A Multi-domain Chatbots Hub (ChatHUB)

Building an Intelligent and Versatile Chatbot Platform for Enhanced User Interactions and Services

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Introduction

- The aim of this project was to create a comprehensive chatbot platform that offers a wide range of functionalities in various domains. The platform, named **"A Multi-domain chatbots hub (ChatHUB)"** serves as a central hub for multiple chatbots, each designed to cater to specific user needs.
- Created multiple chatbots with distinct functionalities:
  - chikitsaBOT for health-related queries
  - vidyarthiBOT for educational purposes
  - banduBOT for fostering friendships
  - yatraBOT for providing travel information
  - bawarchiBOT for sharing recipes
  - manoranjanBOT for entertainment purposes
- Integrated all chatbots into a single platform for convenient access.
- Utilized DJANGO, PYTHON, APIs, AI, HTML, CSS, and JAVASCRIPT for software development.
- Developed a Python library named "SansArLIB" as part of the project.

Problem Statement

- The challenge lies in providing a unified platform for hosting these chatbots and facilitating easy access for users.
- Our goal is to address the need for a centralized solution that offers diverse chatbot services in one place.
- The chatbots, including chikitsaBOT, vidyarthiBOT, banduBOT, yatraBOT, bawarchiBOT, and manoranjanBOT, serve different purposes and cater to various user requirements.
- The current state of chatbot technology is fragmented and lacks a central hub for users to access a wide range of chatbots. This fragmentation makes it difficult for users to find the chatbots that they need and can be frustrating when trying to use multiple chatbots.

Solution

- CHATHUB will be developed using Django, Python, APIs, AI, HTML, CSS, and JavaScript. The platform will be integrated with a number of popular chatbots, including ChikitsaBOT, VidyarthiBOT, BanduBOT, YatraBOT, BawarchiBOT, and ManoranjanBOT.
- CHATHUB will provide a central hub for users to access a wide range of chatbots. This will make it easier for users to find the chatbots that they need and can be frustrating when trying to use multiple chatbots.
- CHATHUB will also provide a number of features that are not currently available in other chatbot platforms, such as
  - A search function that allows users to easily find the chatbots that they need.
  - A chat history that allows users to track their conversations with chatbots.
- CHATHUB will use a number of security measures to protect user data, such as encryption by Django security key.

End-user Requirement

Minimum Software Requirements:

- Web browser

Minimum Hardware Requirements:

- Minimum RAM: 2 GB
- Processor: at least Pentium i3 processor
- Minimum Hard Disk: 500 GB
- Display device
- Input Devices: Keyboard, Mouse

Development Requirement

Software Requirements:

- Visual Studio Code
- Django
- Python
- HTML
- CSS
- JavaScript
- Web browser

Hardware Requirements:

- RAM: 2 GB
- Processor: i3 processor
- Hard Disk: 500 GB
- Display device
- Input Devices: Keyboard, Mouse

System Design

- Design an architecture that enables the integration of multiple chatbots into a single platform.
- Define the structure and components of the chatbot system, including chikitsaBOT, vidyarthiBOT, banduBOT, yatraBOT, bawarchiBOT, and manoranjanBOT.
- Determine the functionalities and features of each chatbot to cater to specific user needs in health, education, friendship, travel, recipes, and entertainment domains.
- Implement a user-friendly and intuitive user interface to ensure easy navigation and interaction with the chatbot platform.
- Incorporate the Python library "SansArLIB" to streamline chatbot development and enhance system capabilities.

System Design diagram

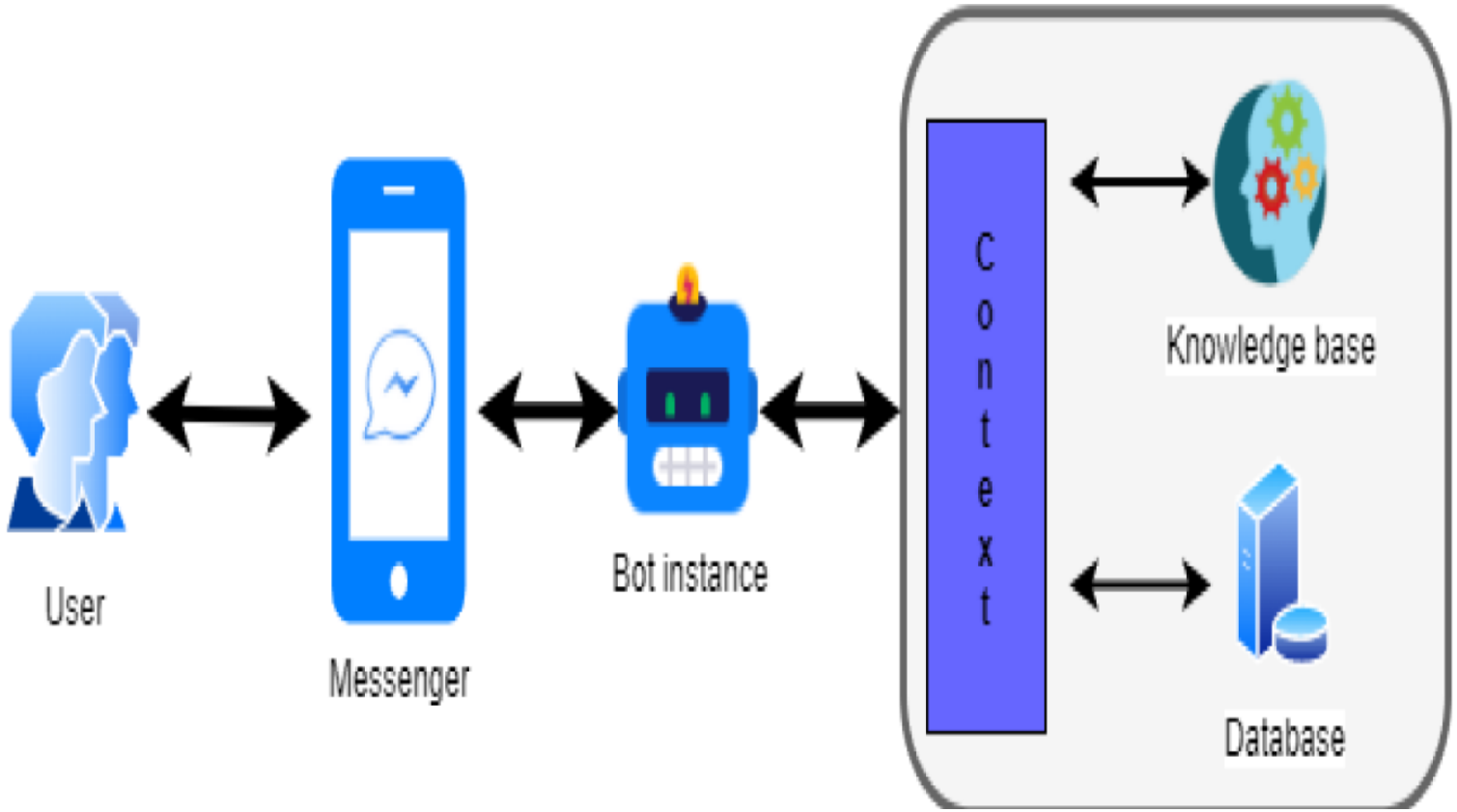

Figure: System Design diagram

BanduBOT UI SNAPSHOT

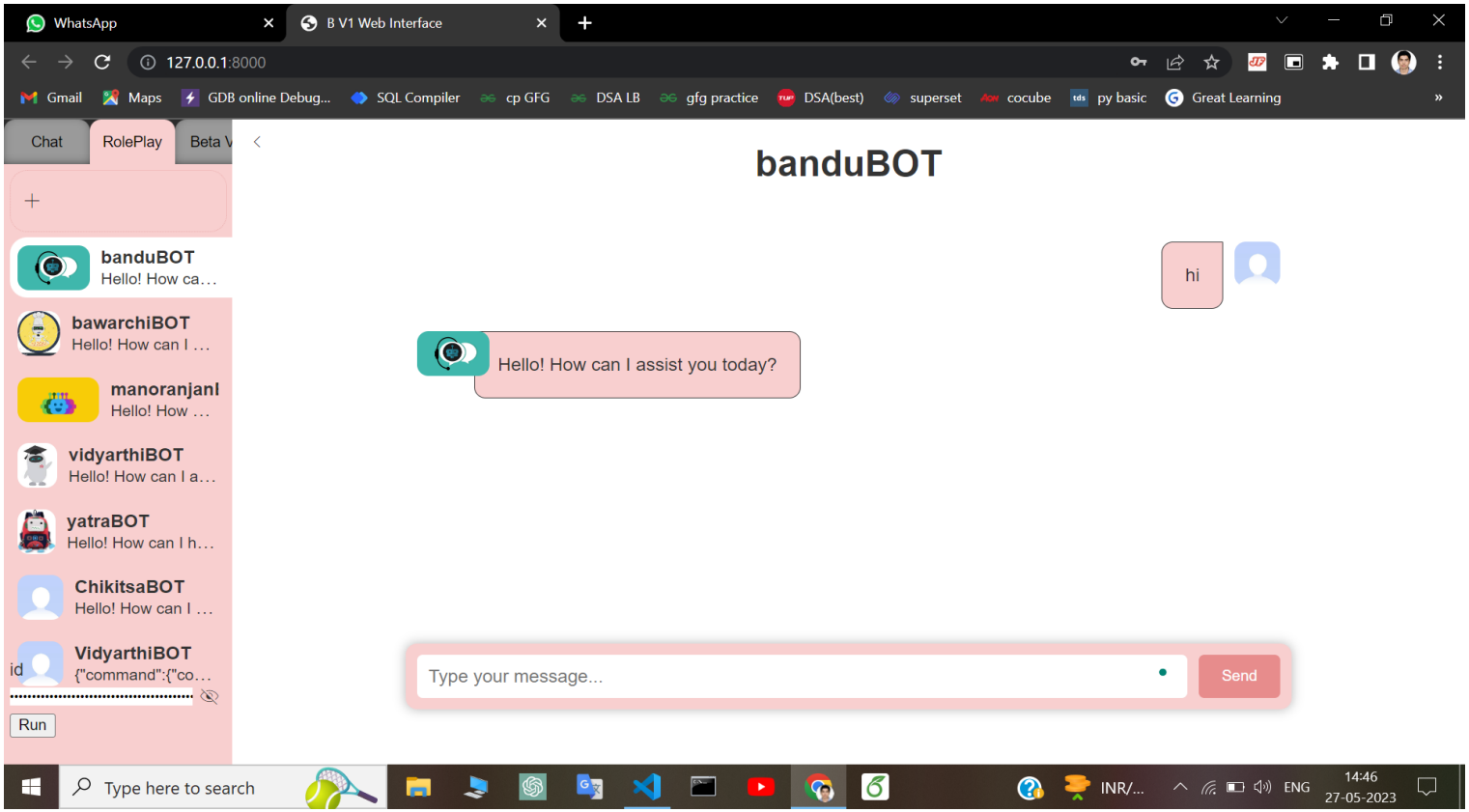

Figure: BanduBOT UI SNAPSHOT

BOT's UI SNAPSHOT

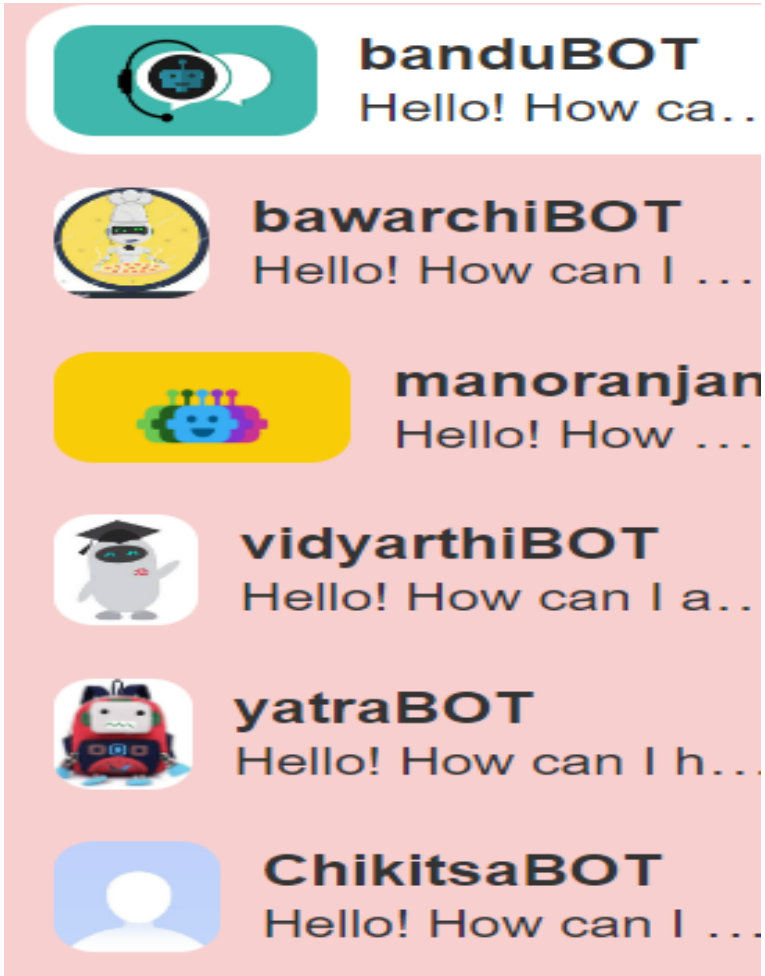

Figure: BOT's UI SNAPSHOT

Beta version UI Snapshot

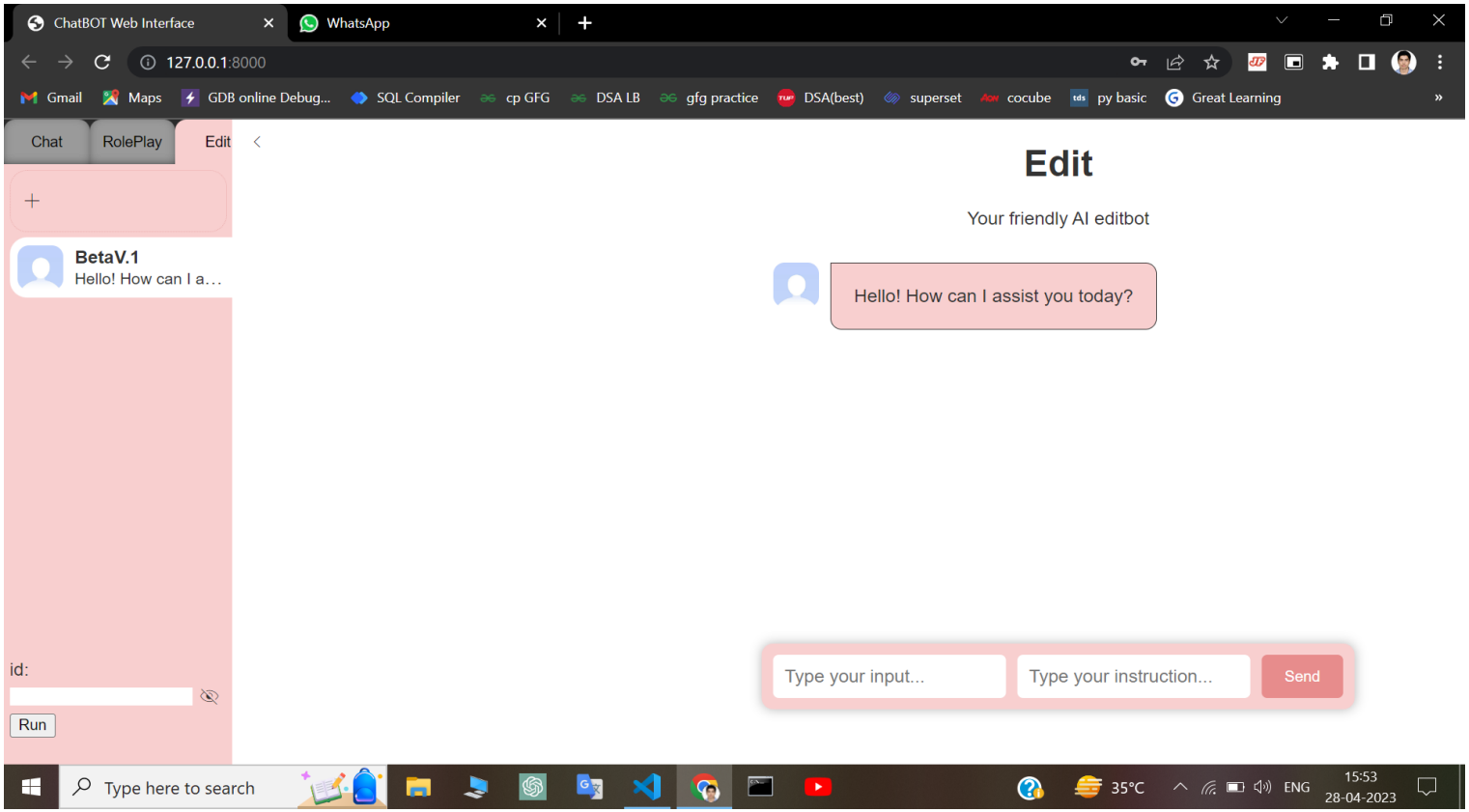

Figure: Beta version UI Snapshot

Activity Diagram

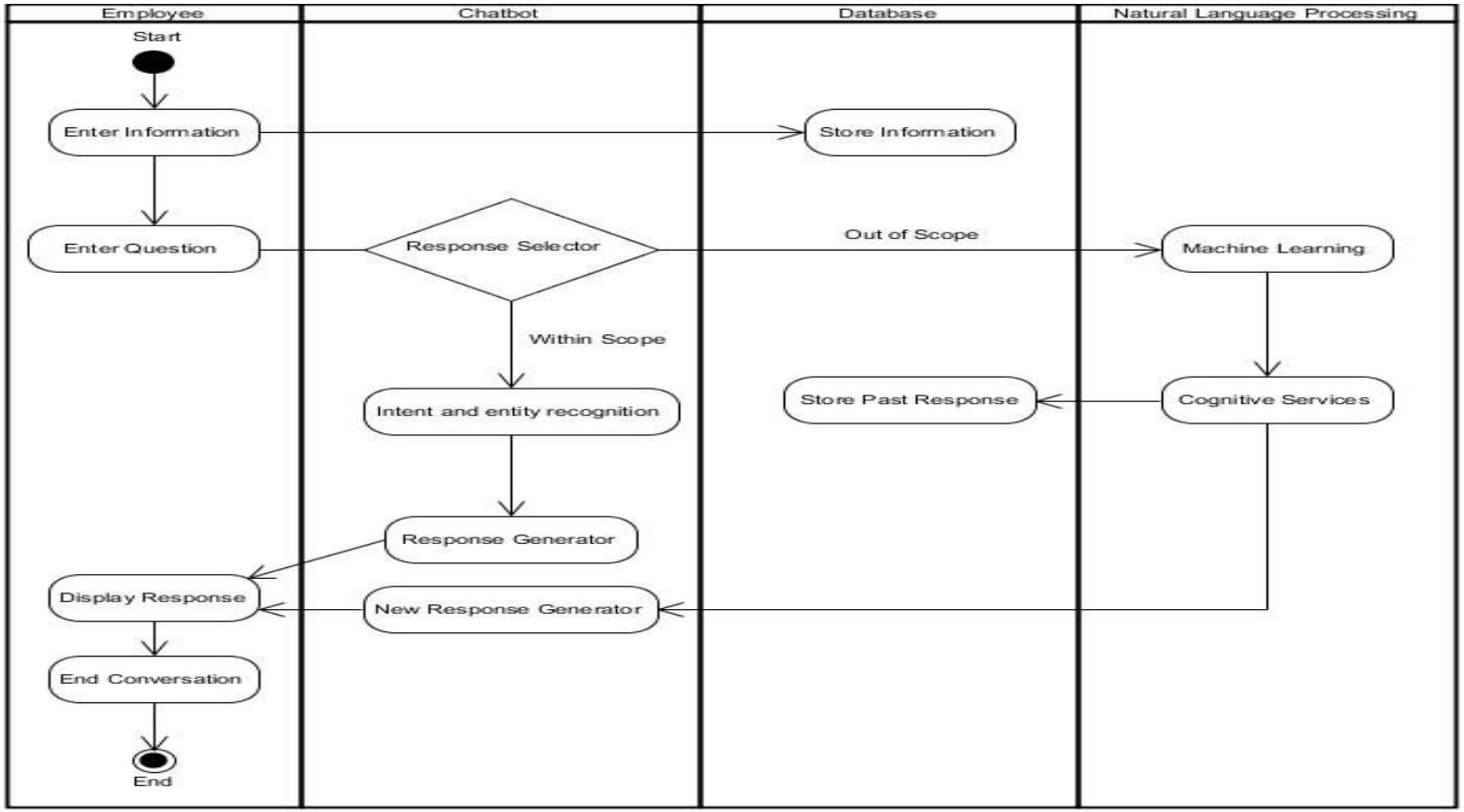

Figure: Activity Diagram

Agile SDLC

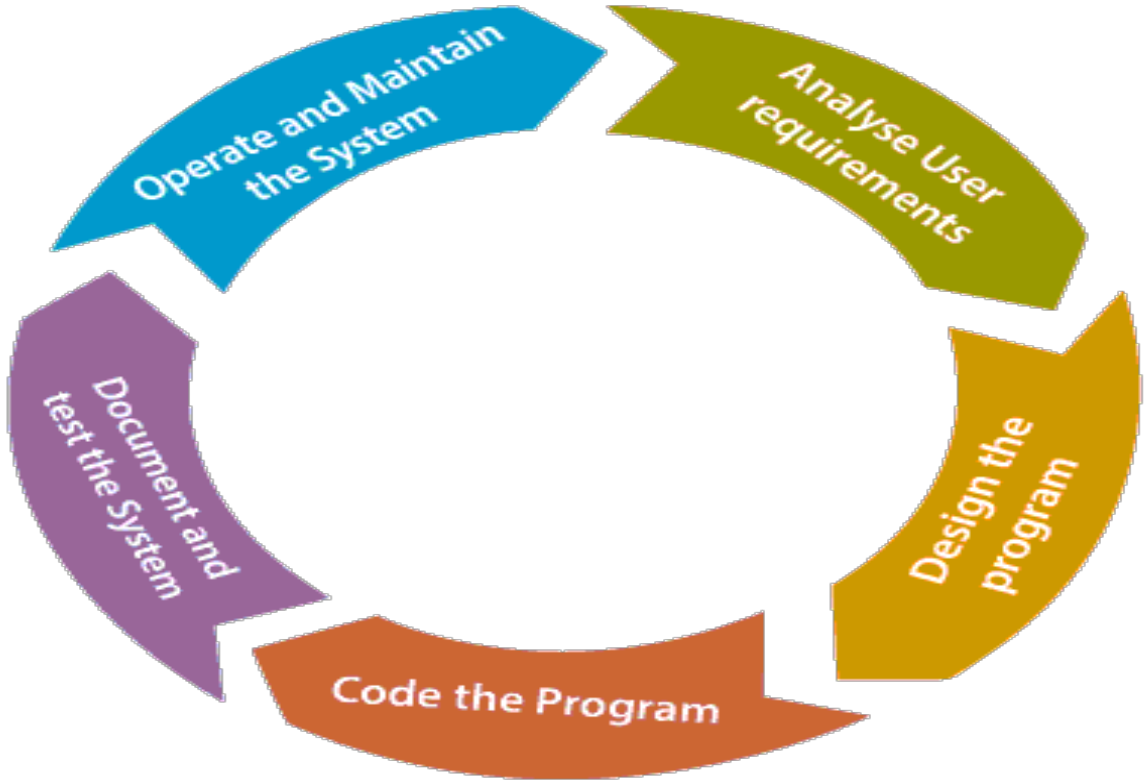

Figure: Agile SDLC

Technology

- Utilized **DJANGO, PYTHON, APIs, AI, HTML, CSS, and JAVASCRIPT** for software development.
- Employed the DJANGO framework for efficient web application development.
- Utilized PYTHON programming language for backend implementation and logic handling.
- Integrated various APIs to enable functionality such as health information, educational resources, friendship interactions, travel information, recipe suggestions, and entertainment options.
- Leveraged AI for chatbot intelligence.
- Utilized HTML and CSS for designing the user interface of the chatbot platform.
- Implemented JAVASCRIPT for interactive features and dynamic behavior.
- Developed a Python library called "SansArLIB" to facilitate common functionalities across the chatbots.

Conclusion

- Successfully developed a platform that hosts multiple chatbots with distinct functionalities.
- Chatbots include chikitsaBOT for health, vidyarthiBOT for education, banduBOT for friendship, yatraBOT for travel information, bawarchiBOT for recipes, and manoranjanBOT for entertainment.
- Utilized DJANGO, PYTHON, APIs, AI, HTML, CSS, and JAVASCRIPT for software development.
- Created a Python library called "SansArLIB" as part of the project.
- Achieved the objective of providing an intelligent and versatile chatbot platform for enhanced user interactions and services.
- Future work can include integrating more chatbots with additional functionalities and expanding the platform's capabilities.

THANK YOU!