

Voice Based E-Mail For Visually Challenged

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Abstract— We have seen that the advent of the Internet is drastically changing many sectors. The Internet has made it much easier for people today to get whatever information they need from their homes. One of the major fields is the Internet that has made changes in communication. And when it comes to Internet communication, the first thing that comes to our mind is E-mail. Emails are considered to be the most reliable means of communication via the Internet, sending or receiving certain important information. But there is a special process for people to access the Internet and the way you should be able to see it. You should be wondering what kind of procedure this is, everyone with eyes can see. But there are also people with disabilities especially in our community who have not been treated for what you have. Yes there are some challenged people or blind people who do not see things and therefore cannot see a computer screen or keyboard. The main advantage of this program is that the use of the keyboard is completely eliminated, the user will have to respond by voice and clicking the mouse only. Now you must be wondering how a blind person will see the right position on the screen to make a mouse click. But this program will perform actions based on only one click which is left click or right click, it does not depend on the part of the screen where the cursor is placed before clicking gives the user the freedom to click blindly anywhere on the screen.

Keywords—IVR, Speech to text, voice based, websites.

I. INTRODUCTION

Technology is growing faster every day and this has made life easier for people because all work can be done in less time with more accuracy and efficiency. Communication is one of those fields that has grown to the next level with technological advancement and Internet access. Technology has made communication so much easier that distance has become an obscure parameter in communication [9]. When we think about communicating using the Internet, the first thing that comes to mind is communicating via email. Email is one of the most reliable ways to exchange important information and email is used all over the world, but to access the internet one has to be able to see. There are millions of people who are blind or have a visual challenge who cannot see the screen; therefore keyboards cannot access the Internet [12]. In this way, they are far from communicating via email with the internet world. These blind people are unable to use the existing email system, are unable to send, receive emails and are unable to read shared information via email; therefore, the existing systems are not easily accessible to them.

II. EXISTING SYSTEM

According to the Email Statistics Report, for 2014-2018 by technology market research company Palo Alto, CA, USA, there are a total of 4.1 billion email accounts created up to 2014 to more accounts 5.2 billion by the end of 2018 and making it one of the most popular forms of communication. A study by the Vision Loss Expert Group (VLEG) shows that 253 million people worldwide are blind or face blind, i.e., about 253 don't know how to use the Internet or email. Apps available today are applications that provide access to and manage the benefits of email to its users through web services.

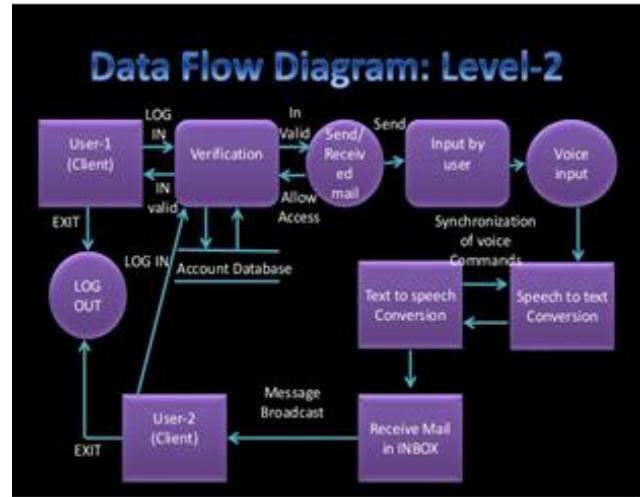
Creating an email is a widely used contact form.

Existing systems do not support voice commands or audio resources and therefore are not suitable for people who are facing challenges. Although existing web browsers can play audio and video, the user must also request a specific text to search after which the user will be able to play audio and video using Graphical User Interfaces (GUI). The email system does not provide this facility and is not available for blind people so the developing system is now completely different from the existing system.

III. PROPOSED SYSTEM

The proposed system is based on an existing system. The most important part of our system is that the system will be able to use both people whether they are normal people or disabled. The current system cannot do this so we are creating a new system that will greatly help cripple people and uneducated people. The current system focuses mainly on ordinary users but our system is friendly to all types of users whether they are normal, visually impaired or educated. When you use this program the computer will guide the user in doing the work they want to do. The most important advantage of this program is that the user does not have to worry about how to use the keyboard because all the functions are based on a simple mouse click and the computer will guide the user depending on the mouse pointer location. The user's click on which button and which button will do which function will be determined by IVR. Another advantage of this program is that the user has to provide speech input without having to remember keyboard shortcuts. And for illiterate people who can read or write this program will be very helpful. System development of the proposed system. The system is currently being developed

by us. When a user visits our site they will have to first register on our website with the registration form. The user will be better guided with the help of voice commands, while registering all the required fields to be filled will be read by the site, by clicking on the box that was supposed to fill it out. e.g. If the cursor goes over the register icon it may sound like a "sign up button", after clicking the sign up button it will sound like "you are on the signup page". While filling in the required fields, the conversation will be recorded in a database. The most commonly used words will be, that is, when the user speaks they would type automatically. And the voice would be recorded in a database. Because after registration, the user has to go to the login page and type in the user id and password which will be obtained through a database that allows the appropriate user to access his account. After successful login the user can read the received emails that are in the inbox and can also send emails.



IV. DESIGN OF PROPOSED SYSTEM

This project is designed by dividing it into the following three phases:

A. User Interface Design

In this phase, the UI or the user interface of the project is developed. That is the designing of the web pages in which the user will use to interact. The user interface is designed using HTML5 and CSS3.

B. 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.

C. 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.

V. IMPLEMENTATION

The system developed by us includes following modules as follows:

A. Registration

This is the first program module. Any user who wants to use the app must first register to get their username and password. The subscription module will receive all user information about the voice commands provided by the system where to complete this information. The user should speak the details as the system requires. If the data is incorrect then the system will tell us to re-enter the data.

B. Login

This is the second module of the program. Once the registration is complete the user can sign in to the system. The login module will ask the user to provide a username and password. Here the process goes from speech to text in user dialog. The user is prompted to verify that the information you have entered is correct or not. If the information is correct the user will be authorized and will enter the main page.

C. COMPARISON & RESULT ANALYSIS

TABLE I. COMPARISON TABLE

SR. NO.	TRADITIONAL SYSTEM	PROGRESSIVE SYSTEM
1.	Less security.	High Security provided.
2.	Depends on Keyboard.	The entire structure is based on IVR- interactive voice response.
3.	Slow processing.	Faster and more efficient
4.	The disables cannot use the normal mail system.	The disables can use the normal mail system.
5.	Blind people are not being able to interact with the web based email system.	They will be able to interact with the web based email system.

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