Gmail Extension To Use Voice Based Mail System

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Abstract- *Due to its simplicity and accessibility, internet is widely used in almost all the communication applications. In the recent times, number of applications based on internet have been developed to make the communication as a more reliable and efficient in nature. Out of these numerous applications, e-mail is the most widely used and reliable way to communicate with each other. The usage of e-mail is quite easy and lucid for regular users but when it comes to the user with visual defect, the system is yet very difficult to use. The current system is not useful for people with visual defect as the available system are based on the visual perceptions. There are huge up gradation in the technologies now a days, especially for the visually challenged people. Still the current emailing system is yetnot upgraded for the use of visually impaired. This arises a significant need to upgrade the existing system to make it more useful for the visually impaired. Thus, in this study we present an email system working on the voice controlling principle for the people with visual impairment to deliver a simple and easy access to the email system. This framework will also helpful for the individuals with other weaknesses alongside the visually impaired individuals.*

Keywords- Speech Recognizer, Text to Speech Converter, Visually Impaired People, Speech to Text Converter, Screen Reader

I. INTRODUCTION

The technologies are growing very fast day by day this has made the lifestyle of people so easy as mostly all work can be done in less amount of time with accuracy and efficiency. Communication is one of those fields that have grown to next level with the advancement in technology and the availability of Internet. Technologies have made communication so easy that distance has become a negligible parameter in communication. When we think of communication using internet, the first thing that we come in our mind is communication via email. Email is one of the most reliable ways for exchange of some important information and also email is used worldwide, but for accessing internet a person must be able to see. There are millions of people who are blind or visually challenged who are not able to see the screen; keyboards therefore they are not able to access the internet. In this way, they are very far away

from email communication and internet world. These blind people cannot use the existing email system, they cannot send, receive emails and cannot read the information shared through email; therefore, the existing systems are not easily accessible to them. To access the internet the person must be able to read what is written on the screen so, this makes internet useless technology for visually challenged people. There is only one way by which a visually challenged person can send an E-mail is, they have to tell the entire content of the mail to a third person so that the third person can compose the mail and send on the behalf of the visually challenged person. But this approach does not take us to the solution of the problem. Every time finding a third person is not possible for a visually challenged person and also sometimes the content can be personal, for maintaining the Integrity of the Specifications. Therefore, for helping these people and developing society authors have come up with this idea that helps a visually challenged person by providing ability to send and receive emails throw voice commands without using any keyboard and visual thing.

GTTS: GTTS (Google Text-to-Speech) is a Python library and CLI tool to interface with Google Translate text-to-speech API. We will import the gTTS library from the gtts module which can be used for speech translation. The text variable is a string used to store the user's input.

Play Sound:The *playsound* module contains only a single function named playsound().It requires one argument: the path to the file with the sound we have to play. It can be a *local file*, or a *URL*. There's an optional second argument, block, which is set to *True* by default. We can set it to *False* for making the function run asynchronously.

Speech recognition: Speech recognition (SR) is the orderedsub-field of computational linguistics (CL) that generate techniques and advancements to empower the acknowledgment and interpretation of communicated in language into text by PCs. It is also known as "automatic speech recognition "(ASR),"computer speech recognition ",or only "speech to text "(STT).

PipWin: pip-Win is a tiny Python Package manager. It automatically installs pip and virtualenv on Windows and its

GUI lets you: switch from one python interpreter (i.e. version) to another (including py and pypy).

II. LITERATURE SURVEY

Paper 1 The research, by the Vision Loss Expert Group (VLEG), shows that worldwide 253 million people are either blind or visually challenged that is, around 253 million people are not aware of how to use Internet or Email. Existing systems of today are basically applications that provide accessing and managing of emails benefits to its users via web facilities. Making email widely used communication form. The existing systems do not support any voice commands or audio facilities. Blind people are not being able to interact with the web-based email system.

Paper 2 The existing mail services do not provide easy access to the visually challenged people because they are in written format or any type of attached information and there is no read out option to hear the mail that is received to their mail addresses. Although we have screen readers that enable these people to access the desktop applications, we do not have any technology or system that can help these people to access the web applications. Use of screen readers makes it difficult for blind person to access Email system as screen readers cannot trace the location of mouse pointer.

Paper 3 The proposed system makes use of Speech Recognition, Interactive Voice Response and Mouse Click events. Also, for additional security purposes voice recognition is used for user verification. In this system, Registration is the first module. This module will collect complete information of the user by prompting the user to what details need to be entered. In almost all the papers, it can be seen that there is use of mouse clicks for many tasks. It gets difficult for visually impaired people.

Paper 4 The existing Systems reads content present on the screen by using screen readers. Speech to text converter which converts speech to text and text to speech converter is used for converting text messages to speech. Although this is a useful technology, still there are some major problems which make efforts useless. Containing noisy audio interface. ii. Automatic Speech recognizer performance degrades if it contains noisy environment.

III. PROPOSED SYSTEM

The proposed system is an assistant programmed in Python language and backend by AIML which uses various modules of Python language to carry out the tasks like speech recognition for writing mail and to interact with user. The AIML is used so that the assistant will become more realistic and understanding for the user. The proposed system allows blind people to use Email system easily. As the input to the system does not use keyboard or mouse, users can easily give input by speaking the message.
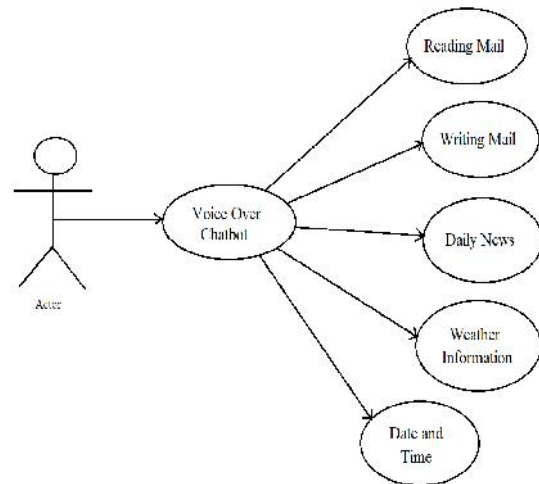

Figure: Use Case Diagram

Voice Over Assistant: A voice over assistant is a digital assistant that user voice recognition language processing algorithms. The query for the assistant can be manipulated as per the user's need.

Speech recognition is the process of converting audio into text. This is commonly used in voice assistants like Alexa, Siri, etc. Python provides an API called Speech recognition to allow us to convert audio in to text for further processing.

Text Filtration and Processing: Text processing involves computer commands which invoke content, content changes, and cursor movement Text filtering is an information seeking process in which documents are selected from a dynamic text stream to satisfy a relatively stable and specific information need. Python Programming can be used to process text data for the requirements in various textual data analysis. A very important area of application of such text processing ability of python is for NLP (Natural Language Processing). NLP is used in search engines, newspaper feed analysis and more recently for voice –based applications like Siri and Alexa. Python's Natural Language Tool kit(NLTK) is a group of libraries that can be used for creating such Text Processing systems.

Text To Speech: Text to speech (TTS) is a type of assistive technology that reads digital text aloud. TTS can take words on a computer or other digital device

andconvertthemintoaudio.TheGoogleTexttoSpeechAPIispopul arandcommonly known as the gTTS API. It is very easy to use the tool and provides many built-in functions which used to save the text file as an mp3 file. We don't need to use a neural network and train the model to covert the file into speech, as it is also hard to achieve. Instead, we will use these APIs to complete a task.

Speech Recognition and Categorization Model: Speech recognition is a capability which enables a program to process human speech into a written format. Speech Recognition incorporates computer science and linguistics to identify spoken words and converts them into text. It allows computers to understand human language. Speech recognition is a machine's ability to listen to spoken words and identify them. You can then use speech recognition in Python to convert the spoken words into text , make a query or give a reply. You can even program some devices to respond to these spoken words. We can do speech recognition in python with the help of computer programs that take in input from the microphone, process it, and convert it into a suitable form.

Voice Command: The control of a computer system by a voice or voices that the computer has been instructed to accept. Google-Speech-API – It can be installed by using the command pip install google-api-python-client. Pyaudio–It can be installed by using pip install Pyaudio command. Speech Recognition – This package can be installed by using pip install SpeechRecognition.Google-Speech-API– It can be installed by using the command pip install google-api-python-client.

IV. CONCLUSION

The system is complete help for the person to operate via voice, the System will also reduce cognitive load taken by blind to remember the type characters using keyboard. Also, will save the time for normal person. This framework will coordinate the necessary activity and the after effect of the activity. Considering all these executing strategies this framework gets easy to use, secure as well as interactive. The framework growing presently is depend just on personal machine. With the use of technically advanced smartphones, such systems and applications have a chance to be implemented as an App in smartphones. Thus, there is a scope to implement the framework in various other languages rather than implementing it only in English language.

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