Implementation of Voice Based Blind Mail System

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ABSTRACT: Nowadays, communication has become very important, without communication it is difficult to survive in this world. Many communication technologies have been integrated with internet. But what about the visually challenged people, they can't use this technology because of their visual perception problem. There are many new techniques that will help a visually challenged people to use computer efficiently, for that they'll required to be trained by a trainer.

In today's world internet is making things easy for us, but there are lots of people who don't know how to use it. The reason behind this is you should be able to read things that are displayed on the screen. If you can't read it so that is of no use. For visually impaired and illiterate people, internet is a useless technology.

A. INTRODUCTION

Internet is linking people worldwide. Many people are there who can't use internet due to lack of knowledge or due to some sort of disabilities.

Therefore, we are developing a voice based mail system that will be one kind of aid for the visually impaired people to use the email facility.

When using internet reading is very much important we need to read whatever written on the screen.If this is not visible it is of no use, By using this technology blind people will send and receive voice based email messages.

The users for this system won't require to remember any type of keywords obeys. It is based on simple mouse clicking only (for security purpose).This mouse click's functionality makes it very easy to use.

The user needs to set the number of click's during registration and use it while login (user needs to remember the number of click's)

1. Speech and Command Recognition voice-controlled Machine Using Acoustic Model

This paper aims that speech and command recognize through the voice controlled machine by using acoustic model.The acoustic model is used for automatic speech recognition system to represent the relationship between an audio signal and the linguistic units or phonemes that make up speech. It creates large database of speech and using algorithm to create statistical representation of sounds, which records certain words and user are pronounced the words then system checked in the database and login. Speaker

dependent and independent system require acoustic model to decode the speech. Due to find the words in the database process will time consuming

Proposed System:

This project is time consuming as compared to proposed system. Speech Recognition Email services for blind person provide the security for open the system through the mouse clicking operation. The system depends on the speaker, voice and network.

2. FPGA (Field Programmable Gate Array) Based Braille to Text and Speech for Blind Persons

The Braille system has been used by the visually impaired for communication and contact with the outside world.This paper aims that implement the Braille to text/speech converter on FPGA saprton 3 Kit.The Braille is a language which converts theEnglish language in normal speech format. This system uses the braille keyboard .This keypad give the input to the system.which consist of different combination of cells.This input goes to the FPGA Sparton3 Kit FPGA converts the input into English text or words.This words decoded in VHDL language.After decoding the alphabet is converted to speech by using algorithm.This system displayed on LCD to the Sparton3 Kit also.

The sparton 3 FPGA is specifically designed, for need of high volume, cost sensitive.

In proposed system, we used, speech to text converter in English language.

3. Hindi Speech Recognition System Using HTK (Hidden Markov Model Toolkit)

Statistical representation are called Hidden Markov Model.This paper aims to build a speech recognition system for Hindi language .It recognize the speech and converting this process an acoustic waveform in the form of text.Acoustic waveform avoid the noisy interruption sounds, it accept only the user speech.Hidden Markov Model Toolkit(HTK)is used to develop the system.It recognizes the isolated

words using acoustic word model.The system is trained for 30 Hindi words.User pronounced this words and system checked in their dictionary,if it is matched then system accept their words otherwise not.

Proposed System:

This system uses Hindi dictionary and Speech Recognition Email Services for Blind Person uses the English dictionary. English is an International language so; this system is used in any country.

B. MODULE

1. REGISTRATION: -

This is the first module of the system. Any user who wishes to use the system should first register to obtain username and password. This module will collect complete information of the user by prompting the user as to what details needs to be entered. The user will need to speak up the details to which the system will again confirm by prompting alphabetically. If the information is not correct user can re-enter else the prompt will specify the operation to be performed to confirm.

Fig: Registration Page

When any blind person uses this mail system, he needs to first register on this mail system. While doing Registration he/she needs to enter name, gender, email id, password, mobile number which'll be asked by the system.

After entering all the details he/she need to set the mouse clicks that is the number of mouse clicks that he/she want to set .After setting the mouse click he/she will get registered.

2. LOGIN: -

Once the registration is done the user can login to the system. This module will ask the user to provide the username and password. This will be accepted in speech. Speech conversion will be done to text and user will be told to validate whether the details are entered correctly or not. Once the entry is done correctly database will be checked for entry. If the user is authorized it will be directed to homepage.

Fig: Login Page

In the login page, user need to speak his username and password then only the system will get login .Username and password has the validation. The username should contain '.**com'** without .**com** username won't get accepted.

For the Security purpose mouse clicking operation is used and after telling username and password he/she need to set the left and right button of the mouse. The mouse clicks can be set 1-5 times as per the user's choice. After that his account will get login then module page will get open. In the module page there are three modules I.e. Inbox, composed mail, forget password.

3. FORGOT PASSWORD: -

In case where an authorized user forgets the password and thus is not able to login he/she can select forgot password module. In this module the user will be first told to enter n username. According to username the security question will be searched in database. This is the question provided at time of registration. The question will be spoken out by the computer should in turn specify the answer that was provided by him/her during registration. If both get matched, user is given option to change password.

Fig: Forgot Password Page

In the forget password, if user forget the
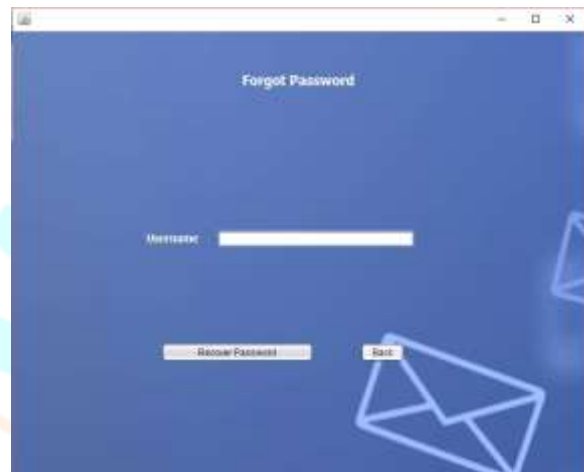
password then he/she can reset the password.

4. HOME PAGE: -

The user is redirected to this page once log in done successfully. From this page now the user can perform operations that the user wishes to perform. The options available are:

1. INBOX
2. COMPOSE MAIL
3. SENT MAIL

Prompting will provide the mouse click operation that needs to be performed for the required service. The double right click event is specifically reserved to log out of the system at any time the user wants to. This will be specified by the prompt right at the beginning after login.

Fig: Home Page

This is the first page of the system. System will start to speak whether the user want to register, login or want to exit the application. The user needs to tell the system by voice that which operation he/she want to perform.
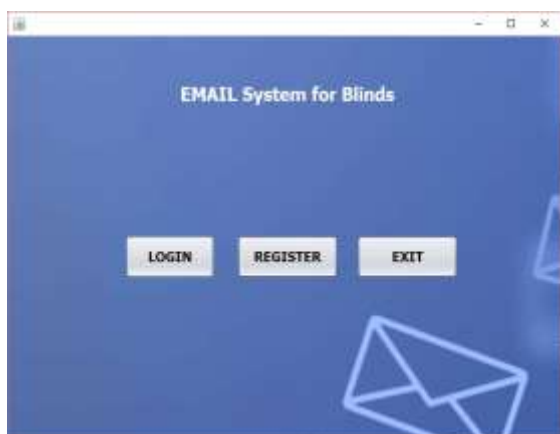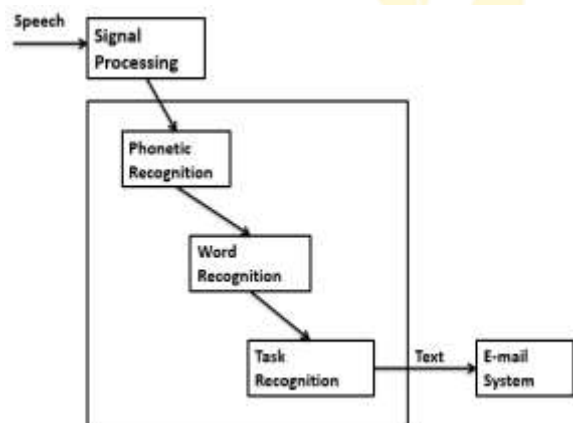
C. VITERBI ALGORITHM

Fig: Implementation of Viterbi Algorithm

1. Signal Processing: -

Signal processing is find audio signals with the help of electronic manipulation. As audio signals may produce in digital or analog signals, it's process in domain. Analog processors are works on electrical signal, while digital processors work on mathematically on the digital produce of that signal.

2. Phonetic Recognition: -

Phonetics is the branch of linguistics that works on the sounds of human speech, or—in the case of sign languages—the equivalent aspects of sign It is concerned with the physical properties of speech sounds or signs (phones). Acoustic phonetics: the study of the physical transmission of speech sounds from the speaker to the listener.

3. Word Recognition: -

According to literacy information and communication system is the ability of a reader to recognize signals correctly and virtually effortlessly. In word recognition signals are converted to word with the help of library.

4. Task Recognition: -

After create the word we can identify the implementation and meaning of that word.

D. REFERENCES

[1] In the year 2010 a system was proposed by Rudan Bettelheim, David Steele in which the speech recognition application continually samples the audio input adjusting for varying background noise conditions.

[2] Kuldeep Kumar, R.K.Aggarwal used Hidden Markov Model Toolkit (HTK) in the year 2011. In this paper, the speech recognition system for Hindi language is developed. This system recognizes the isolated words using acoustic word model.

[3]FPGA Spartan3 Kit was developed by Dhananjay Laghate in the year 2013 which resembled the Braille system for Text or Speech Conversion.