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VOICE BASED EMAIL SYSTEM FOR BLINDS

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Abstract –

For our day-to-day living , internet has become our basic necessity. Everybody is gathering a lot of knowledge from internet and practicing the things in their daily routine. It is been used widely all over the globe. However the visually impaired people find it difficult to make use of the information available on the internet. They are also deprived from the resources that are available on the internet. The advancement in technology has opened a wide door of opportunities for visually impaired people. There are many applications available on the internet that make use of audio for taking the input and performing functions. Here voice based email system is described which takes input from the user in the form of audio and according to the input provided by the user in the form of audio the actions are performed. This application is very useful for the visually impaired as they can use the functionality of the email easily and efficiently.

Keywords-
Blind,Visually impaired,Internet,Technology.

I. INTRODUCTION

Internet has entered in almost every field and it is doing a remarkable job. Internet has make the life of the people easier and comfortable. Like people can directly book their ticket online through their application from anywhere anytime. They can access any information in just a number of seconds . Internet has widely affected the field of communication. Email is one of the easiest way of communication over the internet as it sends and receive all the important informations. But unfortunately all the content available on the internet are in the form of text which is a great demerit for visually impaired as they are not able to read and write. In a survey it is found that there are 240 millions people across the globe who are unable to see and are visually impaired. They are unaware of how email is used. They find it difficult to utilize the technology.

However everyone cannot make use of the internet. For using internet firstly it is required to know what is written on the screen, because of their disability to read ,internet is completely useless for them. There are many applications available in the internet that are useful for the blinds. They take input in the form of voice and perform actions according to the input given.

This system is especially proposed for the visually impaired people to communicate and read information through email over the internet. All functionalities of the email is performed in this system through voice recognition. This system can compose the mail and send it to the email address taken as input by the user by properly mentioning the subject and content of the mail. It can also read the mails of different sections present in the mail, like draft, sent, starred, important, trash etc. It also returns the count of the mails present in the mailbox. It is the most efficient way of communication for the visually impaired people as it performs all the functionalities of the email. This system makes easier for the blinds to send and receive the messages.

II.LITERATURE REVIEW

A. Existing algorithm:

Total 5.1 million of email account was created before 2018. Email is the most efficient form of communication now-a-days .The normal mail services that are used by the normal people cannot be used by the visually challenged people. The normal email system does not have the feature by which the user can hear out the content of the screen , they cannot visualize the content that is already present in the screen and they are unable to recognize where to click in order to perform the functions. It is quite challenging for the people who are visually impaired. For blinds it is not convenient to use the computer efficiently as normal people can do. For visually impaired it is not a user-friendly option. It is almost impossible to use computer or any functionality of the system without vision.

No task can be performed on the system without any speech recognizer and speaker .They are deprived of the functionalities present
over the internet.

B. Demerits of the existing system:

The existing email system is not user-friendly for the visually impaired people overall it is not the better option for the blinds. As existing email system does not provide any easy access to the visually impaired people.
All the content is available in text format which blinds are unable to read , all the important information are in the form of attachment which is useless for visually impaired. In the existing system text-to-speech and speech-to-text conversion does not takes place.

C. Proposed system and its advantages

- Blinds can easily use web based application and it is user friendly.
- It requires less time and takes less effort in using the functionality.
- Data storage is easy in the proposed system,data can be easily stored.
- It is also useful for illiterate and handicapped people.
- This system is more efficient than the other ones.
- This system is completely different from the others which is already existing because the system that is already existing focuses on especially one set of people.
- This system also focuses on the visually challenged people.
- Performance of the system is great , it performs according to the input provided by the user.
- Has a better response capacity.
- This system is compatible and fulfils the need of the user.
- It requires less time and takes less effort in using the functionality.

III.DESIGN

A. USER INTERFACE DESIGN:

The user interface is created by using the three technology i.e, Hyper Text Markup Language(HTML), Cascading Style Sheets(CSS) and javascript. The system mainly focuses on the speech recognition or voice recognition so the design of the system is not kept as priority as how it looks because this system is mainly developed for blinds and they have nothing to do with the design . The main focus is on the functionality or working of the system. The system is developed so as it provides maximum efficiency.

B. DATABASE DESIGN:

As database is used for storing the data and is essential part of any application , we have used database in our system for storing the email and important information of the user . Our database has different columns for different sections of the mail i.e one column for storing the mails of inbox , one column for storing draft mails , one column for storing starred mails , one for storing the mails of important section . We have made a connection from database to the system. All the informations of the user are safely stored in the database and the user can fetch it whenever he is in need. When the user deletes the mail it is also removed from the database after deleting any item user cannot fetch it again. In database the email id of the person is also stored to whom the user wants to send the mail or he has sent once.

C. SYSTEM DESIGN

This system is completely voice oriented. In this sytem there is no need of mouse or cursor movement , all the functions are performed by the command given to the system in the form of voice .The command given by the user in the form of voice is recognised by the voice recognizer then the voice is converted into text by speech-to-text translator and after performing the actions the input is converted into speech by text-to-speech converter and that converted speech is provided as a output to the user. When the user is login successfully the voice message is provided to the user telling him where he is at which location.

IV. APPLICATIONS

This system is designed for the betterment of the society.
This system is especially designed for the visually impaired people , it is for the betterment of those who are visuallyimpaired.

Now-a-days there is rapid enhancement in the technologies across the globe which add values to the life of the people , rapid growth in technologies has made the life of the people easier , now almost everything is possible by using different different technologies and some people because of their inability to see are unable to use these technologies and features , they are unaware of the new technologies that is available over the internet for making the life easier . This system is developed as one of the solution for the people who are unable to see.

Now by using this sytem they can communicate their messages and share the information that they want to share or communicate. This system contribute to the growth and betterment of the society. Infact this is not only useful for the visually impaired but this is also beneficial for the people who are illiterate as they deserves equal rights as others.

The people having any issue in typing or their typing speed is slow they can also use this system for their benefit or to save their time. If incase someones keyboard or mouse does not respond at time they can also use this system according to their requirements. The development of this system will make almost everyone's life easy. It is the better option available for sharing the informations and for sharing the messages.

The successful implementation of this system will lead to the development of other applications like this which would be leading to the betterment of the visually impaired and illiterate people and will be contributing to the growth of the society. So that they can be a part of growing digital India by using internet and which also aims to make their life easier.

V. CONCLUSION

It is concluded that the system provides maximum efficiency and performs all its function according to the input provided by the user hence fulfils the end user requirements. System is completely tested and all the errors that was occurring while using the system are now fixed.
This system is platform dependent , it can be accessed by any system if login is successfully completed. The application can be accessed from one than one system , if logged in.

The real-time email interaction system for visually impaired is also implemented. This system is basically developed so that the person who has unability to see and cannot read or write on the screen . By using this system blinds can easily access the email and can perform the functions according to their needs.It facilitates the easiest way of communication for the blinds, illiterate and handicapped people. This system overcomes the drawbacks of the existing email system. In this application the use of keyboard and mouse is not required at all.

Thus the user does not need to remember the key shortcuts and the positions of the key in the keyboard. The only thing that is required to do by the user is to hear the voice carefully and provide input according to the function or operation that needs to be performed .The user needs to speak the operation for performing the action. The input is taken in the form of voice that is then converted into text by speech-to-text translator and the output is then converted to speech by text-to-speech translator and the output is provided to the user in the form of speech.

This system is also for illiterate and handicapped people.

VI.FUTURE SCOPE

- There is a wide scope of enhancement in this application.
- Now in this proposed system the language is set to English , this feature can be extended by providing the different different languages.
- The functionality of accessing deleted and spam mails can also be included.
- This system can become more enhanced if the functionality of sending attachment is also included , it will become more easy for the visually impaired people to share and use the information.
- This system should be made available to all people who are not educated enough by including their native languages.
- This system can be made more functional and robust.
- Sign language can also be included , this will be more easier for the visually impaired people to access the email.

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