

AI and Web-Based Human-Like Interactive College Enquiry Chatbot

Prof. Vilas Joshi¹, Om Mahajan², Om Hatgaonkar³, Rushikesh Koli⁴, Rohan Kawar⁵

¹Guide: Prof., Department of Computer Engineering, ISB&M-COE, Pune, India
^{2,3,4,5}Student, Department of Computer Engineering, ISB&M-COE, Pune, India

ABSTRACT

Most of the time, Students have to visit universities or colleges to collect various information like Tuition fees, Term Schedule, etc. during their admission process or as per their daily needs. This process is very tedious and time consuming, also it requires manpower in providing required information to visitors. Hence, to overcome the problems a chatbot can be developed. The project is about interaction between users and chatbot which can be accessed from anywhere anytime. The chatbot can be easily attached with any university or college website with few simple language conversions. Chatbot provides various information related to university or college and students-related information. The chatbot can be used by anyone who can access the university's website. The project uses the concept of Artificial Intelligence and Machine Learning. PHP Language is utilized for the development of Chatbot. User can ask university-related questions, then the query is applied as an input to algorithm, which processes the message and displays the corresponding response to the user. The Project GUI is similar to a Messaging Application.

Index Terms - Artificial Intelligence; Chatbot; Human-like interactive; Machine Learning; University Chatbot.

INTRODUCTION

A chatbot is a software application used to conduct an online chat conversation via text or text-to-speech, in lieu of providing direct contact with a live human agent. Designed to convincingly simulate the way a human would behave as a conversational partner. Bots can be created by using language like Artificial Intelligence Mark-up Language (AIML), a language based on XML that allow developer's write rules for the bot to follow. Another drawback is writing rules for different scenarios is very time consuming and it is impossible to write rules for every possible scenario. So these bots can handle simple queries but fail to manage complex queries is stated in paper. In paper the chat-bot system is been proposed and designed using chat fuel platform and integrated in Facebook page. The chatbot has been designed to provide students feel like talking to the staff from college and their queries are addressed through the conversational text. Responses can be provided to the user in text format, pictures and with many more features provided by the chat fuel. The setup AI feature makes the bot smart and answers the queries of user.

The project deals with user's request in form of question based message and processes it to deliver a desired response in form of message. It solves the process of visiting colleges and gathering related information as per the needs, as it is time consuming. Also, the user can communicate to admin office with telephone number provided but doesn't receive a positive feedback. The project is a web-based chatbot. Graphical User Interface (GUI) is much similar to messaging application, which provides a friendly environment to the user as they are much aware of operating messaging applications. The user types a question and on performing submit, the message is preprocessed and the most relevant information from the database is provided as a response in similar way of messaging.

Developing a chatbot solves the problems that can arouse in gathering required information. It can be accessed from anywhere at anytime. In various websites, users are not able to find the required information on website which in turn end up closing the websites, which can be fulfilled by using chatbot. Presently, there are various chatbots available like ALICE bot which uses AIML(Artificial Intelligence Mark-up Language) and program Eliza. Such chatbot performs pattern matching which requires particular patterns to be matched. It delivers efficient and relevant response to the user

corresponding to their entered message. The interface is effectively interactive. The time of response is minimal. It requires less memory and database hits are very less. Majority of the time, the provided reply satisfies the user's requirement. The algorithm defined in this paper can also be used as back-end to develop android chatbot applications like or in health care areas for faster and efficient response.

LITERATURE REVIEW

A literature survey is a comprehensive summary of previous research on a topic. The literature review surveys scholarly articles, books, and other sources relevant to a particular area of research. It should give a theoretical base for the research and help you (the author) determine the nature of your research.

Prof. Ram Manoj Sharma proposed a college enquiry chatbot system which has been built by using Artificial Intelligence algorithms. The bot analyses user's query and understands user messages. The system has modules like Onlinechatbot, Online Noticeboards etc.

P.Nikhila, G.Jyothi, K.Mounika, Mr. C Kishor Kumar Reddy and Dr. B V Ramana Murthy , they have designed using AIML (Artificial Intelligence Mark-up Language) to make response to queries. AIML is employed to make or customize alicebot that could be a chat-bot application supported ALICE free code .

Harsh Pawar , Pranav Prabhu, Ajay Yadav, Vincent Mendonca , Joyce Lemos , a chatbot is designed by them using knowledge in database. The proposed system has Online Enquiry and Online Chatbot System. The development is done using various programming languages by creating a user friendly graphical interface to send and receive response. The main purpose is it uses SQL (Structured Query Language) for pattern matching which is been stored in program .

NiteshThakur, AkshayHiwrale, SourabhSelote, AbhijeetShinde and Prof.NamrataMahakalkar , proposed an artificial chatbot using NLP (Natural Language Processing) which can be done in two ways the first via written text and the second is via verbal or voice communication. Written communication is much easier than the verbal communication. This paper introduces an interest in some emerging capabilities for evolving speed understanding and processing in virtual human dialogue system.

METHODOLOGY

The proposed methodology makes use of both qualitative and quantitative perspectives, and includes a broad array of approaches such as literature reviews, expert opinions, focus groups, and content validation. The proposed system will have the following modules:

A] Online Enquiry: Students can enquire about facilities and query related to exams, academics, fee structure, etc. Students can also ask questions related to placement activities.

B] Online Chatbot: The result can be showed in the form of images and card format or in text format. The query will be answered on the basis of questions asked and the language model built and also the response media created. Users that want to enquire about the college at the time of admission or any competition held in the college can query to the chat-bot.

Given below is the system architecture of this chat-bot:

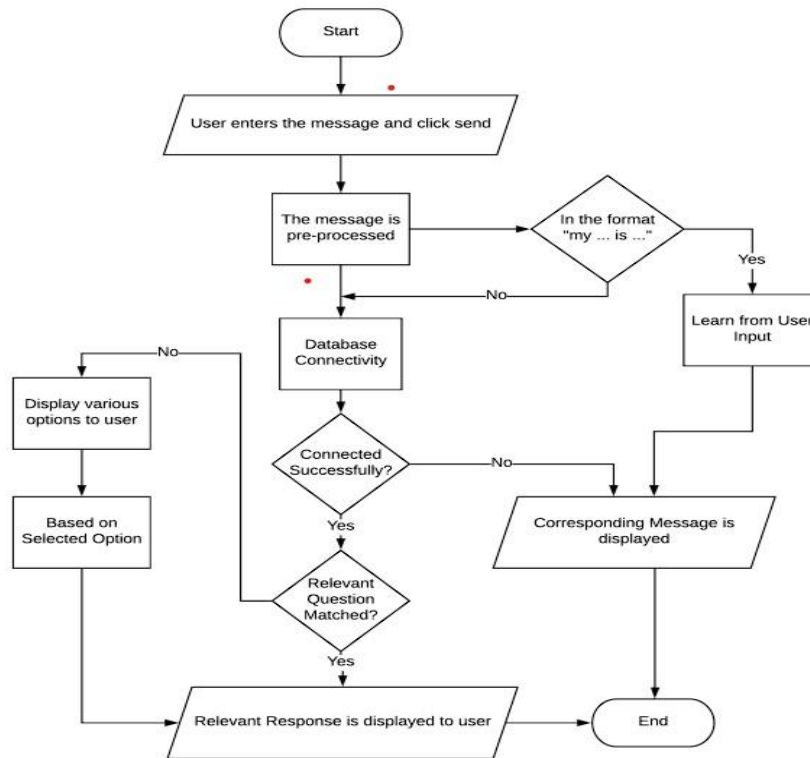


Fig. 1: Flowchart

C] Algorithm Implemented:

A totally new algorithm is developed & implemented. It is very efficient, requires less memory and has minimal database hits. The algorithm is as follows:

1. Accept the message from the user.
2. Now, perform the following to the accepted message:
3.
 - Firstly, check each word whether it is spelled correctly or not. If not, show suggestions to the user as shown in Fig. 1 and perform operation based upon selected option.
 - If Yes is selected, perform the following operation using the suggested string.
 - Otherwise, perform the operations using the user's previous string.
 - Split the message into words.
 - Execute an SQL using Regular Expression to check the words are available in the database.
 - Store the words present in the database into an array called "important words".
 - Execute SQL query using the above array words.
 - If the result of above step produces single row then display the answer to the user.
 - If multiple rows are produced, then display options to the user with the help of "title" column in the table.
 - If no result is produce, then check all the keywords in "Answer" columns. Do the following:
 - If a match is found, store the user's question and found answer into another table. So, if same question is asked, the chatbot can provide answer.
 - Otherwise, display sorry message to user.
- Based on options selected or another message entered, Go to step 2.

CONCLUSION

The goal of the system is to help the students to stay updated with their college activities. Artificial Intelligent is the fastest growing technology everywhere in the world, with the help of Artificial Intelligent and Knowledgeable database. We can make the transformation in the pattern matching and virtual assistance. This system is developing chat bot based on android system so with the combination of Artificial Intelligent Knowledgeable database and virtual assistance. We can develop such chat bot which will make a conversion between human and machine and will satisfy the question raised by user. The main motive of the project is to reduce the work load on the college's office staff and reduce the response time to a user's query.

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