

A Review on Voice based E-Mail System for Blind

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Abstract –

Because this technology requires visual awareness,

it is exceedingly difficult to utilise for visually impaired people. However, not everyone has internet connection. This is because, in order to access the internet, you must comprehend what is displayed on the screen. It serves no purpose if it is not seen. As a result, the internet is completely useless to the visually impaired and illiterate. This system primarily makes use of three types of technologies: Everything we say is transformed into text using STT (Speech-to-text). There will be a small microphone button on which the user must click to speak, and his or her speech will be converted to text format, which naked people can also see and read.

1. INTRODUCTION

The navigation system for blind persons uses TTS (Text-to-Speech) technology to provide voice navigation. The suggested system is quite inexpensive as an independent programme and may be placed on a blind person's smartphone. This makes it easier for people who are blind to use the programme. A growing number of studies have used technology to help blind people integrate completely into the global environment. We show software that enables blind persons to use mobile devices. To ease interaction between blind users and other network users, the software considers an instant messenger system. Today's improvements in computer technology have opened up new doors for visually challenged people all around the world. According to estimates, India is home to more than 60% of the world's blind population. In this study, we examine the voice mail architecture used by blind people to easily and efficiently use the operating system's E-mail and multimedia functions. As a result of this architecture, the cognitive strain placed on the blind to recall and type characters on a keyboard will be lessened. It also helps the disabled and illiterate.

2.PROBLEM STATEMENT

Since the past framework highlighted an uproarious sound connection point, it was outside the realm of possibilities for blind people to use screen perusers to access E-mail and PC exercises. These methodologies request the utilization of a console, which visually impaired individuals find extremely challenging to perceive and hold. Therefore, we assemble a voice-based E-mail framework for blind individuals that too helps the debilitated and ignorant.

3. MOTIVATION

A voice-based E-mail framework plan that permits a visually impaired individual to just and proficiently access E-sends. With the utilization of a PC or a cell phone, this exploration has empowered Blind people to send and get voice-based eMail messages in their unique language.

4. ALGORITHM

1.OCR (Optical Character Recognition) - OCR is a method for perceiving message held inside pictures and changing it over to an electronic portrayal. OCR is a program that removes text from screen captures so you don't need to re merge it.

2. Text-to-Speech Conversion - Python includes a number of APIs for changing text over to discourse. Among these APIs is the Google Text to Speech API, curtailed as gTTS. gTTS is a basic application that makes an interpretation of entered text to sound records that might be saved as mp3 records.

5. NEED OF PROJECT

The project's purpose is to develop a voice-based email system that would allow blind people to easily access email using a smart watch. The system will rely on speech recognition rather than allowing the user to utilise the keyboard. The internet is utilised for a variety of purposes in today's environment. We created a voice-based email system that can be accessed via a smart watch to allow visually impaired persons to benefit from the internet.

6. SYSTEM ARCHITECTURE

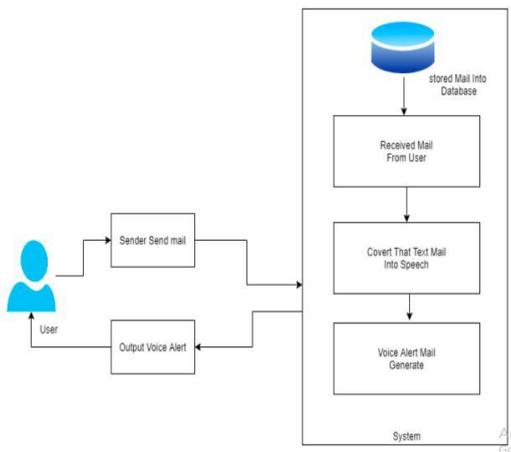


Figure 1. System Architecture

Due of the device's reliance on visual awareness, it is particularly difficult for visually impaired individuals to use. However, not everyone has internet connection. This is because in order to access the internet, you must be able to comprehend what is displayed on the screen. It has no purpose if it is not seen. As a result, the blind and illiterate are completely cut off from the internet. STT (Speech-to-

text) is a critical component of this system because it converts everything we say to text. To speak, the user simply clicks a little microphone button, which converts the user's speech to text, which naked people can also see and read.

i) Project Modules

- a. Text-to- Speech
- b. Voice Recognition
- c. Face Recognition
- d. Composed Mail
- e. Check Inbox

ii) Algorithms Used

1. Haar Cascade Algorithm -

Objects are categorised based on extremely simple criteria in order to encode ad-hoc domain knowledge and run considerably quicker than a pixel system. The term 'Haar' comes from the feature's resemblance to haar filters. A 2-rectangle feature, for example, is defined as the difference between the sum of pixels of area inside the rectangle, which can be at any scale and location within the source picture.

2. Google Text-to-Speech Conversion - Python includes a number of APIs for converting text to speech. Among these APIs is the Google Text to Speech API, abbreviated as gTTS. gTTS is a simple application that translates entered text to audio files that may be saved as mp3 files.

7. Advantages & Application

i) Advantages

- a. Makes it easier to read a document.
- b. It is simple to use.
- c. A cost-effective choice

(ii) Application

1. This voice-based email solution is intended to enable blind people to utilize email services independently.
2. In these systems, speech to text and text to speech converters are utilized to convert speech to text and vice versa.
3. Because of its ease of use and accessibility, the Internet is widely used in virtually all communication applications.

8.Result

It has been determined that the system will function properly and will thereby meet the needs of the end users. The system is thoroughly tested, and any problems are identified and corrected. This application will be accessible from one or more systems, hence it is necessary to test login from several systems. It entails the creation and deployment of a real-time email engagement system

for visually challenged individuals. We intend to create a system that will make it easier for visually impaired people to utilize email services. Our software can assist in overcoming some of the shortcomings of conventional email systems. The usage of a keyboard has been totally eliminated in this system, which decreases the cognitive strain of knowing keyboard shortcuts and the location of keys on a keyboard. To accomplish the needed actions, the user merely needs to listen to the voice commands issued by the system and answer appropriately. The user must speak the operation in the email programme, and the system will then complete the appropriate actions. When necessary, the user will be asked to provide information via voice inputs, and the system will guarantee that the user's details are authenticated. It also aids the handicapped and uneducated people.

8. CONCLUSION

This e-mail system is easy to use and suitable for users of all ages. It can convert speech to text and text to speech using a speech reader, making it a system that both visually handicapped and blind individuals can utilize.

9. ACKNOWLEDGEMENT

The authors can acknowledge any person/authorities in this section. This is not mandatory.

10. REFERENCES

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