
  -

### **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

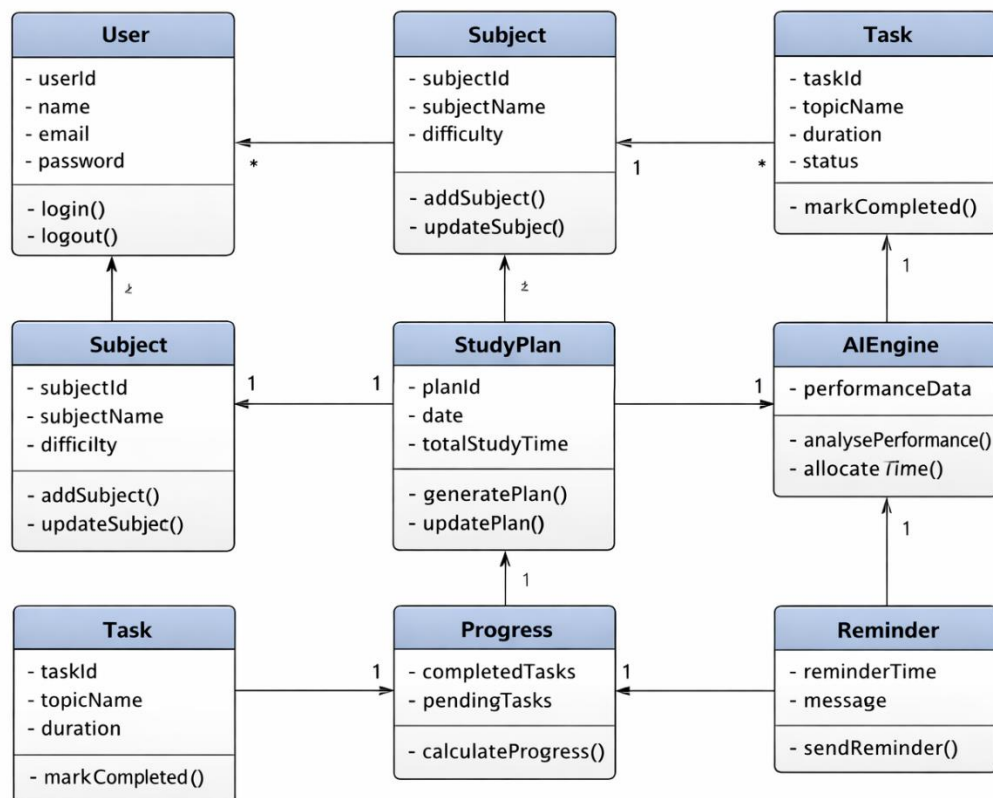
## **Advantages**

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

## Use case Diagram:

```
Student
|
|---- Register / Login
|---- Add Subjects
|---- Add Syllabus
|---- Set Exam Dates
|---- Set Daily Time
|---- Generate Study Plan
|---- View Study Schedule
|---- Mark Task Completed
|---- View Progress
|---- Receive Reminders
```

## 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**

