IMPLEMENTATION OF DESKTOP ASSISTANT USING PYTHON

A Project

Submitted in partial fulfillment of the requirements for

the award of the Degree of

BACHELOR OF COMPUTER APPLICATION

By

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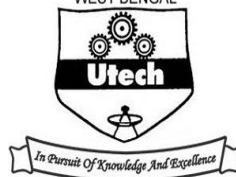**ROLL NO-12020004006122 AND REGISTRATION NO-1210099 of 2020-21**

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DECLARATION CERTIFICATE

This is to certify that the work presented in the thesis entitled **"IMPLEMENTATION OF DESKTOP ASSISTANT USING PYTHON"** in partial fulfillment of the requirement for the award of degree of **Bachelor of Computer Application** of Institute of Engineering & Management is an authentic work carried out under my supervision and guidance.

To the best of my knowledge the content of this thesis does not form a basis for the award of any previous Degree to anyone else.

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CERTIFICATE OF APPROVAL

The foregoing thesis entitled **"IMPLEMENTATION OF DESKTOP ASSISTANT USING PYTHON"** is hereby approved as a creditable study of research topic and has been presented in satisfactory manner to warrant its acceptance as prerequisite to the degree for which it has been submitted.

It is understood that by this approval, the undersigned do not necessarily endorse any conclusion drawn or opinion expressed therein, but approve the thesis for the purpose for which it is submitted.

(Internal Examiner)   **(External Examiner)**

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Contents

Abstract

In recent future, all the electronic devices will be worked by utilizing the remote helper for both official work as well as entertainment purpose. Our virtual assistant is a desktop assistant that uses speech recognition system with normal voice command. It can understand and carry out the audio instructions given by the user. Through simple voice commands, we can ask them to play music, open various apps, read the temperature and carry out other tasks easily. It has been designed to provide a user-friendly interface for carrying out a variety of tasks by employing certain well-defined commands.

Chapter 1

1.1 Introduction

Desktop assistant is used to run all machine-like laptop or PCs on your own command. It is an application program that understands voice commands to complete tasks for the users. The users can ask their assistant questions, and media playback via voice, and manage other basic tasks such as open or close any application like email, YouTube, etc. with verbal commands only. Desktop assistants are typically cloud-based program that requires internet connected devices. Desktop assistants can interpret human speech and respond via synthesized voices. Use python as a programming language because python offers good major library. For this software, use microphone as input device to receive voice requests from Sherlock on Desktop Voice Assistant and speaker as output device to give the output voice. This process is the combination of several different technologies like voice recognition and hand gesture recognition. It also provides notification for the various tasks which we ask the assistant to do and we do not have to check the command prompt.

Chapter 2

2.1 Background Studies

The main objective of this project is to design a **Desktop Assistant** that provides an eminent control over some daily applications as well as web applications and software installed on the system and automates all the required task through voice on a single go.

2.2 Literature Survey

It was after the recognition of importance of voice commands in day-to-day life that we have aimed to develop a personal assistant for desktop which will do every work from playing music to sending messages. We start our literature survey by first understanding existing systems like Google assistant, Cortona, Alexa. which are like proposed system.

Ankush Yadav, Aman Singh, Aniket Sharma, Ankur Sindhu, Umang Rastogi have proposed their work on "Desktop Voice Assistance for Visually Impaired" in 2020. In this work, they used voice command to input the data into the system for that the microphone is used to convert acoustic energy into electrical energy. After taking the input there is a requirement to understand the audio signal for this google API is used.

Subhash S, Prajwal N Srivatsa, Siddesh S, Ullas A, Santosh B have proposed their work on "Artificial Intelligence Based Voice Assistant" in 2020. They have used gTTS Google text to speech package to make voice assistant speak like normal people.

gTTS takes input through voice in audio form then and searches in the browser required response and convert that response into text. It is mainly used to convert audio string into text.

Singh, Sherawat and Sonia have proposed their work on "Voice Activated Desktop Assistant Using Python" in June 2020. This study demonstrated that, the task of voice assistant to minimize keyboard, mouse, touch pens, etc. This will reduce both hardware cost and space taken by it. Free API is provided and supported by Google. This is very light API that help in reducing size of application. The finding shows that, this assistant currently works online and perform basic tasks like weather updates, stream music, search Wikipedia, open desktop application. This study also founds the upcoming updates of this assistant will have machine learning.

Chapter 3

3.1 Design Diagrams
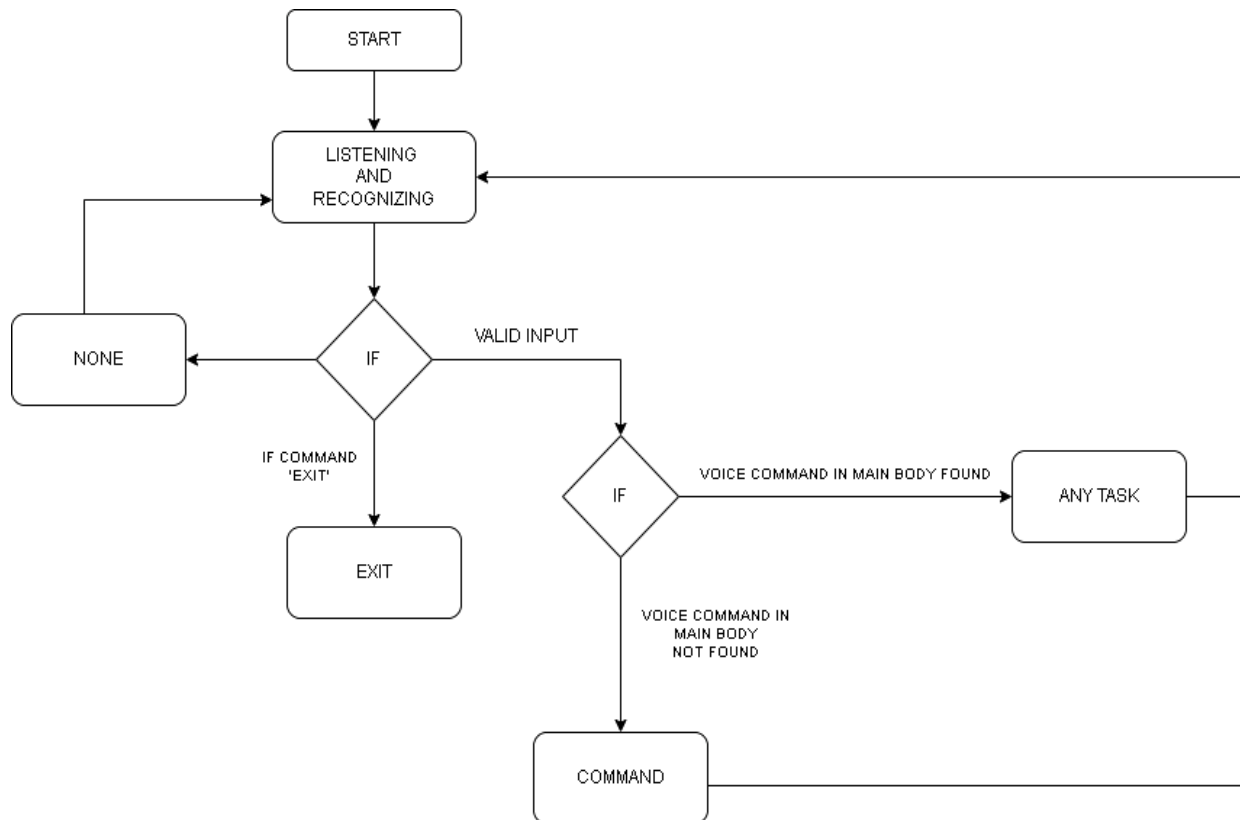
Chapter 4

4.1 Hardware Requirement

- Processor: Intel i5 11th gen

- Memory (RAM): Recommended 8gb or above

- Hard Drive: 1TB

- Ethernet Connection: (LAN) or a wireless adapter (Wi-Fi)
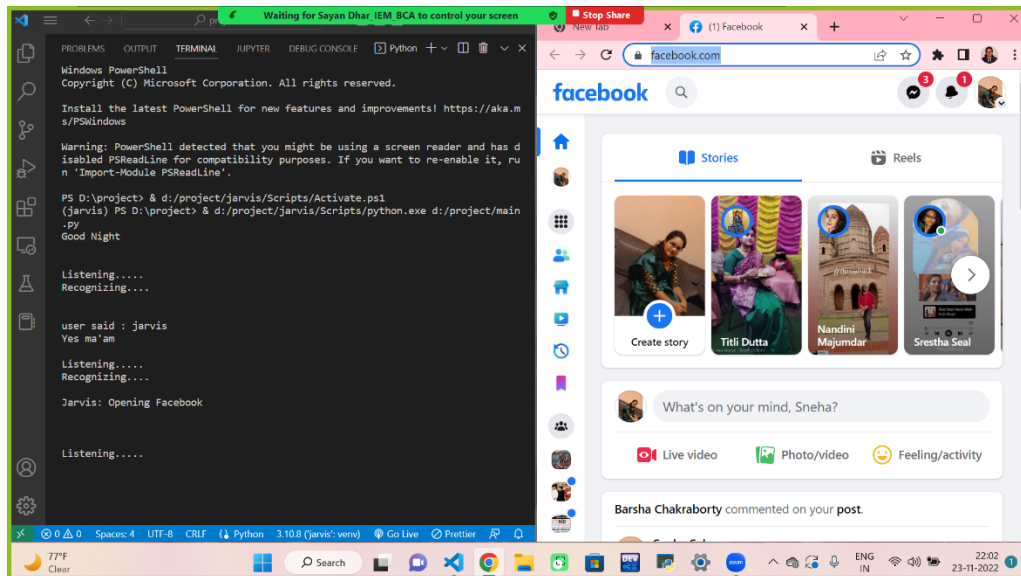
- One Webcam

4.2 Software Requirement

- Platform used: Windows 10 or above

- IDE used: Visual Studio Code

- Designing tools used: Python

- Libraries used:

  1. Speech Recognition
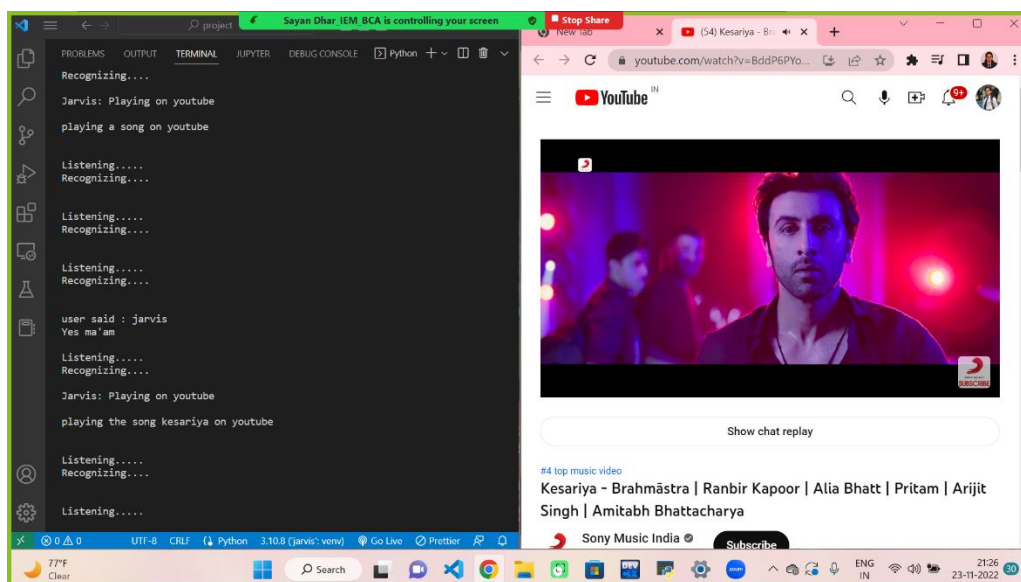
  2. GoogleTrans

  3. PyAutoGui

  4. Pywhatkit

  5. WebBrowser

Chapter 5

5.1 Result and Discussions

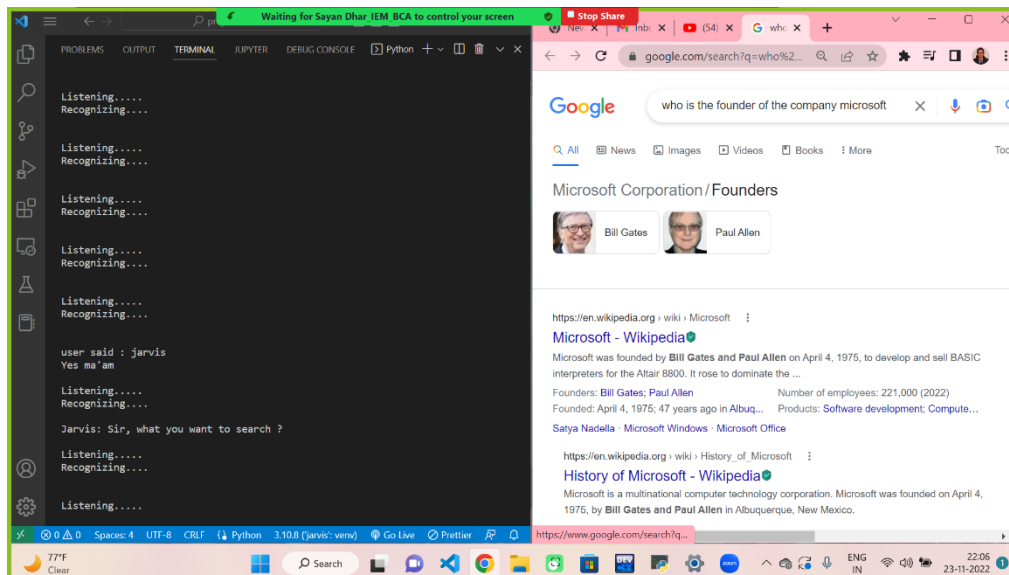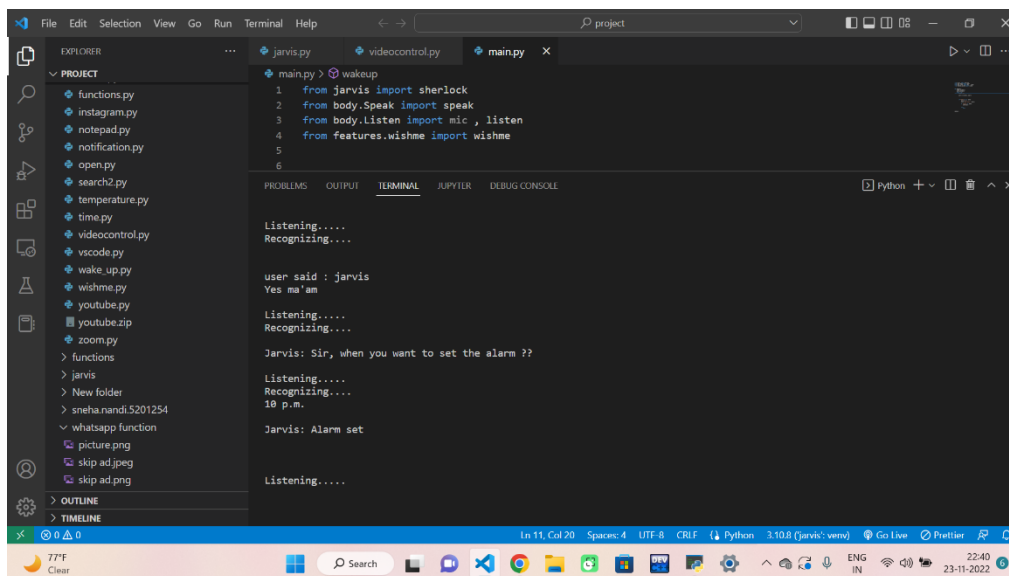Some of the tasks performed by our desktop assistant- SHERLOCK:

Open Facebook

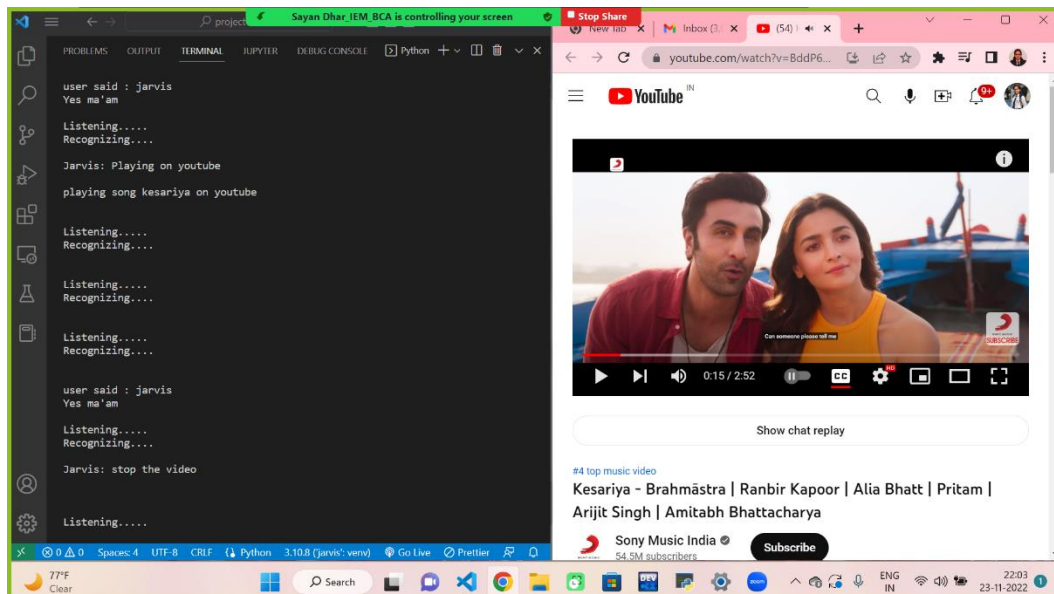## Play a song on YouTube

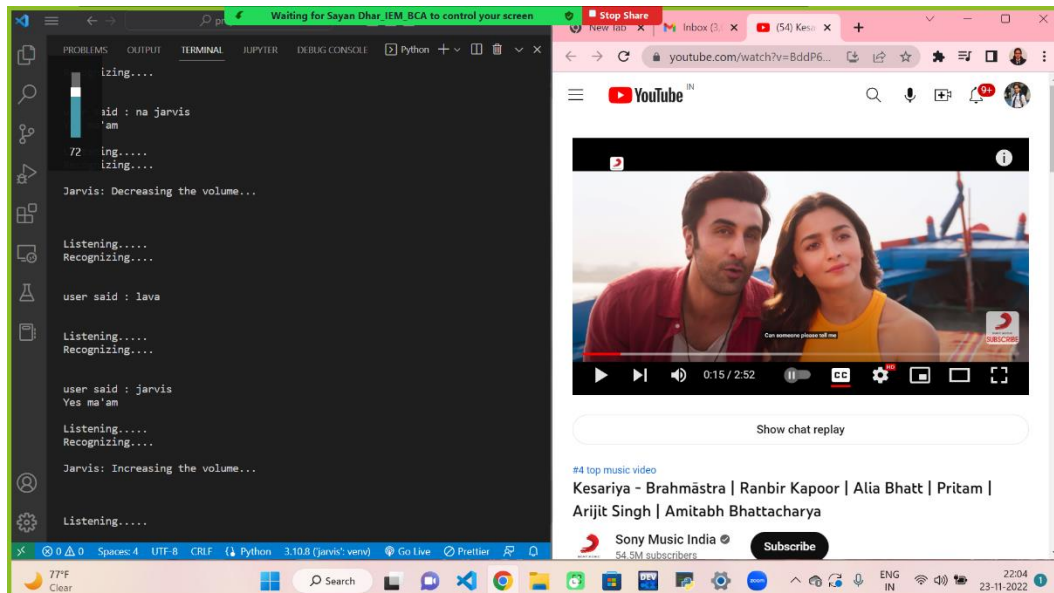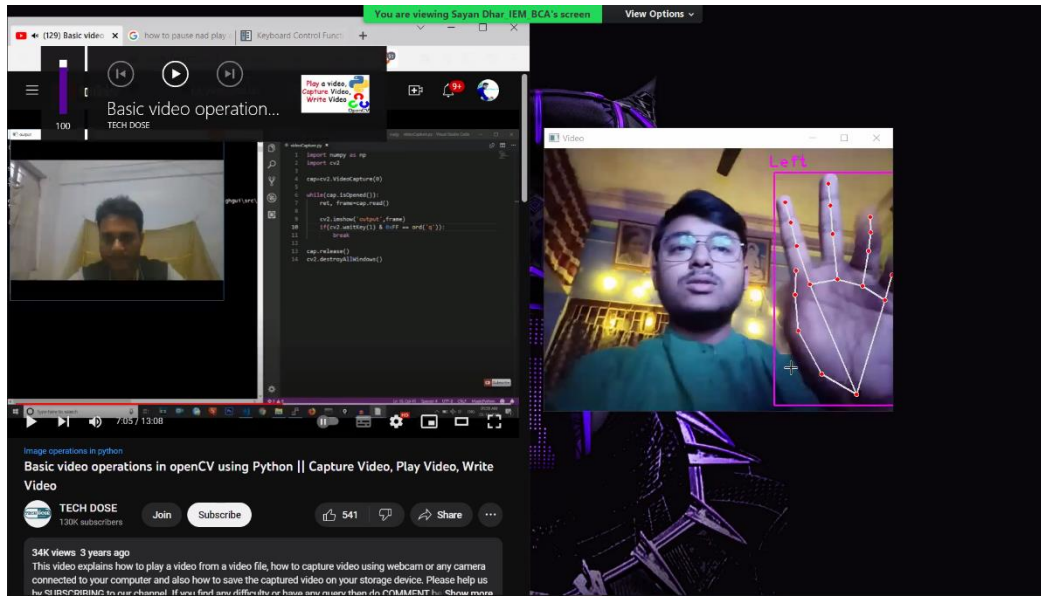# Search for any information in Google

Set an alarm

Pause a video on YouTube

Increasing the volume of the system

Play video using Hand Gesture

Chapter 6

6.1 Conclusion

In this project we have created a Desktop Assistant for Windows using python . Desktop Assistant makes our daily life tasks easier. It is portable and available to use anytime. Desktop Assistant takes our command and do that task for us accordingly. Like Alexa, Siri, we also create a desktop assistant using python for Windows 8 or above versions. Desktop Assistant performs many of the same functions as a smartphone, such as managing several applications via voice commands. It allows you to access the system without having to type anything.

6.2 Future Work

We are in the planning phase of Face Recognition unlock using ML and Home Automation. Our desktop assistant will open a GUI in which face recognition feature will be enabled and it will scan the user's face and only the registered user can access or use the desktop assistant. In Home Automation, we can operate a smart bulb by using voice commands.