Edututor AI Project –Personalized learning with generative AI and LMS Integration. Detailed Documentation

Project Report

Project Team Members

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1. Introduction:

**EduTutor AI** is an intelligent virtual tutor designed to provide personalized learning support for students. It uses Artificial Intelligence and Machine Learning to answer queries, explain concepts, and recommend resources based on individual learning needs. With features like instant doubt solving, interactive quizzes, and progress tracking, EduTutor AI makes education more accessible, adaptive, and effective for learners anytime, anywhere.

1.1 Project Title: EduTutor AI

1.2 Background:

Traditional teaching methods often fail to meet every student’s unique learning needs. To overcome this, **EduTutor AI** was created as a smart virtual tutor that provides personalized, accessible, and interactive learning support using Artificial Intelligence.

1.3 Objectives:

- To provide personalized learning support for students.

- To offer instant doubt clarification and concept explanation.

- To make education accessible anytime, anywhere.

.2. Project Overview

2.1 Purpose:

The purpose of **EduTutor AI** is to enhance the learning experience by acting as a smart virtual tutor. It aims to make education more **personalized, accessible, and efficient**, helping students learn at their own pace with continuous support.

2.2 Features:

- **Personalized Learning** – Adapts to each student’s pace and style.

- **Instant Doubt Solving** – Provides quick answers and explanations.

- **Interactive Quizzes** – Engages students with practice tests.

- **Progress Tracking** – Monitors performance and improvements.

- **24/7 Availability** – Accessible anytime, anywhere for continuous learning.

3. Architecture

3.1 **User Interface** – For student interaction.

3.2 **AI Processing** – Understands and answers queries.

3.3 **Knowledge Base** – Stores learning content.

### 1.4 step instructions:

**Requirements:**

* Python 3.8 or above
* Google Colab with T4 GPU (preferred)
* Libraries: transformers, torch, gradio

**Steps to Setup:**

1. Open Google Colab.
2. Set the runtime to GPU (T4 preferred).
3. Install necessary libraries using !pip install transformers torch gradio -q.
4. Paste the project code into the notebook.
5. Run all cells to launch the app.
6. Access the link provided to use the interface.

### ****1.5 Testing Process:****

* **Unit Testing:** Test each function separately.
* **API Testing:** Check responses for sample inputs.
* **Manual Testing:** Validate features by using the interface.
* **Edge Cases:** Handle wrong city names or empty queries.

### ****1.6 Known Issues:****

* Requires stable internet connection.
* AI results may not always be accurate.
* Works better with real-time data integration

1.7 Conclusion:

**EduTutor AI** provides a smart and personalized way of learning by combining AI with education. It helps students study at their own pace, clear doubts instantly, and track their progress, making learning more effective, accessible, and interactive.