

# JAARBOT

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**Abstract**—A Chatbot is software to develop interaction between a user/human and a computer/system like human chats. It chats with the client in a discussion to the input of a human and answers the client. It makes the user think it is chatting with a human being, whereas they are chatting with the computer. If it comes to institutions wise, the Chatbot application helps the student and parent to know any information about the college from anywhere with an internet connection and receive fast replies. This Chatbot system reduces the department's work by providing the required information to the student or parent. Also, it reduces the workload to keep on answering all the queries.

**Keywords**—JAARBOT, Chatbot, Admin, User

## I. INTRODUCTION

A *Chatbot* is a Computer Software that helps develop a conversation with the user naturally. Numerous electronic organizations like E-business, Entertainment, Virtual assistance, and others exist. Everything in this generation is getting related to the web. It is incredibly efficient to utilize an approach to manage and benefit everything at the doorstep. The Chatbots are sufficient to fool the users into believing they are talking to a human. They have got a minimal knowledge base at runtime and have no means to keep track of all the conversations. Chatbots are often known as answer engines. This application works very simply because the knowledge is already programmed in advance.[13]

The Chatbot application can simulate conversations with the end-users. The end-user can ask/query anything with this application, and the Chatbot will automatically respond accordingly to the queries/questions. The program has an admin panel where an admin user of this web application will feed the responses for the possible questions that users may ask/query to the Chatbot. The admin panel has many features that are related to Chatbot information. The admin user can also manage some other details of the chat boot, such as the welcome message, no result message for the query, and avatars. Talking about the Chatbot responses, the admin will store information in the system and tag the possible question for that response. The system also stores the questions that no answers to can be found in the database. By this, the admin can check if the questions are relevant to the site. Moreover, the admin user can create a response for that query if it does.

- Why were Chatbots created?

Digitization is transforming society into a “mobile-first” population. As messaging applications grow in popularity, Chatbots are increasingly playing an essential role in this mobility-driven transformation. Intelligent conversational Chatbots are often interfaces for mobile applications and are changing how businesses and customers interact.



Fig1:Chatbot

## II. EXISTING SYSTEM

Tidio has a user-friendly UI/UX, a modern design that suits any business, complete mobile device support as well as a mobile app for Android/iOS, a live preview of what the customer is writing before sending their message, and dozens of other features thanks to which answering the customers' queries will be easier and more convenient than ever. It is not cost-effective.

## III. PROPOSED SYSTEM

A Probable solution can be the implementation of Chatbots. The college administration will be available for students and parents 24x7. No student has to wait to get in touch with any human, i.e., one need not wait for human help. [2]

A Chatbot can give all relevant information on being asked a question. The queries will get resolved without any hassle.

When a Chatbot fails to understand a question, it will tell us that it does not have the specific information, then the asked question will be redirected to the admin page (notification panel), wherein we find all the unanswered queries. Therefore we, i.e., Admin, can either create a response for it or delete it.

An Iterative life cycle does not endeavor to begin with complete detail of necessities. Instead, improvement starts by determining and actualizing simply part of the product, which is then inspected to recognize and promote prerequisites. This procedure is rehashed, creating another rendition of the product toward finishing every model's emphasis.

The basic algorithm that will be implemented for the working of this proposed system is as follows:

**Step 1:** Start.

**Step 2:** Get the input query from the user.

**Step 3:** E.g., Suppose there are this query "Buses."

**Step 4:** Fetch the keyword/s from the query.

**Step 5:** Match the fetched keyword/s with the keywords in Knowledge base, and provide an appropriate response. The keywords will be matched with the help of a keyword matching algorithm.

**Step 6:** Return the query response as an output to the user.

**Step 7:** Exit.

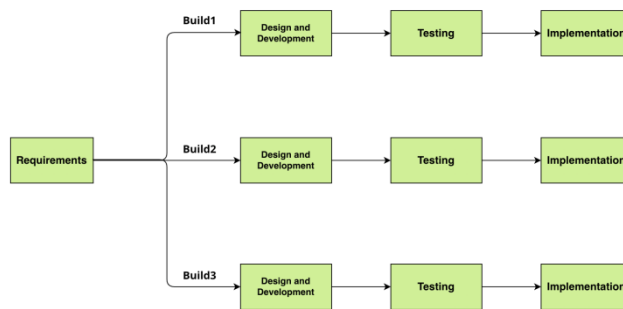


Fig 2:Methodology

#### IV. SYSTEM ARCHITECTURE

*Flow chart:*

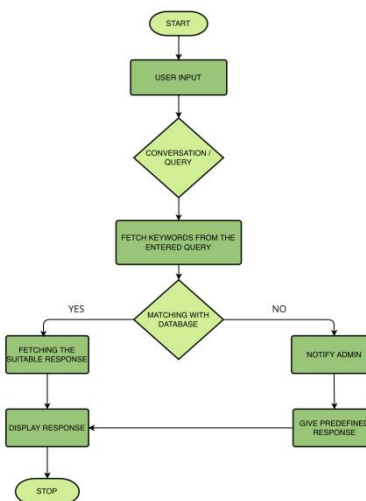


Fig3:Flowchart

A flowchart is a visual representation of the sequence of steps and decisions needed to perform a process. Each step in the sequence is noted within a diagram shape. Connecting lines and directional arrows link steps. It allows anyone to view the flowchart and logically follow the process from beginning to end. Below Figure 3 is the flow chart of JAARBOT.

#### V. MODULE

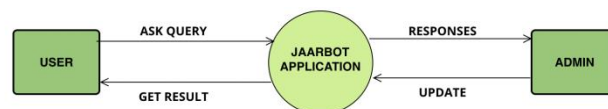


Fig4:Module

Figure4:We have three phases here: A User, JAARBOT Application and Admin. When a user types a query, the JAARBOT fetches the keyword from the query and checks whether it matches with the database. If the database contains the entered query(keyword), the response is shared with the user

else it notifies the admin. He /She can create or delete that query. Admin gets the log of the user every now and then. So he will be able to see what are all the questions typed by the user.

## VI. UML DIAGRAM

### *Use Case Diagram:*

Use Case Diagram to portray the dynamic aspect of a system. It accumulates the system's requirement, which includes both internal as well as external influences. It invokes persons, use cases, and several things invoke the actors and elements accountable for implementing use case diagrams. It represents how an entity from the external environment can interact with a part of the system. Figure 5 shows the UseCase Diagram of JAARBOT; The primary purpose is to identify the requirements. We have two avatars here, i.e., User and Admin. The User's requirement is to Chat and gets the information, whereas the Admin requires viewing, updating, deleting, and adding the information and parallelly viewing the logs and deleting the logs.

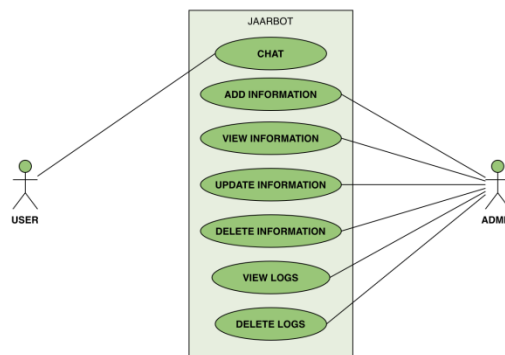


Fig5:Use Case Diagram

### *Sequence Diagram:*

A Sequence Diagram illustrates the sequence of messages between objects in an interaction. It consists of a group of objects represented by lifelines and the messages they exchange overtime during the interaction.

It shows the sequence of messages passed between objects. As shown in Figure 6, lifelines in a Sequence Diagram for the JAARBOT application can represent a student, parent, guest or Admin. The communication between the student or parent, JAARBOT, and Admin is represented by messages passed between them. Software developers widely use these diagrams to document and understand requirements for new and existing systems.

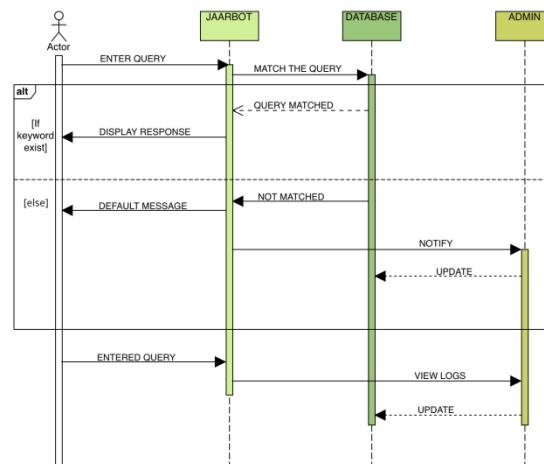


Fig6:Sequence Diagram

## VII. RESULT AND TABLES

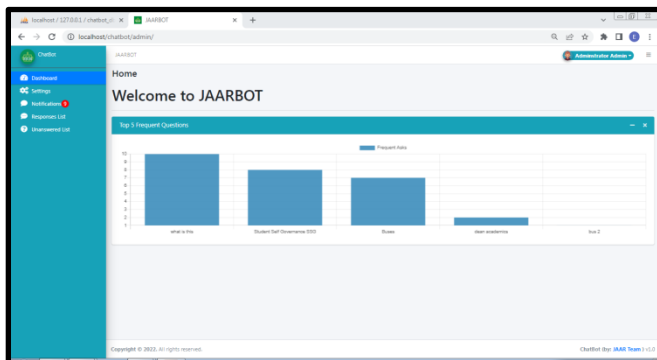


Fig: Admin-Dashboard

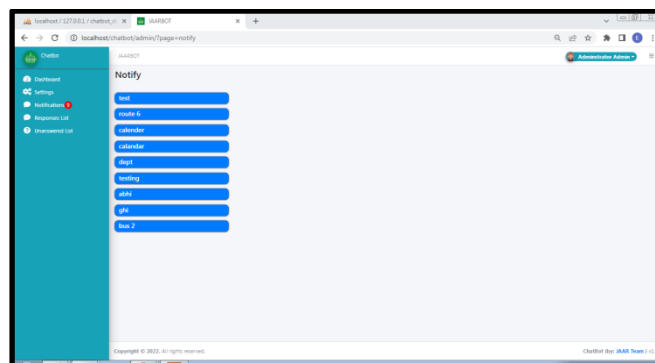
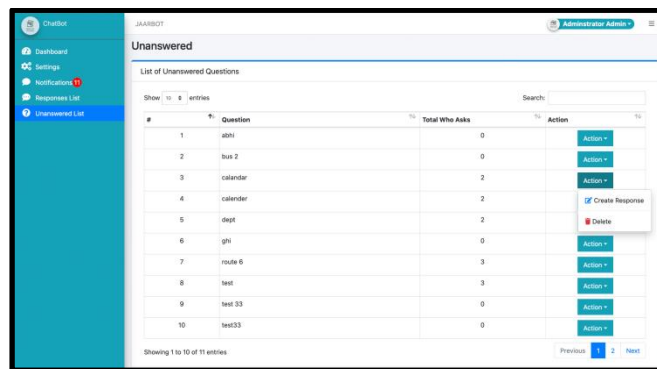


Fig: Notification



The screenshot shows the 'Unanswered' section of the JAARBOT interface. It features a sidebar with navigation options: Chatbot, Dashboard, Settings, Notifications, Responses List, and Unanswered List (selected). The main area displays a table titled 'List of Unanswered Questions' with columns for #, Question, Total Who Asks, and Action. The table contains 10 rows of data. A search bar is located at the top right of the table. A dropdown menu is open for the first row, showing options: 'Create Response' and 'Delete'.

#	Question	Total Who Asks	Action
1	abhi	0	Action +
2	bus 2	0	Action +
3	calendar	2	Action +
4	calendar	2	Action +
5	dept	2	Action +
6	ghi	0	Action +
7	route 6	3	Action +
8	test	3	Action +
9	test 33	0	Action +
10	test33	0	Action +

Fig: Unanswered List

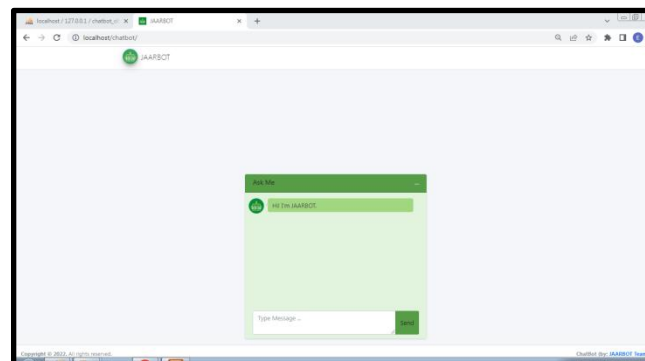


Fig: JAARBOT

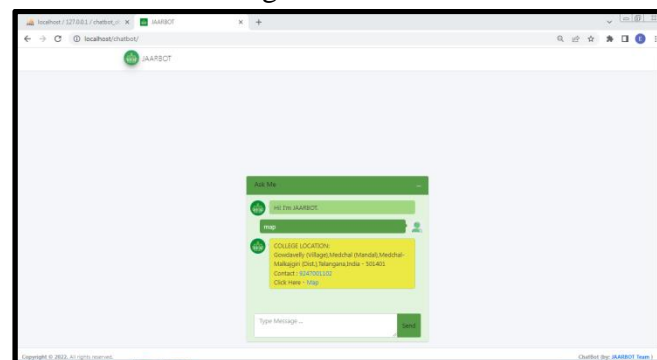


Fig: Test Case-01

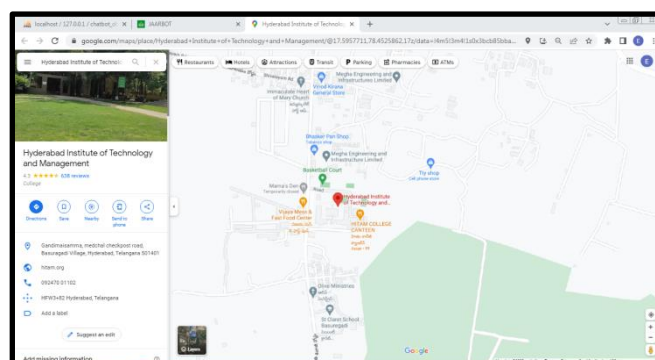


Fig:Test Case-01 (Result)

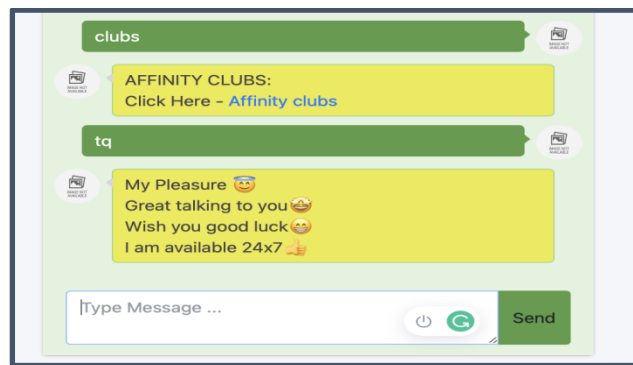


Fig:Test Case-02

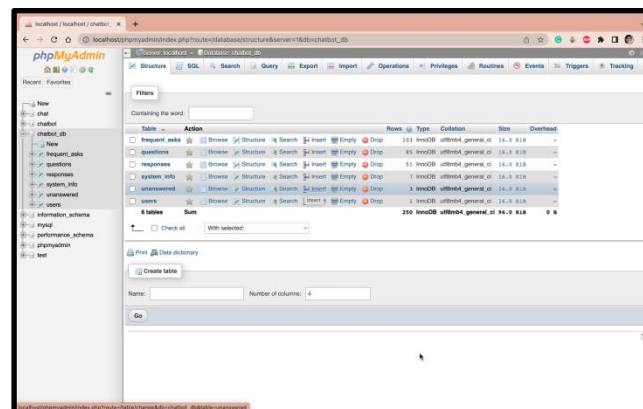


Fig:Database table

## VIII. CONCLUSION

The main objective of this Chatbot was to develop an algorithm called pattern matching, which will identify the user queries and respond accordingly. If a query is not found, it notifies the admin, and then the admin takes the unanswered queries from the notification panel and creates or deletes responses accordingly. In this way, this application helps effectively communicate with the student, parent and administration.

## IX. FUTURE WORK

In the future enhancement of our project, we can include speech-based questions and responses. The users need to provide voice-based input, and the developed bot will provide the text-based output, and while giving it, it will provide a voice-based output as well. Just through speech-to-text and text-to-speech, we can improve the functionality of our project.

## X. ACKNOWLEDGEMENT

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