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JARVIS: The Personal Assistant Using Python

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ABSTRACT: J.A.R.V.I.S. (Just A Rather Very Intelligent System) is a fictional character voiced by Paul Bettany in the Marvel Cinematic Universe (MCU) film franchise, based on the Marvel Comics characters Edwin Jarvis and H.O.M.E.R., respectively the household butler of the Stark family and another AI designed by Stark. J.A.R.V.I.S. is an artificial intelligence created by Tony Stark, who later controls his Iron Man and Hulkbuster armor for him. In Avengers: Age of Ultron, after being partially destroyed by Ultron, J.A.R.V.I.S. is given physical form as Vision, physically portrayed by Bettany. Different versions of the character also appear in comics published by Marvel Comics, depicted as AI designed by Iron Man and Nadia van Dyne.

KEYWORDS: Personal Assistance, VoiceCommands, Voice Automation

I. INTRODUCTION

As a personal assistant, Jarvis assists the end-user with day-to-day activities like general human conversation, searching queries in various search engines like Google, searching for videos, live weather conditions, word meanings, searching on Wikipedia, Take Screenshots, play music, Logout, Shutdown, Restart, CPU Usage and reminding the user about the scheduled events and tasks. The user statements/commands are analyzed with the help of machine learning to give an optimal solution.

II. RELATED WORK

Jarvis is different from other traditional voice assistants in terms that it is specific to desktop and user does not need to make account to use this, it does not require any internet connection while getting the instructions to perform any specific task. We have created a live GUI for interacting with the JARVIS as it gives a design and interesting look while having the conversation.

A. Design Considerations:

There are many features added in this Jarvis Project, such as:

- Google Search
- Wikipedia Search
- Open Tabs in Chrome
- Remember Tasks
- Take Screenshots
- Play songs
- Weather Updates
- News Updates
- Logout, Shutdown, Restart
- Battery Updates
- Open Social Media Websites
- Screen Recording

B. Description of the Proposed Algorithm:

Jarvis is different from other traditional voice assistants in terms that it is specific to desktop and user does not need to make account to use this, it does not require any internet connection while getting the instructions to perform any



specific task. We have created a live GUI for interacting with the JARVIS as it gives a design and interesting look while having the conversation.

III. LITERATURE SURVEY

This field of virtual assistants having speech recognition has seen some major advancements or innovations. This is mainly because of its demand in devices like smart watches or fitness bands, television, etc. Almost all the digital devices which are coming nowadays are coming with voice assistants which help to control the device with speech recognition only. A new set of techniques is being developed constantly to improve the performance of voice automated search. With the use of voice assistants, we can automate the task easily, just give the input to the machine in the speech form and all the tasks will be done by it from converting your speech into text form to taking out keywords from that text and execute the query to give results to the user.

V. FUTURE PROSPECTIVE

JARVIS android app can also be developed. Also, to add many more features like home automation system in which we can control many electrical appliances such as fan, Smart Bulb, television, etc. using speech recognition. Make JARVIS to learn more on its own and develop a new skill in it. Voice commands can be encrypted to maintain security.

VI. SCOPE

Presently, Jarvis is being developed as an automation tool and virtual assistant.

Among the Various roles played by Jarvis are:

- Search Engine with voice interactions
- Reminder and To-Do application.
- Vocabulary App to show meanings and correct spelling errors.
- Weather Forecasting Application.
- Taking Screenshot, Shutdown, Restart, CPU Usage and Many more features.

VII. FEATURES IN JARVIS

There are many features added in this Jarvis Project, such as:

- Google Search
- Wikipedia Search
- Open Tabs in Chrome
- Remember Tasks
- Take Screenshots
- Play songs
- Weather Updates
- News Updates
- Logout, Shutdown, Restart
- Battery Updates
- Open Social Media Websites
- Screen Recording

VIII. PROBLEM STATEMENT

We are all well aware about Crotona, Siri, Google Assistant and many other virtual assistants which are designed to aid the tasks of users in Windows, Android and iOS platforms. So, we are going to make the “Jarvis: The Personal Assistance” project, which is affordable and easy to use. And, almost provides the same features and home automation system.

IX. HARDWARE REQUIREMENT

Laptop
RAM: 4GB or more
Hard disk: 256GB or more
Extension Board
Technical requirement:
Wires
Smart Bulb
Bulb Holder
Arduino UNO Board
Relay Board

X. SOFTWARE REQUIREMENTS AND SPECIFICATION

Operating System:
Windows
Software Requirement:
Pycharm IDE
Visual Studio Code
Technology:
Python

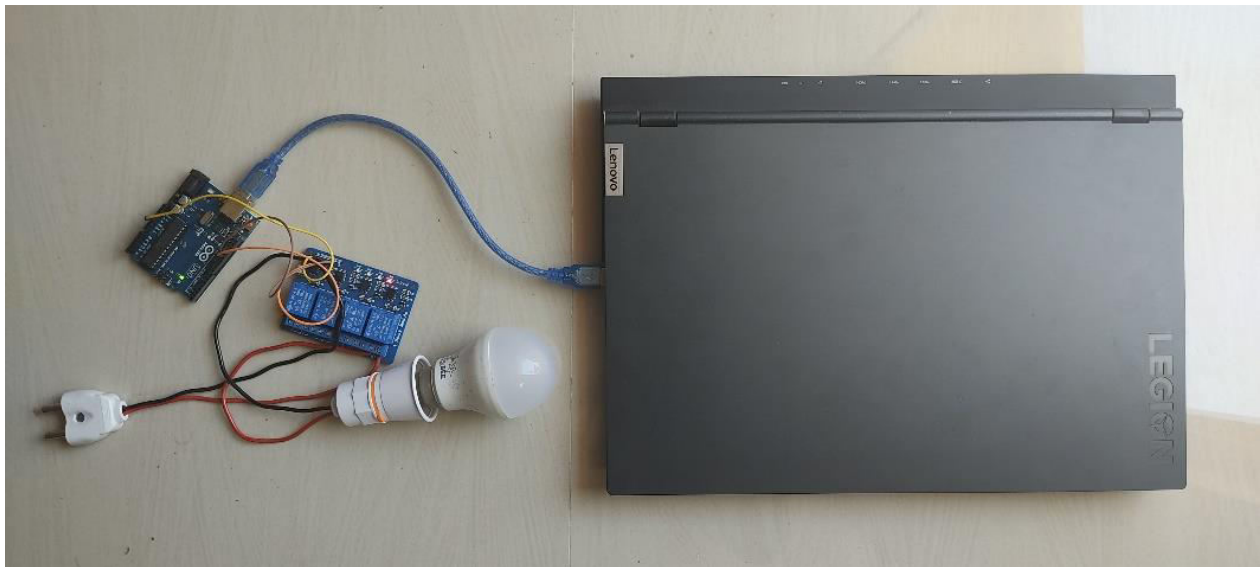


Fig.1. Project Setup

XI. CONCLUSION

JARVIS is a very helpful voice assistant without any doubt as it saves time of the user by conversational interactions, its effectiveness and efficiency.

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