

# Voice Based Email System

Jeya Surriyan.A.S<sup>1</sup>, Mohan Prasath.S<sup>2</sup>, Naveen Kumar.G<sup>3</sup>, R. Kingsy Grace.<sup>4</sup>

<sup>1,2,3,4</sup> Department of Computer Science and Engineering  
<sup>1,2,3,4</sup> Sri Ramakrishna Engineering College Coimbatore

**Abstract**-There are totally 75% of blind people population across the world is present in India. With the advancement in smartphones, many technologies have been implemented for visually impaired people. Visually impaired people are facing troubles in their day-to-day life for using E-mails. An android application is developed for the visually impaired people to send and receive E-mails. This application uses 'speech to text' and 'voice recognizer' to facilitate sending, reading and replying to emails using an android smart phone.

**Keywords**-Voice Recognizer, Speech-to-text Conversion, E-mail.

## I. INTRODUCTION

Now-a-days mobile phones are become a main part in day-to-day life for everyone [6]. There are totally 37 million people across the world who are visually impaired, form this 15 million are in India. Electronic mail is a medium for communication that acts as a platform to send and receive message between two device using servers. Email is used in the early and in the mid-age had taken as a form now. Operating of Email across computer networks, Some early email systems requires both the author and the recipient to be in online at same time, in common with instant messaging. Today's email systems is fully based on the process store-and-forward model. Email servers has multiple options like accept, forward, deliver, and store messages. It is not needed that both the user and their computer are required to be online continuously they need to connect to a mail server, for as long as it takes to send and receive messages. Android is a mobile operating system and software that includes the operating system for portable devices, user interface, and a standard application (Web Browser, Email Client), multimedia message service (MMS). Android developers will write the applications in the Java language, a runtime library that can run the compiled code (Java Runtime Library). In addition, it provides the Android Software Development Kit (SDK) to develop a variety of application, tools and APIs. Android works on the Linux kernel and also in other operating system the Android system uses C / C + + libraries, etc. are included. Android, unlike existing Java virtual machines, uses an Java application made of Virtual machine that runs on a separate process.

## II. LITERATURE SURVEY

Jagtap Nilesh and pavan Alar have implemented a voice mail architecture helps visually impaired to access e-mail and other multimedia functions of the operating system eg. Songs, text [6]. Also in mobile application SMS is read by system itself. Now a days the advance technology made in computer are opened platforms for visually impaired people across the world. This paper, that the voice mail architecture have been used by blind people to access their E-mail and multimedia functions in their mobile easily and efficiently. This architecture will also reduce the work load taken by blind to remember and type characters using keyboard. The proposed system is implemented using android which uses C / C++ libraries. The android is a open standard developed by Google.

Raghavendhar and Mahender have proposed a Speech recognition system for application Voice SMS operation is done on the Google server, using the HMM algorithm [2]. HMM algorithm. Process involves the conversion of speech into a set of words and is performed by software component using speech to text conversion. Accuracy of speech recognition systems is differ in vocabulary size and confusability, speaker dependence and also independence of the speaker, modality of speech (isolated, discontinuous, or continuous speech, read or spontaneous speech), task and language constraints.

Rahul Anwani have proposed a Speech recognition system have been divided into several blocks: feature extraction, speech conversion models database which is built based on the training the data sets, dictionary, language model and the speech recognition algorithm [3]. At first analog speech signal must be sampled one time and amplitude axes, or digitized. Samples of speech signal are analyzed in even intervals. This period is usually 20ms because signal in this interval is considered stationary. Speech feature extraction involves the formation of equally spaced discrete vectors of speech characteristics. Feature vectors from training database sets are used to estimate the parameters of acoustic models. Acoustic model describes properties of the basic elements that can be recognized. So that the basic element may be a phoneme for continuous speech or word for isolated words recognition.

Jae Sung Cha , Dong Kyun Lim and Yong-Nyuo Shin have proposed the navigation system for blind people in order to provide precise location information, using Android base Smart Phone[1]. The navigation system uses Text-to-Speech (TTS) for blindness in order to provide a navigation service through voice. Also, it uses Google Map API to apply map information. GPS is a radio navigation system using satellites and it is developed by USA Department of Defense for military use navigation but it can be used by citizens with a limited range. It predicts radio coverage from satellites to a receiver, then it shows the exact 3D location, speed and time. This system can be universally used for 24 hours, and many people can use it. LBS service indicates a wireless contents service that provides certain information based on the location change of the user. Developers of mobile handset have voluntarily tried to install LBS within their devices.

**III. EXISTING SYSTEM**

There are totally 1 million email user accounts have being active from Jan 2012 to Feb 2016. This makes emails the most used form of communication. The existing email systems don't provide Talkback service and voice commands. So, they cannot be used by visually challenged people. The voice based mail systems have been developed only for desktop version as a desktop application. As visually impaired people do not prefer to have laptops and desktops at all time, the use of such developed system are very limited. Even if the Braille keyboard is used, they have to remember the complex keyboard so it is not possible for them. In existing system they use desktop application for sending and receiving mails for visually impaired people. That is also so complicated for them. To overcome the disadvantage of desktop application an android Email application is built for visually impaired people.

**IV. PROPOSED SYSTEM**

Dictation using speech recognition is one of the best way to give input for mailing devices for blinds. However, dictation system follows a speech interaction model. This project is designed using android. With the help of voice commands and input has been given with the voice commands after that it will get converted into text with the help of speech-to-text conversion and Speech APIs. Simple Network Mail Transmission Protocol (SNMTP) has been used for mailing servicing. Voice typing and dictation speech interaction models are designed using the windows 7 LVCSR dictation engine. In order to control speech accuracy, One of the major advantages of this system is that user won't require the keyboard. Turned off the default MLLR acoustic adaptation Error correction methods are implemented using the windows 7 APIs and Windows Presentation Foundation

(WPF). The current systems do not provide this accessibility. Unlike current system which emphasizes more on user friendliness and for normal users, and all types of people including normal people and visually impaired people as well as illiterate people.

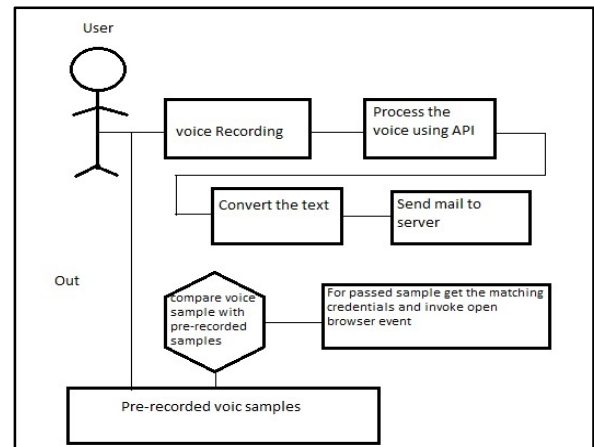


Fig.1 System architecture

In Fig.1, the voice of the visually impaired person is recorded with the help of the android application. The recorded voice is processed and converted to the text and displayed in the text field. Now, mailing service is activated for the user. In case of later use, when the user need to access the mail, the recorded voice is compared against the pre-recorded samples and starts the mailing service when required.



Fig.2 Splash screen

Fig.2 to Fig.7 presents the implementation screen shots of the proposed voice mail system.

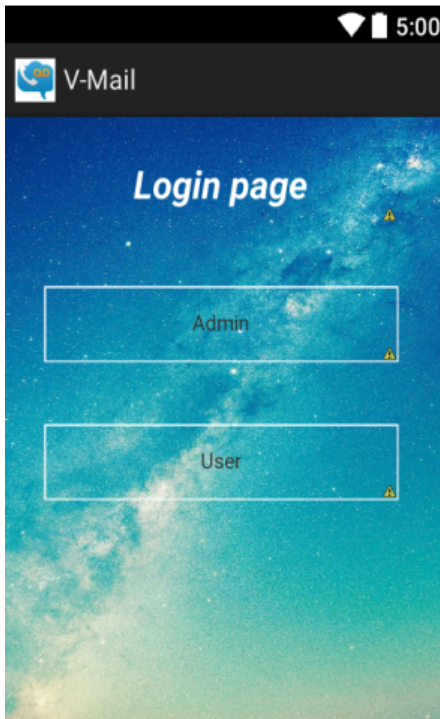


Fig.3 Login page

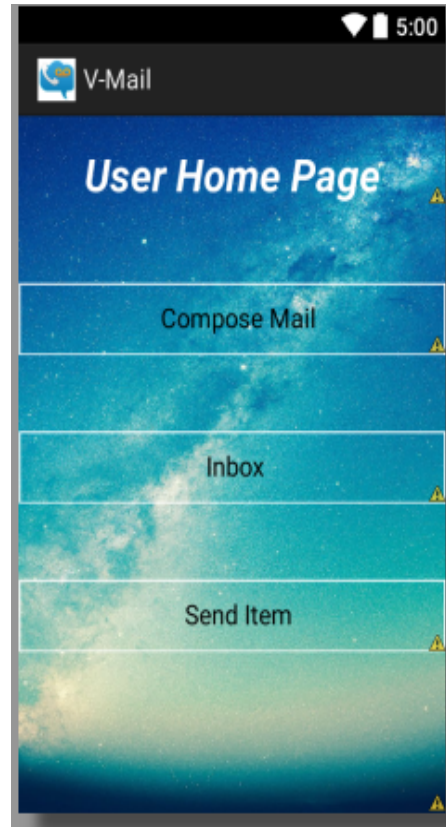


Fig.5 User home page

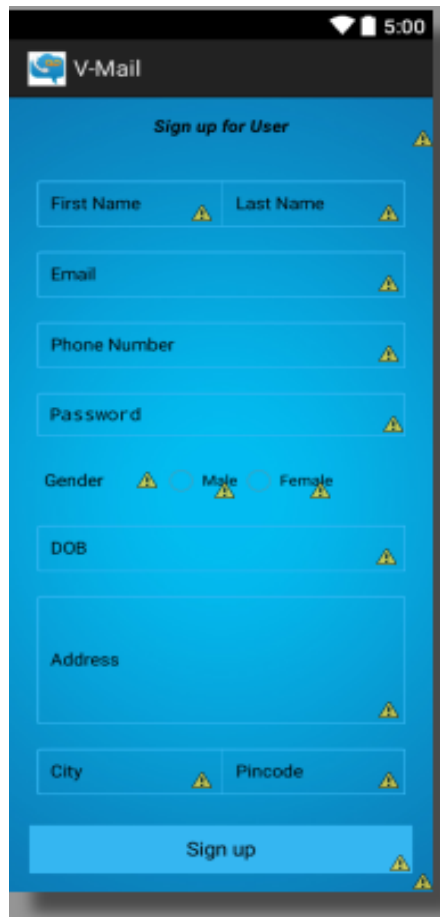


Fig.4 Sign up page

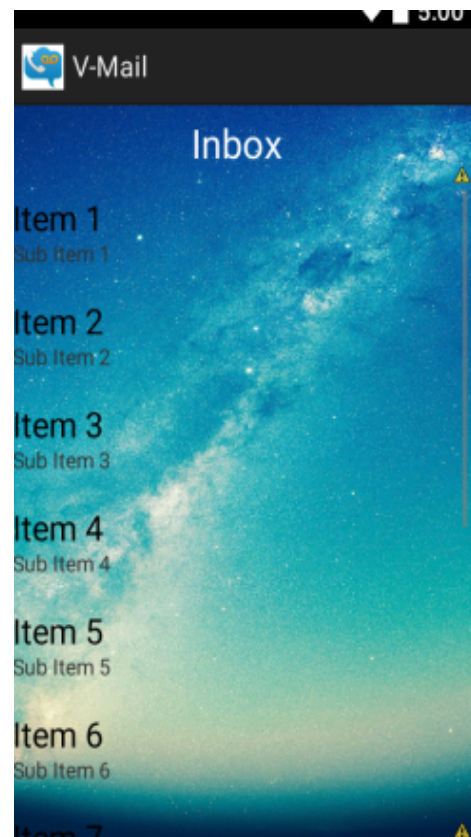


Fig.6 Inbox



Fig.7 Compose page

Fig 2 shows the first screen on choosing the application is displayed as splash to load the contents in the application. The next page is Login authentication as depicted in Fig 3, where the registration and login takes place. The new user can choose admin and registered user can choose user module. Fig 4 shows the details of the user to register and save in the database. After that the user can compose a new mail as shown in Fig 5. When the login is successful the inbox of the respective user is shown like in Fig 6. When the user need to compose mail he can back and choose the user module to compose mail section in Fig 7 and start using the mail again.

## V. FUTURE ASPECTS AND CONCLUSION

Thus this project is to help the visually impaired people to enable the email with the voice recognize and command with speech to text conversion, with which they can communicate efficiently.

In advance we will connect to Google server and access all the G-mails in addition to that we provide the multiple language in our application for better communication to all visually impaired people.

## REFERENCES

- [1] Jae Sung Cha, Dong Kyun Lim and Yong- Nyuo Shin, "Voice Based Navigation for Visually Impaired Persons", International Journal of Bio-Science and Bio-Technology, Vol. 5, pp.61-68, 2013.
- [2] B. Raghavendhar Reddy, E. Mahender, "Speech to Text Conversion using Android Platform ", International Journal of Engineering Research and Applications, Vol. 3, pp.253-258, 2013.
- [3] Rahul Anwani, Usha Santuramani, Deeksha Raina, Priya R.L , "VMAIL", International Journal of Computer Science and Information Technologies, Vol. 6, pp.2488-2490, 2015.
- [4] Fahad Algarni, Yen Cheung, Vincent Lee, "An Intelligent Voice-Based eMarketplace for Visually Impaired People", Journal of Software Engineering and Applications, Vol.6, pp.
- [5] T.Shabana, A.Anam , A.Rafiya , K.Aisha "Voice based email system for blinds", International Journal of Advanced Research in Computer and Communication Engineering Vol. 4, Issue 1, January 2015.
- [6] Jagtap Nilesh , Pavan Alai "Voice Based System in Desktop and Mobile Devices for Blind People", International Journal of Emerging Technology and Advanced Engineering vol.4,Issue 2, Feb 2014.
- [7] G.Shoba, G.Anusha "An Interactive Email for visually impaired", International Journal of Emerging Technology and Advanced Engineering vol.3,Issue 1, January 2014.