AI CHATBOT

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Abstract— For using software applications, user interfaces that can be used includes command line, graphical user interface (GUI), menu driven, form-based, natural language, etc. The mainstream user interfaces include GUI and web-based, but occasionally the need for an alternative user interface arises. A chat bot based conversational user interface fits into this space. The chatbot is a class of bots that have existed in the chat platforms. The user can interact with them via graphical interfaces or widgets, and the trend is in this direction. They generally provide a stateful service i.e. the application saves data of each session. On a college's website, one often doesn't know here to search for some kind of information. It becomes difficult to extract information for a person who is not a student or employee there. The solution to these comes up with a college inquiry chat bot, a fast, standard and informative widget to enhance a college website's user experience and provide effective information to the user. Chat bots are an intelligent system being developed using artificial intelligence (AI) and natural language processing (NLP) algorithms. It has an effective user interface and answers the queries related to examination cell, admission, academics, users' attendance and grade point average, placement cell and other miscellaneous activities.

Keywords:- Artificial intelligence (AI), knowledge base (KB), natural language processing (NLP), semantic sentence similarity.

1. INTRODUCTION

1.1   Overview of Project:

Our Chat Bot is a computer program that can talk to humans in natural language, the way we interact with each other. It can replace a human for many tasks of answering queries. A chatbot is an agent that interacts with users using natural language. It was built as an attempt to fool humans. Several applications of chatbots such as Customer Service, call centers etc. uses Artificial Intelligence Mark-up Language to chat with users.

 One of the prime goals of chatbots is to resemble an intelligent human and make it difficult for the receiver of the conversation to understand the real working along with various architecture and capabilities for their usage has widely broadened. These chatbots can prove sufficient to fool the user into believing they are "talking" to a human being, but are very limited in improving their knowledge base at runtime, and usually have little to no means of keeping track of all the conversation data. Chatbots makes use of machine learning to reach artificial intelligence helping them to understand the user query and provide an appropriate response. The chatbots are developed using the Artificial Intelligence Markup Language for communicating or interacting with the user. This consist a software which will be made up using Artificial Intelligence and will help user to chat with machine.

1.2   Objective of Project:

The objectives of this project are:

- To analyze users queries and understand users' messages.
- To provide an answer to the query of the user very effectively.
- To save the time of the user since s/he does not have to personally go to the college for inquiry.
- This system will help the student to be updated about the college activities.
- The system will reply using an effective GUI which implies that as if a real person is talking to the user

The major features of the chat bot are:

- College admission related queries could be answered through it.
- Viewing user profiles and retrieves attendance and grade/ pointers.
- College students can get information about examinations to be held.
- College students can fetch particulars about placement activities.

2.LITERATURE SURVEY

2.1 Introduction

Here we will elaborate the aspects like the literature survey of the project and what all projects are existing and have actually been used in the market which the makers of this project took the inspiration from and thus decided to go ahead with the project covering with the problem statement.

Literature Survey Papers

Eliza is considered as the first Chatbot, which works on the pattern matching system. It was developed byJosephWeizenbaum in 1964. ALICE is a rule-based chatbot based on the Artificial Intelligence Markup Language (AIML). It has more than 40,000 categories, where each category has a combination of pattern and its response.

Maja Pantic, Reinier Zwitserloot, and Robbert Jan Grootjans, "Teaching Introductory Artificial Intelligence using A simple Agent Framework", IEEE Transactions on Education, Vol. 48, No. 3, August 2005. This paper describes a flexible method of teaching introductory artificial intelligence (AI) using a novel, Java-implements ent simple agent framework developed specifically for the purposes of this course .Although numerous agent frameworks have been proposed in the vast body of literature, none of these available frameworks proved to be simple enough to be used by first-year students of computer science.

In 2016, Bayu Setiaji," Chatbot using knowledge in Database" A chatbot aims to make a conversation between both humans and machines. The machine has embedded knowledge to identify the sentences and make a decision itself as a response to answer a question. The user message i.e. query is stored to the response principle. Then it matches with responses, from input sentence, it will be scored to get the similarity of sentences, the higher the score obtained the more similar of reference sentences. The sentence similarity calculation divides input sentences as two letters of input sentences. The knowledge of chatbot is stored in the database. The chatbot consists of interfaces and that interface is accessing that core in relational database management systems. The development of Chatbot applications in various programming languages has been done with making a user interface to send input and receive response. Designing and building tables as representation of knowledge in the database had been started from entity-relationship diagrams resulting in 11 entities and its cardinalities.

In March – April 2017, "College Enquiry Chat Bot" Prof. Girish Wadhwa, proposed to build an enquiry Chat Bot project which will be built using artificial intelligence algorithms that will analyse user's queries and understand the user's message. This system will be a chatbot which will provide answers to the queries of the students. Students will just have to select the category for the department queries and then ask the query to the bot that will be used for chatting. The main objective of the project is to develop an algorithm that will be used to identify answers related to user submitted questions. The need is to develop a database where all the related data will be stored and to develop a web interface. A database will be developed, which will store information about questions, answers, keywords, logs and feedback messages.

2.2 Existing System

As we know, there are many sites are available for college purpose and student get information through the websites many information available on the websites we can get it easily but if we want complex information websites are not able to provide sometimes are these websites are very slow and take too much time to get information at the time of admission many students search for information about the college these college websites take too much time to search specific information it's a common problem over the year colleges work on it how to resolve it if we do not get any information about the college, there is a need to go to college to get that information. College websites are literally slow because many people access it simultaneously so that the traffic increases and it increases the communication gap between students and the college.

2.3 Need for new System

The need for a college inquiry system arises due to various reasons which include: the slow nature of the college website, an outsider would not know where to search for a particular piece of information, difficult for the person outside the college's domain to extract information. The smart solution for all the drawbacks lends to the need of the system. The college inquiry system will provide the response by summarizing the query and then output answers, it also provides selective information about what the user wants. A college system will dispense all answers relating to domains such as admission, examination cell, notice board, attendance, placement cell and other miscellaneous domains.

2.4 Proposed System.

User Login:

User registers himself/herself on the Chat-Bot application.

Chat BOT Responding System:

A. NLP Processing and Sentiment Analysis for Complaint:

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

B. Search Questions in knowledge database:

Once the negation level of the complaint is detected, furthermore, the exact question in the complaint is detected using WorldNet. As the complaint description can change from person to person. The same question may be asked differently from 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.
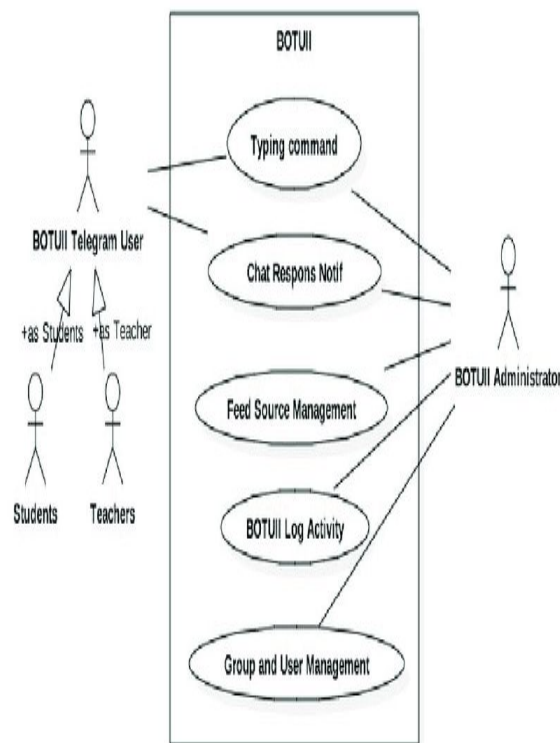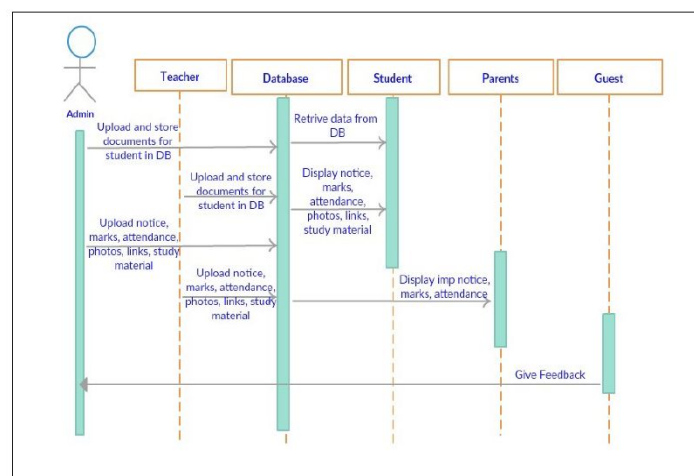

3. DESIGN AND IMPLEMENTATION

3.1 Design
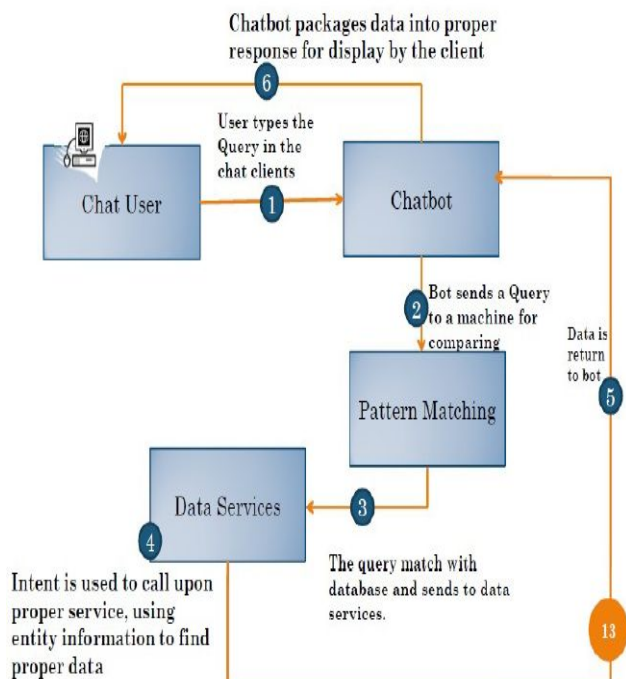
3.2.1 Use case diagram:

3.2.2 Sequence Diagram

3.3 Methodology

The incremental build model is a method of software development where the product is designed, implemented and tested incrementally (a little more is added each time) until the product is finished. This model combines the elements of the waterfall model with the iterative philosophy of prototyping. The basic algorithm that will be implemented for working of this proposed system is as follows:

Step 1: Start.

Step 2: Get the user query. (INPUT)

Step 3: Pre-processing of the query E.g. suppose there is this year" So, we are going to remove these stop words like „is", „the" using pre-processing technique.

Step 4: Fetch the remaining only keywords from the query.

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

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

Step 7: Exit.

4.Conclusion

4.1 Summary

Artificial Intelligent is the fastest growing technology everywhere in the word. With the help of Artificial Intelligent and Knowledgeable databases. We can make the transformation in the pattern matching and virtual assistance. This system is developing chatbot based on a web based 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 the user.

4.2 Future Scope

The future scope of this chatbot application will be-

● More efficient chat bot.

● It will replace the classroom instruction, textbook, practices and homeworkers.

● Live Chats, Video-Calling can be used in future to make the software more useful and demanding.

5.References

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