

AI Mental Health Support Chatbot

Architecture & Workflow – Hackathon Submission (WEEK 1)

1. Project Overview

Our AI-powered chatbot is designed to provide multilingual, empathetic, and accessible mental health support. It uses Natural Language Processing (NLP) to understand user inputs, detect emotions, and respond appropriately, along with mood tracking and resource suggestions.

2. System Architecture

User (Web/App Interface)

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Frontend (Chat UI: Streamlit / HTML)

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Backend (Flask / FastAPI)

└─> NLP Engine (GPT / HuggingFace)

└─> Emotion Detection Module

└─> Crisis Detection (Keyword + Emotion Threshold)

└─> Language Translation API (Google Translate / langchain)

└─> Resource Recommender (Based on emotion + intent)

└─> Mood Tracker (logs data)

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Database (Firebase / JSON / MongoDB)

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Mental health analyzer