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# Voice-Based Email for Visually Challenged

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**Abstract:** Internet has made life of people so easy where people can access to any kind of information by just sitting at their homes. The foremost field that internet has covered is communication. When it is said communication based on internet, the first thing comes to everyone's mind is E-mail. These are known to be most dependable way of communication. Voice feedback established virtual environment such as, screen readers help visually challenged individual gain access to internet applications tremendously. The benefaction made in project has licensed blind to forward and accept Email messages. This system can be handed-down productively by visually impaired and unlettered persons since it is based on TTS- Text to Speech, STT-Speech to Text conversions and IVR- Interactive Voice Response technologies.

Keywords: TTS-Text to Speech, STT-Speech to Text conversions and IVR-Interactive Voice Response.

### I. INTRODUCTION

All over the place 40 million individuals are visually impaired and around 250 have partially-sighted and 90 of individuals leading lives with eye-lessness vision come under age 50 and more. We should provide them some sort of internet prerequisite that they also can access to internet. Accordingly, we are out with our new idea as voice based mails for visually challenged which helps them and unlettered individuals for accessing their mails.

As our project title proposes, this application will be web- based application making use of IVR, hence licensing everyone manage their own mail with their own voice and able to read, forward messages, and perform all other necessary tasks. The system will help out the user with voice instructions to perform definite action and the user will be able to respond to the same. The major advantage of this system is that the operations done on keyboard is entirely terminated, the user would respond through voice and mouse click only.

The users who are accessing to the system are not demanded for any kind of basic information about keyboard timesaving method or at what location keyboard buttons are placed. All the tasks are on just single click which makes it unchallenging for all kind of individuals using the system. Also, the individual need not dwell on recalling which click operation one must carry out to benefit given resource as system itself will help out them what mouse click will supply the individual with what kind of functionality.

# II. LITERATURE SURVEY

[1] Jain .V. et al., (2021), this research proposes a voice based email system that visually impaired people can use to easily access email. With the aid of technology, this initiative aims to assist people who are blind in sending and receiving voice mails. The advancements in text-to-voice email delivery for people who are blind or visually impaired are the main topic of this study. This study offers a text-to-voice and voice to-text email access method for those who are blind. This enables persons who are blind to send mail using voice control instead of a keypad.

[2] Divesh Jethani et al.,(2018) proposed a voice based system for the visually blind with multi-lingual facility, the system provides a good GUI for all types of users. The user will be able to send, receive, read, delete the mail from the mail system. But the main disadvantage includes the usage of mouse clicks, which is necessary at some places of the proposed application. Dr. S. Brintha et al.

[3] Tiwari, P.A., Zodawan, P., Nimkar, H.P., Rotke, T., Wanjari, P.G. and Samarth, U., 2020, February. A Review on Voice based E-Mail System for Blind. In 2020 International Conference on Inventive Computation Technologies (ICICT) (pp. 435-438). IEEE

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[4] Parkhi Bhardwaj, Gunjan Sethi "Voice Based E-mail System for Visually Impaired: A Review" published in International Research Journal of Engineering and Technology (IRJET) on December 12th, 2020.

[5] Pathan, N., Bhoyar, N., Lakra, U. and Lilhare, D., 2019. V- Mail (Voice Based E-Mail Application). International Research Journal of Engineering and Technology (IRJET), 6(03).

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The drawbacks of the system are as follows:

• With screen readers, it is hard for visionless person to approach email system and operating computer easily as it contains quite noisy audio interface.

ASR is still in development stage. When it comes to noisy environment performance of ASR devalued.

• Together ASR and TTS are extremely language oriented. So, system created on one language may not applicable to other language.

#### III. METHODOLOGY

In our system, we are attempting to make a system for the visually impaired people through which they can effortlessly access to all important attributes such as Email in a very interactive way.

We are plotting a system which will run on the voice instructions and helps out for authentication of operations. The user can also link attachments, create labels and much more in this system.

The following are the advantages of the system:

Browser utilized and done across desktop application. System contributes innate, interactive and effortlessness to utilize GUI which can be easily accessed by visually challenged user even they are freshers to computer.

All the data is stored in online database. This data is accessed by user using android application. Details of users are already stored in mail server. When user logged in data form server is fetched after authentication of user. User shake the mobile then automatically open Blind Mail App. It will auto speak:

"Welcome to the Voice Mail tell me the mail address to whom you want to send mail" Then user can touch any part of screen then the give sequence wise instruction:

• To - After first click it will speak the, whom want to send mail? (Receiver Address)

• Subject - After next click it will speak the, which subject user want to send?

• Message - At the next click of user on screen it will speak which type of message user want to send? At the next instance the all fields are filled then it will automatically say's or speak please confirm the mail. Now when users click again any where on the screen it will ask the "Do you want to send mail":

• If user click to screen and say's "Yes" it will sends the message to receiver and speak "Message send successfully".

• If user click to screen and say's "No" it will speak "Please Restart the App to Resend" and the user will be back from the app.

IV. RESULT AND DISCUSSION



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### A. Design

### • The User Interface Design:

This is outlined utilizing Adobe Dreamweaver. Entire website is focused on ability in grasping IVR alternative to look and feel of system as system is implemented for visually impaired user to whom visibility and touch would not be much important as ability of understanding prompting would be.

### • Database Design:

System sustains database for user authentication and grouping Emails of user. There is sum of 5 tables. The inbox table, sent mail table and Trash will gather the mails of the respective service relates to that particular user.

### • System Design:

The system is voice based. When the user hovers all space on website provides voice where user is now. If the normal user who are not preferring the feature, can turn it off. The system working is defined fig. 1.

For the people who see, sending mail is not a achievement, but for the people not fortunate with the gift of vision aspects a concern because its convergence with more vocational importance. This email for visually impaired user has many applications like used by blind visually challenged as they can undergo where they are. For example, when cursor moves to any icon on the web page sounds "Register Button".

Screen readers in system. But user have to know mouse clicks. Rather, the project decrease issue as mouse pointer would read where the user is. The system emphasis more user convenience of all kind of user including regular persons, visually compromised people also uneducated.

This Email system can be utilized by all the users of any age with effortless of access. The system has attribute of STT, TTS including speech reader that makes the implemented system to get accessed by challenged user and also uneducated person.

We have designed a method that will make it easier for those with visual impairments to use email services effectively. This approach may assist in overcoming several obstacles that blind people previously encountered while trying to access emails. Screen readers, which might lessen the cognitive strain of memorizing tasks, have been removed.

The major goal of developing the kind of system outlined in the study is to increase the sense of community among those who are blind in this little environment.

This e-mail system can be used by any user of any age group with ease of access. It has the feature of speech to text as well as text to speech with speech reader which makes designed a system to be handled by a visually impaired person as well as blind people. This app will help the Blind People to sending the mail through voice. The app will be used by Blind People, Handicapped, as well as normal.

# V. CONCLUSION

This Email system can be utilized by all the users of any age with effortless of access. The system has attribute of STT, TTS including speech reader that makes the implemented system to get accessed by challenged user and also uneducated person.

This sort of email system allows visually challenged user access email. It has noted that 55-65% of total visually challenged population across world are found in India. The system, runs on voice mail architecture for visually challenged users access Email effortlessly.

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