MINI PROJECT SYNOPSIS

Name of Project Coordinator	**Dr.Aakash**
Group number	**V**

MINI PROJECT TITLE	
Tentative	**Mood-Based Chatbot for Mental and educational support**
Finalized	**Sentiment & Mood-Based Chatbot for Human-Like Interaction for mental and educational support**

DETAILS OF GROUP MEMBER

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PROJECT OVERVIEW / BACKGROUND

- This project aims to develop a mood-based chatbot using Google Gemini API, which can detect user sentiment (happy, sad, angry, etc.) and respond empathetically. The chatbot analyzes text input, understands the emotion behind it using Gemini's natural language understanding, and replies in a tone and style suitable to that mood
- Need of Work / Reason for selection of this project –
  - To make human-computer interaction more **empathetic and personalized.**
  - Current chatbots lack emotional intelligence — they respond in a robotic or generic way.
  - This can improve user experience in **mental health support**, **education**, **customer service**, and **daily communication** tools.

• To design and implement a chatbot system that can detect the **user's mood or sentiment** from text input and generate **appropriate, mood-based responses** using Natural Language Processing (NLP) and sentiment analysis techniques.

METHODOLOGY

1. **Input Stage:** The user types a message or selects their mood.

2. **Mood / Sentiment Detection:**

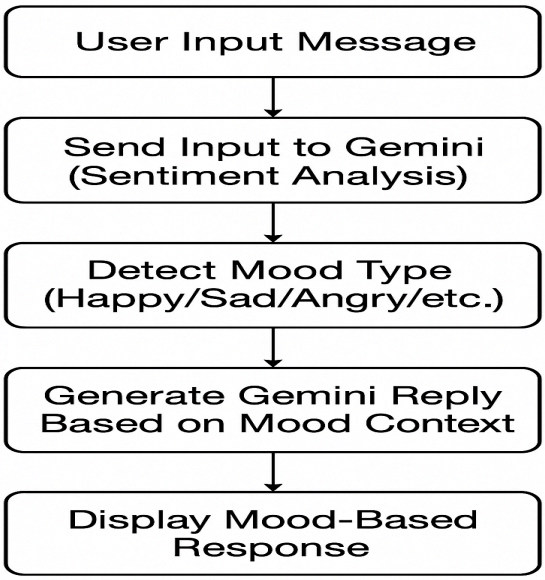
   - The chatbot sends user input to **Gemini API** for **sentiment or emotion analysis**.
   - Gemini classifies the message as *happy, sad, angry, neutral, etc.*

Response Generation:

- Based on detected mood, the chatbot uses **Gemini's text-generation capabilities** to create responses that match the emotional tone.
  - *Happy → friendly and excited tone*
  - *Sad → soft, encouraging tone*
  - *Angry → calm and understanding tone*

Display Response:

- The chatbot displays the mood-based reply in a web or console interface.



PROJECT REQUIREMENTS

• Programming Language: **JavaScript (Node.js)** or **Python**

API: **Google Gemini API** (for NLP + text generation)

Libraries (optional):

- **Axios / Fetch** – for API calls
- **Express.js / Flask** – for backend
- **HTML, CSS, JavaScript / React** – for frontend interface

REFERENCES

- Google AI, *Gemini API Documentation*, https://ai.google.dev
- "Sentiment Analysis using Large Language Models," *IEEE Transactions on Affective Computing*, 2023.
- Bo Pang & Lillian Lee, "Opinion Mining and Sentiment Analysis," *Foundations and Trends in Information Retrieval*, 2008.

- https://developers.google.com/generative-ai
- https://huggingface.co/ (for dataset reference)

Signature of Mini Project Coordinator: