VIRTUAL VOICE ASSISTANT IN PYTHON (FRIDAY)

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Abstract— We are living the era of computers where nowadays everything can be done using computers i.e., Artificial Intelligenceand Machine Learning, have made technology very easy that nowhumans can interact with machines in such a way that their task can be done only by interacting with Machines i.e., Computers. Yes, we are talking about Virtual Personal Assistants (VPAs). As of now there are many such VPAs like Alexa, Bixby, Echo, Siri, Google Assistant available on desktop, mobiles and in device also but as the technology becomes easier it becomes difficult to use for particular people such as senior citizens, blind people, also children below certain age. Also, this VPAs which are present nowadays do not provide as much facilities. To overcome this, we developed voice assistant in python on windows system which provide user to perform any task without using keyboard. Also, user can send email just by giving receiver's email and the message user wants to send. Also, now user can book a cab just bysaying where he wants to go and also book bus and train tickets. Our main aim towards developing this is to make certain things more efficient.

Keywords — (Artificial Intelligence, Machine Learning, VPA'S, Blind People, Send Email, Booking.)

I. INTRODUCTION

In today's fast-paced world, machines are trained to function and perform their jobs like humans, allowing humans to save time and focus on other relatively important tasks. Virtual assistants are one of the concepts that act like agents and can perform a variety of tasks by understanding voice commands from users. A virtual assistant is also known as AI assistant or an application program that recognizes the human natural voice, processes it according to the algorithm and completes the task or work which is requested from the user.

We have all seen the following voice assistants already in existence: B. Alexa, Siri, Google Assistant, Cortana and more. Here, we have used Python to create a personal digital voice assistant called "FRIDAY" because Python provides a great large library and is also a part of the course. Below are the basic tasks you can perform with this voice assistant.

1. Booking taxi cabs,
2. audio and video playback,
3. web surfing,
4. E-mail message sending,
5. weather confirmation,
6. alarm or reminder settings,
7. various application launches,
8. photo click to record video,
9. date and time to do,
10. Bus And Train booking,
11. Writing note.

This voice assistant also provides features such as sending emails and booking taxis. All this can be done simply by issuing a voice command. It's like having a casual conversation between two people. This makes the user's work easier and saves a lot of time.

Because this assistant has voice-based search capabilities, this project has proven to benefit many older people who are not very familiar with keyboards / keypads. This assistant is also very useful for the visually impaired. Aside from the elderly, speaking is relatively more convenient and less time consuming than typing for people of all ages.

Here, the microphone is used as an input device to receive the user's voice command, and the speaker is an output that informs the user whether the voice command was recognized correctly and whether the task was successfully executed or completed. Used as a device. With the help of a virtual assistant, you can control different tasks with one hand in much less time on one platform.

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II. Literature Survey

Rutuja V. Kukade, Ruchita G. Fengse, Kiran D. Rodge, Siddhi P. Ransing, Vina M. Lomte - Proposed the problems in communication difficulty and in interaction with computers for the people who do not yet know how to handle the computer systems and access the facilities from it such as old age citizens, visually impaired also the people who are less familiar with typing. So, in this paper we deeply focused on this problem and created such a system which provides users with various facilities such as sending Emails, to know the weather forecast, writing a note/ blog and recognize image etc. which use speech recognition system and optical character recognition for speech to text with Microphone as input and speaker for text to speech.

Nivedita Singh, Dr. Diwakar Yagyasen, Mr. Surya Vikram Singh, Gaurav Kumar, Harshit Agrawal - proposed there are some problems which are yet to be focused i.e., old citizens are not that familiar of keyboard and sometimes they don't know certain things and to execute it such as booking a cab, certain videos they want about any problem. Also, they want to search distance between to location, bus and train details. Also, this problem is faced by visually impaired persons. So, from this research paper we've discussed more on automation i.e., less use of keyboard and more efficient work

III. Methedology

A. *Problem Statement*

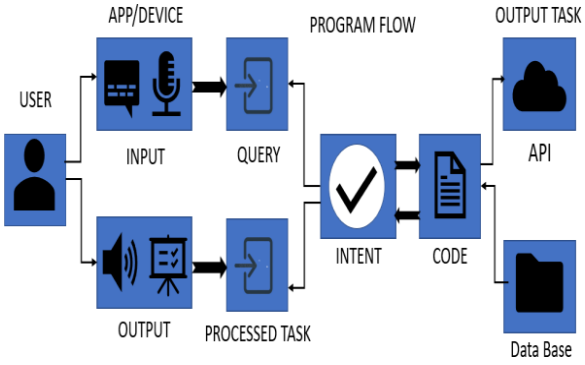
To develop a virtual voice assistant which will be able to send Email without using keyboard, set alarm, play music and movies, tell weather forecast, provide efficient searching (Google, Wikipedia), Book Cabs, railway and bus, suggest YouTube video for query, provide location services etc.

B. *Proposed Methodology*

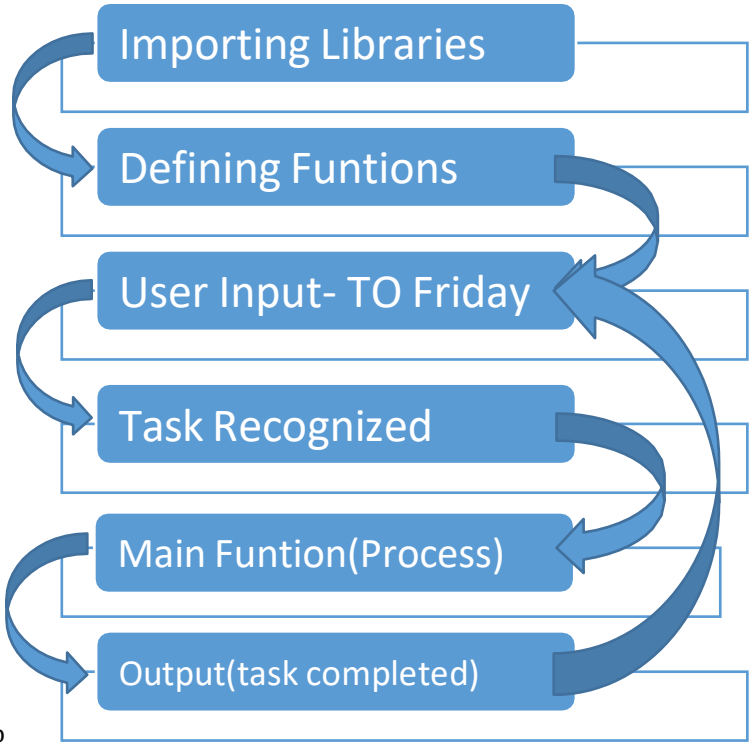
1. Installing all important libraries for giving our voice assistant a voice, convert speech into text form and text into speech form for communicating with the voice assistant.
2. Defining various functions from which when user will give input/task it will perform accordingly.
3. After running the code voice assistant will be constantly listening to user input until user ends up with his query, as there is a variable which determines the time for processing your voice can be modified and customized according to how user wants.
4. If suppose voice assistant is unable to hear you it will tell to you speak that again until your voice is recognized correctly.
5. There are two voices provided to our voice assistant one is male (David) and female (Zira) with the help of 'Sapi5' which is Microsoft API. So, according to the need user can choose it.
6. Finally, when user enable the voice assistant user can find this as new i.e., sending Email, book taxi cabs, Railway tickets, bus tickets. Search distance between location, YouTube search by telling the query and efficient google search.

C. *System architecture*

- Program Structure

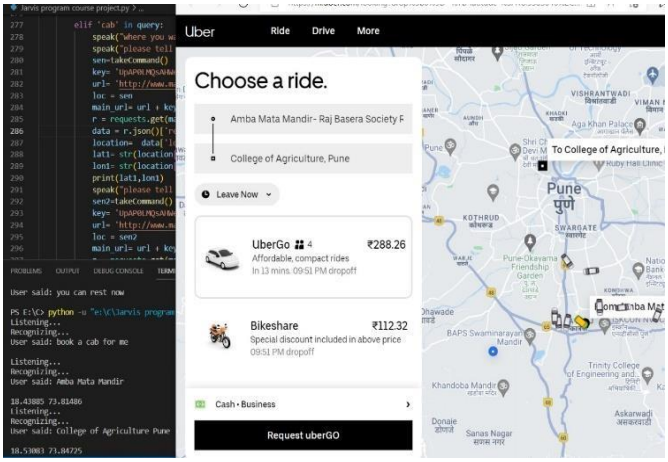


- Program Flow

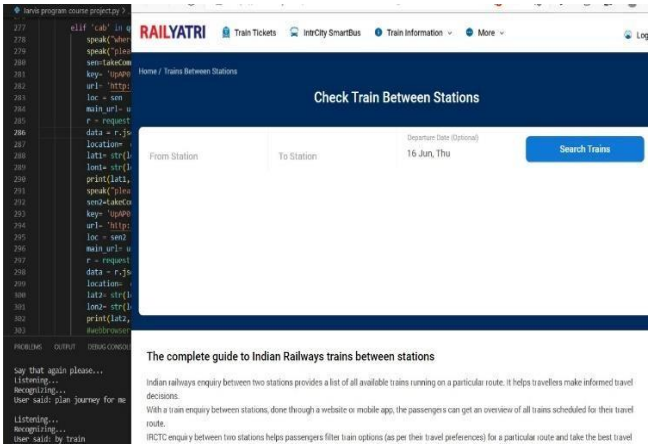


IV. Results and Discussions

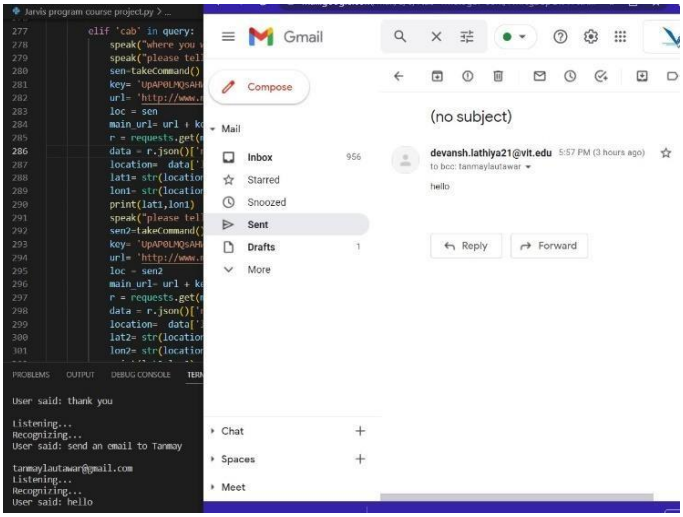
As we are more focused on the problems mentioned above in the literature review, we have accordingly tried to develop such equivalent solution using Python, Artificial Intelligence and Machine learning. Also, we have studied various exceptional use of URL address which helped us creating such a voice assistant.



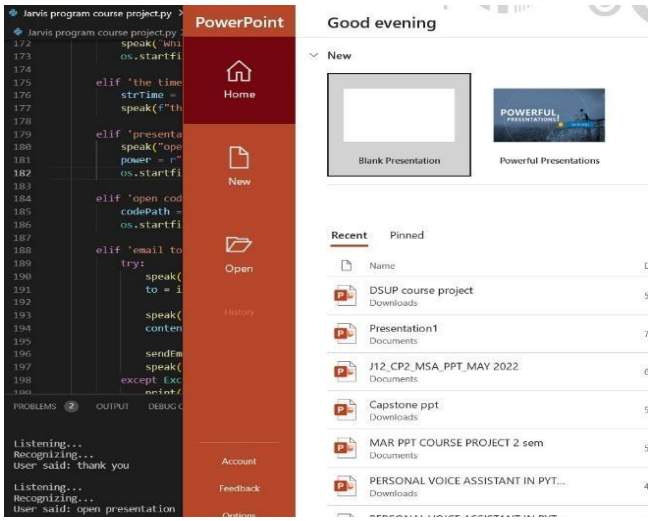
1. *Booking cab – You just have to click on book option as whole process is only done by just telling voice assistant.*



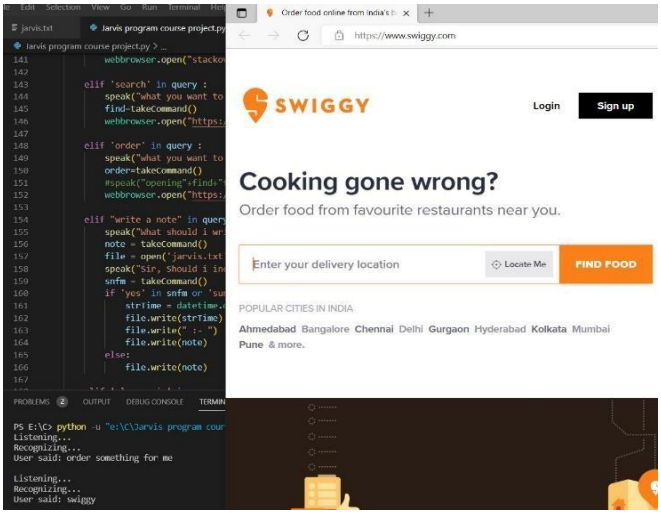
4. *Train booking – booking, running status, PNR status similarly for Bus these facilities are available.*



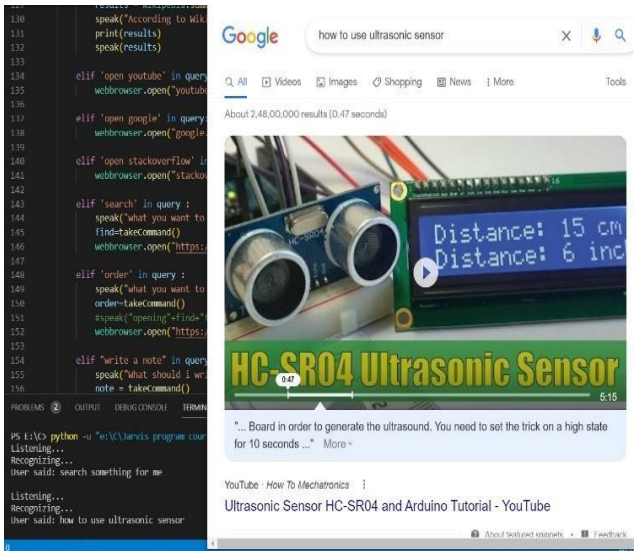
2. *Sending E-mail message just by entering the Email id and telling the message you want to send.*



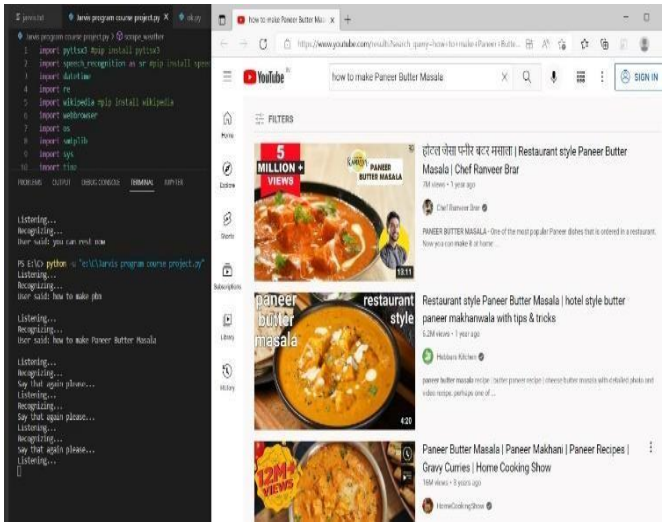
5. *Opening Apps – Presentation, Spotify, Chrome etc.*



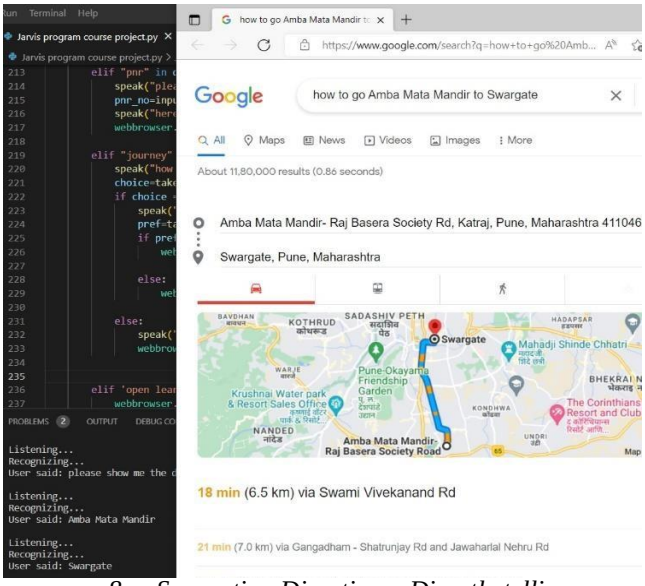
3. *Ordering food*



6. Google Search- Directly telling your query.



7. YouTube Search- Directly telling your query.



8. Suggesting Direction – Directly telling your Locations.

FUTURE SCOPE

Today we see there are lots of voice assistants already available but, as of now nobody uses it in efficient way as they have to be developed and should be customizable according to the users and their need. For example, we can develop various voice assistants for children, old citizens, visually impaired, dumb and deaf, for school and college purposes, for office work purpose so that everyone can use this technology very conveniently and efficiently. Also, in future we can develop a voice assistant like Jarvis in the 'iron man' movie which would be able to do any task without using Any hardware device.

CONCLUSION

Voice assistants nowadays are easily available in every device but the use of it is less as it has become of no use because of it just being able to do work up to certain level as they cannot do it at that depth. So, they can be developed in a way that they would be able to do work at certain level that the needy ones can really use it in the efficient way such as Sending Email, booking cabs, train and bus tickets, also it could quickly check certain information what user wants to know in emergency and do general works at certain associations and industries. So, we have successfully developed some of the facilities due to which voice assistant can really be helpful to everyone. Also, it can be developed in online and offline mode with all the in-depth functionalities by using Artificial intelligence and Machine learning.

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