PERSONAL ASSISTANCE AND SPEECH RECOGNITION FOR DESKTOP

Mohd Rehan [1], Mohd Rizwan[2], Adnan Nadeem[3], *Abrar Hussain Bhat [4], Prof.Priya J [5],*
Prof.Sreekanth [6][1,2,3,4] Final Year Student, [5,6]Assistant Professor Department of Information Science
and Engineering, HKBK College of Engineering, Nagawara, Bengaluru, India

Abstract : — A Voice assistants are software agents that can interpret human speech and respond via synthesized voices. Apple's Siri, Amazon's Alexa, Microsoft's Cortana, and Google's Assistant are the most popular voice assistants and are embedded in smart phones or dedicated home speakers. Users can ask their assistants questions, control home automation devices and media playback via voice, and manage other basic tasks such as email, to-do lists, and calendars with verbal commands. This column will explore the basic workings and commonfeatures of today's voice assistants. It will also discuss some of the privacy and security issues inherent to voice assistants and some potential futureuses for these devices. As voice assistants become more widely used, librarians will want to be familiar with their operation and perhaps consider them as a means to deliver library services and materials.

Keywords:GTTS (Google Text To Speech), Artificial Intelligence, Deep Learning, Feature Extraction.

I. INTRODUCTION

II. IN RECENT TIMES ONLY IN THE VIRTUAL ASSISTANTS, WE CANEXPERIENCE THE MAJOR CHANGES, THE WAY A USER INTERACTS, AND THE EXPERIENCE OF THE USER. WE AREALREADY USING THEM FOR MANY TASKS LIKE SWITCHING ON/OFF LIGHTS, PLAYING MUSIC THROUGH STREAMING APPS LIKE WYNK MUSIC, SPOTIFY, ETC., THIS IS THE NEW METHOD OF INTERACTING WITH THE TECHNICAL DEVICES MAKES LEXICAL COMMUNICATION AS A NEW ALLY TO THIS TECHNOLOGY. THE CONCEPT OF VIRTUAL ASSISTANTS IN EARLIER DAYS IS TO DESCRIBE THE PROFESSIONALS WHO PROVIDE ANCILLARY SERVICES ON THE WEB. THE JOB OF A VOICE IS DEFINED IN THREE STAGES: TEXT TO SPEECH; TEXT TO INTENTION; INTENTION TO ACTION; VOICE ASSISTANT WILL BE FULLY DEVELOPED TO IMPROVE THE CURRENT RANGE VOICE ASSISTANCE FOR LAPTOPS IS NOT BEFUDDLED WITH THE VIRTUAL ASSISTANTS, WHICH ARE PEOPLE, WHO WORKCASUALLY AND CAN THEREFORE HANDLE ALL KINDS OF TASKS. VOICE ASSISTANTS ANTICIPATE OUR EVERY NEED AND IT TAKES ACTION, THANKS TO AI-BASED VOICE ASSISTANTS AI-BASED VOICE ASSISTANTS CAN BE USEFUL IN MANY FIELDSSUCH AS IT HELPDESK, HOME AUTOMATION, HR- RELATED TASKS, VOICE-BASED SEARCH, ETC., AND THE VOICE BASED SEARCH IS GOING TO BE THE FUTURE FOR NEXT- GENERATION PEOPLE WHERE USERS ARE ALL MOST DEPENDENT ON VOICE ASSISTANTS FOR EVERY NEED. IN THIS PROPOSAL, WE HAVE BUILT AN AI-BASED VOICE ASSISTANT THAT CAN DO ALL OF THESE TASKS WITHOUT INCONVENIENCE IN THE FUTURE VOICE, ASSISTANTS CAN BE USED FOR TWO DEVELOPMENTS: FIRST QUALITY OF DIALOGUE RECOGNITION WILL INCREASE BECAUSE BROADBAND ALLOWS MORE COMPLEX DATA PROCESSING IN POWERFUL DATA CENTERS. SECOND, FROM THE USER'S PERSPECTIVE, AS AID FOR INTERACTION VOICE ASSISTANCEFOR LAPTOPS IS NOT BEFUDDLED WITH THE VIRTUAL ASSISTANTS,WHICH ARE PEOPLE, WHO WORK CASUALLY AND CAN THEREFORE HANDLE ALL KINDS OF TASKS.

III. LITERATURE SURVEY

A computer primarily based approach for performing a command via a voice consumerinterface on a subset of objects. The subset is selected from a fixed of items, each having an object type at least one taggable field is associated with the object type and has a corresponding value. The set ofobjects is saved in the laptop memory. An utterance is acquired from the person and consists of a command, an object type choice, a tag-gable field selection, and a price for the taggable discipline.Responsive to the utterance, at least one item is retrieved from the set of gadgets, the item of the sort selected through the user and having a price within the taggable area selection that matches the taggable field fee obtained from the user the command is done on the item. The object includes textual content that's converted to voice output They envi-sioned that someday computers will recognize natural language and count on what we need, whilst and where we need it, and proactively whole responsibilities on our behalf. However, speech recognition and machine getting to know have persevered to be refined, and based records served through packages and content providers have emerged. We agree with that as computer systems turn out to be smaller and greater ubiquitous [e.g., wearable's and Internet of Things (IoT The recognizer is designed to change a verbal articulation from a individual into an alternate method of data (e.g., text). A hand held individual colleague including a voice-recognizer and a characteristic dialect processor is disclosed. This snippet of data can be a plan for the day, data in the individual's logbook or data from the individual'saddress book, Such as a telephone number. The Most well known utilization of iPhone is "SIRI" which

causes the end client to impart end client versatile with voice and it additionally reacts to the voice charges ofthe client. It is named as Personal Assistantwith Voice Recognition Intelligence, which takes the client contribution to type of voice or content and process it and returns the yield in different structures like activity to be performed or the item is directed to the end client. Furthermore, this proposed framework can change the method for communications between end client and the cell phones The paper gives a diagram of the VPA applications, and the normal highlights and future patterns. The paper proposes also a bound together choice model inlight of a quantitative appraisal of the significance of the solicitations and the accessibility of the client. Virtual Personal Assistant (VPA) is the up and coming age of bearer administrations for portable clients.

IV. EXISTING SYSTEM

Voice assistants are all written in programming languages, which listens the verbal commands and respond. According to the user's requests if sometime user misplace . In this project we haveused Python Programming language to build the AI- based Voice assistant Popular virtual assistants currently include Amazon Alexa, Apple's Siri, Google Now and Microsoft's Cortana - - the digital assistant built into Windows Phone 8.1 and Windows Virtual assistants can also be contrasted with another type of consumer-facing AI programming,called smart advisers. Usually, user needs to manually manage multiple sets of applications to complete one task. For example, a user trying to make a travel plan needs to check for airport codesfor nearby airports and then check travel sites for tickets between combinations of airports to reach the destination. There is need of a system that can manage tasks effortlessly. We already have multiple virtual assistants. But we hardly use it. There are number of people who have issues in voice recognition. These systems can understand English phrases but they fail to recognize in our accent. Our way of pronunciation is distinct from theirs. Also, they are easy to use on mobile devices than desktop systems. There is need of a virtual. assistant that can understand English in Indian accent and work on desktop system. When a virtual assistant is not able to answer questions accurately, it's because it lacks the proper context or doesn't understand the intent of the question. Its ability to answer questions relevantly only happens with rigorous optimization, involving both humans and machine learning. They require large amount of information to be fed in order for it to work efficiently. Virtual assistant should be able to model complex task dependencies and use these models to recommend optimized plans for the user. It needs to be tested for finding optimum paths when a task has multiple sub-tasks and each sub-task can have its ownsub-tasks. In such a case there can be multiple solutions to paths, and the it should be able to consider user preferences, other active tasks,priorities in order to recommend a particular plan. A user can say, "Play me a Song" or "open facebook.com", the voice assistant will respond with the results by playing that particular song or by opening Facebook Website. The Voice assistance Waits for a pause to know that users have finished their request to its database to search for the request

DISADVANTAGES OF EXISTING SYSTEM

AI technology can be limited to some steps example training a robot with some tasks given for Bots are essential and cannot be repeated. AI technology can be limited to some steps example training a robot with some tasks given for Bots are essential and cannot be repeated. For different languages Bots pronunciations will be different, in some case user understanding matters.

V. PROPOSED SYSTEM

This proposed concept effective way of implementing a Personal voice assistant, Speech Recognition library has many in-built functions, that will let the assistant understand the command. given by user and the response will be sent back to user in voice, with Text to Speech functions. When assistantcaptures the voice command given by user, the under lying algorithms will convert the voice into text. And according to the keywords present in the text (command given by user), respective action willbe performed by the assistant. This is made possible with the functions present in different libraries. Also,the assistant was able to achieve all the functionalities with help of some API's. We had used these APIs for functionalities like performing calculations, extracting news from web sources, and for some other things. We will be sending a request, and through the API, we're getting the respective output. API's like WOLFRAMALPHA, are very helpful in performing things like calculations, making small web searches. And for getting the data from web, not every API will have the capability to convert the raw JSON data into text. So, we used a library called JSON, and it will help in parsing the JSON Data coming form websites, to stringformat. In this way, we are able to extract news from the web sources, and send them as input to a function for further purposes. Also, we have libraries like Random and many other libraries, each corresponding to a different technology. We used thelibrary OS to implement Operating System and Also, we have libraries like Random and many other libraries, each corresponding to a different technology. We used thelibrary OS to implement Operating System

ADVANTAGES OF PROPOSED SYSTEM

Can remember any person name till the usagesession.Voice assistant name can also be changed unlike in other voice assistants. Play/download a song or video from YouTube. When user asked 'can you play/download me a song', 'play movie' the assistant open YouTube and plays the required content for the user or download the requested video/song.

5.1 System Architecture

In this section, we explain a set of situational eventsand we can tell how our voice assistant is useful. For e.g., if we want to go to a particular location instead of opening Google maps and typing the destination takes a lot of time instead of that with our VA just by command to find the particular location it opens the map and highlight the particular .But in VA by just giving it in the extractsthe current location of the girl and sends it to their parents/relatives and the nearby police station.
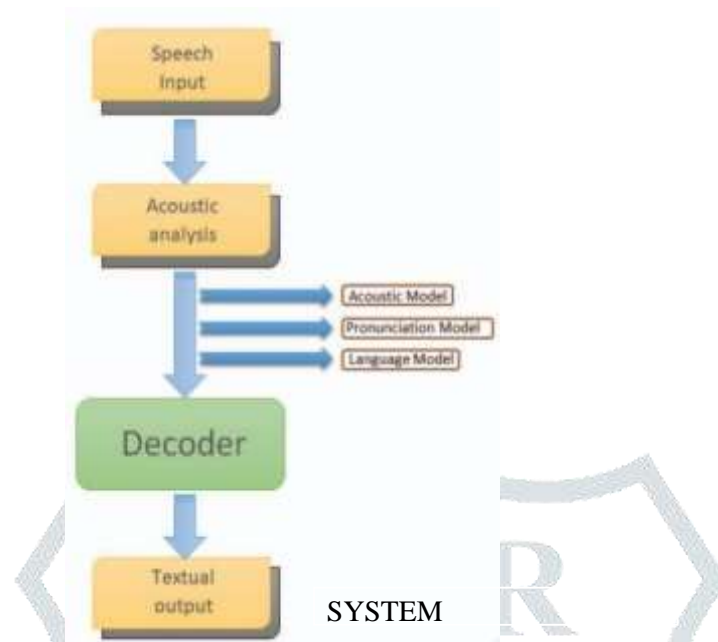

Fig 5.1.1 BLOCK DIAGRAM

VI. IMPLEMENTATION

WORKING

1.Compiling code and run the code

2.We should speak loud

You must enable WIFI Server before you can use it: instructions for this are given below. By default, WIFI Server gives you remote access to the graphical desktop that is running on your desktop. For more information on this, see creating avirtual desktop, further below.

Raspberry Pi, as though you were sitting in front of it. However, you can also use WIFI Server to gain graphical remote access to your Raspberry Pi if it is headless or not running a graphical.

WIFI is already installed on the full Raspberry Pi OS image, and can be installed via

Recommended Software from the Preferences menu on other versions.

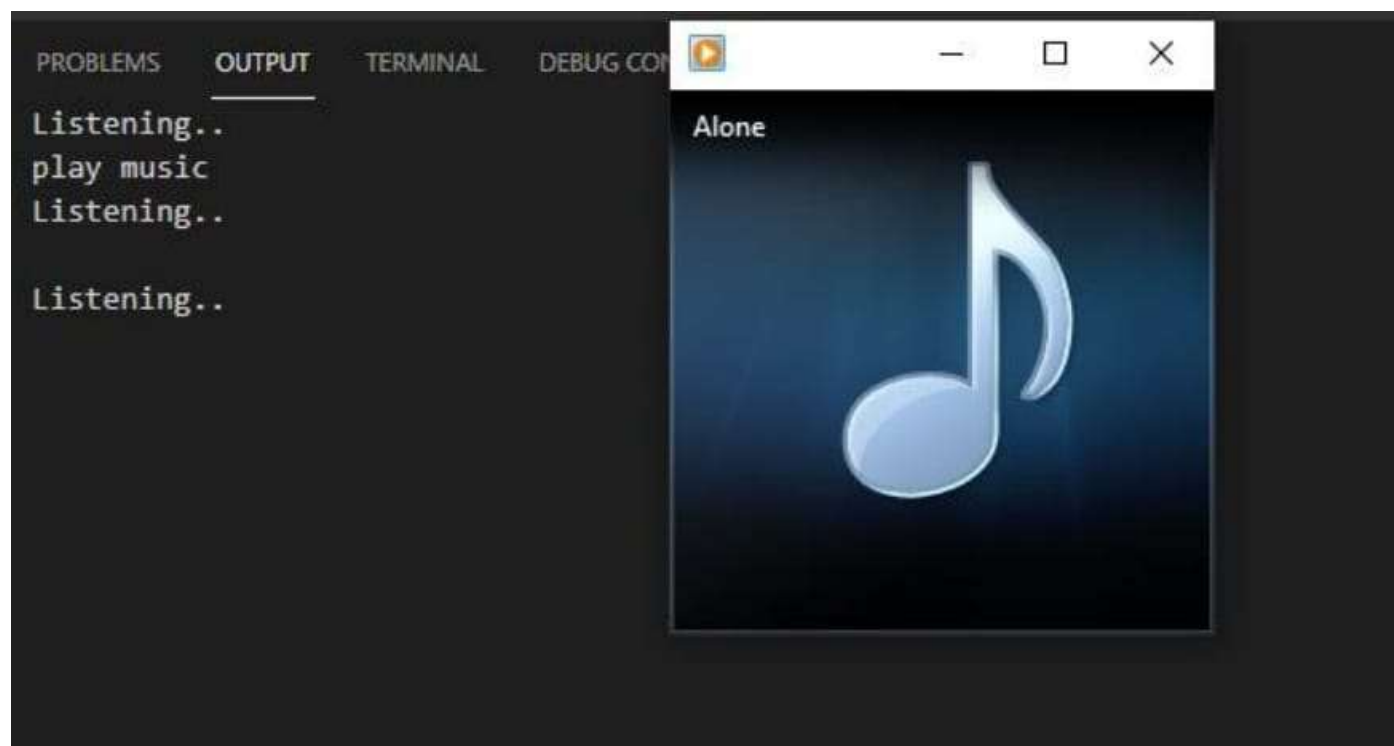If you are not using a desktop you can install it from the command
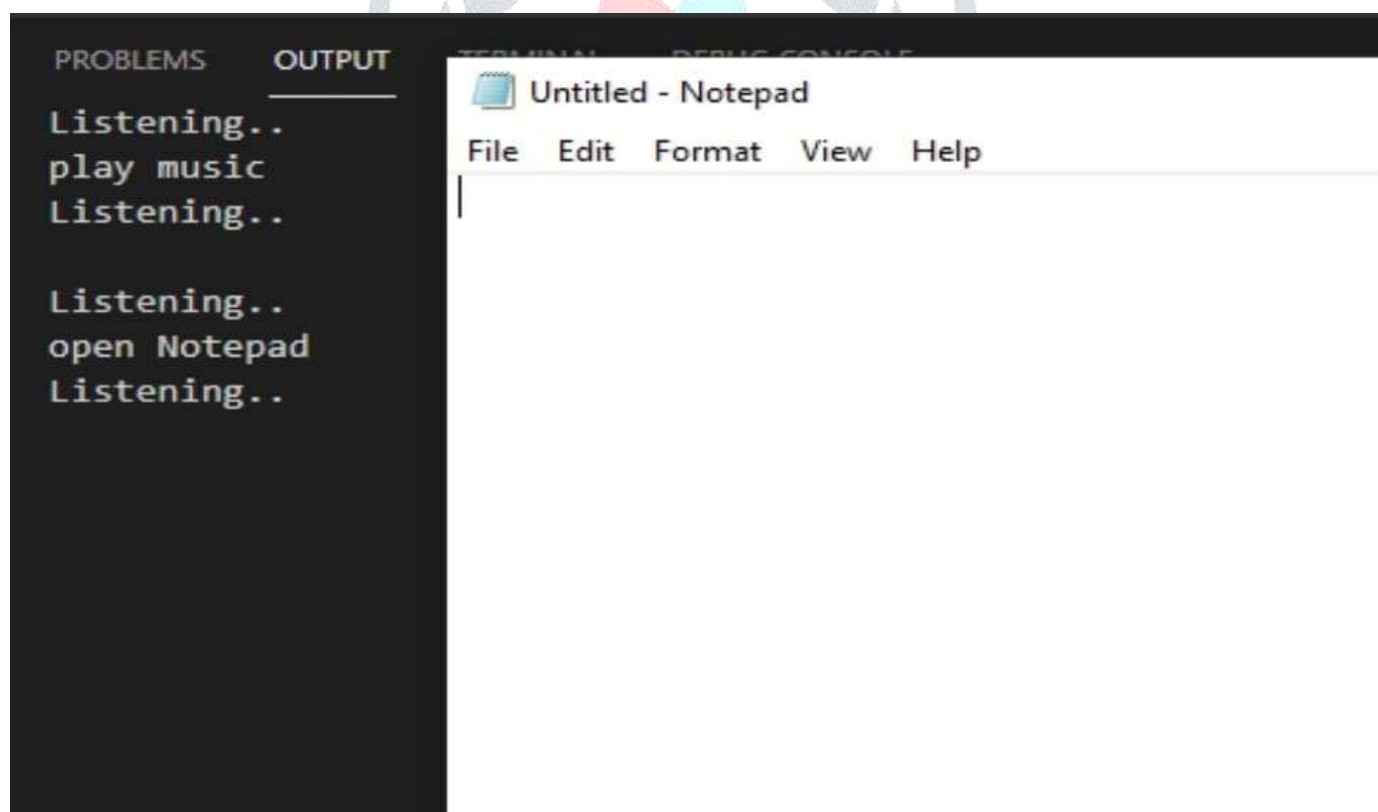
FIG 6.1.1 WORKING OPENING MUSIC

Fig 6.1.2 Opening Notepad

VII. CONCLUSION

In our project we have implemented many things compared to other assistants. Nowdays it is very useful in human life because it is a hands-free application. It is a very simple application. As well as it is used in a business field also for example in laboratory, the person wears gloves and body suits for their safety purpose so it is difficult to type, through voice assistant they can get any information so that their work becomes easy. Voice assistants are useful in many fields such as education, daily life application, home appliances etc. and voice assistant is also useful for the illiterate people they can get any information just by saying to the assistant, luxury is available for people, thanks to AI based voice assistants. Voice assistant is developing more and more in daily life. Many companies of voice assistant try to improve interaction and more features to the next level and many of the youth started using voice assistant in daily life and from many sources the result showing very good feedback. Compared to last 2 years voice assistants have been developed more and more.

VIII. REFERENCES

[1] Saadman Shahid Chowdury, Atiar Talukdar, Ashik Mahmud, Tanzilur Rahman Domain specific Intelligent personal assistant with bilingual voice command processing TEEE 2018.

[2] Polyakov EV, Mazhanov MS, AY Voskov, LS Kachalova MV, Polyakov SV Investigation and development of the intelligent voice assistant for the IOT using machine learning Moscow workshop on electronic technologies, 2018..

[3] Khawir Mahmood, Tausfer Rana, Abdur Rehman Raza Singular adaptive multi role intelligent personal assistant (SAM-IPA) for human computer interaction International conference on open source system and technologies, 2018.

[4] Veton Kepuska and Gamal Bohota Next generation of virtual assistant (Microsoft Cortana, Apple Siri, Amazon Alexa and Google Home) IEEE conference, 2018.

[5] Piyush Vashishta, Juginder Pal Singh, Pranav Jain, Jitendra Kumar, Raspberry PI based voice-operated personal assistant International Conference on Electronics And Communication and Aerospace Technology, ICECA, 2019.

[6] Laura BUR bach, Patrick Halbach, Nils Plettenberg, Johannes Nakyama, Martina Ziefle, Andre Calero Valdez Ok google, Hey Siri, Alexa. Acceptance relevant of virtual voice assistants" International communication conference. IEEE 2019