Desktop Voice Assistant Using AI

UNIVERSITY OF ENGINEERING
&
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DESKTOP VOICE ASSISTANT USING AI

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Approval Certificate

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ABSTRACT

The main aim of this project is to make the life easier by saving the time of typing, it will fully work on the basis of voice command of user. The user will have to say the command, the voice assistant will detect it and will do the works. Voice assistants are software agents that can interpret human speech and respond via synthesized voices. Apple's Siri, Amazon's Alexa, Microsoft's Cortana, and Google's Assistant are the most popular voice assistants and are embedded in smartphones or dedicated home speakers. Users can ask their assistants questions, control home automation devices and media playback via voice, and manage other basic tasks such as email, to-do lists, and calendars with verbal commands. This column will explore the basic workings and common features of today's voice assistants. It will also discuss some of the privacy and security issues inherent to voice assistants and some potential future uses for these devices. As voice assistants become more widely used, librarians will want to be familiar with their operation and perhaps consider them as a means to deliver library services and materials.

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1. CHAPTER

INTRODUCTION

Here we talking about AI Desktop Voice Assistant. It is an A.I. Desktop voice assistant, with the help of this, you can do various things like playing songs, searching YouTube, know about weather, searching mail, searching Google without typing a single word.

1.1 What is AI?

Artificial Intelligence is the full form of AI. Artificial Intelligence is a way of making a computer, a computer-controlled robot, or a software think intelligently, in the similar manner the intelligent humans think. AI is a branch of Science which deals with helping machines find solutions to complex problems in a more human-like fashion. This generally involves borrowing characteristics from human intelligence, and applying them as algorithms in a computer friendly way. A more or less flexible or efficient approach can be taken depending on the requirements

established, which influences how artificial the intelligent behavior appears. It can be viewed from a variety of perspectives. According to the father of Artificial Intelligence, John McCarthy, it is **"The science and engineering of making intelligent machines, especially intelligent computer programs".**

1.2 Benefits of AI

With the help of AI, we can develop smart systems that will not only help us in businesses or offices but also at home. Smart systems can perform so many tasks for us, right from setting the alarm to switching on/off the lights. The local interconnections between cells are provided by the

physics of cell-to-cell interaction due to the rearrangement of electron positions (Niemer, 2004). With the help of ML, we can apply different algorithms to data to get it in our required form. While doing online shopping, we get recommendations based on what we see or purchase. This, in turn, will help in getting more business. All this is possible, just because of AI (Deep Learning and Machine Learning). When you want to buy some products or services, you probably visit the concerned website, where you get help through online conversation or chatting window that is always available. This 24*7 help is possible only because of AI (Chatbot)

1.3 What is AI Desktop Voice Assistant?

AI Desktop, it's like a bot. And an **"Desktop Voice Assistant Using AI"** is also a bot, run with voice command when you are bored. The voice assistant is built with an artificial intelligence algorithm. It chats with you as a real person with amusing replies, it plays song according your command, it telling weather reports, open anything from your desktop, search anything on Google, YouTube etc. which doesn't make the user know he is really a bot. The bot is built with a limited dictionary but uses a great algorithm to imitate a real person. The bot can be used to find you an amusing partner and help you in bad times. The AI desktop partner comes with a real-life person imitation (RLPI) System designed in 2013 for putting forward a real time intelligent chatting session for users.

1.4 Talking About Speech-recognition:

Speech recognition, or speech-to-text, is the ability for a machine or program to identify words spoken aloud and convert them into readable text. When artificial intelligence (AI) evolved, it

touched almost all facets of life and surroundings. Speech recognition is one such technology that is empowered by AI to add convenience to its users. It also has the ability to recognize an individual based on their voice command. Hence, this AI-powered speech recognition technology gained mammoth importance among tech giants such as Apple, Microsoft, Amazon, Google, Facebook, etc. Amazon Echo, Siri and Google Home are some of the apps and devices that flooded the market with speech recognition features.

2. CHAPTER

Discuss About using Modules & Libraries

A module is a software component or part of a program that contains one or more routines. One or more independently developed modules make up a program. Modules make a programmer's job easy by allowing the programmer to focus on only one area of the functionality of the software application. Modules are typically incorporated into the program (software) through interfaces. The library is having a collection of related functionalities of codes that allows you to perform many tasks without writing your code. We use one of the major programming languages of AI, Python. Here we discuss about all Python modules & Libraries used in our project.

2.1 Pyttsx3

Pyttsx3 is a text-to-speech conversion library in Python. Unlike alternative libraries, it works offline, and is compatible with both Python 2 and 3.

Installation

```
pip install pyttsx3
```

2.2 Date-time

The module supplies classes for manipulating dates and times. While date and time arithmetic are supported, the focus of the implementation is on efficient attribute extraction for output formatting and manipulation.

2.3 Speech Recognition

Speech Recognition is an important feature in several applications used such as home automation, artificial intelligence, etc. This article aims to provide an introduction on how to make use of the Speech Recognition library of Python. This is useful as it can be used on microcontrollers such as Raspberry Pis with the help of an external microphone.

Python Speech Recognition module:

```
sudo pip install SpeechRecognition
```

2.4 Webbrowser

The webbrowser module provides a high-level interface to allow displaying Web-based documents to users. Under most circumstances, simply calling the open () function from this module will do the right thing. The script webbrowser can be used as a command-line interface for the module. It accepts a URL as the argument.

2.5 OS

The OS module in python provides functions for interacting with the operating system. OS, comes under Python's standard utility modules. This module provides a portable way of using operating system dependent functionality. The os and os.path modules include many functions to interact with the file system.

2.6 Smtplib

The smtplib module defines an SMTP client session object that can be used to send mail to any Internet machine with an SMTP or ESMTP listener daemon. If the optional host and port parameters are given, the SMTP connect() method is called with those parameters during initialization.

2.7 sapi5

Speech API developed by Microsoft. It helps in synthesis and recognition of voice.

2.8 VoiceId

Voice id helps us to select different voices.

voice[0].id = Male voice

voice[1].id = Female voice

2.9 Wikipedia

As we know Wikipedia is a free online encyclopedia. But here we use Wikipedia module for searching. It is a Python library that makes it easy to access and parse data from Wikipedia.

RESULTS & DISCUSSION

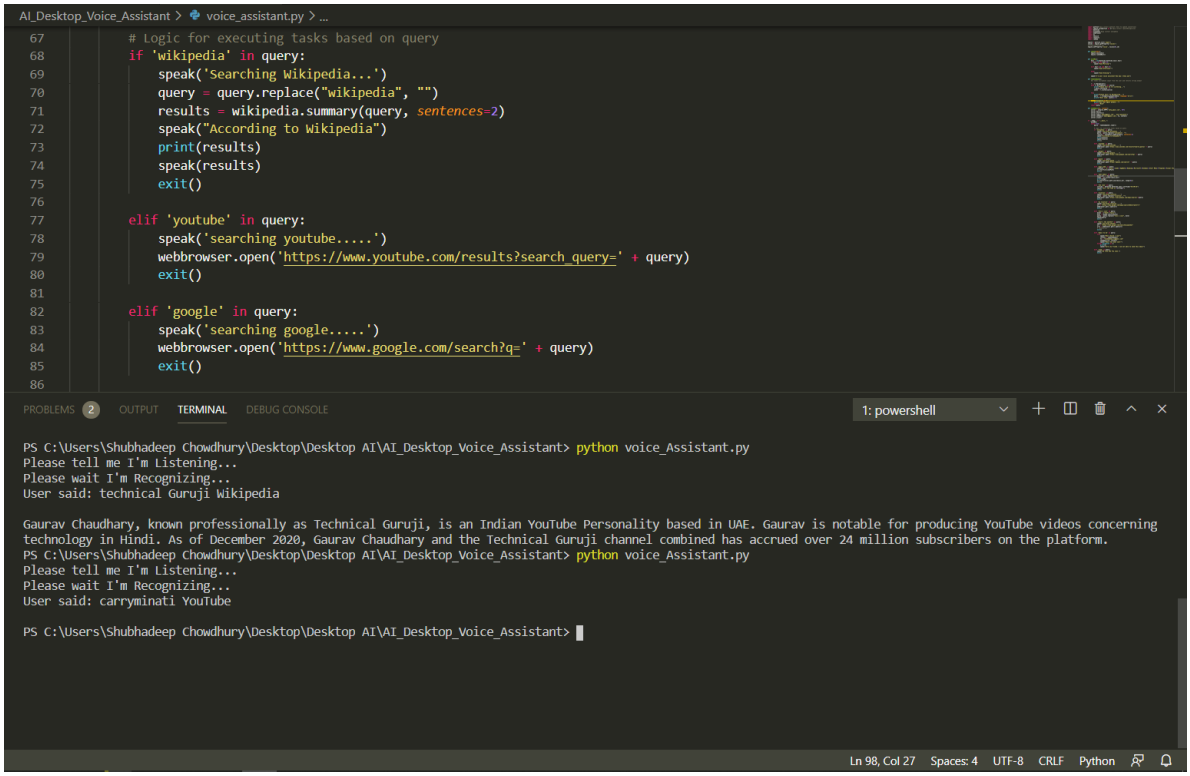
The voice assistant is working perfectly, according to our voice command. It sends the mail which we will tell to send to desired mail ID, it will search in google & YouTube according to our command. It will play our desired song from Gaana, and also from our computer HDD. It also shows weather, my location, search any location. For all these we will not have to type zero single word.

CONCLUSION

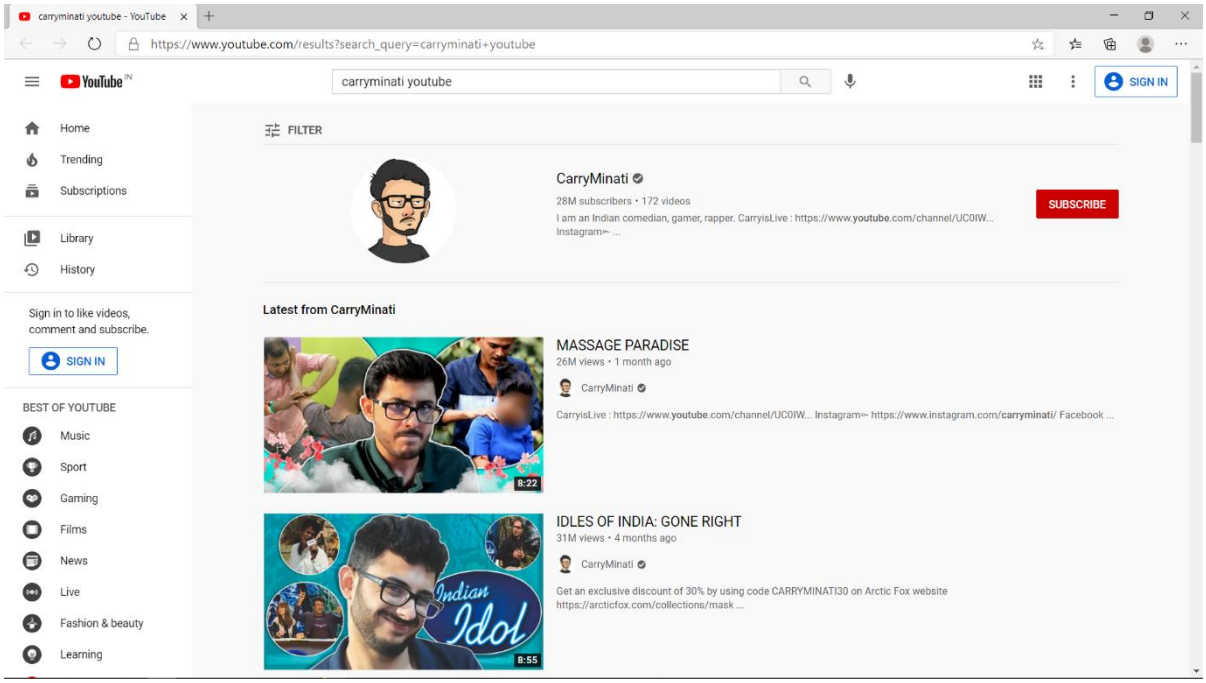
Through this voice assistant, we have automated various services using a single line command. It eases most of the tasks of the user like searching the web, retrieving weather forecast details, vocabulary help and medical related queries. We aim to make this project a complete server assistant and make it smart enough to act as a replacement for a general server administration.

Farther in long run, this "AI Desktop Voice Assistant" is planned to be made smarter so that it can authenticate user. It will authenticate the user by hearing his or her voice. We are also planning to use various APIs and deploy it in a web application and in also mobile app. We will try to make it more secure and user friendly.

APPENDIX



Index page of Program



Searching result of YouTube

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