Studbud: AI Study Planner – Personalized Study Plans for Academic Success

Project Title:

Studbud: AI Study Planner – Personalized Study Plans for Academic Success

Team Name:

AI FLEET

Team Members:

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Phase-1: Brainstorming & Ideation

Objective:

- To develop an AI-powered web application that generates personalized study plans based on students' goals, strengths, weaknesses, and preferences.
- To help students optimize their study schedules for efficient learning and better academic performance.

Key Points:

1. **Problem Statement:** Students often struggle to create effective study plans due to a lack of personalized guidance, leading to inefficient study habits and poor academic performance. Existing tools are either too generic or require manual effort, failing to adapt to individual strengths, weaknesses, and preferences. There is a need for an AI-powered study planner that generates customized study plans to help students optimize their time and achieve their academic goals.

2. **Proposed Solution : StudBud: AI Study Planner** is a web application that uses *Google's Gemini API* to create personalized study plans based on students' goals, strengths, weaknesses, and preferences. It provides a dynamic schedule, task management, and progress tracking to help students stay organized and motivated. The app also includes gamification features like badges and rewards to make studying more engaging and effective**.**

3. **Target Users:**

   Students: High school, college, and university students who need help organizing their study schedules.

   Lifelong Learners: Individuals pursuing self-directed learning or skill development.

   Educators: Teachers and tutors who want to recommend study tools to their students.

4. **Expected Outcome:** Students will experience improved study efficiency and better academic performance through personalized study plans. The app will help them stay motivated with progress tracking and gamification. By addressing individual needs, **StudBud** will empower students to achieve their academic goals while reducing stress and time wastage. The app aims to become an essential tool for students worldwide, enhancing their learning experience.

Phase-2: Requirement Analysis

Objective:

Key Points:

- **Technical Requirements:** Python 3.9 or higher , Streamlit , Gemini API, Git ,GitHub

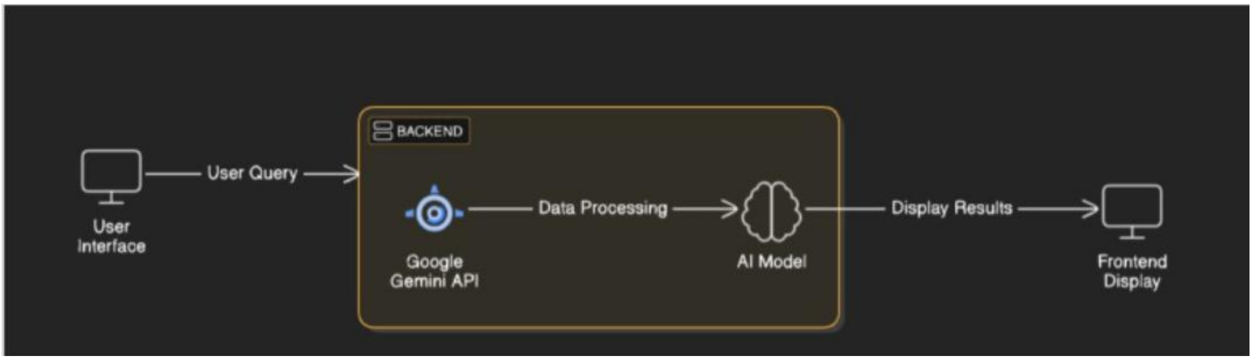
- **Functional Requirements :** User Input , Study Plan Generation , Task Management, Progress Tracker , User Interface (UI) , Export Study Plan , Error Handling , Performance (within 5 seconds) , Gamification (badges and motivational messages).

Phase-3: Project Design

Objective: AI-driven study planner for personalized, efficient, and optimized academic scheduling

Key Points:

1. **System Architecture Diagram:**



2. **User Flow:** Landing Page -> Input Academic Details -> Generate Study Plan -> Add Custom Tasks -> Track Progress -> Export Study Plan -> Logout or Close

3. **UI/UX Considerations:** Homepage , User Input Section , Study Plan Display Section , Printing the Plan.

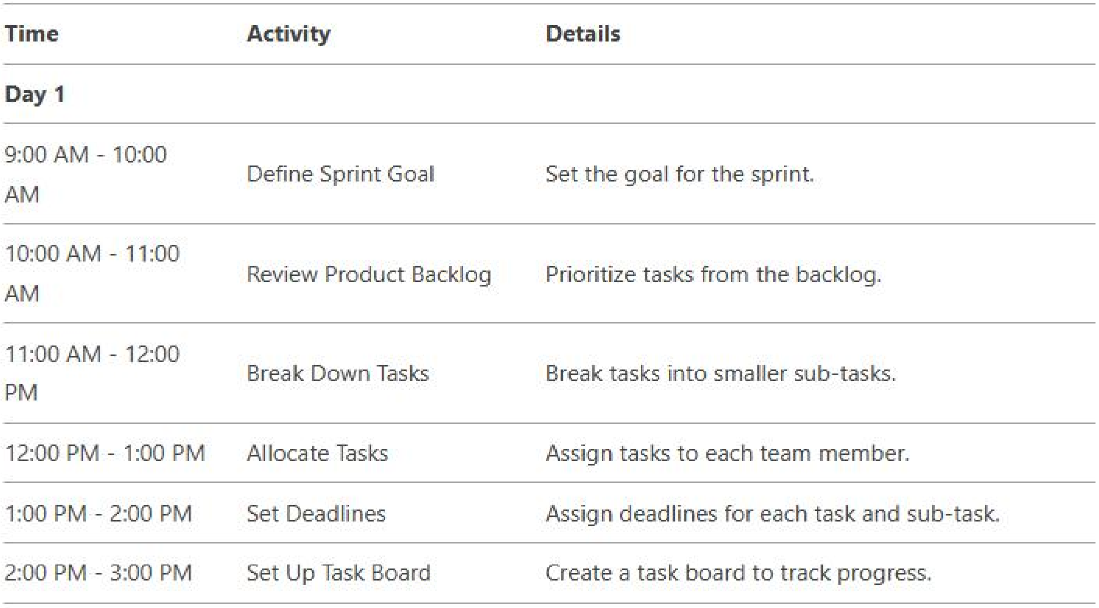
Phase-4: Project Planning (Agile Methodologies)

Objective:

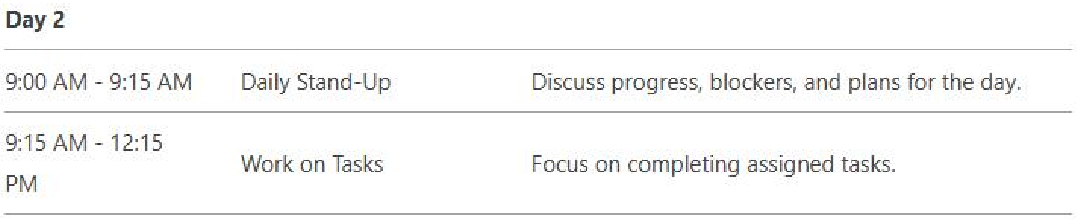
- Break down the tasks using Agile methodologies.

Key Points:

1. **Sprint Planning:**

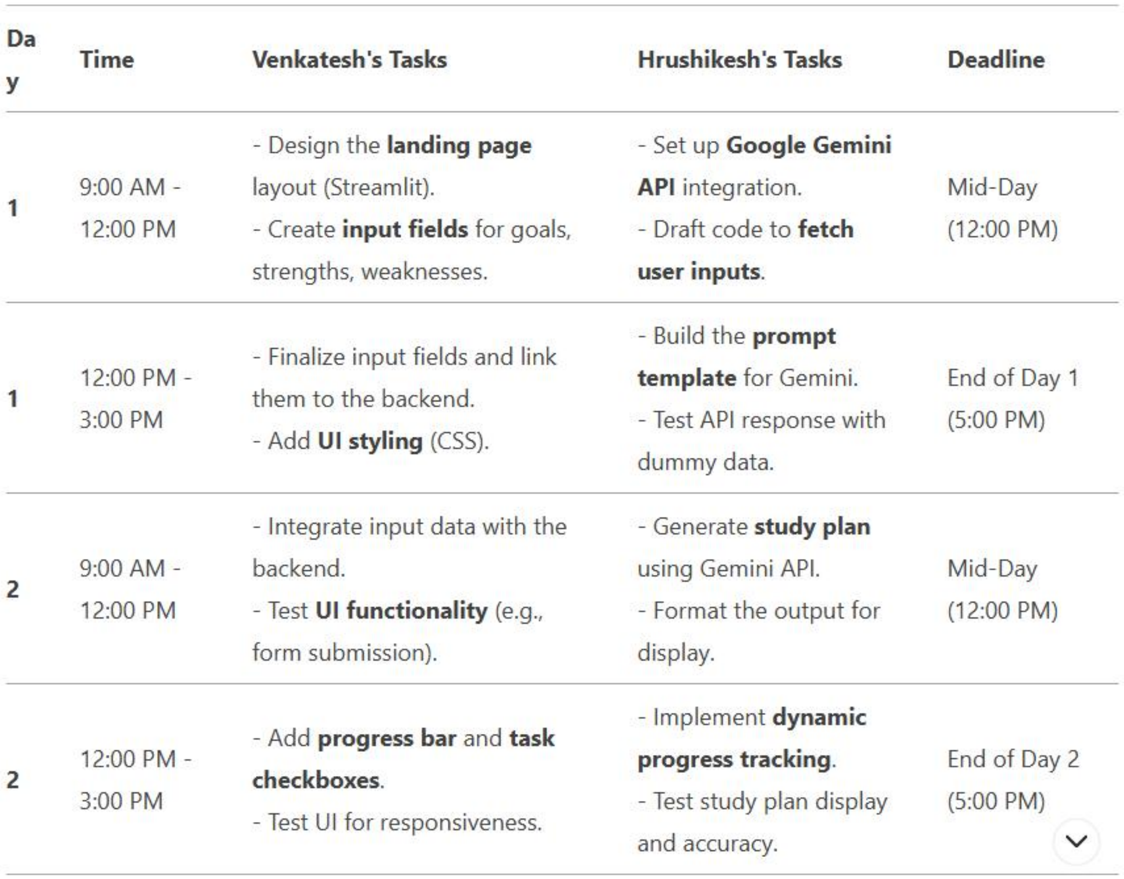


Time	Activity	Details
Day 1		
9:00 AM - 10:00 AM	Define Sprint Goal	Set the goal for the sprint.
10:00 AM - 11:00 AM	Review Product Backlog	Prioritize tasks from the backlog.
11:00 AM - 12:00 PM	Break Down Tasks	Break tasks into smaller sub-tasks.
12:00 PM - 1:00 PM	Allocate Tasks	Assign tasks to each team member.
1:00 PM - 2:00 PM	Set Deadlines	Assign deadlines for each task and sub-task.
2:00 PM - 3:00 PM	Set Up Task Board	Create a task board to track progress.



Day 2		
9:00 AM - 9:15 AM	Daily Stand-Up	Discuss progress, blockers, and plans for the day.
9:15 AM - 12:15 PM	Work on Tasks	Focus on completing assigned tasks.

2. **Task Allocation:**



Day	Time	Venkatesh's Tasks	Hrushikesh's Tasks	Deadline
1	9:00 AM - 12:00 PM	- Design the **landing page** layout (Streamlit). - Create **input fields** for goals, strengths, weaknesses.	- Set up **Google Gemini API** integration. - Draft code to **fetch user inputs**.	Mid-Day (12:00 PM)
1	12:00 PM - 3:00 PM	- Finalize input fields and link them to the backend. - Add **UI styling** (CSS).	- Build the **prompt template** for Gemini. - Test API response with dummy data.	End of Day 1 (5:00 PM)
2	9:00 AM - 12:00 PM	- Integrate input data with the backend. - Test **UI functionality** (e.g., form submission).	- Generate **study plan** using Gemini API. - Format the output for display.	Mid-Day (12:00 PM)
2	12:00 PM - 3:00 PM	- Add **progress bar** and **task checkboxes**. - Test UI for responsiveness.	- Implement **dynamic progress tracking**. - Test study plan display and accuracy.	End of Day 2 (5:00 PM)

3. **Timeline & Milestones:** (Set short deadlines for each task)

Phase-5: Project Development.

Objective:

- Code the project and integrate components.

Key Points:

1. **Technology Stack Used :** Python , Streamlit (for UI) , JSON (to store user preferences and study plans)

2. **2. Development Process:**
   - Step 1: Define project scope and gather requirements.
   - Step 2: Implement user input collection using Streamlit UI components.
   - Step 3: Develop study plan generation logic based on user input.
   - Step 4: Implement data storage using JSON files.
   - Step 5: Test the application with different user scenarios.
   - Step 6: Debug and optimize the application for better performance.
   - Step 7: Deploy the application on a cloud or local environment.

3. Challenges & Fixes:

Challenge 1: Handling missing user data.
Fix: Implemented JSON file handling with exception handling to prevent crashes.

Challenge 2: Allocating study time dynamically.
Fix: Used a balanced time distribution method based on strengths and weaknesses.

Challenge 3: UI responsiveness.
Fix: Optimized the Streamlit layout to ensure smooth user experience.

Phase-6: Functional & Performance Testing

Objective:

- To create an AI system that leverages the Stable Diffusion Pipeline to efficiently generate diverse and realistic clothing designs, aiding fashion designers and retailers in their creative processes.

Key Points:

1. Test Cases Executed:

Test Case 1: Verify user data input and saving functionality.

Test Case 2: Generate study plans based on different strength/weakness configurations.

Test Case 3: Ensure UI responsiveness for different screen sizes.

Test Case 4: Validate JSON storage and retrieval of previous study plans.

Test Case 5: Check error handling when JSON file is missing.

2. Bug Fixes & Improvements:

Fixed JSON handling issues that caused crashes on first-time use.

Improved study plan generation logic for better time distribution.

Enhanced UI layout to improve user experience.

3. Final Validation: The project successfully generates AI-driven personalized study plans.It meets the initial requirements of adapting schedules based on student goals, strengths, and weaknesses.

4. Deployment (if applicable): The application is hosted locally using Streamlit. Future plans include deployment on a cloud platform like Heroku or AWS for wider accessibility**.**

Final Submission

1. **Project Report Based on the templates**
2. **Demo Video (3-5 Minutes)**
3. **GitHub/Code Repository Link**
4. **Presentation**