Project Title:

AI-Based Forgiveness Recommender System

Abstract:

This project presents an AI-powered mobile application designed to provide personalized forgiveness advice to users. The system leverages natural language processing and AI-driven reasoning to offer empathetic, culturally aware guidance. The mobile app interacts with a Flask backend, which interfaces with an AI model (Meta's LLaMA-3 via OpenRouter API) to generate advice. Unlike traditional counseling applications, this system focuses on conflict resolution across diverse religious contexts, simplifying the output by delivering all responses in English.

Introduction:

Forgiveness is a crucial aspect of human emotional health and social harmony. Modern AI technologies offer the potential to guide individuals through personal conflicts in a sensitive, non-judgmental manner. The aim of this project is to create an accessible platform where users can seek advice on forgiveness in a private and empathetic environment. By using AI, the system simulates conversational guidance similar to counseling but at scale and instantaneously.

Methodology:

Backend:

- **Framework**: Flask + Flask-CORS
- **In-Memory User Database**: Stores user credentials and chat history ({email: {username, password, history}}).
- **AI Model Integration**: The system uses Meta's LLaMA-3.1 model through the OpenRouter API to generate advice.
- **Response Handling**: All AI responses are generated in **English**, irrespective of the user's religion. The AI is instructed to respond in a forgiving, gentle, and empathetic tone.
- **Endpoints**:
    - /signup – User registration
    - /login – User authentication
    - /get_advice – Submit conflict description and receive AI advice
- **Text Cleaning**: Responses are sanitized to remove unwanted symbols or tokens and trimmed to the first paragraph for clarity.

Frontend (Flutter):

- **Login & Signup Screens**: Users can create accounts and authenticate securely.
- **AI Chat Screen**:
    - Users select their religion for context (optional), but responses are always in English.
    - Users enter a conflict description; AI provides stepwise advice in a conversational style.
    - Chat history is displayed chronologically with clear differentiation between user and AI messages.
- **UI Design**:
    - Dark-themed, visually engaging, with looping videos for animations.
    - Responsive chat interface optimized for readability and interaction.
- **Removed Features**:
    - Translation button and language switching functionality have been removed to simplify the experience and standardize responses in English.

Implementation Details:

1. **User Flow**:
    - Sign up → Login → Enter conflict → Receive advice → View history.
2. **AI Response Flow**:
    - The backend receives the conflict description, appends instructions for empathetic English responses, queries the AI model, cleans the response, and sends it back to the frontend.
3. **Data Persistence**:
    - All interactions are stored in-memory during the session, maintaining chat history for each user.

Results & Discussion:

- The system effectively provides real-time forgiveness advice in English.

- Users receive culturally sensitive advice contextualized to their religion while maintaining a consistent English output.
- The simplified interface without translation options ensures usability and avoids potential confusion due to multilingual outputs.

Conclusion:

The AI-Based Forgiveness Recommender demonstrates how AI can assist in emotional and social guidance in a practical, accessible way. By standardizing responses in English, the system ensures clarity and universality while retaining cultural awareness in the advice content. Future enhancements could include persistent storage, AI model fine-tuning, or integration with professional counseling resources.

Keywords:

AI, Forgiveness, LLaMA-3, Natural Language Processing, Flutter, Flask, Empathy, Conflict Resolution