SISTec

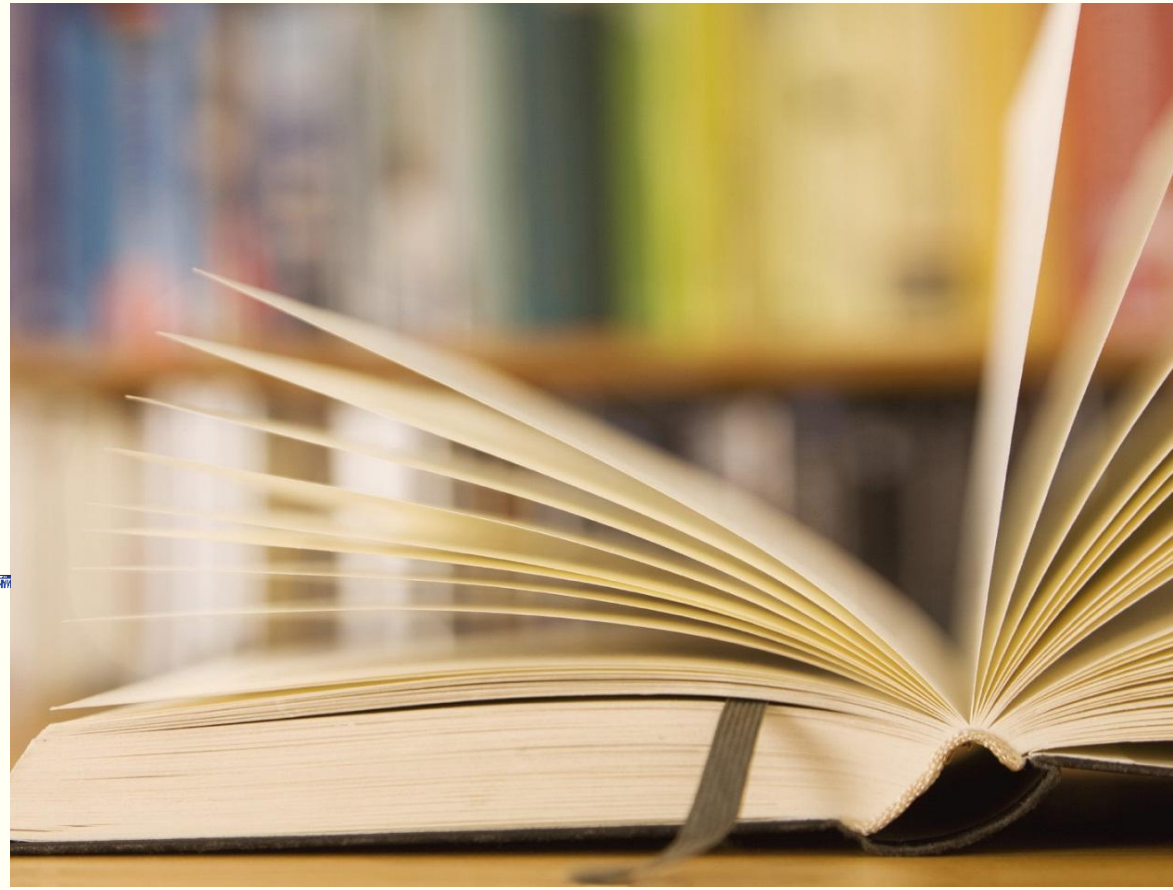
SAMADHAN

CODE CREATE & INNOVATE

A 2-days National Level Hackathon on AI in education

AI IN EDUCATION

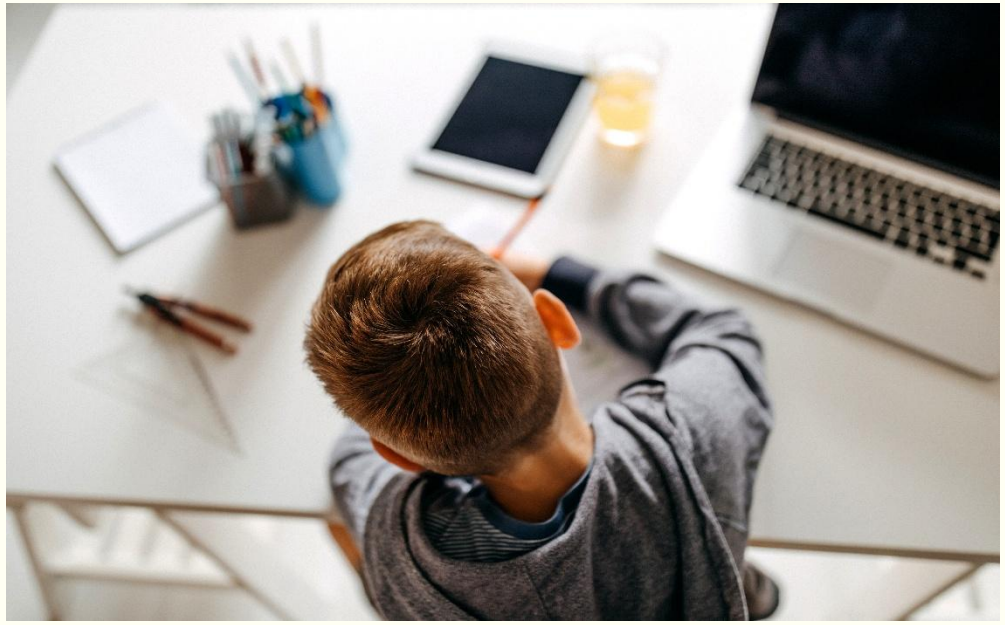
CODE ERA
ANKIT CHANDEL
31-08-2025



AREA OVERVIEW

AI in Education improves learning by making it personalized and accessible for all students.

- Importance of Area.
- Enhances study quality.
- Supports multiple languages.
- Provides motivation and guidance.

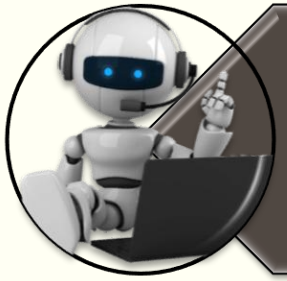


POTENTIAL CHALLENGES AND OPPORTUNITIES

CHALLENGES: Lack of personal attention, stress and language barriers.

OPPORTUNITIES: AI-based study plans, progress tracking, career guidance, and better learning outcomes

PRELIMINARY SOLUTION CONCEPT



An AI-powered chatbot that works as both a study assistant and an emotional buddy for students.

It simplifies learning by explaining concepts with relatable examples. It supports multi-language + voice input for rural and semi-urban students.

It reduces stress through motivational tips and mood-based study plans. It becomes a real companion in learning.

KEY FEATURES AND FUNCTIONALITIES

FEATURES

- **Mood based study plans –** Detects stress/mood and gives 2-min motivation + mini study plan.
- **Mini Mentor Mode** – Daily 5-min check –in. Tracks progress and plans next day's study.
- **Regional Language + Voice Support** – Supports Hindi, Bengali, Marathi, etc. voice input/output for accessibility.
- **Secret Doubt Mode** – Students can ask "silly" orb personal doubts without hesitation.

FUNCTIONALITIES

- **24/7 Availability –** Always accessible as a buddy + tutor.
- **Personalized Study Guidance** – AI tailors plans as per mood, energy, and progress.
- **Stress & Motivation Support** – Acts like an emotional companion, not just a study too.
- **Offline mode** – Flashcards & notes work without internet.

TARGET USERS AND EXPECTED USE CASES

TARGET USERS :

- Students (school + college, especially rural/semi-urban areas).
- Coaching students who don’t get emotional support.
- Parents & Teachers (indirect users who track progress).

USE CASES :

- Students can clear doubts in simple language with voice support.
- Rural students can learn in their own regional language with voice support.
- Quick revision with mood-based study plans for exam.
- Mini mentor mode for consistency and progress check.

DATA REQUIREMENTS AND PRIVACY CONSIDERATION

USER DATA - collect syllabus, doubts, progress, voice/text, and mood inputs for personalization.

SECURE COLLECTION – data gathered only via chatbot chats, voice recognition, and daily check-ins.

ENCRYPTED STORAGE – Study history and progress saved with end-to-end encryption.

ANONYMOUS MODE – Secret doubt feature ensures identity – free queries for shy students.

COMPLIANCE – Strict adherence to student data safety.

AI TECHNOLOGIES AND METHODS

NLP (Natural Language Processing)

- Explains concepts in multiple languages, using relatable real-life examples.
- Multi-language solving doubt in simple way.
- Uses context-based explanations with cricket, Bollywood, etc.

Sentiment Analysis

- Analyzes student text/voice input to detect stress, confusion, or low confidence.
- Provides instant motivational tips, relaxation prompts, or lighter study plans.

Machine learning

- Tracks student progress, study habits, and performance trends.
- Generates adaptive study plans based on mood, and weak topics.
- Converts speech-to-text for easy doubt asking in any language.

IMPLEMENTATION APPROACH

PRELIMINARY PLAN

- Begin with developing a chatbot prototype that can handle both academic doubts and emotional support conversations.
- Start with a limited scope (class9-12 NCERT + basic motivational support) and gradually expand to higher education and regional languages.

TOOLS & TECHNOLOGIES

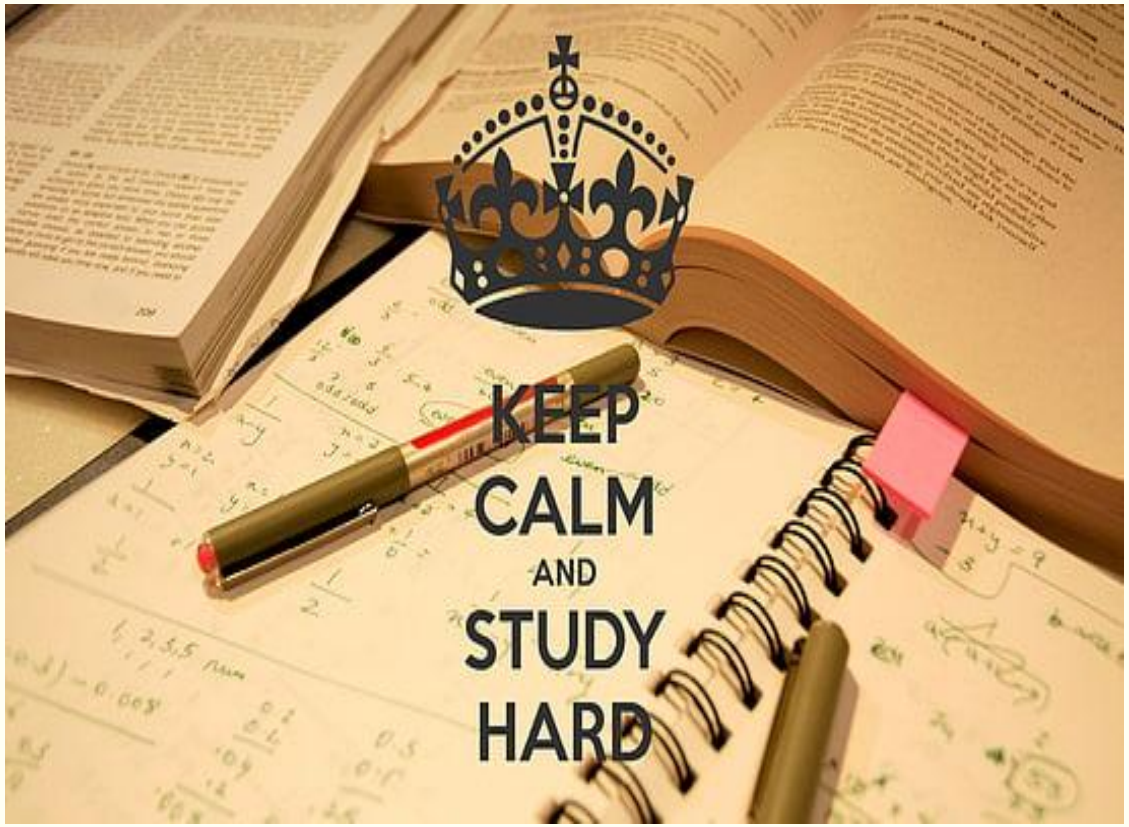
- NLP Models (like GPT-based framework) for language understanding in Hindi + English (Hinglish friendly).
- Frontend access via mobile app + web portal, so rural and semi-urban students can use it easily.
- Cloud platforms (AWS / Azure / Google cloud) for scalable deployment.

RESOURCES NEEDED

- AI developers for building NLP models.
- Subject experts for curating verified academic content (to avoid misinformation).
- Psychologists / counselors for creating emotional wellness response templates.
- UI / UX designers for a simple student- friendly interface.

EVALUATION METRICS

- Accuracy of doubt solving is 85-95% of correct answers validated against NCERT /state board solutions.
- Student Engagement will be measured through active users, number of daily sessions, and the average study time per student.
- Stress and Motivation will be evaluated by analyzing mood improvement and reduction in negative sentiment after study sessions.
- Learning progress will be assessed through test score improvements, concept mastery, and consistency in study habits.
- Goal of 50% + adoption among rural / regional language users and smooth use at <1 Mbps internet speed.



Thank You

THAT'S ALL ABOUT OUR SHIKSHA SAATHI