WellBot – Global Wellness Assistant Chatbot

Project Overview

Project Title: WellBot – Global Wellness Assistant Chatbot
Internship Program: Infosys Springboard Virtual Internship (AI & ML)
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Objective:
WellBot is an AI-powered chatbot designed to improve users' physical and mental well-being by providing wellness guidance, mood analysis, and personalized lifestyle recommendations. It acts as a virtual assistant that promotes holistic wellness through conversations and data-driven suggestions.

Problem Statement

In today's fast-paced lifestyle, individuals often neglect their mental and physical health due to lack of guidance, motivation, or awareness. There's a growing need for a **digital wellness assistant** that can understand emotions, offer instant support, and guide users toward healthy routines.

Scope of the Project

WellBot aims to:

- Interact with users via chat to understand their mood and wellness needs.
- Detect emotions and stress levels using NLP sentiment analysis.
- Provide tailored wellness suggestions (like breathing exercises, meditation, diet tips).
- Track daily activities, mood, and progress.

Offer a visually engaging and easy-to-use interface accessible online

Module Overview

Module	Focus Area	Expected Output
Module 1	HTML/CSS/JS Frontend + Dataset Collection + Cleaning	Interactive web chatbot UI + prepared dataset
Module 2	Sentiment & Emotion Detection Model	Trained ML model (Python) for classifying emotions
Module 3	Wellness Suggestion Engine	Suggestion system mapping detected emotion → wellness tip
Module 4	Mood Tracker & Data Visualization	Tracks user mood and visualizes progress using charts
Module 5	Full Integration (Frontend + Backend)	Connects chatbot UI to Flask/Streamlit backend
Module 6	Final Deployment & Documentation	Hosted project + final report & presentation

Sprint & Execution Plan

Sprint	Timeline	Modules Covered	Goal	Deliverables
Sprint 1	Oct 7– Oct-9	Module 1	Create chatbot UI using HTML/CSS/JS and prepare datasets	UI page (index.html, style.css, script.js), dataset CSV, data cleaning script
Sprint 2	Oct 10 – Oct 19	Module 2	Train emotion/sentiment model	Jupyter notebook / .py file with accuracy report
Sprint 3	Oct 20 – Oct 26	Module 3	Create wellness suggestion engine	wellness_suggestions.csv + code to fetch suggestion

Sprint 4	Oct 27 – Nov 2	Module 4	Mood tracking and chart visualization	Local storage or SQLite DB + charts (Chart.js or Matplotlib)
Sprint 5	Nov 3 – Nov 10	Module 5	Backend + frontend integration	Flask backend connected to UI
Sprint 6	Nov 11 – Nov 20	Module 6	Testing + report + deployment	Hosted app + submission-ready documentation

Recommended Tech Stack

Layer	Technology	Purpose
Frontend	HTML, CSS, JavaScript	Chatbot UI and animations
Backend (later)	Flask / Streamlit	Integrate ML models
ML Libraries	scikit-learn, pandas, nltk	Model training and sentiment analysis
Database	SQLite / JSON	Store user logs or mood data
Visualization	Matplotlib	Mood tracking graphs

Functional Requirements

1. **Chat Interface:**
   User-friendly web UI using HTML, CSS, and JavaScript for chatting with WellBot.

2. **Wellness Support:**
   Provides mental health tips, motivational quotes, physical wellness advice, and relaxation exercises.

3. **Mood Detection (Later Module):**
   Analyzes user messages to detect emotions like happy, sad, or stressed using a cleaned dataset.

4. **Data Handling:**
   Collects and cleans wellness and mood datasets; stores chat and mood data securely.

5. **Backend Integration:**
   Connects UI with a Python backend (Flask) for NLP processing and chatbot responses.

6. **Feedback Option:**
   Allows users to rate chatbot responses for continuous improvement.

Non-Functional Requirements

1. **Performance:**
   Chatbot should respond within 2 seconds for normal queries.

2. **Usability:**
   Simple, responsive, and mobile-friendly design.

3. **Reliability:**
   Handles invalid inputs without crashing and works 24/7.

4. **Security:**
   Protects user data and prevents unauthorized access.

5. **Scalability:**
   Should support future features like voice input or external API integration.

6. **Maintainability:**
   Code organized in clear, modular format with documentation.

Expected Outcomes

- A fully functional AI wellness chatbot accessible online.
- Emotion-aware conversations for user engagement.
- Personalized recommendations that improve user well-being.
- Data visualization and tracking of user habits.

Complete documentation for academic and professional evaluation

Future Enhancements

- Integrate voice-based interaction.
- Add multilingual support.
- Connect to wearable devices for real-time health data.
- AI-based adaptive learning from user patterns.