International Journal of Research
Available at https://edupediapublications.org/journals
p-ISSN: 2348-6848
e-ISSN: 2348-795X
Volume 04 Issue 05
April 2017

VOCALIZE TEXT FOR ANDRIOD MESSEAGING

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1. ABSTRACT

Texting that is SMS is important function of any Mobile phone and we know that the mobile phone usage in the World is spreading rapidly and has gone through great changes due to new developments and innovations in mobile phone technology[1].

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

Keywords: Android, Text-to-Speech Engine, visually impaired people, Text to Voice, Receiver side.

2. INTRODUCTION

Cell phones are very important part of modern life. Many of us need to make a call or send a message at anytime from anywhere. For visually impaired users voice based contact list are provided with many cell phones, they can select contact through voice and make call when required. Also various screen reader software's are available that guide them while using cell phones. Now let's limit our focus towards short message system, it is text messaging service component of phone, using standardized communications protocols that allow the exchange of short text messages between mobile phone devices. SMS text messaging is the most widely used data application in the world, with 2.4 billion active users, or 74% of all mobile phone subscribers

Speech Recognition and Conversion will be the integral part of the Application. Android actually provides support for those groups which are quite not noticed by many. The Application is targeted at the Differently-Abled set of Humans, who may not be in the position of using mobile phones for messaging or any other kinds of communicating devices, with the required comfort. Basic operation performed by the application is SMS reading and it is built for these kinds of people.

The application converts text message into the voice format [8][9] when it receives message, with the required embedded intelligence in the given context. Proposed application is a must carry through for all those who are visually impaired.

2.1 Objective

The important thing in this context is that, these applications are not available in multiple language platforms.

Our project's aim is to help the differently abled people to interact with other's through our application. The visually impaired people, many times find it difficult to interact with other people through current messaging system. The application provides with better user interface and interaction is completely

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through voice, where the user does not need to use the physical touch or press any key for interaction. As the application is built on top of the SMS layer, so there is no need of installing application at both the ends. Also, the application provides facility to read message.

3. Proposed work

The implementation of the speech technologies for information exchange for users with weak eyesight is of a crucial necessity. In fact, computer synthesis of speech opens a new direction for an information transfer through the computer. For today it is mainly possible through the monitor.

Synthesis of speech is the transformation of the text to speech. This transformation is converting the text to the synthetic speech that is as close to real speech as possible in compliance with the pronunciation norms of special language. TTS is intended to read electronic texts in the form of a book, and also to vocalize texts with the use of speech synthesis. When developing our system not only widely known modern methods but also a new approach of processing speech signal was used.

Such systems can be used in communication systems, in information referral systems, it can be applied to help people who lost seeing and reading ability, in acoustic dialogue of users with computer and in others fields. In general, synthesis of speech can be necessary in all the cases when the addressee of the information is a person.

4. System architecture

Fig. System Architecture

Sender will send the text message to Receiver Android Mobile. After receiving the text message from the sender the service automatically starts. The received message is stored in an Array Adapter and then sends to TTS Engine (Text-to-Speech). This will convert the text message to Vocalize text and sends the signals to speaker and finally generate an audio.

5. Algorithm

Step 1: Receive the message from the sender.
Step 2: Start Service
Step 3: Check the app state whether it is active or deactive. If active goto step4 otherwise goto step8.
Step 4: Check whether the setting option is Selected contacts or A contacts. If Selected contacts goto step5, otherwise goto step6.
Step 5: Received message is from selected contacts list. If yes goto step6,else goto step8.
Step 6: Stores the received message in an Array Adapter.
Step 7: Sends the stored message to TTS Engine (Text-to-Speech).
Step 8: Converts the received message to Vocalize text by sending the signals to Speaker.
Step 9: Stop Service.

6. Result analysis

SMS Receiver: Receives the text message from the Sender.
ArrayAdapter: It stores the received message.
TTS Engine: Converts the stored message in Vocalize format.

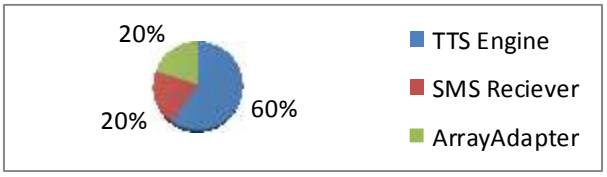

Fig: Pie chart showing the participation of modules in the system.

7. 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. **SMS** Reader is more useful to the blind and the common man and in future if the application is properly extended can be a killer app among Android applications.

8. Future Enhancement

The Project can be extended to an app operated using Voice command. It is now supporting only one language with accents.In future it can be extended by supporting different voices with different languages. It can be extended as an integrated application as a document reader, Notifier, Navigator, and Narrator which will be helpful for the blind. Research can be done on Speech to Text applications because in future users tend to give their voice as input than typing the text in the mobile or physically interacting with the GUI.

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