Voice based E-Mail System

Pranjal Ingle
Student
Department of Computer Science & Engineering
K.C. College of Engineering and Management Studies & Research, Thane, India

Harshada Kanade
Student
Department of Computer Science & Engineering
K.C. College of Engineering and Management Studies & Research, Thane, India

Arti Lanke
Student
Department of Computer Science & Engineering
K.C. College of Engineering and Management Studies & Research, Thane, India

Prof. Manasi Choche
Professor
Department of Computer Science & Engineering
K.C. College of Engineering and Management Studies & Research, Thane, India

Abstract

Internet has become one of the basic amenities for day-to-day living. Today, in world communication has become very easy with evolution of many communication technologies using internet. However internet has become a curse for visually impaired because of the fact using requires visual perception. Even if much new advancement has been implemented very efficiently the visually challenged user find it very difficult to use this available technologies as the normal naïve user may practice it. So, this paper aims at developing an E-mail architecture that will help the naïve visually impaired person to access the services easily and efficiently for communication without previous training. This architecture will reduce cognitive load taken by blind person to remember and type characters using keyboard as all operations are going too enabled through mouse. This system can be used effectively by handicapped and illiterate persons as it is based on TTS, STT CONVERSIONS and IVR technologies.
Keywords: TTS, STT CONVERSIONS and IVR

I. INTRODUCTION

Internet plays a vital role in today's world of communication. Today the world is running on the basis of internet. No work can be done without use of internet. Electronic mail i.e. email is the most important part in day to day life. But some of the people in today's world don't know how to make use of internet, some are blind or some are illiterate. So it goes very difficult to them when to live in this world of internet. Nowadays there are various technologies available in this world like screen readers, ASR, TTS, STT, etc. but these are not that much efficient for them. Around 39 million people are blind and 246 people have low vision and also 82 of people living with blindness are 50 aged and above. We have to make some internet facilities to them so they can use internet.

Therefore we came up with our project as voice based email system for blinds which will help a lot to visually impaired peoples and also illiterate peoples for sending their mails.

The users of this system don't need to remember any basic information about keyboard shortcuts as well as location of the keys. Simple mouse click operations are needed for functions making system easy to use for user of any age group. Our system provides location of where user is prompting through voice so that user doesn't have to worry about remembering which mouse click operation he/she wants to achieve.

II. EXISTING SYSTEMS

Simple e-mail systems are available which give only voice recognition & text-to-speech systems are accessible. The voice based e-mail system proposed by T.Shabana, A.Anam, A.Rafiya, K.Aisha has made use of IVR, Speech to text converter, Mouse click event and Screen reader. Input is based on speech & mouse clicks to give output.

III. PROPOSED SYSTEM

The proposed system is based on existing system. The most important part in our system is that the system can be able to use by both the persons whether they are normal persons or handicapped. The current system is not able to do this so we are developing a new system which will help a lot to disable peoples and also illiterate peoples. Current system focuses more on normal users but our system is friendly to all types of users whether they are normal, visually impaired or else illiterate. When using this system the computer will guide the user for performing the operation which he/she wants to perform. The most important advantage of this system is that the user doesn't have to worry about how to use keyboard because all the operations are based on simple mouse clicks and the computer will guide the user according to mouse pointer about his location. User clicks on which button and that button will perform which operation will be specified by IVR. One more advantage of this system is that user has

All rights reserved by *www.ijirst.org*

to give speech inputs he/she doesn't need to remember keyboard shortcuts. Also for illiterate peoples those who cannot read or write the system will also help them a lot.

System architecture of proposed system is shown in fig.1.The system is currently developed by us. When user will visit our site he would first have to register in our website through registration form. User will be very well guided with the help of voice commands, while registration all the necessary fields to be filled will be read by site, by clicking on that box he would have to fill in them. e.g. If cursor moves over register icon it would sound "register button", after clicking on register button it would sound like "you are on registration page".

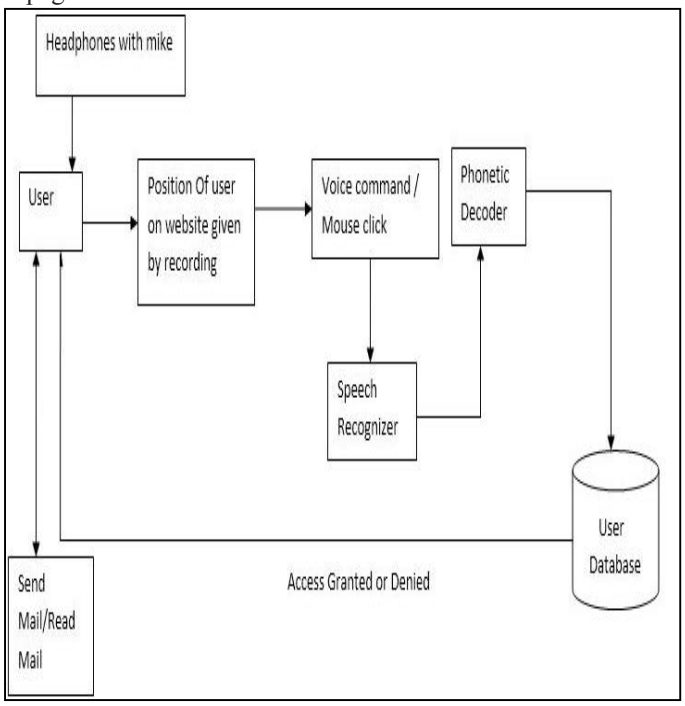

Fig. 1: system architecture

While filling up the necessary fields, speech would be recorded in database. Very frequently used words will be present i.e., when user would speak it would get typed automatically.

Also the voice would be recorded in the database. Because after registration, user has to go to login page and type user id & password which would get recognized through database enabling the correct user to get access to his/her account. After successful login the user would read the received mails present in inbox and also can send the mails.

A. Design:

1) User Interface Design:

The user interface is designed using Adobe Dreamweaver CS3. The complete website focuses more on efficiency in understanding the IVR rather than the look and feel of the system as the system is primarily developed for the blind people to whom the look and feel won't be of that primary importance as the efficiency of understanding the prompting would be.

2) Database Design:

Our system maintains a database for user validation and storing mails of the user. There are a total of five tables. The Inbox, Sent-Mail and Trash schemas will store all mails of the respective service that belongs to that particular user.

3) System Design:

Our System is voice oriented. When user hover every legal space in website gives voice where user is right now. If normal people don't want this feature they can turn it off. The system work flow is defined in DFD diagrams.

All rights reserved by *www.ijirst.org*

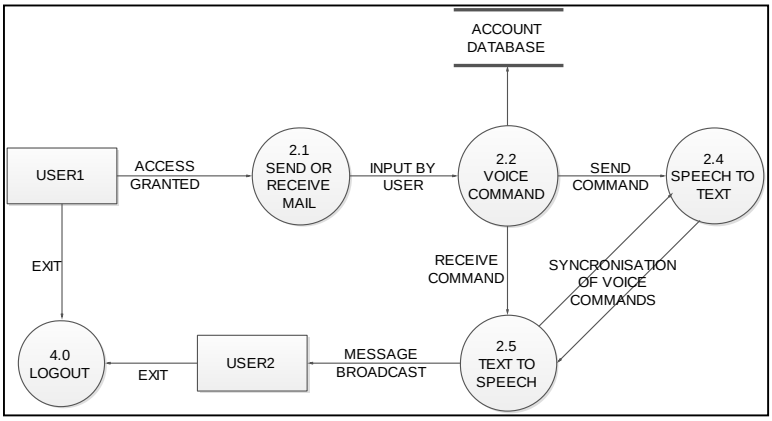

Fig. 2: Level 2 DFD

IV. IMPLEMENTATION

The system developed by us includes following modules as follows:

A. Registration:

This is the first module of system. Any of the user who wants to use the system should first register himself to obtain his/her own username and password. Registration module will obtain all the details about user by voice commands given by the system that where to fill which information. The user should speak the details as the system requires. If the information is incorrect then the system will be telling about re-enter the information again.

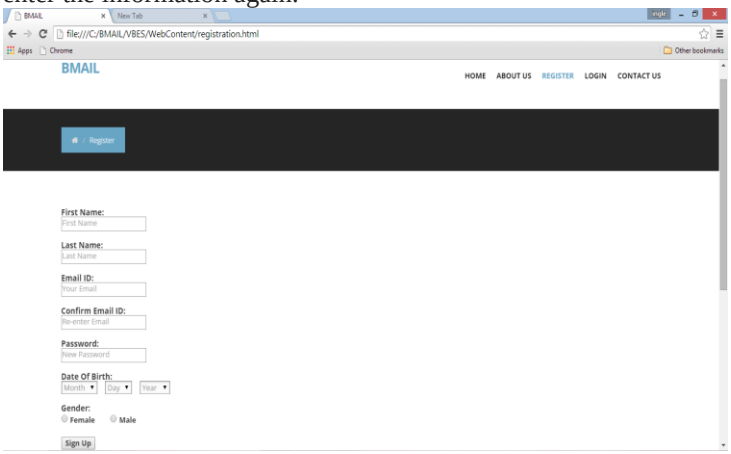

Fig. 3 Registration Page

B. Login:

This is the second module of system. Once the registration is done the user can login to the system. Login module will ask user to provide username and password. Here the process goes in speech to text conversation of user. User is told to validate whether he/she entered details are correct or not. If the details are correct then the user is authorized and will enter to the main page.

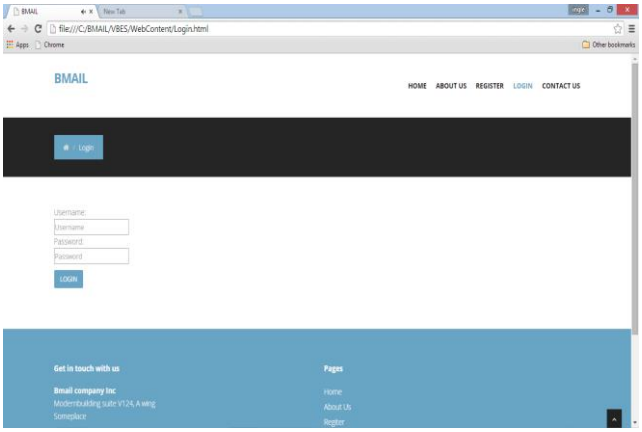

Fig. 4: Login Page

All rights reserved by *www.ijirst.org*

V. FUTURE SCOPE

For people who can see, e-mailing is not a big deal, but for people who are not blessed with gift of vision it postures a key concern because of its intersection with many vocational responsibilities. This voice based email system has great application as it is used by blind people as they can understand where they are. E.g. whenever cursor moves to any icon on the website say Register it will sound like "Register Button". There are many screen readers available. But people had to remember mouse clicks. Rather, this project will reduce this problem as mouse pointer would read out where he/she lies. This system focuses more on user friendliness of all types of persons including regularpersons, visually compromised people as well as illiterate.

VI. CONCLUSION

This e-mail system can be used by any user of any age group with ease of access. It has feature of speech to text as well as text to speech with speech reader which makes designed system to be handled by visually impaired person as well as blind person.

REFERENCES

[1] T.Shabana, A.Anam, A.Rafiya3, K.Aisha, "Voice based email system for blinds" http://www.ijarcce.com/upload/2015/january/IJARCCE5C.pdf
[2] Code Project, "Speech Recognition" http://www.codeproject.com/Articles/5820/Speech-Recognition
[3] Ummuhanysifa U., Nizar Banu P K, "Voice Based Search Engine and Web page Reader". In International Journal of Computational Engineering Research (IJCER). http://www.ijceronline.com/papers/Special%20Issue/A0105.pdf
[4] Arjun AJ, "Voice based email for blinds", Slide Share http://www.slideshare.net/123Arjun1/voice-based-email-for-blinds

All rights reserved by *www.ijirst.org*