# EDUTUTOR AI – PERSONALIZED LEARNING WITH GENERATIVE AI AND LMS INTEGRATION

**Bachelor of Technology**

IN

**COMPUTER SCIENCE & ENGINEERING**

*(Artificial Intelligence And Machine Learning)*

By


**GUNTURU JYOTHI (22HU1A4230)**
**CHINNARAVURU SRILAKSHMI (22HU1A4219)**
**CHEEMALAMARRI SAILU (22HU1A4217)**
**GOLLAPALLI SRAVANI (22HU1A4226) CHINTALA CHINATHALA DURGABHAVANI (22HU1A4221)**



**R V Institute of Technology**

*(Formerly Chebrolu Engineering College)*



UGC Autonomous


Approved by AICTE, Permanently Affiliated to JNTUK, Kakinada, A.P.
Chebrolu (P.O. & M.D), Guntur (Dt.), A.P. – 522122

# EDUTUTOR AI – PERSONALIZED LEARNING WITH GENERATIVE AI AND LMS INTEGRATION

Project Documentation

Prepared by

**GUNTURU JYOTHI (22HU1A4230)**
**CHINNARAVURU SRILAKSHMI (22HU1A4219)**
**CHEEMALAMARRI SAILU (22HU1A4217)**
**GOLLAPALLI SRAVANI (22HU1A4226) CHINTALA**
**CHINTHALA DURGABHAVANI (22HU1A4221)**

# Contents

# Chapter

# 1 INTRODUCTION

## 1.1 Project Overview

EduTutor AI is a cutting-edge, AI-enhanced personal learning tutor designed to provide a tailored learning experience that adapts to individual learning styles, preferences, and paces. Its core mission is to ensure educational content is both engaging and effective.

## 1.2 Purpose

The primary goal of this project is to develop a robust AI-driven platform that streamlines communication, reduces bureaucratic delays, and ensures inclusivity through multilingual support, thereby fostering a more engaged and informed citizenry.

# 2 IDEATION PHASE

## 2.1 Problem Statement

**Bridging the Gaps in Personalized and Accessible Education through an Intelligent AI Tutoring System**

**Traditional education often struggles to provide truly personalized and universally accessible learning experiences. This leads to a multitude of challenges for students, educators, and the educational system as a whole:**

## 2.2 Empathy Map Canvas

- **Says:** "I waited hours for a response!"
- **Thinks:** "There must be a faster way to get help."
- **Feels:** Frustrated and disconnected.
- **Does:** Turns to social media or avoids contact altogether.

# Chapter

# 3 REQUIREMENT ANALYSIS

## 3.1 Customer Journey Map

1. **Awareness:** Citizens discover services through public campaigns.
2. **Consideration:** They explore the platform's features and capabilities.
3. **Decision:** Users submit inquiries or feedback via the platform.
4. **Post-Interaction:** They receive timely responses and follow-up support.

## 3.2 Solution Requirement

- Real-time AI chatbot with natural language understanding.
- Support for multiple languages to cater to diverse populations.
- Strict adherence to data privacy regulations (e.g., GDPR, CCPA).

## 3.3 Data Flow Diagram

- Input: Edututor queries are received.
- Processing: AI analyzes and interprets the input.
- Output: Generated responses are delivered.
- Feedback: Continuous improvement based on user input.

# 4 TECHNOLOGY STACK & PROJECT DESIGN

# Chapter

## 4.1 Technology Stack

- **Frontend:** React.js for dynamic user interfaces.
- **Backend:** Node.js for server-side logic.
- **AI/ML:** TensorFlow and NLP libraries for intelligence.
- **Database:** MongoDB for scalable data storage.

## 4.2 Problem Solution Fit

The AI chatbot ensures instant query resolution, while multilingual capabilities make the platform accessible to non-English speakers, addressing key user needs.

## 4.3 Proposed Solution

Develop an integrated AI chatbot system linked with government databases to provide accurate and instant responses.

## 4.4 Solution Architecture

- **Client Layer:** Interactive web and mobile interfaces.
- **Application Layer:** AI processing and API integrations.
- **Data Layer:** Secure and encrypted data storage.

# 5 PROJECT PLANNING & SCHEDULING

- **Phase 1:** Requirement gathering and analysis (1 month).
- **Phase 2:** Development and coding (3 months).
- **Phase 3:** Testing, deployment, and optimization (1 month).

# Chapter

# 6 FUNCTIONAL AND PERFORMANCE TESTING

## 6.1 Performance Testing

- Load testing to support 10,000 concurrent users.
- Target response time of under 2 seconds.

## 6.2 Results

- Achieved 98
- Average response time: 1.5 seconds.

### 6.2.1 Output Screenshots

[Insert placeholder for screenshots here]

# 7 ADVANTAGES & DISADVANTAGES

- **Advantages: Adjust content pace and difficulty based on a students,strenghths,weakness,learning and progress**
- **Disadvantages: Lack of Human Connection and Emotional Intelligence:**

# Chapter

# 8 CONCLUSION

Edututor AI holds the promise of making education more efficient, engaging, and equitable. Its success hinges on a thoughtful and balanced approach that leverages its technological prowess while safeguarding the irreplaceable aspects of human-centric learning. The future of education will likely be a blended model, where intelligent AI systems work in concert with skilled and compassionate human educators, creating a more dynamic, inclusive, and effective learning environment for all.

# Chapter

# 9 FUTURE SCOPE

- Integration with mobile applications for on-the-go access.
- Implementation of advanced analytics to gauge citizen sentiment and improve services.

# Chapter

# 10 APPENDIX

## 10.1 Source Code (if any)

GitHub Repository

## 10.2 Dataset Link

Dataset Source

## 10.3 GitHub & Project Demo Link

Project Demo