ISSN: 0975-766X
CODEN: IJPTFI
Available Online through *Research Article*
www.ijptonline.com

VOICE BASED MAIL SYSTEM FOR BLIND

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Received on 25-10-2016 *Accepted on 02-11-2016*

Abstract

In today's world of communication, with the integration of communication technologies, makes it easier to communicate via internet. However, it is very difficult for blind people to use these technologies because of the fact that this technology requires visual perception. Although many use them to help new technologies to progress. It has been applied to a native computer users who are blind, efficiently as efficient as a normal user of this technology. As opposed to the general use of available technologies requires some practice. This paper for an email system to use the services that will help a visually impaired person to develop native communication without previous training. The system will not use the keyboard instead of making the user will only work mouse operation on the text to speech conversion. Also, for example, the system can also be used by any normal person, one who is not able to read. Fully interactive voice response system which will make it based on user friendly and efficient to use.

Keywords: Mail system, STT, IVR

1. Introduction

PC has turned into a fundamental piece of our day by day life. A great part of the correspondence in this day and age takes put through the web. Messages have turned into a standard of speaking with each other supplanting letters totally. Indeed, even after different advancements, for example, interpersonal interaction and others are likewise taking hold over the web world; messages remains the most universal type of business correspondence. The quantity of overall email accounts keeps on developing from more than 4.1 billion records in 2014 to more than 5.2 billion records before the end of 2018. This records to a sum of 3% development in messages get to. Email is in this way considered the most inescapable type of correspondence in business world [2]. One of the significant downsides that sets in is that getting to

messages or on an entire any page on the web requires an individual to have visual abilities. This implies an outwardly tested individual can not the slightest bit take the advantages of the offices gave by the web in this manner rendering the innovation pointless [4]. Along these lines all together to make this innovation helpful for them additionally unique advances like programmed discourse recognizer, content to discourse and discourse to content came into picture. Additionally braille consoles were made accessible. However these frameworks had a few impediments in setting to ease of use as they couldn't give the 100% same reaction as a typical framework does to an ordinary client. This is on account of utilizing the above frameworks may require a considerable measure of practice and thus challenges will emerge for the innocent client.

Along these lines we thought of this framework which is called as a voice based email framework which will act as a guide for the outwardly weakened individuals to utilize email offices in a bother freeway regardless of the possibility that they are guileless to the framework. The most essential perspective that we are thinking about while building up this framework is that the clients of this framework require not have any fundamental data about the console alternate routes utilized or where the keys are found. All capacities utilized as a part of our framework depend on straightforward mouse click operations making the framework exceptionally easy to use. The framework will likewise be consistently provoking the client of which snap will perform which operation in this way making it simple for the client as he/she won't require to recall the operations.

2. Existing System

The mail benefits that are accessible today are of no utilization to the general population who are outwardly hindered. This is, since these frameworks are not useful to them in any case, as it can't give any sound input to peruse out the substance for them. As they can't picture things that are available on the screen, they find it hard to perform operations, for example, performing mouse click particularly [5].

Despite the fact that, there are screen perusers accessible at the same time, they force a few or the other sort of trouble to them. Screen perusers fundamentally read out the substance on the screen for them and with a specific end goal to react to it, they need to give include through a console. Along these lines, so as to fulfill this, the client should know about the places of the keys on the console. Thus, a man who has never made utilization of a PC will never have the capacity to utilize such sort of a system.[3] Likewise, the screen-persuers that are accessible, perused the substance successively and

henceforth, just if the substance is in the essential HTML organize, then just the client can make out obviously what really the substance is. Additionally, the propel Webpages of email framework which ends up being easy to use to a man with typical visual perception ends up being muddled to them. Subsequently, keeping in mind the end goal to maintain a strategic distance from the disadvantages of the current accessible frameworks, we are building up an email framework that will help these visually impaired individuals from various perspectives.

3. Proposed System

It is very difficult for blind people to use mail or internet because of the fact that this technology requires visual perception. Although not everyone can use the internet. This is because, in Internet you will need to know what is written on the screen in order to use it. If it is not visible, it is of no use. For the visually impaired person, Internet technology is totally useless. The system mainly uses three kinds of techniques, namely: STT (Speech to Text): here whatever we talk changes to the text. Here a user click on a small icon ofmic to speak his / her speech and it will be converted to text format.TTS (Text to Speech), this method is the complete opposite of STT. This method, converts text into Email to the nature of the synthesized speech. IVR (Interactive Voice Response): IVR is an advanced technique to describe the interaction between the user and the respective voice message system, by using the keyboard for getting the answers. IVR, the user, a system keyboard is used to interact with the host system through an email that allows the users to post simply by listening to conversations of IVR service and their own inquiries. IVR systems generally respond with pre-recorded audio voice to assist them on how to proceed further. The pre-recorded audio and the system requires large amounts of data.

4. Design

User Interface Design: The user interface is built using Adobe Dreamweaver CS3. The whole website is mainly for blind people to understand the look and feel. The look and feel is given primary importance and efficiency rather than the system, as IVR understanding more focus on efficiency in enthusiasm. *Database Design:* Our system for user authentication and email manipulation, a database for storage of mail is required. There are a total of five tables. After much consideration, importance is given to the relationship between them. The ER diagram of our entire system, sent

mail, inbox is shown in Figure 1. The corresponding schema and garbage service that belongs to a particular user will store all the mail.

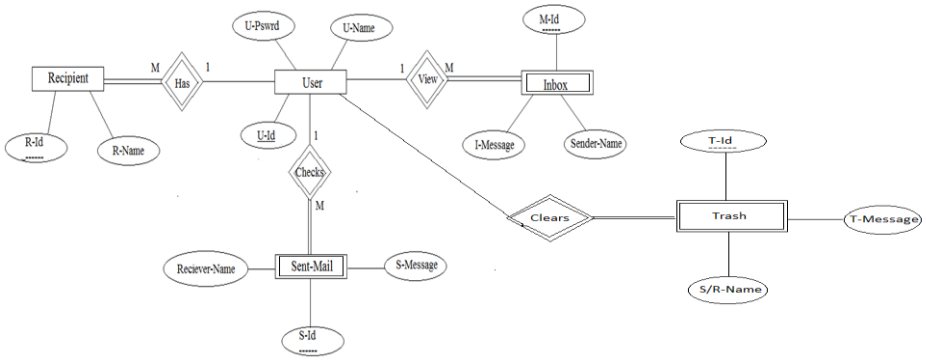

Figure 1: ER Diagram of proposed system.

System Design: Figure 2 depicts the design of the entire system. The level-2 data flow diagram provides detailed flow of developments of the system. We can see that all the functions are performed by the mouse click events only. Also, some places require voice input.

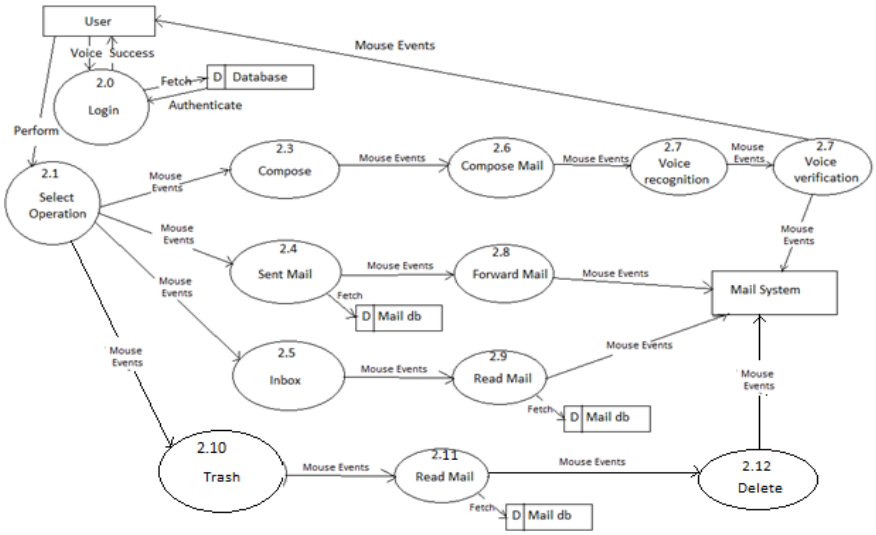

Figure 2: Level 2 DFD of our system.

5. Implementation

The system is currently being developed by us. People are following modules that are already has Developed. The work is as follows:

Registration: This is the first module of the system. Any user must first register to use the system, to achieve the desired username and password. This module will collect the user's full knowledge and what details need to be entered by prompting the user. Users will have to speak tothe system, the details, again confirm the details alphabetically enthusiastically.

Figure 3: Registration Page.

*Login:*Once the registration is done the user can login to system. This module will ask the user to provide username and password. The speech will be accepted. Speech to text conversion will be done and will ask the user to validate whether the details are entered correctly or not. Once the entry is done correctly, the system will check the database for validation of login credentials. If the user is authorized, it will be directed to the homepage.

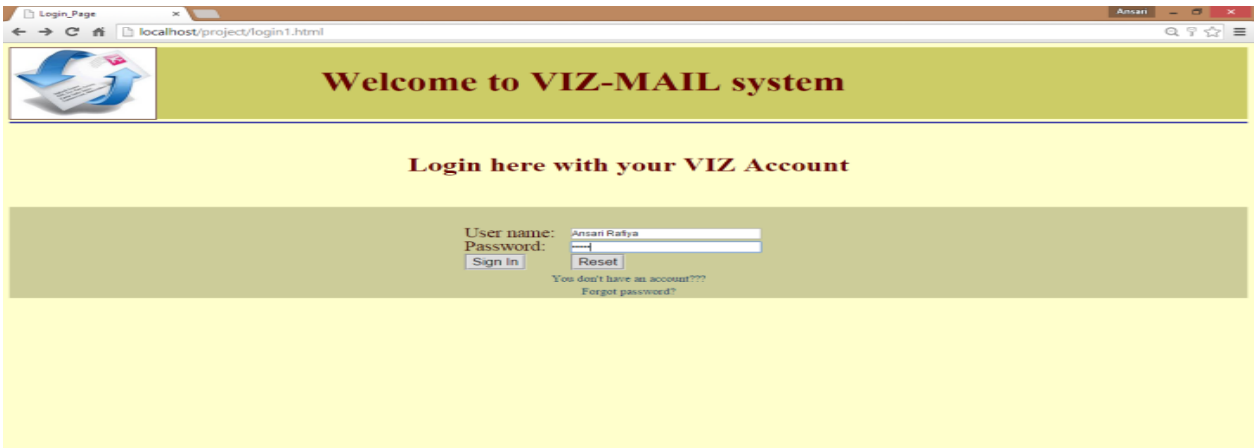

Figure 4: Login page.

*Forgot Password:*In the case where an authorized user forgets the password and thus, he is not able to login, the forget password module can be selected by the user. In this module, the user will be asked to first enter theuser name. Security Question for the username will be searched in the database, the questions that is provided at the time of registration. In return user should specify the answer that is given during the registration by the user. If both get matched, the user is given the option to change the password.

Figure 5: Forgot Password.

*Compose Mail:*It is one of the most important part of mail services. This is used to compose mail with receivers address, subject and body with optional attachment. The flow chart for composing mail is shown in Figure 6.

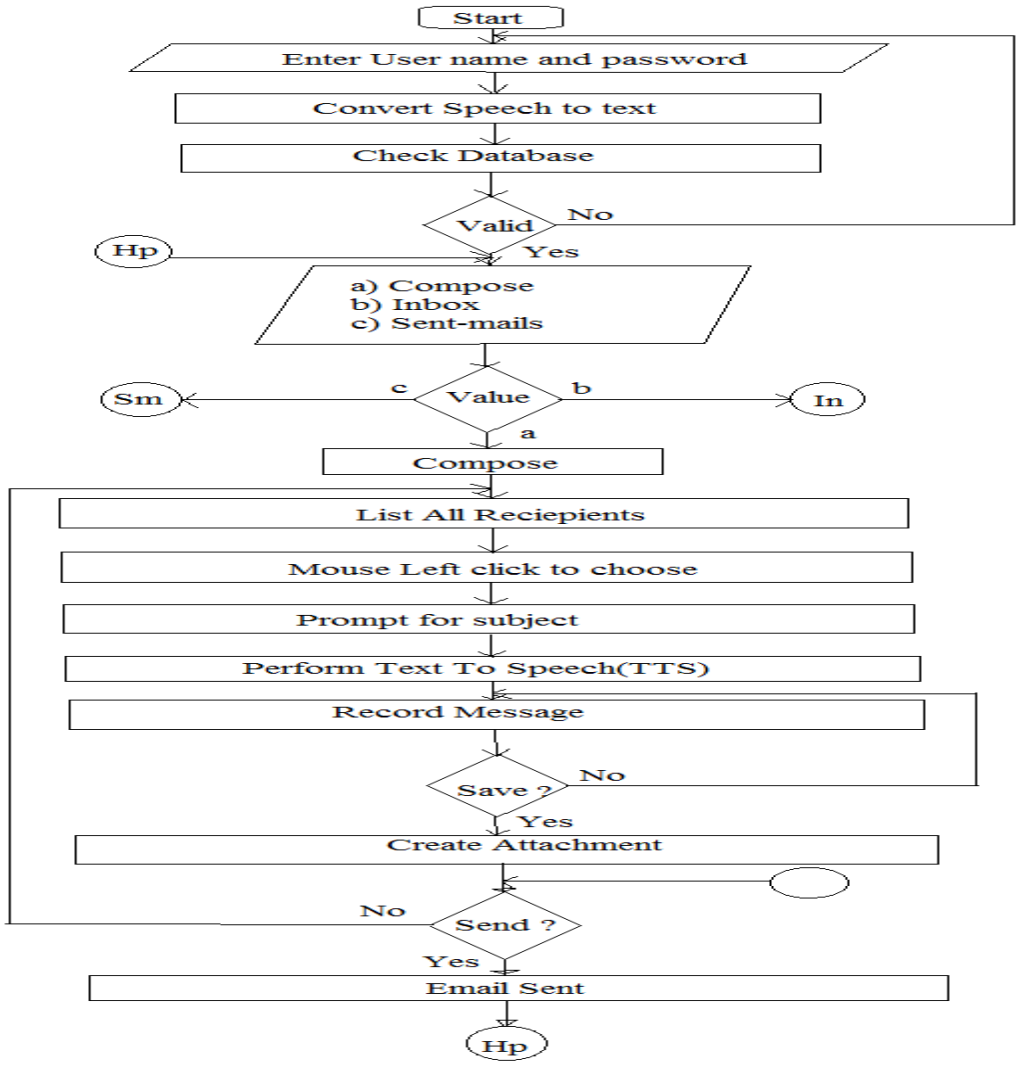

Figure 6: Flow chart of compose mail.

Since this is a system for Blind People, keyboard operations will not match perfectly and is avoided, only the voice input and mouse operation can be performed. No typed input will be required. Users can straight forward record the message that is needed to be publicized and it can send. This messages will be known as the voice attachment. The recipient listens to the voice recording sent by the user in a particular language and understands what the user wants to say/ convey. Users will not need to attach the file. Record write options will be provided in the window. Once recorded, it will confirm whether the recording is true, confirmed by the user and it will be automatically attached to the mail.

*Inbox:*This option helps the user tosee all the mail that has been received in the user's account. Users can listen to the mail and can shortly specify the action to be performed. In order to navigate through individual mail, user should specify early, which action to be performed. Mail will be used each time the user selects the sender and the subject of what is that particular mail for. Accordingly, the user can decide whether the mail is needed to be read or destroyed. Deleted mail will be saved in the trash section. Flow chart is shown in Figure 7.

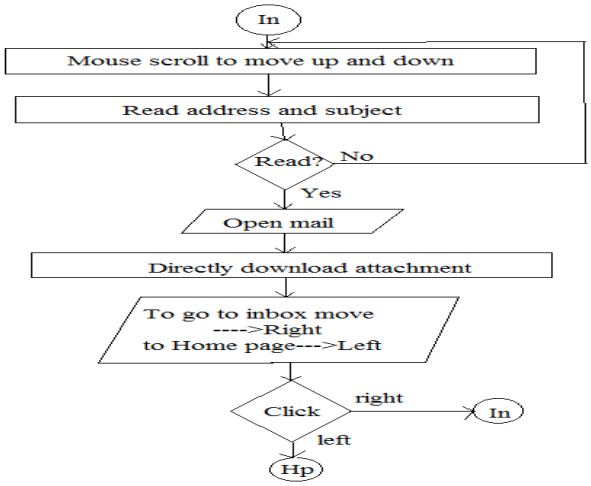

Figure 7: Flow chart of inbox

*Sent mail:*This option will keep a track of all mail sent by the user. If the user wants to use the mail again, this option will provide them with their needs. In order to use sent mail again, the user need to navigate through the mail early. This option keeps track of original mail which was sent earlier with the subject and the body along with receiver's address. The user will have the option to change the receivers address and send the mail again.This will help in understanding the efficiency and user extract the essential mail.

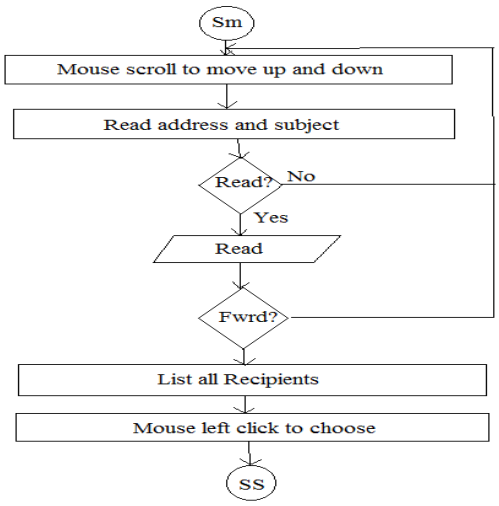

Figure 8: Flow chart of sent mail.

6. Conclusions

The proposed paper for an email system is very much useful to a visually impaired person. With the help of mouse , the user can easily interact with the system for effective conversation. Novice user also can use this system for effective communication and it is very user friendly. In future, the graphical user interface part can be improved to accommodate all types of users.

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