



Campus Interactive Chatbot for Students

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Article History	Abstract
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 29 Nov 2023	<p>Chatbots are the Bots where user gets the information which he needed from the Bot in natural language without getting help from the third party or a person. In this paper Campus interactive chatbot uses an artificial Intelligence that analyses the user query and understand the user message later provide a response based on the user query. Students should individually need to go to college if he need any information like courses offered by the college, college timings, admission process, etc. from help desk. This process is timing consuming and requires manpower to provide information to the students. Hence, Interactive chatbots can developed to provide information to the user.</p> <p>Keywords: Chatbots, Interactive Chatbots, Artificial Intelligence, JSON, College bots</p>
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1. Introduction

Chatbot is a software where it will communicate with client in natural language. Typically Chatbot will invite the client to interact with the Bot by asking questions. When the user replies, the bot parse the user input and figure out the intention user question and finally respond in consequential manner either providing the information or further asking the details related to the question before providing the final answer.

After Completing 12th standard or Diploma students take admission to engineering. Before taking admission, the students and parents face many problems related to selection of college, Courses and ranking cutoff of the colleges. So some students or parents physically go to the college or contact to that college to get information related to the admission process. Even colleges will faces some difficulties to provide the repeated information to students or parents [2].

The implementation of chatbot will solve the problem of both students and College admission department related to the query based on the admission process. This paper contains the details of 21 colleges based on the courses offered by that college, timings, previous year cutoff details, etc. where students can get information related to the admission process of all 21 colleges in one application [3-19].

LITERATURE SURVEY

Neelkumar P. Patel, Devangi R. Parikh, Prof. Darshan A. Patel and Prof. Ronak R. Patel, "AI and Web-Based Human-Like Interactive University Chatbot (UNIBOT)".2019

In paper [1] the authors Neelkumar P. Patel, Devangi R, Prof. Darshan A. Patel and Prof. Ronak R. Patel built a Unibot or University Bot where it uses a Dynamic approach like preprocessing the message prior to looking for a message. The client enters the message in the content field. The message is quickly shown in interactive chat window with the assistance of jQuery.

Sangeeta Kumari, Zaid Naikwadi, Akshay Akole and Purushottam Darshankar, " Enhancing College Chat Bot Assistant with the Help of Richer Human Computer Interaction and Speech Recognition".2020

In paper [2] the authors Sangeeta Kumari, Zaid Naikwadi, Akshay Akole and Purushottam Darshankar built a chatbot application for college admission process enquiry purpose where it helps the students or parents to get information related to the query based on the Admission process for the students who are

completed 12th standard or Diploma and willing to join Engineering. The chatbot assistant can interact with bot in three ways Text, Speech and Card interface.

Ms.Ch.Lavanya Susanna, R.Pratyusha, P.Swathi, P.Rishi Krishna and V.Sai Pradeep, “COLLEGE ENQUIRY CHATBOT”.2020

In paper [3] the authors Ms.Ch.Lavanya Susanna, R.Pratyusha, P.Swathi, P.Rishi Krishna and V.Sai Pradeep developed a College Enquiry messenger bot that is used to interact with the user which provide information to the user related to the Courses offered by the college, Fee structure, Location, Infrastructure, Emcet Ranking, etc. which will be helpful during the admission process. The main benefit of this project is if the question is not found in the dataset, then it will collect the information from the user and one person from the college will contact the user personally regarding the information needed based on college information.

PROPOSED SYSTEM

The Campus Interactive chatbot for students is developed with the help of Chatbot.com which is AI Chatbot software used to build the Chatbot for customer services. The users will chat with the bot in text and Card interface format where card interface provide multiple options to the user regarding the query option which the user have been selected. User need to select the option and submit the query later the bot will provide the information related to the option we have submitted. If the answers are found to be invalid or not detectable than bot replies with a significant message “Sorry for the inconvenience, please would you want to continue with the previous step?” later Admin or developer will read invalid answer through portal via login framework, it allows the admin to solve the invalid answer also the query will be updated and makes sure next time whenever the user tries with same question it won't get error during that step.

The campus interactive chatbot contains the details of 21 colleges which are further divided by the region namely Bangalore north, south, east and west. All regions contains the college lists respected to the regions they belongs which helps students lot more easier to select the college based on the region they leave or interested to join. College lists contains the information of courses offered by that college, college timings and for further details of that college the bot contains a link of that college where it will redirect to the official website of that college. Bot provides previous year cutoff of each courses which helps students to get information based on the entrance exam ranking.

PROCESS FLOW DIAGRAM

Process flow diagram of Campus Interactive Chatbot for students shows how the basic steps will take places for providing the response to the user query. From the below flow diagram initially Bot asks query to a user, when user select the query option which he need an information based on that the query will be processed. The processed query will compare the requested query in database, if the query matches it provide the information based on the matched query or if the query not matches or invalid it provide a relevant message like “Sorry for the inconvenience, please would you want to continue with the previous step?”.

The below diagram shows the flow diagram of Interactive chatbot:-

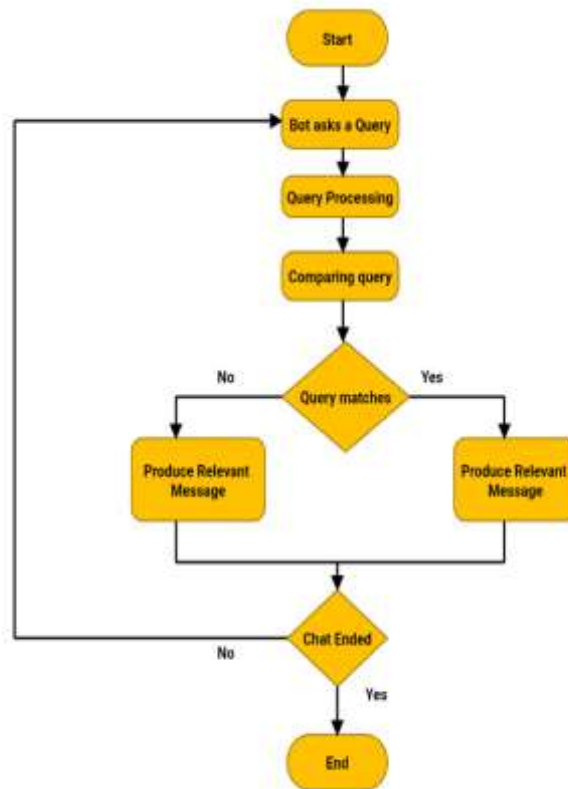


Fig. 1 Flow Diagram for Campus Interactive Chatbot.

IMPLEMENTATION

The below diagram shows the implementation of the proposed Campus Interactive Chatbot system:-

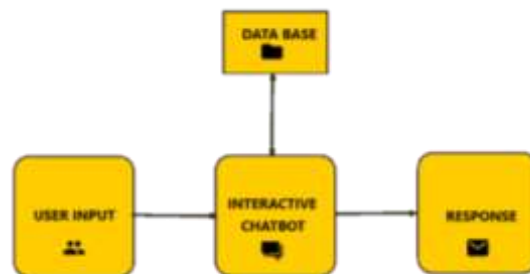


Fig. 2 Block Diagram of Campus Interactive Chatbot.

From the block diagram we can see that question entered by the client are processed and checks the matching keyword from the dataset if the information exist it provide a correct answer to the user or if the keyword not valid or not matched the bot provide a relevant message to the user.

A. Algorithm Implemented

Campus Interactive chatbot uses keyword matching or string matching algorithm. The algorithm for the implementation of interactive chatbot as follows:

1. Bot asks the question to the client.
2. Client selects the related question option for information.
3. Now, Bot performs the following to the user selected question:
 - First check each word if the words spelled correctly. If not, show comparative ideas to the client and perform activity dependent on that.
 - Split the message into words.
 - Check the words, whether present in the dataset into an array called “keywords/Matching words”.
 - If the words present in the data set at that point show the response to the client.

- If the multiple rows are produced, at that point to show alternatives to the client with the assistance of "title" section in the table.
- If no outcome is coordinated. If no result is matched. Then check all the Matching words in the dataset. Do the following:
 - If a match is found, store the client's question and found answer in the table. So, if client asks the similar question in future then we can provide an answer.
 - Otherwise, show "Sorry for the inconvenience, please would you like to continue from the previous step?" message.
- Based on alternative chosen or another message entered in chat window. Go to step 2.

Database Design

The dataset is the most important piece of any application. The table is made in such a way that if a question has more than one answers, they are put away in numerous answer fields. Likewise, the questions just contains Matching words or Keywords instead of specific natural language questions.

Table 1: Query and Answers

Query ID	Title	Query	Answer 1	Answer 2	Answer 3
1	Welcome	Hi	Hello please select the region			
2	College List	Bangalore North	Reva University	NMIT	Nagarjuna College
3	Timings	Reva University	The College timings of Reva University starts from 8:30am – 4:20pm.			

ADVANTAGES

- Students no need to physically visit the college to get the information related to college during Admission process.
- Even now a days all college consist their personal Chatbot, but campus interactive chatbot consist the details of 21 colleges which helps the student to get admission to the college during admission process.
- This application helps students, parents and even the institutions by time saving, better information providing, etc.

DISADVANTAGES

- This application need Internet connection to interact with chatbot.
- The response will be moderate if too many users try to access the chatbot simultaneously.

APPLICATIONS

- Campus interactive chatbot helps students to get useful information related to the college, Timings, Courses offered by the college, etc. during admission process for students who are willing to join Engineering after completing 12th standard or PUC.

- Chatbots can be used in most of the institutions across the country to interact with the students as well as parents, even chatbots can be used in Business related industries like customer care, shopping websites, restaurants, etc..

3. Results and Discussion

The result of this paper Campus interactive chatbot was successfully tested to check its viability and attainability. In this paper we have developed an application where user can interact with chatbot to get information related to the colleges located in the Bangalore region before joining engineering. The below figures shows some of the outputs related to the campus interactive chatbot:

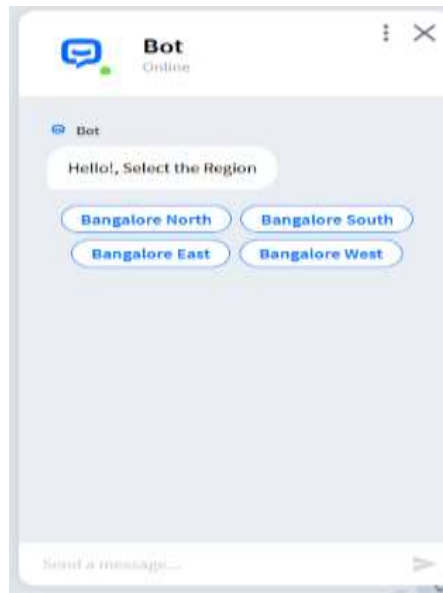


Fig. 3 Screenshot of the chatbot showing the college regions.

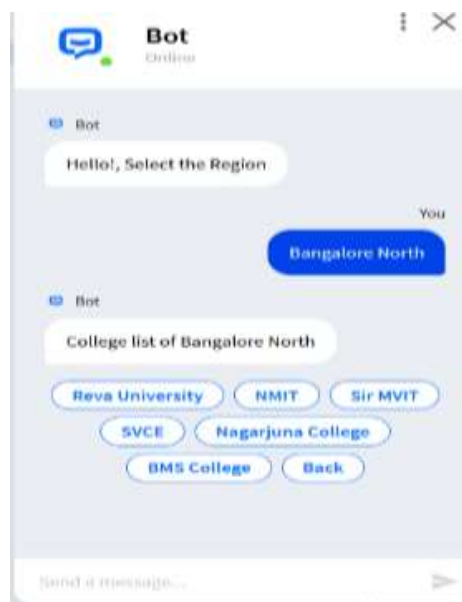


Fig. 4 Screenshot of the chatbot showing the college lists when the user selects Bangalore north.



Fig. 5 Screenshot of the chatbot showing the college courses list when user selects particular college.

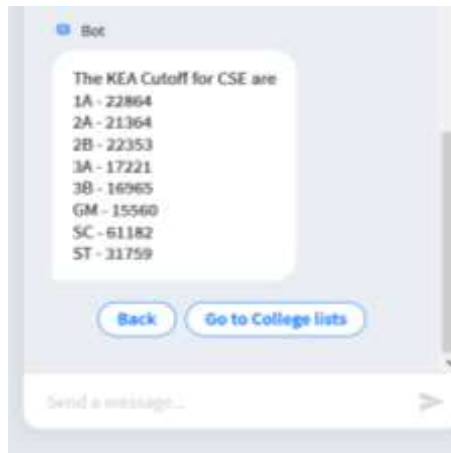


Fig.6 Screenshot of the chatbot showing the previous year cutoff when user selects particular course details.

4. Conclusion

A chatbot is a best way to interact with the user in natural language and provide quick response based on the query asked by user with relevant message or information. This paper provides the details of 21 college located in Bangalore region. College lists are divided by 4 regions Bangalore north, south, east and west region respectively which helps student to select the college based on travel convenience and timings. In this paper we can also view previous year college cutoff all the courses offered by the specific college.

Future Scope

The further future enhancement of this paper, we can extend college details not particular to one region of a city but also extend it to across state or country. We can also include voice-based interaction with the chatbot where user can ask query using their voice to get information from the bot.

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