



## **Desktop Assistant**

### **MINOR PROJECT**

**Submitted in Partial Fulfilment of the Requirements for the  
Award of the Degree of**

## **MASTER OF COMPUTER APPLICATIONS**

**(M.C.A.)**

**BY**

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**MCA – 2<sup>st</sup> SEMESTER**



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**(GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY)**

**NEW DELHI**

**July, 2021**

## **CANDIDATE’S DECLARATION**

I hereby declare that the work which is being presented in this project work entitled “**DESKTOP ASSISTANT**” in partial fulfilment of the requirements for the award of the degree of **Master in Computer Applications at Bharati Vidyapeeth’s Institute of Computer Applications and Management (BVICAM), New Delhi** is an authentic record of my own work carried out during the period May 2021 to June 2021 under the supervision and guidance of **Dr. Ritika Wason (Associate Professor, BVICAM)**.

I have not submitted the matter embodied in this project work anywhere for the award of any degree or diploma.

**Riya Kumari Kushwaha**

Enroll. No. 03735304420

## ACKNOWLEDGEMENT

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I feel pride and privileged in expressing my deep sense of gratitude to all those who have helped me in presenting this assignment. I would be failing in my endeavour if I do not place my acknowledgement.

**RIYA KUMARI KUSHWAHA**

Enroll. No. 03735304420

# **ABSTRACT**

In this minor project, I have developed a Python-based Desktop Voice Assistant. The application is developed using Python programming. No database is used in the development of this application. The development of application is carried out by following the waterfall model of software development. The application follows Model-View-Controller (MVC) architecture for providing robust and reliable services. There are mainly 3 modules of the system: microphone, voice input and operations performed.

# **TABLE OF CONTENTS**

## **CHAPTER 1: INTRODUCTION**

- 1.1 Problem Description
- 1.2 Proposed Solution
- 1.3 Deliverables
- 1.4 Team Structure

## **CHAPTER 2: PROJECT DESCRIPTION**

- 2.1 System Specification
  
- 2.2 Methodology used
  - 2.3.1 Python
  - 2.3.2 Python modules and libraries

## **CHAPTER 3: FUNCTIONALITIES**

- 3.1 Use Case Diagram
- 3.2 UML Diagram
- 3.3 Screenshots of the running Project

## **CHAPTER 4: CONCLUSION AND FUTURE SCOPE**

- 4.1 Conclusion
- 4.2 Future Scope

## **BIBLIOGRAPHY**

# **CHAPTER 1**

## **INTRODUCTION**

A DESKTOP ASSISTANT is a virtual assistant which will perform tasks without any physical intervention with keyboard or mouse. The desktop voice assistant eases the tasks of the user by taking voice inputs and provides a interface for communication with the desktop. In today's world, we train our machine's 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. There are companies like Google, Apple, Microsoft, etc with virtual assistants like Google Now, Siri, Cortana, etc. which helps their users to control their machine by just giving input in the form of voice. The voice assistant we have developed is a desktop-based built using python modules and libraries. This assistant is just a basic version that could perform all the basic tasks.

### **a. PROBLEM DESCRIPTION**

- Ease of access to any application or file is quite complicated in desktop
- We need to remember the path
- Children and older people find it difficult to access desktop computers

### **b. PROPOSED SOLUTION**

- Ease of access to files and application
- We just have to speak the command to the desktop assistant
- Saves human time and resource
- Hands free operations

### **c. DELIVERABLES**

- To make a program which will make the task of user simpler by processing natural language and performing the tasks.

#### 1.4 TEAM STRUCTURE AND ROLE

<b>Team Information</b>			
<b>Team Size</b>	<b>2</b>		
<b>Details of Team Members</b>	<b>Name of the Student</b>	<b>Section</b>	<b>Role</b>
	Diksha Agrawal	2	Project Developer
	Riya Kumari Kushwaha	2	Project Developer

# CHAPTER 2

## PROJECT DESCRIPTION

### 2.1 SYSTEM SPECIFICATION

There is only software requirement. You need only python IDE to run this project. There can be any python IDE as you have to run this program which can be run on any python IDE. There is no Hardware requirement as python can be run on any platform as it is an platform independent language.

### 2.2 METHODOLOGY USED

#### 2.2.1 Python

**Python** is an interpreted high-level general-purpose programming language. Python's design philosophy emphasizes code readability with its notable use of significant indentation. Its language constructs as well as its 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 structured (particularly, procedural), object-oriented and functional programming. Python is often described as a "batteries included" language due to its comprehensive standard library.

#### 2.2.2 Python Modules and libraries

- 1. Speech Recognition-** Speech recognition, as the name suggests, refers to automatic recognition of human speech. Speech recognition is one of the most important tasks in the domain of human computer interaction.
- 2. Wikipedia-** Python Wikipedia library, wraps the official Wikipedia API. The Internet is the single largest source of information, and therefore it is important to know how to fetch data from various sources. And with Wikipedia being one of the largest and most popular sources for information on the Internet.

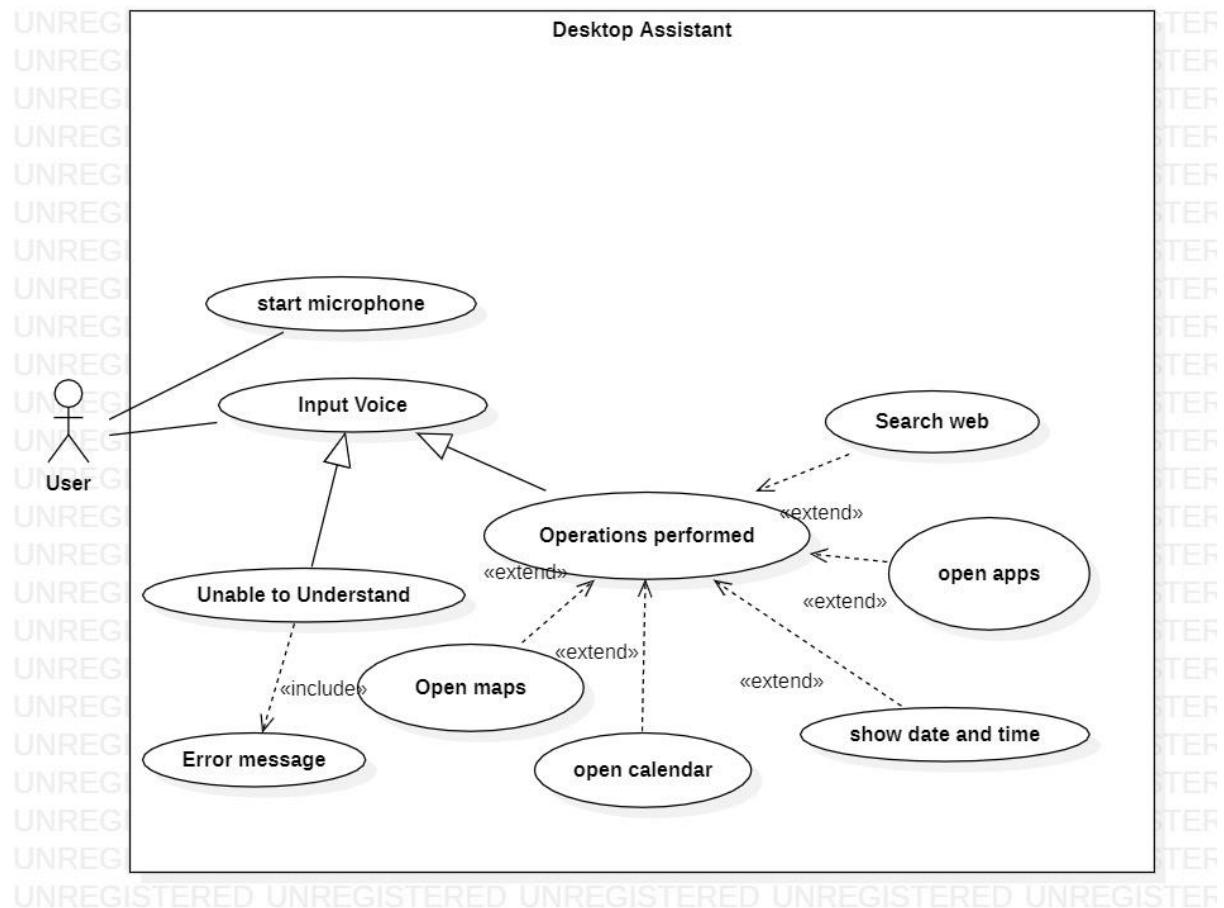


3. **Web Browser-** The webbrowser module provides a high-level interface to allow displaying Web-based documents to users. Under most circumstances, simply calling the open() function from this module will open url using the default browser
4. **DateTime-** The Date Time module is used for the various formats of the date and time. Like the current date and time, hour, minutes, seconds etc.
5. **Subprocess-** The subprocess module allows you to spawn new processes, connect to their input/output/error pipes, and obtain their return codes. This module intends to replace several older modules and functions
6. **Os-** Through this module, all the applications, files and folders can be assessed. We can open any application by giving the specific path in the parameters of the function.

# CHAPTER-3

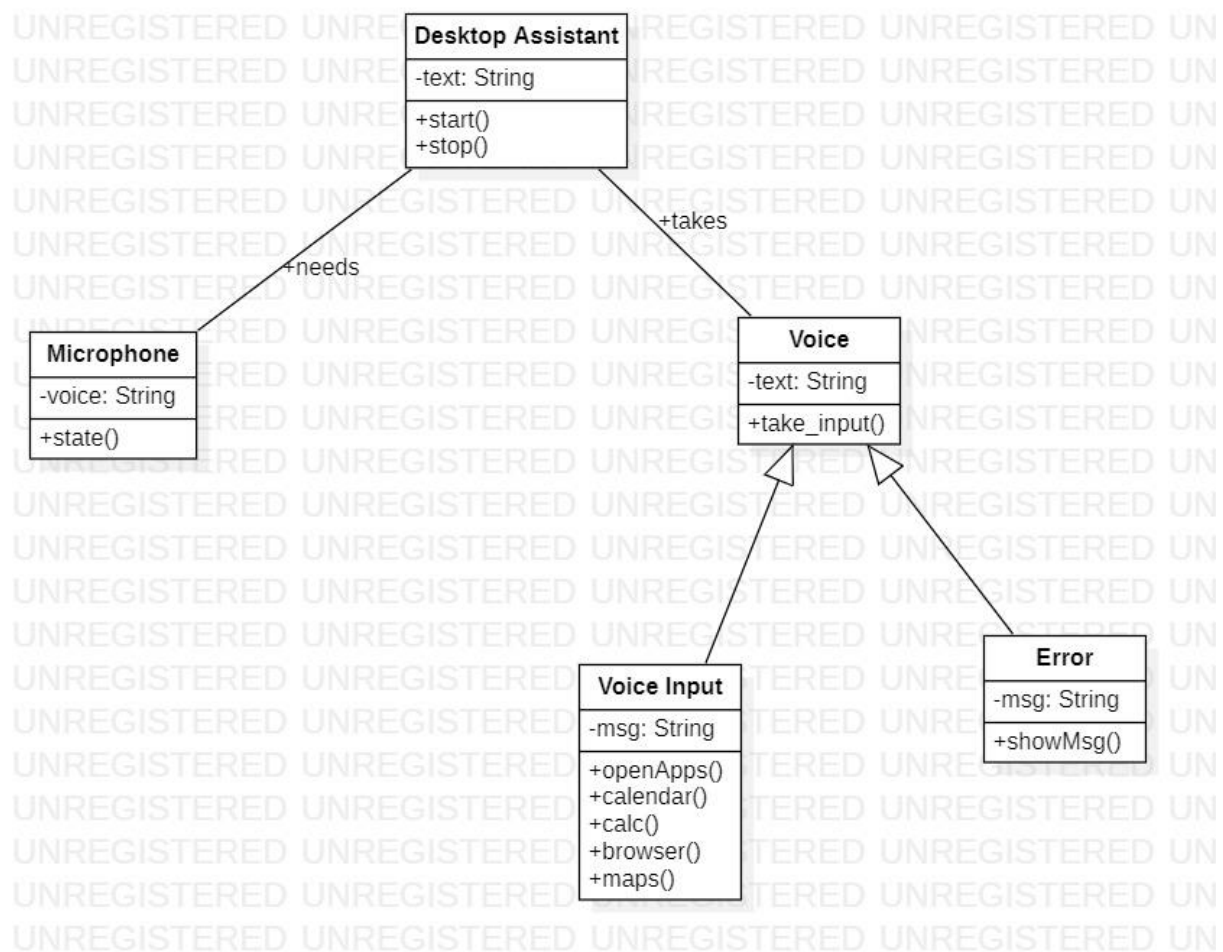
## FUNCTIONALITIES

### 3.1 USE CASE DIAGRAM

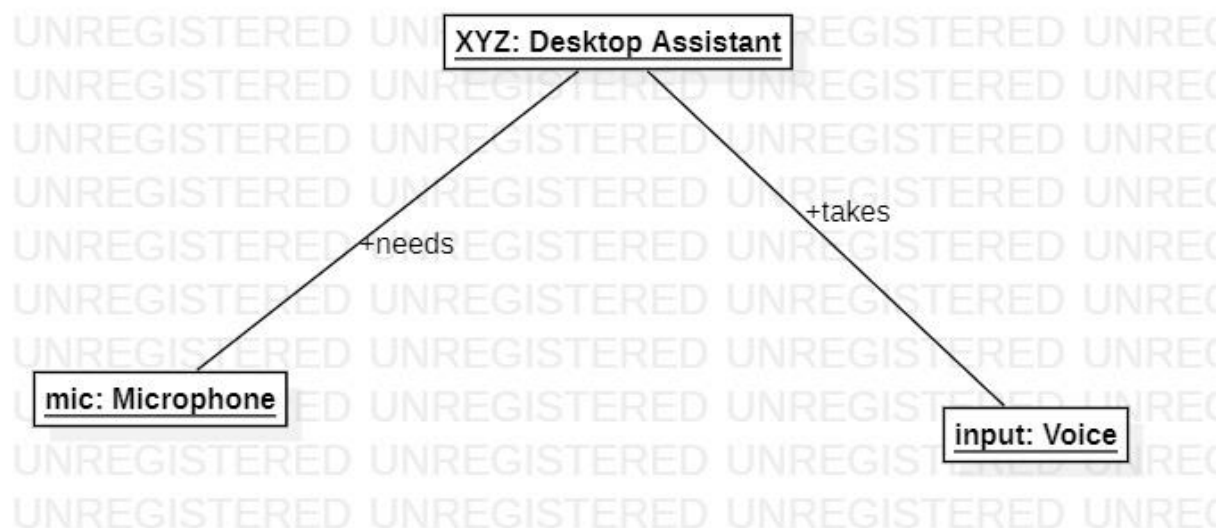


### 3.2 UML DIAGRAMS

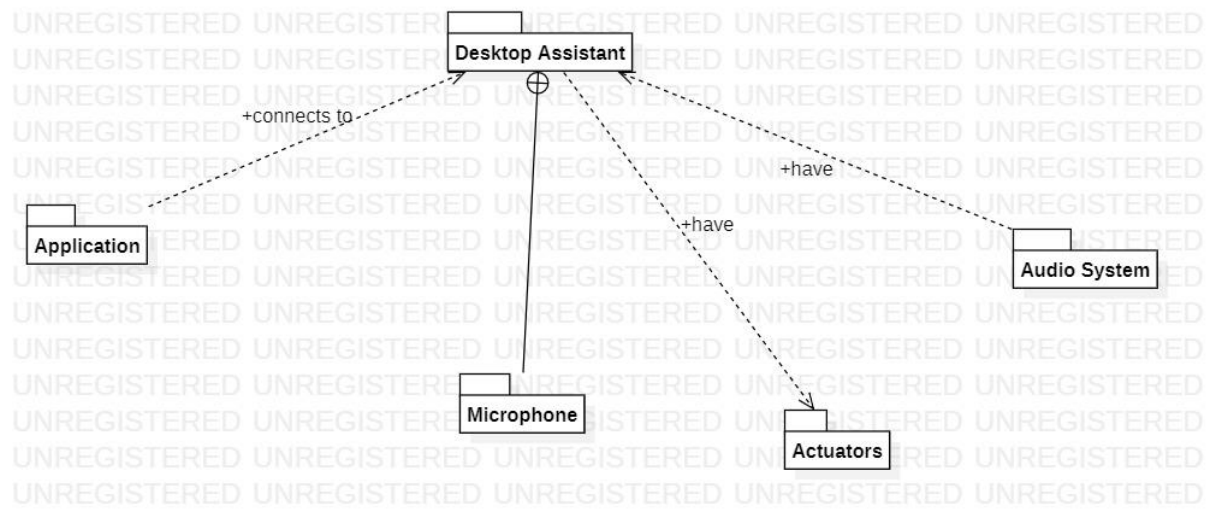
#### 3.2.1 CLASS DIAGRAM



### 3.2.2 OBJECT DIAGRAM

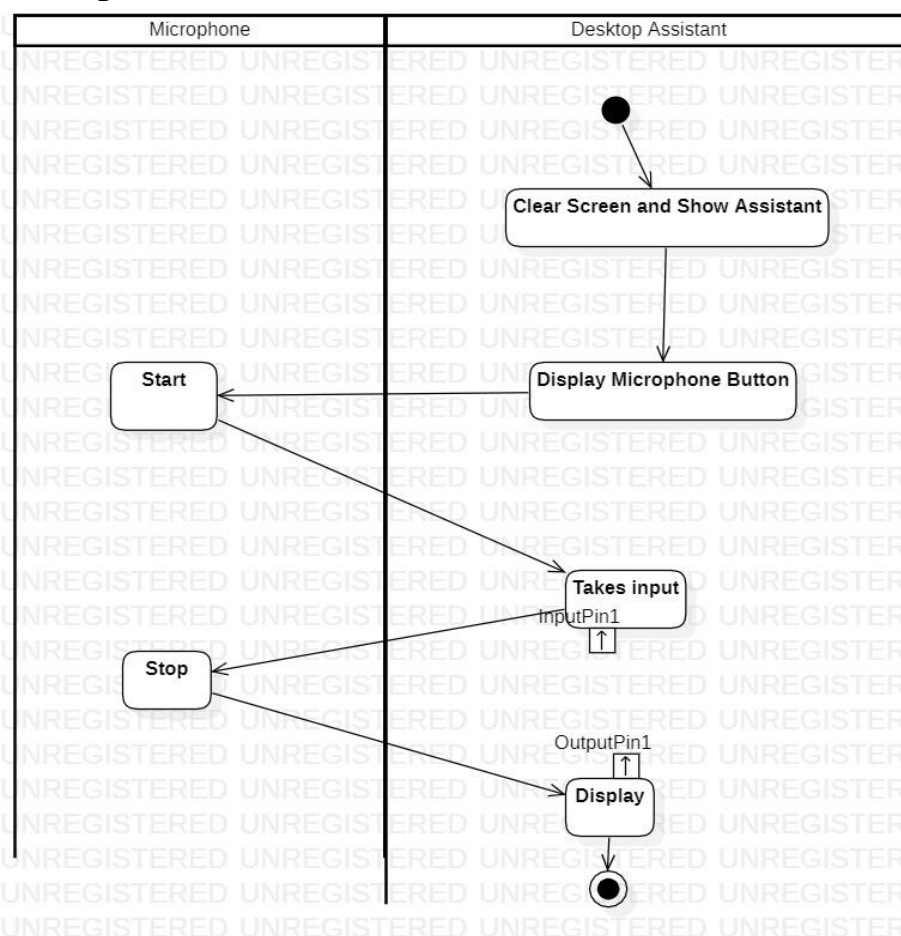


### 3.2.3 PACKAGE DIAGRAM

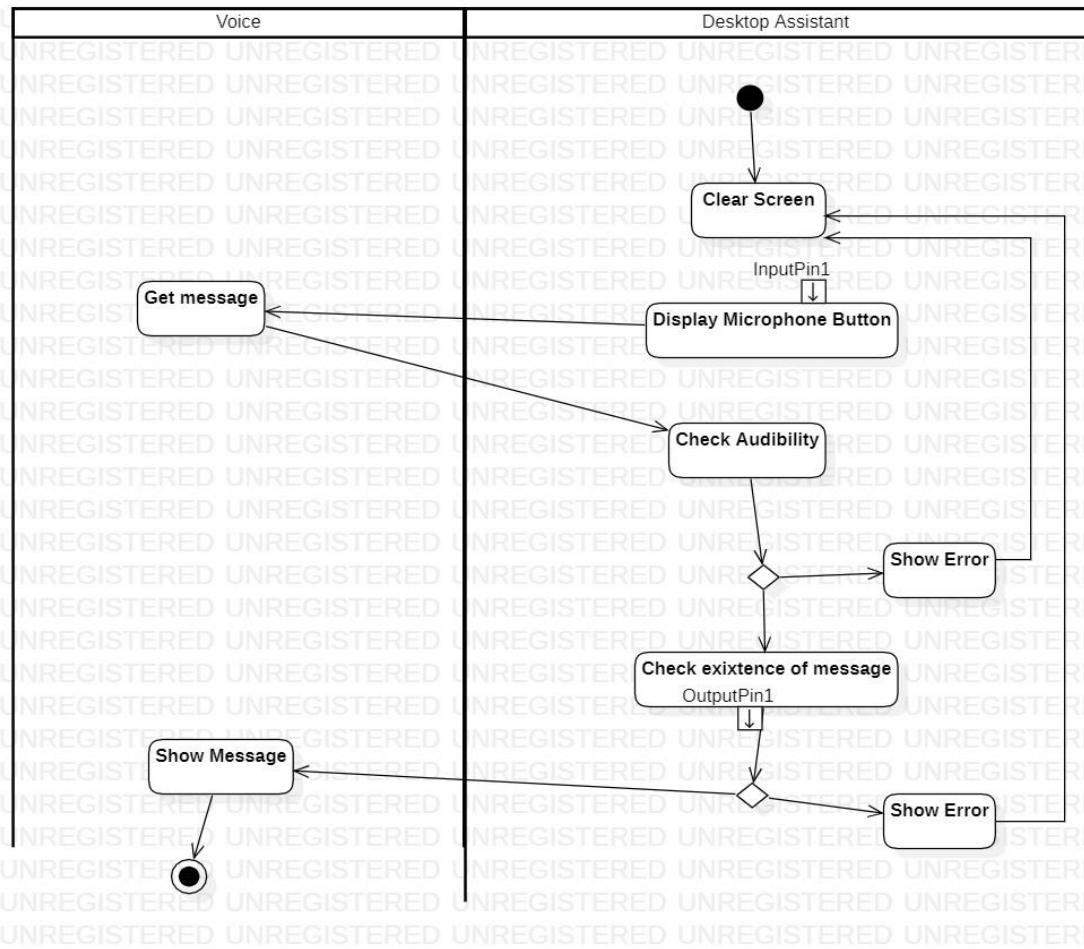


### 3.2.4 ACTIVITY DIAGRAM

#### 1. Microphone

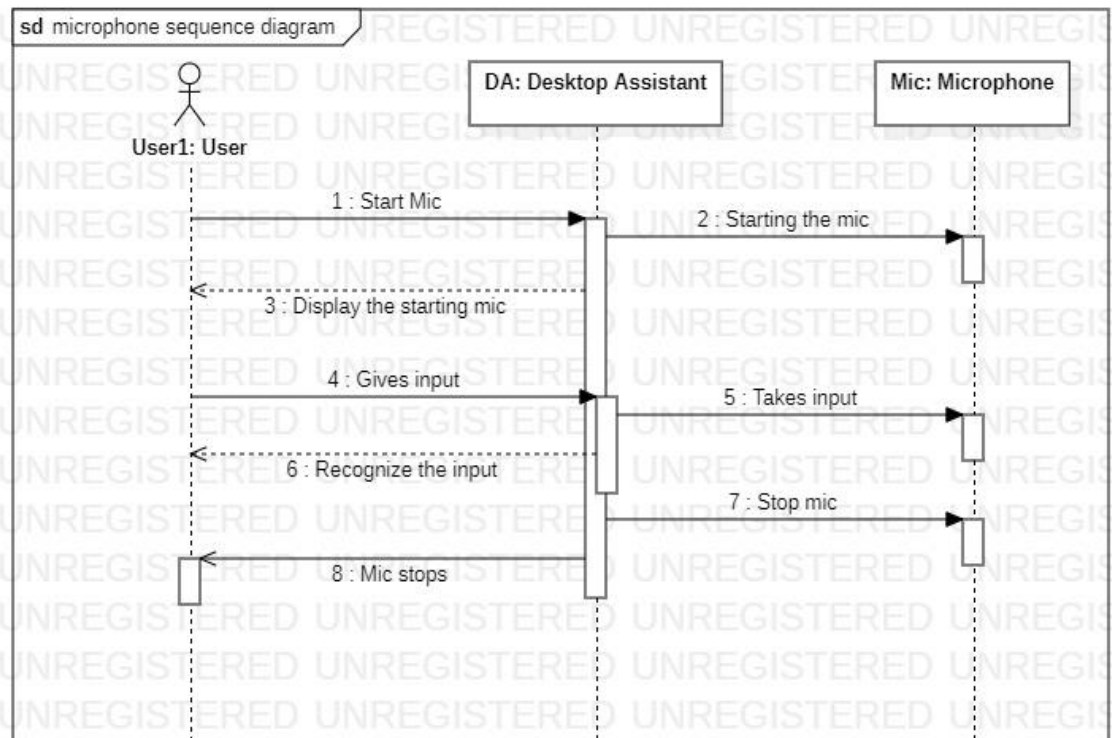


#### 2. Voice

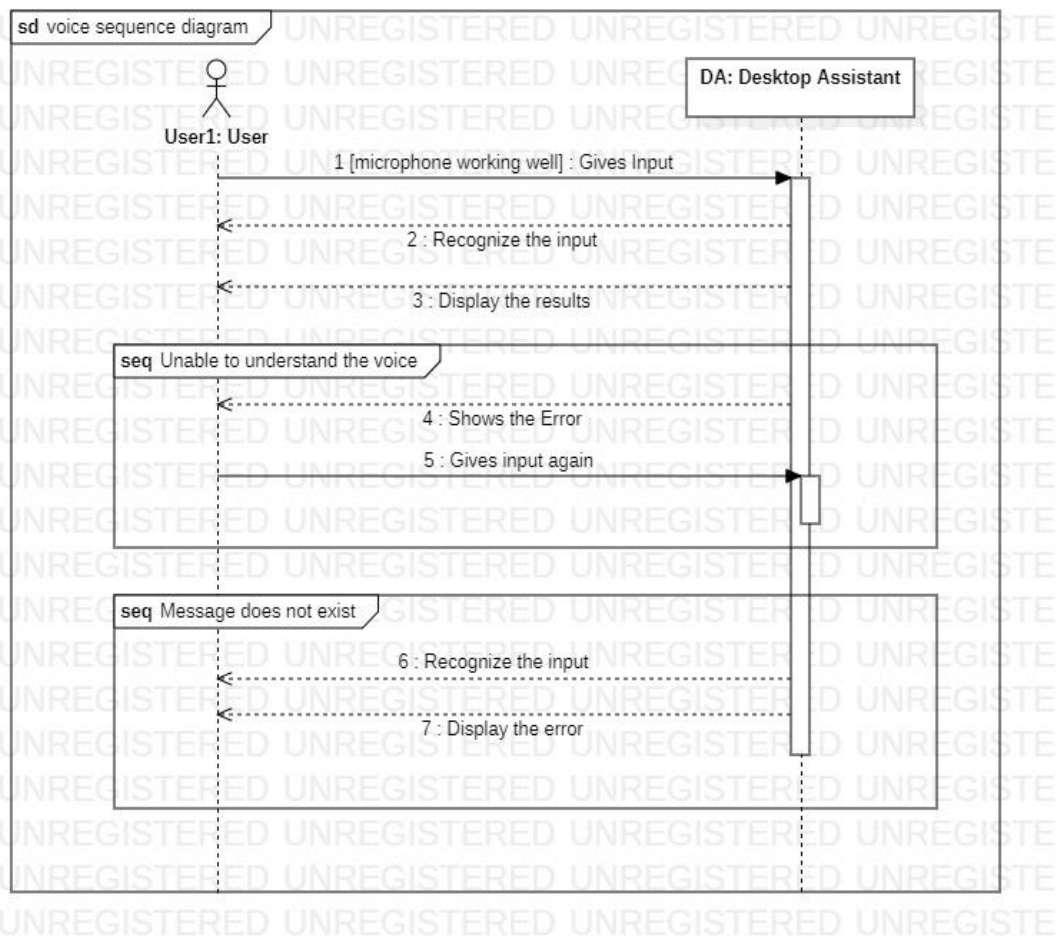


### 3.2.4 SEQUENCE DIAGRAM

#### 1. Microphone

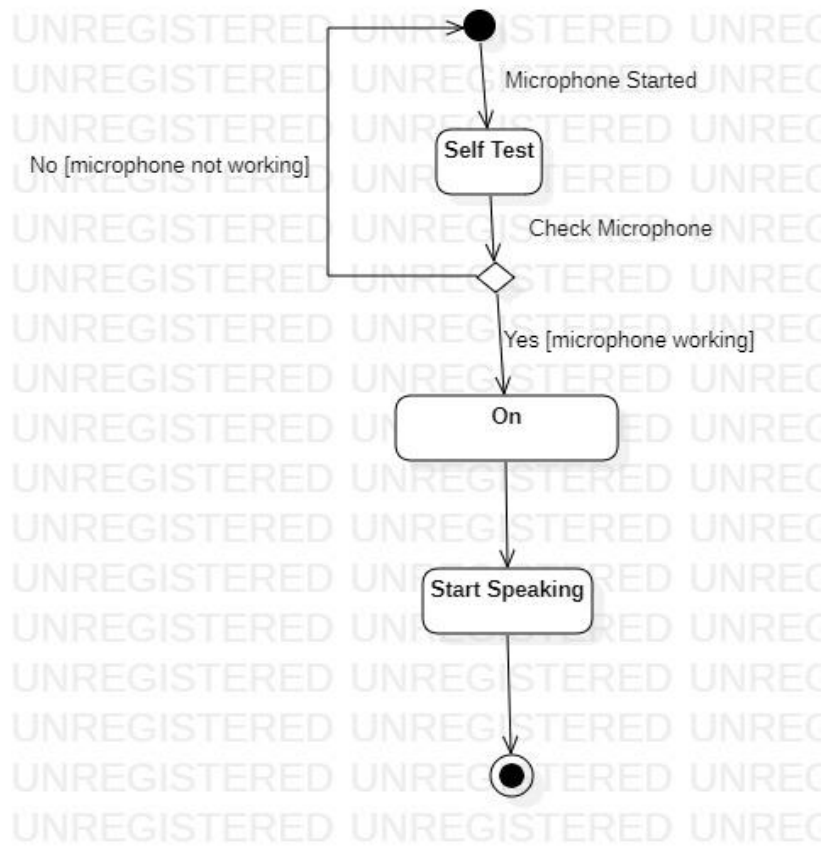


## 2. Voice

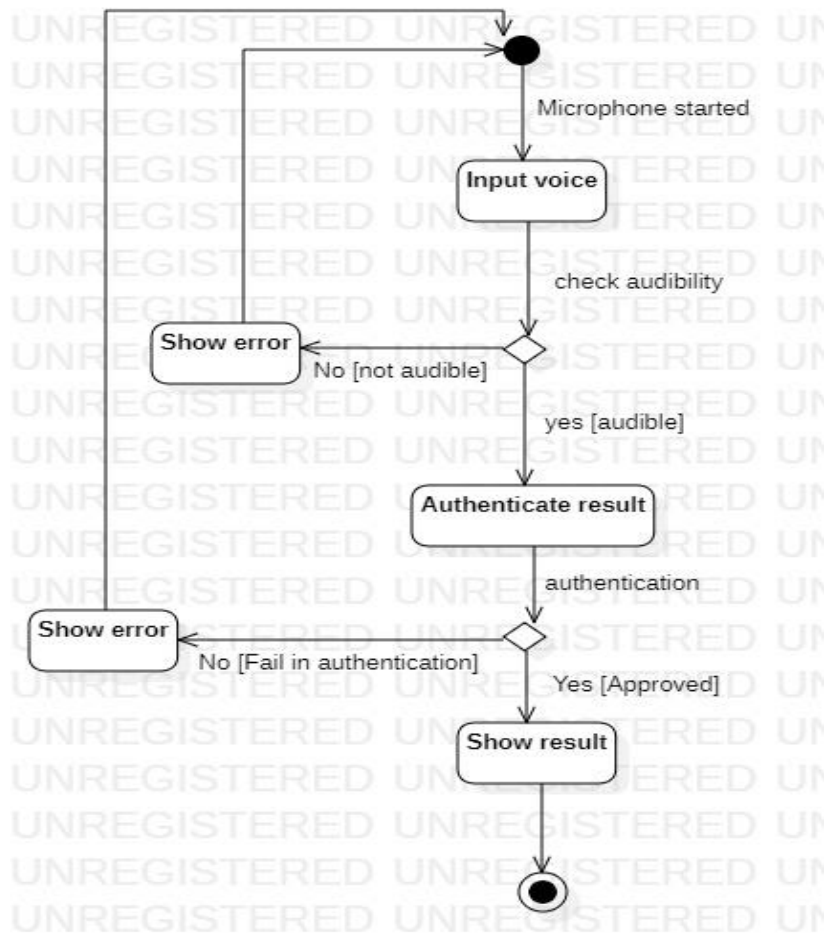


### 3.2.5 STATE CHART DIAGRAM

#### 1. Microphone



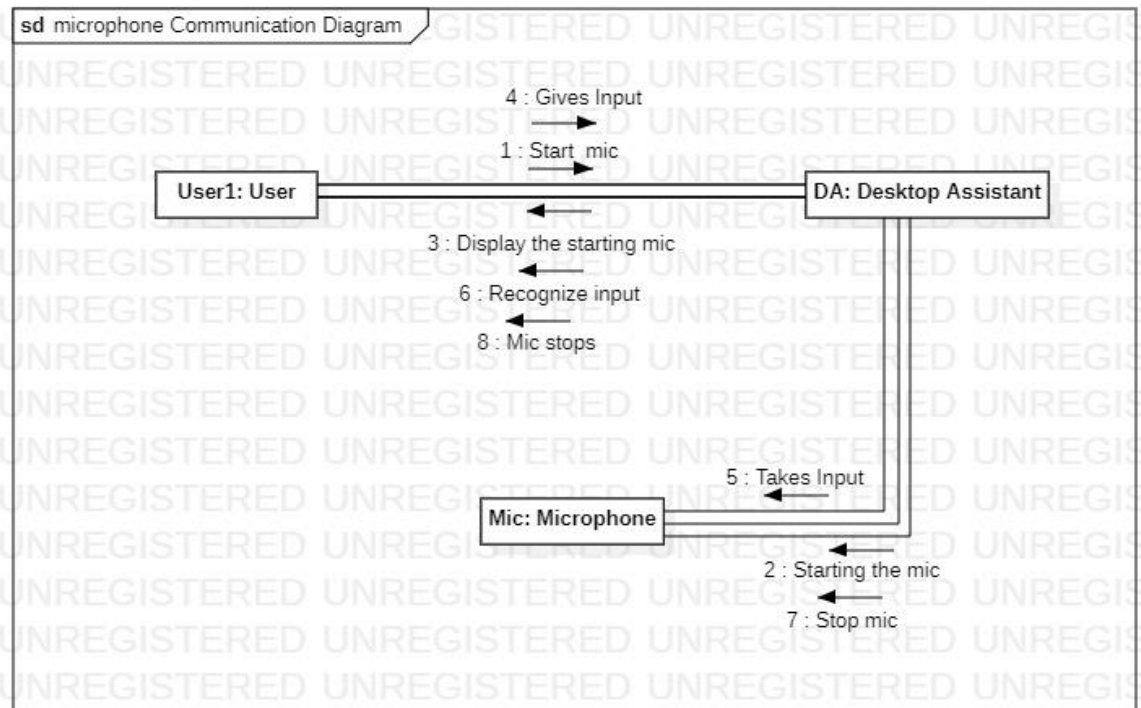
#### 2.Voice



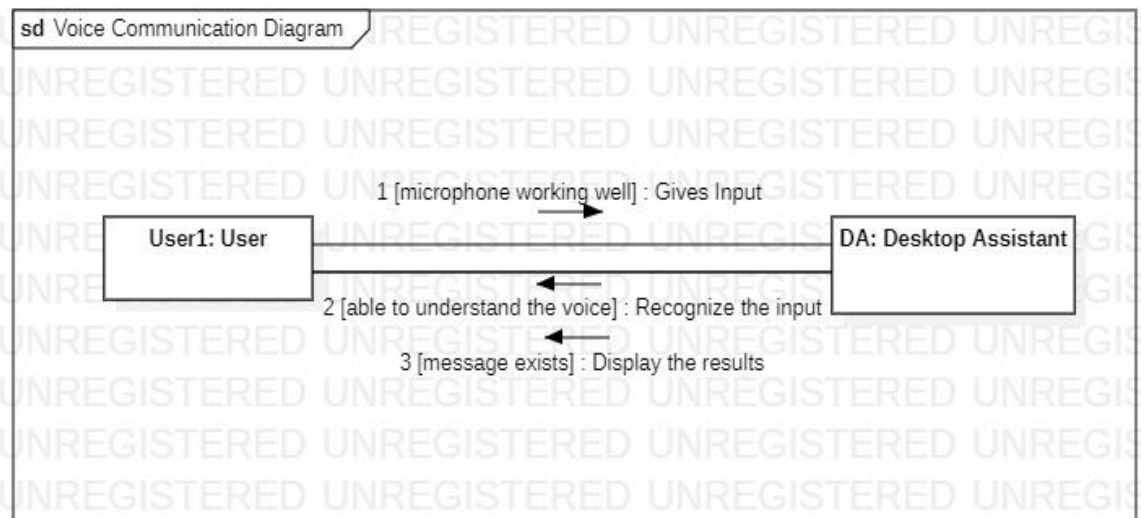
### 3.2.6 COMMUNICATION DIAGRAM

#### 1. Microphone





## 2. Voice



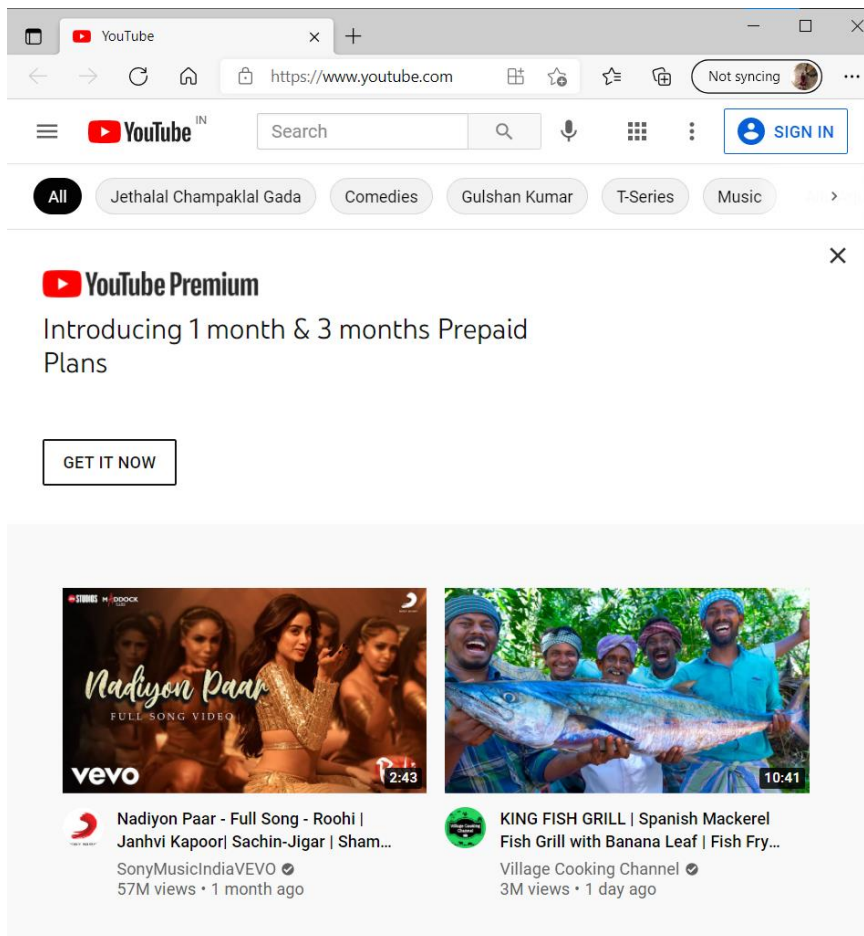
## 3.3 SCREENSHOTS

### 3.3.1 Searching Wikipedia

```
listening...
Recognizing...
user said: search Python programming in Wikipedia
Python is an interpreted high-level general-purpose programming language. Python's design philosophy emphasizes code readability with its notable use of significant indentation. Its language constructs as well as its 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 structured (particularly, procedural), object-oriented and functional programming. Python is often described as a "batteries included" language due to its comprehensive standard library. Guido van Rossum began working on Python in the late 1980s, as a successor to the ABC programming language, and first released it in 1991 as Python 0.9.0.
listening...
```

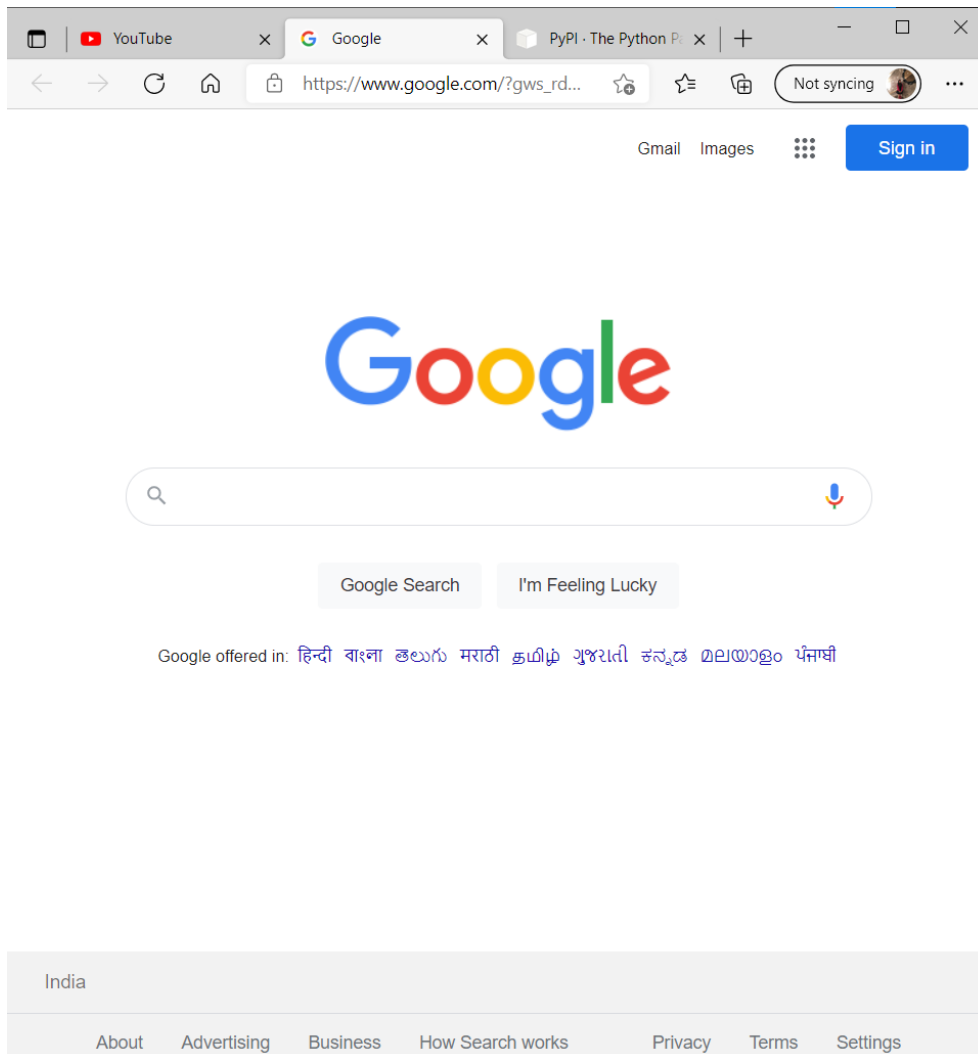
### 3.3.2 Opening Youtube

```
user said: open YouTube
listening...
Recognizing...
```



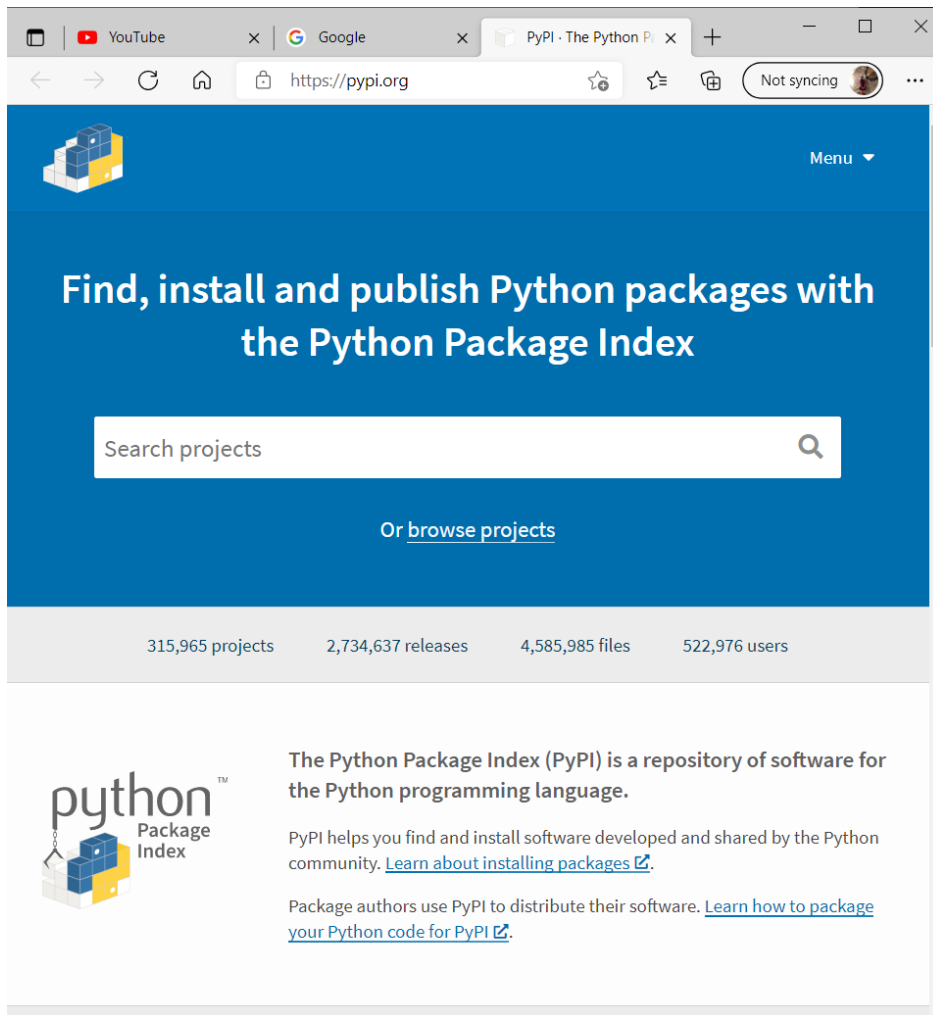
### 3.3.3 Opening Google Search Engine

```
listening...
Recognizing...
user said: open Google
```



### 3.3.4 Opening Python Website

```
listening...
Recognizing...
user said: open python
```



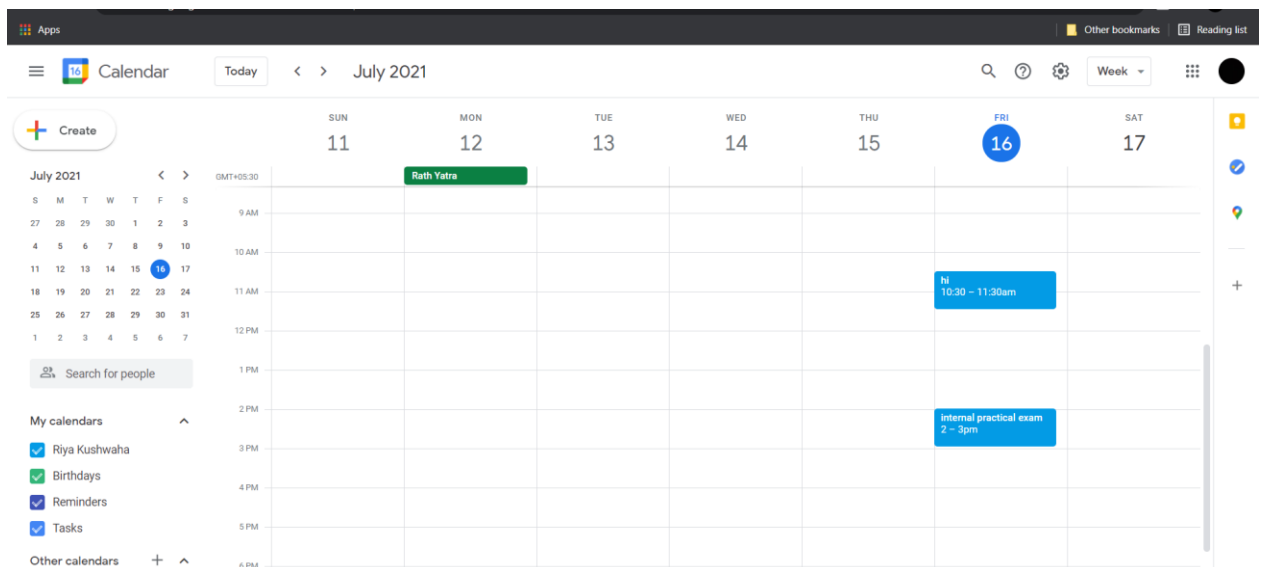
### 3.3.5 Displaying Current Time

```
user said: what is the time right now
22:14:25
listening...
```

### 3.3.6 Google Calendar

```
listening...
Recognizing...
user said: calendar
listening...
Recognizing...
user said: what do I have this Friday what do I have this Friday
2021-07-16T10:30:00+05:30 hi
2021-07-16T14:00:00+05:30 internal practical exam
```

```
listening...
Recognizing...
user said: calendar
listening...
Recognizing...
user said: open calendar
```



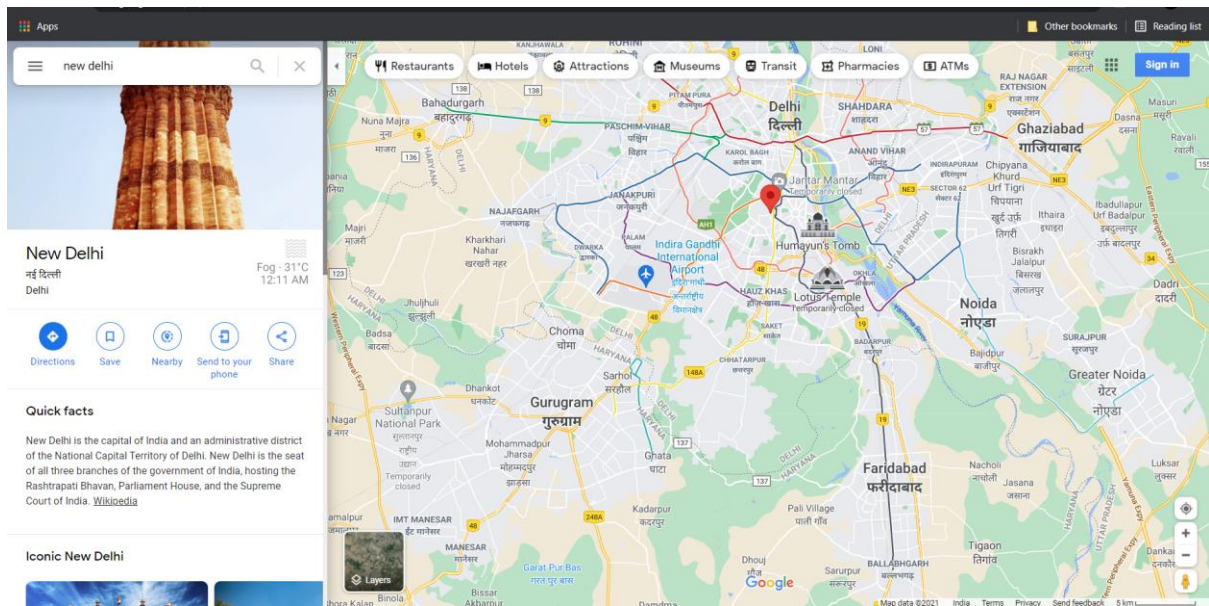
**3.3.7 Opening Notepad Application and writing into it (Speech to text) i.e. the user speaks and assistant writes for it**

```
listening...
Recognizing...
user said: open Notepad
```

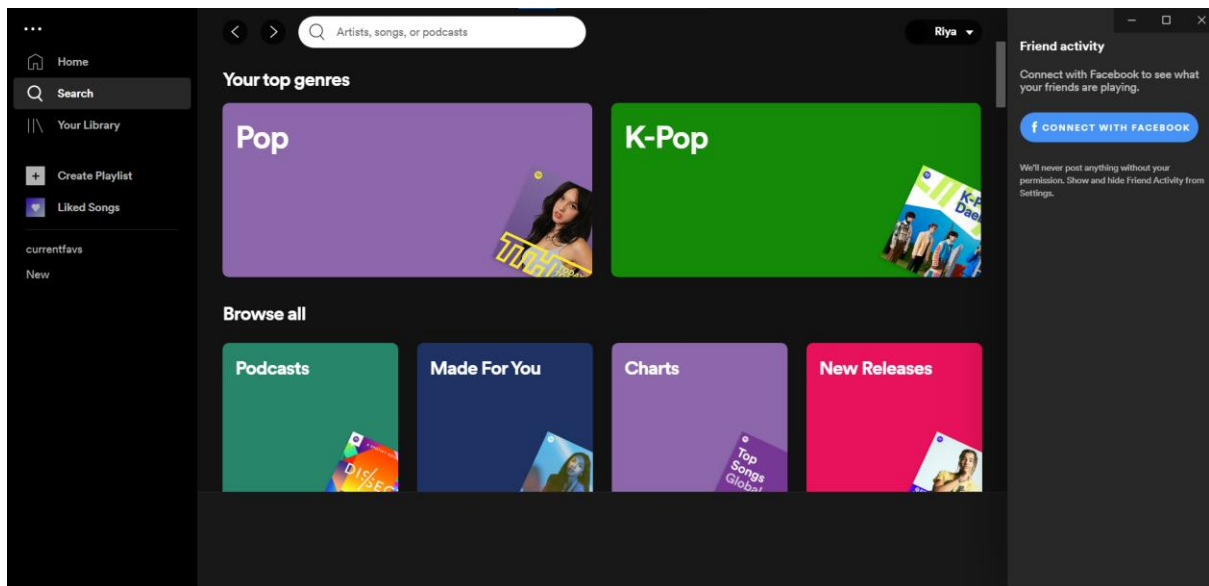
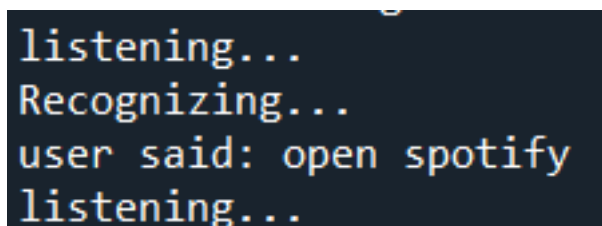


### 3.3.8 Finding Location in Google Maps

```
listening...
Recognizing...
user said: find location
listening...
Recognizing...
user said: New Delhi
Here is the Location of new delhi
```

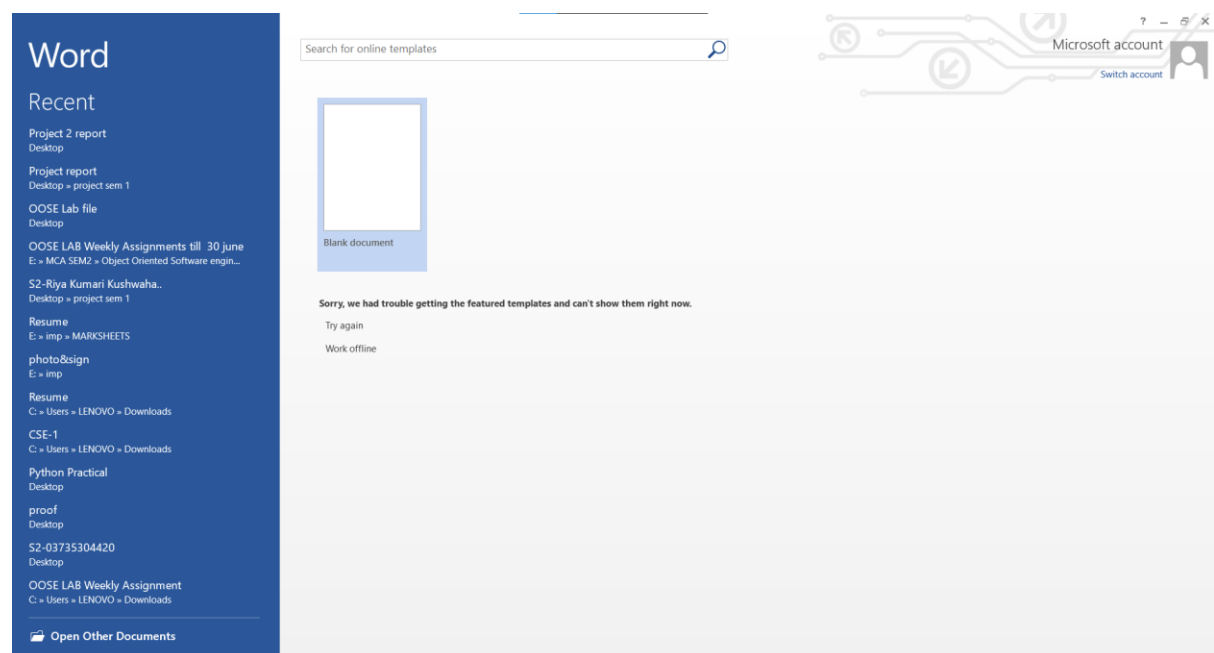


### 3.3.9 Open Spotify

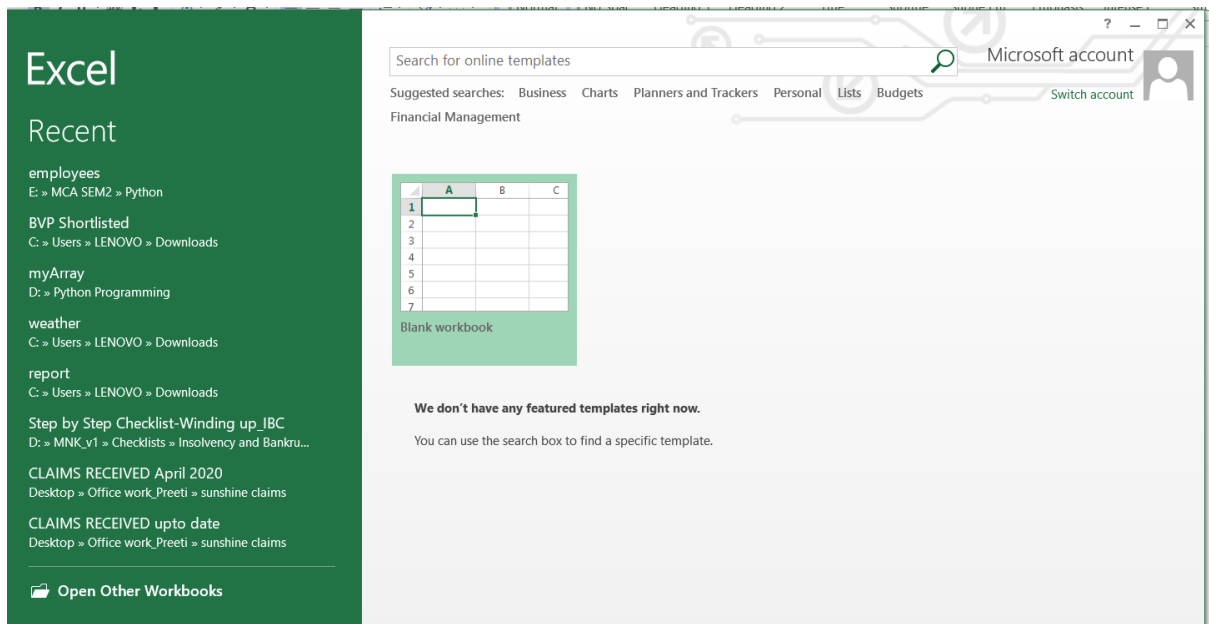
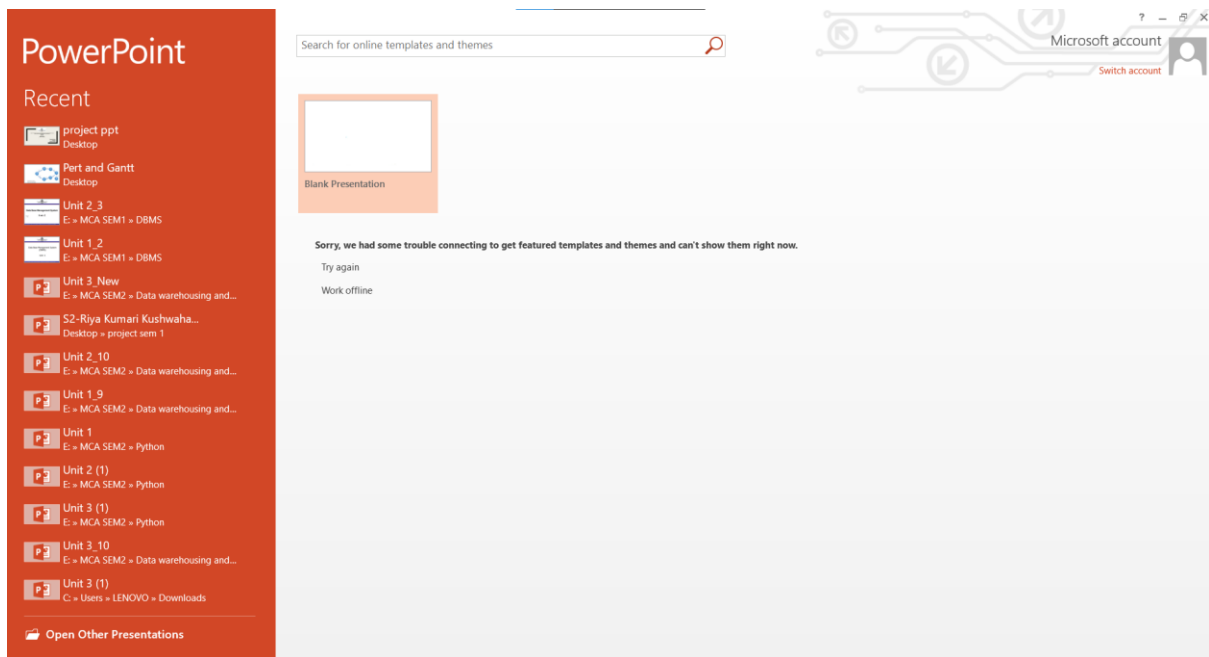


### 3.3.10 Microsoft Office Applications

```
listening...
Recognizing...
user said: open Microsoft Word
listening...
Recognizing...
Say that again please...
listening...
Recognizing...
user said: open PowerPoint
listening...
Recognizing...
user said: open Excel
listening...
```







## CHAPTER -4

# CONCLUSION AND FUTURE SCOPE

### ■ Future Scope

The desktop voice assistant has made the task of human easier . It still lacks few features such as opening camera and sending mails which can we included later.

### ■ Conclusion

Desktop assistant software improves user productivity by managing routine tasks of the user and by providing information from online sources to the user. Building an agent that can replace a human assistant has been a holy grail for software industry, especially in the field of artificial intelligence

## **BIBLIOGRAPHY**

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- [5] <https://www.geeksforgeeks.org/>**