

## **1. Functionality**

### Scope

The chatbot is designed to perform the following functions:

- **Answer Common Questions:** The chatbot can provide accurate and helpful responses to frequently asked questions.
- **Provide Guidance:** It can offer guidance to users based on their queries, directing them to appropriate resources or sections.
- **Natural Language Processing:** Utilizes advanced NLP techniques to understand and process user input in a conversational manner.

## **2. User Interface**

### Integration

- The chatbot will be integrated into both the website and the app interfaces to ensure seamless user interaction across platforms.

### Design Principles

- The user interface will prioritize:
  - **Simplicity:** A clean and straightforward interface for easy user interaction.
  - **Clarity:** Clearly defined chat area and response section for users to understand the conversation flow.
  - **Accessibility:** Ensuring the chatbot is usable by individuals with disabilities.

## **3. Natural Language Processing (NLP)**

### Techniques Used

The chatbot will employ the following NLP techniques:

- **Tokenization:** Breaking down user input into tokens for analysis.
- **Named Entity Recognition (NER):** Identifying entities in user input (e.g., names, places).
- **Intent Recognition:** Understanding the intent behind user queries.
- **Sentiment Analysis:** Analyzing user sentiment for appropriate responses.

### Conversational Flow

- Designing a smooth conversational flow to engage users effectively. This includes managing greetings, understanding context, and handling multiple user queries within a single conversation.

## **4. Responses**

### Types of Responses

The chatbot will offer:

- **Accurate Answers:** Providing precise answers to user questions.
- **Suggestions:** Offering relevant suggestions based on user queries.
- **Assistance:** Guiding users step-by-step to solve problems or find information.

### Response Guidelines

Responses will be:

- **Clear:** Responses will be concise and easy to understand.
- **Friendly:** The chatbot will maintain a friendly and helpful tone in all interactions.
- **Informative:** Responses will provide valuable information to users.

## **5. Integration**

### Website Integration

The chatbot will be integrated into the website using an embeddable widget. It will be accessible from every page, ensuring users can get assistance regardless of their location on the site.

### App Integration

- In the app, the chatbot will be accessible through a dedicated chat interface, accessible from the app's main menu. Users can initiate conversations with the chatbot at any time.

## **6. Testing and Improvement**

### Testing Methods

- **User Testing:** Engaging real users to interact with the chatbot and collecting feedback.

- Automated Testing: Implementing automated tests to check the chatbot's functionality, including NLP accuracy and response quality.