

# AI based Chatbot to answer FAQ

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**Abstract:** The modern era of technology has had a tremendous impact on society. With the creation of the ultimate virtual assistants, chatbots have become a popular entity in conversational services. Chatbots are software programs that use natural language understanding and processing. Chatbots are not just restricted to helping the user to complete his tasks such as booking a movie ticket or finding the nearest restaurant, but they also provide a source of entertainment, play a major role in home automation projects, give business strategy tips and help in other ways. In this paper, we will provide insight into what a chatbot is and the types of chatbots. We also propose a classification based on the current market trends, ease of usability, and requirements.

**Key-Words:** - virtual, Chatbots, classification, automation.

## 1. Introduction

Chatbots are now replacing human responses with this software. A Chatbot is a computerized program that acts as a colloquist between the human and the bot, a virtual assistant that has become exceptionally popular in recent years mainly due to dramatic improvements in the areas like artificial intelligence, machine learning, and other underlying technologies such as neural networks and natural language processing. These chatbots effectively communicate with any human being using interactive queries.

## 2. Problem Formulation

Everyone knows that conversational Chatbots have revolutionized customer service. Growth has been so spectacular that in 2021, organizations had up to 70% fewer calls, chats, and emails after automating customer service. But it isn't just about implementing AI: you have to make sure your customers have positive experiences. That's where conversational Chatbots play a critical role because more than 30% of your customers are willing to leave your brand after a bad customer service experience.

## 3. Literature Review

The basic idea behind this system is that Chatbots are now replacing human responses with this software because:

- Increased efficiency through the automated answering of standard requests from Voice Bots.
- Reduce waiting times and improve the quality of customer service.
- The implementation of modern, AI-controlled Voice Bots is easy.

## 4. Methodology

The first step in designing any system is to divide it into constituent parts according to a standard so that a modular development approach can be followed. The process starts with a user's request, for example, "What is the meaning of environment?", After the chatbot receives the user request, the Language Understanding Component parses it to infer the user's intention and the associated information (intent: "translate," entities:

[word: “environment”]). Once a chatbot reaches the best interpretation it can, it must determine how to proceed. When the request is understood, action execution and information retrieval take place.

The methodology of the agile model is followed in this project.

The Agile software development methodology is one of the simplest and most effective processes to turn a vision for a business need into software solutions. Agile is a term used to describe software development approaches that employ continual planning, learning, improvement, team collaboration, evolutionary development, and early delivery. It encourages flexible responses to change.

## Agile Methodology



Figure 1.1

The various phases of the Agile model are as follows:

- Requirements
- Design
- Development and Coding
- Integration and Testing
- Implementation and Deployment
- Review

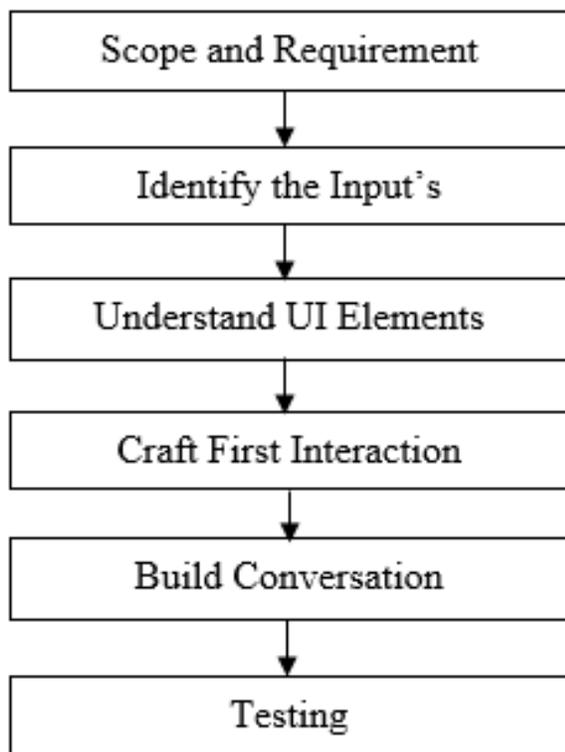
The project will focus on various functionalities and work in the development of the same. The development is divided into multiple releases which will focus on different features, and then all the features will be combined, resulting in one single application. The requirements will be modified according to the resources and needs.

### 4.1 Technology Used:

- (a) Front-end:
  - Python
- (b) Back-end:
  - Python
- (c) Platform:
  - VSCode

## 5. Result Discussions

Chatbots can reach out to a broad audience on messaging apps and be more effective than humans. At the same time, they may develop into a capable information-gathering tool. They provide significant savings in the operation of customer service departments. With further development of AI and machine learning, somebody may not be capable of understanding whether he talks to a chatbot or a real-life agent. We consider that this research provides useful information about the basic principles of chatbots. Users and developers can have a more precise understanding of chatbots and get the ability to use and create them appropriately for the purpose they aim to operate.



## 6. Conclusion

Nearly 70% of consumers prefer chatbots over applications when they want quick answers to simple questions. Roughly 30% of consumers feel that chatbots can help answer complex questions, offer ease of communication, help consumers register a complaint, and provide good customer service. We consider that this research provides useful information about the basic principles of chatbots. Users and developers can have a more precise understanding of chatbots and get the ability to use and create them appropriately for the purpose they aim to operate. Further work in this research would be exploring in detail existing chatbot platforms and comparing them. It would also be interesting to examine the degree of ingenuity and functionality of current chatbots. Some ethical issues relative to chatbots would be worth studying like abuse and deception, as people, on some occasions, believe they talk to real humans while they are talking to chatbots.

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