VOICE ASSISTANT

A project submitted in partial fulfillment of the requirements of the degree of

MASTER DEGREE

IN

DATA SCIENCE

to the

Sri Sarada College For Women [Autonomous], Salem - 16.

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Certified to be the bonafide record of project work done by **Ms……..……** with register number **…….** in partial fulfillment of the requirements for the award of **Master Degree in Data Science** in PG & Research Department of Computer Science, **Sri Sarada College for Women (Autonomous), Salem - 636 016** during the year 2023 - 2024.

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1.

2.

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Acknowledgement

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ABSTRACT

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A Voice Assistant is one of the hot topics in the current world which is a program that listens to human's verbal command and respond to them which makes it a human-computer/device interaction. In the current days, a voice assistant is present everywhere which is more helpful in these busy days.

Nowadays, almost everyone in the current world is using voice assistant because it's in everywhere like Google smartphone which assist even 5 years old kids. Amazon's Alexa plays a dominant role in monitoring home activities like controlling electrical items and entertaining the users till turning on and off the household products (Internet of Things).

One of the greatest features is that it will be very useful to even physically challenged people, for example, people who aren't able to walk use the Internet of Things (IoT) feature to operate household products and maintain those activities.

So, we tend to develop a voice assistant which will be very useful to the users and also useful to the other voice assistants which are currently in the world.

CONTENTS

TABLE OF CONTENTS

S.NO	TITLE	PAGE NO
1	INTRODUCTION	1
2	OBJECTIVES	2
3	LITERATURE REVIEW	4
4	SYSTEM CONFIGURATION ● SOFTWARE SPECIFICATION ● HARDWARE SPECIFICATION	7
5	DATA COLLECTION	9
6	METHODOLOGY	11
7	RESULTS AND DISCUSSION	20
8	CONCLUSION	29
9	REFERENCES	31

INTRODUCTION

INTRODUCTION

The very first voice activated product was released in 1922 as Radio Rex. This toy was very simple, wherein a toy dog would stay inside a dog house until the user exclaimed its name, “Rex” at which point it would jump out of the house. This was all done by an electromagnet tuned to the frequency similar to the vowel found in the word Rex, and predated modern computers by over 20 years.

In the 21st century, human interaction is being replaced by automation very quickly. One of the main reasons for this change is performance. There’s a drastic change in technology rather than advancement. In today’s world, we train our machines to do their tasks by themselves or to think like humans using technologies like Machine Learning, Neural Networks, etc. Now in the current era, we can talk to our machines with the help of virtual assistants.

Virtual assistants are software programs that help you ease your day to day tasks, such as showing weather reports, giving daily news, searching the internet etc. They can take commands by voice. Voice-based intelligent assistants need an invoking word or wake word to activate the listener, followed by the command. We have so many virtual assistants, such as Apple’s Siri, Amazon’s Alexa and Microsoft’s Cortana and Amazon's Alexa and this has been an inspiration for us to do this as a project. This system is designed to be used efficiently on desktops. Voice assistants are programs on digital devices that listen and respond to verbal commands. A user can say, “What's the weather?” and the voice assistant will answer with the weather report for that day and location.

OBJECTIVE

OBJECTIVE

Voice assistants serve various objectives and can be designed to perform a wide range of tasks and functions. Here are some common objectives of voice assistants:

- **Task Automation:** Voice assistants are designed to automate tasks and simplify processes for users. They can help users perform actions like setting alarms, sending messages, scheduling appointments, and more using voice commands.

- **Information Retrieval:** One of the primary objectives of voice assistants is to provide users with quick access to information. This includes answering questions, providing weather updates, delivering news, and offering general knowledge.

- **Hands-Free Control:** Voice assistants enable hands-free control of devices and services. Users can control smart home devices, play music, adjust the thermostat, and more without physically interacting with these devices.

- **Accessibility:** Voice assistants can improve accessibility for individuals with disabilities. They can assist visually impaired users in reading text, provide spoken directions for navigation, and more.

- **Entertainment:** Many voice assistants offer entertainment features, such as playing music, telling jokes, and engaging in conversations to entertain users.

- **Productivity:** Voice assistants can help users boost their productivity by setting reminders, sending emails, creating to-do lists, and managing their calendars.

- **Voice Control of IoT Devices:** With the growth of the Internet of Things (IoT), voice assistants can control various connected devices, such as smart lights, thermostats, and security systems, making homes and workplaces more efficient.

- **Safety:** In situations where manual interaction with devices or screens is dangerous, such as while driving, voice assistants can provide a safer means of interaction.

- **Voice Search:** Voice assistants enhance the search experience by allowing users to perform web searches, find local businesses, and access information without typing.

- **Conversational AI:** Voice assistants are continually improving their conversational capabilities, aiming to engage users in more natural and meaningful conversations.

LITERATURE REVIEW

LITERATURE REVIEW

- **Nivedita Singh** (2021) et al. proposed a voice assistant using python speech to text (STT) module and had performed some api calls and system calls which has led to developing a voice assistant using python which allows the user to run any type of command through voice without interaction of keyboard. This can also run on hybrid platforms. Therefore, this paper lacks in some parts like the system calls that aren't much supported.
- **Abeed Sayyed** (2021) et al. presented a paper on Desktop Assistant AI using python with IOT features and also used Artificial Intelligence (AI) features along with a SQLite DB with the use of Python. This Project has a Database connection and a query framework but lacks API call and System calls features.
- **P.Krishnaraj** (2021) et al. presented a project on Portable Voice Recognition with GUI Automation, This system uses Google's online speech recognition system for converting speech input to text along with Python. Therefore, this project has a GUI and is also has a portable framework. Accuracy of this text to speech (TTS) engine is comparatively less and also lacks IoT.
- **Rajdip Paul** (2021) et al. presented a project named A Novel Python-based Voice Assistance System for reducing the Hardware Dependency of Modern Age Physical Servers. This Author has proposed assistant project with python as a backend supporting system calls, api calls and various features. This Project is quite well responsive with api calls, also needs improvement in understanding and reliability.
- **V. Geetha** (2021) et al. presented a project named The Voice Enabled Personal Assistant for Pc using Python. This Author has proposed assistant project with python as a backend and features like turning our PC off, or restarting it, or reciting some latest news, are just one voice command away. Also, this project has well supported library not every API will have the capability to convert the raw JSON data into text. And there is a delay in processing request calls.
- **Dilawar Shah Zwakman** (2021) et al. proposed the Usability Evaluation of Artificial Intelligence-Based Voice Assistants which can give proper response to the user's request. It also has a feature where it can make an appointment with the person mention by the user through voice but it lacks API calls.
- **Dimitrios Buhalis** (2021) et al. proposed a paper on In-room Voice-Based AI Digital Assistants Transforming On-Site Hotel Services and Guests' Experiences. Where voice assistant is used for hotel services. It'll be very useful in this current COVID-19 era. Human Touch is considered as a danger in this COVID time and with a voice assistant, loss of human touch is not considered as an advantage. It can also be used to control the temperature controls and room light controls but it needs Complex Integration and Staff Training.
- **Philipp Sprengholz** (2021) et al. has proposed Ok Google: Using virtual assistants for data collection in psychological and behavioural research which is a survey mate that they have developed which is an extension of the Google Assistant that was used to check the reliability and validity of data collected by this test. Possible answers and synonyms are defined for every different type of questions.

- **Rahul Kumar** (2020) et al. has proposed Power Efficient Smart Home with voice assistant by which we can say that a Voice Assistant is one of the important part of the Smart home which is becoming one of the major things in the current world because of the smart locks but it requires a reliable internet connection which is crucial and sometimes, the user might lock themselves out of their own house.
- **Benedict D. C** (2020) et al. proposed Consumer decisions with artificially intelligent voice assistants that will have stronger psychological reactions to the system's look on human like behaviours. The assistant has an IoT (Internet of Things) features. It can also order stuffs which the user want but there are some cons in this paper. Voice assistant relies on the speaker's ability to represent the decision alternatives to catch up in voice dialogues and another main disadvantage is that, it lacks system calls.
- **Tae-Kook Kim** (2020) el at. has proposed a Short Research on Voice Control System Based on Artificial Intelligence Assistant which states AI assistant system using open API artificial intelligence, and the conditional auto-run system, IFTTT (IF This, Then That). It can control the system using the Raspberry PI board but it lacks system calls.
- **Atieh Poushneh** (2020) el at. proposed a research on Humanizing voice assistant: The impact of voice assistant personality on consumers' attitudes and behaviors. It identifies the seven voice assistant personalities traits (VAP) of three commonly used mobile applications: Microsoft's Cortana, Google's Assistant and Amazon's Alexa.
- **S Subhash** (2020) el at. proposed a research on Artificial Intelligence - based Voice Assistant. It will gather the audio from the microphone and then convert that into text, later it is sent through GTTS (Google text to speech). GTTS engine will convert text into audio file in English language, then that audio is played using play sound package of python programming language.
- **Chen Yan** (2022) el at. proposed a research on A Survey on Voice Assistant Security: Attacks and Countermeasures. It provides a thorough survey of the attacks and countermeasures for voice assistants. It helps build more reliability into voice assistants and promote research in this fast - evolving area.
- **Trevor Levins** (2019) el at. proposed a research on Development and Comparison of Customized Voice - Assistant Systems for Independent Living Older Adults. Focussed on developing a consumer interface for older adults and their family members that can provide health information on - demand, based on spoken queries.

SYSTEM

CONFIGURATION

SYSTEM CONFIGURATION

The system configuration of a given computer system,from its hardware components to the software and various processes that are run within that system .It refers to types and models of devices that are installed and a specific software is being used to run the various parts of the computer system.

SOFTWARE REQUIREMENT:

Operating system	Windows 11
Coding Language	Python
Software Tool	IDLE

HARDWARE REQUIREMENT

System	11th Gen Intel(R) Core(TM) i5-11320H
System type	64 - bit
RAM	8.00 GB

DATA COLLECTION

DATA COLLECTION

Data collection for a voice assistant typically involves:

1. **Audio Recording:** Capturing users' voice commands or interactions.
2. **Text Transcription:** Converting the audio recordings into text for processing.
3. **User Profiling:** Building user profiles based on voice characteristics and preferences.
4. **Natural Language Processing:** Analyzing the transcribed text to understand user intent.
5. **Data Storage:** Storing voice and text data securely and in compliance with privacy regulations.
6. **Machine Learning:** Using collected data to train and improve the voice assistant's performance over time.
7. **Privacy Measures:** Ensuring data security and respecting user privacy by anonymizing and encrypting data.
8. **Feedback Loop:** Incorporating user feedback to enhance the assistant's accuracy and user experience.

It's crucial to handle user data responsibly, addressing privacy concerns and adhering to relevant data protection laws and guidelines.

METHODOLOGY

METHODOLOGY

In this figure shows working of methodology

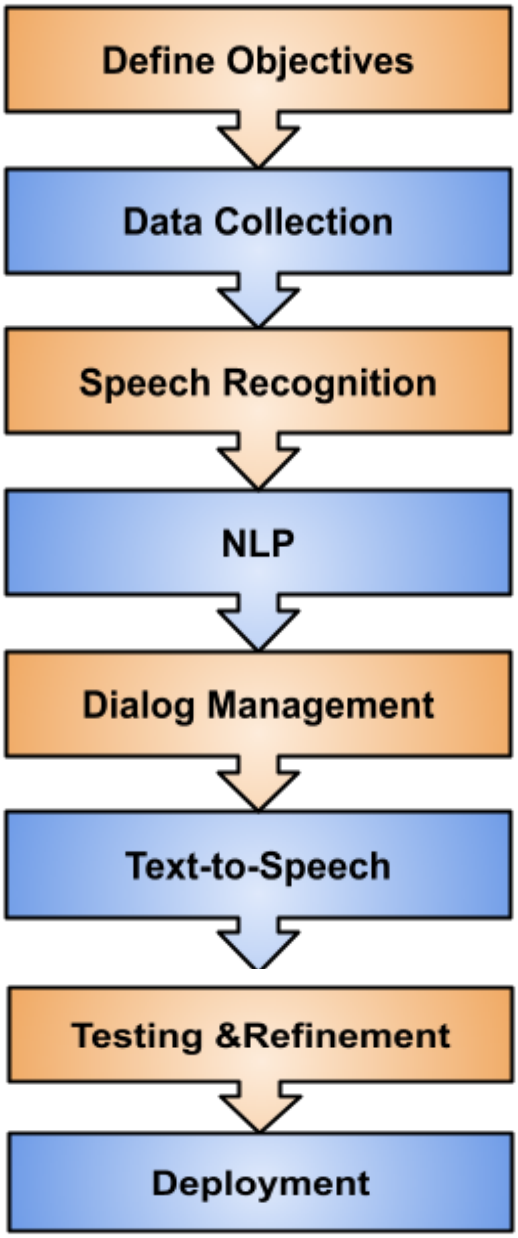


FIG 1:WORKFLOW

SPEECH RECOGNITION MODULE

The class which we are using is called Recognizer. It converts the audio files into text and module is used to give the output in speech. Energy threshold function represents the energy level threshold for sounds. Values below this threshold are considered silence, and values above this threshold are considered speech. Recognizer instance. adjust_for_ambient_noise(source, duration = 1), adjusts the energy threshold dynamically using audio from source (an AudioSource instance) to account for ambient noise.

SPEECH TO TEXT & TEXT TO SPEECH CONVERSION

Pyttsx3 is a text-to-speech conversion library in Python. And can change the Voice, Rate and Volume by specific commands. Python provides an API called Speech Recognition to allow us to convert audio into text for further processing converting large or long audio files into text using the Speech Recognition API in python. Included sapi5 and espeak TTS Engines which can process the same.

PROCESS & EXECUTES THE REQUIRED COMMAND

The said command is converted into text via speech recognition module and further stored in a temp. Then, Analyze the user's text via temp and decide what the user needs based on input provided and runs the while loop. Then, Commands are executed.

SYSTEM DESIGN:

❖ USE CASE DIAGRAM:

In this project there is only one user. The user queries command to the system. System then interprets it and fetches answer. The response is sent back to the user.

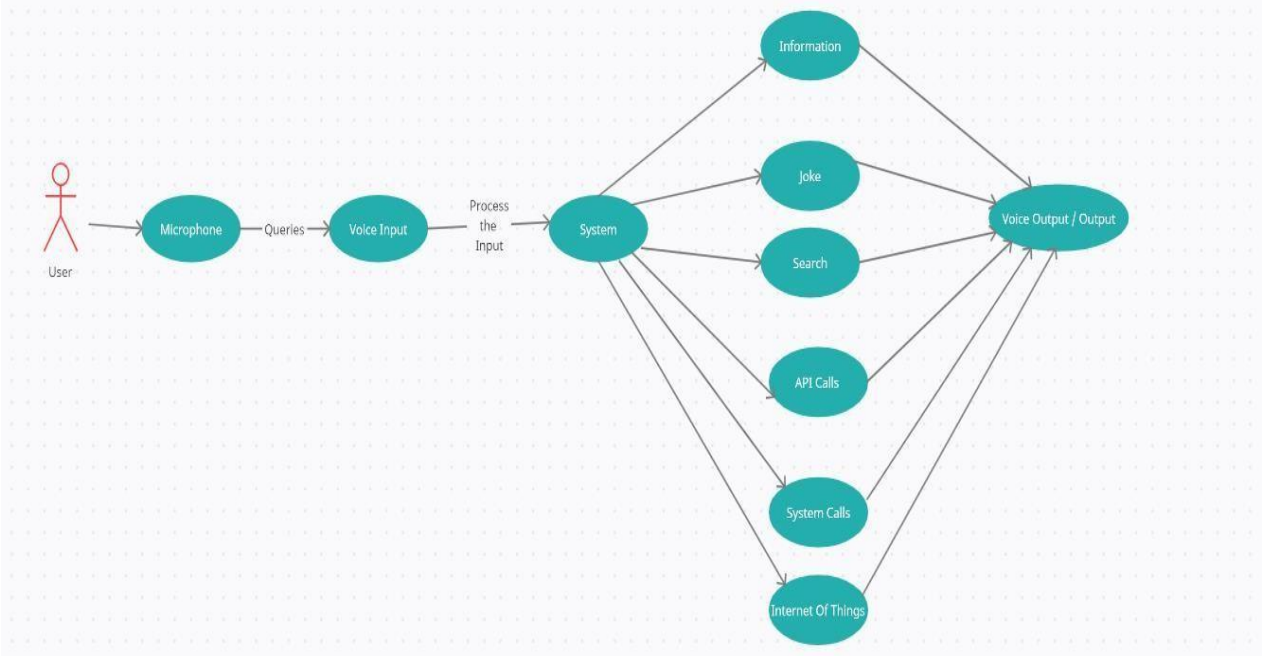
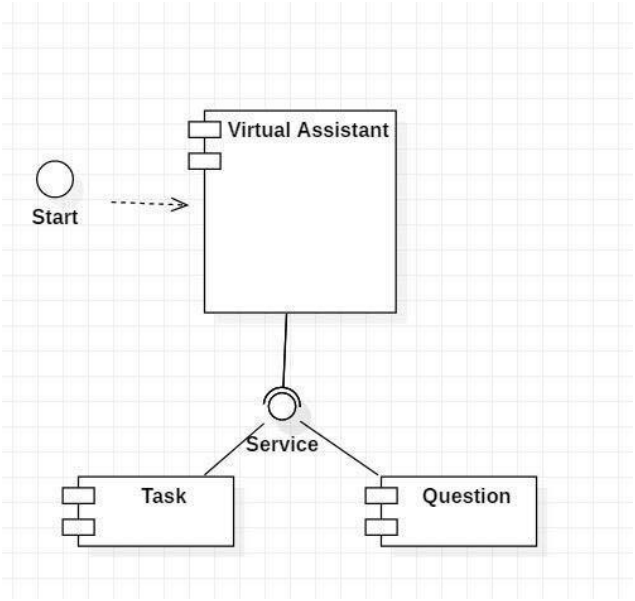


FIG 2:USE CASE DIAGRAM

❖ COMPONENT DIAGRAM:



The main component here is the Virtual Assistant. It provides two specific service, executing Task or Answering your question.

FIG 3:COMPONENT DIAGRAM

❖ SEQUENCE DIAGRAM:

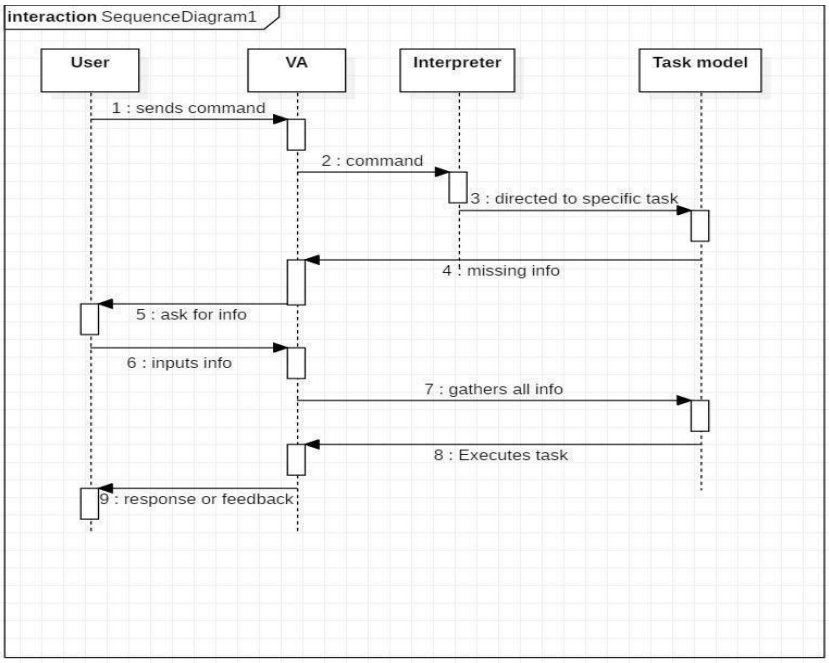


FIG 4:SEQUENCE DIAGRAM

The user sends command to virtual assistant in audio form. The command is passed to the interpreter. It identifies what the user has asked and directs it to task executer. If the task is missing some info, the virtual assistant asks user back about it. The received information is sent back to task and it is accomplished. After execution feedback is sent back to user.

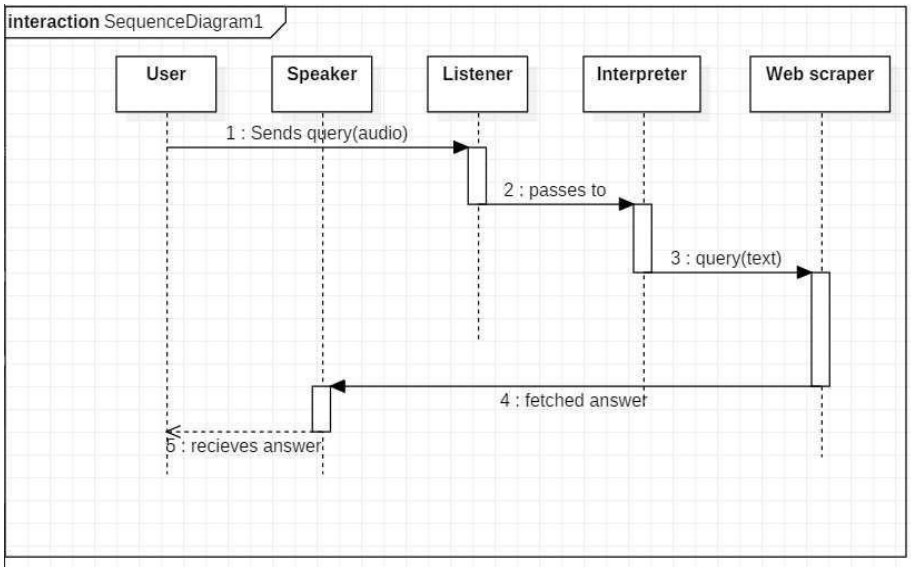


FIG 5:SEQUENCE DIAGRAM (Answering the User)

The above sequence diagram shows how an answer asked by the user is being fetched from internet. The audio query is interpreted and sent to Web scraper. The web scraper searches and finds the answer. It is then sent back to speaker, where it speaks the answer to user.

FEASIBILITY STUDY

Feasibility study can help you determine whether or not you should proceed with your project. It is essential to evaluate cost and benefit. It is essential to evaluate cost and benefit of the proposed system. Five types of feasibility study are taken into consideration.

- **Technical feasibility:** It includes finding out technologies for the project, both hardware and software. For virtual assistant, user must have microphone to conveytheir message and a speaker to listen when system speaks. These are very cheap now a days and everyone generally possess them. Besides, system needs internet connection.While using, make sure you have a steady internet connection. It is also not an issue in this era where almost every home or office has Wi-Fi.
- **Operational feasibility:** It is the ease and simplicity of operation of proposed system. System does not require any special skill set for users to operate it. In fact, it is designed to be used by almost everyone. Kids who still don't know to write can read out problems for system and get answers.
- **Economic feasibility:** Here, we find the total cost and benefit of the proposed system over current system. For this project, the main cost is documentation cost. User also, would have to pay for microphone and speakers. Again, they are cheap and available. As far as maintenance is concerned, it won't cost too much.
- **Organizational feasibility:** This shows the management and organizational structure of the project. This project is not built by a team. The management tasks are all to be carried out by a single person. That won't create any management issues and will increase the feasibility of the project.
- **Cultural feasibility:** It deals with compatibility of the project with cultural environment. Virtual assistant is built in accordance with the general culture. This project is technically feasible with no external hardware requirements. Also, it is simple in operation and does not cost training or repairs.

- **TYPES OF OPERATION**
- **Information:**

If we ask for some information, it opens up wikipedia and asks us the topic on which we want the information, then it clicks on the wikipedia search box using its xpath, searches the topic in the search box and clicks the search button using the xpath of the button and reads a paragraph about that topic.

Keyword: information

- **Plays the video which we ask:**

If we ask it to play a video, it opens up YouTube and asks us the name of the video which it wants to play. After that, it clicks on the search YouTube search box using its xpath, then it clicks on the search button using its xpath and clicks the first result of the search using the xpath of the first video.

Keyword: Play and video or music

- **News of the day:**

If we ask for the news, it reads out the Indian news of the day on which it is asked.

Keyword: news

- **Temperature and Weather:**

If the user asks the temperature, it gives the current temperature.

Keyword: temperature

- **Joke:**

If the user asks for a joke, it tells a one liner joke to the user.

Keyword: funny or joke

- **Restart the system:**

The assistant restarts the system if the user asks the assistant to restart the system.

Keyword: Restart the system or Reboot the system

- **Open:**

The assistant will open some of the folders and applications which the user asks the assistant to open.

Keyword: Open

- **Date and Time:**

If the user asks for the date or time, the assistant tells it.

Keyword: date or time or date and time

- **Calculate:**

The assistant will calculate the equations which the user tells it to calculate using wolframalpha API key.

Keyword: calculate

- **Turn on the light:**

This is an IOT feature where the assistant turns on the light if the user asks it to turn on the light.

Keyword: light on

- **Turn off the light:**

This is an IOT feature where the assistant turns off the light if the user asks it to turn off the light.

Keyword: light off

- **Exit:**

The assistant will stop assisting the user if the user asks it to exit.

Keyword: exit or end or stop.

RESULTS AND DISCUSSION

RESULTS AND DISCUSSION

The project work of the voice assistant has been clearly explained in this report, how useful it is and how we can rely on a voice assistant for performing any/every task which the user needs to complete. Here is a brief explanation of each library and function used in the code:

- subprocess: input/output/error pipes as well as the exit codes of various commands.
- wolframaplha: automatically answer questions and providing knowledge.
- wikiquotes: collection of notable quotations.
- pyttsx3: a text-to-speech conversion library in Python.
- speech_recognition: a process of converting spoken words to text.
- datetime: manipulating objects and not string or timestamps.
- wikipedia: a library that makes it easy to access and parse data from Wikipedia.
- webbrowser: provides a high-level interface which allows displaying web-based documents.
- os: provides a way using operating system dependent functionality.
- winshell: a light wrapper around the Windows shell functionality.
- pyjokes: fetches the perfect joke in a database.
- feedparser: parses feeds in all known formats including Atom, RSS and RDF.
- ctypes: provides C compatible data types and allows calling functions in DLLs or shared libraries.
- random: to get any random value from a list or set of variables.
- requests: a de facto standard for making HTTP requests in Python.

```
import subprocess
import wolframalpha
import pyttsx3
import pywhatkit
import tkinter
import json
import random
import operator
import speech_recognition as sr
import datetime
import wikipedia
import webbrowser
import os
import winshell
import pyjokes
import feedparser
import smtplib
import ctypes
import time
import shutil
import cv2
import requests
import time
from selenium import webdriver
from twilio.rest import Client
from clint.textui import progress
from ecapture import ecapture as ec
from bs4 import BeautifulSoup
import win32com.client as wincl
from urllib.request import urlopen
engine = pyttsx3.init('sapi5')
voices = engine.getProperty('voices')
engine.setProperty('voice', voices[1].id)
def speak(audio):
        engine.say(audio)
        engine.runAndWait()
```

Functions:

The system provides all the below stated functions.

- Wishing the user based on time.

```
def wishMe():
        hour = int(datetime.datetime.now().hour)
        if hour>= 0 and hour<12:
                speak("Good Morning Mam !")

        elif hour>= 12 and hour<18:
                speak("Good Afternoon Mam !")

        else:
                speak("Good Evening Mam !")

        assname =("Alicia")
        speak("I am your Assistant")
        speak(assname)
```

➢ Finding User Name.

```
def username():
        speak("What should i call you Mam")
        uname = takeCommand()
        speak("Welcome Miss")
        speak(uname)
        columns = shutil.get_terminal_size().columns

        print("#####################".center(columns))
        print("Welcome Miss.", uname.center(columns))
        print("#####################".center(columns))

        speak("How can i Help you, Mam")
```

- **Output:**

```
Listening...
Recognizing...
User said: Indu

                          ####################
Welcome Miss.                                  Indu
                          ####################
```

➢ Making Wikipedia search and giving output in Audio format as well as Text.

```
if 'wikipedia' in query:
        speak('Searching Wikipedia...')
        query = query.replace("wikipedia", "")
        results = wikipedia.summary(query, sentences = 3)
        speak("According to Wikipedia")
        print(results)
        speak(results)
```

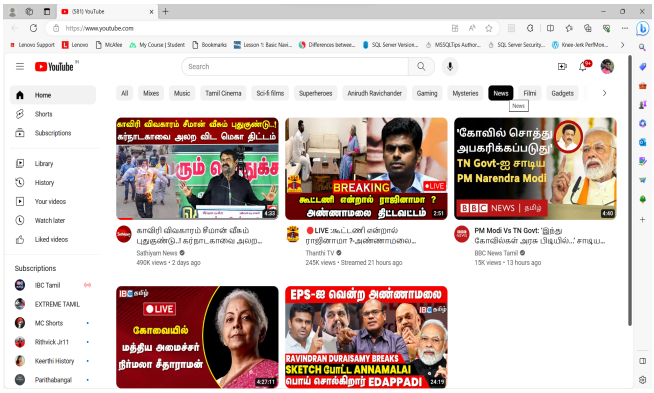
- **Output:**

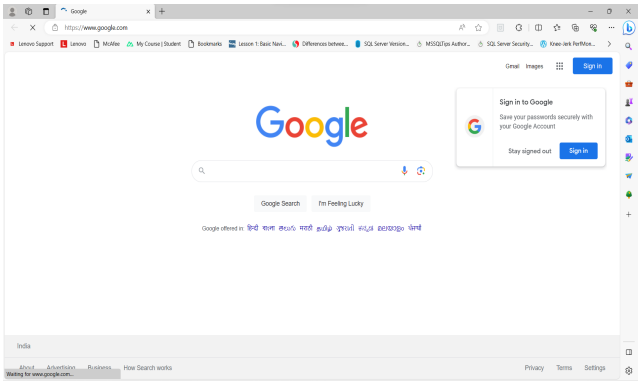
```
Listening...
Recognizing...
User said: Voice Assistant in Wikipedia

A virtual assistant (VA) is a software agent that can perform a range of tasks o
r services for a user based on user input such as commands or questions, includi
ng verbal ones. Such technologies often incorporate chatbot capabilities to simu
late human conversation, such as via online chat, to facilitate interaction with
 their users. The interaction may be via text, graphical interface, or voice - a
s some virtual assistants are able to interpret human speech and respond via syn
thesized voices.
```

➢ Opening different Websites “Google”, “Youtube” etc.

```
  elif 'open youtube' in query:
          speak("Here you go to Youtube\n")
          webbrowser.open("youtube.com")

  elif 'open google' in query:
          speak("Here you go to Google\n")
          webbrowser.open("google.com")
```

★ **Output:**

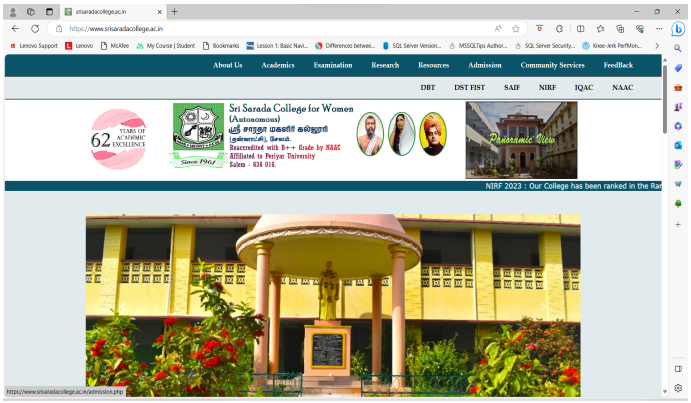




➢ Opening College Website.

```
elif "open sri sarada college website" in query:

        speak("Here you go to website\n")
        webbrowser.open("https://www.srisaradacollege.ac.in/")
```

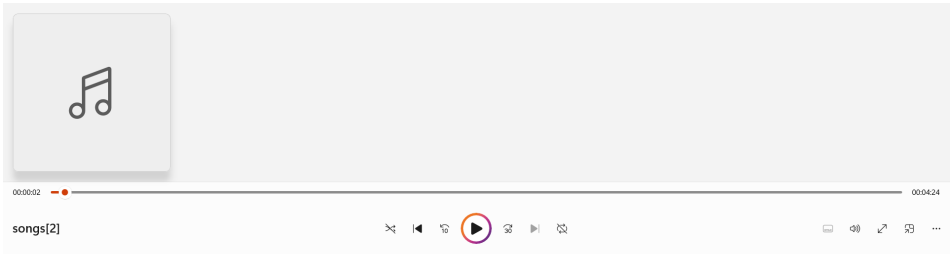
★ **Output:**



➢ Play Music.

```
elif 'play music' in query or "play song" in query:
        speak("Here you go with music")
        # music_dir = "G:\\Song"
        music_dir = "C:\\Users\\manig\\Music"
        songs = os.listdir(music_dir)
        print(songs)
        random = os.startfile(os.path.join(music dir, songs[1]))
```

★ **Output:**



➢ Telling Time.

```
elif "what's the time" in query:
        strTime = datetime.datetime.now().strftime("%H:%M:%S")
        speak(f"Sir, the time is {strTime}")
```

➢ Telling Jokes/Fun.

```
 elif 'joke' in query:
         speak(pyjokes.get_joke())
```

➢ Making Calculations.

```
elif "calculate" in query:

        app_id = "8QRVUG-L7AUTH6VGJ"
        client = wolframalpha.Client(app_id)
        indx = query.lower().split().index('calculate')
        query = query.split()[indx + 1:]
        res = client.query(' '.join(query))
        answer = next(res.results).text
        print("The answer is " + answer)
        speak("The answer is " + answer)
```

★ **Output:**

```
Listening...
Recognizing...
User said: calculate 1453 + 453

The answer is 1906
Listening...
```

➢ Telling Top News from the “Times Of India”.

```
elif 'news' in query:

        try:
                jsonObj = urlopen('''https://newsapi.org/v2/top-headlines?sources=google-news-in&apiKey=0cda47b47f4d44569f61fb342feff4d4''')
                data = json.load(jsonObj)
                i = 1
                speak('here are some top news from the times of india')
                print('''=============== TIMES OF INDIA ============''')
                print('\n')

                for item in data['articles']:

                        print(str(i) + '. ' + item['title'] + '\n')
                        print(item['description'])
                        speak(str(i) + '. ' + item['title'] + '\n')
                        i+=1
        except Exception as e:

                print(str(e))
```

★ **Output:**

```
Listening...
Recognizing...
User said: news

=============== TIMES OF INDIA ============


1. Chandrababu Naidu's Quash Petition : 'Is 17A PC Act Applicable To Offences Before 2018 Amendment?' : Supreme Court - Live Law - Indian Legal News

None
2. Developed Bharat Possible Only When...: PM Modi In Poll-Bound Chhattisgarh - NDTV

None
3. Supreme Court grants bail to M3M directors Basant and Pankaj Bansal in money laundering case - Bar & Bench - Indian Legal News

None
4. Delhi Police raid NewsClick journalists’ homes, other locations associated with portal amid China funding row - The Indian Express

None
5. Mumbai: Baby crocodile found in BMC's swimming pool in Dadar - mid-day.com

None
6. SC to hear Bihar caste census matter on 6 October - Mint

None
7. Nanded hospital death toll rises to 31; Maharashtra cabinet to hold meeting - Hindustan Times

None
8. India tells Canada to withdraw dozens of diplomatic staff - Financial Times

None
9. 'Sanatan Dharma is the only religion': UP CM Yogi Adityanath amid row - Hindustan Times

None
10. Arrested ISIS terrorist Shahnawaz had converted his wife Basanti Patel to Islam: Delhi Police - OpIndia
```

➢ Performing Various System OS Operations.

— Lock

```
elif 'lock window' in query:
                speak("locking the device")
                ctypes.windll.user32.LockWorkStation()
```

— Shutdown

```
elif 'shutdown system' in query:
                speak("Hold On a Sec ! Your system is on its way to shut down")
                subprocess.call('shutdown / p /f')
```

— Empty Recycle Bin

```
elif 'empty recycle bin' in query:
        winshell.recycle_bin().empty(confirm = False, show_progress = False, sound = True)
        speak("Recycle Bin Recycled")
```

— Hibernate

```
elif "hibernate" in query or "sleep" in query:
        speak("Hibernating")
        subprocess.call("shutdown / h")
```

— Restart

```
elif "restart" in query:
        subprocess.call(["shutdown", "/r"])
```

— Log Off

➢ Writing Short Notes.

```
elif "write a note" in query:
        speak("What should i write, mam")
        note = takeCommand()
        file = open('alicia.txt', 'w')
        speak("Sir, Should i include date and time")
        snfm = takeCommand()
        if 'yes' in snfm or 'sure' in snfm:
                strTime = datetime.datetime.now().strftime("%H:%M:%S")
                file.write(strTime)
                file.write(" :- ")
                file.write(note)
        else:
                file.write(note)

elif "show note" in query:
        speak("Showing Notes")
        file = open("alicia.txt", "r")
        print(file.read())
        speak(file.read(6))
```

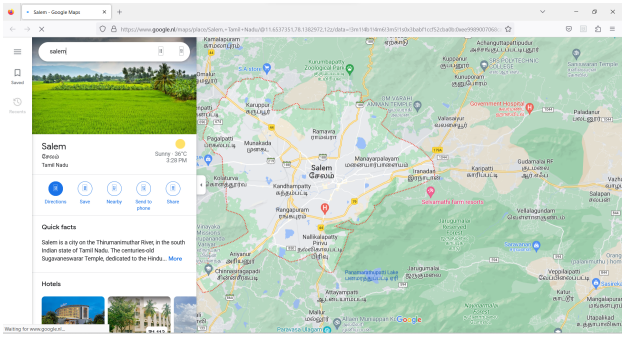
★ **Output:**

```
Listening...
Recognizing...
User said: write a note

Listening...
Recognizing...
User said: voice assistant is done by Hinduja
User said: show note

voice assistant is done by Hinduja
Listening...
Recognizing...
```

➢ Locating Different Places Around the World.

```
elif "where is" in query:
        query = query.replace("where is", "")
        location = query
        speak("User asked to Locate")
        speak(location)
        webbrowser.open("https://www.google.nl/maps/place/" + location + "")
```

★ **Output:**



➢ Getting Weather Updates.

```
def weather():
        city = query.split("in", 1)
        soup = BeautifulSoup(requests.get(f"https://www.google.com/search?q=weather+in+{city[1]}").text, "html.parser")
        region=soup.find("span", class_="BNeawe tAd8D AP7Wnd")
        temp = soup.find("div", class_="BNeawe iBp4i AP7Wnd")
        day = soup.find("div", class_="BNeawe tAd8D AP7Wnd")
        weather = day.text.split("m", 1)
        temperature = temp.text.split("C", 1)

        print("Its Currently"+weather[1]+" and "+temperature[0]+" Celcius "+" in "+region.text)
        speak("Its Currently"+weather[1]+" and "+temperature[0]+" Celcius "+" in "+region.text)

  elif "weather" in query:

          weather()
```

★ **Output:**

```
Listening...
Recognizing...
User said: weather in Salem

Its Currently
Sunny and 36° Celcius  in Salem, Tamil Nadu
```

➢ Answering the Questions.

```
 elif "what is" in query or "who is" in query:

        # Use the same API key
        # that we have generated earlier
        client = wolframalpha.Client("8QRVUG-L7AUTH6VGJ")
        res = client.query(query)

        try:
                print (next(res.results).text)
                speak (next(res.results).text)
        except StopIteration:
                print ("No results")
```

★ **Output:**

```
Listening...
Recognizing...
User said: who is the president of India

Draupadi Murmu (from 25/07/2022 to present)
```

➢ Exit

```
elif 'exit' in query:
        speak("Thanks for giving me your time")
        exit()
```

CONCLUSION

CONCLUSION

As stated before, "voice assistant is one of the biggest problem solver" and you can see that in the proposals with the examples that it is in fact one of the biggest problem solver of the current world. We can see that voice assistant is one of the major evolving artificial intelligence in the current world once again on seeing the proposal examples because at the past, the best feature which a voice assistant had was telling the date and searching the web and giving the results but now look at the functions that it can do so with this, we can say that it is a evolving software in the current world. The main idea is to develop the assistant even more advanced than it is now and make it the best ai in the world which will save an ample of time for its users.

We are entering the era of implementing voice-activated technologies to remain relevant and competitive. Voice-activation technology is vital not only for businesses to stay relevant with their target customers, but also for internal operations. Technology may be utilized to automate human operations, saving time for everyone. Routine operations, such as sending basic emails or scheduling appointments, can be completed more quickly, with less effort, and without the use of a computer, just by employing a simple voice command.

People can multitask as a result, enhancing their productivity. Furthermore, relieving employees from hours of tedious administrative tasks allows them to devote more time to strategy meetings, brainstorming sessions, and other jobs that need creativity and human interaction. I would like to conclude with the statement that we will try our best and give one of the best voice assistants which we are able to.

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