FINAL PROJECT

REPORT

PROJECT: Mental Health AI Chatbot

SUBJECT: Artificial Intelligence

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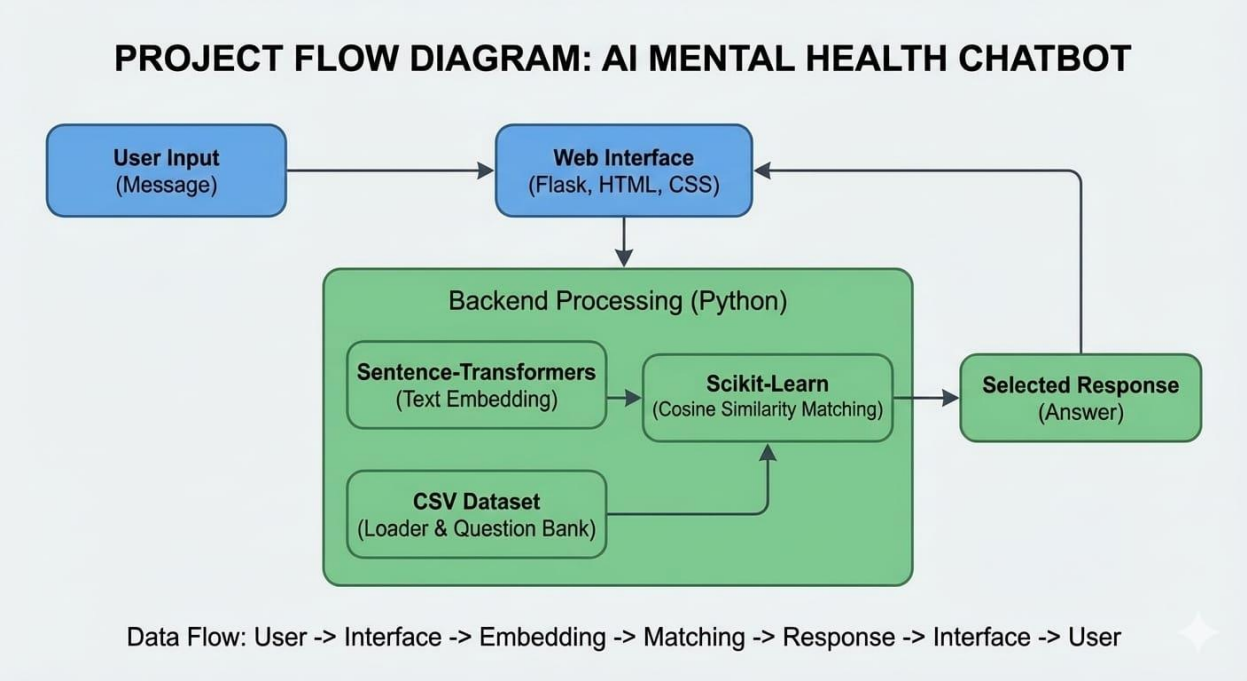
1. Project Description

Mental health issues such as stress, anxiety, and depression are increasingly common, yet many individuals hesitate to seek professional help due to stigma, cost, or lack of access. The purpose of this project is to develop a Mental Health Chatbot that provides instant, supportive, and relevant responses to users based on their input.

The chatbot is built using Natural Language Processing (NLP) techniques and a question–answer dataset related to mental health. It allows users to freely express their feelings and receive appropriate responses by matching their queries with the most relevant questions in the dataset. The system does not replace professional therapists but serves as an initial support system and awareness tool.

The application is implemented as a web-based system using Flask, providing a clean and user-friendly interface for interaction.

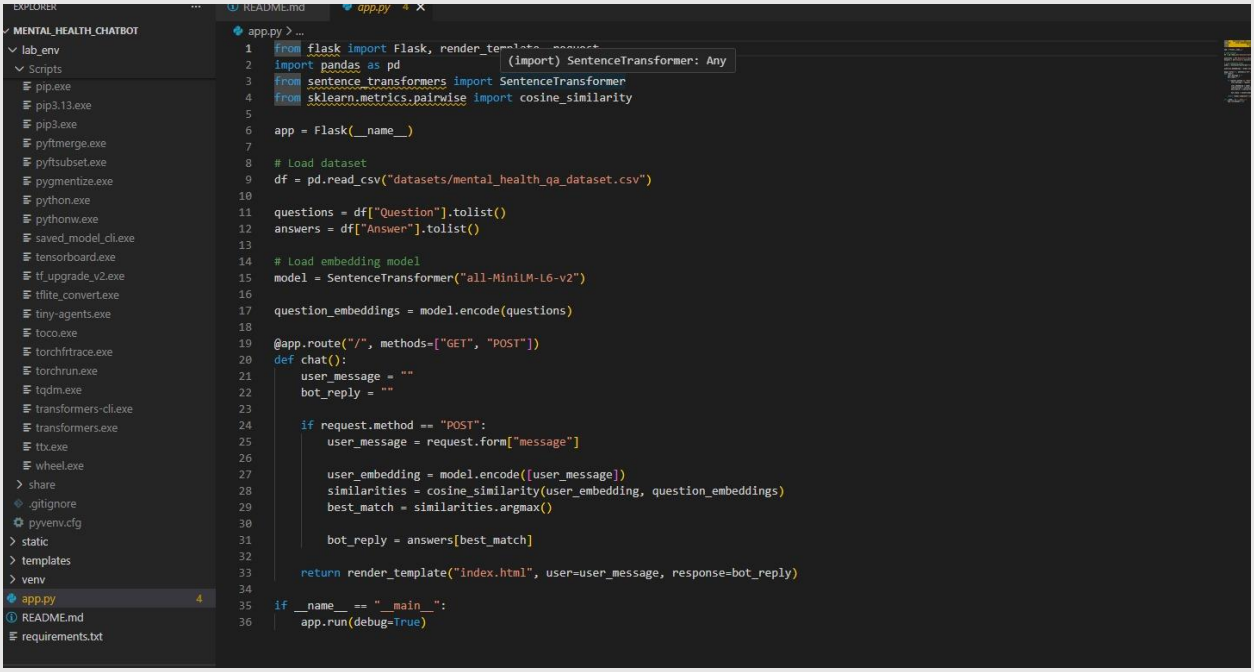
2. Project Flow Diagram



Flow of the System:

- User opens the web application
- User enters a message in the chat box
- System preprocesses user input
- Sentence embeddings are generated
- Similarity is calculated with dataset questions
- Best matching answer is selected
- Response is displayed to the user

3. Project Code (screenshots)



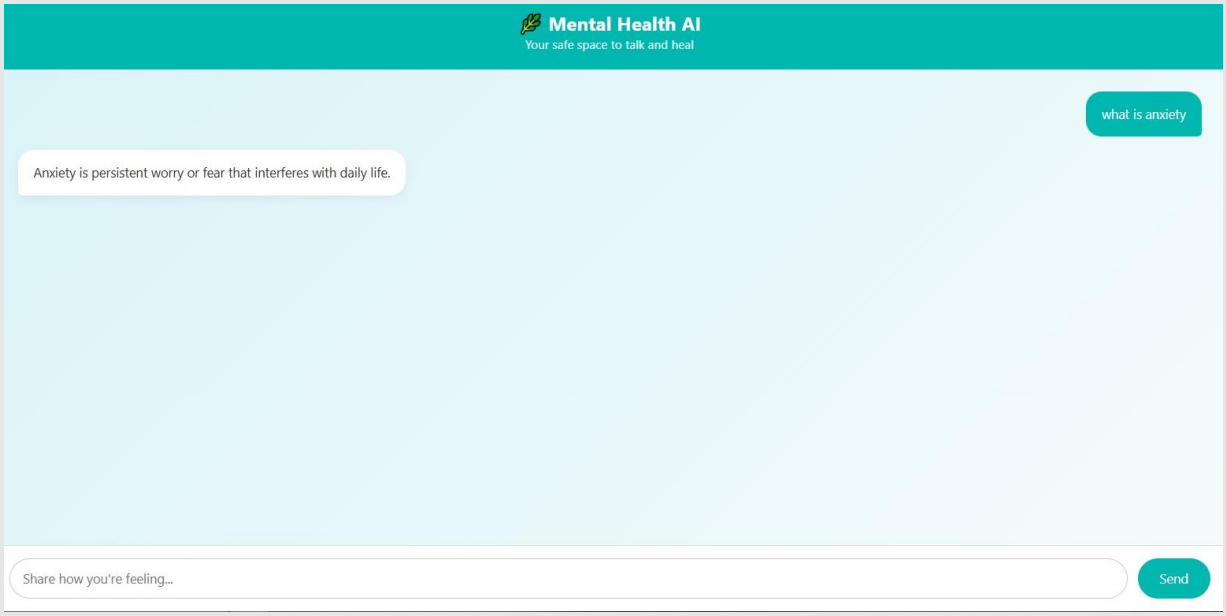
This project uses Python and Flask as the backend framework. Only important parts of the code are highlighted below.

Key Technologies Used

- Python
- Flask
- Pandas
- Sentence Transformers
- Scikit-learn

- HTML & CSS

4. Output (Screenshots)



- The output of the project is a fully functional Mental Health Chatbot web interface where:
- Users can type their thoughts or feelings
- The chatbot responds with the most relevant answer from the dataset

5. Scope of the Work

- Current Scope
- Provides mental health related responses using a predefined dataset
- User-friendly web interface
- Fast and accurate similarity-based answers
- Dataset-driven responses without external APIs

6. LIMITATIONS:

- Limited to dataset coverage
- No real-time learning
- Not a replacement for professional therapy

7. GitHub Repository Link