

Jarvis software robot assistant for corporations

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ABSTRACT

In today's world, AI plays an very integral part in our human life. Then there are more applications of Artificial Intelligence[AI] like Chatbot, network security, complex problem solving, and many assistants and lots of more per se. and also the computing is meant to possess a awfully cognitive intelligence and which also learns from their past experience and has to require future decisions. A virtual assistant can even be explained as an example for cognitive intelligence. Ans also the Virtual assistant implies that the AI operated of the program which may easily assist you to reply to several more query or any virtually do something for you. And currently, this virtual assistant is especially used for private and more for professional use. Most of this virtual assistant is that the device captivated with and is bind to just one single user or many other device. It also mostly recognizes only 1 user. Basically our project proposes an Assistant that's not a tool bind. It also can recognize the user who are using automatic face recognition. Also it are often operated from the other platform. It must recognize and extremely well interact with the user. Mostly, these form of virtual assistants also can be utilized in more different area of applications and specified the education assistance, medical assistance, vehicles and robotics, home automation, and security access control. **Key Words:** computer science, Cognitive Intelligence, Virtual Assistant, biometric identification, Chatbot.

1. INTRODUCTION

AI which is the Artificial Intelligence defines that any one device that can understand its surroundings and then it takes more actions that can increase its chance to then successfully accomplish its goals. The Artificial Intelligence is the developing branch of the computer science. Having so much of more power and then their ability to develop many more various application. AI implies that the use of many different other algorithms to then solve various type of problems. The major application of being Optical character recognition, and then Handwriting Recognition, the Speech Recognition, and Video Manipulation, the Robotics, and the Medical Implementation, The Virtual Assistant, and many more etc. Then considering all these applications, the Virtual assistant is one of the most influencing applications of Artificial Intelligence and then mostly attracting their interest and their curiosity of researchers. Then the virtual assistant that supports a very wide range of applications and then because of this it was categorized into many more types such that the virtual personal assistant, The smart assistants, and the digital assistant, either mobile assistant or voice assistant. Some of these are well-known to be a virtual assistant and also being ALEXA of Amazon, and Cortana by Microsoft, Google Assistant by Google, Siri by Apple. These type of companies are used in different ways to design and then to improve their assistants. There are many more techniques used to design these assistants and then based on the application and its time complexity.

For example, the Google then uses the Deep Neural Network (DNN) for its components. Also, the Microsoft uses the Microsoft Azure and Machine Learning Studio to develop more and more Cortana's components. However, their potential is then limited by some of the scathing security issues that do not support the powerful authentication mechanisms and then they are very well bind to their specific of hardware. Face recognition or many other identification of mechanisms that should not require before accepting any of voice commands and then they should not bind to any of the specific hardware.

In this type of paper, we can propose an approach to which will not overcome the security of issue with the help of the Face and then Speech recognition and also uses the browser-based assistant and it will overcome these hardware dedicated problem.

Advantages

Voice Assistant allows us to gain the perks of the high-end technology and also involves its functionalities. Our proposed application and the points to many advantages:

1. Our proposed application that provides the security to that the user has it can authenticate that the authorized the user that is using the Face Recognition technique.
2. The face recognition technology that makes the system which looks safe and secure and then the robust for the user as it could be done and need not require any other input from that user and also through the keyboard or mouse.
3. The application then provides flexibility to the users as it could send the email just to listen the commands which is given by to that of the user.
4. Our proposed application stores the personal information of the user such as location data, the reminders and other contact details in the notebook.
5. This application includes the functions and other services such as: the opening system application, and the event handler, and location services, the music player service, and also checking weather, and checking Google search, and also checking Wikipedia search, and tells the horoscope, and involves the general conversation and help menu.
6. The applications which would build such platform which is independent. i.e and it also can be runned on any other operating System.

2. LITERATURE SURVEY

Yash Mittal et al. [1] proposed a multi-functional 'Smart Home Automation System' (SHAS) that can be adjusted to a client's voice and perceive the voice-orders, free of the speaker's very own qualities like emphasize. An Arduino microcontroller board is utilized for handling and control which makes this framework financially savvy. Thus for converting existing homes into a smart home this prototype i.e. Smart Home Automation System (SHAS) can be used.

Purna Wadikar, Nidhi Sargar, Rahool Rangnekar, Prof. Pankaj Kunekar, [2] "Home Automation using Voice Commands in the Hindi Language": The proposed of Home Automation in Hindi language Voice orders was to carried out the committed equipment for example Arduino Uno and utilizing voice acknowledgment module that makes the framework more expense effective and vigorous. The framework can chip away at different associated gadgets like light, fan, AC, and so forth This framework permits the clients to settle on an ever increasing number of choices and furthermore to control the home apparatuses and furthermore with the assistance of voice collaborators.

Steve Joseph, Chetan Jha, Dipesh Jain, Saurabh Gavali, Manish Salvi [7], "Voice based E-Mail for the Blind": They then, at that point plan this framework that was useful for sending messages for then the visually impaired individuals with no requirement for visual connection with that screen. .

Speech-to-Text is Based on the Life Log System for Smartphones, then, at that point the method is utilized for Microphone of Smartphone, and STT(Speech-To-Text). From this there are clients can look through a day to day existence log sound records utilizing this Text.

Aditi Bhalerao, Samira Bhilare, Anagha Bondade, Monal Shingade, Aradhana Deshmukh [9], "Smart Voice Assistant: a general voice and control answer for a non-visual admittance to that Android working framework", and afterward plan those voice control answer for that cell phone and through which the client can tackles its errand without getting to towards their portable screen.

Chen-Yen Peng et al. [10], First plan and afterward fabricated the customized work for the clients even without attempting. The Commands that are taken from the Google Home's voice and afterward acknowledgment and the Bluetooth signals are then moved to the Raspberry Pi and furthermore to control the associated gadgets. And afterward the proposed paper fundamentally relies upon the investigating and joining attributes of the Google Home and furthermore with the Google Assistant and Personal Voice Assistant utilizing this AI and afterward consequently tweaking this to meet the new requirements of the clients.

G. KALYAN KUMAR, K. PAVAM KUMAR REDD "CORTANA (Intelligent Assistant)" [11], This portrays the overall language and afterward preparing capacities of the Cortana and afterward it is gotten from the Tell me Networks and are additionally joined with more Semantic inquiry of information base which is called Satori which is a much utilized in looking through the information.

3. SYSTEM ANALYSIS

Problem Statement

user can give command through voice or text without making visual access to the screen. the foremost important disadvantage of this method is that confidential data is accessed by unauthorized user that the privacy are often breached. due to this, the confidentiality, integrity and availability of user data is affected. Looking to this problem the

security features of “Face Recognition” is supposed so as that it can detect the authorized user face and take user command as input and provide response via a synthesis voice. identity verification technology is one of the foremost controversial new tools. it absolutely was first developed within the 1960s. it's recently become accessible to the mass market-to both enforcement and private consumers. Automatic face recognition involves:

- 1)Face detection
- 2)Feature extraction
- 3) Face recognition.

Proposed System Feature

1. Python provides a very large standard library that mostly includes the areas like internet protocols, and string operations, other web services tools and then the operating system interfaces. Many of those use high programming tasks and already have been scripted into these standard library which can reduce the length of these codes that has to be written very significantly.
2. Python has a very clean object-oriented design, and it also provides an enhanced process and also control capabilities, which possesses a strong integration and the text processing capabilities and has its own unit testing framework, and also the contribution to increase its speed and productivity. Python can be considered as a viable option for building a complex multiprotocol and many more network applications.
3. A text-to-speech system that converts a normal language text into a speech. And synthesizes the speech and can also be created by concatenating many pieces of recorded speech that was stored in a database. Then the output is given in the form of a speech.
4. This Voice Assistant can also be benefited by large number of users and also with the universal eyes of free and hands free voice control of these mobile devices. Its framework would help to shape the future voice of control devices.
5. Facial Recognition Technique has the capacity to eliminate their need for passwords, fingerprint data, and also the even keys.

4.WORKING MECHANISM

This type of assistant is fully modular and has more set of services. Each of the services offers some task to undertake to to and which then combines its data to convey fully functional virtual assistant. Following is also a short idea about how the virtual assistant goes to function. It starts with the first step of automatic face recognition. If the user is detected it transfers to the subsequent step else the prompt is provided as “User who don't seem to be detected want to register as new user” and new user registration prompt is opened and thus the predefined quaternary is loaded and also the user is asked to answer the next questions for the registration process. Once all the questions are answered the facial sample photo is collected and also the user is registered successfully and thus the appliance starts from the beginning. Once the user is detected the applying is connected to the info base having the info of the particular user and also the assistant is ready for the query. The user can start the conversation ask a matter or do because the user wish. The speech recognition program converts the speech of the user into the text format and saves that information into the user database because the long run data for speech recognition. The generated text is then transferred to the Chatbot application or are often called as dialogue manager. Then the right reply is generated using the knowledge database. Once the reply is generated the text is then converted into speech and also the output is produced through speakers.

Face Detection

The Face Detection Service allows the virtual assistant to detect the presence of the user before of the device and verify its user data using the face within the image and database. Face Detection Service continuously scans the video input from the camera or webcam. As soon as face is detected virtual is obtainable for further query. Face Detection Service.

Speech Detection

The Speech Detection Module allows the virtual assistant to record the user's voice data using the microphone which then stores into the user database for the speech recognition. It also has the functionality of speech synthesis which converts the text on screen to the audio.

Dialogue Manager

The Dialogue Manager is that the soul of a virtual assistant because it generates the query reply using its knowledge from the trained data. it is the functionality to grant the foremost effective and best reply to the query asked by the user. The user input is mostly textual or vocal which the processed using the service which is utilized within the Dialogue Manager. Dialogue Manager is that the key service which has the foremost complex task to do to to and provides the accurate reply to the query.

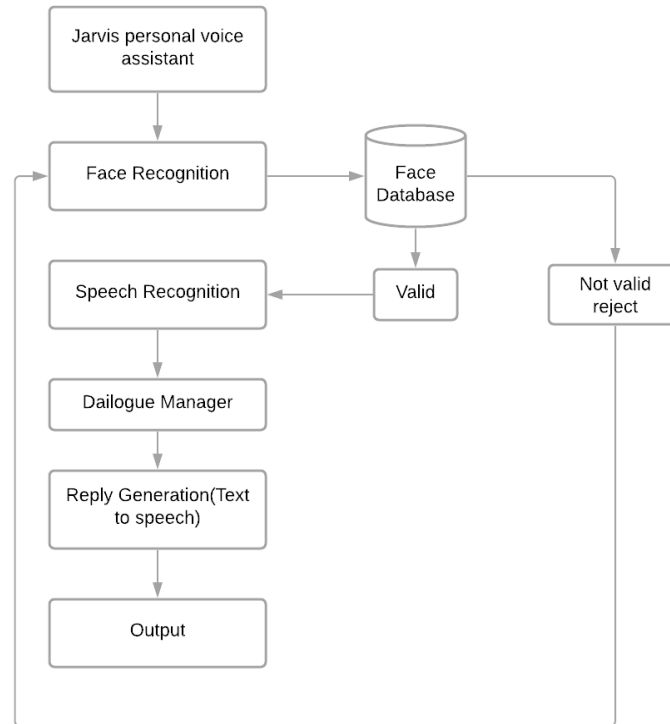


Fig-1: Working Mechanism

CONCLUSION

This system is designed in such a way where the user using this can accommodate more effortlessly. Using our proposed system like Jarvis– The A.I. and other personal voice assistant could be implemented using this type of face recognition and using this speech recognition module thus we can make the system more secure and also robust. This contributions for Smart Voice Assistant are mostly twofold. First, the face recognition technique can make it even more secure and also robust to use, Secondly, it was the voice control application that provided more enhancements to all other applications which were running on a system by then synthesizing these commands set from onscreen context. Jarvis can be benefited more number of users and with universal eyes free and also hands free voice control of this system. Speech recognition technology is the key technology which would provide a new way for human interaction and within machine or these tools. The advantage of the voice commands over a multi-touch when these are interacting with a screen non-visually that is done and does not require any targets to be located and thus which avoids these problems with pointing, and it saves most of the time. This sending of E-mail, and reading of other News can also be possible by many of the blind people also. This can also do varieties of tasks like it tells you the time, and also opens applications, organize most of the files, and also gives more updates about matches, and play game, and also can tell you the location, and many more jokes, it also opens hackathon, and do calculation, and it also updates about the stock and the endless tasks performed for the user. Thus by making one’s life more comfortable and at the same time we can remotely access via other voice commands.

FUTURE SCOPE

Using this technique as a framework, the system are often expanded to features security. Security is vital nowadays so it may be combined with this method to provide more advanced safety features. In this, the voice authentication technology will be implemented for more security. More advancement that are possible like operating on various tones or accents from different regions that mean it should be able to perform operations on various voice tones and accents. Further modifications are possible like learning the solution of questions that don't seem to be known by the voice assistant and replying whenever next time the identical question is put up by the user.

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