MINI PROJECT REPORT

(PCA20P02L –MINI PROJECT**:** III Semester II Year – MCA)

ON

“Voice Assistance Using Python”

SUBMITTED BY:

NAME: Jatin Sharma

REG. NO.: RA2132241030008

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UNDER THE SUPERVISION OF

Dr. Rupak Sharma

DEPARTMENT OF COMPUTER APPLICATIONS

SRM Institute of Science & Technology

(NCR CAMPUS, MODINAGAR)

Contents of Report

INDEX

S.NO	TITLE OF EXPERIMENT	DATE	PAGE NO.	SIGNATURE /REMARKS

SRM INSTITUTE OF SCIENCE & TECHNOLOGY, NCR CAMPUS, MODINAGAR

DEPARTMENT OF COMPUTER APPLICATIONS

DECLARATION BY STUDENT

This is certified that the research work of MINI PROJECT (PCA20P02L) done in this report on topic "**Voice Assistance Using Python**" was carried out by me under the supervision of Dr. Rupak Sharma.

Name & Signature
of the student

Name & Signature of Guide

ABSTRACT

The main objective of this project is to build a program that will be able to service to humans like a personal assistant. It will provide number of features of day-to-day life, so we don't have to type all the basic question on our web browser or like we want to listen some song but I have to type the name of that song but through voice assistance I don't have to do this, I simply say my assistance to play song and It will do it. There is no of task which can we done by voice command.

In this modern era, day to day life became smarter and inter-linked with technology. We already know some voice assistance like Google, Siri. Etc. This project works on voice input and gives output through voice and displays the text on the screen. The main agenda of our voice assistance makes people smart and give instant and computed results. The voice assistance takes the voice input through our microphone (Bluetooth and wired microphone) and it converts our voice into computer understandable language gives the required solutions and answers which are asked by the user. This assistance connects with the World Wide Web to provide results that the user has questioned. Natural Language processing algorithm helps computer machines to engage in communication using natural human language in many forms.

We all want to make the use of these computers more comfortable; traditional way to give a command to the computer is through keyboard but a more convenient way is to input the command through voice. Giving input through voice is not only beneficial for the normal people but also for those who are visually impaired who are not able to give the input by using a keyboard. For this purpose, there is a need of a voice assistant which can not only take command through voice but also execute the desired instructions and give output either in the form of voice or any other means.

INTRODUCTION

A virtual assistant is simply an assistant who works remotely. As technological advancements in the 1990s brought reliable internet to more homes, businesses realized they didn't have to bring an employee into the office to get work done, and this led to the first virtual assistants.

Today the developments of artificial intelligence (AI) systems that can organize a natural human - machine interaction (through voice, communication, gestures, facial expressions, etc.) are gaining in popularity. One of the most studied and popular was the direction of interaction, based on the understanding of the machine by the machine of the natural human language. It is no longer a human who learns to communicate with a machine, but a machine learns to communicate with a human, exploring his actions, habits, behavior and trying to become his personalized assistant.

A Voice Assistant is a piece of software that communicates to the user audibly, and responds to spoken commands. It's technology like Google Home, Siri and Alexa that can be used to literally talk to a computer, a Smartphone, or another device. It can perform tasks or services for an individual based on commands or questions. Users can ask their assistants questions, media play back via voice, and manage other basic tasks such as news, jocks, facts and search information on Wikipedia and Google with verbal commands.

Each company developer of the intelligent assistant applies his own specific methods and approaches for development, which in turn affects the final product. One assistant can synthesize speech more qualitatively, another can more accurately and without additional explanations and corrections perform tasks, others can perform a narrower range of tasks, but most accurately and as the user wants. Obviously, there is no universal assistant who would perform all tasks equally well. The set of characteristics that an assistant has depends entirely on which area the developer has paid more attention to. Since all systems are based on machine learning 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 source of this data, be it search systems, various information sources or social networks. The amount of information from different sources determines the nature of the assistant, which can result as a result. Despite the different approaches to learning, different algorithms and techniques, the principle of building such systems remain approximately the same. Figure 1 shows the technologies that are used to create intelligent systems of interaction with a human by his natural language. The main technologies are voice activation, automatic speech recognition, Teach-To-Speech, voice biometrics, dialogue manager, natural language understanding and named entity recognition.

PROJECT MODULE DESCRIPTION

In this Project physically disable person or the person having less knowledge about Technology or how to access the devices like Laptop or mobile, can easily access the device with their voice or speech command. This application includes the functions and services such as: location services, music player service, checking weather, Google search, Wikipedia search, Fun facts. The list below indicates the information and the requirements of each individual function.

A virtual Assistance can provide a number of benefits to your business. When budgets are tight, hiring a virtual PA can be an effective way to cut business costs. By outsourcing your PA activity, your business can reduce (or remove completely) some of the costs associated with a full-time employee, such as benefits, training and utility.

In this project we can play song, search information on Wikipedia and Google, search location on map, also get daily news, also listen jocks and facts and also send WhatsApp message to our contact and also found about temperature outside and there will be many more future possibilities.

MODULE WORKED ON IN THIS PROJECT

1. 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 to how to make use of the SpeechRecognition library of Python. This is useful as it can be used on microcontrollers such as Raspberri Pis with the help of an external microphone.

- Required Installations

The following must be installed:

Python Speech Recognition module:

sudo pip install SpeechRecognition
PyAudio: Use the following command for Linux users

sudo apt-get install python-pyaudio python3-pyaudio
If the versions in the repositories are too old, install pyaudio using the following command

sudo apt-get install portaudio19-dev python-all-dev python3-all-dev &&
sudo pip install pyaudio
Use pip3 instead of pip for python3. Windows users can install pyaudio by executing the following command in a terminal

pip install pyaudio

- Speech Input Using a Microphone and Translation of Speech to Text :-

a) Make a note of this as it will be used in the program.

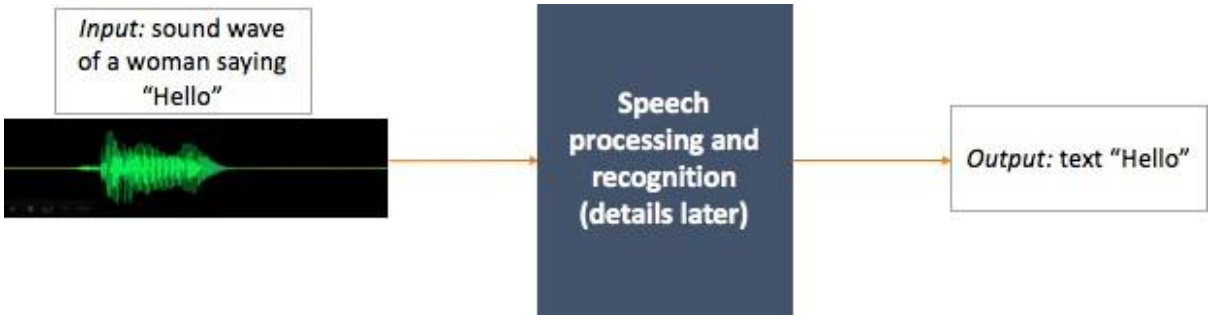
b) Set Chunk Size: This basically involved specifying how many bytes of data we want to read at once. Typically, this value is specified in powers of 2 such as 1024 or 2048.

c) Set Sampling Rate: Sampling rate defines how often values are recorded for processing.

d) Set Device ID to the selected microphone: In this step, we specify the device ID of the microphone that we wish to use in order to avoid ambiguity in case there are multiple microphones. This also helps debug, in the sense that, while running the program, we will know whether the specified microphone is being recognized. During the program, we specify a parameter device_id. The program will say that device_id could not be found if the microphone is not recognized.

e) Allow Adjusting for Ambient Noise: Since the surrounding noise varies, we must allow the program a second or two to adjust the energy threshold of recording so it is adjusted according to the external noise level.

f) Speech to text translation: This is done with the help of Google Speech Recognition. This requires an active internet connection to work. However, there are certain offline Recognition systems such as PocketSphinx that have a very rigorous installation process that requires several dependencies. Google Speech Recognition is one of the easiest to use.

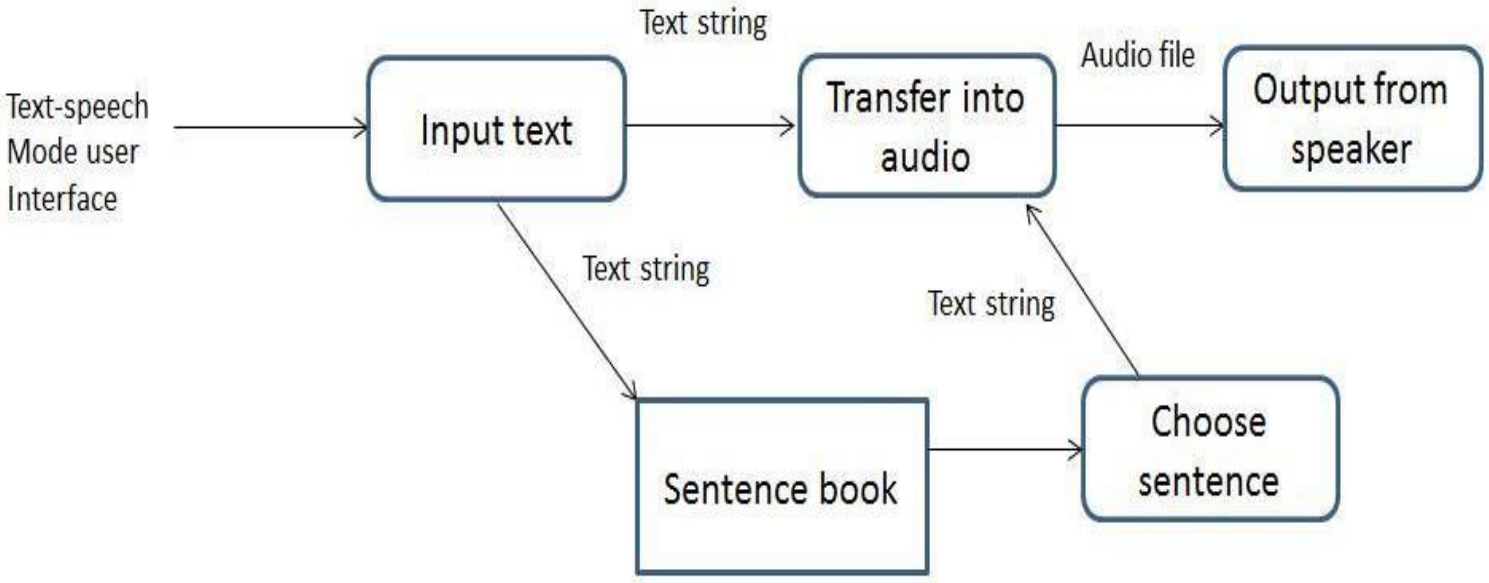


2. Python | Text to Speech by using pyttsx3

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. An application invokes the pyttsx3.init() factory function to get a reference to a pyttsx3. Engine instance. it is a very easy to use tool which converts the entered text into speech. The pyttsx3 module supports two voices first is female and the second is male which is provided by "sapi5" for windows. It supports three TTS engines :

sapi5 – SAPI5 on Windows
nsss – NSSpeechSynthesizer on Mac OS X
espeak – eSpeak on every other platform
Installation To install the pyttsx3 module, first of all, you have to open the terminal and write

pip install pyttsx3



3. Selenium

Selenium is a powerful tool for controlling web browsers through programs and performing browser automation. It is functional for all browsers, works on all major OS and its scripts are written in various languages i.e Python, Java, C#, etc, we will be working with Python. Selenium Tutorial covers all topics such as – WebDriver, WebElement, Unit Testing with selenium. This Python Selenium Tutorial covers Selenium from basics to advanced and professional uses.

Why learn Selenium Python ?

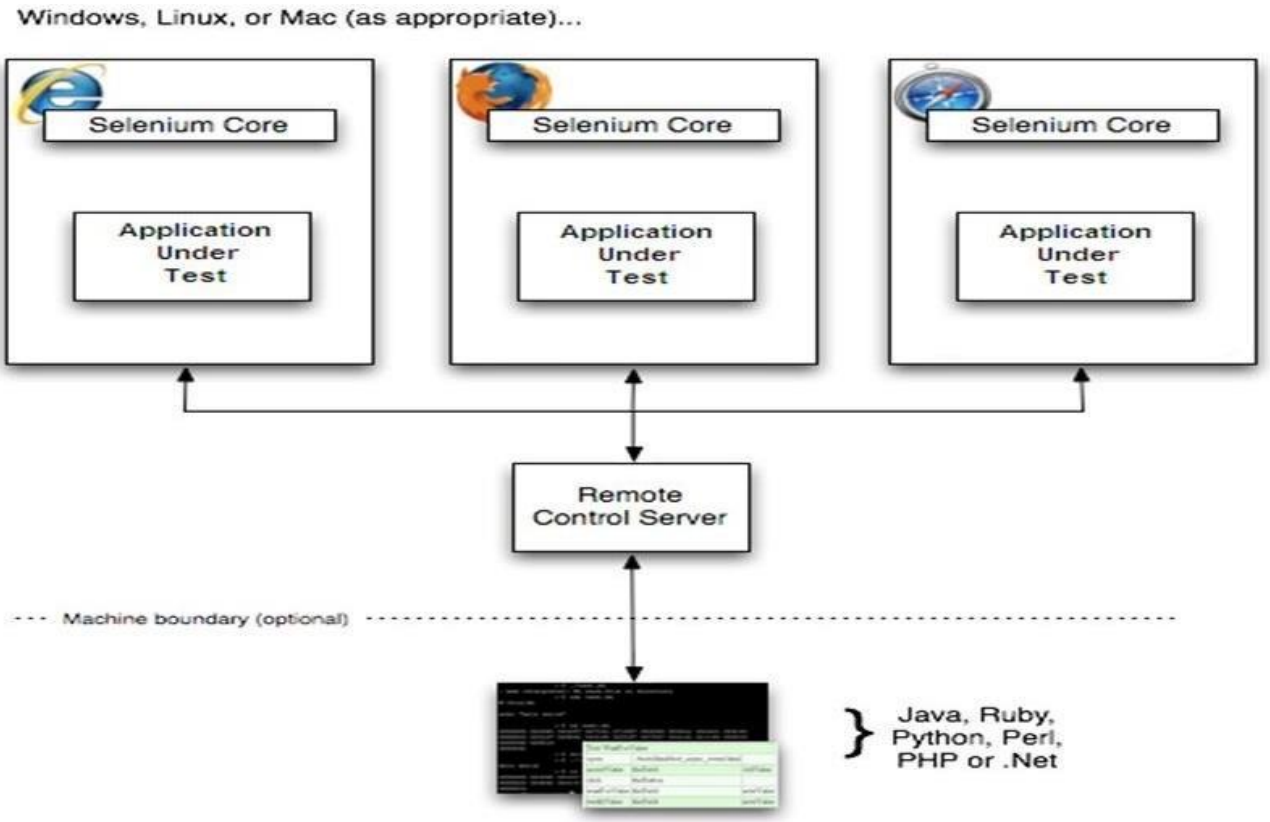
a) Open Source and Portable – Selenium is an open source and portable Web testing Framework.

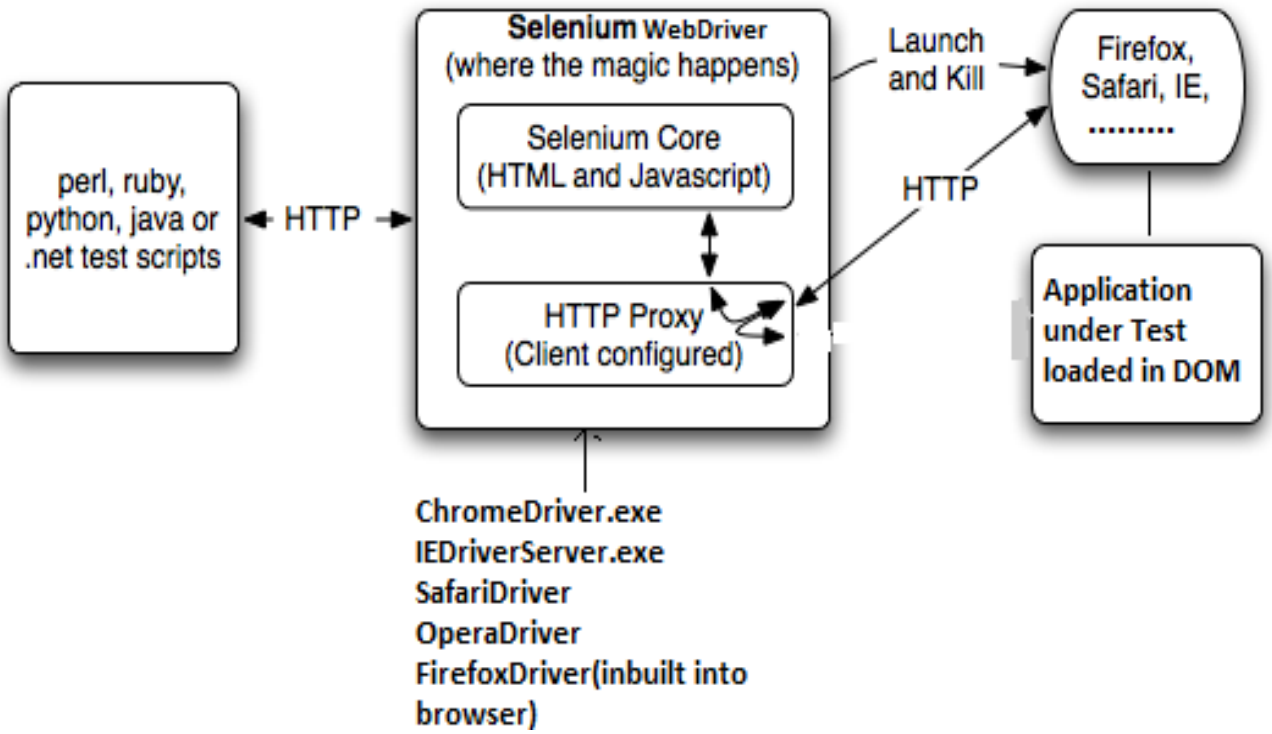
b) Combination of tool and DSL – Selenium is combination of tools and DSL (Domain Specific Language) in order to carry out various types of tests.

c) Easier to understand and implement – Selenium commands are categorized in terms of different classes which make it easier to understand and implement.

d) Less burden and stress for testers – As mentioned above, the amount of time required to do testing repeated test scenarios on each and every new build is reduced to zero, almost. Hence, the burden of tester gets reduced.

e) Cost reduction for the Business Clients – The Business needs to pay the testers their salary, which is saved using automation testing tool. The automation not only saves time but gets cost benefits too, to the business.

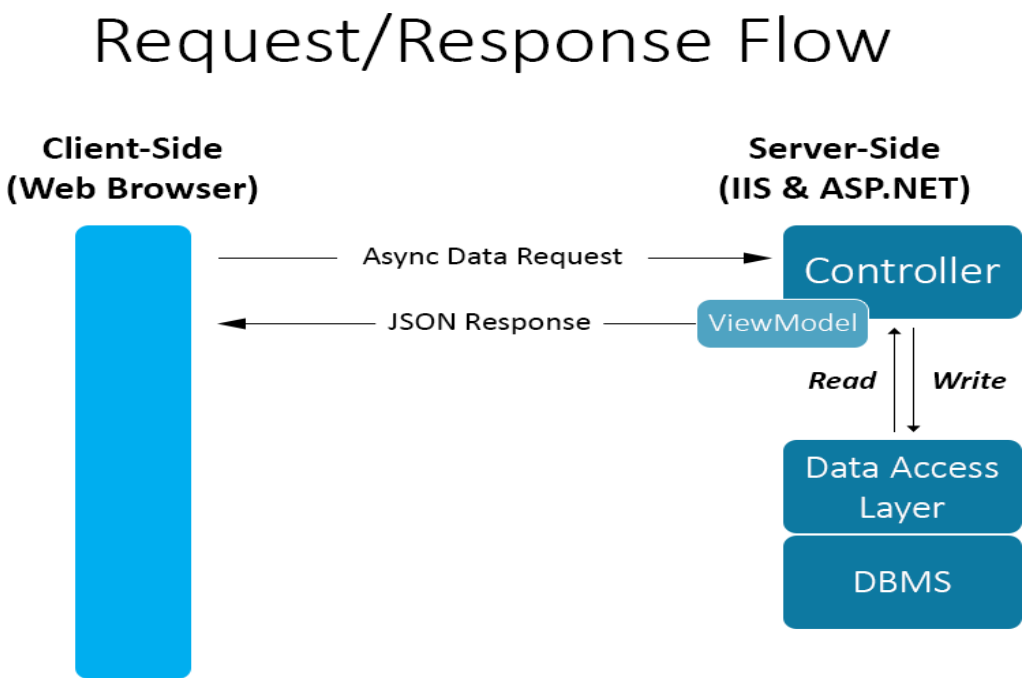



Selenium WebDriver
(where the magic happens)
Selenium Core
(HTML and Javascript)
HTTP Proxy
(Client configured)
perl, ruby,
python, java or
.net test scripts
HTTP
Launch
and Kill
Firefox,
Safari, IE,
.....
HTTP
Application
under Test
loaded in DOM
ChromeDriver.exe
IEDriverServer.exe
SafariDriver
OperaDriver
FirefoxDriver(inbuilt into
browser)

4. Request

Requests is an Apache2 Licensed HTTP library, written in Python. It is designed to be used by humans to interact with the language. This means you don't have to manually add query strings to URLs, or form-encode your POST data. Don't worry if that made no sense to you. It will in due time.

Requests will allow you to send HTTP/1.1 requests using Python. With it, you can add content like headers, form data, multipart files, and parameters via simple Python libraries. It also allows you to access the response data of Python in the same way.



5. Random

This module implements pseudo-random number generators for various distributions.

For integers, there is uniform selection from a range. For sequences, there is uniform selection of a random element, a function to generate a random permutation of a list in-place, and a function for random sampling without replacement.

On the real line, there are functions to compute uniform, normal (Gaussian), lognormal, negative exponential, gamma, and beta distributions. For generating distributions of angles, the von Mises distribution is available.

Almost all module functions depend on the basic function random(), which generates a random float uniformly in the semi-open range [0.0, 1.0). Python uses the Mersenne Twister as the core generator. It produces 53-bit precision floats and has a period of 2**19937-1. The underlying implementation in C is both fast and thread safe. The Mersenne Twister is one of the most extensively tested random number generators in existence. However, being completely deterministic, it is not suitable for all purposes, and is completely unsuitable for cryptographic purposes.

The functions supplied by this module are actually bound methods of a hidden instance of the random. Random class. You can instantiate your own instances of Random to get generators that don't share state.

6. RandFact

Randfacts is a Python module that generates random facts. You can use randfacts.get_fact() to return a random fun fact. Disclaimer: Facts are not guaranteed to be true.

```
1 ) There are about 500,000 detectable earthquakes in the world each year. 100,000 of those can be felt, and 100 of them cause damage.
2 ) 2% of people who jump off the Golden Gate Bridge survive the fall. One man even jumped off for "fun".
3 ) Christianity began as a Second Temple Judaic sect in the mid-1st century in Judea. It quickly spread to Europe, Mesopotamia, Asia and by the 4th century ha
4 ) An Indian man claims he hasn't eaten or drunk for 70 years. After many tests, doctors still don't know how it's possible
5 ) The richest man in Asia, Sir Ka-shing Li, dropped out of school at the age of 15.
6 ) The Komodo dragon is the national animal of Indonesia.
7 ) Colombia's drug trade is worth US$10 billion. That's one-quarter as much as the country's legal exports.
8 ) The Macaw is the national animal of Brazil.
9 ) By the end of 2019, Facebook had offices in 70 cities worldwide.
10 ) Harry Potter's author J.K. Rowling lost her billionaire status because she donated so much of her money to charity.
```

7. Pyjokes

Python supports creation of random jokes using one of its libraries. Let us explore it a little more, Pyjokes is a python library that is used to create one-line jokes for programmers. Informally, it can also be referred as a fun python library which is pretty simple to use. Let us see how you can actually use it to perform the required task.

Installation
You can simply install it using pip with the following command:

pip install pyjokes

Usage
Now to use it, we need to import the installed library in our python Script using the following command:

import pyjokes
Before, moving further towards our python script, it is necessary to get familiar with the two functions of Pyjokes library, namely get_joke() and get_jokes().

Functions
get_joke()
Syntax:

get_joke(language,category)
As the name suggests, this function is used to actually return a single joke from a certain category and in a particular language, (Categories and languages will be introduced later in this article).

get_jokes()
Syntax:

get_jokes(language,category)
It is similar to the get_joke() function, the only difference lies in the fact that instead of returning a single joke, it returns a list of random jokes from a certain category and in a particular language.

Parameters
Language and category are the two parameters of get_joke() and get_jokes() functions.

Language specifies in which language you want the joke(s) to be displayed. By default, it is set to “en” that returns jokes in English. All other possible values for language parameter are described below:

Language	Values
en	English
de	German
es	Spanish
it	Italian
gl	Galician
eu	Basque

Similarly, the category parameter specifies the category in which you want joke(s) to be displayed. By default, it is set to “neutral”. All other possible values for the category parameter are described below:

Category	Values
Neutral	Neutral geeky jokes
twister	Tongue-twister
all	All types of joke

8. Datetime

In Python, date and time are not a data type of their own, but a module named datetime can be imported to work with the date as well as time. Python Datetime module comes built into Python, so there is no need to install it externally.

Python Datetime module supplies classes to work with date and time. These classes provide a number of functions to deal with dates, times and time intervals. Date and datetime are an object in Python, so when you manipulate them, you are actually manipulating objects and not string or timestamps.

The DateTime module is categorized into 6 main classes –

a) date – An idealized naive date, assuming the current Gregorian calendar always was, and always will be, in effect. Its attributes are year, month and day.

b) time – An idealized time, independent of any particular day, assuming that every day has exactly 24*60*60 seconds. Its attributes are hour, minute, second, microsecond, and tzinfo.

c) datetime – Its a combination of date and time along with the attributes year, month, day, hour, minute, second, microsecond, and tzinfo.

d) timedelta – A duration expressing the difference between two date, time, or datetime instances to microsecond resolution.

e) tzinfo – It provides time zone information objects.

f) timezone – A class that implements the tzinfo abstract base class as a fixed offset from the UTC (New in version 3.2).

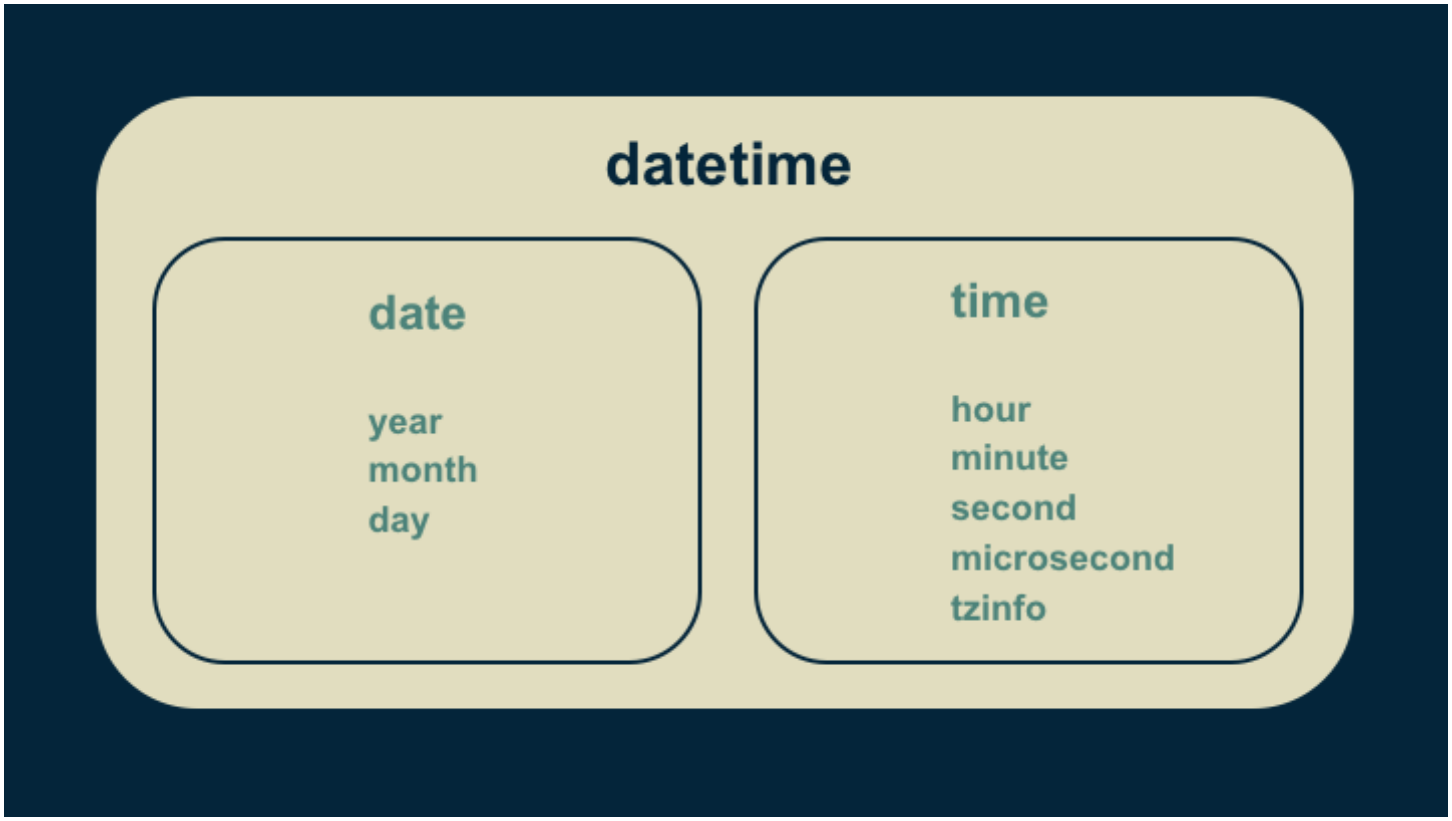
Date class

The date class is used to instantiate date objects in Python. When an object of this class is instantiated, it represents a date in the format YYYY-MM-DD. Constructor of this class needs three mandatory arguments year, month and date.

Constructor syntax:

class datetime.date(year, month, day)
The arguments must be in the following range –

MINYEAR <= year <= MAXYEAR
1 <= month <= 12
1 <= day <= number of days in the given month and year
Note – If the argument is not an integer it will raise a TypeError and if it is outside the range a ValueError will be raised.


datetime
date
year
month
day
time
hour
minute
second
microsecond
tzinfo

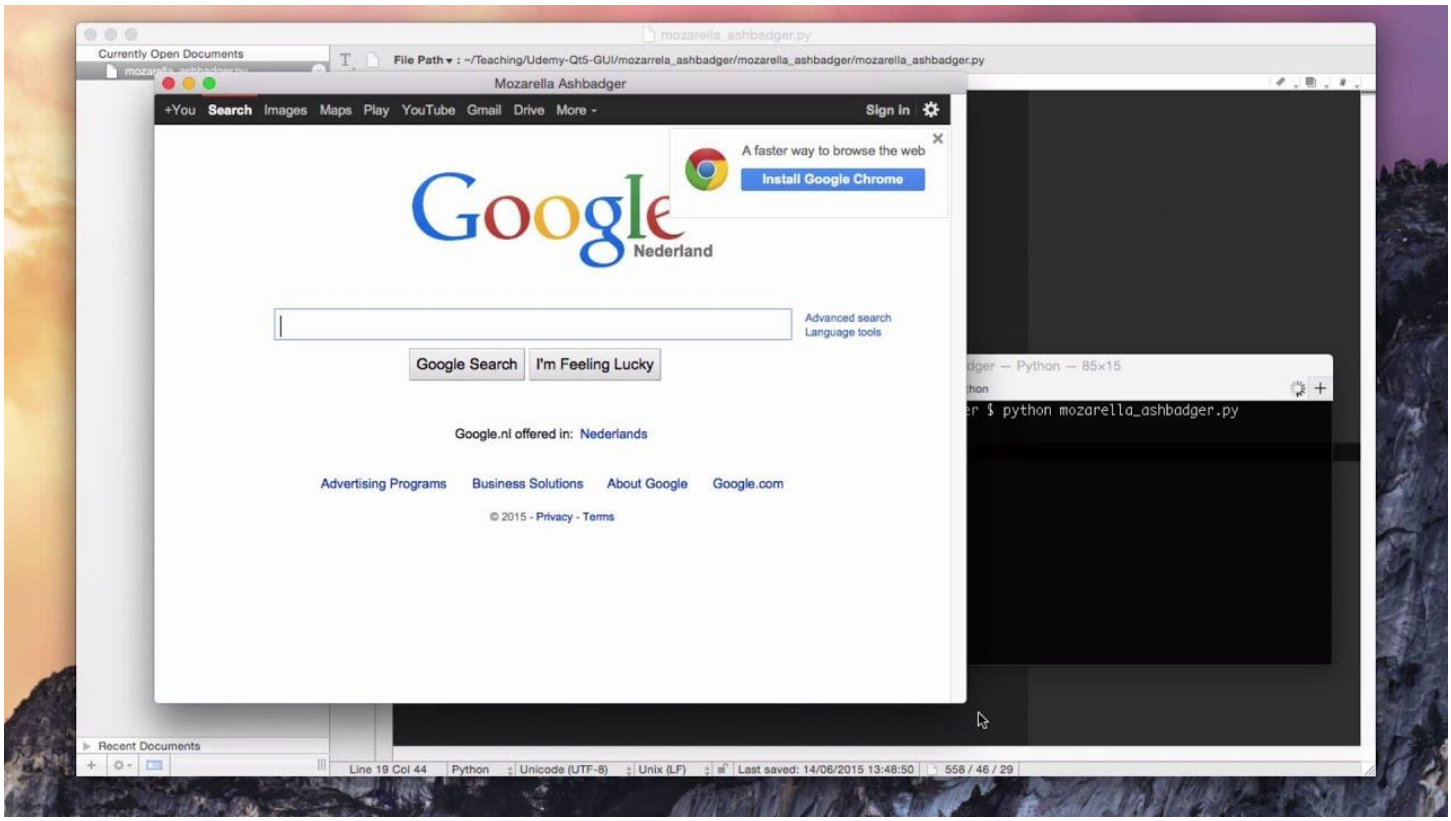
9. Web-Browser

In Python, webbrowser module is a convenient web browser controller. It provides a high-level interface that allows displaying Web-based documents to users.

webbrowser can also be used as a CLI tool. It accepts a URL as the argument with the following optional parameters: -n opens the URL in a new browser window, if possible, and -t opens the URL in a new browser tab.

NOTE: webbrowser is part of the python standard library. Therefore, there is no need to install a separate package to use it.

Being able to easily launch a browser can be a useful operation in many scripts. For example, maybe a script performs some kind of deployment to a server and one would like to have it quickly launch a browser so one can verify that it's working. Or maybe a program writes data out in the form of HTML pages and just like to fire up a browser to see the result. Either way, the webbrowser module is a simple solution.



10. Pywhatkit

Python offers numerous inbuilt libraries to ease our work. Among them pywhatkit is a Python library for sending WhatsApp messages at a certain time, it has several other features too.

Following are some features of pywhatkit module:

a) Send WhatsApp messages.
b) Play a YouTube video.
c) Perform a Google Search.
d) Get information on a particular topic.
e) The pywhatkit module can also be used for converting text into handwritten text images.

In Python3 pywhatkit module will not come pre-installed, so you can install it by using the command:
pip install pywhatkit

I. Send Whatsapp Messages:

Here, we will learn the simplest way of using pywhatkit module which utilises the WhatsApp webpage to automate messages sending to any number on WhatsApp. But make sure that you have logged into your WhatsApp in your browser.

Syntax: pywhatkit.sendmsg("receiver mobile number","message",hours,minutes)

Parameters:

Receiver mobile number: The Receiver's mobile number must be in string format and the country code must be mentioned before the mobile number.
Message: Message to be sent(Must be in string format).
Hours: This module follows the 24 hrs time format.
Minutes: Mention minutes of the scheduled time for the message(00-59).

II. Play a YouTube video:

Function pywhatkit.playonyt(), opens the YouTube in your default browser and plays the video you mentioned in the function. If you pass the topic name as parameter, it plays the random video on that topic. On passing the URL of the video as the parameter, it open that exact video.

Syntax: pywhatkit.playonyt("url/topic name")
Parameters:

URL/Topic Name: Mention the topic name or URL of the YouTube video

III. Perform Google Search:

You can perform a Google search using the following simple command. It opens your browser and searches for the topic you have given in your code.

Syntax: pywhatkit.search("Keyword")

Parameters:

Keyword: It open your browser and performs search operation.

IV. Get information on particular topic:

We can get brief information on a particular topic. We can also limit the number of lines to be printed. Also, make sure that you are searching for the topics that are available on Wikipedia.

Syntax: pywhatkit.info("topic",lines=x)

Parameters:

Topic: Gives the output on the topic mentioned.
lines: It prints the searched topic in the specified number of lines.

11. Beautiful Soup

Beautiful Soup is a Python library for pulling data out of HTML and XML files. It works with your favorite parser to provide idiomatic ways of navigating, searching, and modifying the parse tree. It commonly saves programmers hours or days of work. The latest Version of Beautifulsoup is v4.9.3 as of now.

a) Prerequisites
b) Python
c) Pip

How to install Beautifulsoup?

To install Beautifulsoup on Windows, Linux, or any operating system, one would need pip package. To check how to install pip on your operating system, check out – PIP Installation – Windows || Linux.
Now, run a simple command,

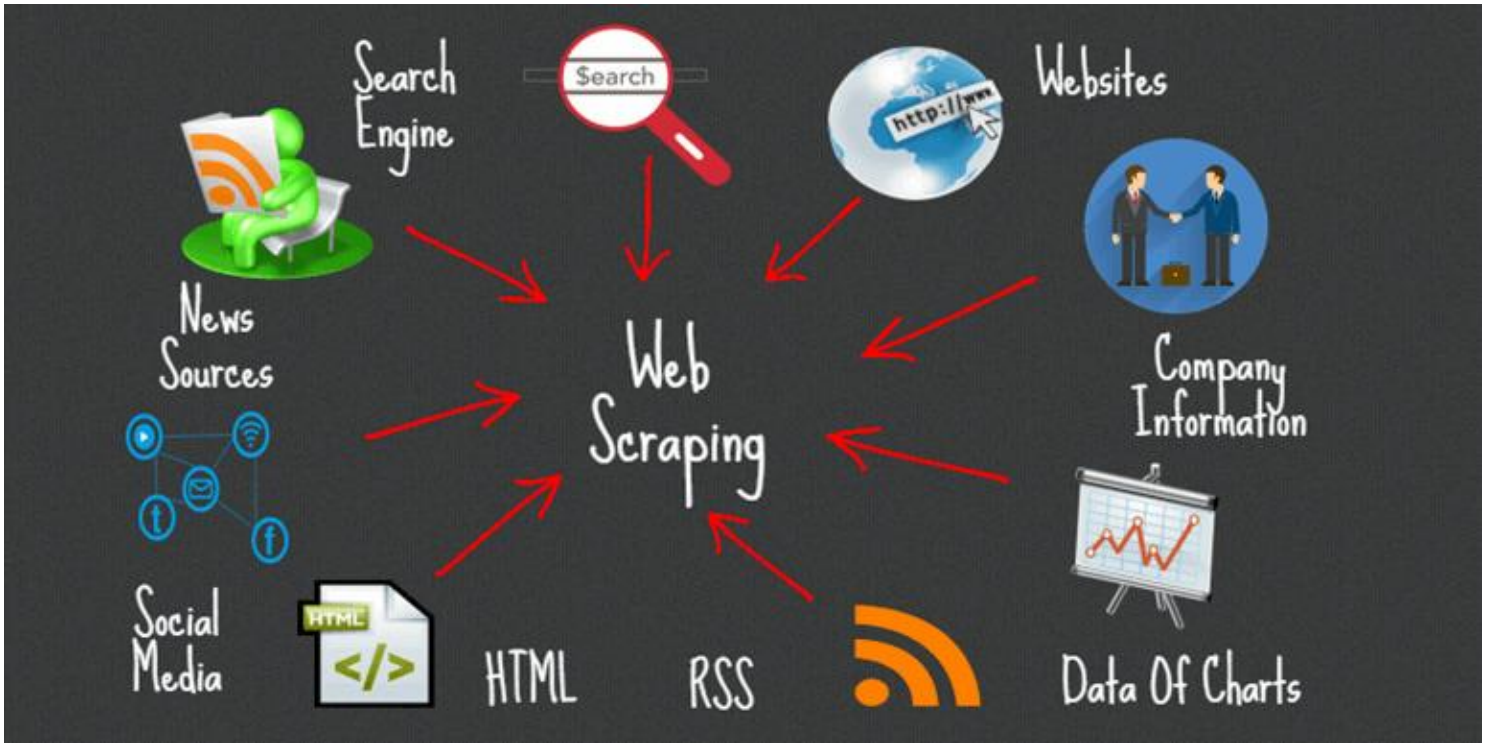
pip install beautifulsoup4
Wait and relax, Beautifulsoup would be installed shortly.

Install Beautifulsoup4 using Source code

One can install beautifulsoup, using source code directly, install beautifulsoup tarball from here – download the Beautiful Soup 4 source tarball after downloading cd into the directory and run,

Python setup.py install

Verifying Installation
To check whether the installation is complete or not, let's try implementing it using python.


Search Engine
Search
Websites
http://www
News Sources
Web Scraping
Company Information
Social Media
HTML
HTML
RSS
Data Of Charts

SRS Report

Tools/ Platform Hardware & Software Requirements

Software Requirement-
PythonV3, Speech Recognition, pyttsx3, pyjokes, datetime, selenium – webdriver, requests, random, randfacts, time, os, webbrowser (Package)
Python installed with Vs-Code (IDE)

Platform-
Windows 8.1 or above

Hardware Requirements-
Minimun-i3 processor,4GB RAM,1GB Space at least Recommeneded-i5 processor,8 GB RAM,10 GB ROM

Structure of Project

Step1-
User give command to Computer

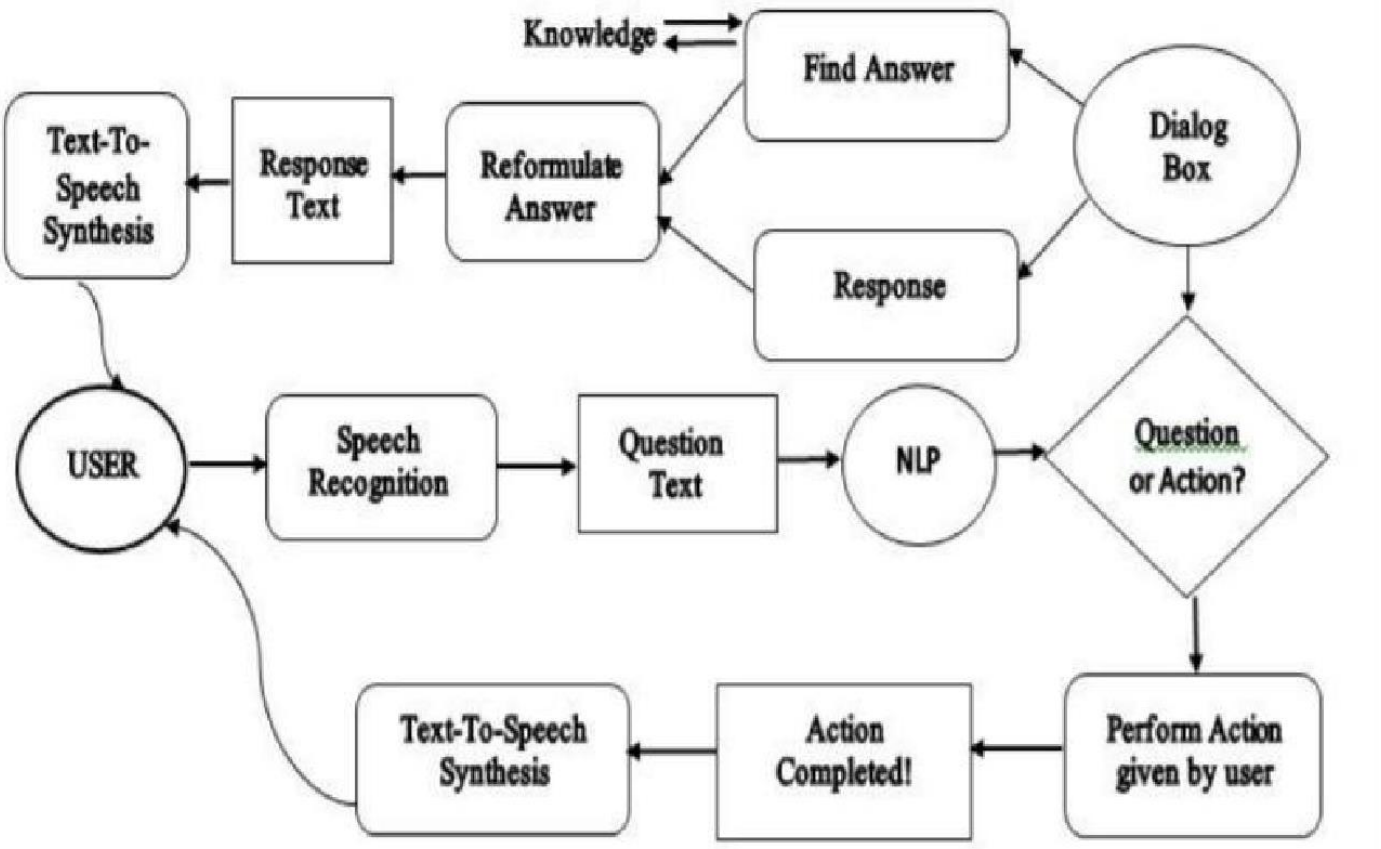
Step2-
Computer convert that command to Text

Step 3-
According to text now it search and find suitable match for that command

Step 4:
It will show the output

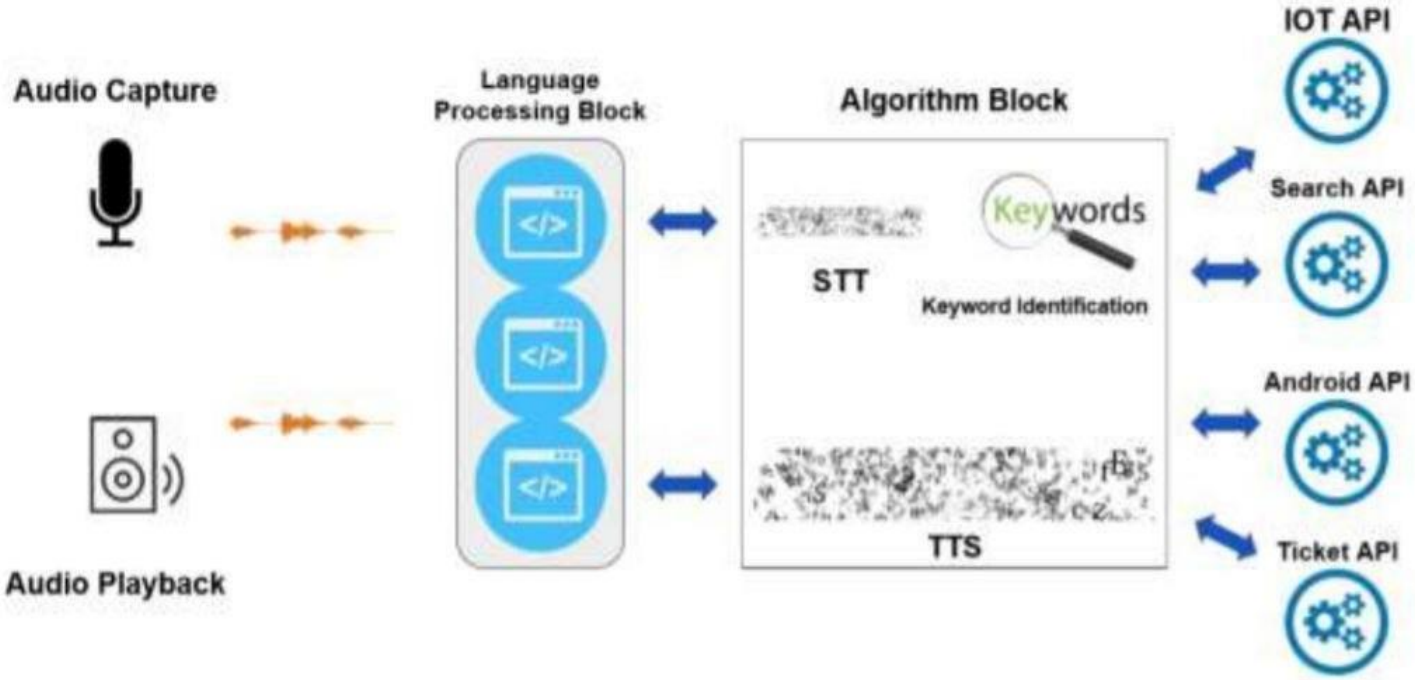
PROJECT DESIGN

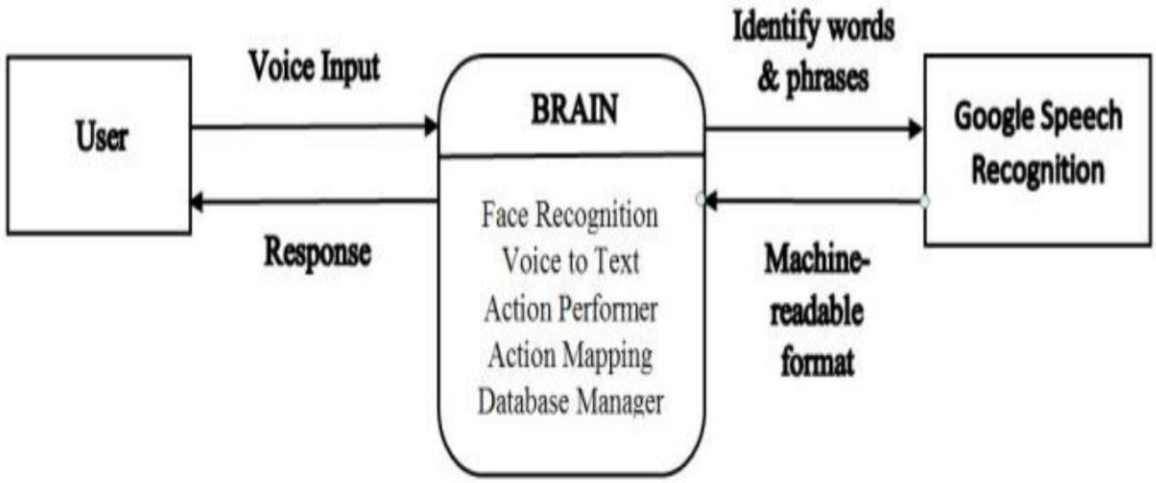
A. ER DIAGRAM Entity Relationship Diagram (ER)

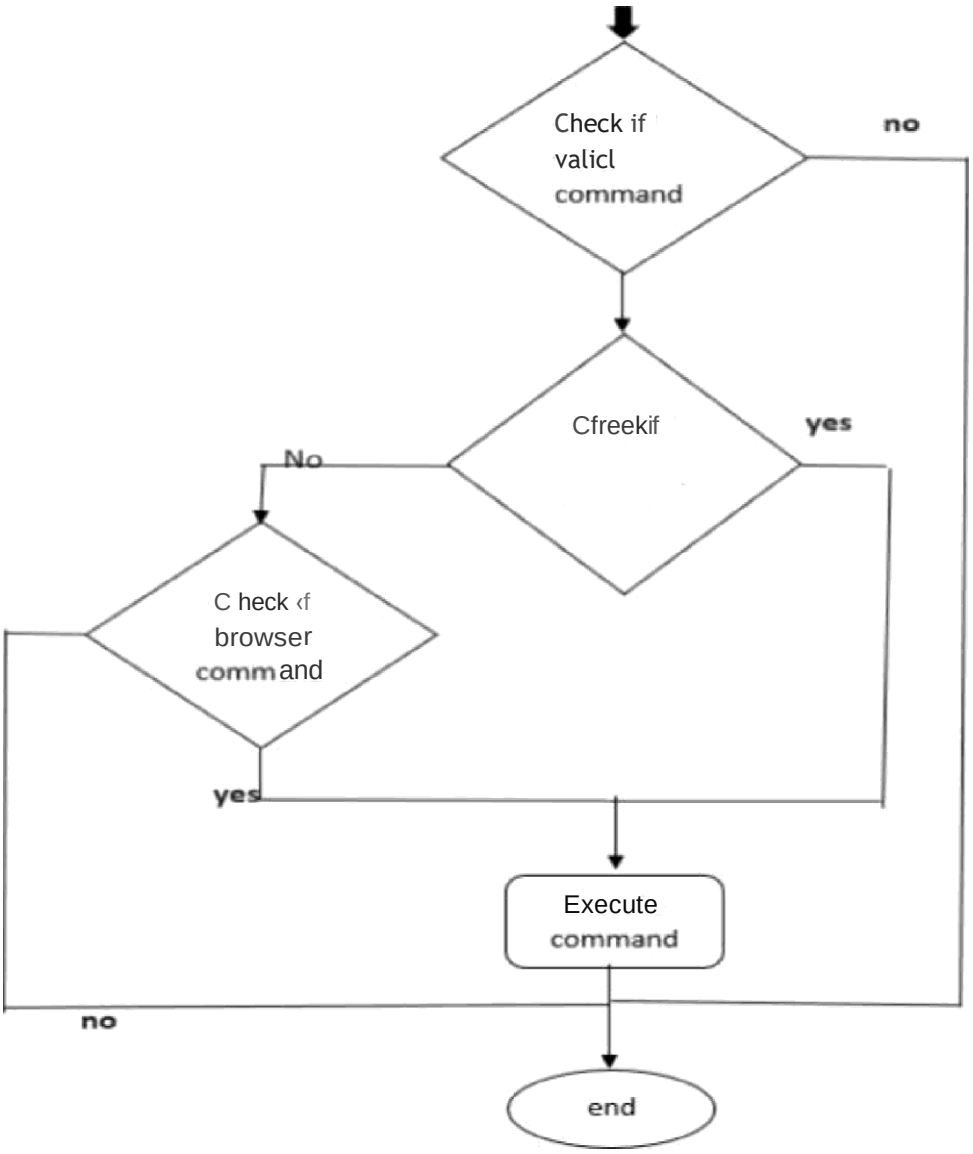


B. Data Flow Diagram (DFD)

C. DATA STRUCTURE






Check if
valicl
command
no
Cfreekif
yes
No
C heck ‹f
browser
comm and
yes
Execute
command
no
end

IMPLEMENTATION

Source Code

```
import pyttsx3 as p
import pyjokes
import speech_recognition as sr
import datetime
from selenium import webdriver
import requests
import random
import randfacts
import time
import os
import webbrowser
import pywhatkit
from bs4 import BeautifulSoup

# search information on  wikipedia


class infow():
    def __init__(self):
        self.driver = webdriver.Chrome("C:\driver\chromedriver.exe")

    def get_info(self, query):
        self.query = query
        self.driver.get(url="https://www.wikipedia.org/")
        search = self.driver.find_element("xpath",
            '//*[@id="searchInput"]')
        search.click()
        search.send_keys(query)
        enter = self.driver.find_element("xpath",
            '//*[@id="search-form"]/fieldset/button')
        enter.click()

    # music play


class music():
    def __init__(self):
        self.driver = webdriver.Chrome("C:\driver\chromedriver.exe")

    def play(self, query):
        self.query = query
        self.driver.get(
            url="https://www.youtube.com/results?search_query=" + query)
        video = self.driver.find_element("xpath",
            '//*[@id="video-title"]/yt-formatted-string')
        video.click()
        time.sleep(50)
```

```
    # news api
api_address = "https://newsapi.org/v2/top-
headlines?country=in&apiKey=e1c3737439c64c0293747f6edaaac43e"

json_data = requests.get(api_address).json()
today_news = []


def news():
    for i in range(3):
        today_news.append("Number "+str(i+1) + ", " +
                          json_data["articles"][i]["title"]+".")
    return today_news


def speak(text):
    engine = p.init()
    voices = engine.getProperty('voices')
    # use voices[0] for male voice
    engine.setProperty('voice', voices[0].id)
    engine.setProperty('rate', 125)
    engine.say(text)
    engine.runAndWait()


def wishme():
    hour = int(datetime.datetime.now().hour)
    if hour >= 0 and hour < 12:
        speak("Good Morning " + "Jatin how may I help you..")
        print(("Good Morning " + "Jatin how may I help you.."))
    elif hour >= 12 and hour < 18:
        speak("Good Afternoon " + "Jatin how may I help you..")
        print("Good Afternoon " + "Jatin how may I help you..")
    else:
        speak("Good Evening " + "Jatin how may I help you..")
        print("Good Evening " + "Jatin how may I help you..")

def listenCommand():
    r = sr.Recognizer()
    with sr.Microphone() as source:
        r.energy_threshold = 10000
        r.adjust_for_ambient_noise(source, 1.2)
        text = ''
        speak("Listening...")
        # print("Listening...")
        audio = r.listen(source)
        try:
            text = r.recognize_google(audio)
            print(text)
        except Exception as e:
            print(e)
```

```
            print("Say that again sir")
            return "None"
    return text

def questions():
    command = listenCommand()
    command = str(command).lower()

    if "what is your name" in command:
        speak('My name is groot ,How may i help you')
        print('My name is groot ,How may i help you')

    elif "wikipedia" in command:
        speak("you need information on what topic")
        inform = listenCommand()
        speak("Kindly wait i am searching for {} in wikipedia".format(inform))
        print("Kindly wait i am searching for {} in wikipedia".format(inform))
        webresult = infow()
        webresult.get_info(inform)
        speak("Information is  on the screen")
        print("Information is  on the screen")

    elif "song" in command:
        speak("  Which song would u like me to play")
        print("Which song would u like me to play")
        vid = str(listenCommand())
        speak("playing "+vid)
        assit = music()
        assit.play(vid)

    elif "news" in command:
        speak("sure sir, now i will read news for you")
        print("sure sir, now i will read news for you")
        top = news()
        for i in range(len(top)):
            print(top[i])
            speak(top[i])

    elif "jokes" in command:
        fun_jock = pyjokes.get_joke()
        speak("Ready for a laugh")
        print(fun_jock)
        speak(fun_jock)

    elif "fact" in command:
        speak("its fact time")
        print("its fact time")
        x = randfacts.getFact()
        print(x)
        speak("Did you know that ,"+x)

    elif "location" in command:
```

```
    speak('what is the location you want to search')
    print('what is the location you want to search')
    location = listenCommand()
    url = 'https://google.nl/maps/place/' + location + '/&amp;'
    webbrowser.get().open(url)
    speak('here is the location ' + location)

elif "google" in command:
    speak("what would you like to search")
    search_ = listenCommand()
    url = 'https://google.com/search?q=' + search_
    webbrowser.get().open(url)
    print("your informtaion is displayed")
    speak("your informtaion is displayed")

elif "time" in command:
    time_now = time.ctime()
    print(time_now)
    speak(time_now)

elif "exit" in command:
    speak("By have a nice day")
    print("By have a nice day")
    exit()

elif "whatsapp" in command:
    speak("what is your messege")
    print("what is your messege?")
    messege_ = listenCommand()
        # print(messege_)
    speak("whom you want to send messege")
    print("whom you want to send messege ?")
    no = {"My no.": '+918851551359',
          "Jio": '+919999999999', "Keshav": '+919990202651'}
    name = listenCommand()
    for name1, number in no.items():
        if name1 == name:
            print(number)
    # print(number)
    # print(messege_)
    pywhatkit.sendwhatmsg_instantly(number,messege_)

elif "temperature" in command:
    city = "temprature in Ghaziabad"
    url = f"https://www.google.com/search?q={city}"
    r = requests.get(url)
    data = BeautifulSoup(r.text, "html.parser")
    temp = data.find("div", class_="BNeawe").text
    speak(f"current   {city} is {temp}")
    print(f"current   {city} is {temp}")

else:
```

```
        speak("sorry, can u say it again")

wishme()
while 1:
    command = questions()
```

Output

- ✓ Greet Function

✓ Name Function

```
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\HP> & C:/Users/HP/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/HP/Desktop/MCA
SEM - 3/Mini Project/mini project.py"
Good Evening Jatin how may I help you..
what is your name
My name is groot ,How may i help you
```
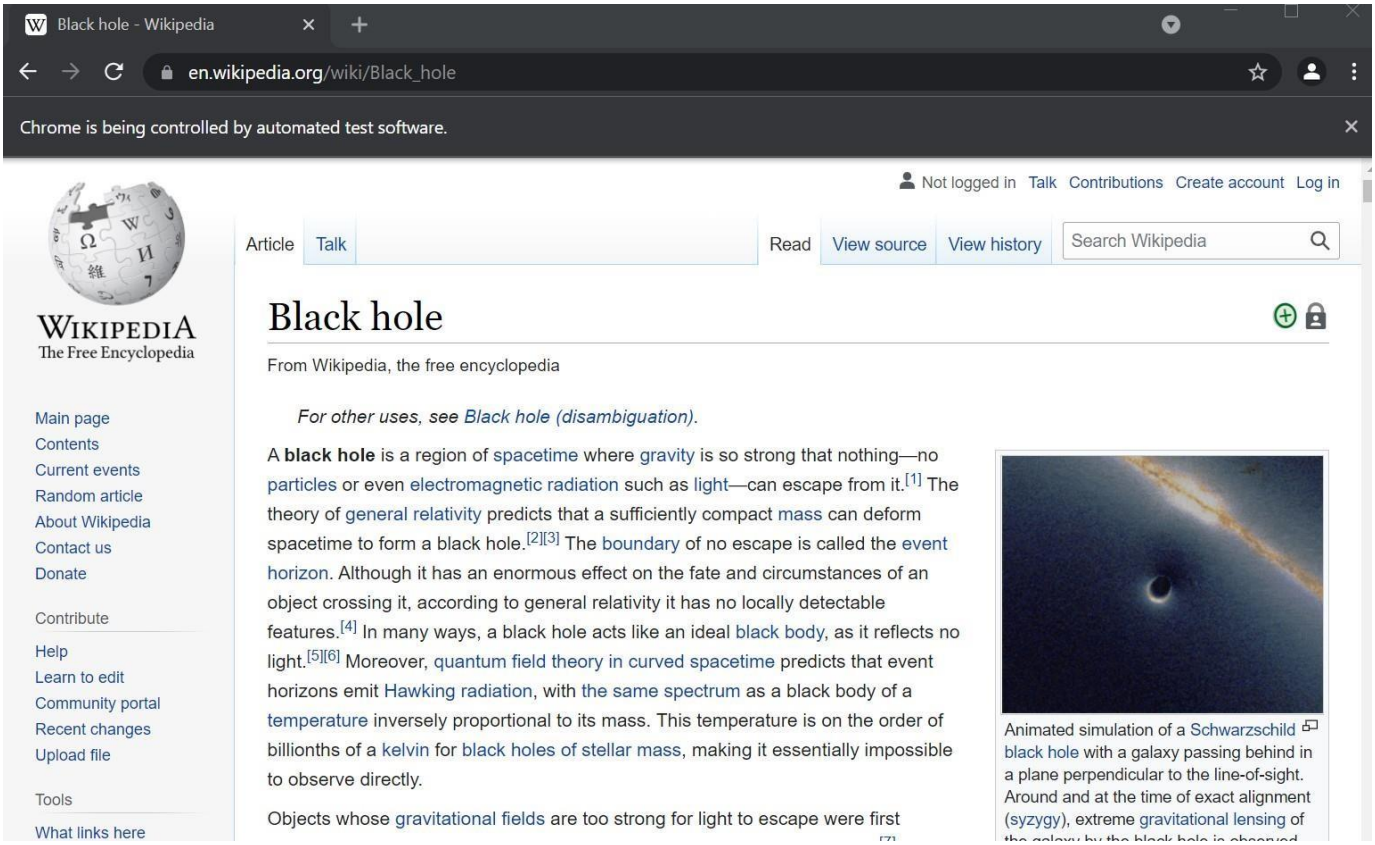
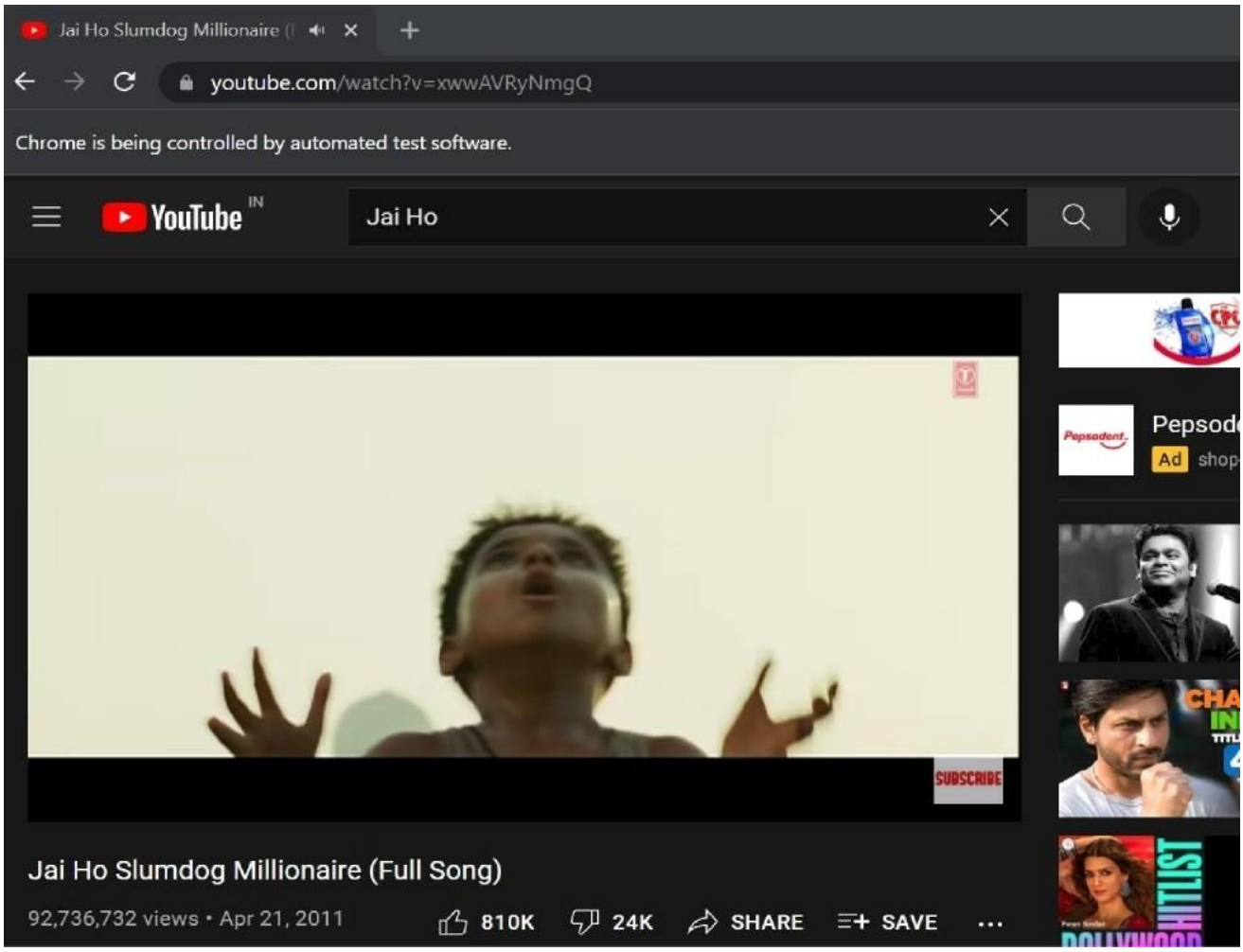

✓ Wikepedia Function

```
Good Afternoon Jatin how may I help you..
what is your name
My name is groot ,How may i help you
Wikipedia
black hole
Kindly wait i am searching for black hole in wikipedia
```



✓ Song Function

```
song on YouTube
Which song would u like me to play
play Jai Ho
```



- ✓ News Function

```
Good Evening Jatin how may I help you..
news
sure sir, now i will read news for you
Number 1, Elections 2022 News LIVE Updates: PM Modi Addresses Rally in Solan, Says 'Have Full Faith in Dou
ble-engine - News18.
Number 2, Cyrus Mistry Accident : Police case filed against woman who drove car in which Cyrus Mistry was
travelling - NDTV.
Number 3, England vs Sri Lanka Highlights, T20 World Cup 2022: England Avoid Sri Lanka Scare To Enter Semi
s; A.. - NDTV Sports.
```

- ✓ Jokes Function

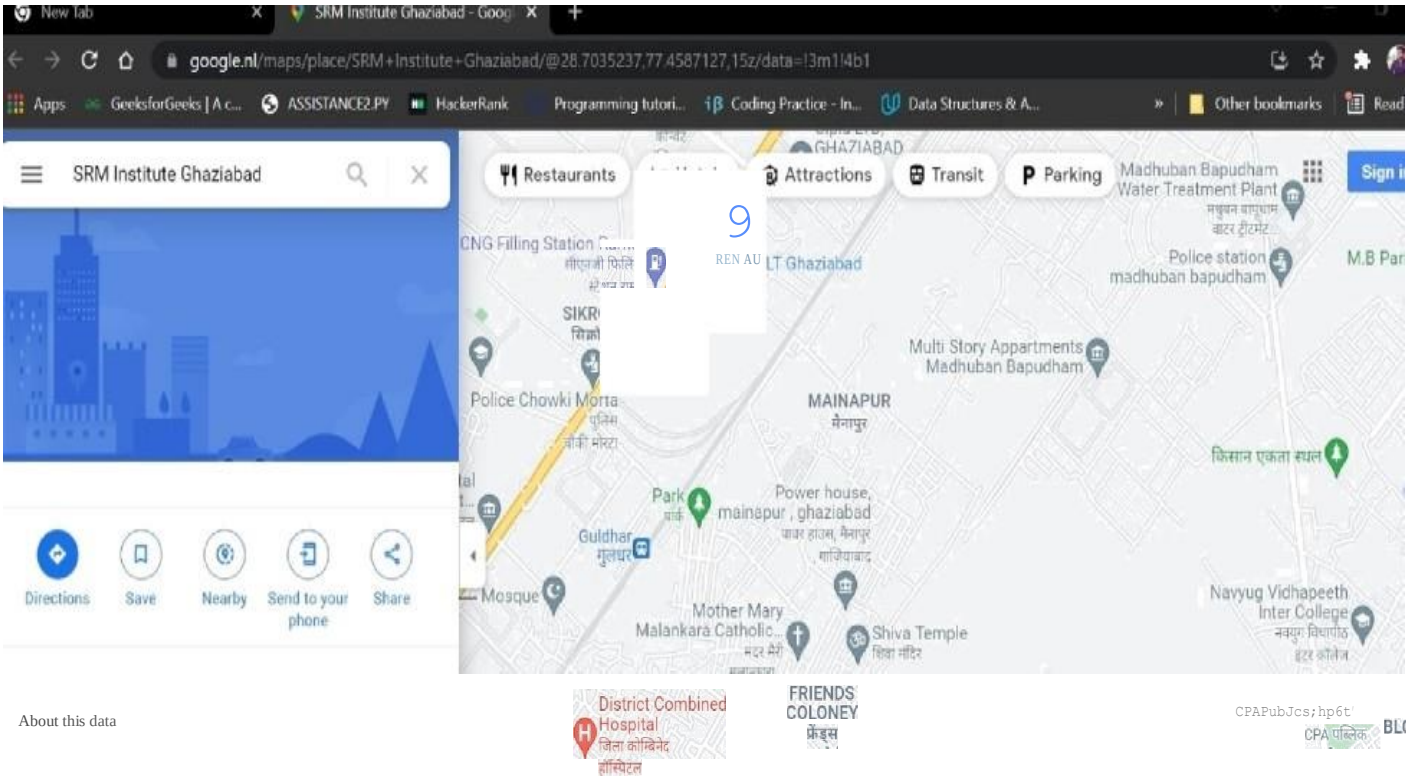
```
Good Evening Jatin how may I help you..
jokes
Why does Waldo only wear stripes? Because he doesn't want to be spotted.
jokes
I suggested holding a 'Python Object Oriented Programming Seminar', but the acronym was unpopular.
jokes
Why did the programmer quit his job? Because he didn't get arrays.
```

- ✓ Fact Function

```
Good Evening Jatin how may I help you..
fact
its fact time
c:\Users\HP\Desktop\MCA SEM - 3\Mini Project\mini project.py:146: DeprecationWarning: getFact is deprecate
d. Please use get_fact
  x = randfacts.getFact()
On any given workday, up to 50,000 employees worked in the WTC twin towers before 9/11.
```

✓ Location Function

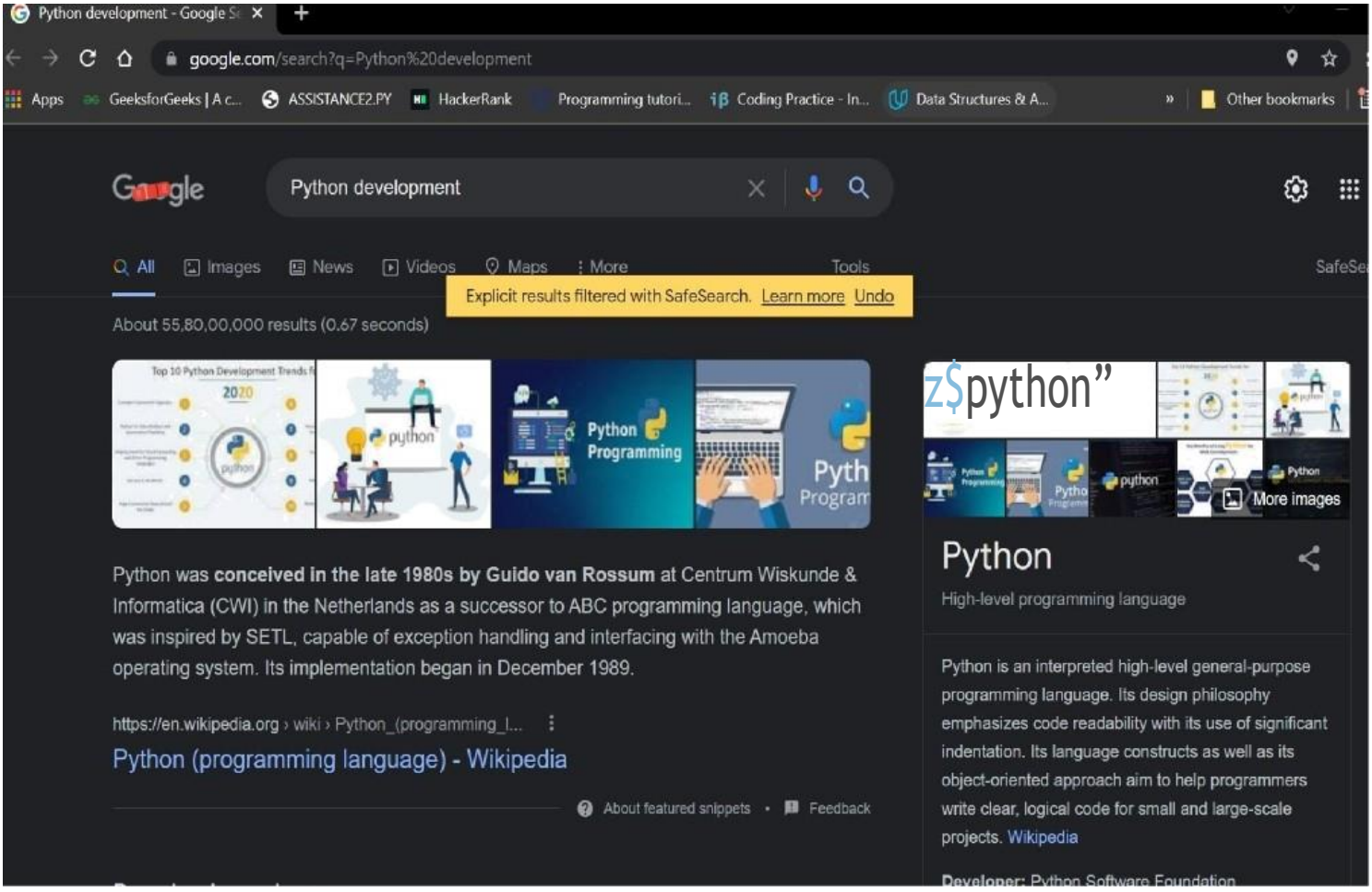
```
Good Evening Jatin how may I help you..
location
what is the location you want to search
SRM Institute Ghaziabad
```



About this data

✓ Google Search Function

```
Good Evening Jatin how may I help you..
Google
Python development
your informtaion is displayed
```



✓ Time &Date Function

```
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\HP> & C:/Users/HP/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/HP/Desktop/MCA
SEM - 3/Mini Project/mini project.py"
Good Evening Jatin how may I help you..
time
Sat Nov  5 19:39:31 2022
```

✓ Temperature Function

```
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\HP> & C:/Users/HP/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/HP/Desktop/MCA
SEM - 3/Mini Project/mini project.py"
Good Evening Jatin how may I help you..
temperature
current   temprature in Ghaziabad is 25°C
```
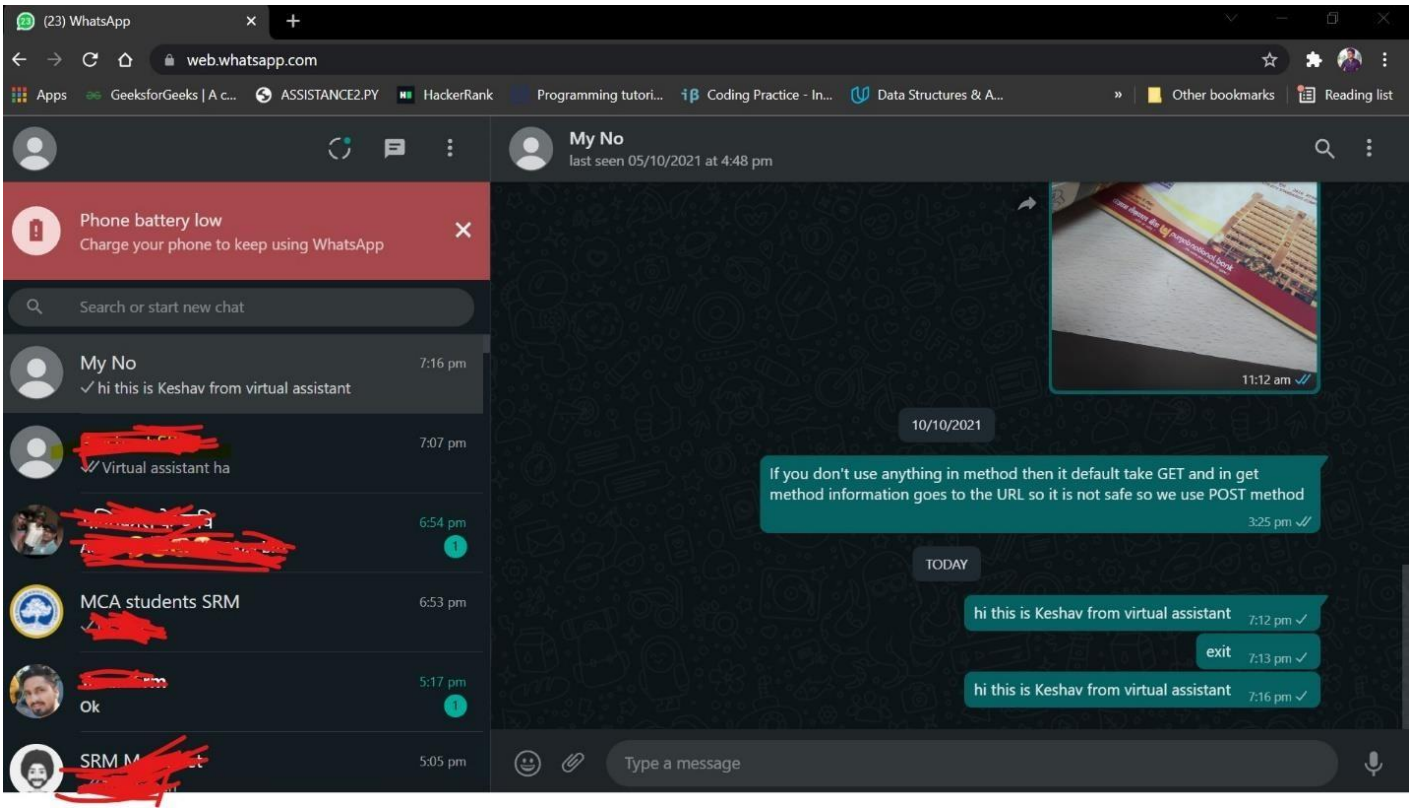

✓ WhatsApp Function

```
Good Evening Jatin how may I help you..
WhatsApp
what is your messege?
this is Jatin
whom you want to send messege ?
send message to Keshav
```



- ✓ None Function

```
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\HP> & C:/Users/HP/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/HP/Desktop/MCA
SEM - 3/Mini Project/mini project.py"
Good Evening Jatin how may I help you..
what is your name
My name is groot ,How may i help you
temperature
current   temprature in Ghaziabad is 25°C
Google

Say that again sir
your informtaion is displayed
```

✓ Exit Function

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\HP> & C:/Users/HP/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/HP/Desktop/MCA
SEM - 3/Mini Project/mini project.py"
Good Evening Jatin how may I help you..
facts
its fact time
c:\Users\HP\Desktop\MCA SEM - 3\Mini Project\mini project.py:146: DeprecationWarning: getFact is deprecate
d. Please use get_fact
  x = randfacts.getFact()
When you sneeze, all your bodily functions stop even your heart.
time
Sat Nov  5 19:52:04 2022
exit
By have a nice day
PS C:\Users\HP>
```

FUTURE OF WORK

In the future, we can also expect to see VA's that is able to process the user commands locally on- device, rather than the data being transmitted to a datacenter. This field of artificial intelligence is called Edge AI, or simply edge computing. This is the type of technology that Tesla and other car vendors use to make their cars able to be aware of its surroundings and to make decisions based on them. Self-driving cars need to be able to make decisions quickly and cannot rely on cloud services that might lag. Therefore, the vehicles must have huge data processing abilities on the device itself. In many ways, it is the heart of future autonomous vehicles.

Further, VA's with on-device processing abilities can be trained to detect other noises as well, such as a person falling in their home. This way, the device can assist you in other ways than just by voice commands. For instance, it can call for healthcare personnel if the person is not responding after falling, or it can function as a house alarm if it detects that a window gets broken.

Today we might view virtual assistants as simple and immature applications, but I am confident that they will be a crucial part of our future lives. The user experience will become much better, making interactions richer and more natural. Their ability to process information on-device will open a whole new range of opportunities. All in all, virtual assistants will become more complex ecosystems that can support you in multiple areas of your everyday lives.

I am particularly excited about the opportunities that VA's bring to those who feel less confident with interacting with computers. Through experience, I have seen the excitement and empowering experience that interacting with virtual assistants can give, especially for those who feel less confident around computers. The inclusive design of voice-controlled units holds great promise for utilization in areas where the users are usually less tech-savvy. Therefore, I believe that areas such as home care and elderly care are likely to be transformed by this technology in the future.

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- https://www.tietoevry.com/en/blog/2020/04/will-virtual-assistants-become-a-vital-part-of-the-future/