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Speech Recognition Email System for Blind Person

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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.

I. 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 an aid for the visually impaired people to use the email facility. While using internet reading is very much important, we need to read whatever written on the screen. If that is not visible it is of no use, by using this technology blind people will send and receive voice based email messages. The user for this system won't require to remember any type of keywords or keys. 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).

A. Speech and Command Recognition voice Controlled Machine Using Acoustic Model

This paper aims that speech and command recognized 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 records certain words and user are pronounced the words then system checked in the database and login. Both speaker dependent and independent system require acoustic model to decode the speech. Due to find the words in the database process will time consuming.

1) *Proposed System:* This project is time consuming as compared to proposed system. Speech Recognition Email system for blind person provide the security for open the system through the mouse clicking operation. Mouse clicking operation provides the security on the password. The system depends on the speaker, network and voice.

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

In Braille system it is used for visually impaired person in reason of communicating with each other. This system are main moto is Implemented the Braille to text speech converter in FPGA sporting 3 kit. This language is converts English language in the normal speech patterns, it uses the braille keyboard and gives an input to the system it has consisted of an the different type of cell of the combination and the input are going to be in FPGA sporting 3 kit. And FPGA is the concert the input in the word or an English text. The Input words are decorating in VHDL language, then decoded Hole word is converted to an speech by using with the help of the algorithms. Braille system displaying on LCD of an sporting 3 kit. An sporting 3 FPGA is only required to design, for high volume and cost sensitive. Our proposed system we have to used the text to speech converter.

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

Statistical representations 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 for hindi language. 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.

1) *Proposed System:* This system uses Hindi dictionary and Speech Recognition Email Services for Blind Person uses the English dictionary. English is a International language so, this system is used in any country.

II. MODULE

A. Registration

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

B. Login

Once the registration is done the user can login to the system. This module will ask to 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 check for entry. If the user is authorized it will be directed to the homepage.

C. Forgot Password

In case where an authorized user forgets the password and thus is not able to login him/her can select forgot password module. In this module the user will be first told to enter username. According to username the security question will be search 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 new password.

D. Home Page

There 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 user 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.

III. ALGORITHM

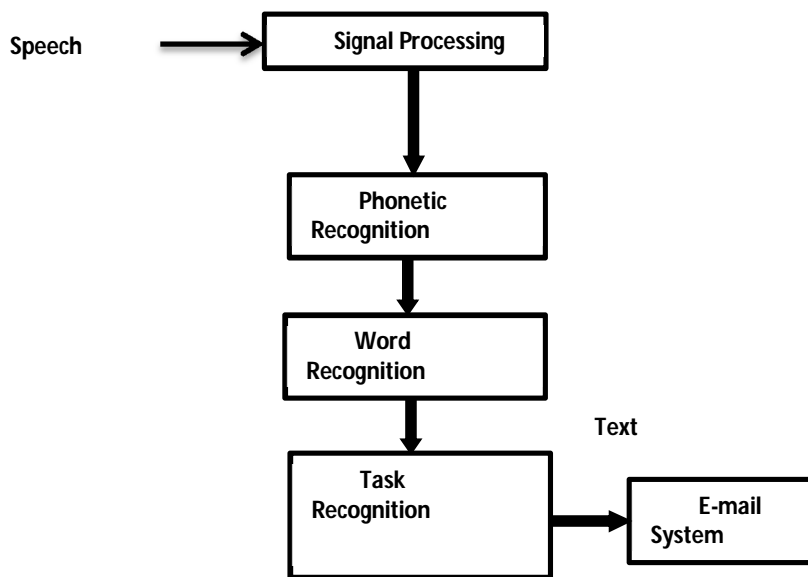


Fig: Implementation of Viterbi Algorithm



A. *Signal Processing*

Signal processing is find audio signals with the help of microphone. Signals produce in digital or analog signals. Analog signals in the form of waves, while digital signals in the form of binary digits.

B. *Phonetic Recognition*

Phonetics is works on the sounds of human speech. The input of phonetic recognition is signals from the output of signal processing. It recognizes the signals and removes the noisy parts from signals.

C. *Word Recognition*

According to word recognition its input is signals of the output of phonetic recognition. Word recognition is recognizing signals correctly and virtually effortlessly. It's done the conversion of signals to word with the help of library.

D. *Task Recognition*

The input of task recognition is the word from identified the word recognition. Task recognition identifies the implementation and meaning of that word.

IV. 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.Agarwal 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 DhananjayLaghate in the year 2013 which resembled the Braille system for Text or Speech Conversion.



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