Android Based Chatbot For College

Avni Prajapati, Pranali Naik, Sushmita Singh, Anil Kale

Abstract— Chatbots are virtual users or virtual assistants for communicating via messaging or chat. They are programs which communicate with a user through messaging or chat interface. Android based Chatbot is a bot application designed for college purpose where the students would not have to visit the campus personally instead everything like notices, results, timetable, assignments would be made available at the fingertip just with the help of mobile phone and internet connection through a login. Also, the faculty would not require to make constant announcement in the class about a particular notice; rather things would get uploaded into the chatbots database by the admin.

Index Terms— chatbot, college, database, machine learning, naivebayes, prediction, probability

———————————— ◆ ————————————

1 INTRODUCTION

THE College chatbot project is built using machine learning algorithm that analyses user's queries and understand user's message. This System is an android application which provides answer to the queries of the students. Students just have to type their question through the bot and start chatting. Students can chat using any format there is no specific format the user has to follow. The System uses built in algorithm to answer the query. The system provides appropriate answers as per user queries. The User can query about any college related activities through the system and so the user does not have to personally go to the college for enquiry. The system answers to the query as if it is answered in person. The system replies using a effective Graphical User Interface. The user just has to register himself to the system and has to login to the system. After logging-in the user has access to the various helping pages. The user can query college related activities such as date and timing of annual day, sports day, and other cultural activities. This system helps the student to be updated about the college activities.

2 LITERATURE SURVEY

Sameera et al. Have proposed the Chatbot for hotel reservation system in android. In this method user has send the certain text to the Chatbot and it will prompt the user to enter the details for the reservation. The reservation will be made, once the detail has been given.

Next interesting topic proposed by Fernando A. Mikic Fonte, Martín Llamas Nistal, Juan C. BurguilloRial and Manuel CaeiroRodríguez in which android application

work as assistant for the student in their learning process. Students can search the topics related to their subjects and the system will provide a result about the topic. Student can search for particular topics in subjects, exam questions and answers.

The concept of Natural Language Processing using AI (Artificial Intelligence) has proposed by Unnati Dhavare and Umesh Kulkarni. In this concept input and output of the system can be in speech/text/images. The input is handle by NLP (Natural language Processing) techniques. Imran Ahmed and Shikha Singh have designed a web based Chatbot which is implemented in python with AIML language.

3 PROBLEM DEFINITION

Interactive question - answering systems allows us to concentrate on the interaction between the user and the program and not just the question-answering. These systems allow either the user to drive the dialogue or the system to play a greater role by suggesting related materials or even refinements to a user's query.

When questions such as "Who is the principal of college? "and "What is the time table of FE?" are posed to a question-answering system, the program should return the answers it finds in documents rather than just returning a link to a document that may contain the answer as search engines do.

4 OBJECTIVES

- A clean interface showing the dialogue.
- Answer a query posed in the user's natural language (The system is restricted to English).
- Rewrite follow up queries for the answering module.
- Engage the user without cluttering the dialogue.
- Do not include extraneous data in an answer.

————————————————
- *Avni Prajapati is currently pursuing Bachelor's Degree program in Information Technology Engineering in Mumbai University,India.E-mail:avnii.prajapati@gmail.com*
- *Sushmita Singh is currently pursuing Bachelor's Degree program in Information Technology Engineering in Mumbai University,India.E-mail:sushmita.d.singh@gmail.com*
- *Pranali Naik is currently pursuing Bachelor's Degree program in Information Technology Engineering in Mumbai University,India.E-mail:pranali1666@gmail.com*
- *Anil Kale is Assistant Professor of Information Technology Engineering college in Mumbai University, India. E-mail: anil5474@gmail.com*

5 SCOPE

Simple user-interface: Chatbots generally have very simple interfaces; showing only what is necessary to continue the flow of a conversation. With this in mind we will use a very simple command line interface which will display previous queries and answers as adjacency pairs.

Timely response: The system should return answers in a few seconds, rather than minutes.

Correctly identify queries: The system must identify question correctly. This is done by using machine learning which answers the queries using probabilities and the previous set of asked questions to give the refined and optimum results.

6 SURVEY OF TECHNOLOGIES

Java: Java is a object oriented programming language, it allows you to create modular programs and reusable code. Java is easy to use and secure. Java is platform independent, It allows application developers to "write once and run anywhere" (WORA). Because of Java's robustness, ease of use, cross-platform capabilities and security features, it has become a language of choice for providing worldwide Internet solutions.

Android: Android provides a rich application framework that allows you to build innovative apps and games for mobile devices in a Java language environment. It provides various APIs to build apps. The Android SDK (Software Development Kit) allows you to create your own apps. SDK includes set of development tools like debugger, libraries, handset emulator, sample code, documentation and tutorials.

MySQL: MySQL is well known as world's most widely used open-source database (back-end). MySQL is globally renowned for being the most secure and reliable database management system

7 REQUIREMENTS

Hardware:
- Processor: Pentium 4
- RAM: 4GB or more
- Hard disk: 16 GB or more
- Android Device.

Software:

- Apache Server
- Android SDK
- Java
- MySQL

8 IMPLEMENTATION

8.1 System design:

Firstly, we will design a GUI where the users would enter the username and password. In our system login may be done by students and admin. When student logs-in then the system would focus on various keywords entered by the user and would find the relevant information to fulfil the requirement of the user. This Information would be obtained from the database that has been developed.

We can use Supervised Machine Learning:

Given:

- a document d
- a fixed set of classes $C=\{c1,c2,c3....,cn\}$
- a training set of m documents that we have pre-determined to belong to a specific class

Now, imagine we have 2 classes (positive and negative), and our input is a text representing "What is FE timetable?". So, the system has to return with the timetable to the user. If the system returns with an appropriate output then it belongs to positive class otherwise negative class.

The question" What is FE Timetable" may be asked in different ways by the students like" Give me FE timetable"," Give me FE timetable"," What is Timetable for Fe class" and many more. All these questions are of same type i.e. in each case we will get same output. So, all these questions belong to a common class inside the database.

The role of the Admin is to update the database when required may be with new keywords and updates.

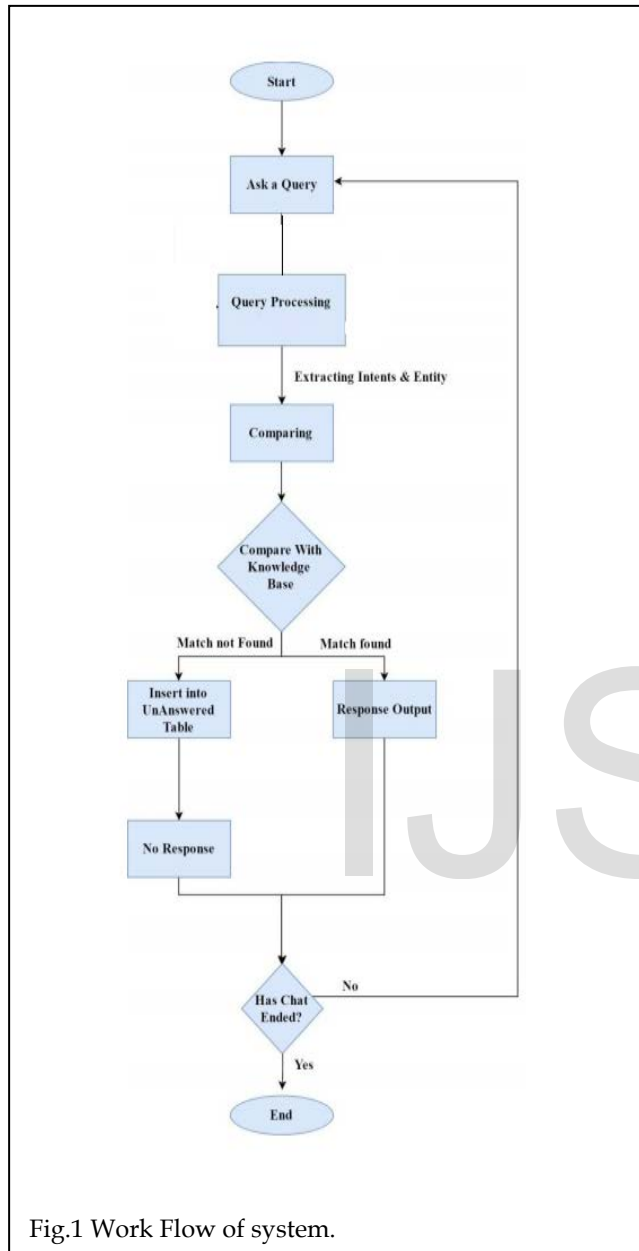The system will function in following manner as shown in the flowchart:

Fig.1 Work Flow of system.

8.2 Algorithm:

Text classification using Naïve Bayes

Naïve Bayes text classification is a probability-based algorithm where probability of occurrence of each word entered by the user is calculated with the words stored into the database and then data having highest probability from the database is returned as an output.

9 Conclusion and Future Scope

Future modifications:
Intelligent voice chatting system.
More use of natural language processing.

In this paper we proposed the Educational Chatbot for students and teachers. This Chatbot uses the text recognition for input and text as output. So, it becomes easy for the students to search the information within fraction of seconds. Also, the Chatbot gives direct answers for the questions rather than providing links like web pages.

REFERENCES

[1] Shabina Sayed, Rushabh Jain, BurhanuddinLokhandwala, Fakhruddin Barodawala and MurtuzaRajkotwala, "Android based Chat-Bot", International Journal of Computer Applications, Vol. 137, No. 10, pp. 29-32 , March 2016.

[2] Fernando A. Mikic Fonte, Martín Llamas Nistal, Juan C. BurguilloRial, and Manuel Caeiro Rodríguez, "NLAST: A natural language assistant for students", IEEE Global Engineering Education Conference (EDUCON), pp. 709-713, April 2016.

[3] UnnatiDhavare and Umesh Kulkarni, "Natural Language Processing using Artificial Intelligence", International Journal of Emerging Trends & Technology in Computer Science (IJETTCS),Vol. 4, No. 2, pp. 203- 205,April 2015.

[4] http://ezinearticles.com/?Artificial-Intelligence-Chatbot---Efficient-and-Reliable&id=4658355

[5] http://en.wikipedia.org/wiki/Chatterbot

[6] http://en.scientificcommons.org/43587573