



College Enquiry Chatbot System

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Abstract: A chatbot aims to make a conversation between both humans and machines. The machine has embedded knowledge to identify the sentences and make decisions as a response to answer a question. Chatbot will be completely based on a text-based user interface allowing the user to type commands and receive a text as well as a text-to-speech response. Chatbots are usually stateful services, remembering the previous command in order to provide functionality. It can be utilized securely by an even large audience when chatbot technology is integrated with popular web services. The college enquiry chatbots will be built using artificial algorithms that analyse users' queries and understand users' messages. The system answers the query asked by the students. The system replies using an effective graphical user interface as if a real person is talking to the user. The user just has to register himself to the system and has to log in the system. Natural Language Processing technology is used for parsing, tokenizing, stemming, and filtering the context of the Complaint.

Keywords: Chatbot, Database, Android Studio, SQLite.

I. INTRODUCTION

Chatbot also known as a talk bot, chatterbox, bot or artificial conversational entity is a computer program that mimics human conversation in its natural format including text or spoken language using artificial intelligence techniques such as natural language processing, image and video processing and audio analysis. Chatbot for college management system projects will be developed using artificial intelligence algorithms that will analyse users' queries. This will be an Android application that will answer the user's analysed queries. The answer will be given using artificial intelligence algorithm users won't have to go personally to the college enquiry. The users have to register to the system and have to log in to the system. After login user can access the various helping pages. There will be various helping pages through which the user can chat by asking queries about college activities. The user can query about college-related activities with the help of this Android application. College-related activities such as fee structure, sports day, departments, course details, results etc. It will help the students/user to be updated about the college activities.

II. LITERATURE REVIEW

A. Agnese Augello, Giovanni Pilato, Alberto Machi',[1] Information accessibility system known as chat-based (QA) system attempt to respond to natural language queries by offering responses rather than a list of document links. QA systems use linguistics found in natural language processing to choose the most pertinent responses. They differ primarily in terms of the knowledge sources and dialogue systems (NLDS) are an appropriate and convenient means of accessing information due to their breadth. Semantic enhancement-based quality assurance system and the adoption of domain-oriented chatbot technology created as part of an industrial project (FRASI).

B. Emanuela Haller, Traian Rebedea Faculty of Automatic Control and Computers university Politehnica of Bucharest,[2] To actively create responses as a result of a domain-specific deduction process, and to automatically populate, offline, the chatbot's knowledge base with sentences that can be derived from the ontology, representing the concept involved in the conversation's relationships and attributes. The second step is to pre-process the user's input into a simpler structure that may be directed to already existing chatbot queries.

C. Dungeon Lee, Kyo-Joong Oh, Ho-Jin Choi School of Computing, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea,[3] The basic purpose of chatbots is to facilitate dialogue between humans and machines. Administrators provide the machine knowledge so it can recognize sentences and decide for itself how to respond to an enquiry. Indonesian conversational pattern was used in the chat and MySQL was the database used for this project. While connecting the chat application to the database, it may fail to define a sentence and how to respond to it.

III. DESIGN METHODOLOGY



A. Model Approach

Chatbots are designed to provide communication between humans and machines. Admin feeds information to the chatbot as a database so that the machine can identify the sentences and take the decision itself to answer a question as a response. The function of connecting the chatbot to the database is done by SQLite. In the pattern-matching operation knowledge representation and implementation, SQLite is needed. To provide a response based on user-submitted questions, the database is checked using some validation algorithm. If in query did not store the database then will be notified to the admin will work on that or it will add that query output.

Chatbots can be identified as information-accessing systems as they try to answer questions directly instead of just giving some document links. The aim is to provide exact information related to user-submitted queries. So, the chatbot was implemented using pattern-matching chatbot technology.

B. Chatbot Responding System

1. NLP Processing and Sentiment Analysis for Complaint:

When a user complaint is submitted to the system, NLP is applied and a sense of the complaint is detected. The sense of the words is found using part of speech tagging and Wordnet dictionary. By using sentiment analysis negation level of a complaint is detected and user complaints are prioritized accordingly.

2. Search Questions in the Knowledge Database:

Once the negation level of the complaint is detected, furthermore the exact question in the complaint is detected using Wordnet. As the complaint description can change from person to person. The same question may be asked differently by multiple users. One user asks a question so simply and clearly while another user may ask the same question more negatively. So it is necessary to find what is the exact technical issue with the particular product to give a correct solution.

3. Answer the Complaints:

As described above, whenever a user submits a complaint, the negation level and exact issue are detected. Then it is checked that is there such a question registered in the database. If the answer is found then that answer is sent to that user. If a particular question is not found in the database such questions are answered by an admin person.

Once he answered the question the answer is sent to that user. And that question along with the answer stored in a database so that whenever such questions will be asked they get answered directly from the database. Due to this, the admin doesn't need to answer the same question manually anymore interface.

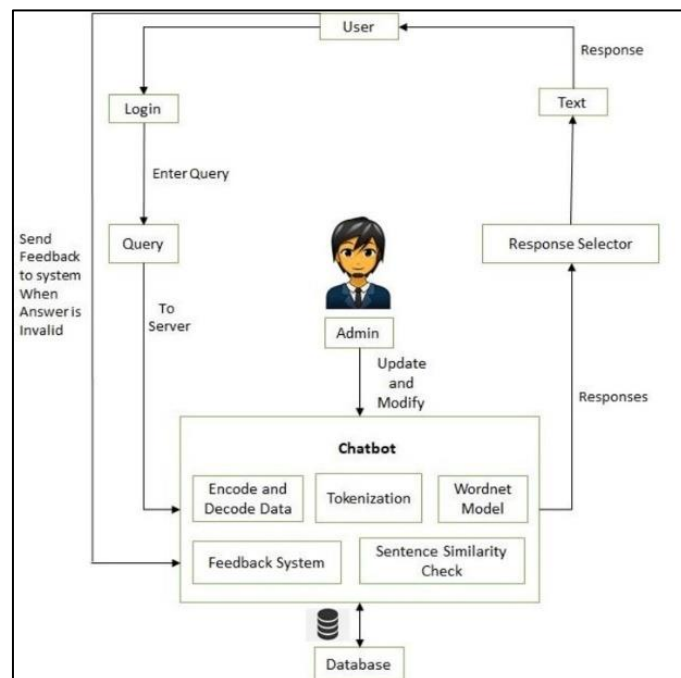
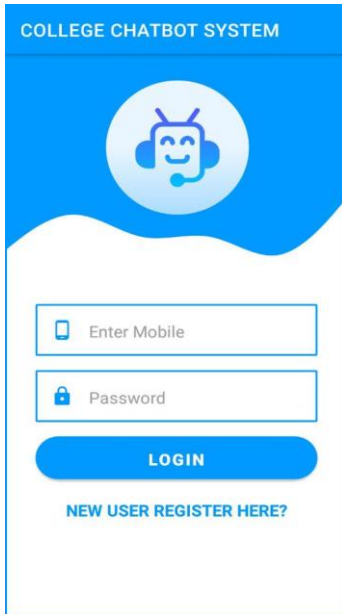
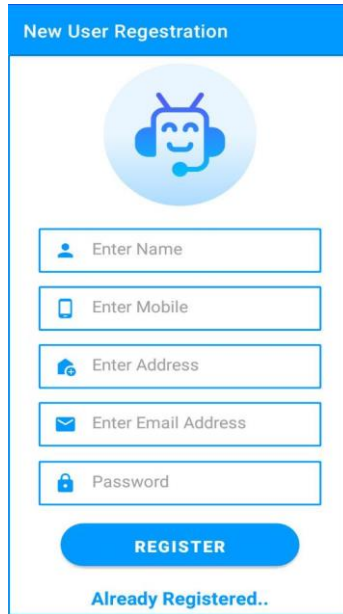


Fig. 1.1 System Architecture

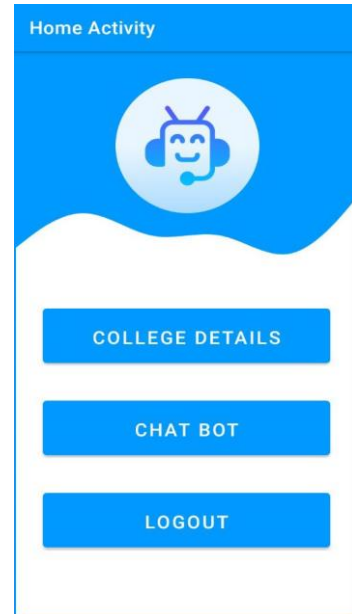
IV. RESULT



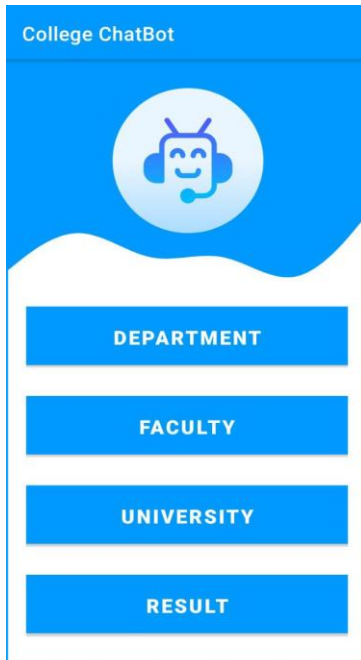
Login Page



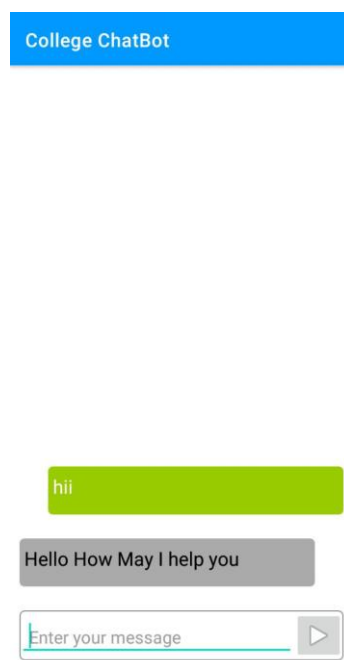
Registration Page



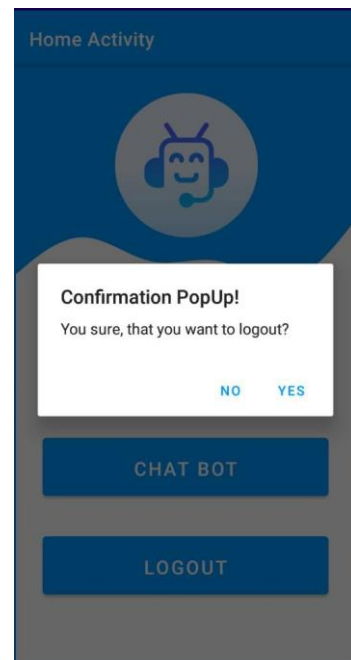
Home Page



College Details



Chatbot



Logout Page

V. FUTURE SCOPE

There are limitations to what has been currently achieved with chatbots. The limitation of data processing and retrieval is hindering chatbots to reach their full potential. It is not that we lack the computational processing power to do so. However, there is a limitation



on “how” we do it. One of the biggest examples is the retail customer market. Retail customers are primarily interested in interacting with humans because of the nature of their needs. They don’t want bots to process their needs and respond accord.

VI. ACKNOWLEDGEMENT

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VII. CONCLUSION

The system is employed to produce a response. Questions posted by users will receive responses from this system. One section of this interface is for users, while the other is for administrators. A workable system is created. The complaint’s content is parsed, tokenized, stemmed and filtered using natural language processing tools. The algorithm that determines the sentence’s strength receives the output as input. Calculating the intensity of negation aids in automatically prioritizing the issue for the services provider to address. The suggested technique would enable several firms to guarantee high-quality service delivery and client pleasure while putting out fewer manual labour-intensive tasks.

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