

VOICE BASED MAIL ATTACHMENT FOR VISUALLY CHALLENGED PEOPLE

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Abstract-Internet has become one of the basic amenities for day-to-day living. Every human being is widely accessing the knowledge and information through internet. However, blind people face difficulties in accessing these text materials, also in using any service provided through internet. The advancement in computer based accessible systems has opened up many avenues for the visually impaired across the globe in a wide way. Even though audio feedback based virtual environment like the screen readers have helped blind people to access internet applications immensely, it does not involve search of files to attach in the mail. This paper aims to develop an application to attach the files in the mail using speech recognition. It will also reduce cognitive load taken by blind to remember and type characters using keyboard. It is useful for handicapped people and also less skill is required to operate the system.

KEYWORDS: Microsoft Speech Recognition

I INTRODUCTION

Computer has become an integral part of our daily life. Much of the communication in today's world takes place through the internet. Emails have become a norm of communicating with each other replacing letters completely. Even after other technologies such as social networking and others are also taking hold over the internet world, emails remains the most ubiquitous form of business communication.

One of the major drawbacks that sets in is that accessing emails or on a whole any page on

the internet requires a person to have visual capabilities. This means that a visually challenged person can in no way take the benefits of the facilities provided by the internet thus rendering the technology useless. Thus in order to make this technology useful for them also different technologies like automatic speech recognizer, text to speech and speech to text came into picture. Also Braille keyboards were made available. Yet these systems had some limitations in context to user friendliness as they could not give the 100% same response as a normal system does to a normal user. This is because using the above systems may require a lot of practice and hence difficulties will arise for the naive user. Therefore we came up with this application which is called as a voice based attachment of files in email which will work as an aid for the visually impaired people to use email facilities in a hassle free manner even if they are naive to the system.

II EXISTING SYSTEM

The mail services that are available today are of no use to the people who are visually impaired. This is because these systems are not helpful to them in any way as it cannot provide any audio feedback to read out the contents for them which is not efficient for searching of files. Although, there are screen readers available but, they impose some or the other kind of difficulty to them. Screen readers basically read out the content on the screen for them and in order to respond to it, they need to provide input through a keyboard. So, in order to accomplish this, the user needs to be aware of the positions of the keys on the keyboard.

Hence, a person who has never made use of a computer will never be able to use such kind of a system. Also, the screen-readers that are available, read the contents sequentially and hence, only if the content is in the basic HTML format, then only the user is able to make out clearly what actually the content is. Also, the advance WebPages of email system which proves to be user friendly to a person with normal eyesight turns out to be complicated to them. Hence, in order to avoid the drawbacks of the current available systems, we are developing an email system that will help these blind people to attach the file using voice recognition.

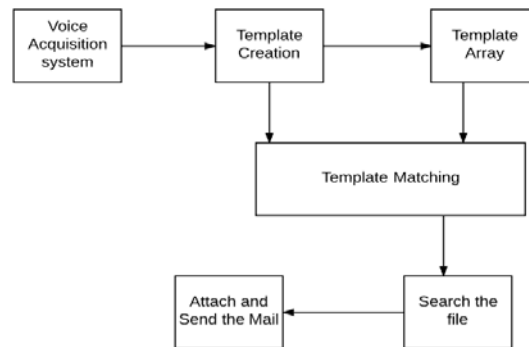
III PROPOSED SYSTEM

Unlike current system which emphasizes more on user friendliness of normal users, our system focuses more on user friendliness of types of people including normal people visually impaired people as well as illiterate people. This system enables the user to attach the files using Speech Recognition in mail not by the Screen Readers which is only use to login into the mail. This system will be perfectly accessible to all types of users as it is just based on simple mouse clicks and speech inputs and there is no need to remember keyboard shortcuts.

IV DESIGN

System architecture design

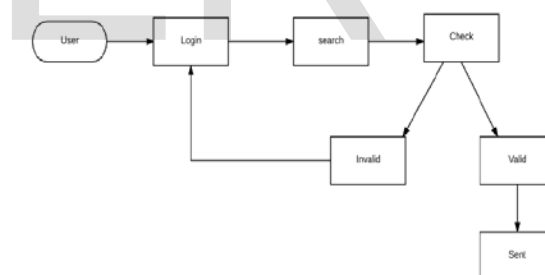
The architecture of our proposed system is depicted below. This shows that major component of present system which are Voice acquisition system converts the speech to text. System response to that word which is given in Template creation. Recognized word is store in array format. Matching of word what you said in Template matching phase. Search the file in the system then the file is attach to the mail.



The file will be attached and send to the mail in particular person using speech recognition for visually challenged people.

Data flow diagram:

User can login into the page using mouse and Screen reader. By using Voice recognition user will reach the compose page of the mail. Search the files using Voice recognition wherever in the system. Say "Open" and "Attach" searched file will be attached to the compose page. Say "Send" it will be send to the particular recipient



V IMPLEMENTATION

Login page:

This is the first module of the project. The person, who already having the email account for particular mail application. The user entering the webpage with "Username" and "Password" using keyboard, mouse and Screen recorder. Click "Sign in" or pressing "enter" key.

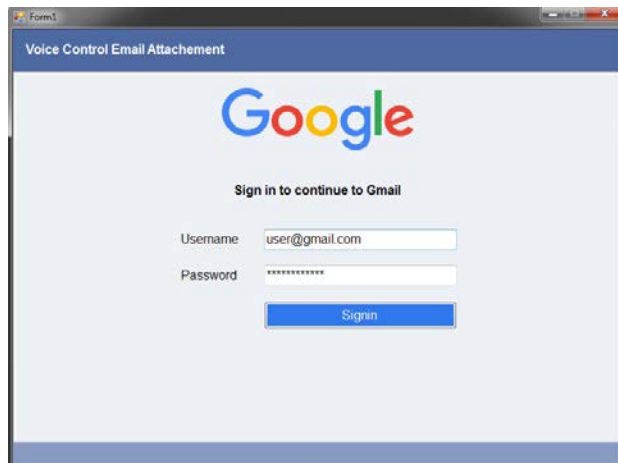


Fig 1: Login page

Attachment and sending of files:

This is the second module of the project. The user compose the mail. "To address" typed by people. The user use through the microphone tell the "file name" and tell "search" then the path of the file will be displayed in attachment box. Then the user tell "attach" it will attach the file in our mail using SMTP it will connect to the mail. The user say "send" the file would be send the particular person.

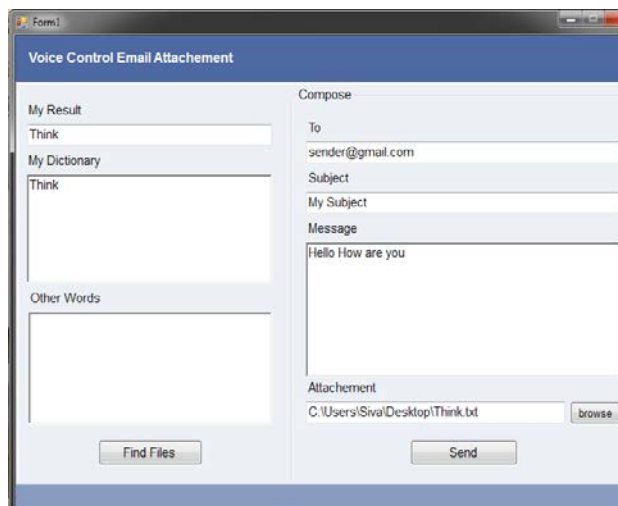


Fig 2: Attachment and sending of file

VI METHODOLOGY

Microsoft Speech Recognition SDK:

Windows Speech Recognition allows a user to control a computer, including the operating system desktop user interface, through voice commands. Applications, including most of these are bundled with Windows, can also be controlled through voice commands. It is working based on the Hidden Markov Model (HMM). This model based on Signal Processing which is split the words and searching the words in frames. By using speech recognition, users can dictate text within documents and e-mail messages, fill out forms, control the operating system user interface, perform keyboard shortcuts, and move the mouse cursor. Accuracy of speech recognition increases through use, which helps the feature adapt to a user's grammar, speech patterns, vocabulary, and word usage.

Modes:

- **Listening:** The speech recognizer is active and waiting for user input
- **Sleeping:** The speech recognizer will not listen for or respond to commands other than "Start listening"
- **Off:** The speech recognizer will not listen or respond to any commands; this mode can be enabled by speaking "Stop listening"

VB.NET:

Visual Basic .Net is a multi-paradigm, object-oriented programming language, implemented on the .NET Framework. Microsoft's integrated development environment (IDE) for developing in Visual Basic .NET language is Visual Studio.

ADVANTAGES

- Simple and economical System.
- Portable.
- Highly Faster and accurate system.
- Easy to handle.
- Less skill is required to Operate.

VII 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 mail system has great application as it is used by blind people. Now many screen readers available. But people had to remember mouse clicks. Rather, this project will reduce cognitive load taken by blind to remember and type characters using keyboard and mouse click. This system focuses more on user friendliness of all types of persons including regular persons, visually compromised people. So further features can also be added according to the need of the user in the forthcoming years.

VIII CONCLUSION

Voice based attachment of files in mail helps blind people to access e-mail with no difficulty and efficient. The proposed system entirely focuses on the benefit of the blind in making use of advanced technology for their growth and improvement. This design will also reduce cognitive load taken by blind to remember and type characters using keyboard. It also helps handicapped people. This project will be very much useful for today's generation either blind or physically challenged to move a step forward in their way in an easy manner to achieve their desire.

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