SAGE UNIVERSITY INDORE

SUI-IEEE Student Branch

TVISHI-1.0

Project title:- AI Friend: Your Personalized AI Companion

Team Name:- AI Guardians

Team Members

Member 1: Suraj Kumar Yadav
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Problem Statement

What problem are you solving?

AI Friend provides a supportive and empathetic conversational platform to address loneliness, offer psychological insights, provide daily motivation, assist with mental health, and engage users in meaningful dialogue.

Why is this problem important?

- *Mental Health Support*: Addresses rising stress and anxiety.
- *Accessible Guidance*: Provides initial psychological assistance.
- *Motivation & Connection*: Keeps users engaged and positive.
- *Empathy Gap*: Bridges the lack of compassionate AI interactions.

Who are the users affected by this problem?

- *Lonely or Anxious Individuals*: Seeking emotional support.
- *Students & Professionals*: Needing motivation and guidance.
- *Mental Health Seekers*: Exploring initial support.
- *Busy Professionals*: Looking for meaningful interaction.
- *Tech Enthusiasts*: Interested in AI-powered conversations.

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Proposed Solution

Briefly describe your solution

AI Friend is an AI-powered conversational companion that engages users in meaningful dialogues across five predefined topics: motivational quotes, psychological insights, daily dialogue, mental health support, and empathetic conversations. Built with **HTML, CSS, JS** for the frontend, **Flask** for the backend, and **Firebase** for Google-based login, it offers a secure and personalized chat experience.

Key features & functionality

- *Google Login*: Secure user authentication via Firebase.
- *Multi-topic Conversations*: Engage users across five distinct areas.
- *Real-time Chat Interface*: Interactive and responsive chat powered by T5 and fine-tuned using LoRA.
- *Context-Aware Responses*: Empathetic and relevant replies tailored to user input.

How does it address the problem effectively?

- *Empathetic Conversations*: Provides emotional support and motivation to users feeling stressed or lonely.
- *Accessible Psychological Insights*: Offers relevant advice and coping strategies anytime.
- *Daily Interaction*: Keeps users engaged with regular conversations, promoting mental well-being.
- *Seamless User Experience*: Google login ensures secure and easy access without storing chat history.

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Technology Stack & Implementation

Frontend:

- **HTML, CSS, JavaScript:** Builds a simple, interactive, and responsive user interface.
- **Vanilla CSS:** Provides custom styling for an intuitive design.

Backend:

- Flask: Manages API requests, processes user inputs, and communicates with the AI model.

AI Model:

- T5 with LoRA: Fine-tunes responses across five defined topics.
- Gemma 2B with Prompt Engineering: Enhances conversation quality through optimized prompt design.

Authentication:

- **Firebase Authentication: Enables secure Google login and user authentication.**

Implementation Flow:

1.User Login: Google authentication via Firebase.
2.User Input: User sends a query through the chat interface.
3.API Request to Flask: Flask processes the query and sends it to the T5 model.
4.Model Training & Fine-Tuning: Done using Kaggle/Notebooks to enhance model performance.
5.Model Response: LoRA fine-tuned model generates relevant responses.
6.UI Update: The chat interface displays the generated response.

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Impact & Future Scope

Expected Benefits and Impact

- **Mental Health Support:** Provides emotional support and psychological insights.
- **Personalized Conversations:** Engages users with tailored responses.
- **User Engagement:** Promotes daily positive interaction.

Scalability and possible future improvement

- **Deployment:** Use Heroku/Netlify initially, migrate to AWS/Google Cloud for scalability.
- **Model Training:** Train from scratch with a custom dataset for better responses.
- **Conversation History:** Store user conversations.
- **Mahabharata Suggestions:** Integrate a knowledge base for context-aware insights.

Any challenges and how you plan to overcome

- **Deployment:** Use Heroku/Netlify initially, migrate to AWS/Google Cloud for scalability.
- **Model Training:** Train from scratch with a custom dataset for better responses.
- **Conversation History:** Store user conversations securely using Firebase Firestore.
- **Mahabharata Suggestions:** Integrate a knowledge base for context-aware insights.

Thank You

Q&A