

Voice Assistant Based On AI

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Abstract— In day-to-day life the voice assistant is become a part in daily life. We know various type of voice assistant are used such as Alexa (Amazon), Siri by Apple, also google assistant are used in daily life. This paper gives the idea about voice assistant which is based on AI system. The system is inspiration of virtual assistant based on many various types of windows system such as Siri by Apple, Cortina etc. It has been to perform various task by creating well-defined command. This paper focus on day-to-day life activities such as general human conversation, google searching, searching a song, video, exam details, medicine details, health recordation based on symptoms, news searching etc. The user command is analyzed and then give the optimal solution on it.

Keywords: Voice Control, Python, AI Based Voice Assistant, Automation, GTTS Engine

I. INTRODUCTION

In today the AI system interact between human and machine (face recognition voice capture, gesture etc.). No longer human can self-run to communicate with machine but the machine can learn and they show our habits, actions, behavior and try to make out personal assistant. This system goes to improving and established in many mobile devices and gadgets. Voice Assistants are software programs that help you ease your day-to-day tasks, such as showing weather report, creating reminders, making shopping lists etc. They can take commands via text (online chat bots) or by voice. Voice based intelligent assistants need an invoking word or wake word to activate the listener, followed by the command. For my project the wake word is JIA. We have so many Voice assistants, such as Apple's Siri, Amazon's Alexa and Microsoft's Cortana. For this project, wake word was chosen JIA. This project was started on the premise that there is sufficient amount of openly available data and information on the web that can be utilized to build a Voice assistant that has access to making intelligent decisions for routine user activities.

A. Motivation

"Google Voice Search" which is used for in Android. But this Application mostly works with Internet Phones Connections. But our Proposed System has capability to work with and without Internet Connectivity. It's named as Python based AI Assistant for Computer which takes the user input in form of voice or text and process it and returns the output in various forms like action to be performed or the search result is dictated to the end user.

B. Related Work

Each company-developer of the intelligent assistant implements his own specific methods for development, which in turn affects the final output. One assistant can produce speech more qualitatively, another can more neatly

and without more explanations and corrections do tasks, others are able to do a narrower range of tasks, but most accurately and as the user demands. Surprisingly, there is no universal assistant who would do all tasks equally well. The set of features that an assistant has, depends totally on which field the developer has paid more attention. Since all systems are machine-learning dependent methods and use for their creation; large amounts of data collected from different sources and then trained on them, an essential role is played by the source of this data, be it search systems, various information sources or social media networks. The amount of information from various sources determines the actual nature of the assistant. Despite the different approaches to learning, different algorithms and techniques, the phenomena of building such systems remains almost the same. The primary technologies are voice activation, automatic speech recognition, Text-To-Speech, voice biometrics, dialog manager, natural language understanding and named entity recognition.

II. PROBLEM STATEMENT

We are all well aware about Cortana, Siri, Google Assistant and many other virtual assistants which are designed to aid the tasks of users in Windows, Android and iOS platforms. But to our surprise, there's no such complete virtual assistant available for Core Windows platform consisting of 70% of the users. So, this is actually a major problem for users were there could be internet instability, server problems and places where internet is not accessible.

III. EXISTING SYSTEM

The current voice assistant system basically existing on Windows OS is the Cortana which is completely online based system and requires high speed fast internet and also a regular Microsoft account for login and other existing system is Ok-Google voice assistant which is browser dependent.

IV. PROPOSED SYSTEM

The work is initialized with analyzing the audio commands given by the user via microphone. This can be anything like retrieving any information, operating computer's files, etc. Tests are conducted by programming according to books and online resources, with the goal to find best practices and a more advanced understanding of Voice Assistant. Fig.1 shows the detailed workflow of the basic process of the voice assistant. Speech recognition is used to convert the speech input to text. This text is then fed to the central processor which determines the nature of the command and calls the relatable script for execution. But the difficulties don't end there. Even with tons of hours of input, other factors aside can play a big role in whether or not the software can understand you basically. Background noise can easily eliminate a speech recognition device off the track. This is because it

does not inherently have the ability to classify the ambient sounds it “hears” of a dog barking or a helicopter flying overhead, from your voice. Developers have to program that ability into the machine; they conduct data collection of these ambient sounds and “tell” the device to filter them out accordingly. Another factor is the way humans naturally shift the pitch of their voice to accommodate for noisy environments; speech recognition systems can be sensitive to these pitch changes in most of the conditions.

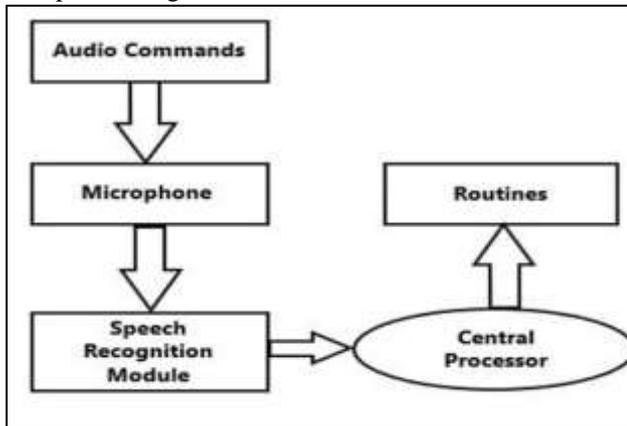


Fig. 1: Basic workflow

V. SALIENT FEATURE

A. Queries from the Web

Making queries is an essential part of one’s life, and nothing changes even for a developer working on Windows. We have addressed the essential part of a senior citizens life by enabling our voice assistant to search the web .It supports a search engines like Google and Yahoo and displays the result by scraping the searched queries.

B. Accessing YouTube Video

Videos have remained as a main source of entertainment, one of the most prioritized tasks of virtual assistants. They are equally important for entertainment as well as educational purposes as most teaching and research activities in present times are done through YouTube. This helps in making the learning process more practical and out of the four walls of the classroom.

C. Whether Report

Getting live weather conditions about a place remains an important task of virtual assistants. It helps the user charter the course of their action. It addresses this issue with the help of Python.

D. Retrieving Images

Users could get images directly through the user interface. The images are derived from the entire web code received from Google images. These are formatted according to use and displayed in a compact manner in the user interface.

E. Dictionary Meaning

One of the usages of the web is to find word meaning and its usage in our day-to-day life. Instead of going through the bulky books, our users can simply search for it using the voice assistant and get the meaning within a fraction of seconds.

F. Medicine Detail

One of the important issues our software addresses is of healthcare, and medicine in general. The user can query either the medicine or the symptoms. The former lets you know the complete details of the medicine, like indications, contradictions, trade or brand names, dosage, the process of consumption, warning and precautions, storage conditions, etc. On the other hand, the symptom feature lets you query about the symptoms while it lists various diseases one is likely to be affected along with their medicine. This is helpful for people who are quite busy with their life and find trouble visiting the doctor immediately, thus relying on the web to find the best result for short term cause.

VI. CONCLUSION

Through this voice assistant, we have automated various services using a single line command. It eases most of the tasks of the user like searching the web, retrieving weather forecast details, vocabulary help and medical related queries. Speech recognition in future will evolve the way people do business around the web and will ultimately integrate world class e-business. Speech recognition & voice XML clearly represent the next generation of the web.

The future plans include integrating our software with mobile to provide a synchronized experience between the two connected devices. Further, in the long run, it is planned to feature auto deployment supporting elastic beanstalk, backup files, and operations which a general Server Administrator does. The functionality would be seamless enough to replace the Server Administrator with our software.

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