Research Paper on Chatbot Development for Educational Institute

School of Computer Science Engineering and Technology

Dr. Vishwanath Karad MIT World Peace University

Pune, India - 411038

Email: k.shingte07@gmail.com, anuja21ch@gmail.com, aditeepatil24@gmail.com,
anushreechaudhari6@gmail.com, sharmishta.desai@mitwpu.edu.in

Abstract: A chatbot is a software that is used to develop interaction between a user/human and a computer/system in a natural language like human chats. Chatbots chat with the client in a discussion according to the input of a human and answer to the client. It makes the user think that it is chatting with a human being where as they're chatting with the computer. The chat bot application helps the student to know about the admission process of the college from anywhere with internet connection and receive fast replies. This chatbot system reduces the work of admission process department by providing the required information to the students or parents and also reduces the workload of the department to keep on answering all the queries of the students.

Keywords: Chatbot, Artificial Intelligence, Enquiry, Response, Query.

1. Introduction

A chatbot is a computer software that helps in developing a conversation with the user in a natural way. The continuous development of Information Technology and communication has made artificial intelligence more complex. Artificial Intelligence systems are using human activities such as taking a decision at a particular moment, performing day to day tasks, replying to the users quickly and solving the queries in the same way as the humans would do. There are numerous electronic organizations like E-business, Entertainment, Virtual assistance and some more. Everything in this generation is getting related with the web. It's extremely efficient to utilize approach to manage benefit everything at your doorstep. The chatbots are sufficient to fool the users in believing that they're talking to a human being, they've a very limited knowledge base at runtime and have no means to keep track of all the conversations. Chatbots uses machine learning to reach AI for helping them to understand the user queries/doubts and provide the user with an appropriate response. They are developed using the Artificial Intelligence Markup Language for communicating or interacting with the user. Chatbots are often known as answering engines. This applicatio0n work in a very simple way because the knowledge is already programmed in advance. Few methods used in the application are pattern-matching, natural language processing and data mining. Chatbot matches the input sentence from the user with the that of the existed pattern in the knowledge base. Each pattern taken is compared with the knowledge of chatbot and this knowledge has been taken from various sources.
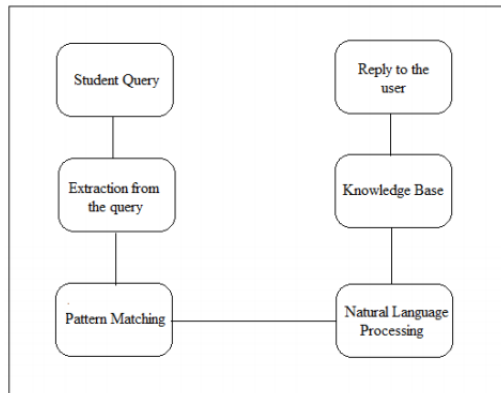
2. Literature Review

There are many applications that are consolidating a human appearance and are trying to reproduce human exchange, but in majority of cases the information used for conversation in bot are put in the database created by a human specialist. By using AI, we can develop we can develop different types of chatbots, in this paper we have developed a College Enquiry chatbot. It has variety of fields like Enquiry process, Fees structure, Course details, Eligibility criteria description and Admission. This paper depicts a way in which we can deal with recognizing the most critical realities in writings depicting the life of an authentic figure for building a conversation operator that could be utilized as a part of center school CSCL situations. CSCL is implemented online and in classroom learning environments, it takes place synchronously and asynchronously. The study of CSCL learning includes academic disciplines, including instructional technology, educational psychology, sociology, cognitive psychology and social psychology. Benton and Radziwill (2017) described a chatbot as the medium of interacting with humans online, where as they're actually interacting with a computer software, put to reality by natural language input. Others define it as a computer program which imitates conversation with users, applying artificial intelligence. Schlarl (2004) explains that chatbot is a software that permits textual communication using natural language. It is difficult of the users to accept that it's not a real human, which in turn further highlights the critical importance for a large knowledge base that is the existing set of rules a chatbot has. (Scharl,2004). Chatbots will soon become one of the best ways for organizations to get in touch with the individual users and solve their queries quickly. (Moore 2017). Furthermore, key development concerning the   growth of messaging services and the advances in Artificial Intelligence have largely attributed to the recent interest in chatbots.(Guzman&Pathania,2016) Chatbots are living in task individual applications and duplicating a conversation with a human to enlightening, conversational or esteem based.

3. Proposed System

A College Enquiry Chatbot is developed using chatterbot algorithm that is a python library that makes it easy to generate automated responses to a user's input. This makes it easy for developers to create chat bots and automated conversations with the users. Some of the chatterbot tasks performed are Present some information and taking inputs. The proposed system is an internet application that provides answers to the queries provided by the college administrators. Users will put the questions through the chatbot that's used for chatting, questions can be related to the Enquiry process, course details ,eligibility criteria description and Admission. The answers depend on the user queries. The users do not need to go to the college for enquiry always. The chatbot examines the inquiry and after that responses to the user. The framework answers to the queries of the user as though it is replied by the individual.

The proposed system simply takes the query from the user which can be a student or a parent, the chatbot will match the queries of the student or parent with the knowledge base and the appropriate response. The users can raise any college connected activities through the College Enquiry Chatbot. The Chatbot system answers to the query as if it's answered by the real person. The chatbot replies with the assistance of a decent GUI that suggests that as if a real person is rebuke the user. This chatbot guides the students through the college enquiry process with just a click on the chatbot.

The proposed system can also reply to general queries regarding the college enquiry process. The algorithm of the complete system can be understood by the following flow chart.
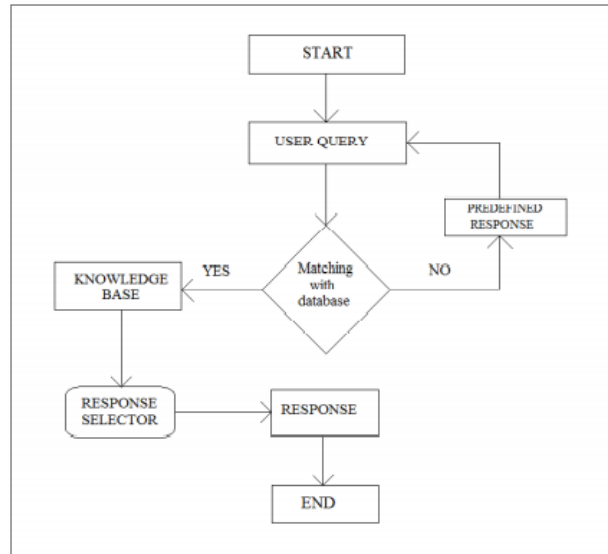
Flow Chart diagram for College Enquiry Chatbot Fig.2

4. Applications

- College enquiry chatbot helps students to get the right source of information.

- Not only our chatbot but any chatbot will provide them with an instant as well as accurate response.

- AI based Chatbot system can be used by colleges and businesses.

5. Results and Discussion

The proposed system was successfully tested to show its effectiveness and achievability. It reduces the manpower, time of college administrators and paper work. It also reduces the efforts of the students to travel all the way to college for enquiry purposes. In this paper we have a developed a chatbot which will interact with the users and provide all the college related information. The student/parent and the college admin are interacted through a chatbot. The questions which are not answered by the chatbot will be updated by the college admin.

Output

```
+ Code    + Text
```

```
      else:
          response=bot.get_response(request)
          print('Bot: ', response)
```

```
Enter Your Name: anuja
Welcome to MIT world peace University! Let me know how can I help you
anuja:hi
Bot:  How are you doing?
anuja:good
Bot:  I am sorry, I do not understand. I am still learning. Please contact helpMit@.com for further assistance.
anuja:ok
Bot:  In university, which department are u interested?
anuja:college of engineering
Bot:  Department : polytechnic,Bachelor Of Engineering ( B. E. ),Master Of Techonlogy (M.Tech)
anuja:polytechnic
Bot:  1) Computer Engineering 2) Mechancial Engineering 3) Civil Engineering 4) Electronics and Telecommunication Engineering
anuja:structure for fee
Bot:   FEE per Year for all Branches are 310000, It will be change in future as per institute managment
anuja:last date for admission
Bot:   30 June,please entroll you sit as soon as there is limited seat
anuja:thank you
Bot: welcome
```

```
name = input('Enter Your Name: ')
print ('Welcome to MIT world peace University! Let me know how can I help you')
while True:

    request = input(name+':')

    if request=="thank you" or request=='thank you':
        print('Bot: welcome ')
        break
    else:
        response=bot.get_response(request)
        print('Bot: ', response)
```

```
Enter Your Name: anuja
Welcome to MIT world peace University! Let me know how can I help you
anuja:hi
Bot:  How are you doing?
anuja:good
Bot:  I am sorry, I do not understand. I am still learning. Please contact helpMit@.com for further assistance.
anuja:
```

```
Executing (4s) Cell > raw_input() > _input_request() > recv() > recv_multipart()
```

The last image shows how the chatbot replies to incorrect message.

6. Future Scope

In the future enhancement of our college enquiry chatbot, we can make it more interactive in various different languages for users located in different regions. we can include speech based questions and responses for people who cannot read and type their quires. The future chatbot should not only provide the answer but also the solution to the problem of the student or parent. The College Enquiry Chatbot

should not only provide the admission related information but also college achievements, placements related information and scholarship related information.

7. Conclusion

The main objective of this chatbot was to develop an algorithm which will identify the user questions or queries and answer according. To develop a database were all the related data is stored and matched with the questions when question is raised. We successfully developed a chatbot in which the student or parents can ask a query related to the Enquiry process, course details, eligibility criteria description and Admission. The chatbot analyses the question and gives the response accordingly.

References

Kumar Shivam; Khan Saud; Manav Sharma; Saurav Vashishth; Sheetal Patil , "Chatbot for College Website" in International Journal of Computing and Technology, June 2018.

Ms.Ch.Lavanya Susanna and R. Pratyusha, "COLLEGE ENQUIRY CHATBOT" in International Research Journal of Engineering and Technology (IRJET) on 3rd March 2020.

Guruswami Hiremath, Aishwarya Hajare, Priyanka Bhosale and Rasika Nanaware, "Chatbot for education system" in International Journal of Advance Research, Ideas and Innovations in Technology.

Johan Redström, Patricija Jaksetic and Peter Ljungstrand,"The ChatterBox" in RISE Research Institutes of Sweden.

Punith, Chaitra, Veeranna Kotagi , Chethana R M," Chatbot for Student Admission Enquiry" in Journal of Advancement in Software Engineering and Testing.

Emil Babu and Geethu Wilson,"CHATBOT FOR COLLEGE ENQUIRY" in International Journal of Creative Research Thoughts.