National Institute of Electronics and Information Technology

Project on python

Topic: Virtual Assistant using Python.

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What is Python ?

Python is an interpreted, high-level, general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace. Its language constructs and object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects.

Python is dynamically typed and garbage-collected. It supports multiple programming paradigms, including procedural, object-oriented, and functional programming. Python is often described as a "batteries included" language due to its comprehensive standard library.

Python interpreters are available for many operating systems. A global community of programmers develops and maintains CPython, an open source reference implementation. A non-profit organization, the Python Software Foundation, manages and directs resources for Python and CPython development.

About my project:

Personal Voice Assistant in Python

As we know Python is a suitable language for script writers and developers. Here, we write a script for Personal Voice Assistant using Python. The query for the assistant can be manipulated as per the user's need.

The implemented assistant can open up the application (if it's installed in the system), search Google, Wikipedia and YouTube about the query, open music, video songs etc by just giving the **voice command**. We can process the data as per the need or can add the functionality, depends upon how we code things.
We are using **Google speech recognition API** and google text to speech for voice input and output respectively.

Python Package Requirements:

```
import pyttsx3:Offline text to speech for python3.

import datetime:The module supplies classes for manipulating dates and times.

import speech_recognition:for recognizing the voice command and converting to text.

import Wikipedia: Wikipedia is a Python library that makes it easy to access and parse data from Wikipedia.

import webbrowser:allow displaying Web-based documents to users.

import os:This module provides a portable way of using operating system dependent functionality.
```

Source Code:

```
import pyttsx3l
import datetime
import speech_recognition as sr
import wikipedia
import webbrowser
import os



engine = pyttsx3.init('sapi5')
voices = engine.getProperty('voices')
#print(voices[1].id)
engine.setProperty('voice', voices[1].id)


def speak(audio):
    engine.say(audio)
    engine.runAndWait()

def wishMe():
    hour = int(datetime.datetime.now().hour)
    if hour>=0 and hour<=12:
        speak("Good Morning sir!")
    elif hour>=12 and hour<=16:
        speak("Good Afternoon sir!")
    else:
        speak("Good evening sir!")
    speak("My name is Tina. how may i help you ?")

def takeCommand():


    r = sr.Recognizer()
    with sr.Microphone() as source:
        print("Listening...")
        r.pause_threshold = 1
        audio = r.listen(source)

    try:
        print("Recognizing...")
        query = r.recognize_google(audio, language='en-in')
        print(f"User said: {query}\n")
```

```
    except Exception as e:
        #print(e)
        print("Say that again please...")
        return "None"
    return query

if __name__ == "__main__":
 #speak("Arindom is the best")
    wishMe()
    while True:
    #if 1:
        query = takeCommand().lower()


        if 'wikipedia' in query:
            speak('Searching Wikipedia...')
            query = query.replace("wikipedia", "")
            results = wikipedia.summary(query, sentences=2)
            speak("According to Wikipedia")
            print(results)
            speak(results)
        elif 'open youtube' in query:
            webbrowser.open("youtube.com")
            speak("Opening youtube")
        elif 'open google' in query:
            webbrowser.open("google.com")
            speak("Opening google")
        elif 'open gmail' in query:
            webbrowser.open("gmail.com")
            speak("Opening gmail")
        elif 'open facebook' in query:
            webbrowser.open("facebook.com")
            speak("Opening facebook")
        elif 'play music' in query:
            music_dir = 'C:\\Users\\Arindom\\Desktop\\Music'
            songs = os.listdir(music_dir)
            speak("opening mp3 songs")
            print(songs)
            os.startfile(os.path.join(music_dir, songs[0]))

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


        elif 'play video songs' in query:
            video_dir = 'C:\\Users\\Arindom\\Desktop\\Videos\\songs'
            videosongs = os.listdir(video_dir)
            speak("opening video songs")
```

```
            print(videosongs)
            os.startfile(os.path.join(video_dir, videosongs[0]))

        elif 'open code' in query:
            codePath = "C:\\Users\\Arindom\\AppData\\Local\\Programs\\Microsof
t VS Code\\Code.exe"
            speak("visual studio codes")
            os.startfile(codePath)

        elif 'open education' in query:
            aPath = "C:\\Academic Contents"
            speak("opening education contents")
            os.startfile(aPath)

        elif 'tell me about yourself' in query:
            speak("I am Tina, a powerful AI virtual intelligenge created by ar
indom sharma as a project for national institute of electronics and informatio
n technology during winter internship tow thousand twenty")


        elif "exit" in query or "bye-bye" in query or "sleep" in query:
            speak("I am shutting down, Good bye sir")
            break
```

OUTPUT: