

Vocal Airmail Service for Visually Impaired through Multimedia Approach

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Abstract: *With the advent of technologies in computer, many technological solutions have been implemented for visually impaired so that they can utilize them, and get benefited by them. Considering it as a key idea we have built a desktop application that will help blind people to send and read emails as ordinary people do. In this research paper we describe the VMAIL system architecture for Python platform that can be used by a Blind Person to access e-mails easily. The application uses 'text to speech' and voice recognizer to facilitate sending, reading, emails using a computer. 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. Audio feedback based virtual environment like, the screen readers have helped Blind people to access internet applications immensely. We describe the Voicemail system architecture that can be used by a Blind person to access e-Mails easily and efficiently.*

Keywords: Vocal Airmail Service

I. INTRODUCTION

Developments in Information and Communication Technologies (ICTs) have made impact in all sectors of the society, including education. In higher education, application of ICTs in form of e-learning is changing the mode. The most common mail services that are used in our day to day life cannot be used by visually challenged people. To make these systems convenient for these people who are visually challenged there are various technologies provided to them like screen reader, automatic speech recognizer, speech to text and text to speech, braille keyboard, etc. However, these technologies are not that much useful for those people as it could not give the proper response like a normal system. The objective of Voce Based Email for Visually Impaired is to help challenge one's access mails easily and efficiently. This application is based on using speech-to-text and text-to-speech converters, thus enabling everyone to control their mail accounts using their voice only and be able to read, send, and perform all the other useful tasks. The system will prompt the user with voice commands to perform certain action and the user will respond to the same. So here put to use are the Speech- to-Text and Text-to-Speech technologies using .net framework. The Speech-to-Text also known as Automatic Speech Recognition converts spoken speech into text, which helps compose emails as an easy task. The Text-to-Speech module gives audio output of the mail received, the sender, the subject and the body of the mail is read out by the system. Along with it, the aim is to provide assistance to use fundamental applications like My Computer, Word, Notepad, etc.

II. OBJECTIVES OF THE STUDY

1. Objective of the Vocal airmail service for visually impaired through multimedia approach is defined as follows,
2. Create a Web based system that will solve the problems of the existing system being used for tuition fees and accommodation payment and hostel allocation.
3. Develop a system that allows a student save his/her school fees in an account before the period of registration.
4. Allow students to pay their tuition fees and hostel accommodation anywhere and anytime during registration. Ease and speed up registration of students of every session.

III. LITERATURE SURVEY

Human computer interaction based Smart Voice Email (Vmail) Application - Assistant for Visually Impaired Users: Communication development is creating a revolution in the current digital era. A formal or casual communication is now sent through email. The growth in digital technology has given immense opportunity to visually impaired person. This application is developed to ease the process of email writing not only for visually impaired person but for everyone. Now human voices can also be given as input instead of typing on the keyboard. So, additional skill required for typewriting will not be necessary anymore. This application recognizes user voice and performs comparisons with pre-sample voice stored in the database and executes the voice command. Common day-to-day spoken words are used as command language

Drawbacks:

Instead of authenticating the user by using email ID and password, enhancements like fingerprint reader can be used. It is expensive.

Voice Based E-Mail System using Artificial Intelligence

One of the mostly used forms of communication among the people is Email. Lot of confidential and urgent information is exchanged over emails in today's time. There are about 253 million visually impaired people worldwide. These visually impaired people are facing a problem of communication. Since, technology is growing day by day these types to visually challenged people feel that they are more challenged. So authors proposed a Voice based Email System using AI that will make email system very easily accessible to visually challenged people and also help society. Accessibility is the most important feature that is considered while developing this system. Any system is called accessible only if both able and disable people can use it easily.

Drawbacks

It does not support attachment. It can be done in only one particular language

Voice based Email System for Blinds

In today's time communications has become so easy due to internet and technologies. But, the visually challenged people find it very problematic to utilize this technology because of the fact using them requires visual perception. Although, many new advancements have been implemented to help them use the computer efficiently so no novice user who is visually challenged can use this technology as efficiently as any naive user can do that is unlike normal users this require some practice for using the available technologies.

Drawbacks:

It does not support for sending email with attachments

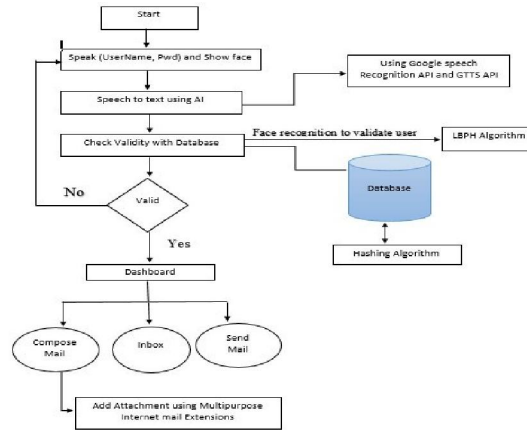
IV. PROBLEM STATEMENT

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. In the previous system with the help of screen readers it is difficult for blind person to access E-mail system and computer operating easily because it has noisy audio interface. These available systems require use of keyboard which is very difficult for blind people to recognize and remember characters of keyboard. So we implement voice based E-mail system for blind person and it also helps handicapped and illiterate people.

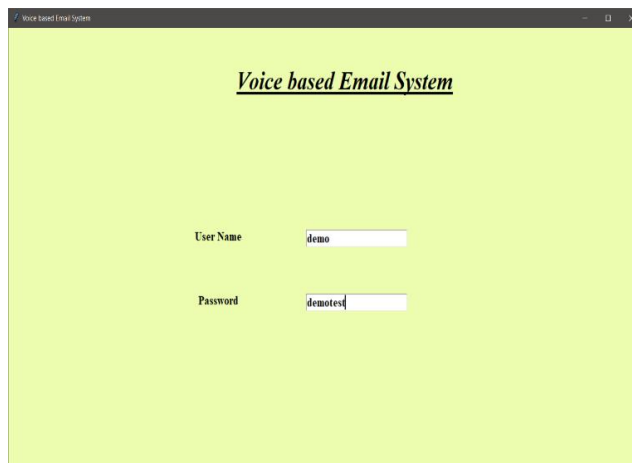
V. PROPOSED SOLUTION

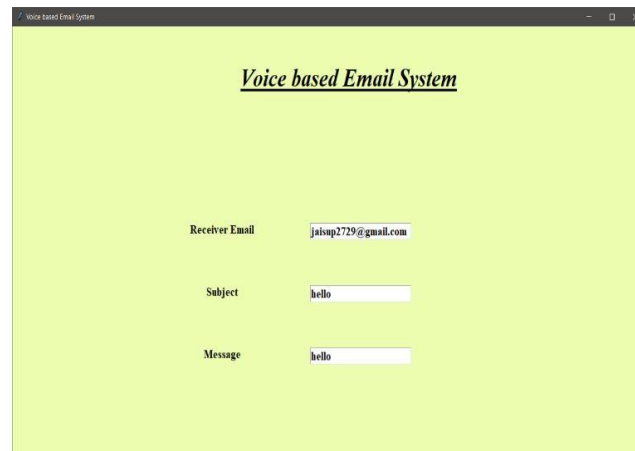
In this system mainly three types of technologies are used namely: Speech-to-Text, Text-to-Speech and API. Developing a secure face based authentication system using Haar cascade classifier and LBPH algorithm. Attaching the files using multipurpose internet mail extensions.

VI. METHODOLOGY AND IMPLEMENTATION



6.1 Screenshots





VII. CONCLUSION

This project is the proposed Voice based Email system for visually impaired people, which is developed as an application which helps the blind and handicapped people to access mails easily and efficiently. It provides a voice based mailing service where the visually impaired person could read and send mail by their own without the help of others. It requires basic information about keyboard shortcuts. System has eliminated all these concepts and overcome all difficulties faced by the visually impaired. It uses a speech recognition application which provides an efficient voice input method for mailing devices for blind. It is also useful for handicapped and illiterate people.

VIII. FUTURE ENHANCEMENT

The project has a very vast scope in future. The project can be implemented on intranet in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. With the proposed software of database Space Manager ready and fully functional the client is now able to manage and hence run the entire work in a much better, accurate and error free manner. The following are the future scope for the project.

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