



Rotaract
District 3234



ROTA-TECH-X
#INNOVATEFORIMPACT



TEAM



BRAINSTROMERS

**SRI VENKATESWARA
COLLEGE OF
ENGINEERING**

DOMAIN: BASIC EDUCATION AND LITERACY

**PROBLEM STATEMENT: EDUCATION TODAY LACKS
PERSONALIZATION, ENGAGEMENT AND INCLUSIVITY
LIMITING EFFECTIVE LEARNING FOR DIVERSE LEARNERS.**

- **Lack of Personalization** – Everyone learns differently, but traditional systems often treat all students the same, leaving many behind.
- **Limited Engagement** – When lessons are repetitive or passive, students lose interest and struggle to stay motivated.
- **Exclusion of Diverse Learners** – Learners with disabilities or language differences often face barriers due to a lack of inclusive tools.
- **Ineffective Feedback Mechanisms** – Without quick, personalized feedback, students miss chances to understand and improve in real-time.
- **Rigid Learning Environments** – Fixed teaching styles and curriculums don't adapt to changing learner needs or modern trends.
- **Lack of Interactive Learning** – Without AI support or gamified elements, learning becomes more of a task than an enjoyable experience.



PROPOSED SOLUTION



- **AI-Powered Personalization** – Mentaura adapts to each learner's pace and style, offering customized lessons and explanations.
- **Engaging Learning Experience** – Interactive AI tutors, gamified sessions, and conversational learning enhance students engagement.
- **Inclusivity & Accessibility** – Supports multilingual learning, voice/text/image-based interactions and features for differently-abled users.
- **Real-Time Feedback & Assistance** – AI provides instant corrections, hints and explanations to improve understanding.
- **Adaptive Learning Paths** – Users can choose or modify their learning paths based on their goals, progress and preferences.
- **Interactive Break Activities** – Short and fun learning games help maintain interest while reinforcing key concepts.

TECH STACK

AI/ML models

- Google Generative AI — Conversational AI
- LlamalIndex — Data Retrieval
- Sentence Transformers — Semantic Search
- Transformers — NLP Engine
- Torch — Deep Learning

Audio Processing

- Pydub — Audio Handling
- Sounddevice — Real-time Audio
- ElevenLabs — Voice Synthesis
- Edge-TTS — Custom Voices

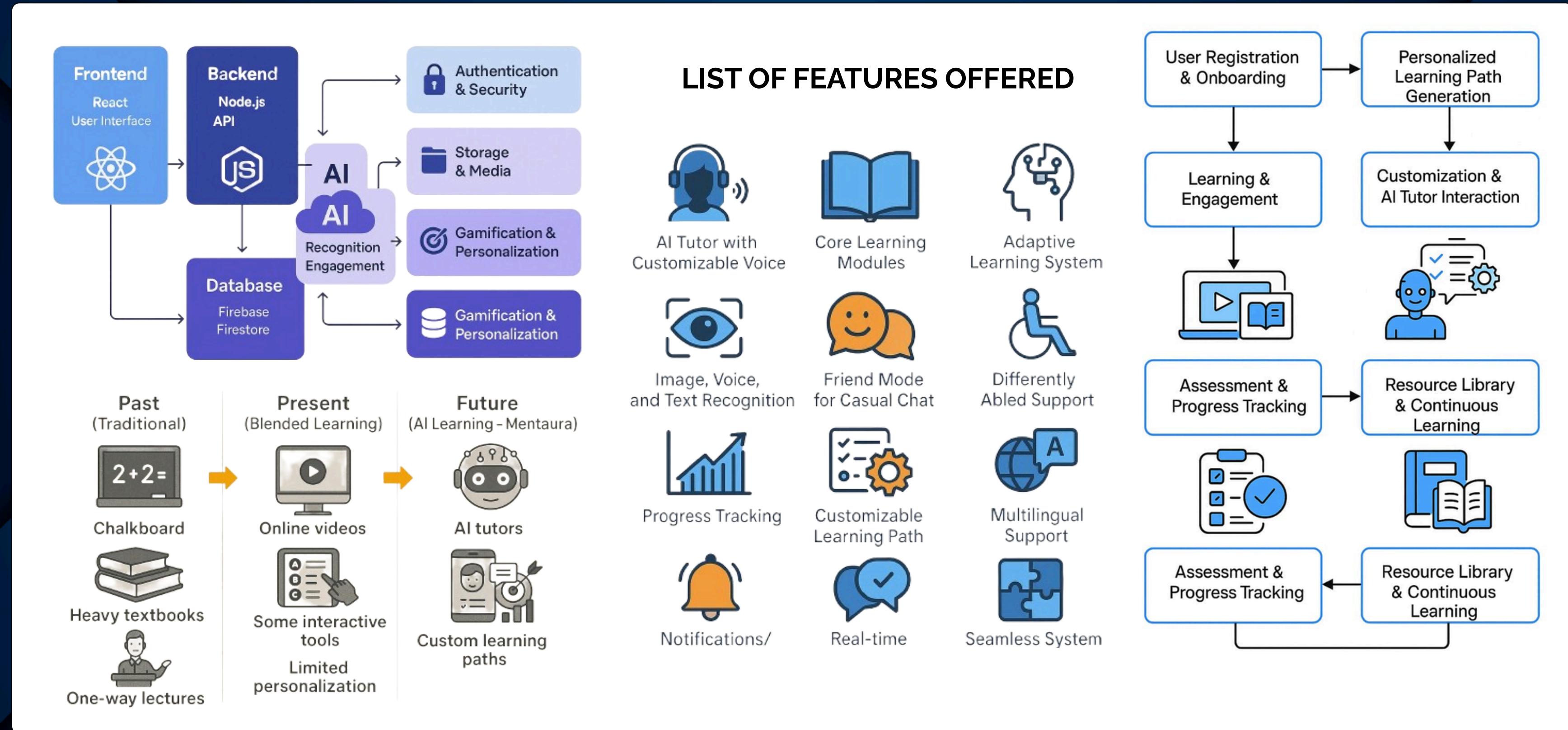
Image & Text Processing

- Stable Diffusion — AI Visuals Generation
- Pytesseract — OCR (Text from Images)
- OpenCV — Image Analysis
- SpaCy — Natural Language Processing
- NLTK — Text Processing

Backend & Database

- Flask — Web Framework
- Flask-CORS — Cross-Origin API Support
- Flask-SocketIO — Real-time API Communication
- Firebase Admin SDK — Cloud Backend Integration
- Firestore — Real-time Database

FLOW CHART



- **Social Impact:**
 - **Personalized Learning** – Mentaura adapts to individual learning styles, making education accessible to diverse learners.
 - **Enhanced Engagement** – Interactive AI tutor and gamified learning keep students motivated.
 - **Inclusive Education** – Supports differently-abled users with voice, image, and text recognition.
 - **Bridging Educational Gaps** – Provides quality learning resources, reducing dependency on traditional methods.
 - **Empowering Self-Learning** – Encourages curiosity and independent learning beyond textbooks.
- **Feasibility:**
 - **AI-Powered & Scalable** – Uses cloud-based AI models to handle multiple users efficiently.
 - **Resource-Efficient** – Requires only a digital device with internet access, reducing infrastructure costs.
 - **Real-World Application** – Can be integrated into schools, e-learning platforms and corporate training.
 - **Customizable & Adaptive** – AI adjusts to user needs, ensuring long-term relevance and impact.

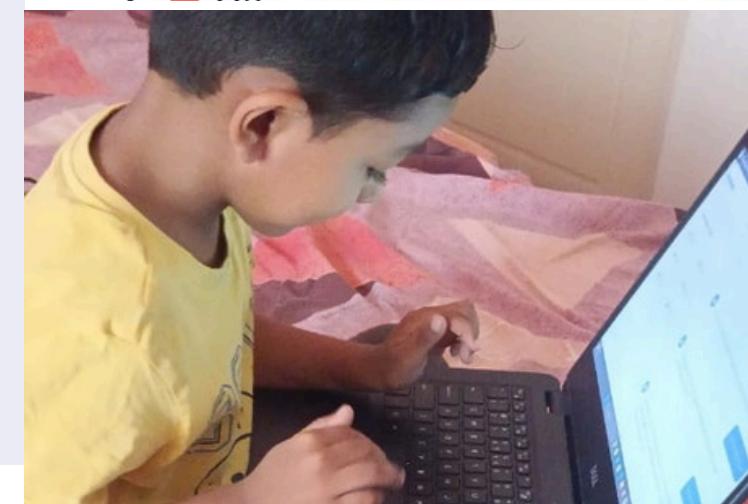
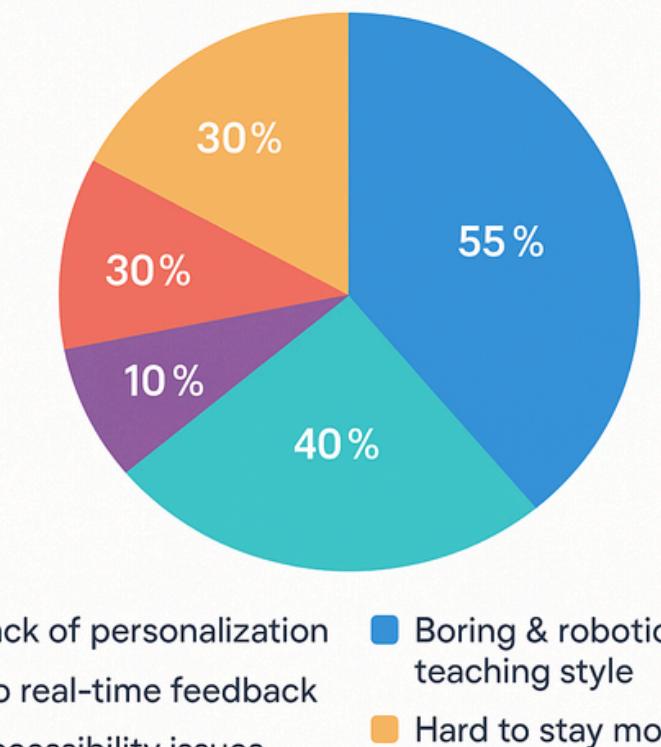
SURVEY ON ONLINE LEARNING PLATFORMS

Hey guysss..Hope all of us are doing good.. We just wanted to conduct a small survey for research purpose. We're pretty sure most of you would have used online learning platforms. We are coming up with an new idea of launching .**Mentaura - a revolutionizing learning with AI.** It provides AI-driven customization. This enhances engagement and offers a **human-like experience**. Special feature of this may include

- Personalized Learning
- Customisable AI tutors
- Engaging interaction
- Adaptive learning
- Fun learning with games
- Frequent evaluation and feedbacking
- Multimodal learning and so on.....

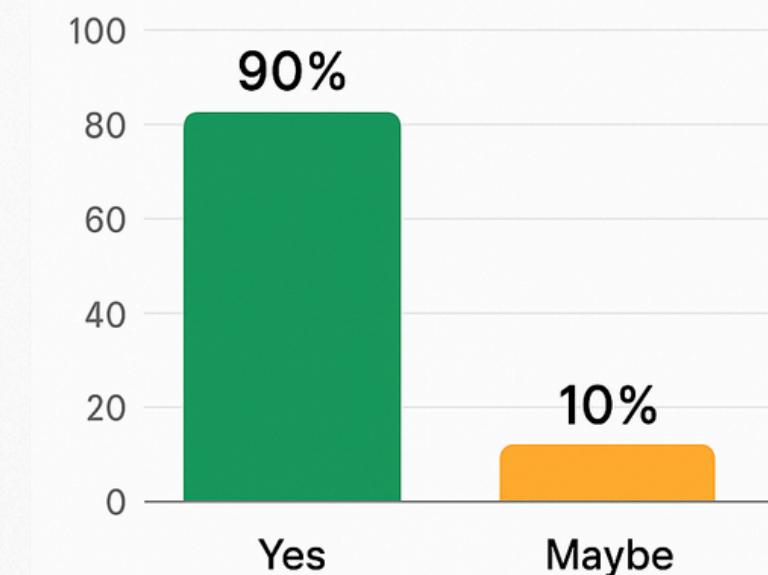
Hence kindly spend your valuable time

Key Learning Issues

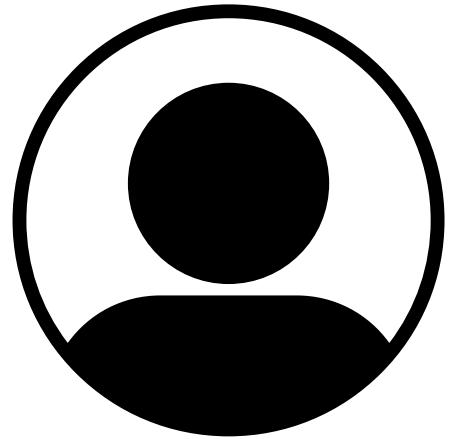


Would you be interested in trying Mentaura?

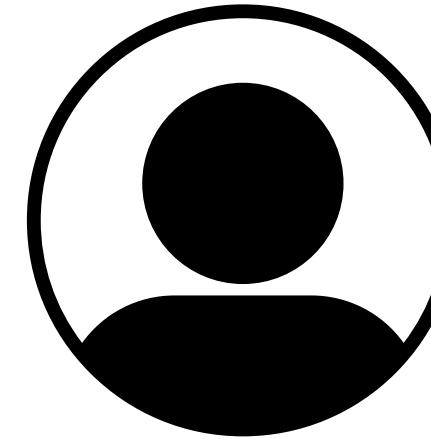
Responses



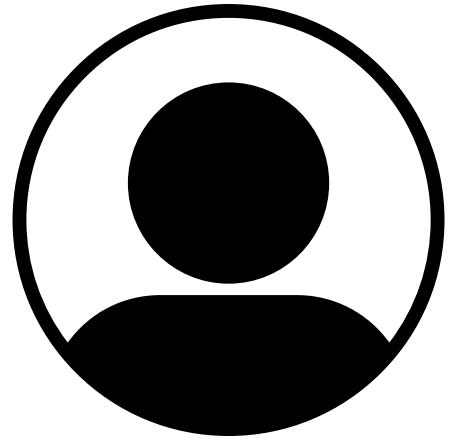
TEAM MEMBERS



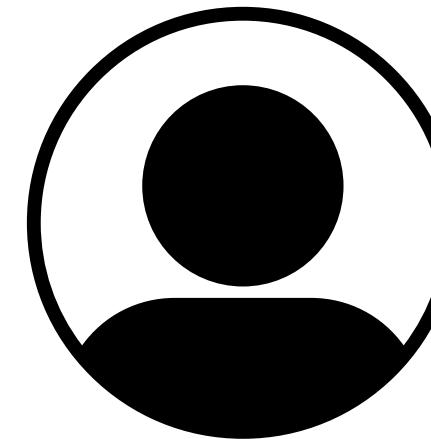
NAME: ARAVINTTH T
CONTACT: 8072611599
ROLE: Business Analyst



NAME: AKSHAYA M
CONTACT: 9150962396
ROLE: Full Stack Developer



NAME: LAKSHANAA A
CONTACT: 9840063038
ROLE: Product Researcher



NAME: HEMALATHA S
CONTACT: 9361639443
ROLE: AI/ML Model