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Voice Based Email System for Blind People

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Abstract: *In the modernizedworld, communication has become so easy due to the integration of communication technologies with the internet.Emails are important as it is the most used form of communication, also it is very difficult for the blind to access emails and relate information via laptops or other devices. However, it becomes very difficult for the visually challenged to utilize this technology because of the fact that using this requires visual perception. Even though many new upgrades have been implemented to help them use the computers efficiently no naive user who is visually challenged can use this technology as efficiently as a normal user. Voice-based email system helps the visually impaired to interact with the computer system at a maximum probability and easy to communicate. The aim of this project is to make differently abled use the system efficiently and pave a way for differently abled to easily access their emails.*

I. Introduction

Email has revolutionized how we communicate with each other. Messages can be sent to anyone from anywhere in the world with a valid email address. This allows for closer participation, even when workers might be half a world apart. It's simple to do, requires very little training, andis cost-effective for most businesses today with several low-cost options available. It can also take too much time and limit productivity in certain situations as well.

The number of worldwide email users was nearly 2.6 billion in 2015. By the end of 2019, the number of worldwide email users will increase to over 2.9 billion making emails the most used form of communication. As nearly 25percent of the world population have a physical or visual disability it is important to make internet facilities available for them too as the entire population now uses cell phones.

Mobile Application on Voice based Email is a system that would be useful to people who are visually impaired and physically challenged or handicapped. It provides the facilities to use the emails just as a normal person does using the speech-to-text and text-to-speech algorithms where the user without eyesight or even touch can use the application efficiently. This application would be useful for the illiterate people who can see but are unable to read and also can be used as a handsfree device if a person is driving or doing some other work.

The aim of this project is to make differently abled use the system efficiently and pave a way for differently abled to easily access their emails.This system aims at developing an email system that will help even a visually impaired person to use the services for communication without previous training. The system is completely built on interactive voice response which will make it user-friendly and efficient to use. The entire project is based on voice interaction which means speech recognition and synthesis. Voice technology is being used in recent times proving to help users to have easy access to their respective applications or websites. We understand how vulnerable the visually impaired are in today's digital world. Hence, by this project, we will strive to develop a useful project by using speech recognition and synthesis and thus providing a better solution to their crisis. The study has found that generally there are limited resources for the disabled. Hence, our project will be efficient and productive for the differently abled.

II. Ease Of Use

Emails can be sent at any time. Emails can be sent 24 hours a day, 7 days a week and 365 days a year. There is really no limit on the time, you can send out an email whenever you want. If a thought strikes you in the dead of night, then you can log into your email account and send out a message to those who need to know about it. Emails are delivered extremely fast as compared to traditional post.Only 10 percent of the braille population know how to use braille, so the voice-to-text and text-to-voice will help them access emails easily. By using this application, communication is at a much quicker pace.Webmail means emails can be sent and

received from any device, anywhere in the world, that has an internet connection. You don't have to be always logged in to receive email. When the user log-in to their account the user is notified about the new emails received. The account receives the email and notifies the recipient that there is a message waiting. Since it often takes less time to read an email than it does to listen to a voicemail, there can be some time savings found with this communication method. Multiple people can be part of the conversation. You cansend copies to multiple emailaddresses, so they stay in the loop, or even blind copy people if the need so arises. By this way, we can make sure an entire team receives the same information at the same time. The performance is increased due to the well-designed database. Security is increased. Easy toupdate the details.

III. Figures

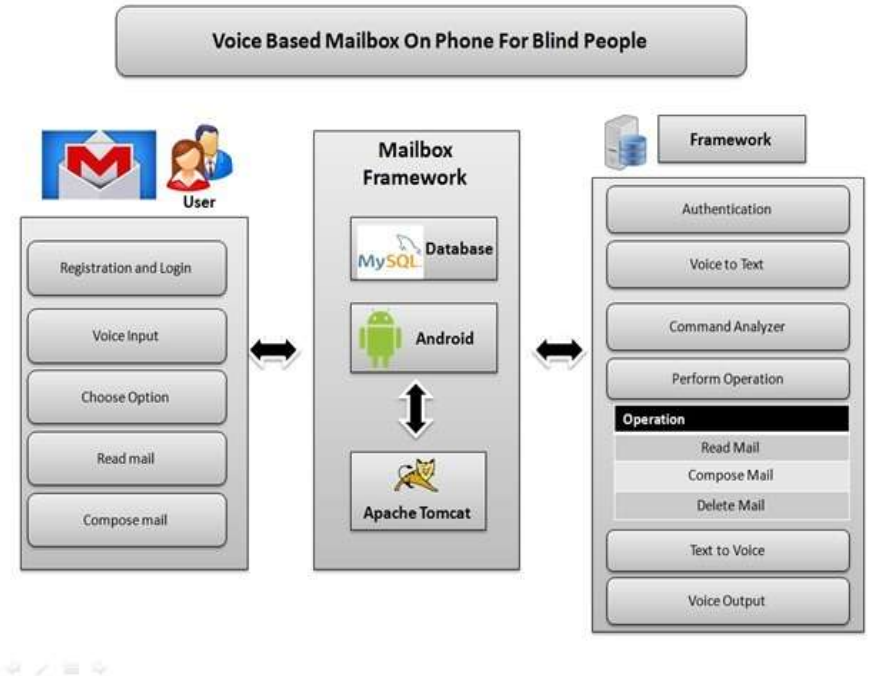

Fig: Voice-Based Mail Framework

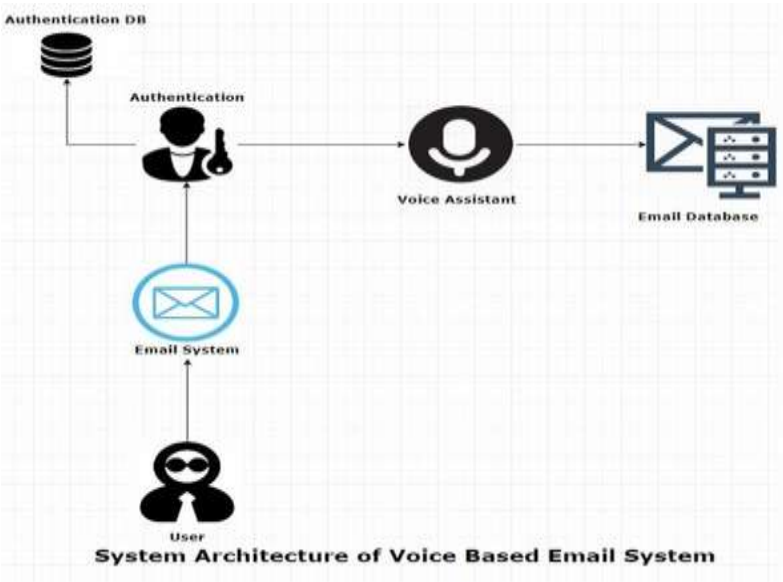

Fig: Architectural Diagram

IV. Conclusion

• In this paper, we have proposed a system which will help the visually impaired people to access email services easily and efficiently.

• We have eliminated the concept of using keyboard shortcuts along with screen readers which will help reduce the cognitive load of remembering keyboard shortcuts.

•The modular nature of this project makes it more flexible and easy to add additional features without disturbing current system functionalities.

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