Intelligent Hands Free Speech based SMS System on Android

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Abstract— Texting that is SMS is important function of anyMobile phone and we know that the mobile phone usage in theWorld is spreading rapidly and has gone through great changesdue to new developments and innovations in mobile phone technology.

This paper is based on creating a messenger for the Differently-Abled set of Humans, who may not be in the positionof using mobile phones for messaging or any other kinds ofcommunicating devices, with the required comfort, we called it as application .In other words, messaging can be completely voicebased. The proposed Application is a Messaging System, which isVoice enabled.The application listens to your messages and then responds with voice commands by talking. The applicationconverts your text into voice and voice into text. For Android it isVoice- to- Text technology to listen to what you send and gets you connected with people.

Keywords—receiver side, sender side ,text to voice, visually impaired people ,voice to text .

I.INTRODUCTION

Every day a Smartphone user may look for a new application dedicated for his need. Android makes it easier for consumers to get and use new content and applications on their Smart phones. This project presents an extremely on-demand, fast and user friendly Android Application voice recognition. voice recognition is an alternative to typing on a keyboard. Put simply, you talk to the mobile and your words appear on the screen.

For the past several decades, designers have processed speech for a wide variety of applications ranging from mobile communications to automatic reading machines. However, with modern processes, algorithms, and methods we can process speech signals easily and recognize the text.

The software has been developed to provide a fast method of writing on mobile and can help people with a variety of disabilities. It is useful for people with physical disabilities who often find typing difficult, painful or impossibleThis project is about to develop an on-line speech-to-text engine.

The recognized text can be stored in a file. We are developing this on android platform using eclipse workbench. Our speech-to-text system directly acquires and converts speech to text.

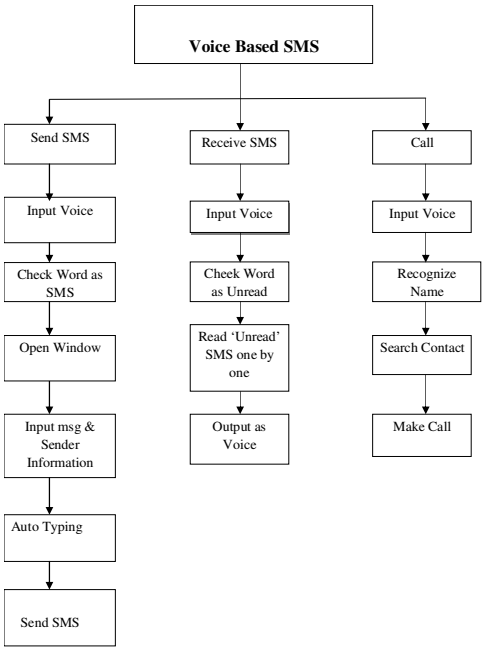

Fig.1:Basic diagram of voice based sms

For sending message, voice command is provided to open application to send message .Once application is open, it will ask for contact of receiver, then it will ask for the message to be sent, then it will speak that message to check, after conforming the message it will send it to corresponding receiver. Every time the application asks anything, through

voice and user also provides response with voice commands that are told by guide.

II.RELATED WORK

Ryuichi Nisimura,Jumpei Miyake,Hideki Kawahara, and Toshio Irino was developed a speech-to- text input method for web systems. The system is provided as a JavaScript library including an Ajax-like mechanism is based on a Java applet,CGI programs, and dynamic HTML document. It allows users to access voice-enabled web pages without requiring special browers. Web developers can embed it on their web pages by inserting only one line in the header field of an HTML document. This study also aims at observing natural spoken interactions in personal environments. We have succeeded in collecting 4,0003 inputs during a period of seven months via our public Japanese ASR server. In order to cover out-of-vocabulary words to coper with some proper nouns, a web pae to register new words into the language model are developed. As a result, we could obtain an improvement of 0.8% in the recognition accuracy. With regard to the acoustical conditions, an SNR of 25.3 dB was observed.

III. DESIGN OF APPLICATION

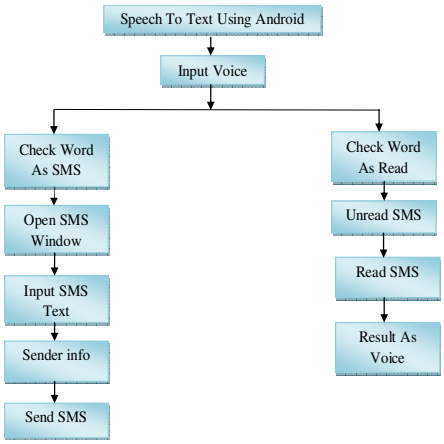

Fig.2:Architecture of Speech to Text using Android

As shown in figure, voice-enabled web pages that use our method.Our method offers a speech-to-text input method for free text input areas .The recording panel is opened when a user double clicks on the text input area. The panel that opens upon clicking is a dynamic HTML program written in the JavaScript language.It also contains a button implemented as a pure Java applet that records the voice of a user. When the recording panel is activated by pressing the button,the voice of a user can be recorded by the microphone of a client PC.After the button is released, the button applet begins to upload the recorded signals to the ASR server. The button applet also provides visual feedback to the user. During voice recording, a bar of the button becomes a power level meter. The users can monitor their voice signal level by observing the red bar.

IV.WORKING OF APPLICATION

Application will always be in running state at the background once it is started .The application is built on top of SMS, so that once application is installed on mobile, all SMS related activities are by default performed by application.With respect to user perspective, application working is divided in two ways – One application is used for sending messages and other when application is used to read received messages.

As part of sending message application is responsible for voice to text transmission to convert message told by user into text, text to voice to check message, and for interaction through voice.

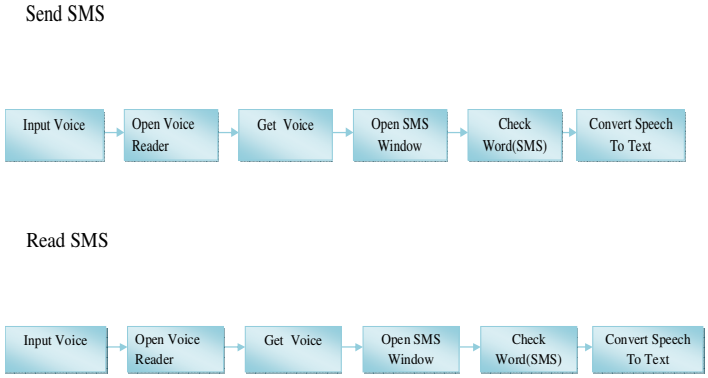

Fig.3:Basic diagram of Send and Receive SMS

As shown in figure, the application is divided in to various modules. The main modules are voice to text and text to voice conversion at sender and receiver side respectively.Also when message is received, application provides option to change language to read message in multiple languages.

The application provides total voice interaction i.e. application provides guide that consists of voice based instructions, i.e. in that voice commends are explained to user for performing various operations. User will interact with application completely through voice commands, so it will provide better user interface and interaction facility. All tifications and alerts received from SMS are processed in voice by the application. In case, if receiver is not present at time when message is received, message received notification will be repeated over a period of time, for that timer is used for notification of unread messages.

V.PROPOSED SYSTEM

The system shown here will use SR with google server which uses HMM method.The brief description of how speech is recognized is as follows. Firstly the speechis inputted, sound can be fluctuating set of signals which are recorded. These signals depends on speaker how is his/her voice quality and hold on the language.The input data is divided into words and phrases, i.e.command is divided intoseveral parts. Lastly comes the processing phase where accordingly systemunderstands command and executes it.

HMM Algorithm:

- Number of state N
- Number of distinct observation symbol per state M, V = V1, V2 · · · , VM
- State transition probability,
  aij = P[qt+1 = Silqt = Sj], 1 i, j N
- Observation symbol probability distribution in state j,
  Bj(K) = P[Vk at tlqt = Sj]
- The initial state distribution = i where
  i = P[q1 = Si] 1 i N[2]
- Given appropriate value of N,M,A,B and , HMM can be used as generator to give an observation sequence
  O = O1 O2 O3 · · ·OT

VI.EXPERIMENTATION AND RESULT ANALYSIS

In this section, we discuss the experimentation and result analysis of the HMM algorithm.As show in figure,the basic layout of our project.In our project the voice is converted into text message..The speech was searched for the google.Then the message was created.After the message was send into the particular person.After diagrams are simple structure of the voice based sms.

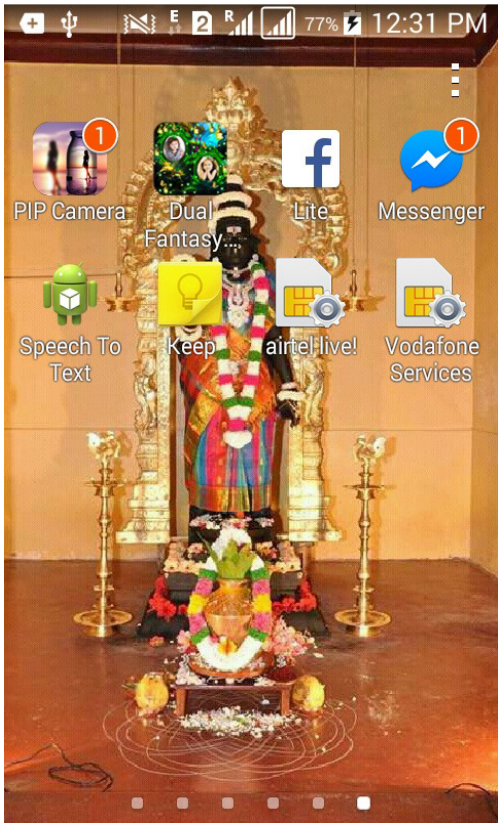

Fig.4:Screen shot of speech to text APP

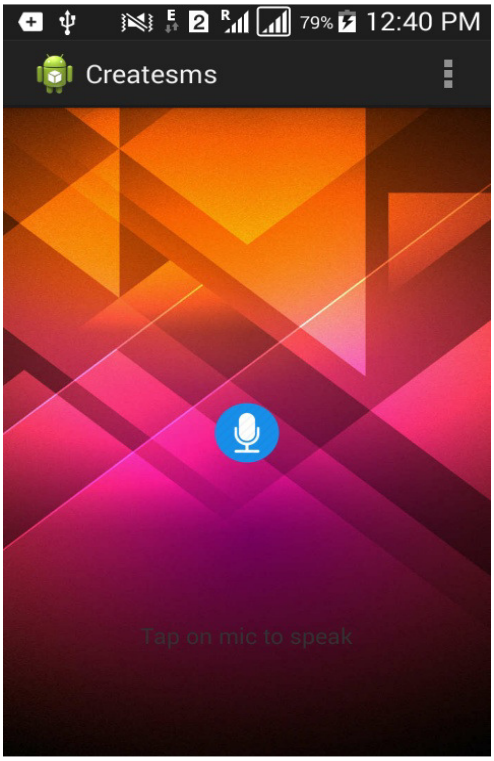

Fig.5:Screen shot of create SMS

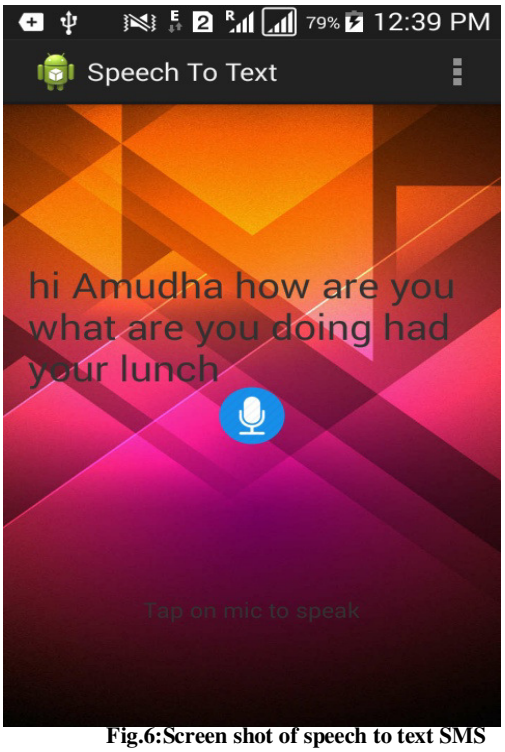

Fig.6:Screen shot of speech to text SMS

VI.CONCLUSION

This project demonstrates us the idea of messaging system for visually impaired users.Speech synthesis has long been a vital assistive technology tool and its application in this area is significant and widespread. It allows environmental barriers to be removed for people with a wide range of disabilities.In recent years,Text to Speech for disability and handicapped communication aids has become widely deployed in Mass Transit. Text to Speech is also finding new applications outside the disability market.For example,speech synthesis,combined with speech recognition, allows for interaction with mobile devices via natural language processing interfaces.

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