

MINI PROJECT SYNOPSIS REPORT

Desktop Assistant(JARVIS)

Presented by: Nikhil Rana and Saksham Jain

Branch : CSIT

Semester: III

Introduction

The voice assistant that we use in form i.e. Alexa is designed to be used efficiently on desktops. Personal assistant software improves user productivity by managing routine tasks of the user and by providing information from online sources to the user. JARVIS is effortless to use. Call the wake word 'JARVIS' followed by the command. And within seconds, it gets executed. Voice searches have dominated over text search. Web searches conducted via mobile devices have only just overtaken those carried out using a computer and the analysts are already predicting that 50% of searches will be via voice by 2022. Virtual assistants are turning out to be smarter than ever. Allow your intelligent assistant to make email work for you. Detect intent, pick out important information, automate processes, and deliver personalized responses. 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 virtual assistant that has access to making intelligent decisions for routine user activities.

A Desktop Assistant or Virtual Assistant is a technology based on artificial intelligence. The software uses a device's microphone to receive voice requests while the voice output takes place at the speaker. But the most exciting thing happens between these two actions.

It is a combination of several different technologies: voice recognition, voice analysis and language processing. It is completely developed using one of the most powerful language python.

A Virtual assistant is an intelligent application that can perform task as per user requirement using voice. Thus, preventing the overhead of giving manual command using keys for any task to be done. Also, It provides an extra edge to the specially abled people i.e. handicapped, blind etc. by providing extra voice support. The project will also help in improving efficiency in terms of time and effort in doing any task.

The project will also help in making system user friendly as desktop assistant will provide ease in accessing any task or application. Also anyone can easily understand the working of this project.

Current System

The Current System are manual Systems where the user need to press keys in order get the desired work done. Word could be of any kind i.e. opening an application, playing music, sending email, opening YouTube. Current Systems lacks voice assistant and hence anyone with any disability such as handicapped or blind can't even access the system .But if there had been a voice assistant available in the system it could be very easy for a blind person to play music or for a handicapped person to open any application or access some other data.

Proposed System

The proposed System consist of a voice assistant in the desktop enabling user to open application, play music , open wikipedia using voice.

The project uses a python library i.e pytsx3 that will help us to convert text to speech. In short, it is a text-to-speech library. It works offline, and it is compatible with Python 2 as well as Python 3.

We have also used Microsoft developed speech API which helps in synthesis and recognition of voice. We have created a function speak() that converts text to speech which will be called inside the main function.

To do Wikipedia searches we have installed Wikipedia module

To play music we need to import os module

To send an email, we need to import a module called smtplib

What is smtplib?

- Simple Mail Transfer Protocol (SMTP) is a protocol that allows us to send emails and route emails between mail servers. An instance method called send mail is present in the SMTP module. This instance method allows us to send an email. It takes 3 parameters:
- The sender: Email address of the sender.

- The receiver: Email of the receiver.
- The *message*: A string message which needs to be sent to one or more than one recipient.

Requirement Specification

Hardware Specicfication:

- Intel Core i3
- 4GB RAM
- 30GB hard drive space

Software Specification:

- Visual Studio Code
- Python should be installed

Future Scope

In the present system that we have created we have added voice support for commonly and most frequently used services provided by a computer system but still there are other functionalities that could be provided with voice assistant. So in future to make the system work for a wider range of users we could add voice support to even rarely used services . this will also enhance its scope in the market.

Voice search is implemented as a two-stage search procedure where string candidates generated by an automatic speech recognition (ASR) system are re-scored in order to identify the best matching entry from a potentially very large application specific database. Study provides a good example of how additional domain specific knowledge sources can be used with a domain independent ASR system to

facilitate voice access to online search indices. As more data becomes available for a given speech recognition task, the natural way to improve recognition International Journal of Engineering Research and Technology. Accuracy is to train larger acoustic models. There is a nonparametric empirical model that exploits abundant training data to directly learn pronunciation variation. Inter with a parametric model yields the best performance, with a relative improvement of 5.2% in WER over the baseline. There are a number of ways in which this work could be extended. First, closer integration with acoustic model t is likely to yield sharper distributions and a tighter fit to the data. Second, estimating word pronunciation co counts in semi-supervised fashion (e.g. through word recognition instead of forced alignment) would broaden its applicability to a wide range of speech genres and tasks.