Hackathon Project Phases Template for the **AI Study planner** project.

Hackathon Project Phases Template

Project Title:

Team Name:

Team StudBud Squad

Team Members:

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Phase-1: Brainstorming & Ideation

Objective:
Develop an AI-powered study planner (StudBud) using GPT-4/BERT to help students create personalized and adaptive study schedules, track progress, and get AI-driven study recommendations.

Key Points:

1. Problem Statement:
Many students struggle with time management, prioritization, and effective study planning.
Existing study planners lack AI-driven adaptability and require manual scheduling.
Students need personalized recommendations based on learning behavior and weak areas.

2. Proposed Solution:
An AI-powered study planner that generates personalized, adaptive study schedules using G-4/BERT.
The app monitors progress, prioritizes subjects, and adjusts schedules dynamically.
AI provides smart reminders, task prioritization, and study material recommendations.

3. Target Users:
Students preparing for exams, competitive tests, and daily study schedules.
Self-learners who need AI-powered study strategies.
Students with learning difficulties who require customized study approaches.

4. Expected Outcome:
A fully functional AI study planner that adapts to students' learning progress.
AI-generated task prioritization and smart reminders to keep students on track.
Improved learning efficiency through personalized study material recommendations.

Phase-2: Requirement Analysis

Objective:

Define the technical and functional requirements for the **AI Study Planner**

Key Points:

1. Technical Requirements:

Programing Language: **Java**

Backend: **Firebase**

Frontend: **React / Streamlit**

Database: **Firebase / SQLite**

2. Functional Requirements:

User authentication and profile management.

AI-generated study schedules based on subject priority.

Adaptive learning suggestions and analytics.

Notification and reminder system.

3. Constraints & Challenges:

Ensuring real-time AI-based schedule adjustments.

Managing API rate limits and response times.

Creating an intuitive and engaging UI.

Phase-3: Project Design

Objective:

Develop the architecture and user flow of the application.

Key Points:

1. System Architecture:

User inputs study goals, subjects, and available hours.

AI model generates a dynamic study plan.

Users receive progress insights and suggestions.

UI displays study plan, completion status, and reminders.

2. User Flow:

Step 1: User registers and inputs study preferences.

Step 2: AI generates a personalized study plan.

Step 3: User follows the schedule, marks progress, and receives insights

3. UI/UX Considerations:

Simple and intuitive dashboard.

Dark & light mode for better usability.

Phase-4: Project Planning (Agile Methodologies)

Objective:

Break down development tasks for efficient completion.

Sprint	Task	Priority	Duration	Deadline	Assigned To	Dependencies	Expected Outcome
Sprint 1	Environment Setup & API Integration	🔴 High	6 hours (Day 1)	End of Day 1	Team lead	Fiebase,node.js setup	API connection established & working

Sprint 1	Frontend UI Development	🟡 Medium	2 hours (Day 1)	End of Day 1	UI Team	API response format finalized	Basic UI with input fields
Sprint 2	Study Plan generation AI Model	🔴 High	3 hours (Day 2)	Mid-Day 2	AI Team	AI training with Tensorflow	AI generates personalized study plans
Sprint 2	Task Management and Progress Tracking	🔴 High	1.5 hours (Day 2)	Mid-Day 2	Backend Team	Database Integration with Firebase	Students can track their study progress
Sprint 3	Error Handling and Debugging	🟡 Medium	1.5 hours (Day 2)	Mid-Day 2	Develop Team	API logs, UI inputs	Improved system's stability
Sprint 3	Final Presentation & Deployment	🟢 Low	1 hour (Day 2)	End of Day 2	Entire Team	Working prototype	Demo-ready project

Sprint Planning with Priorities

Sprint 1 – Setup & Integration (Day 1)

(🔴 High) Set up environment & dependencies.

(🔴 High) Integrate AI model for study plan generation.

(🟠 Medium) Build a basic UI with input fields**.**

Sprint 2 – Core Features & Debugging (Day 2)

(🔴 High) Implement adaptive learning suggestions.

(🔴 High) Debug API and schedule generation issues.

Sprint 3 – Testing, Enhancements & Submission (Day 2)

(🟠 Medium) Test AI responses and refine UI.

(🟢 Low) Final demo preparation & deployment

Phase-5: Project Development

Objective:

Implement core features of the AI Study Planner.

Key Points:

1. Technology Stack Used:

Frontend: React

Backend: Firebase API

Database: Firebase / SQLite

2. Development Process:

Implement AI model for personalized study plan generation.

Develop interactive calendar and progress tracker.

Optimize performance and UI experience.

3. Challenges & Fixes:

Challenge: High response time from AI model.

Fix: Implement caching for repeated queries.

Challenge: Difficulty in user engagement.

Fix: Add gamification and reward-based motivation.

Phase-6: Functional & Performance Testing

Objective:

Ensure that the Ai Study planner App works as expected.

Test Case ID	Category	Test Scenario	Expected Outcome	Status	Tester
TC-001	Functional Testing	User Inputs study goals and preferences	AI generates a personalized study plan.	✅ Passed	Tester 1
TC-002	Functional Testing	User requirements and study reminders	App sends notifications at the scheduled time	✅ Passed	Tester 2
TC-003	Performance Testing	API response under 500ms	API should return results quickly.	⚠ Needs Optimization	Tester 3
TC-004	Bug Fixes & Improvements	Fixed incorrect API responses.	Data accuracy should be improved.	✅ Fixed	Developer
TC-005	Final Validation	Ensure UI is responsive across devices.	UI should work on mobile & desktop.	❌ Failed - UI broken on mobile	Tester 2
TC-006	Deployment Testing	Host the app using Firebase Hosting.	App should be accessible online.	🚀 Deployed	DevOps

Final Submission

1. **Project Report Based on the templates**
2. **GitHub/Code Repository Link**