

Documentation

Project Title: Study Instant Kit

Team Name: Team 130

Team Members:

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Phase-1: Brainstorming & Ideation

Objective:

Develop an AI-powered study assistant web app using **Mistral-7B-Instruct** to provide instant study tools (quizzes, summaries, flashcards) with personalized user controls.

Key Points:

Problem Statement:

- Students lack centralized, AI-driven tools for quick study aid (e.g., quiz generation, summaries).
- Manual study resource creation is time-consuming.
- Users need adaptive AI behavior (e.g., quiz difficulty, response creativity).

Proposed Solution:

- Edu Extract: Auto-generate quizzes/summaries from text/files.
- Study Tip: AI-powered motivation and study plans.
- Settings: Granular AI customization (temperature, language, themes).

Target Users:

- Students (high school to university).
- Lifelong learners.
- Educators creating quick study materials.

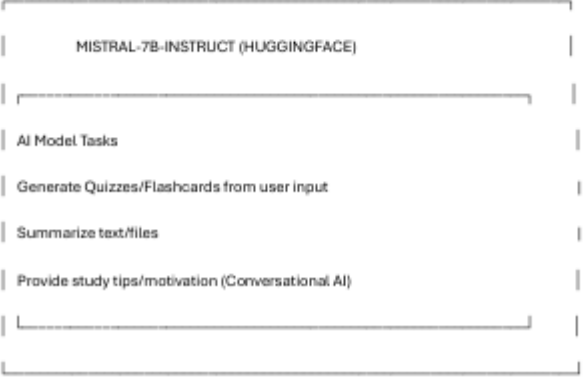
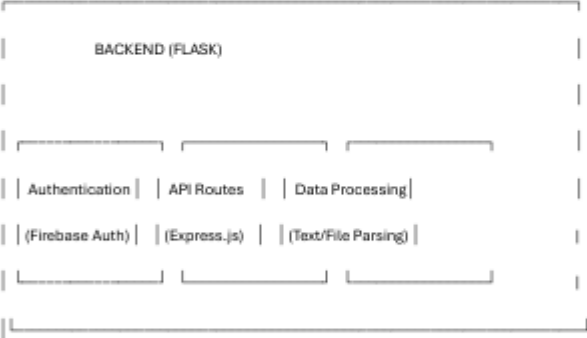
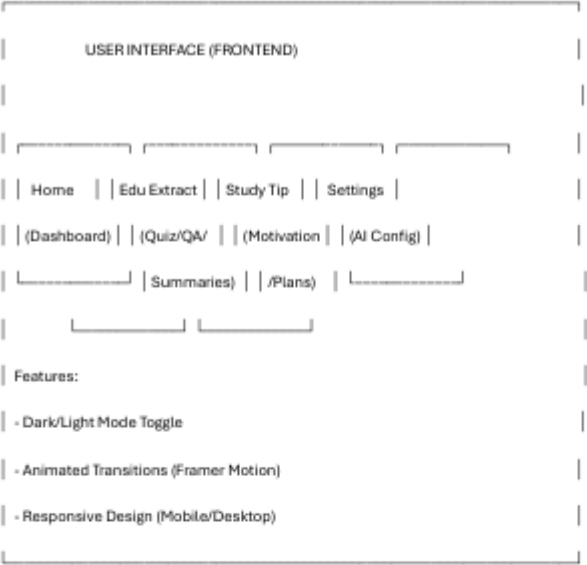
Expected Outcome:

- A responsive web app with:
 - User authentication.
 - Interactive AI tools.
 - Dark/light mode + animations.

Phase-2: Requirement Analysis

Objective:

Define technical/functional specs.



Key Points:

Technical Requirements:

- Frontend: React.js (animations via Framer Motion).
- Backend: Node.js + Express.
- AI Model: HuggingFace's Mistral-7B-Instruct API.
- Database: Firebase (user auth + preferences).

Functional Requirements:

1. Edu Extract: Text/file input → Quiz/Summary/Flashcards.
2. Study Tip: Daily tips + email reminders (Nodemailer).
3. Settings: 10+ AI configs (e.g., temperature, language).

Constraints & Challenges:

- Rate limits on Mistral-7B API.
- Real-time theme persistence.
- Mobile-responsive animations.

Phase-3: Project Design

Objective:

Design architecture and user flow.

Key Points:

System Architecture:

1. Frontend: React.js + Tailwind CSS.
2. Backend: Node.js API calls to Mistral-7B.
3. Database: Firebase (user data).

User Flow:

1. Home: Greeting + screen time stats.
2. Edu Extract: Upload text/file → select tool → AI output.
3. Study Tip: Get tips → email reminders (optional).
4. Settings: Toggle AI/theme preferences.

UI/UX Considerations:

- Dark/light mode toggle in header.
- Animated transitions between pages.
- Graphs for screen time stats .

Phase-4: Project Planning (Agile)

Sprint Breakdown:

Sprint	Task	Priority	Duration	Assigned To	Expected Outcome
1	Setup React + Firebase Auth	● High	6 hours	Dev 1	Auth system functional
1	Design Home Page UI	● Medium	4 hours	Dev 2	Banner + stats cards
2	Integrate Mistral-7B API	● High	5 hours	Dev 3	Quiz/Summary generation works
2	Dark/Light Mode Toggle	● Medium	3 hours	Dev 1	Theme persists post-login
3	Animations (Page Transitions)	● Low	4 hours	Dev 2	Smooth UI interactions
3	Testing + Bug Fixes	● High	3 hours	All	Demo-ready prototype

Phase-5: Project Development

Key Points:

Technology Stack:

- Frontend: React, Tailwind CSS, Framer Motion.
- Backend: Node.js, Firebase.
- AI: Mistral-7B-Instruct API.

Development Process:

1. Implement user auth (Firebase).
2. Build AI tool endpoints (Node.js ↔ Mistral-7B).
3. Add theme persistence (localStorage).

Challenges & Fixes:

- Challenge: API rate limits.
Fix:Cache frequent queries.
- Challenge: Mobile-responsive animations.
Fix:Use CSS media queries + Framer Motion.

Phase-6: Testing

Test Cases:

ID	Category	Scenario	Outcome	Status
TC-001	Functional	Start Learning Button	Redirect to Edu Extract	✅ Passed
TC-002	Functional	Generate quiz from uploaded PDF	5 MCQs displayed	✅ Passed
TC-003	UI/UX	Dark mode toggle	Works perfectly	✅ Passed
TC-004	Model Integration	Unabble to process the input		❌ Failed (fix in progress)

Final Submission

- Demo Video: Approx 2-min walkthrough of features.
- GitHub Repo: <https://github.com/siriBaratam/team130.git>

