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Mailing System Based on Voice

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Abstract: The progress in computer based accessible systems has paved many ways for the visually challenged across the world. Audio feedback based features like screen readers have helped the blind people to access web applications efficiently. However, the developing nations like India there a many visually challenged people who are not able to benefit from these types of advanced technologies. Technology requirements of India differ from rest of the nation's due to the language deficiency. So in this paper, we describe the Voice Based system model so that a blind person can be benefited by this upcoming technology easily. This new technology has enabled a blind person to send and receive voice based email messages in the language which they feel comfortable using a simple mobile application. Our proposed system, GUI upgraded against the GUI of existing mail server. Finally we come to conclusion that our proposed architecture provides more features than the existing GUI which makes a blind person who uses application easily. Hence, in this research we implement voice to text and text to voice technique so that blind people can access the application easily.

Keywords: Email assistance for visually challenged; speech-to-text converter; text-to-speech converter

I. INTRODUCTION

The main feature is that TTS (Text to Speech) mechanism is used in navigation system to provide current location of blind person through voice proposed system as an independent program which is cost effective, affordable and easy to install on a smart phone used by blind people. Hence any blind people can use this application independently. Further studies have proved that the current technology that can help the blind people to fully explore this application in this competitive world. So we provide special software to use mobile application by blind like other normal users.

This software provides a feature where blind people can receive messaged from various users connected from different networks. At present the progress made by computer technology has opened many opportunities for visually challenged people across the globe. The recent survey has proved that 65% of the total blind population across the globe is located in India. In this paper we provide voice mail architectural system that can be utilized by blind people to access multimedia functions of the operation system such as e-mail efficiently. This architecture reduced the complexity to remember and type characters from the keyboard by the blind people.

II. LITERATURE SURVEY

A. Novel Based System for Visually Challenged people using Beacon and Android Features.

This paper provides novel architecture for visually challenged people using two features mainly beacon and smart phone. This architecture consisted of three parts. The first one being an ESP8266 module which consumes low power and the second one being the configurator application to configure the beacon and the last one is a mobile app to detect the beacon. The main goal of this architecture is to provide visually challenged people got know more about the type of conditions they have to survive. This architecture increases the performance for the current scheme to help blind people reach their desired device locations safely without any mistakes. This paper concludes that beacon and smartphone are valid efficient and reliable features to provide all necessity help to visually impaired people to know more about the devices located in their environment which makes it easy for them to access the device without any error.

B. Vmail process using text-to-speech and speech-to-text conversion for visually impaired.

In present day to day life communication has become very easy to integrate with the new technologies that have been link with the web technologies. But usually visually impaired people find it very challenging to use this technology because of the fact that they cannot anything. Hence it's merely impossible for them to use this highly integrated technology. Although many useful features have been developed to help them use systems easily so any unknown users cannot manipulate them easily. In this paper the main goal is to provide e-mailing system for the visually impaired people through text-to-speech and speech-to-text conversion. This feature will not allow any other users to use their smart phones and systems by voice recognition hence visually challenged people can use this technology efficiently without any problem.

III. SYSTEM ANALYSIS

A. Existing System

In previous analysis, it is very difficult and impossible to send a mail using system. The assembling of various e-mail types with the ability of processing their use in daily contexts. The existing system is not preferable by many kinds of people like blind who cannot read or send the e-mails. Voice based e-mail are only suitable for blind

people. They can easily acknowledge to audio messaged sent by the user. This feature is impossible in the existing system.

B. *Proposed System*

In our proposed Vmail system architecture in which the blind people can easily and efficiently access the mail. This architecture enables blind people to send and receive voice based email in their native or convenient languages with the help of existing mail server and this system provides more features than the current system.

Fig 1. VMAIL Architecture

C. *List of Modules*

- SPEECH_TO_TEXT Converter
- TEXT_TO_SPEECH Converter
- Word Recognition

IV. MODULE DESCRIPTION

A. *Speech-to-Text converter*

Microphone is used by the system to obtain the speech at run time and the sample speech is processed to recognize the uttered text. A file is used for storing the recognized text. This application is developed on android platform using eclipse. Here we use speech to text system which directly obtains and converts speech to text. The system accessibility for blind or physically handicapped can be improved by speech detection system. Speech recognizing system is classified into several sunblock's based on training data. The acoustic model data base is built, feature extraction, speech recognizing algorithm and language model, dictionary obtained. Hence, the unlock signal must be first sampled at particular time which has to be accessed or digitized. Analyzation of a sample speech signal ust be done in even intervals. The signal in this interval is satisfactory, hence the time period is 20 m/s. Discrete vector of speech characteristics are used for speech extraction and formation. Basic element recognization can be done using acoustic model properties.

B. *Text-to-Speech Converter*

The techniques like speech synthesis are used for converting from text to voice. The devise like portable GPS system uses text to speech to announce street names when giving directions. Here maximum of 50 characters of text can be given as input to text to speech converter. In our text-to-speech converter the keyboard is interfaced with the controller and all the digits as well as alphabets are defined on it. The processor contains the dictionary and can spell almost all the words which appear in text format with the accuracy of over 92%. It is based on microcontroller hardware coded in embedded C language. Many research are on-going to reduce the complexity of inputting the text (optimization)i.e. reading the text using optical sensor and converting it to speech which is used to overcome physical challenges that is faced by the user.

C. *Word Recognition*

Voice recognition software acts as replacement in place of typing. Commands to the computer can be given using voice recognition. Quick method of writing on ot a computer is achieved using voice recognition software. Equal with disabilities who are unable to use the keyboard can use this type of system. The people who have difficulty with transferring ideas on to paper can also access the software as it does not focus on mechanics of writing. Word recognition is measured in terms of speed. A word with high level of recognition first and then comes the lower levels. This way of testing suggests the meaning of the words being read is not required, but it has the ability to recognize them with proper pronunciation. Therefore, the context is not important and more recognization is used with the words appeared in distortion informs such as flash cards. Hence, word recognition helps in increasing the fluency, proficiency, which fosters comprehension of text being read.

V. CLASS DIAGRAM

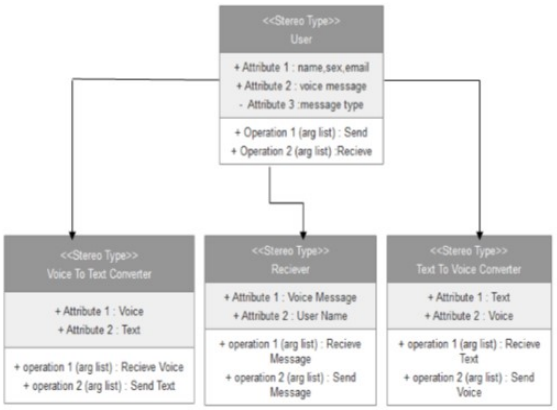

Fig 2. Class diagram for user

VI. USE CASE DIAGRAM

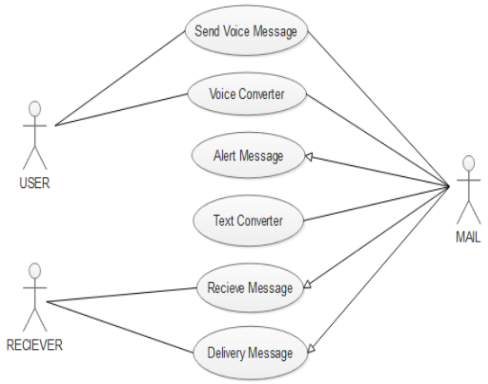

Fig 3. Use case Diagram for user

VII. SEQUENCE DIAGRAM

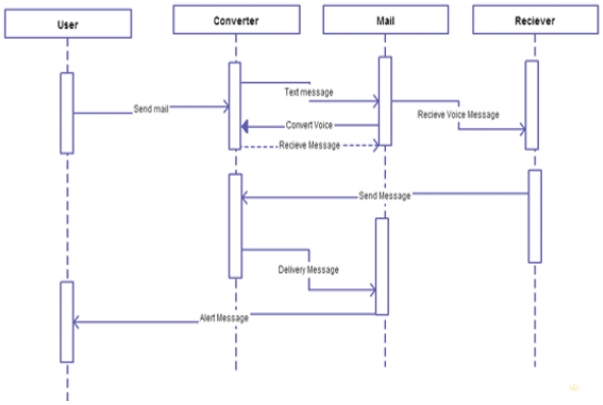

Fig 4. Sequence Diagram for User

VIII. DATA FLOW DIAGRAM

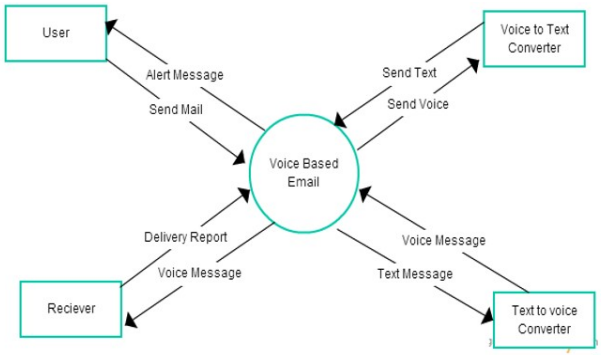

Fig 5. User Details

IX. CONCLUSION

This system can be used by any users with or without disabilities. It has features like text to speech and speech to text which helps for persons with various disabilities as well as visually impaired and blind people.

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