Mini Project

(2019-2020)

Report
on

Iron Man Jarvis AI Desktop Voice Assistant

Institute of Engineering & Technology

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Declaration

We hereby declare that the work which is being presented in the Mini Project "Iron Man Jarvis AI Desktop Voice Assistant", in partial fulfillment of the requirements for Mini Project viva voce, is an authentic record of our own work carried under the supervision of "Mr. Piyush Vashith".

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Year: 3rd

Semester: 6th

Acknowledgement

We have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals. On the completion of this project, We would like to extend our sincere thanks to all of them. We are highly indebted to this project guide **Mr, Piyush Vashistha Assistant Professor of Department of Computer Engineering and Applications of GLA University** for their guidance and constant supervision as well as for providing necessary information regarding the project. We wish to extend our sincere gratitude to **Prof. Anand Singh Jalal, Head of Department of Computer Engineering and Applications and faculty of CEA Department of GLA University** for their guidance, encouragement and give this opportunity and valuable suggestion which prove extremely useful and helpful in the completion of this report. We would also like to thank all those who directly or indirectly supported or helped us in completing our project in time. We would like to express our gratitude towards our parents and member of our college for their kind cooperation and encouragement which helped me in completion of this project. All of them have willingly helped us out with their abilities.

Thanks

Ayush Pandey
Aditi Gupta
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Abstract

In the Modern Era of fast moving technology we can do things which we never thought we could do before but, to achieve and accomplish these thought s there is a need for a plat form which can automate all our tasks with ease and comfort. Thus we humans developed applications like Personal Voice Assistant having the ability to inter act with the surroundings just by one of the materialistic form of human inter action i.e .HUMAN VOICE. The most famous application of android mobile phone is “Google Assistant”, “Google Voice Search” which is developed by the Google .Various applications like Microsoft Cortana, Amazon Alexa is also used as an voice assistant .The voice application of iphone is “SIRI” which helps the end user to communicate end-user mobile with voice and it also responds to the voice commands of the user. We are going to develop a web application were the voice assistant would be available for a particular desktop user. It can change the way of inter actions between user and the system. The Application is being designed in such a way that all the services provided by the system are accessible by the desktop user on the user's voice commands.

Contents

1.0 Introduction

Who doesn't want to have the luxury to own an assistant who always listens for your call, anticipates your every need, and takes action when necessary? That luxury is now available thanks to artificial intelligence-based voice assistants.

Voice assistants come in somewhat small packages and can perform a variety of actions after hearing your command. They can turn on lights, answer questions, play music, place online orders and do all kinds of AI-based stuff.

Voice assistants are not to be confused with virtual assistants, which are people who work remotely and can, therefore, handle all kinds of tasks. Rather, voice assistants are technology based. As voice assistants become more robust, their utility in both the personal and business realms will grow as well.

2.0 About Desktop Voice Assistant

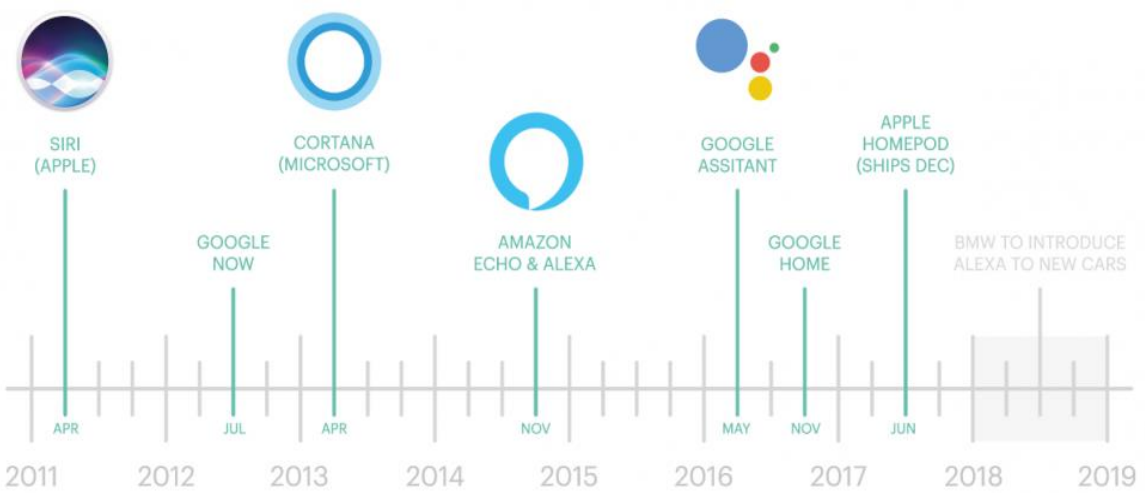
What is a Voice Assistant?

A **voice assistant** or **intelligent personal assistant** is a software agent that can perform tasks or services for an individual based on verbal commands i.e. by interpreting human speech and respond via synthesized voices. 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, open or close any application etc with verbal commands.

Let me give you the example of Braina (Brain Artificial) which is an intelligent personal assistant, human language interface, automation and **voice recognition software** for Windows PC. Braina is a multi-functional AI software that allows you to interact with your computer using **voice commands** in most of the languages of the world. Braina also allows you to accurately convert speech to text in over 100 different languages of the world.

3.0 History of Voice Assistants

History of Voice Assistants



A modern history of Voice Assistants

In recent times, Voice assistants got the major platform after Apple integrated the most astonishing Virtual Assistant — Siri which is officially a part of Apple Inc. But the timeline of greatest evolution began with the year 1962 event at the Seattle World Fair where IBM displayed a unique apparatus called Shoebox. It was the actual size of a shoebox and could perform scientific functions and can perceive 16 words and also speak them in the human recognizable voice with 0 to 9 numerical digits.

During the period of the 1970s, researchers at Carnegie Mellon University in Pittsburgh, Pennsylvania — with the considerable help of the U.S Department of Defence and its Defence Advanced Research Projects Agency (DARPA) — made Harpy. It could understand almost 1,000 words, which is approximately the vocabulary of a three-year-old child.

Big organizations like Apple and IBM sooner in the 90s started to make things that utilized voice acknowledgment. In 1993, Macintosh began to building speech recognition with its Macintosh PCs with Plain Talk.

In April 1997, Dragon Naturally Speaking was the first constant dictation product which could comprehend around 100 words and transform it into readable content.

4.0 System Requirements Specification

Dependencies and requirements :

System requirements: Python 3.7, Spyder IDE,

Install all these python libraries :

pip install SpeechRecognition
pip install beautifulsoup4
pip install vlc
pip install youtube-dl
pip install pyowm
pip install wikipedia

5.0 System Implementation

1. **Open the subreddit Reddit in the browser.**

The user will give any command to open any subreddit from Reddit and the command should be “Hey Jarvis! Can you please open Reddit subreddit_name”. only the quoted phrase should be used as it is. You can use any kind of prefix, just take care of the italic bold phrase.

How it works : If you have said the phrase open reddit in your command then it will search for subreddit name in the user command using re.search(). The subreddit will be searched using www.reddit.com and will get opened in the browser using pythons Webbrowser module.The Webbrowser module provides a high-level interface to allow displaying Web-based documents to users.

2. Open any website in the browser.

You can open any website just be saying “open website.com” or “open website.org”.

For example: “Please open facebook.com” or “Hey, can you open linkedin.com” like this you can ask Jarvis to open any website for you.

How it works : If you have said the word open in your command then it will search for website name in the user command using re.search(). Next, it will append the website name to https://www. and using web browser module the complete URL gets opened in the browser.

3. Send Email.

You can also ask your desktop assistant to send the email.

How it works : If you have said the word email in your command then the bot will ask for receipient, If my response is rajat, the bot will use pthons smtplib library. The smtplib module defines an SMTP client session object that can be used to send mail to any Internet machine with an SMTP or ESMTP listener daemon. Sending mail is done with Python's smtplib using an SMTP server. First it will intiate gmail SMTP using smtplib. SMTP(), then identify the server using ehlo() function, then encypting the session starttls(), then login to your mailbox using login(), then sending the message using sendmail().

4. Launch any system application.

Say "launch calendar" or "can you please launch skype" or "Jarvis launch finder" etc. and Jarvis will launch that system application for you.

How it works : If you have said the word launch in your command then it will search for application name(if it is present in your system) in the user command using re.search(). It will then append the suffix ".app" to the application name. Now your application name is for example say calender.app(In macOS the executable files end with extension .app unlike in Windows which ends with .exe). So the executable application name will be launched using python subprocess's Popen() function. The subprocess module enables you to start new applications from your Python program.

6. Tells you the current time.

"Jarvis can you tell me the current time ?" or "what is the time now ?" and Jarvis will tell you the current time of your timezone.

How it works : Its pretty simple

7. Greetings/ leave

Say " hello Jarvis" to greet your voice assistant or when you want the program to terminate say something like "shutdown Jarvis" or "Jarvis please shutdown" etc.

How it works : If you have said the word hello in your command, then depending on the time of the day, the bot will greet the user. If the time is more than 12 noon, the bot will respond "Hello Sir. Good afternoon", likewise if the time is more than 6 ck pm, the bot will respond "Hello Sir. Good evening". And when you give command as shutdown, sys.exit() will be called to terminate the program.

6.0 Further Evaluation

1. Tells you the current weather and temperature of almost any city
2. Play you a song on VLC media player(of course you need to have VLC media player installed in your laptop/desktop)
3. Change desktop wallpaper.
4. Tells you latest news feeds.
5. Tells you about almost anything you ask.