Voice-based E-Mail System for Blind

SAKSHI TALKE[1], MRUDULA KHADSE[2], YUKTA SALVI[3], RAJNEE JAMBHALE[4], PROF.SHEETAL BHAGWAT[5]

[1-5]Dept. of Computer Engineering, JSPM's BSIOTR, Wagholi, Savitribai Phule Pune University, Pune, Maharashtra, India.

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Abstract - As this technology requires visual awareness, it is exceedingly difficult to utilize for visually impaired people. However, not everyone has an 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 program and may be placed on a blind person's smartphone. This makes it easier for people who are blind to use the program. 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 the 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.

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 smartwatch. The system will rely on speech recognition rather than allowing the user to utilize the keyboard. The internet is utilized for a

2. PROBLEM STATEMENT

As the previous system featured a noisy audio interface, it was impossible for blind persons to utilize screen readers to access E-mail and computer activities. These approaches demand the use of a keyboard, which blind people find exceedingly difficult to recognize and retain. As a result, we build a voice-based E-mail system for blind people that also helps the disabled and illiterate.

3. MOTIVATION

A voice-based E-mail system design that allows a blind person to simply and efficiently access E-mails. With the use of a computer or a mobile device, this research has enabled Blind persons to send and receive voice-based email messages in their original language.

4. ALGORITHM

1. OCR (Optical Character Recognition) - OCR is a technique for recognizing text contained within images and converting it to an electronic representation. OCR is a program that extracts text from screenshots so that you don't have to re-enter it.

2. 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.

variety of purposes in today's environment. We created a voice-based email system that can be accessed via a smartwatch to allow visually impaired persons to benefit from the internet.
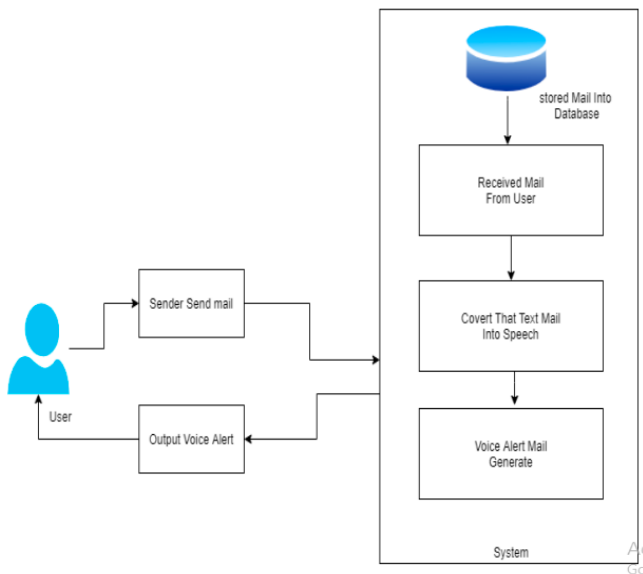
6. SYSTEM ARCHITECTURE

Figure 1. System Architecture

Due to the device's reliance on visual awareness, it is particularly difficult for visually impaired individuals to use it. However, not everyone has an 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. Notification
c. OCR Conversion

ii) Algorithms Used

1. OCR (Optical Character Recognition) - OCR is a technique for recognizing text contained within images and converting it to an electronic representation. OCR is a program that extracts text from screenshots so that you don't have to re-enter it.

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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. His 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. 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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