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Survey on Voice Assistance for Laptop

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ABSTRACT

Voice control is a significant developing component that ease day to day life of humans. The voice assistance is generally being utilized in cell phones and workstations. Artificial Intelligence based Voice assistance are the working frameworks that can perceive human voice and react by means of coordinated voices. The voice assistance receives the sound from the receiver and further convert that into message, it passes to GTTS (Google text to speech). GTTS it's main purpose is to converts text to an audio file and , the audio is further been played using play sound package.

Keywords: Voice Assistance, API, GTTS

I. INTRODUCTION

The Subject 'Voice assistance for Laptop ' is chosen because of the on-demand of the domain Machine Learning. and Artificial Intelligence are the future and destiny of IT's and Industries which might be paving a path for automation by the use of intelligence. Python combined with Machine Learning and Artificial Intelligence makes the product efficient and time-saving for Customers or users.

Several Machine Learning and Artificial Intelligence products are useful for different respective domains which pave a different direction for industrial automation, medical automation, and home automation. Artificial Intelligence improves the clips makes us think more about the ideas which make the developers curious to develop a new product. Voice Recognition is interesting to develop with all required API and Datasets.

II. LITERATURE REVIEW

Voice and Speech Recognition has a long history with many new inventions. Voice recognition, web usage, search have become common place on any smartphone or desktop. The results of the paper literature are based on the three authors of the AI-based Voice Assistant Program: Evaluation from Collaboration and a vision of trust. Farzaneh Nasirian, One-Ki Daniel Lee ,Mohsen Ahmadin were the authors of the books published on the above mentioned topic in 2019. As the voice assistant model used in the textbook is based entirely on Artificial Intelligence and Natural Language Processing. Data sets are specifically designed to reduce latency problems. The quality of collaboration and Technical Discovery analysis is key to the analysis that helped their paper make something new. The Conceptual Framework model they used here is TAM - Technology Acceptance Model. No type of automation is used in their model, emotional analysis, and composite analysis combined with the paper to

increase the analytical speed of the assistant in the larger expansion is improved.

No Data is oficially trained in the literature reference, as it obtained from the datasets from third- party websites such as Google, Bing,Yahoo and YouTube. These reviews has helped our paper to improve at great extent and made it to be its successor.

The main aim or intension of the Paper, 'Laptop Assistance' is to operate laptop using voice commands. It brings greater utility and shows among the small scale association to update their proficiency. The voice of the client assumes a compulsory part in deciding the work to be handled.

No human interaction is the main aim of this paper. Voice assistants, It has a history of vital innovations. It has become a quality feature for smartwatches, smart glasses, phones, and other devices. It derives to consider a review to present ideas and principles about an application program that understands natural language voice commands and completes tasks for the user. Many instances in everyday life filling a variety of roles that uses Natural language processing can be found. The first recognition technology was "Audrey", a method designed by Bell Laboratories in the 1950s. Audrey, which had mostly occupied an entire room, was able to recognize only 9 digits, spoken by its developer, but it did so with an impressive 90% accuracy.

It was essential and in short supply technology-wise, 10 years later, IBM enhanced and displayed their ShoeBox Machine. It was able to understand 16 different spoken words, including digits '0' - '9', also calculating commands such as '+' or ' - '(Plus or Minus). Shoebox instructed an adding machine to calculate and print answers to simple mathematical problems, It was operated by speaking into a microphone, which converted voice sounds into electrical impulses. The drawback was it could only understand English by an appointed speaker. These restraints proved to be intricate. Hidden Markov models were narrated in a sequence of statistical papers by Leonard E. Baum and other writers in the second half of the 1960s. One of the first applications of HMMs was speech identification, starting in the mid-1970s. The HMM modified the development of a viable speech recognition software. Using HMM speech recognition began to use a statistical method for measuring unknown sounds being words. The potential to understand a limitless number of words became impending due to the method allowing the number of understandable words to go up to a few thousand.

The first approachable voice command system was launched by Apple Inc. They had also released the virtual assistant Siri in 2011. Siri is available on all Apple mobiles and now it's also available on iPad and other apple smart products. Siri is an assistant which uses Natural Language Processing to understand and answer questions and outsource solicitation to web services which will be then implemented by the user. Similarly, the HAL chatbot was developed by Zabaware Inc, Hal uses a natural language interface with animated characters using speech synthesis. Users can converse with the chatterbot via typing or a speech identification engine. The bot uses NLP algorithms to communicate with users stating to organize the data given to it. IBM has invested a huge amount of assets and has developed Watson, Watson is a question- answering computer system capable of answering questions posed in natural language. It communicates with the user by using similar methods of Natural language recognition. Its primary aim is to give fellowship and to copy human interaction as precisely as possible

III. DIFFERENT TECHNOLOGIES REQUIRED

In the paper of Voice assistance for Laptop, the main programming language used to implement idea is Python, the library speech recognition used to recognize the voice input given by the user or client, this recognized speech is then converted to text using the pyttsx3 library.

Voice commands related to web search is implemented using the web browser library, commands related to operating system uses the os library to access the system's resources, commands that require sending mail or viewing a mail requires the use of smptplib module, urllib.request is used to process the commands that requires the use of URLs,

subprocess is used to facilitate the commands that requires the use of client's or user's computer command line input, commands that require the use of mouse or keyboard requires the use of PyAutoGUI in code.

IV. METHODLOGY

A Voice Assistance is a very interesting task to be perform and Python Programming can be solely implemented for this

paper. Python has the best user readability code, python is been selected as the preferred language in all criterias. PyCharm and Spyder IDE are suitable for the paper's usability environment but a new environment with suitable packages and APIs can be integrated into the Spyder IDE. Datasets are gained from the Google APIs for the resources that need to be processed. No database is created manually as the paper asks a huge number of datasets for the precise working of the voice assistants.

Adaptable and easy to understandas python is preferred as the main language. At first, User give a voice command as an input, pyttx3 is used to convert voice to text and later after the conversion the text is read for a query in the python program

- Request asked by the user gets split into separate command with the goal that our voice assistant is easy to understand
- Once inside the commands list, our request is looked and compared with other requests.
- Commands list then sends these command back to the Voice assistance.
- When the voice assistance gets those commands, then, at that point, it knows what to do straightaway.
- Later it performs task which user has requested

V. CONCLUSION

Voice Assistance paper is meant to bring the high-scale utility and conventions for the small-scale industries for automation. Since the voice assistant has many versatile objectives and features such as speech-to-speech operation, automatic login authentication, it is intentionally preferred by profitable companies. As the functionality and the code is reliable, it makes the user experience to the next level. Upgrading the software is much more convenient and consumes less amount of internet data as chrome-driver is smaller in size. The percentage rate of capturing, surfing, automating, time consumption is increased when many bugs at testing stages were resolved. The paper attracts the physically inactive or blind perks for its unique automation features as it serves them in various aspects.

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