MoodMate - AI Mental Health Assistant

1. Application Overview

MoodMate is an AI-powered web application designed to help users understand and manage their emotions. It provides:

✅ Mood Detector → AI analyzes user emotions from text.

✅ AI Chatbot → A virtual emotional support assistant.

✅ Mood Booster → Personalized activity recommendations.

✅ User Dashboard → Tracks mood history and provides insights.

This app aims to improve mental well-being using AI and psychology-backed recommendations.

2. Core Features

2.1 Mood Detector

Users input text describing their feelings.

AI analyzes mood using NLP sentiment analysis.

Displays results with appropriate emojis and explanations.

Example:

📝 "I feel overwhelmed with work." → "It seems like you're feeling stressed 😞. Try a short break or a mindfulness exercise!"

2.2 AI Chatbot

Provides a virtual AI companion for emotional support.

Uses GPT-4 API to generate meaningful conversations.

Encourages healthy emotional expression.

Example Conversation:

👤 "I'm feeling lonely today."

🤖 "I'm sorry to hear that. Would you like to try some relaxation exercises or connect with a friend?"

2.3 Mood Booster

Suggests activities based on user mood.

Uses BoredAPI or a custom wellness database.

Encourages healthy habits like meditation, music, or outdoor activities.

Example:

Happy 😊 → "Celebrate by listening to your favorite song!"

Stressed 😞 → "Try a short breathing exercise!"

Neutral 😐 → "Read an inspiring article!"

2.4 User Profile & Dashboard

Tracks mood history over time.

Provides mood trend insights.

Allows users to customize preferences for recommendations.

3. Technology Stack

Component Technology Used

Frontend React.js (Vite), Tailwind CSS

Backend APIs OpenAI GPT-4 (Chatbot & Mood Analysis), BoredAPI

State Management React Hooks (useState, useEffect)

Routing react-router-dom

Deployment Vercel or Netlify

4. API Integrations

4.1 OpenAI GPT-4 (Chatbot & Mood Analysis)

Used for: AI chatbot and sentiment analysis.

Endpoint: https://api.openai.com/v1/completions

Example Request:

json

{

"model": "gpt-4",

"messages": [{"role": "user", "content": "I feel anxious today."}],

"max\_tokens": 100

}

Response Example:

json

{

"choices": [{"message": {"content": "I'm sorry to hear that. Would you like to try a relaxation technique?"}}]

}

4.2 BoredAPI (Mood Booster)

Used for: Generating random activities.

Endpoint: https://www.boredapi.com/api/activity

Example Request:

json

{

"type": "recreational"

}

Response Example:

json

{

"activity": "Go for a walk in nature."

}

5. UI/UX Components

Minimalist & calming UI → Soft colors, rounded edges.

Fast & Responsive → Works on mobile & desktop.

Simple Navigation → Easy access to features.

6. Deployment Plan

Frontend Hosting: Vercel / Netlify.

Backend Security: Use .env to store API keys securely.

Optimizations: Minify JS, optimize images for fast load.

7. Security Considerations

Protect API keys using .env.local.

Rate-limiting on API requests to prevent misuse.

Ensure HTTPS encryption for secure communication.