

Team Name: PROMPT HUSTLERS

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Project Title: Adaptive AI Tutor for Personalized Learning

Students in schools and engineering students in India usually have standardized learning environments. Online courses and most classroom teaching don't factor in the variation of learning paces and techniques. Students are forced to memorize rather than understanding the subjects. With bigger class sizes and less personal attention, most students get left behind, particularly in Tier 2 and Tier 3 cities. Existing technologies don't offer the personal direction students require to thrive.

Our solution addresses students between 13 and 24 years old in Indian colleges and schools, particularly in underprivileged regions. These students often do not have access to personalized guidance, are language-challenged, and think differently about information. Some learn readily, others require practice; some can memorize, while others thrive with hands-on or conceptual learning. We strive to build level playing fields by providing each student with access to a Gen-AI-enabled tutor that is tailored to how each student learns

We leverage Generative AI to personalize content presentation. Students fill out a brief quiz determining their learning style (e.g., doer, fast learner, thinker, memorizer, dweller). The AI generates explanations, analogies, visual concepts, and even exercises based on their profile. The AI is able to translate or break down difficult subjects to make them more accessible regardless of background. Generative AI also suggests follow-on topics and generates customized quizzes, providing a complete adaptive learning solution.

1. Student Login → Access dashboard.
2. Quiz → Identifies the learning style of the student.
3. Topic Input → Student inputs topic or uploads content.
4. Content Extraction → PDF/DOCX/PPTX content is extracted.
5. AI Personalization → GPT-4o creates customized content.

6. Feedback Loop → Student provides clarity and understanding ratings.
7. Next Topic Recommendation → AI recommends the next topic.

## Diagram:

Student → Quiz → Style Detected → Input Topic/Upload → AI-Tailored Response → Review → Suggest Next.

## We constructed an executable prototype with:

Streamlit for the user interface.

OpenAI GPT-4o for generative learning.

Firebase and Supabase for storing in the cloud.

Python libraries such as pdfplumber, docx, pptx, tempfile for extracting content.

This solution is easily scalable and can run on low-cost internet-enabled devices. The modular architecture makes it possible to integrate with voice, AR, or LMS in the future.

The AI Tutor can assist millions of Indian students from various geographies. Schools can use it in laboratories, while students can do so at their homes. This adaptive model allows all to learn content they comprehend, lowering dropout levels and improving exam results. Ultimately, it brings quality education closer to people.