**Intelligent Hands Free Speech based SMS System on Android**

**Abstract:**

Over the years speech recognition has taken the market. The speech input can be used in varying domains such as automatic reader and for inputting data to the system. Speech recognition can minimize the use of text and other types of input, at the same time minimizing the calculation needed for the process. A decade back speech recognition was difficult to use in any system, but with elevation in technology leading to new algorithms, techniques and advanced tools. Now it is possible to generate the desired speech recognition output. One such method is the hidden markov models which is used in this paper. Voice or signaled input is inserted through any speech device such as microphone, then speech can be processed and convert it to text hence able to send SMS, also Phone number can be entering either by voice or you may select it from contact list. Voice has opened up data input for a variety of user’s such as illiterate, handicapped, as if the person cannot write then the speech input is a boon and other’s too which can lead to better usage of the application.
Existing system:

Speech recognition adds another dimension to the classic keyboard input which leads to ease of the user side i.e. manipulation of text is far easier than the classic method. This application uses the google api which uses the hidden markov models (HMM) method to send sms, In this sms application the user has to speak the numeric characters as the contact information on which sms has to send and message for the receiver.

Disadvantage:

If any user try to insert any other character into the information an error would be displayed e.g. if user speaks his name for contact, it will be displayed as invalid contact.
Above Diagram represent Speech Input
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 speech is 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 into several parts. Lastly comes the processing phase where accordingly system understands command and executes it.

Advantages:

- Developed Speech recognizer system tested for a SMS sending application and found that it recognizes the speech to an accuracy of more than 90%.
- Enter phone number by speech or select contact from contact list. As user presses select contact here by selecting name of person it gives all phone numbers of that person in phone contact list box. Now it is possible to send sms to all numbers of same person on one click which results in reducing time of searching each number.
Conclusion:

An automatic speech recognizer studied and implemented on the android platform which gives much accuracy for both numeric and alpha numeric inputs. The accuracy of this system is about 90%, and delay for recognition is less than 100 ns. We plan to implement this work for other languages as well as test them on the SMS sending application which is developed.

Hardware Specification:

- System: Pentium IV 2.4 GHz.
- Hard Disk: 40 GB.
- Floppy Drive: 44 Mb.
- Monitor: 15 VGA Colour.
- Mouse: Logitech
- Ram: 512 Mb.
- MOBILE: ANDROID
Software Specification :

- Coding Language : Java 1.7
- Tool Kit : Android 2.3 ABOVE
- IDE : Android Studio

Reference :


