

Voice Based Email for the Visually Impaired

Rahul Ahire¹, Poonam Bankar¹, Aniket Bhosale¹, Dipak Khetta¹, Prof. Ajita Mahapadi²

¹Department of Computer Engineering, Dr. D.Y.Patil School of Engineering, Lohegaon, Maharashtra India

²Professor, Department of Computer Engineering, Dr. D.Y.Patil School of Engineering, Lohegaon, Maharashtra India

ABSTRACT

E-mails are most reliable way of communication over Internet, for sending or receiving some important information. But there is a special criterion for humans to access the Internet and the criteria is you must be able to see. A survey shows that there are more than 285 million visually challenged people around the globe. That is, around 285 million people are unaware of how to use Internet or E-mail. So, for giving an equal status to visually challenged people we have come up with this project idea which provides the client(user) with ability to send mails using voice commands without the need of keyboard or any other visual things. This system can be used effectively by handicapped and illiterate people as it is based on TTS, STT CONVERSIONS and IVR technologies.

Keywords: TTS, STT CONVERSIONS and IVR

I. INTRODUCTION

The Internet is a vast network which connects millions across the globe in various ways. So, talking about communication over the internet the first thing that comes to thought, is, E-mails. E-mails are extensively used form of online communication, both formally and informally as well. Despite social media, E-mails being the very traditional form of communication have still been the best to date. But the purpose of any service is to serve all mankind, and hence, E-mails should also be such that, they can be easily used by people from all races of life. But, Traditional E-mail Systems are accessible to several but the visually impaired class on the globe, and also various other handicapped people. So, in order to remove this drawback, An E-mail System for the visually impaired individuals would be

an incredible breakthrough. Hence, this application has been thought of. Talking of the application, the application will be a web-based E-mail System for visually impaired people. Using Interactive voice response (IVR), which would enable everyone to control their own mail accounts using their voice only and also they would be able to read, send, and perform all the other user tasks which are offered by the traditional E-mail Systems. The system will prompt the user with voice commands to perform certain actions and the user will respond to the same with voice input. **The main advantage of this system is the use of (text) keyboard is completely eliminated, which means, the user will have to respond through their own voice and mouse event only.** Now you must be thinking that how will a impaired person will see the right position on the screen for doing mouse clicks event. But this

system will perform actions based on the clicks only that is left or right click, it does not depends on the area(portion) of the screen where the cursor is placed before the click giving user the freedom to click anywhere on the screen.

1. SPEECH TO TEXT

Speech to Text conversion is the process of converting spoken words into texts. This process is also called Speech recognition.

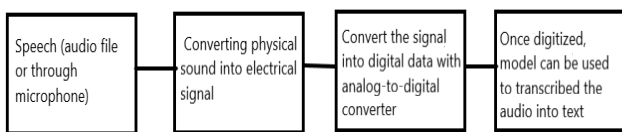


Fig 1.1 : Speech to Text Conversion Process.

2. TEXT TO SPEECH:

Text-to-speech (TTS) is also processthat lets your computer or phone read the text out aloud to you. Text-to-speech is commonly used as a feature to help people who have trouble reading the text from screen,but it is also convenient for those who want to be read to.

People with visual and reading inabilities were the early adopters of TTS(text to speech).

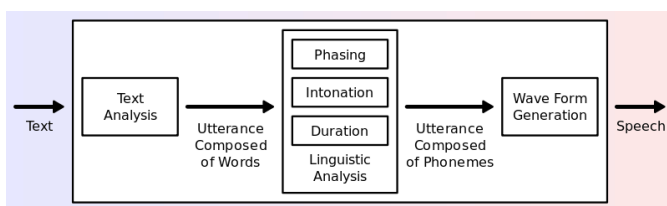


Fig 1.2 : Text to Speech Conversion Process.

II. OBJECTIVES

- To provide the visually impaired people, a Voice Based Mailing application, a platform using

which they can easily receive or send emails without any third person’s help or interference.

- Using Interactive Voice Response, people will control their mail accounts using their voice only and would be able to read, send, and perform all the other useful tasks.
- Use of keyboard is completely eradicated, the user will have to respond in the form of speech itself.

III. LITERATURE SURVEY:

Name of Paper	Author	Findings
Voice based E-mail system using AI	RijwanKhan , Pawan Kumar Sharma	Basic understanding of how the existing email system work and how we can resolve drawback of existing e-mail system using Artificial Intelligence
Voice based E-mail system	Prof. ManasiChoc he	huge number of people who cannot avail services of various other applications as well as email services due to they being visually impaired, so this project is being developed keeping in mind the hurdles faced by these people

IV. EXISTING SYSTEM

The Existing system does not support any voice commands or audio facilities and therefore it is not suitable for visually challenged people. Also, various existing search engine which take request in form of text from user and retrieve the relevant documents from the server and respond by displaying it in the form of text which is not accessible by the visually challenged people. All operations in existing E-mail systems are dependent on mouse click events.

V. PROPOSED SYSTEM

The Proposed system will make the Traditional E-mail systems easily accessible to visually challenged people and also be of great help to the society. The Proposed system is being implemented, while keeping one idea in mind that it should be easily accessible for all kind of individuals. This system is accessible by any individual, whether they be visually challenged or not in an efficient manner. The Proposed System will take care of user-friendliness of traditional users, and will also focus on user-friendliness of all kinds of individuals.

In this system, the system is going to be prompting the user to perform specific operations to avail various services and if the user wishes to access various services then he/she has to perform that operation. Firstly, the user will have to register in the system through the registration form. The user goes to be assisted through voice commands, whereas while registering, all the mandatory fields to be filled are going to be scanned by the website; once the user would speak, it would get written automatically. After successfully registering, the user can log in by speaking the Username and Password when prompted by the system, this username and password will then be converted from speech to text and then the user will be authenticated by verifying the credentials

with the database. Users can access various sections like Compose, Inbox, and Sent Mail after successful login.

VI. SCOPE OF THE PROJECT

- This type of system has great scope in the domain of HCI (Human Computer Interaction).
- The system would be beneficial to visually impaired people and it will help them to use modern day applications with ease.
- The Voice based technologies and NLP could be used in different applications as well such as gaming, robotics etc.

VII. ARCHITETURE DIAGRAM

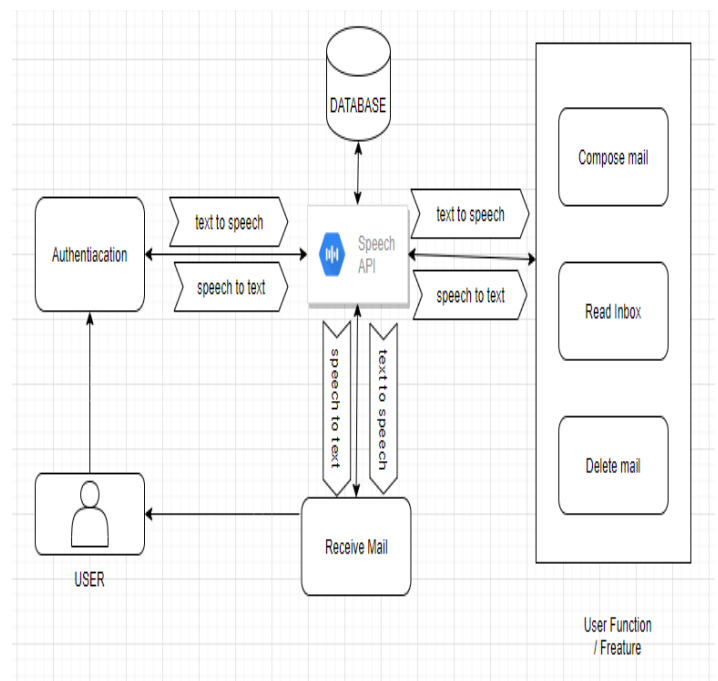


Fig 1.3 : System Architecture

VIII. CONCLUSION

This E-mail system can be used by any user of any age group having any physical disabilities with ease of

access. It has the features of speech to text as well as text to speech conversions with speech reader which makes designed system to be handled by visually impaired people considerably easy and efficient.

IX. REFERENCES

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