**Synopsis**

On

Jarvis-Personal-Assistant

**INTRODUCTION**

**The project aims to develop a personal-assistant for Windows-based systems. Jarvis draws its inspiration from virtual assistants like Siri for iOS. ​It has been designed to provide a user-friendly interface for carrying out a variety of tasks by employing certain well-defined commands. ​User scan interact with the assistant either through voice commands or using keyboard input.**

**As a personal assistant, Jarvis assists the end-user with day*-*to-day activities like general human conversation, searching queries in Google, bing or yahoo, searching for videos, retrieving images, live weather conditions, word meanings, searching for medicine details, health recommendations based on symptoms 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.**

**Keywords: - Personal Assistant, Linux Systems, Automation, Machine Learning**

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1. **Problem Domain**

* **Problem Identification**

**The project aims to develop a personal-assistant for desktop. Jarvis draws its inspiration from virtual assistants like google assistant for android, and Siri for iOS. It has been designed to provide a user-friendly interface for carrying out a variety of tasks by employing certain well-defined commands. Users can interact with the assistant either through voice commands or using keyboard input. As a personal assistant, Jarvis assists the end-user with day-to-day activities like general human conversation, searching queries in Google, bing or yahoo, searching for videos, sending massages, retrieving images, live weather conditions, word meanings, searching for medicine details, health recommendations based on symptoms and reminding the user about the scheduled events and task.**

* **Problem in Existing System**

**We are all well aware about Siri, Google Assistant and many other virtual assistants which are designed to aid the tasks of users in IOS, Android platforms. But to our surprise, there’s no such virtual assistant available for the paradise of Developers i.e. windows platform**.

1. **Solution Domain**

* **Suggested Solutions**
* **We plan to Integrate Jarvis with mobile using react native, to provide a synchronized experience between the two connected devices.**
* **Further, in the long run, Jarvis is planned to feature auto deployment supporting elastic beanstalk, backup files, and all operations which a general Server Administrator does. The functionality would be seamless enough to replace the Server Administrator with Jarvis.**
* **Purpose of the project / innovativeness and usefulness**

**This Software aims at developing a personal assistant for windows.**

* **The main purpose of the software is to perform the tasks of the user at certain commands, provided in either of the ways, speech or text.**
* **It will ease most of the work of the user as a complete task can be done on a single command.**
* **Jarvis draws its inspiration from Virtual assistants and Siri for iOS.**
* **Users can interact with the assistant either through voice commands**
* **An improvement over the existing system\**

**We plan to Integrate Jarvis with mobile, to provide a synchronized experience between the two connected devices. Further, in the long run, Jarvis is planned to feature auto deployment supporting elastic beanstalk, backup files, and all operations which a general Server Administrator does. The functionality would be seamless enough to replace the Server Administrator with Jarvis.**

1. **System Domain**

* **Required Resources**

**Software/Hardware requirement specification:-**

**Front End: python**

**Back End: mysql**

**Software requirements**

**Visual studio**

**Python IDE**

**Hardware requirements**

**RAM: 512 MB or more**

**Hard disk: 16 GB or more**

**Development requirements**

**Windows 7/10.**

**Python IDE**

**Visual studio**

* **Methodology to be adopted / planning of work**

**As this program includes the functions and services of: calling services, text message transformation, mail exchange, alarm, event handler, location services, music player service, checking weather, Google searching engine, Wikipedia searching engine.**

Pip3 install SpeechRecognition

Pip3 install jsonlib

Pip3 install pyttsx3

Pip3 install PyAudio

Pip3 install geocoder

Pip3 install loc

Pip3 install Wikipedia

**4.Application Domain**

* **The Scope of Project:**

**Presently, Jarvis is being developed as an automation tool and virtual assistant. Among the Various roles played by Jarvis are:**

**1. Search Engine with voice interactions**

**2. Medical diagnosis with Medicine aid.**

**3. Reminder and To-Do application.**

**4. Vocabulary App to show meanings and correct spelling errors.**

**5. Weather Forecasting Application. And so on**

* **Impact of the work in the real world:**

**GUI: I t is used to interact with the user. GUI reflects the basic appearance of the application.**

**Voice Recognition: For intelligent voice assistant application is done using Google Server. This process involves the conversion of acoustic speech into a set of words and is performed by software component.**

**Voice Input Manager: It manages the command given by user. It sends the Input given by user to the database manager,**

**Database Manager: It compares Input given by user that is in the form of voice with the Database which contains vocabulary of words. It sends response to the action performer.**

**Action Performer: It takes response from the database manager as Input and decides which action should be performed. Action can be in the form of text message or call.**

**1. Text message: Users are able to send the SMS to a specific person in the phonebook as well by giving a correct command which contains the messaging request keywords. The message should be sent to the destination immediately.**

**2. Calling service: The application should allow the users to make a call to the person in the contacts or by saying mobile number of the person to whom user wants to call. By giving a correct command with the calling request to a stored person, the Android phone should successfully direct to the number of the person requested.**

**Sending Emails: Integrating mailing features to Jarvis eases the job of mailing, which otherwise would have to be done by opening the concerned email address. With Jarvis, you do not need to go for another tab to do one of the major tasks of your day to day life. The user can send emails to the desired receiver. He should input send mail, after which a form will be displayed. Fill the form with the required details and click on the send mail button.**

**5. Expected Outcomes/ Benefits:**

**Through this voice assistant, we have automated various services using a single line command. It eases most of the tasks of the user like searching the web, retrieving weather forecast details, vocabulary help and medical related queries. We aim to make this project a complete server assistant and make it smart enough to act as a replacement for a general server administration. The future plans include integrating Jarvis with mobile using React Native to provide a synchronized experience between the two connected devices. ​Further, in the long run, Jarvis is planned to feature auto deployment supporting elastic beanstalk, backup files, and all operations which a general Server Administrator does. The functionality would be seamless enough to replace the Server Administrator with Jarvis.**

**6. References:**

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