

WellBot – Project Documentation

1. Problem Statement

In an increasingly health-conscious world, individuals seek readily accessible and reliable information about general well-being, common ailments, and preventive health measures. However, a significant barrier often exists in the form of complex medical jargon and limited availability of multilingual resources. This project addresses this challenge by developing a privacy-conscious AI chatbot that provides clear, simplified explanations on health topics in multiple languages (English and Hindi). Its primary goal is to empower users with foundational health knowledge and first-aid guidance, while emphasizing that professional medical consultation is essential for diagnosis and treatment.

2. Objectives and Implementations

2.1 Objective 1 — Admin Dashboard

This module focuses on the admin interface that manages the health knowledge base and provides insights into chatbot usage analytics.

Objective Requirement

Develop an admin interface for managing the knowledge base and monitoring chatbot analytics.

Implementation

- React-based admin dashboard
- Full CRUD operations for health knowledge base
- Usage analytics and trend visualization
- Responsive UI using Tailwind CSS

Technology Stack Used

- React
- Tailwind CSS
- Axios
- Flask (Admin API)
- SQLite

Module Explanation – Frontend

- Dashboard tabs: Analytics, Knowledge Base, Feedback
- Real-time metrics cards
- Interactive charts (Query trends, categories)
- CRUD modal forms for content management

Module Explanation – Backend

• /admin/stats → Analytics data • /admin/kb → GET/POST operations • /admin/kb/ → PUT/DELETE operations

Module Explanation – Database

- CRUD operations for knowledge base
- Analytics queries for chatbot usage and feedback

Conceptual Flow Diagram — Admin Dashboard

Admin User → React Admin Dashboard → Flask Admin API → SQLite Database

2.2 Objective 2 — Feedback Mechanism

This module enables users to provide direct feedback on chatbot responses.

Objective Requirement

Implement thumbs up/down and optional comments for chatbot responses.

Implementation

- Thumbs up/down feedback buttons
- Optional comment submission
- Feedback storage in database
- Feedback analytics in admin dashboard

Technology Stack Used

- Streamlit
- Flask
- SQLite

Module Explanation

- Streamlit renders feedback UI
- /feedback API stores feedback entries
- Database logs all user feedback
- Dashboard visualizes feedback trends

Conceptual Flow Diagram — Feedback Module

User → Streamlit Frontend → Flask Feedback API → SQLite Database

Module objectives

Admin Dashboard

Logout

Dashboard

Analytics

Knowledge Base

Feedback

Total Users

6

Total Conversations

3

Total Messages

7

Positive Feedback

66.67%

Feedback Distribution

Negative

1 (50%)

Positive

1 (50%)

Top Queries

तनाव के लक्षण क्या हैं

1

क्या मुझे फूंके लिए क्या करना चाहिए?

1

i have a fever

1

Hello, I need health advice.

1



Top Query Categories



User Engagement Metrics

Total Users	6
Total Conversations	3
Average Messages/Conversation	2.3
Feedback Response Rate	29%

Admin Dashboard

[Logout](#)
[Dashboard](#)
[Analytics](#)
Knowledge Base
[Feedback](#)

Knowledge Base Management

[Add Entry](#)

Fever

[Edit](#)
[Delete](#)

Rest, stay hydrated, and use a cool compress. If fever lasts more than 3 days or breathing issues occur, seek medical help.

Category: Symptoms

Cough & Cold

[Edit](#)
[Delete](#)

Drink warm liquids, take steam, and rest. If severe fever or breathing issues occur, visit a doctor.

Category: Symptoms

Sore Throat

[Edit](#)
[Delete](#)

Gargle with warm salt water and rest. Seek help if swallowing becomes difficult.

Category: Symptoms

Feedback Overview

66.67%

Positive Feedback Rate

1

Positive

1

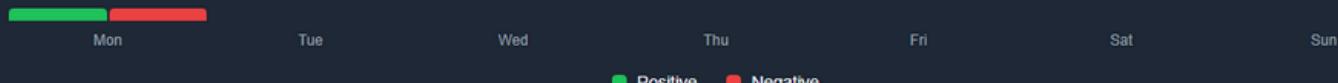
Negative

Recent Feedback

Not helpful response about: i have a fever...

18/11/2025 at 2:14:10 pm

Feedback Trends

● Positive ● Negative

Rest, stay hydrated, and use a cool compress. If fever lasts more than 3 days or breathing issues occur, seek medical help.

⚠ Please note: This is not medical advice. Consult a healthcare professional for personalized guidance.

thumb up Helpfulthumb down Not helpfulcomment Comment

तनाव के लक्षण क्या हैं



सिर में दर्द, तनाव, थकान

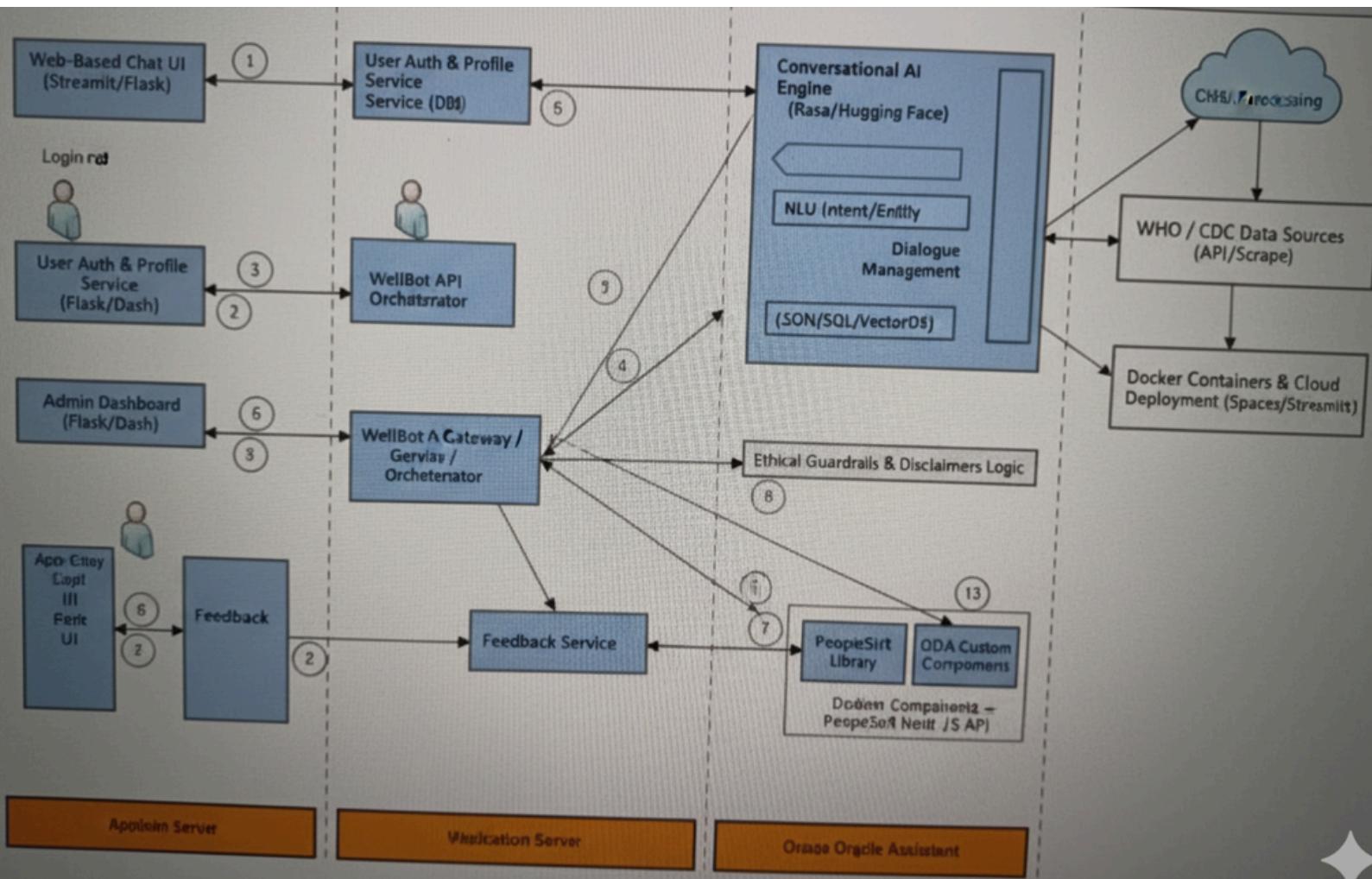
⚠ कृपया ध्यान दें: यह चिकित्सा सलाह नहीं है। व्यक्तिगत मार्गदर्शन के लिए स्वास्थ्य देखभाल पेशेवर से परामर्श करें।

thumb up Helpfulthumb down Not helpfulcomment Comment

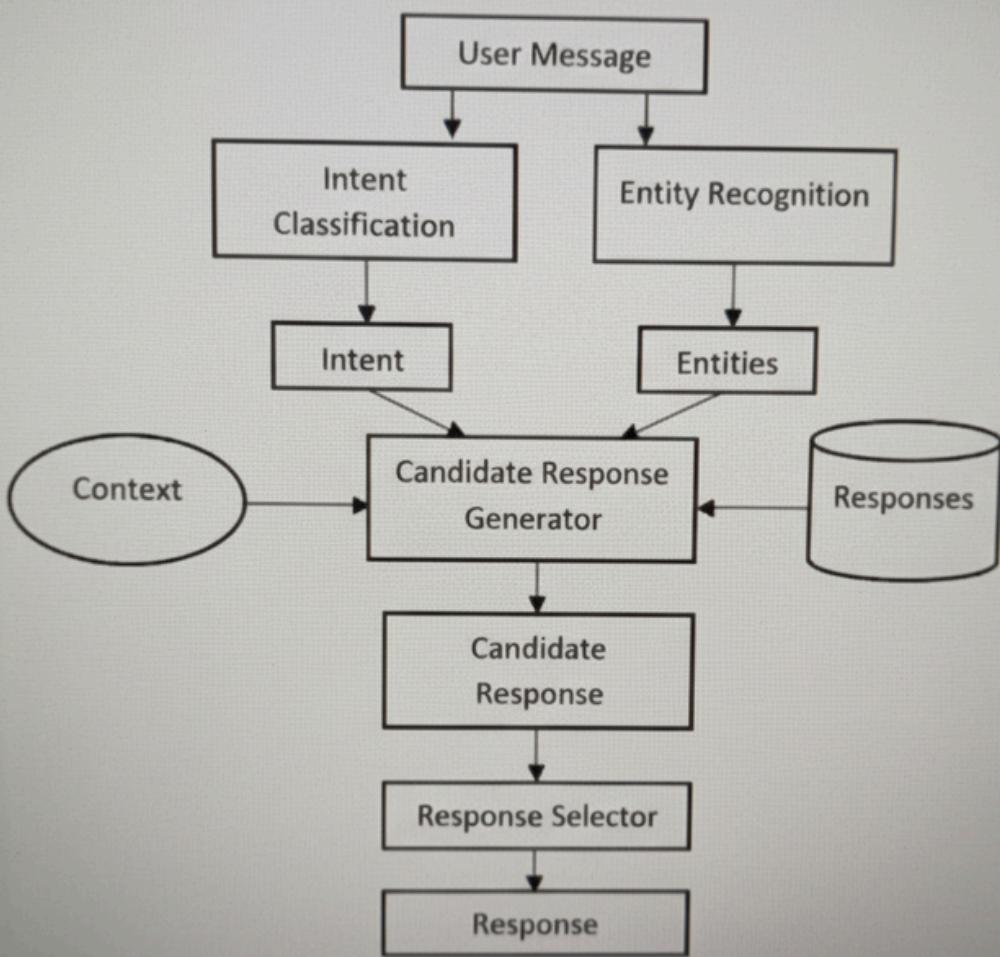
मैं आपकी कैसे मदद कर सकता हूँ?



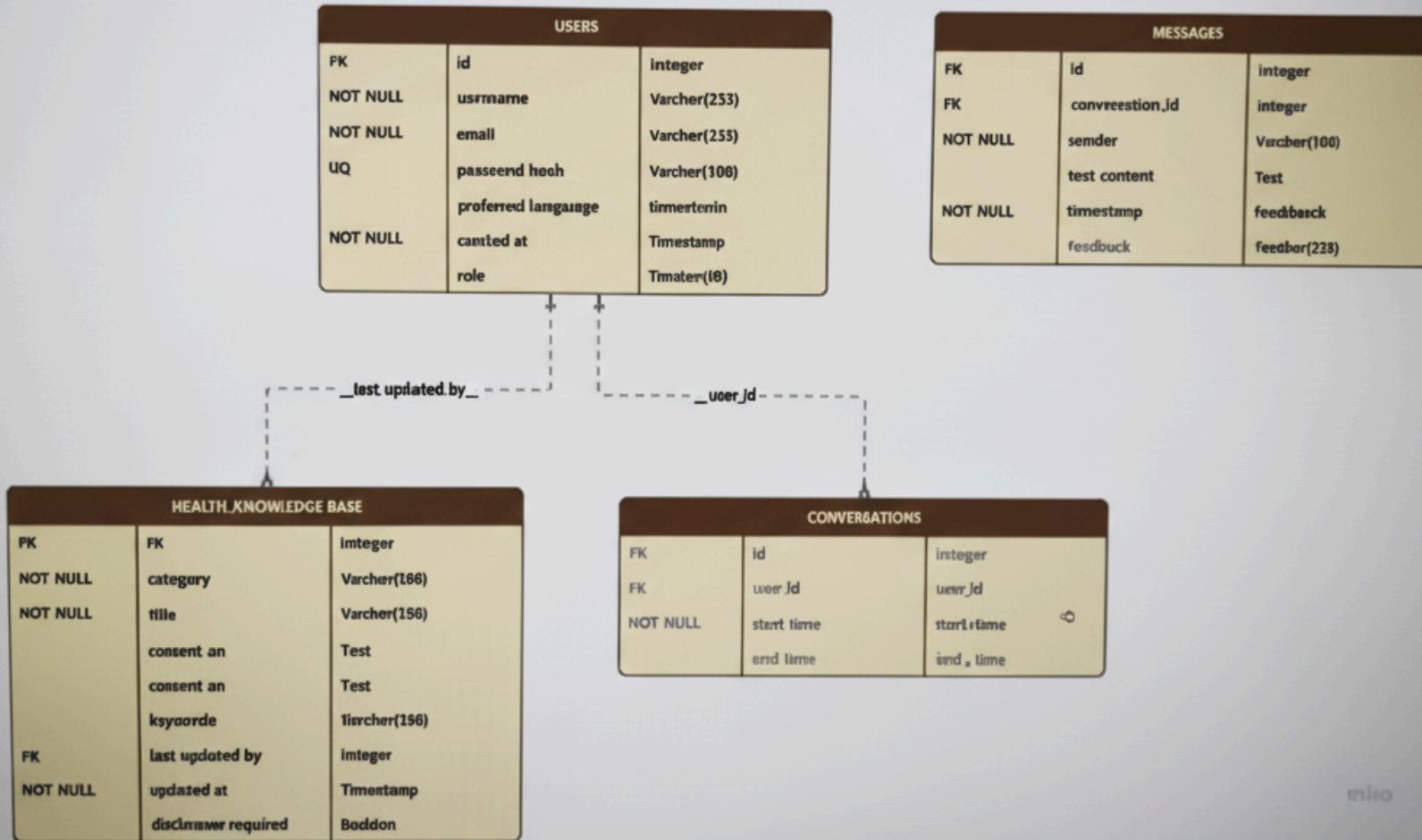
System Architecture



User Workflow

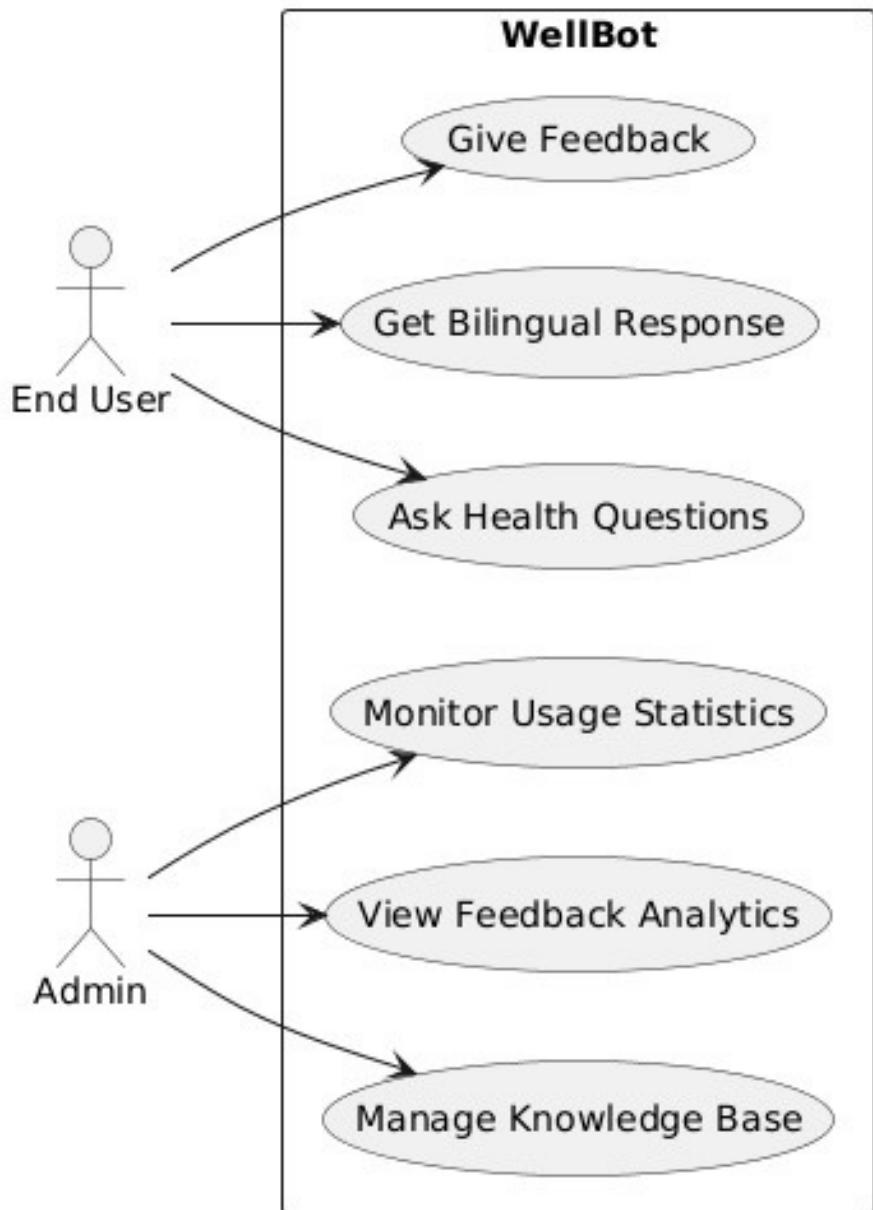


Database schema

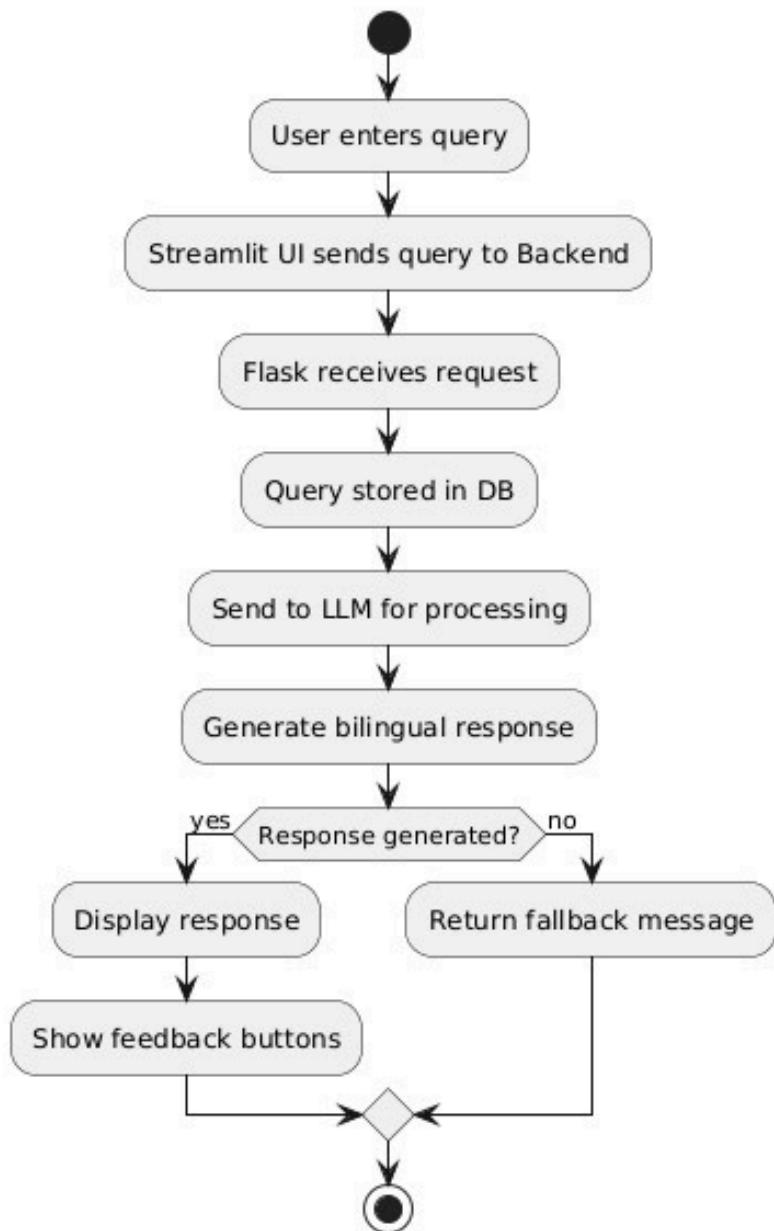


UML Diagrams

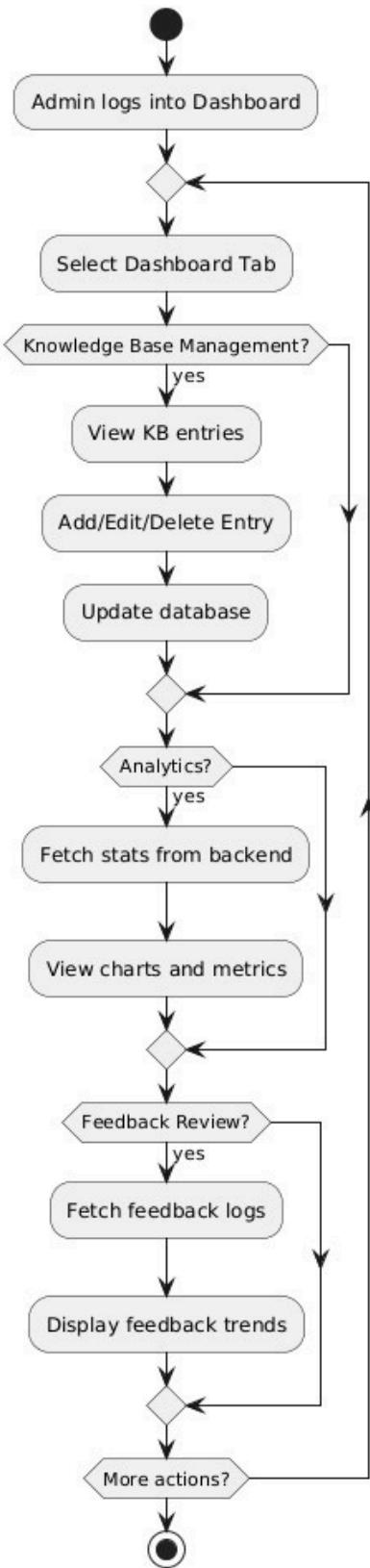
USE CASE DIAGRAM



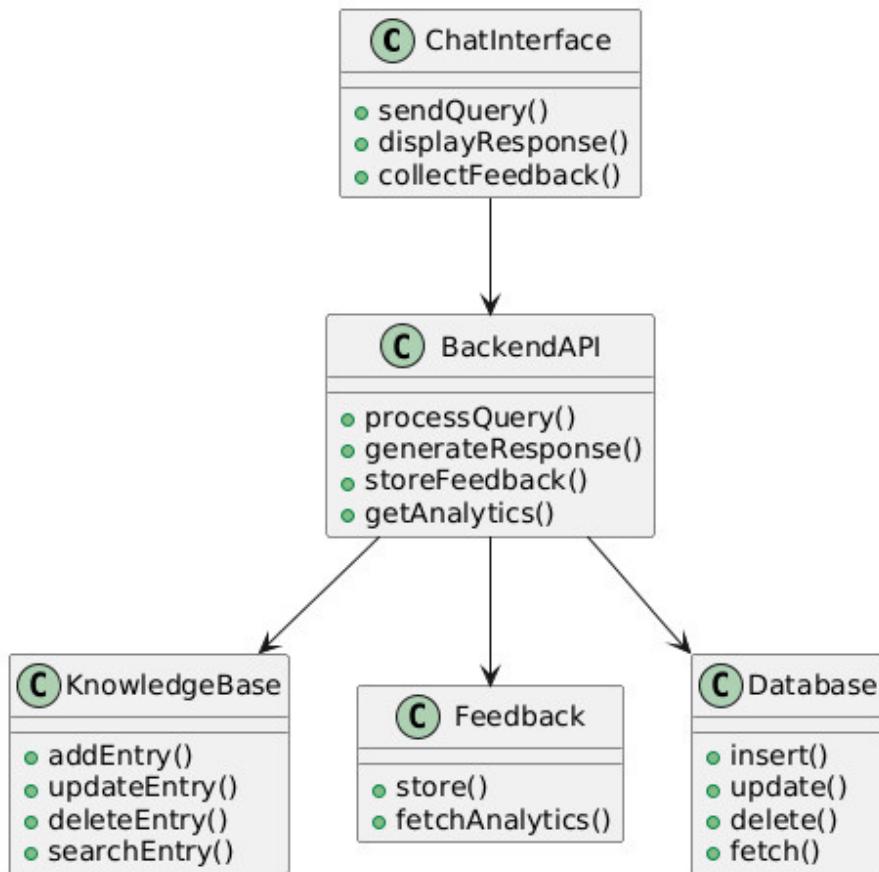
CHATBOT ACTIVITY DIAGRAM



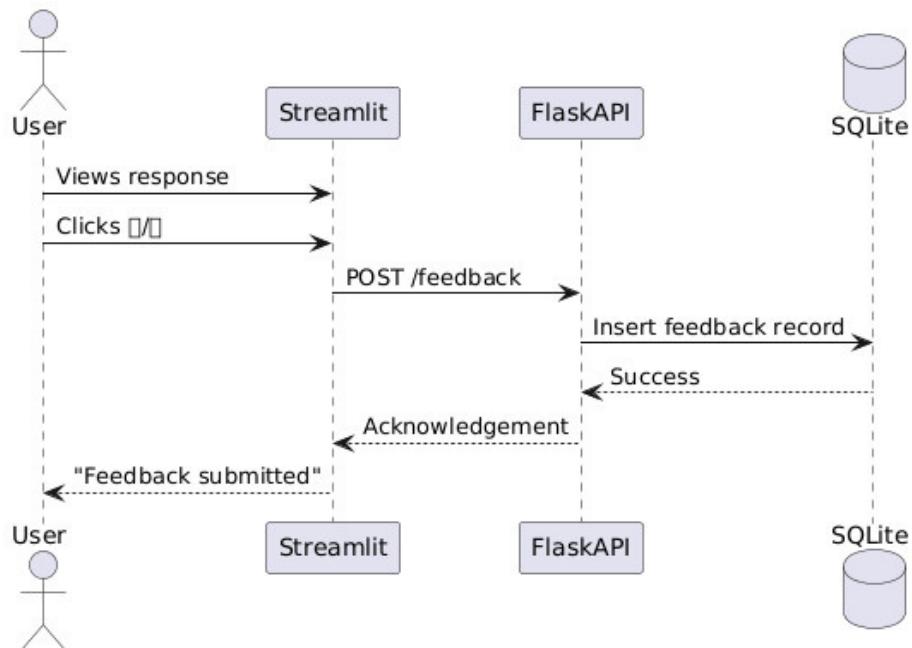
ADMIN DASHBOARD ACTIVITY DIAGRAM



CLASS DIAGRAM



SEQUENCE DIAGRAM- Feedback Flow



Expected Results

- WellBot successfully provides simplified, multilingual (English & Hindi) health information to users while maintaining privacy and clarity.
- Developed a complete AI-powered chatbot system with real-time, user-friendly interaction.
- Designed and implemented a fully functional Admin Dashboard for analytics, knowledge-base management, and monitoring chatbot usage.
- Integrated an effective User Feedback Mechanism (thumbs up/down + comments) that supports iterative system improvement.
- Established a strong backend analytics pipeline to track queries, trends, categories, and feedback statistics.
- Ensured scalable architecture with modular frontend, backend, and database components.
- Delivered comprehensive project documentation, UML diagrams, and structured module explanations.
- Created a system that is maintainable, extensible, and user-centric, supporting future upgrades.
- Overall, WellBot represents a robust and accessible solution for delivering simplified digital health education.