Assistant Alex Project Report

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Assistant Alex

INTRODUCTION:

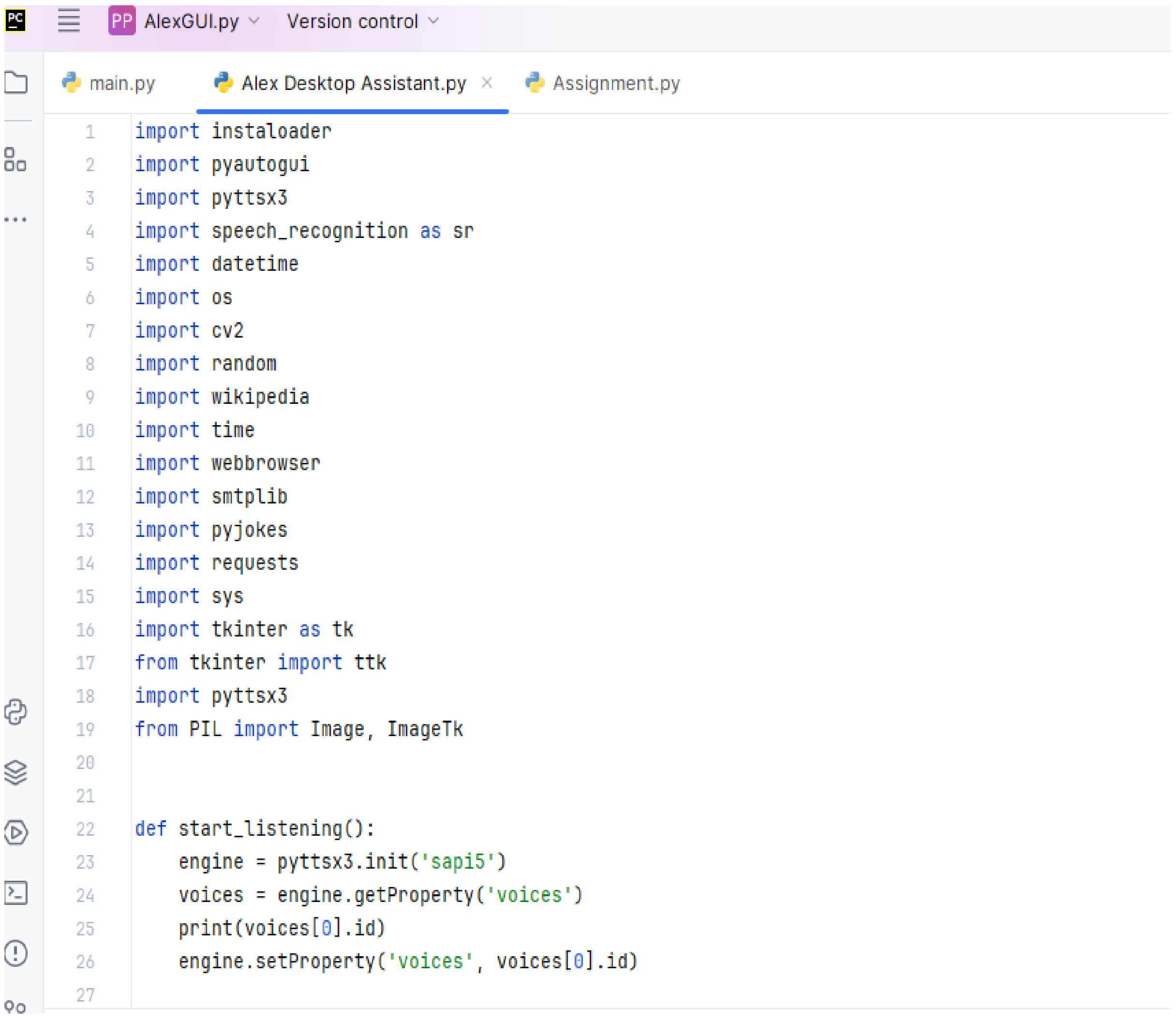
A Python-based Desktop voice assistant named Alex provides seamless hands-free interaction experience The instructions for the assistant can be handled as per the requirement of user.In Python there is an API called Speech Recognition which allows us to convert speech into text. Key features include voice-activated commands for tasks like opening various applications such as google chrome, zoom meeting app , command prompt, notepad, etc. It became easier to send emails without typing any word, Searching on Google without opening the browser, and performing many other daily tasks like playing music, opening your favourite IDE with the help of a single voice command.

PYTHON LIBRARIES:

- **pyttsx3**: It is a python library which converts text to speech.
- **SpeechRecognition**: It is a python module which converts speech to text.
- **Datetime**: This library provides us the actual date and time.
- **Wikipedia**: It is a python module for searching anything on Wikipedia.
- **Pyjokes**: It is a python libararies which contains lots of interesting jokes in it.
- **Webbrowser**: It is a convenient web browser controller. It provides a high-level interface that allows displaying Web-based documents to users.
- **Pyautogui**: It is a python libraries for graphical user interface.
- **os**: Python has a built-in os module with methods for interacting with the operating system, like creating files and directories, management of files

and directories, input, output, environment variables, process management, etc.

- **sys**: It allows operating on the interpreter as it provides access to the variables and functions that usually interact strongly with the interpreter.
- **Smtplib**: Simple mail transfer protocol that allows us to send mails and to route mails between mail servers.
- **Tkinter**: This library use for the graphical user interface (GUI) development, providing a user-friendly environment for input and interaction. Tkinter enables the creation of windows, labels, entry fields, and buttons, making the application accessible and intuitive.



```
import instaloader
import pyautogui
import pyttsx3
import speech_recognition as sr
import datetime
import os
import cv2
import random
import wikipedia
import time
import webbrowser
import smtplib
import pyjokes
import requests
import sys
import tkinter as tk
from tkinter import ttk
import pyttsx3
from PIL import Image, ImageTk


def start_listening():
    engine = pyttsx3.init('sapi5')
    voices = engine.getProperty('voices')
    print(voices[0].id)
    engine.setProperty('voices', voices[0].id)

```

Imported Modules

FUNCTIONS:

- **takeCommand()**: The function is used to take the command as input through microphone of user and returns the output as string.
- **wishMe()**: This function greets the user according to the time like Good Morning, Good Afternoon and Good Evening.
- **taskExecution():** This is the function which contains all the necessary task execution definition like
    - ➢ It can send emails.
    - ➢ It can open command prompt, your favorite IDE, notepad etc.
    - ➢ It can play music
    - ➢ It can do Wikipedia searches for you
    - ➢ It can open websites like Google, YouTube, etc., in a web browser.
    - ➢ It can open camera, zoom meeting app, Vistual Studio code, etc.
    - ➢ It can switch the window of system
    - ➢ It can tell a location
    - ➢ It can tell a joke
    - ➢ It can search Instagram profile
    - ➢ It can shutdown or restart the system

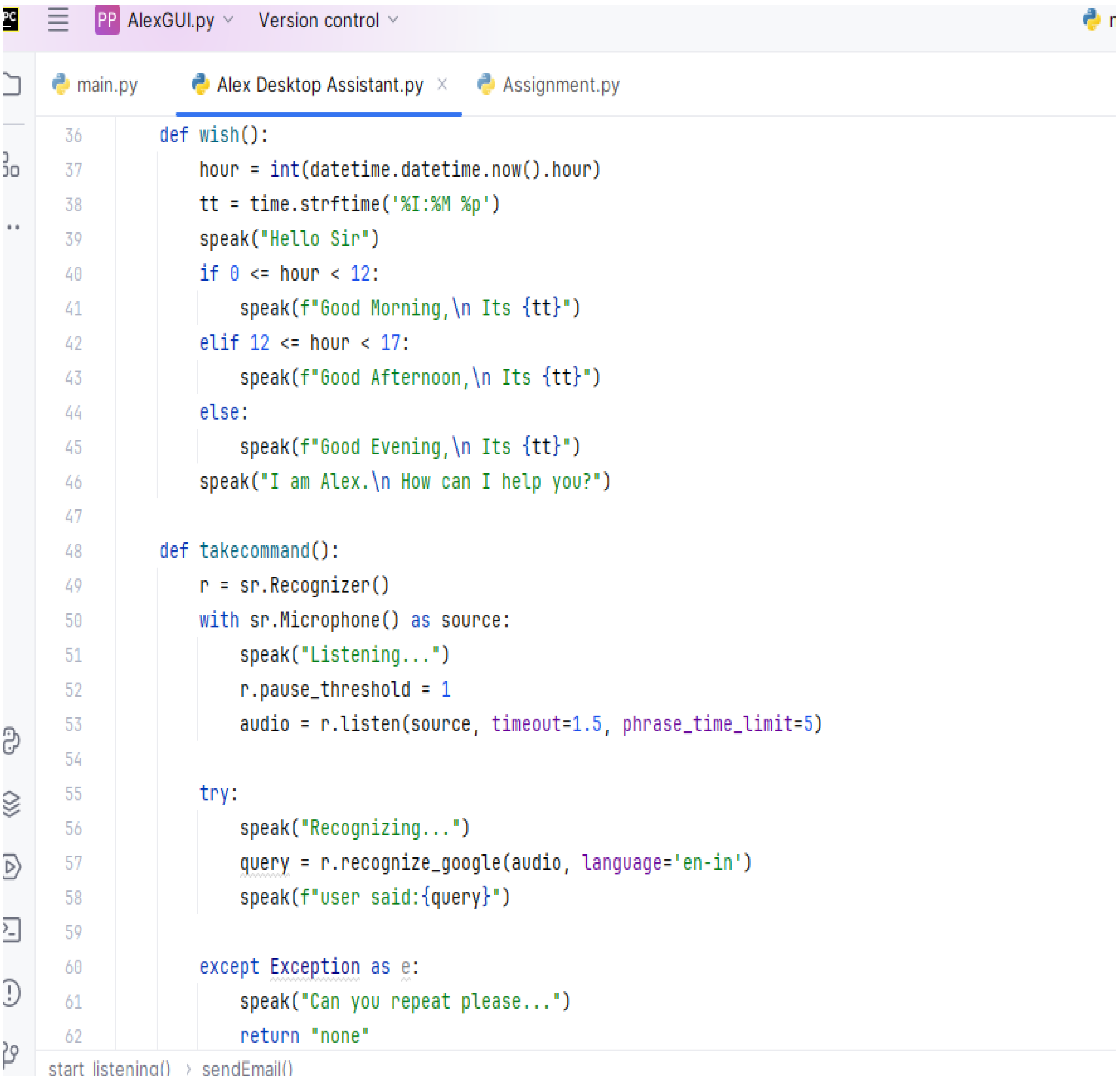
APPLICATION WORKFLOW:

1.Start : Live GUI for interaction will appear on screen.

2. Input : It will take input through voice commands related to the task which is required to be done.

3. Perform : It will perform the required task for the user like opening notepad, searching on browser, sending mails, playing songs, etc.

4. Exit : It keeps on asking for the command from user until the user say "Exit". Once the user say "Exit", it exits.



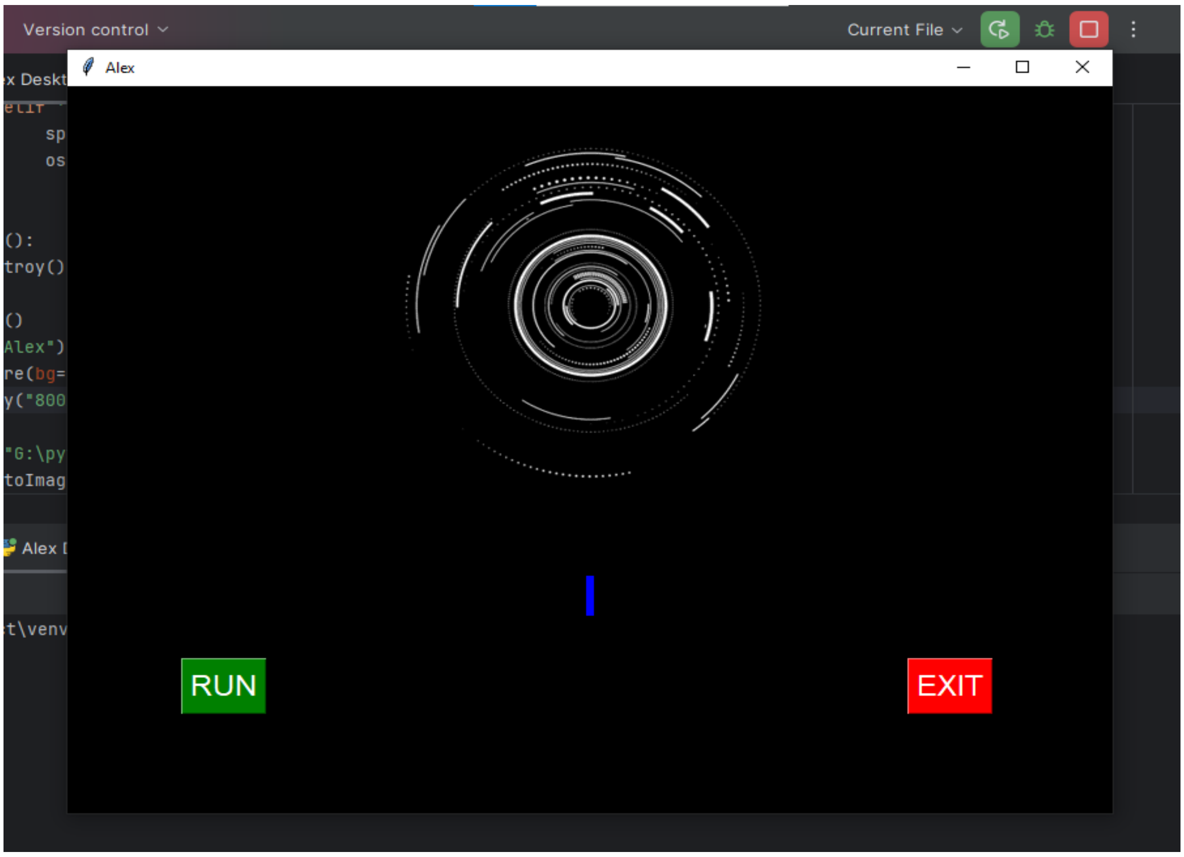
```python
def wish():
    hour = int(datetime.datetime.now().hour)
    tt = time.strftime('%I:%M %p')
    speak("Hello Sir")
    if 0 <= hour < 12:
        speak(f"Good Morning,\n Its {tt}")
    elif 12 <= hour < 17:
        speak(f"Good Afternoon,\n Its {tt}")
    else:
        speak(f"Good Evening,\n Its {tt}")
    speak("I am Alex.\n How can I help you?")

def takecommand():
    r = sr.Recognizer()
    with sr.Microphone() as source:
        speak("Listening...")
        r.pause_threshold = 1
        audio = r.listen(source, timeout=1.5, phrase_time_limit=5)

    try:
        speak("Recognizing...")
        query = r.recognize_google(audio, language='en-in')
        speak(f"user said:{query}")

    except Exception as e:
        speak("Can you repeat please...")
        return "none"
```

GRAPHIC USER INTERFACE:



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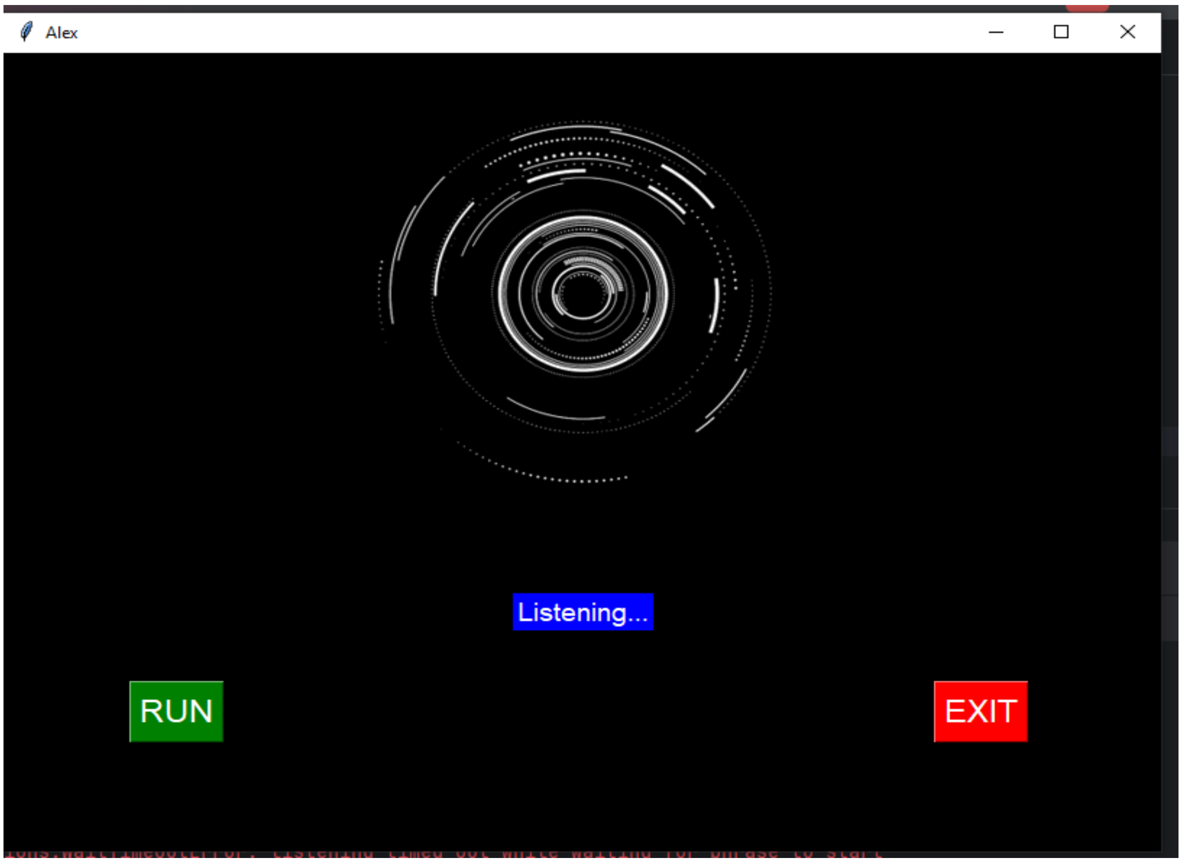
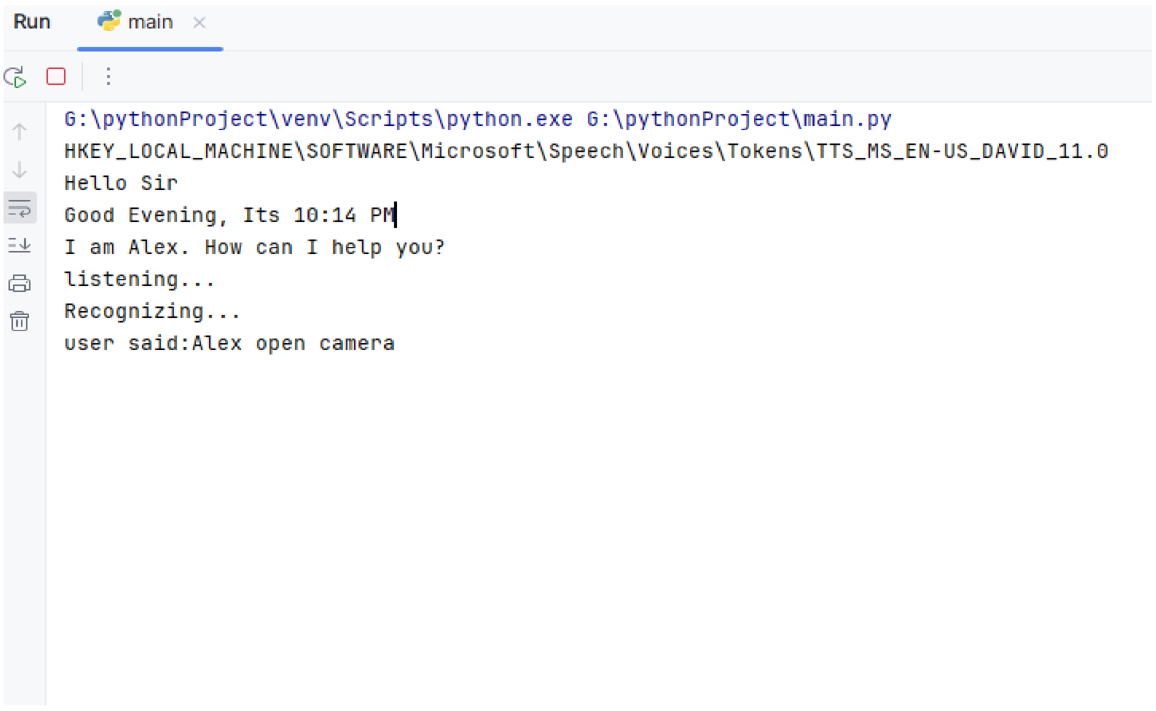


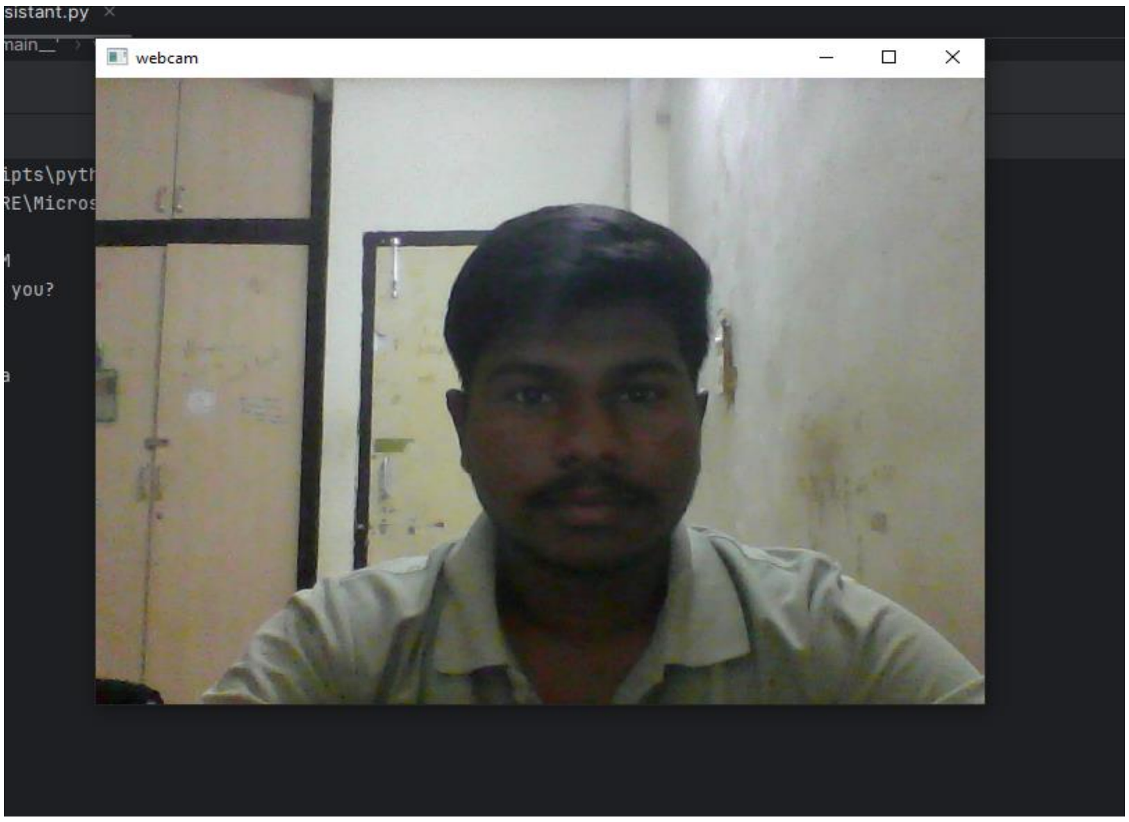
```
ions.WaitTimeoutError: listening timed out while waiting for phrase to start
```

INPUT AND OUTPUT:

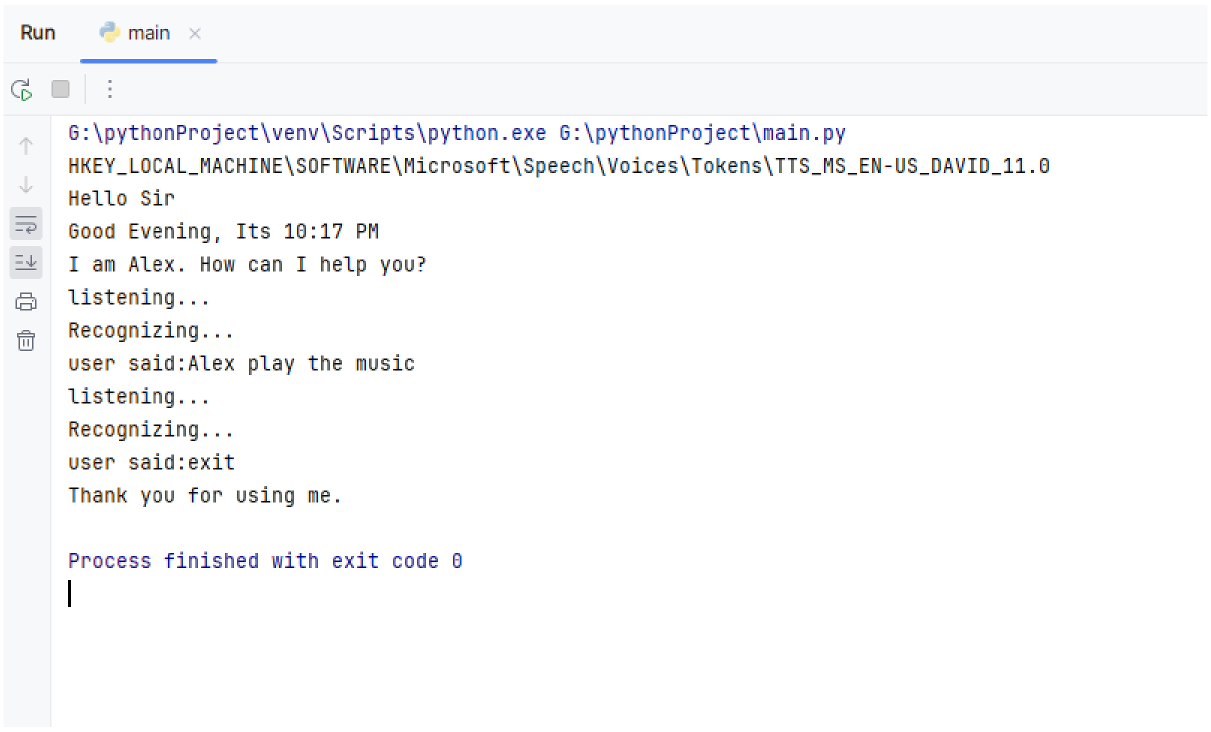


```
G:\pythonProject\venv\Scripts\python.exe G:\pythonProject\main.py
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech\Voices\Tokens\TTS_MS_EN-US_DAVID_11.0
Hello Sir
Good Evening, Its 10:14 PM
I am Alex. How can I help you?
listening...
Recognizing...
user said:Alex open camera
```

Input for opening camera

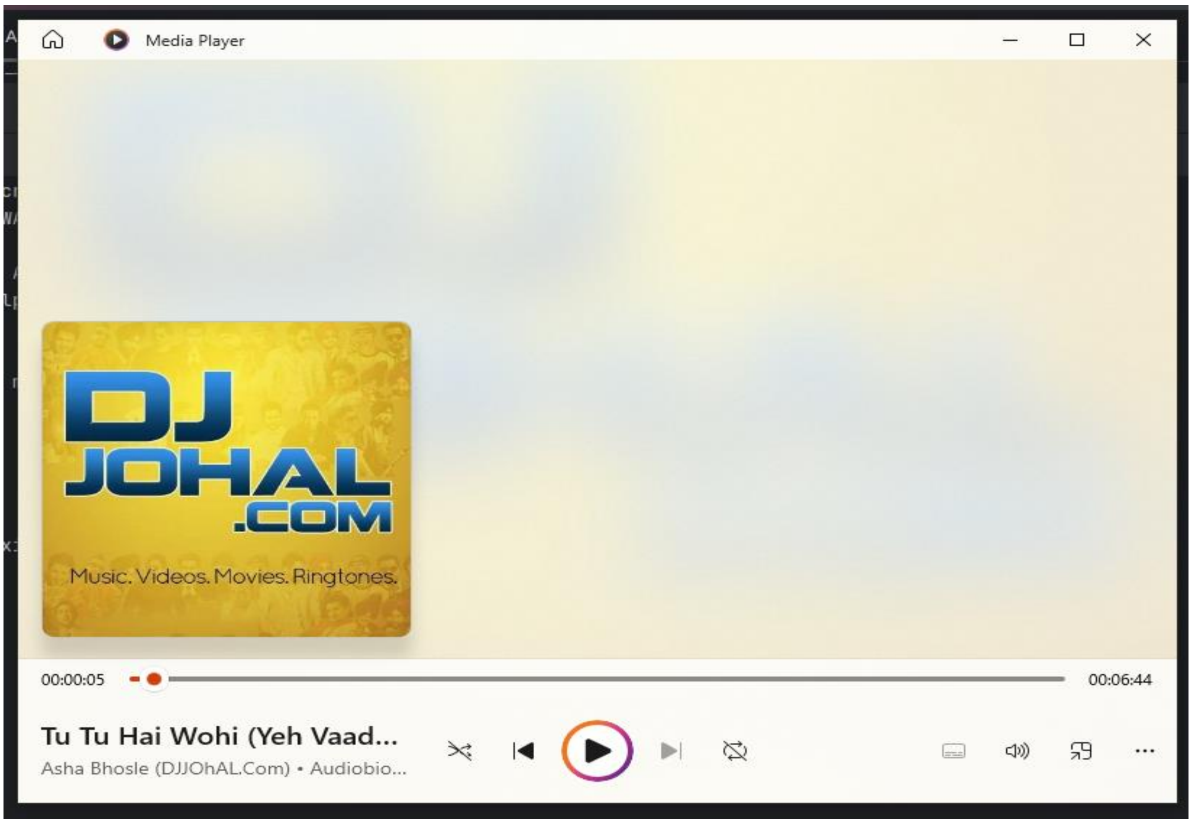


Output for open camera command



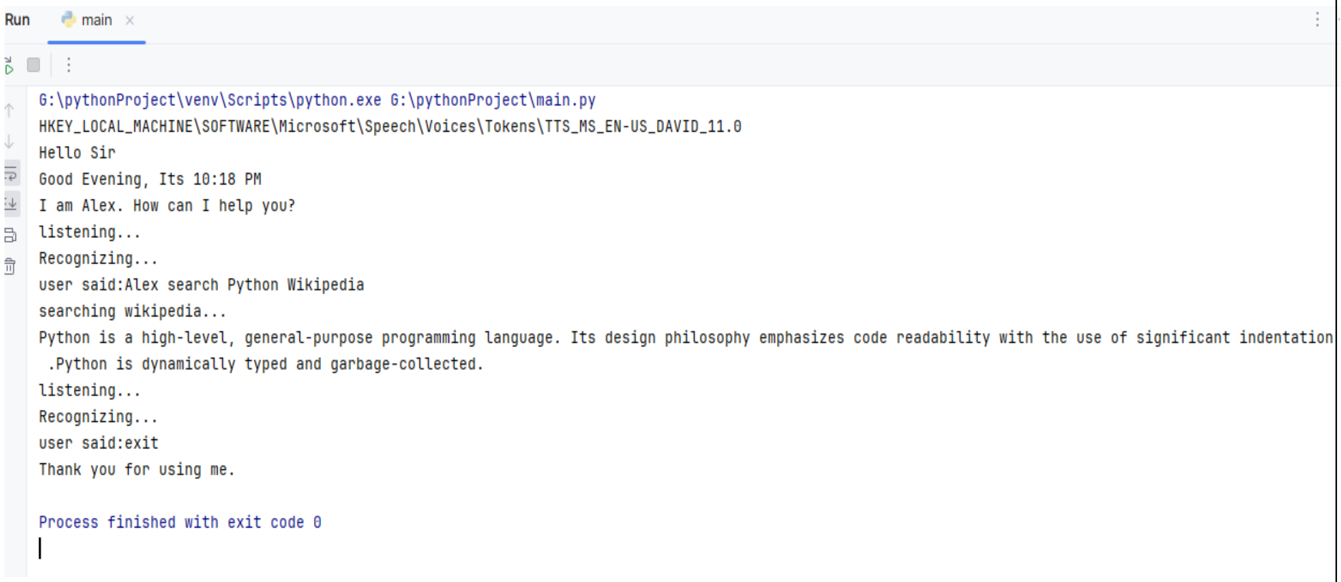
```
G:\pythonProject\venv\Scripts\python.exe G:\pythonProject\main.py
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech\Voices\Tokens\TTS_MS_EN-US_DAVID_11.0
Hello Sir
Good Evening, Its 10:17 PM
I am Alex. How can I help you?
listening...
Recognizing...
user said:Alex play the music
listening...
Recognizing...
user said:exit
Thank you for using me.

Process finished with exit code 0
```

Input for playing music



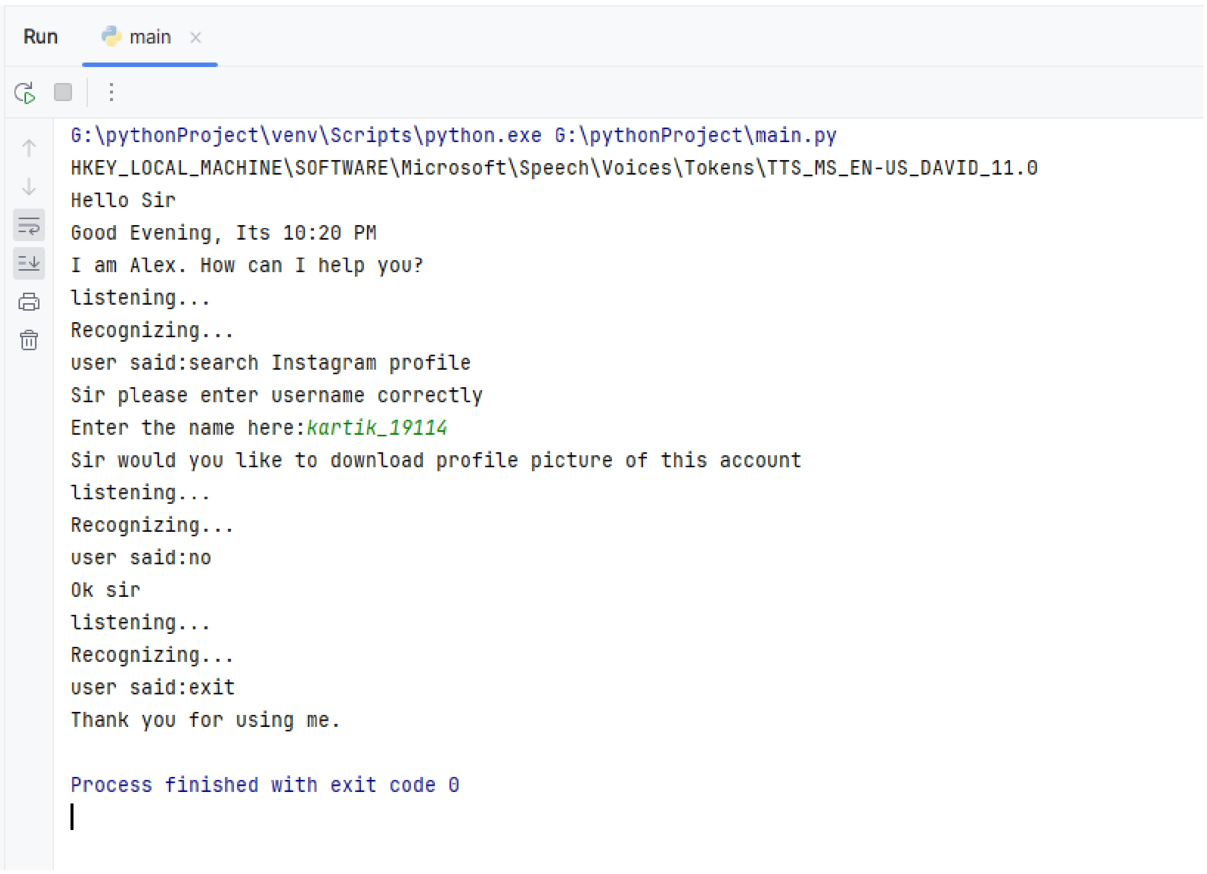
Media Player
DJ JOHAL .COM
Music. Videos. Movies. Ringtones.
00:00:05
00:06:44
Tu Tu Hai Wohi (Yeh Vaad...
Asha Bhosle (DJJOhAL.Com) • Audiobio...

Output for play the music command



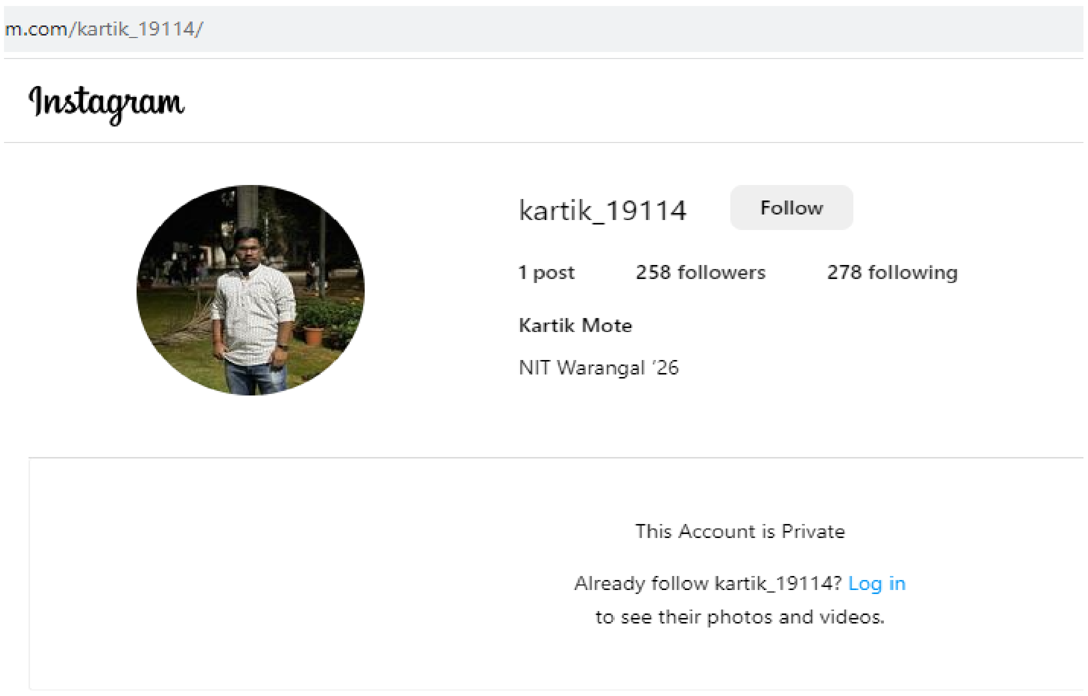
```
G:\pythonProject\venv\Scripts\python.exe G:\pythonProject\main.py
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech\Voices\Tokens\TTS_MS_EN-US_DAVID_11.0
Hello Sir
Good Evening, Its 10:18 PM
I am Alex. How can I help you?
listening...
Recognizing...
user said:Alex search Python Wikipedia
searching wikipedia...
Python is a high-level, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation
 .Python is dynamically typed and garbage-collected.
listening...
Recognizing...
user said:exit
Thank you for using me.

Process finished with exit code 0
```

Output for Wikipedia search



```
G:\pythonProject\venv\Scripts\python.exe G:\pythonProject\main.py
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech\Voices\Tokens\TTS_MS_EN-US_DAVID_11.0
Hello Sir
Good Evening, Its 10:20 PM
I am Alex. How can I help you?
listening...
Recognizing...
user said:search Instagram profile
Sir please enter username correctly
Enter the name here:kartik_19114
Sir would you like to download profile picture of this account
listening...
Recognizing...
user said:no
Ok sir
listening...
Recognizing...
user said:exit
Thank you for using me.

Process finished with exit code 0
```

Input for searching Instagram Profile


m.com/kartik_19114/

Instagram

kartik_19114 Follow

1 post 258 followers 278 following

Kartik Mote

NIT Warangal '26

This Account is Private

Already follow kartik_19114? Log in to see their photos and videos.

Output for Instagram profile search

CONCLUSION:

The code provides a functional voice-controlled assistant with a user-friendly GUI. It demonstrates integration with various Python libraries to perform diverse tasks. Further enhancements and optimizations can be considered for future improvements. There is future scope for Alex as Make it to learn more on its own and develop a new skill in it. Alex android app can also be developed. Voice commands can be encrypted to maintain security.