



College Voice Bot (Khabri)

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Abstract:

Artificial Intelligent Bots are software programs that include AI components to interact with people over text or voice messaging. Backed by AI, bots today are being used for ordering food, listening to music, finding information about your favorite author, checking the weather, etc. The AI component of bots helps in recommendations and making decisions for you. Built on *NLP* and *ML*, bots are based on the human ability to learn and absorb information. The college enquiry bot will be built using artificial algorithms that analyses user's queries and understand user's message. This System will be an android application which provides answer to the query of the user very effectively. User just have to ask their query to the bot which is used for two-way dynamic dialogues. The system will use the artificial intelligence algorithms to give appropriate answers to the user. User can ask for any information related to college/university like information about students, teachers, courses, admission process etc. The applications of this voice bot can be limitless.

Keywords: AIML- Artificial Intelligence Modelling Language, NLP- Natural Language Processor, API- Application Package Interface, REST- REpresentational State Transfer.

I. INTRODUCTION

A voice bot is a computer program which conducts a conversation via auditory or textual methods such programs are often designed to convincingly simulate how a human would behave as a conversational partner, thereby passing the Turing test. Voice bots are typically used in dialog systems for various practical purposes including customer service or information acquisition. University Information voicebot project will be built using artificial intelligence algorithms that will analyze user's queries and understand user's voice message. This system will be a web application 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 conversation. Voice control brings fresh opportunities to e-commerce. As voice recognition technology continues to improve in accuracy, and services continue to be added, more consumers will shift to voice engagement. Screen plus voice interface makes intuitive sense and companies will be able to combine these to offer customers a better and more engaging experience. A voice-first device is an always-on, intelligent piece of hardware where the primary interface is audial, both for input and output.

II. LITRETURE SURVEY

1. Emanuela Haller and Traian Rebedea, "Designing a Chatbot that Simulates an Historical Figure", IEEE Conference Publications, July 2013. There are many applications that are incorporating a human appearance and intending to simulate human dialog, but in most of the cases the knowledge of the conversational bot is stored in a database created by a human expert. However, very few researches have investigated the idea of creating a chat-bot with an artificial character and personality starting from web pages or plain text about a certain person. This paper describes an approach to the idea of identifying the most important facts in texts describing the life (including the personality) of an historical figure for building a

conversational agent that could be used in middle-school CSCL scenarios.

2. 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-implemented, 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. Hence, the authors set out to create a novel framework that would be suitable for the aims of the course, for the level of computing skills of the intended group of students, and for the size of this group of students.

3. Md.Shahriare Satu and Shamim-AI-Mamun 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.

4. Thomas N. T. and Amrita Vishwa designed an *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.

III. MOTIVATION

As students we require many types of information regarding our college and university during our course. We live in an age of computer science, where automation and simple procedures are easy to achieve. So why have this long and unnecessary process to get this trivial information. This is where we thought of using an intelligent voice bot delivering these informations. Think about an application, where all you have

to do is ask. You want fees status of a student, just ask the voicebot about is it clear or not it will tell you.

IV. SYSTEM DESIGN

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. The response generation process is carried out with two phases.

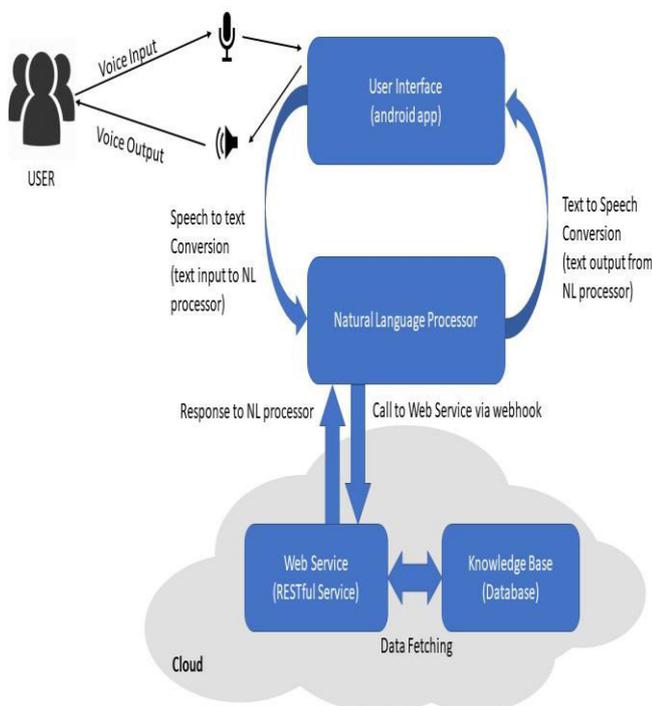
A.Preparation of Pattern Matching Each input to the *AIML* interpreter is passed through two main phases.

- Normalization Process for input.
- Producing input path for each sentence.

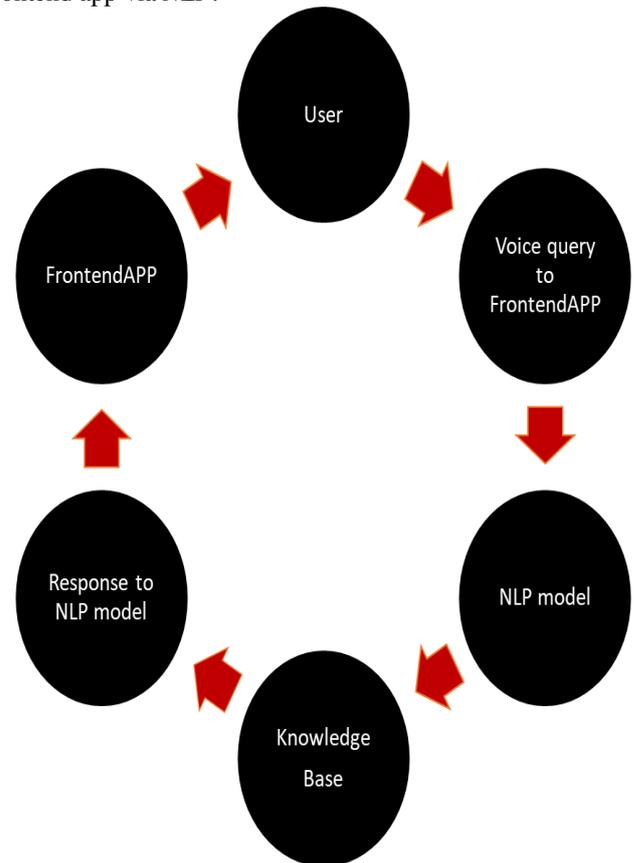
B.Pattern Matching Behavior Here we try to find the largest matching pattern and best one by word by word matching of the input. This behavior can be described with Graph master set of files and a directory containing a set of nodes which is called node master and branches represents first words of all patterns the working model or the architecture of the system is given below in a representational view, which is easy to understand all by itself.

V. DESIGN FIGURES

The diagram below is the visual representation of how the workflow of the system will work out.



The dataflow diagram of the system is given below which represents how the data will flow in our proposed system. It will have its frontend as an android app which will communicate with a Natural Language Processor to understand the queries of the user. *NLP* will further work with a web service to fetch the required information regarding the queries of the user to help *NLP* form the best response that will suit the needs of the user. The bot will be emotional responsive and will be a fun friend to walk along. The bot will have its data from a knowledge base. This knowledge base will be a NoSQL database which will store all the information efficiently. The interaction between the *NLP* and Knowledge Base will be done by a *RESTful* Web Service. *REST*-compliant web services allow the requesting systems to access and manipulate textual representations of web resources by using a uniform and predefined set of stateless operations. These services will provide us with the required data which will further reach the frontend app via *NLP*.



VI. FUTURE SCOPE

In the future we can include more than one university. Thus, enabling a true cross university enquiry system regarding colleges on a state level or even maybe on national level. This will help to create a centralized system which will have all the information of the students nationwide. This will make the task of background checks very easy for hiring companies or anyone who is authorized to do so

VII. CONCLUSION

The main objective of the project is to develop an algorithm that will be used to identify answers related to user submitted queries. The system is fully capable of replying to the queries of the users and is able to do this in short amount of time. Thus, our aim to reduce the time and hustle required to get trivial college related information is achieved. Results have shown that the application developed is able to correctly fulfill its purpose within a short time period. Our results show that

the total time required to perform all the tasks, including visit to the college, standing in queues and enquiring are reduced with the help of the proposed system.

VIII. REFERENCES

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