Voice-Based Email System

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Abstract:- Email is one of the most prevalent ways for people to communicate with one another. In today's environment, email is used to send a substantial amount of confidential and urgent information. As technology is enhancing, people are coming additional nearer to digital life and digital communication. There square measure many ways to speak with others through the web during this new advanced era. Most of them square measure selecting the best manner of communication, i.e., email correspondence (Email). Email is that the technology that allows users to contact others by sending mails and additionally helps in business world communication. However, their square measure cannot use these technologies because they're illiterate or can't examine the screen. So, to form this technology closer to purblind individuals, authors projected a Voice-based mostly Email System. This method provides them the facility of communication and creates a lot of stronger and freelance. Moreover, this design can facilitate blind individuals to access email and alternative transmission functions. Leaving behind the previous techniques, this voice-based email system will be containing new technologies that are simply acceptable by purblind individuals.

Keywords:- *Speech Recognition, Text to Speech, Voice Mail, Visually Challenged People.*

I. INTRODUCTION

The technology is evolving very rapidly, day by day, that is the full life of the people, that light, we can say that of all the business can be carried out with high precision and efficiency for a long period. The connections present in the areas have risen to a new level with the development of technology. In this era, the Internet has made communication so easy that everyone can communicate easily, and distance is just a marginal distribution of communication. [9], We have to think about communication over the Internet; the first thing that comes to mind is communicating with them via email. The mail is considered the most reliable way to share important information and an email, and it is used all over the world, but to have access to the Internet, an individual must be able to see. Accessible to millions of blind and visually impaired people who cannot see the screen, and thus, there is no internet connectivity on your keyboard, you may have to [12]. So, they are a long way away from email and the world of the Internet. The blind can use the mail system. You can send, receive emails,

and read the information sent through email; therefore, the existing system may not be easily accessible.

It is a common misconception that to access the Internet, and one must be able to read what is printed on the computer. This is not the case, and Internet technology is useless for individuals with bad eyesight. There is only one way for a visually impaired person to send you an email message, and that is to pass through all the contents of the email address to any third party for the third party to be prepared to send an email on their behalf when it comes to copyright, as well [10]. However, this approach has meant that we have to solve this problem. A third party could be found for a visually impaired person, and sometimes the content can also be personalized to preserve the integrity of the products. Therefore, to help the people, and for the development of the society, and the author came up with this idea to assist the person with a vision problem, and that provides the ability to send and an email to initiate(start) they only need to speak up what they want and do not need any visual object.

A. Speech Recognition using Artificial Intelligence

Artificial intelligence (AI) is a technology used for the intelligent management system to create machines that mimic human intelligence and take actions as a human does. Some AI applications in various systems, natural language processing(NLP), computer vision, etc. Understanding and analyzing human languages, such as English and many other languages, with the extraction of metadata, keywords, sentiments, attitudes, by using the concept of deep learning and concepts of natural language processing.

II. LITERATURE SURVEY

In this section, we provide a comprehensive review of the literature on the existing related technical issues.

In [2], and in a voice of the architectural email, it is proposed that it helps blind people access the email. The current system is not blind, as it does not give a sound opinion about the reading of its content. The proposed system uses speech recognition, Interactive voice response, and a click of the mouse. In addition, for added security, the purpose, the device is used to authenticate the user. The first module will be registered in the system. This module will collect all of a user's information and tell them what information you will enter. In the second module, the login module, the system prompts the user to enter a user name and a password. Do this with the help of voice commands.

To perform the voice of the check, you will need more tests and voice. The user is then redirected to the inbox page after the registration has been completed. Once you have logged in, the user can carry out the normal operation of the mail system. System Settings: How To Create Email Account, Email, It's Trash. The user can switch between them with the help of voice commands.

The paper [3] proposes a system that relies on a system with a voice command, based on that, in contrast to the pre-existing email system. The whole system is, in essence, is based on converting the number to text. Once made use, the implementation of the system will prompt the user to speak commands to make use of the relevant services. If the user wants to access the relevant services, it is necessary to state that this command will work. This program uses the IMAP (Internet Message Access Protocol). This is a standard Internet protocol used by an email to send an email from a mail server over TCP / IP. The main type of activity, the screen, will be the first screen displayed from the beginning of the year. On this screen, waiting for the user to press a single button, and the system will start to receive your voice commands. It's a full-size single button to tap anywhere on the screen. Then, with the help of voice commands, the user can send an email to read it.

In [4]. the system uses three main technologies:
● To convert the number to text
● Text-to-speech.
● Interactive Voice Response.

When you are visiting the site for the first time, it needs to register with the help of voice commands. Also, once you register, the user's audio data and a note will be saved in the database. And the user will receive a user id and password after the user logs in to receive an email in such a system. The user interface has been developed with the help of Adobe Dreamweaver CS3. The site is primarily centered on the concept of efficiency and effectiveness. In addition, there is a "Contacts" page, where the user can offer any suggestions or any help if they need it.

At the time, [5], one of the e-system is proposed, which is easily accessible for the blind. You can use the voice-to-text converter-text-to-speech converter and the Viterbi algorithm. The algorithmic rule, which is working with the technology, does not find it to be the most appropriate word; as soon as the user says so, so it is, as your guessed word, for a given the word pronounced. The user registers at the site where they are for the first time, the visit to the site. This system will reduce some of the disadvantages of the current system. Sorry, this scheme is the efficiency of the Viterbi algorithm to reduce the number of errors will increase and require more space [5].

In [6], a system for the blind and the illiterate is proposed to improve their interaction with the email system. This system eliminates the use of IVR technology that are using screen readers, Braille keyboards. There, we used the speech-to-text and text-to-speech conversion. Voice commands are also used for other activities as well. For

registration, you may use your identity, your email address, and your password. This is functionality to use the function that tells PHP to email. This is the library, which you can use to send an email. To obtain the user's email from the IMAP server. This Lash-Morris-Pratt algorithm is used to search for email collection boxes. Thus, the system's environment is clean, the voice-controlled by a feedback system in each step. Sorry, this scheme is that it uses Gmail as a host server so that we can make use of other email services like Yahoo, Google, etc. [6]

[6] Proposed a voting scheme, which is based on the PCs and mobile devices for the blind. They are the most important elements found in the system's work [7] in the note below.
1. G-mail system messages, refer to the buyer's email).
2. RSS-Real simple syndication news
3. Let's listen to the music
4. The system's red book and reader
5. Search for your discs and folders using the bridge's Browser.

It is a software architecture used for the blind, with easy access to the email and MMS messaging functionality into the operating system. The graphical user interface design can be achieved with the help of voice commands and a mouse, but with the help of the keyboard. RSS feeds are also used along with email, which is simple syndication to distribute a list of headlines, announcements of new products and services. We have also prepared an application for you. Along with email, other apps can be accessed by using a voice command [7].

In [8], the authors propose the Tetra-Entry, a blind-friendly email client, to overcome the favourability and the convenience of email activities.

III. EXISTING SYSTEM

According to the statistical report, email, 2014-2018 prepared by the technology research firm, the market, the Palo Alto, California, united states, which is based on the and in 2014, only 4.1 million in the email address is created to have more than 5.2 billion users. However, since the invoice must be finished before the end of 2018, it is one of the most widely used communication channels [1].

The studies carried out by the vision loss Expert Group (VLEG) has shown that all of the 253 million people worldwide are blind or have vision problems, which means that approximately 253 million people do not know how to use the Internet or email to [6].

The form of the system that exists today is essentially a software application that allows the insertion of the advantages of email and in the management of the user of web services [7]. Your email address is a widely-used form of communication. Unfortunately, the existing system is not supported, as there is no voice command or sound system, so they are not suitable for people with poor eyesight.

In addition, in a more readily accessible format for the search engines, you will receive an SMS message and a request to the user to recover the corresponding file from the server. To show them in the text, the response is not impossible; it is for the persons who may, under certain conditions, of [8].

Even if the current Browser can playback audio and video files, the user needs to make a query by typing in the text and then decide for themselves to enable users to playback audio and video files with the help of the Graphical user interface (GUI) [11].

In the existing system, via email, to represent that, possibly, the existence of only a blind, the systems that are now under development are very different from the system's output [2].

IV.PROPOSED SYSTEM

The proposed system will be via email to be available for people with poor eyesight and helping the community. The authors suggested that it's going to be easy for any of the existing people in this system. It is said that a detailed application is a fully-accessible, no matter where it is used in human vision, and ineffective.

As a critic of the current system, they would prefer the ease of use of traditional users as the system's features, the attention for ease of use by all types of people, the traditional people and the visually impaired, and the in Africa.

This system prompts the user to perform some action for the use of the services, and if the user has access to a variety of services, they will need to perform this action. First, the user will register for the application via the registration form. Through the use of voice commands and all of the required fields, the user must be filled out, and it will be scanned in from to the site; as soon as the user is speaking, it will be recorded automatically.

After the user has logged in, the system will ask for the user name and password, which will convert audio into text, and then the user will be authorized by checking the database's credentials. You can get the users in the different sections to record your incoming and Sent messages after a successful
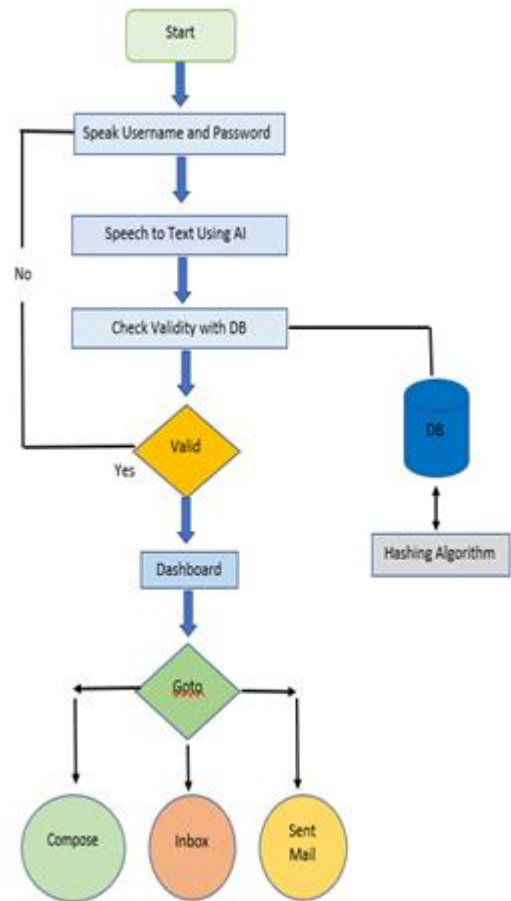

Fig.1. User login and accessing system flowchart

The program is fully voice-activated and allows blind persons to send and receive emails quickly. Converts the user's spoken voice to text and the text to speech and then acts on it.
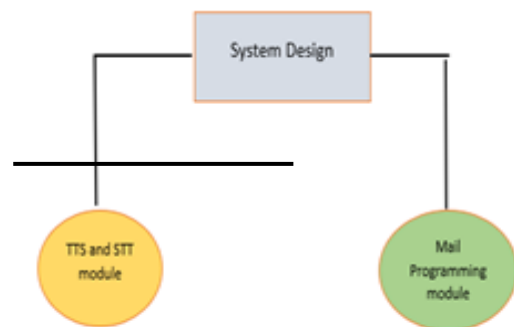

Fig.2. System Design Modules

V.DESIGN OF PROPOSED SYSTEM

These projects fall in love with to break it up, and the following is made in three simple steps.

A. *User interface design*

The user interface or project user interface will be upgraded in this section. The design of a web page with which a user can interact is the first point of contact with the user through the software program. The user interface is built with the help of front-end technologies.

B. Database

A database is critical to any project because it manages all storage-related data and references. Moreover, it is a database containing most of the time, mostly the users, authentication, and protection of the environment, of any user of the email. Hence, the design and databases to include the creation of a database to store the email.

C. The Design of the System is that the system is going to consist of all of the modules

The module of your choice (Text-to-Speech), and the SINGLE-unit (Speech to Text), Item-oriented programming module (how to Create an Email Account, and the Saint-Mail).

Process:
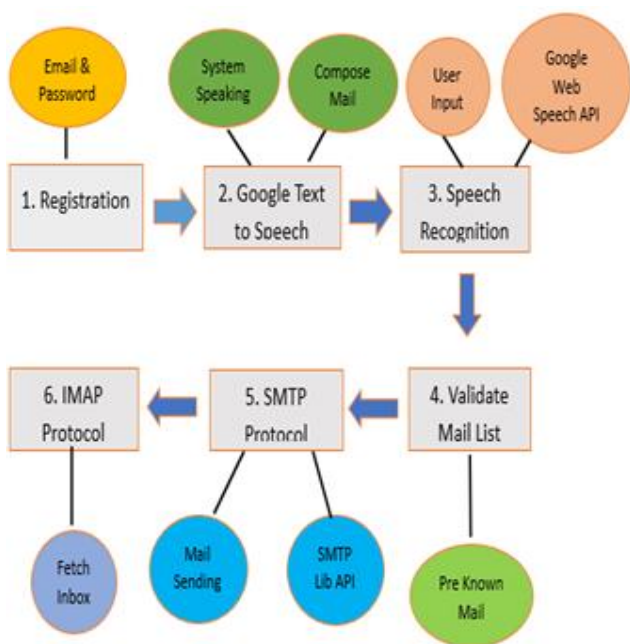
A. Mail Programming Module:

Today, email is the most crucial service available on the Internet. SMTP is a protocol that allows Internet applications to send email addresses to other users. POP (post office protocol) and IMAP (Internet message access protocol) are used to receive email from the client-side, and SMTP is used to send an email.

Sending Email: When an email is forwarded, it will have a header and a body. When sending an email, the shopper and the server queue up a sequence of responses requested messages. The header will stop when there is a null row, which is how the two vary from each other. The exact data browsed for receipt is included in the message's body. Each data point is collected after the previous one in the body. Thus, the body of the message contains the

specific data browsed for receipt. After the null line in the body, each data is taken.

Receiving Email: The server's user agent checks the mailboxes at a predetermined time. If any data is detected within this time, it immediately notifies the user. Furthermore, when a user opens an email, it is scanned for certain information, such as the subject line.

VI. EXPERIMENTAL SETUP

A. Speech-to-Text-with-artificial intelligence

To turn off the sound and text can be transformed into a light, easy-to-use API for strong, up-to-date, and neural network models, which the Google Cloud Speech-to-Text software developers provide. The API is available in one hundred and twenty languages, supporting a global user base. You can change your voice and the sound of the transcript of the center's decision, and so much more. Unfortunately, this is a regular stream or pre-recorded audio, which is a poorly-handled by Google's machine learning methods [4].

B. Text to speech unification

It is an automatic text-to-speech. This technique is very similar to a human verbalizer, to say that it's a text. TTS (text-to-speech) is a technology that enables portable computers to communicate with you. Here are some great examples of the text-to-speech engine used for primary, text-processing, and synthesis. The engine will usually trigger the sound-and-audio format, the output control.

C. Structure of a text-to-speech unification system

The stages included in producing the synthesis of * the text are perceived to be TTS and reviews to turn the tide, speak with an accent, and create prosody. You can do with prosody at that time. Apparently, according to the information currently available on the market, it will be the one ring. With the unity of the periodic structure, the synthesis can be reduced to its most important modules.

D. Processing of language processing

At the side of prosody, it generates a written text of the scanned text.

E. Digital Signal module processing

It converts representative data from information science into speech that can be heard and understood.

The following are the operations of the Processing of Natural Language module:

Text summary: The text is first separated into tokens. How to convert a token to the letter, but also the token type of the notes. For a token of the type "G", If "the record is composed of the extension, an additional" 11 "tokens, to be able to play in the wild," in", and "1979" is transformed into "ten, nine, eight, seventy-nine.

To apply the pronunciation rules: Apply the pronunciation rules, in which case the text of the analysis is

finished. The letters cannot repeat from 1: 1 to the phoneme because it does not fit, it is always parallel to each other. In some environments, characters that do not conform to the audio at any time (for example, in", " is "learned" or phonemes (the "n" and "popular"). Also, a lot of this message is to vote in favor of the rights (the "ca" and "god").

The Prosody Generation: Prosody is created, and then to a lesser extent in the united kingdom. The level of the open system, based on the language of the factors of inflection of the software (phrasing and accentuation), the amplitude of the model, and the length of the software, including the long sound, and, as a consequence, the length of the residues that determine the length of the language, units, time, and speaking). [3]

VII. AUTHENTICATION AND SECURITY

Users with account information such as passwords and usernames are provided due to authentication, ensuring that the user has the right password and username every time they need to sign in to the app. Therefore, this data should be stored in a database for future comparison. For identification, we will apply the control system to the user.

Keeping a password straight may be dangerous:
Keeping a password straight can be dangerous and a simple and easy way to keep the password simple and show them how to create a table in the database. When the user login request arrives, the server will be called in to see the live load to store the username and password. This information will then be redirected to the password stored in the database. Finally, if the game is successful, the user will be able to access the app.

Only passwords stored in plain text can be dangerous and will remain open to attack. With cybercrime, the government steals passwords, and you can block the account. However, one way to save it is to save it by converting it into a non-convertible form and a real password. This process is called hashing.
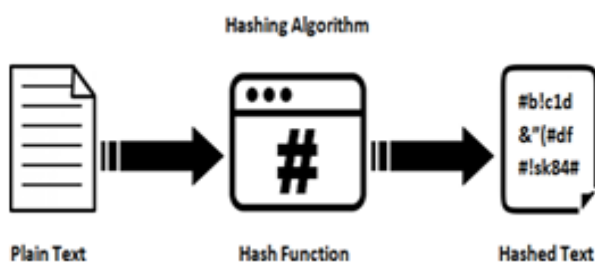

Fig.4 Hashing Algorithm

VIII. ANALYSIS OF COMPARISON AND RESULT

SR. NO.	TRADITIONAL SYSTEM	PROGRESSIVE SYSTEM
1.	It is insecure in comparison to the progressive system.	It has high security, which makes it more trustable.
2.	The keyboard is mandatory in this system.	Because the system is based on IVR(Interactive Voice Response), a keyboard is not required.
3.	Time-consuming process(Slow execution).	It is more efficient and faster than a typical system.
4.	The only person without disabilities can use the system.	Both normal and disabled people can use the system.
5.	People who are blind are unable to engage with others or use the web-based email system.	The web-based email system will allow blind individuals to engage with it (using voice commands).

On ten scales, their parameters are taken in comparison.
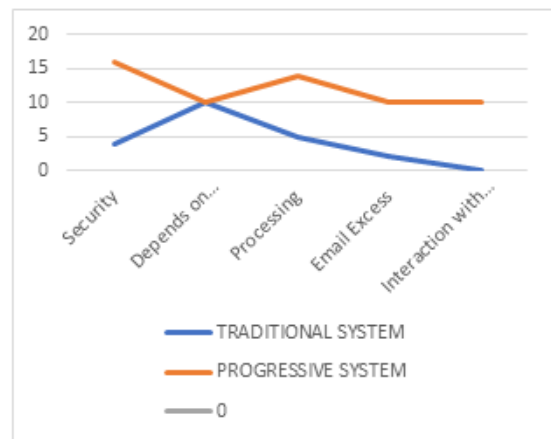
IX. FUTURE SCOPE

This system has a lot of potential in the future, with a lot of enhancements; perhaps it was a system that, in any language, had the functions of email access and spam emails. In addition, this system can be upgraded to send an attachment, and it is also very useful for people with poor eyesight.

It can be made available to all the region's people, which is quite popular and will continue to be available in multiple languages; the system is simple and easy to access. Furthermore, the system employs sign language and can be integrated into it to make it more scalable and reliable.

X.CONCLUSION

This paper suggests that it will be useful for the community so that people with disabilities to develop on the side of the village. This project allows people with visual impairments to be quite capable of being a part of the growth of digital India and on their ability to communicate over the Internet and in people's lives easier. This system overcomes many of the disadvantages of the people down your face when you see how to send and receive email. The success of this project can affect the developers, encouraging them to create useful products that can help people with low vision or who are blind.

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