VIRTUAL ASSISTANT USING PYTHON

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VIRTUAL ASSISTANT USING

PYTHON

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Abstract

In modern times, everyday life has become smarter and more sophisticated. We already know some voice services like google, and Siri. etc. Now in our voice support system, it can work like automatic chrome, open a social media website in a web browser, tell you the time and you can ask him to tell you from Wikipedia, etc. This project works by entering voice and rendering voice output and displaying text on the screen. Our main voice help agenda makes people smarter and deliver faster results with a computer. Voice Help captures voice input with our microphone and transforms our voice into understandable computer language providing the necessary solutions and answers that the user asks. This service is linked to the World Wide Web to provide the results the user has requested. The Natural Language Processing algorithm enables computer systems to engage in communication using the natural human language in many ways.

Keywords: Virtual Personal Assistant, Natural Human Language, Speech to text, Artificial Intelligence, Natural Language Processing, Machine Learning.

I. INTRODUCTION

Nowadays almost all jobs are done digitally. We have Smartphones in our hands and nothing less than having the world in our hands. These days we don't even use our fingers. We are just talking about work and it is done. There are plans where we can say to the Father of the Scriptures, "I'll be late today." Text is also sent. That is the work of the Visible Assistant. It also supports specialized functions such as booking a flight, or getting the cheapest book online from various e-commerce sites and provides an order booking link, which facilitates automatic search, discovery, and online ordering services.

Wise assistants based on the word need a persuasive word or a wake-up call to make the listener active, which is followed by a command. In my project the rising name is MAX. We have many visible assistants, such as Apple's Siri, Amazon's Alexa, and Microsoft's Cortana. In this project, the wake-up name is selected for MAX.

Virtual Assistants can provide several services including,

- The weather.
- Scheduling appointment time.
- Trip planning.
- Play music, movies, etc.
- Indicates the time of day.
- Manage emails.
- Open applications.

II. FEATURES OF VPA

A. Tasks

A task is a personal or related task that you want to pursue until you complete it. The operation can occur once or repeatedly (the function appears). The resulting function may be repeated from time to time or maybe repeated from the date you mark the completion of the operation. For example, you may want to send a status report to your manager on the last Friday of each month, and receive a haircut one month after the last haircut. Frequent tasks are added one at a time to the task list. When you mark one activity event completed, the next event appears in the list.

B. Internet Applications

VPA allows employees to access, customize, and use the Internet to help them access information from the weather, directions, and schedules, to stock performance, competitive data, and news. All use simple, conversational voice commands, e.g., travel management, flight booking, and hotel reservations.

III. SYSTEM ARCHITECTURE

The system architecture of this project shows the flow of the control through the system. It also shows the hardware and the software required for the execution of the program. The architecture diagram is as follows:

- Hardware:
  - Processor: intel i5 3rd gen or AMD A6.
  - Ram: 4 GB or more.
  - computerer or a laptop.
  - Software:
  - Operating system should be WINDOWS 10 or higher.
  - Must have python installed.

Support of other basic applications like maps, web connection, etc.

IV. Literature Study

Each developer of a smart assistant company uses specific methods and techniques to improve the system, in a sequence that influences the system. One facilitator can combine the sentences correctly, another can add freely and without additional explanations and guidelines to perform tasks, and others can respond, but want to respond. Of course, no universal helper can do all the work in the same way. The set of qualities the assistant relies entirely on is where the developer has placed the most attention. Since all systems are based on machinelearning methods and use for their creation huge amounts of data collected from various sources and then trained on them, an important role is played by the systems be played by the source. The amount of information from different sources determines the nature of the helper, which can be the result as a result. Despite the different learning programs, algorithms and different approaches, the essence of building such systems remains the same.

According to MoustafaElshafei, Virtual Personal Assistant (VPA) is the next generation of mobile and smart users' network services. VPA responds effectively to word-of-mouth compliance and provides a single address opportunity that incorporates seamlessly a comprehensive range of information. It also controls phone calls, manages personal tasks with a calendar, and allows the user to find their task manager through voice interaction, and logging in. The virtual personal assistant allows the user to use time and time again, improve his overall performance, and minimize distractions for normal operation.

V. EXISTING AND PROPOSED SYSTEM

Existing Model

Most existing projects use only speech recognition using emotional networks. Although their systems are relatively accurate, they are not for real use and are not suitable for any real use. There are a few basic methods they use:

1. Context-aware computing:

   Context-aware computing is a category of programs that can sense their physical location and adapt accordingly. These can be used to identify words spoken by people with different characteristics. It may also spell out words that may have been mispronounced.

2. MFCC:

   MFCC refers to Mel-Frequency Cepstral Coefficients. MFC (Mel-frequency Cepstrum) is a collection of this coefficient. It is equal to the short-term energy spectrum of sound. These can be used to hear sound variations to detect the various variables needed for voice recognition.

3. NLP:

   Natural Language Programming is a branch of Artificial Intelligence responsible for computer interactions and human languages. It focuses on programming computers so that they can process large amounts of data in native languages. This concept is used to familiarize a computer with a variety of words in a given language and

to recognize them when spoken.

Proposed Model

Speech to text:

- A Piece of software used that converts audio to text. It doesn't understand just anything you might say.

Text Analyzing:

- Converted text is just letters for computers.
- A piece of software converts text to something understandable for the computer.
- Computer understands the command, so Virtual Assistants like Siri converts this text to a computer command.
- VPAs map the words to functions and parameters to create a command that the computer can understand.

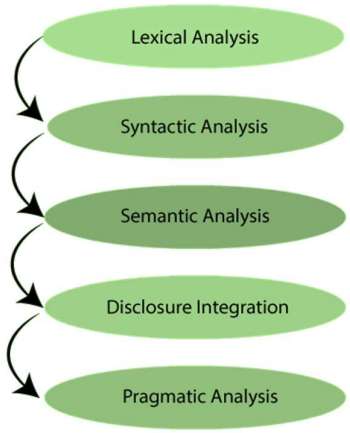
VI. WORKING PRINCIPLES

The working of a Virtual Assistant uses the following principles:

1. Natural Language Processing:

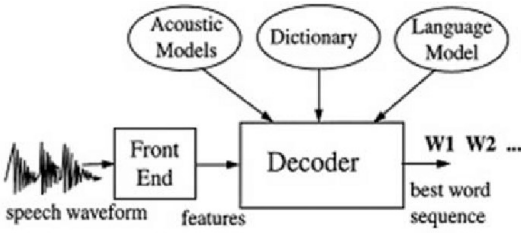
   Natural Language Processing (NLP) refers to an AI approach to intelligent programming using a natural language such as English.

Five steps involved in Natural Language Processing (NLP) are:



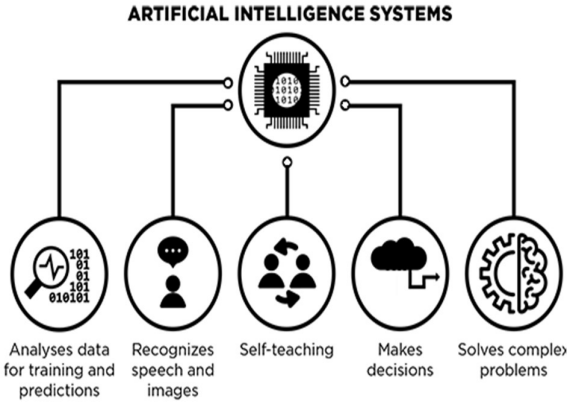
2. Automatic Speech Recognition:

   To understand commands according to the user's input.



3. Artificial Intelligence: To learn things from the users and to store all information about the behavior and relations of users.

The ability of a system to calculate, reason, perceive relationships and analogies, learn from experience, store and retrieve information from memory, solve problems, comprehend complex ideas, use the natural language fluently, classify, generalize, and adapt to new situations.



VII. CONCLUSION AND FUTURE SCOPE

CONCLUSION-

Virtual Personal Assistants are a very effective way to organize your program. There are now many Smart Personal Digital Assistant apps available on the market for various device platforms. These new Software apps work much better than PDA devices as they provide all the features of your smartphone. VPAs are also more reliable than Personal Assistants because VPAs are portable and you can use them at any time. And they have more information than any assistant as they are connected to the internet.

FUTURE SCOPE-

The next step will be to remove as much hardware as possible. With the ingenuity of the VA present in the clouds, being pulled in, and pushing its way into our lives with many devices in our bodies and our offices, homes, and cars. Your VA will always tell you about suggestions and take orders, and you will know more about yourself than you know yourself. We can expect this device to be installed and permanent.

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