Jarvis: A Voice-Enabled Chat Bot with Multiple Features

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Abstract: : Python is a relatively new programming language, creating a Voice Assistant script in Python is a cinch. You have complete control over how the assistant responds to your commands. With voice recognition, you can turn anything you're saying into text. Voice-activated assistants like Alexa, Siri, and others often use this technique. Speech to text conversion is made possible in Python using the SpeechRecognition API. Creating my own personal helper was a fascinating challenge. With the use of a single voice command, you can now send emails, search the internet, play music, and launch your favourite IDE without ever having to open a browser. The present state of technology means that it is capable of doing any work as successfully as we are, if not better. I discovered that the notion of AI in every sector reduces human work and saves time via the creation of this project.Functionalities of this project include: This project's features include:1.)Command prompt, your chosen IDE or notepad etc. may all be opened with this app 2.)It has a built-in stereo. 3.)You may use it to do Wikipedia searches.4.)It may be used to access popular websites like Google, YouTube, and others in a web browser. 5.)It can predict the weather. 6.)Basic discussion is possible.7.) Emails may be sent with this device.Now, the fundamental question is, "How does an AI work?" It's as if the virtual assistant I've built isn't an A.I. at all, but rather the result of a bunch of statements. However, the primary goal of artificial intelligence (AI) computers is to execute human activities as efficiently as or more effectively than humans. It is a reality that my virtual assistant is not a very excellent example of A.I., but it is an A.I.

I. INTRODUCTION

perform multiple tasks on voice command. The project is named after the famous virtual assistant in the Iron Man movie series, Jarvis, which was capable of performing various tasks for the superhero. The Jarvis Chatbot is developed using Python and integrates various APIs for performing different functionalities. In today's fast-paced world, people are always looking for ways to automate their daily tasks and make their lives easier. The need for virtual assistants has grown with the rise in the use of technology. The main challenge in creating a virtual assistant is to make it efficient in handling various tasks while being user- friendly. The problem statement for this project is to develop a virtual assistant that can perform multiple tasks on voice command, making it easy for users to interact with the technologes .

When AI is combined with other machines, it demonstrates that it is capable of thinking like a human. The goal is to create a computer system that necessitates the use of a human user interface. Because Python is a relatively new programming language, creating a Voice Assistant script in Python is a cinch. You have complete control over how the assistant responds to your commands. Alexa, Siri, and other voice-activated assistants use speech recognition technology. An API called Speech Recognition exists in Python, and it enables us to turn spoken words into written ones. Creating my own personal helper was a fascinating challenge. With the use of a single voice command, you can now send emails, search the internet, play music, and launch your favourite IDE without ever having to open a browser. The present state of technology means that it is capable of doing any work as successfully as we are, if not better. I discovered that the notion of AI in every sector reduces human work and saves time via the creation of this project There are a number of features that make this app useful, such as the ability to send emails, the ability to open command prompts (such as your preferred IDE or notepad), and the ability to play music, as well as the ability to run Wikipedia searches for you. Basic discussion is possible.There has been research on the similarities and differences between various voice assistant devices and servicesWhen AI is combined with other machines, it demonstrates that it is capable of thinking like a human. The goal is to create a computer system that necessitates the use of a human user interface. Because Python is a relatively new programming language, creating a Voice Assistant script in Python is a cinch. For IoT devices that don't have a touchscreen, a voice-activated interface is needed (Metz, 2014). You have complete control over how the assistant responds to your commands. Alexa, Siri, and other voice-activated assistants use speech recognition technology. An API called Speech Recognition exists in Python, and it enables us to turn spoken words into written ones. Creating my own personal helper was a fascinating challenge. With the use of a single voice command, you can

now send emails, search the internet, play music, and launch your favourite IDE without ever having to open a browser. The present state of technology means that it is capable of doing any work as successfully as we are,Canalys (2018) estimates that there will be 225 million smart speakersin use by 2020 and 320 million by 2022. if not better. I discovered that the notion of AI inevery sector reduces human work and saves time via the creation of this project I used Visual Studio Code to construct this project, and all of the py files were produced in VSCode, and also we are used **ASR(Automatic Speech Recognition) algorithm** for converting human speech into text. And also we are **not using NLP(natural language processing)** because this is the **feature based bot not translation based bo**t. The following modules and libraries were also utilised in my project: PyAudio, pyttsx3, Wikipedia, Smtplib, pyAudio, OS, Webbrowser, and so on. Because it adds visual appeal and a unique design element to the interaction with JARVIS, which is a feature based bot. I developed a live GUI Interface In today's world, virtual assistants are really helpful. It facilitates human existence in ways similar to Using just vocal commands, run a computer or laptop. Using a virtual assistant saves time. We are able to devote more time to other projects thanks to the help of a virtual assistant. Assistive technology A virtual assistant is often a cloud-based application
that works with devices connected to the internet. is the ability to contract for just the services they need. As a means of developing a virtual assistant Python will take over your PC. Task- oriented virtual assistants are the most common kind of virtual assistant. The use of a remote assistance understanding of and capacity to follow instructions. In a three-week study, Beirl et al. (2019) examined how Alexa was used in the household. Studying how families use Alexa's new talents in music, storytelling, and gaming was the goal of the research..A virtual assistant is a computer programme that is able to recognise and respond to user requests. Clients' instructions are followed verbally and in writing. To put it simply, they're ability to understand and react to human speech via the use of artificial voice syntheses. A variety of voices are available. assistants on the market, such as Apple TV's Siri and Pixel phones' Google Assistant An Alexa-powered smart speaker built on a Raspberry Pi and Microsoft Windows. There are ten Cortanas in the world. Our own virtual assistant was produced in the same way as all other virtual assistants. windows. This project would benefit greatly from the application of artificial intelligence technologies. Python may also be used as a the language since python has a large number of well-known libraries. A microphone is required to run
this programme.

1.2 Objectives

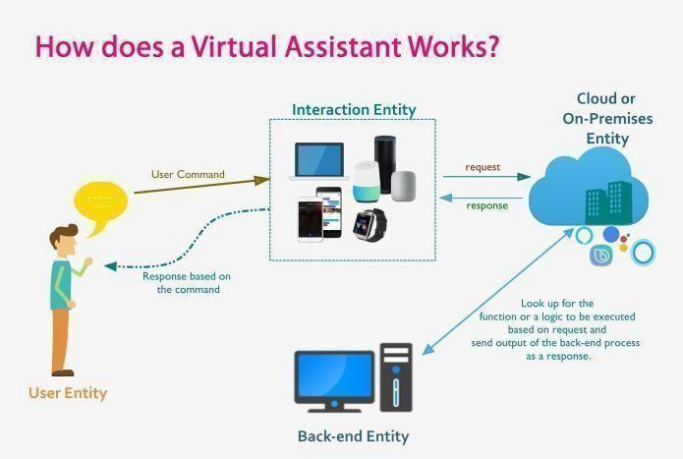
The main objectives of this project are:
1.To develop an efficient and user-friendly virtual assistant that can perform multiple tasks on
voice command.
2.To integrate various APIs and libraries to enable the virtual assistant to perform
different functionalities such as youtube search, googlesearch, set alarms, download videos,
and do basic math and science.
3. To develop an automatic message sending feature on WhatsApp that cansend messages on a
timed or delayed basis.

1.3 Scope:

The scope of the project is vast, as it includes multiple functionalities that ausercan perform
using voice commands. The virtual assistant will be capableofperforming tasks such as
searching on Google and YouTube, settingalarms, downloading videos, and doing basic math
and science. The project's scope also includes the automatic sending of messages on WhatsApp,
which canbeused for sending timed or delayed messages.

II. METHODOLOGY

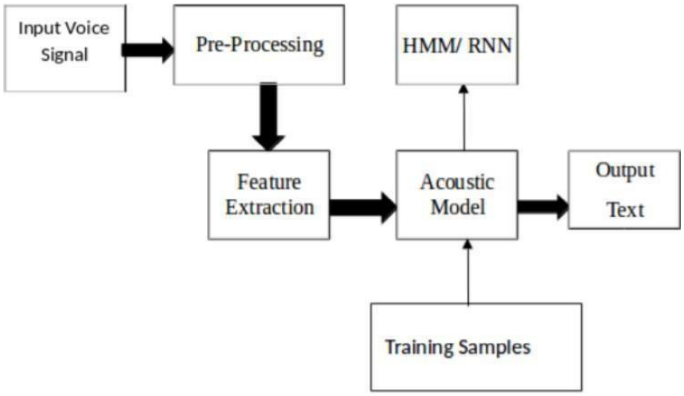
User input may be matched with executable instructions using ASR. An audio signal is translated into executable commands or digital data that may be usedby software to do a specific action when a user asks a query. VirtualAssistant is used to operatemachines based on your own instructions, and then this data is compared with software data to obtain an appropriate solution. We utilise python installers like- to create virtual assistants Horn
proposes a classroom environment (2018). Each classroom should have enough microphones to detect each student's voice and offer individualised replies to each student's headphones via voice assistants, according to the author. Each classroom might have a smart speaker where students can ask questions. Alternatively Teachers should have access to voice assistant data in real time so they may step in as necessary. Teachers are not replaced by the gadgets, but rather their job is amplified by their use of them. Neiffer investigates the impact of intentional education using the intelligent voice assistant Siri on student participation in science classes in upper elementary and middle school grades (2018). Student involvement is connected with student graduation rates. High student involvement leads to greater teacher’s satisfaction and pleasure. Research shows that there is too much complexity in the relationship between technology and education to draw any firm conclusions. Furthermore, there is no clear correlation between the use of Siri in 5th and middle school science classrooms and an increase in students' interest in learning science. A unique Alexa Skill on Scotland was made by Davie and Hilber (2018), who utilised it with students prior to a trip to the country. Students utilised the Amazon Echo gadget and found the talent to be interesting



III SYSTEM DESIGN

1 Speech-to-Text Interface

The goal of voice recognition is to offer a way to convert spoken words into written ones. This objective may be achieved in a variety of ways. Building models for each word that has to be identified is the simplest method. Speech signal mainly transmits the words or message being said. The underlying meaning of the utterance is the focus of speech recognition. Extracting and modelling the speech-dependent properties that may successfully differentiate one word from another is the key to success in speech recognition The system consists of a set of components.Due to the fact that all systems are based on machine learning and employ vast quantities of data acquired from different sources and then trained on them, the source of this data plays a vital part in their production. The kind of assistance that emerges depends on the quantity of
data gathered from various sources. Despite the wide variety of learning methodologies, algorithms, and techniques, the basic building blocks of these systems remain essentially the same across the industryAssistive technology A virtual assistant is often a cloud-based application that works with devices connected to the internet. is the ability to contract for just the services they need. As a means of developing a virtual assistant Python will take over your PC. Task-oriented virtual assistants are the most common kind of virtual assistant. The use of a remote assistance understanding of and capacity to follow instructions

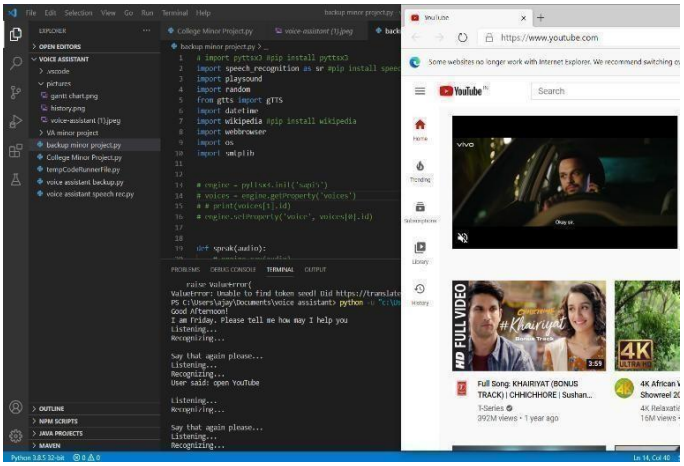


SPECIFICATIONS OF THE PROGRAM

This Python library was used in JARVIS:
1.)Pyttsx3: A python library that translates text into voice.
2.)speechRecognition Python package SpeechRecognition translates
voice into text.
3.)Datetime: We can get the current date and time using thislibrary
4.) Wikipedia A python module for searching Wikipedia is provided.
5.)Smtplib Sending and routing emails between mail servers is made simple using Smtplib, a lightweight email transfer protocol.
6.)OS: It's a set of Python libraries that rely on the System to provide data.
7.)Webbrowser: It gives users an interface for viewing documents hosted on the
8.)Pyjokes- Pyjokes is a collection of jokes that may be found online. Pyjokes is included in our project since it provides a source of amusement. It's a fascinating topic. Inour project, Pyjokes is the one-sentence joke that keeps it interesting

IV RESULT AND OUTCOME

Using a virtual assistant saves time. When a customer gives a job to a virtual assistant, the programme takes over and completes it. Using ASR, virtual assistants may match a user's voice or text input to a command. You may operate your laptop or PC on your own with the aid of a virtual assistant. It's a time-saver since it's so simple. You can always count on your virtual assistant to be there when you need them, and they'll be able to respond swiftly to any changes in your schedule or priorities.
We've covered Python-based Personal Virtual Assistants for Windows in this article. Humans'
lives are made simpler by virtual assistants. Using a virtual assistant gives you the freedom to contract for just the services you need.. Python is used to create virtual assistants for all Windows versions, much as Alexa, Cortana, Siri, and Google Assistant. Artificial Intelligence is used in this project, and virtual personal assistants are an excellent method to keep track of your calendar. Because of their portability, loyalty, and availability at any moment, virtual personal assistants are more dependable than human personal assistants. Our virtual assistant
will get to know you better and be able to provide ideas and follow orders. This device willmost likely be with us for the rest of our lives. As a result, voice recognition systems have made their way into a wide range of industries. The use of speech signals as input to a system is one of the many advantages of IVR (Interactive Voice Response) systems. This is why we proposed the creation of an Interactive Voice Response (IVR) system that includes automatic speech recognition (ASR). It was the primary
goal of the project to design a system that could recognise speech signals in the Nepali language for input to the IVR system.. Many difficulties and challenges arose throughout the development period, which pushed us to design a system that could recognise words in the Nepali language based on their numbers. To do this, we conducted extensive study into several speech-recognition systems and applied the data to build the system



V CONCLUSION

We've covered Python-based Personal Virtual Assistants for Windows in this article. Humans' lives
are made simpler by virtual assistants. Using a virtual assistant gives you the freedom to contract for just the services you need.. Python is used to create virtual assistants for all Windows versions,
much as Alexa, Cortana, Siri, and Google Assistant. Artificial Intelligence is used in this project, and virtual personal assistants are an excellent method to keep track of your calendar. Because of their portability, loyalty, and availability at any moment, virtual personal assistants are more dependable than human personal assistants. Our virtual assistant will get to know you better and be able to provide ideas and follow orders. This device will most likely be with us for the rest of our lives It is possible to enhance education by using immersive technology.Voice assistants may help students study in new and innovative ways. This article contains studies on the use of AI voice assistants in education. There hasn't been a lot of study done on voice assistants yet, but that's about to change. New discoveries could be made in the future as a result ofthis study's results. Next years will be all about voice-activated devices like smart speakers and virtual assistants. Exactly how they will be most successful in the classroom is still a mystery. As a result, not all voice assistants are bilingual, and this might be problematic. Additionally, voice assistants lack sufficient security safeguards and protection filters that students may use in the classroom. The use ofthese devices in the classroom can only be successful ifinstructors are given the proper training and incentives to do so. Despite the fact that most students and teachers have reported positive results, the data are sparse, fragmentary, and unstructured. More research is required to better understand the use of these devices in the classroom, according to our findings so far

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