

Review on Android Chatbot Using Artificial Intelligence Markup Language (AIML) And Natural Language Processing (NLP)

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Abstract- An Android chatbot is a communicating application where a computer application is designed to perform an intelligent communication. It can take user input in many formats like text, voice. For this purpose, many open-source platforms are available. To create android chatbot we use Android Studio software and use Java for backend and HTML/JavaScript for frontend. Artificial Intelligence package is used to build up a communicating application (chatbot) artificially. We have used these languages and software for developing an android application chatbot which will interact with user using text and voice responses. Chatbots, or communicational interfaces, present a new way to interact with computer systems. This chatbot will allow a user to simply ask some Trust related questions in the same way as they would address a human. The core technology of proposed chatbot is Natural Language Processing (NLP), client server architecture with the help of Android GUI, AIML Script.

Keywords- Chatbot, communicating, NLP, AIML Script, Machine Learning.

I. INTRODUCTION

An Android Chatbot is nothing but the Android Application. The Trust chatbot application is built using AIML, machine learning algorithm that examines user's questions and understand user's message. This System is an android application that provides answer to the questions of the users. Users just have to type or speak their question to the bot and start chatting. The System uses built in algorithm to answer the question. The system provides appropriate answers as per user questions. The User can ask about any Trust related activities through the application and so the user doesn't have to personally go to the trust for enquiry. The application replies using an effective Graphical User Interface (GUI). The user only has to register himself to the application and has to login to the application. After log-in the user can query trust / college related activities such as date and timing of annual day, sports day, other cultural activities and trust

related information. This system helps the user to be updated about the college activities.

The chatbot uses text, voice as the input. Text I/O is relatively effective as user can review for the input so that it can be rechecked if there are any mistakes. However, giving text input is time consuming. So, the solution is to introducing voice interface with the speech recognition technology.

II. LITREATURE SURVEY

Md.Shahriare Satu and Shamim-AI-Mamun [1] showed the review of applications of the Chatbot which are developed using the AIML scripts. They said that AIML based chatbots are easy to implement, they are lightweight and efficient to work. Their paper gives the detailed information about the different applications of the chatbots.

Thomas N. T. and Amrita Vishwa [2] designed a AIML and LSA based chatbot to provide the customer care service over the E- commerce websites. Their approach shows we can improve the chatbot ability by adding other models to it. In android operating system, we can implement

The concept of Natural Language Processing using AI has proposed by Unnati Dhavare and Umesh Kulkarni [3]. In this concept input and output of the system can be in speech/text/images. The input is handled by NLP (Natural language Processing) techniques. Imran Ahmed and Shikha Singh [4] have designed a web based Chatbot which is implemented in python with AIML language.

III. MOTIVATION

As students, we require many types of information regarding our college and university during our course. Sometimes getting this information is rather cumbersome and lengthy. Like getting information regarding our fees structure or the due fees remaining is a very lengthy process we have to go to administration building and find the correct window and

then look for a no dues form then fill it with correct data and then submit it to the appropriate person and then that person will tell us our due fees. This is all long, hectic and unnecessary. So why have this long and unnecessary process to get this trivial information. We as a computer science student are always looking forward to solve the problems around us using the technology that we learn and how to implement them to achieve ease of usage in real life. This is where we thought of using an intelligent voice bot delivering these information's. Think about an application, where all you have to do is ask.

IV. OBJECTIVES

The main objectives of this system are listed below as follows:

- To get information about trust / college without interaction of human.
- To be updated about the college and trust
- To be updated about various notices of the college and trust.

V. PROJECT SCOPE

University Information Enquiry voice-bot project will be built using artificial intelligence algorithms that will analyze user's queries and understand user's message. This system will be a web application which will provide answers to the queries of the user. Users will just have to ask the query to the bot that will be used for chatting. Artificial intelligence will be used to answer the users' queries. The user will get the appropriate answers to their queries. The answers will be giving using the built-in artificial intelligence algorithms. Students will not have to go to the college to make the enquiry. In some cases, user may find out that the answer given to his/her query is not relevant. In such cases, the user can mark this answer as Invalid, and an instance of this invalid answer will be sent to the Admin panel at the same time. Whenever Admin will log in, he will get to see the answers which are marked invalid and then he can do the necessary changes to the knowledge base so that user will get the proper result when he will ask the same query next time. The aim of our Proposed System is to develop an Android based bot Application, which provides answer to the query of the student very effectively.

VI. METHODOLOGY

There are many techniques to interact with the user inside the android application. The technique includes Machine Learning Voice Recognizer, ML Search, etc. The communication includes question asking related to college and

trust with the help of text and voice. The use of voice for input improves the reachability and handling of the android application.

We use Machine Learning technology to handle data. The Machine Learning technology catches the keywords that are given by the user and produce the related output from the database and displays the result on screen. If the question out of scope have been asked the application displays the warning and error message. The system uses text as well as voice as input.

VII. ARCHITECTURE

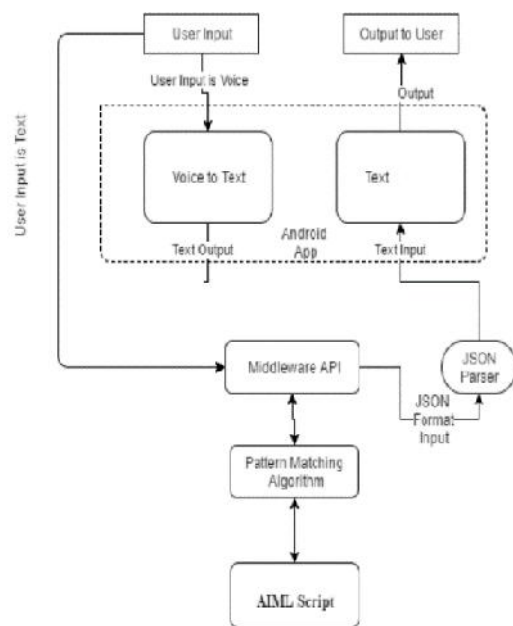


Fig1. Block Diagram of Android Chatbot

The system works in two modes, text and voice. When user gives the input in text format the first mode is activated. The user input is passed to the middleware API for the response. On other hand when user gives the voice input then second mode is activated, in this voice mode we first convert the voice into text before sending it to middleware API. Middleware is the model which connects the AIML scripts with our android app. When user input is received at the middleware, it is passed to the pattern matching algorithm which runs over the AIML scripts. In this process, firstly the pattern matching algorithm is executed for matching of the valid response from the available AIML scripts. When pattern is matched, the corresponding template is return to the middleware. Then Middleware encodes the template into the JSON format and sends the reply to the android app. After receiving the response app decode the JSON and gives the response to the user.

VIII. CONCLUSION

The Main Objective of the project is to develop and algorithm that will be used to identify answers related to users submitted questions. The need is to develop a database where all the related data will be stored and to develop a web interface. The Application developed will have two parts one for simple user and one for the administrator. A background research took place, which included an overview of the conversation procedure and any relevant chat bot available. A database will be developed, which will store information about queries, keywords, logs, and feedback messages. Results have found that the application developed is able to correctly fulfill its purpose within a short time period. Our result show that the total time required to perform all the task, including visit to the college, standing in queue, and enquiry are reduced with the help of our system

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