

WellBot Global Documentation

Submitted by: **Shaili Boddula**

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Project Overview

WellBot Global is a personalized wellness assistant powered by AI. It aims to unify fragmented wellness solutions—such as diet, fitness, and mental health—into one intelligent chatbot platform. The system integrates natural language processing, recommendation systems, and seamless data collection from multiple sources to deliver proactive wellness guidance globally.

Problem Statement

Managing health and wellness has become increasingly fragmented, with people relying on multiple disconnected applications for fitness, nutrition, and mental health. This leads to poor consistency and reduced engagement. WellBot Global seeks to solve this by creating a single, unified, AI-powered wellness assistant capable of understanding, advising, and adapting to each user's needs.

Objectives

- Deliver tailored wellness advice using an adaptive AI recommendation system.
- Enable multilingual support to ensure global accessibility.
- Integrate data from fitness trackers and health applications for holistic insights.
- Offer 24/7 conversational wellness guidance with context-aware responses.

Technology Stack

• Frontend: React or Flutter (for a responsive chat-based interface) • AI Core: BERT/DistilBERT for NLP, TensorFlow/Scikit-learn for recommendation system • Database: Structured data storage for user profiles, preferences, and analytics • Deployment: Cloud platforms like AWS, Azure, or GCP for scalability and live testing

Detailed 8-Week Development Timeline

The following 8-week roadmap outlines the structured workflow of WellBot Global. Each module includes specific day-wise goals to ensure systematic development and testing progress.

Module 1: Foundation & Data Scaffolding (Weeks 1–2)

Goal: Collect, clean, and prepare datasets for training AI models.

Day 1–3: Identify and collect wellness datasets (fitness, nutrition, sleep, mental health).

Day 4–6: Explore APIs and repositories; verify data quality and licensing.

Day 7–10: Clean and preprocess data (remove outliers, handle missing values).

Day 11–14: Structure data into model-ready formats and visualize for verification.

Module 2: NLP & Conversational Core (Weeks 3–4)

Goal: Build and train the Natural Language Processing (NLP) core for understanding user queries.

Day 15–18: Prepare training dataset for intent recognition (BERT/DistilBERT).

Day 19–22: Train Named Entity Recognition (NER) for extracting specific terms like food names or durations.

Day 23–25: Develop dialogue management and conversational flow logic.

Day 26–28: Test chatbot interaction through a command-line prototype and refine accuracy.

Module 3: Hybrid Recommendation Engine (Weeks 5–6)

Goal: Create a personalized and adaptive recommendation engine for user wellness advice.

Day 29–32: Implement content-based filtering to match users with suitable diets or activities.

Day 33–36: Develop collaborative filtering using user similarity and behavioral data.

Day 37–39: Combine both approaches into a hybrid recommendation model.

Day 40–42: Integrate a feedback loop allowing model adaptation based on user responses.

Module 4: Integration, UI & Deployment (Weeks 7–8)

Goal: Integrate all modules, design a user-friendly interface, and deploy the prototype.

Day 43–46: Develop a chatbot interface using React or Flutter.

Day 47–50: Connect external APIs (e.g., Fitbit, Apple Health) for live data synchronization.

Day 51–53: Conduct unit and integration testing across all modules.

Day 54–56: Deploy application to cloud environment and finalize documentation for submission.

Expected Outcomes

At the end of the development phase, WellBot Global is expected to deliver:

- A functional AI chatbot prototype for holistic wellness management.
- Integration with real-world APIs for fitness and health data.
- Context-aware conversational capability with adaptive recommendations.
- Complete project documentation suitable for evaluation and deployment.

Conclusion & Future Scope

WellBot Global demonstrates how artificial intelligence can transform personal wellness management into a unified, interactive, and accessible experience. Future enhancements include AR/VR integration for guided sessions, predictive health diagnostics, and advanced voice-based accessibility to extend support to all demographics.