SPEAKUP, MOBILE APPLICATION TO TRAIN AND OVERCOMING STUTTERING

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DECLARATION

"I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text. Also, I hereby grant to University of Moratuwa the nonexclusive right to reproduce and distribute my dissertation, in whole or in part in print, electronic or other medium. I retain the right to use this content in whole or part in future works (such as articles or books).

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ABSTRACT

SpeakUp, mobile application will help users who are affected by stuttering to train themselves by following various methodologies customized for their level and type of stuttering and help them become better communicators. Stuttering is a speech disorder that repeats or prolongs sounds, syllables, phrases or words, disrupting the normal flow of speech in human beings. The purpose of the report is to put forward a solution to overcome stuttering by an acceptable level. This research project is about a hybrid mobile application called “SpeakUp” which will help users who are affected by stuttering to train themselves by following various methodologies customized for their level and type of stuttering. The mobile application will allow users to assist them and train themselves from stuttering by an acceptable level and help them become better communicators. The main research area contains about the syllable counter module which acts a key component for both the methodologies to detect the syllables and severity of the user. This component is built in a reusable plugin way for both native and hybrid development as this will be the main source for any stuttering curing methodology. One of the major challenges of the application will be to identify what the user is speaking to the application as a voice input. Speech to text conversion module focuses on identifying what the users has spoken using a defined language model by an open source framework. This allows calculating the accuracy of the voice provided by the users with the given paragraph. Slowed reading module allows the users to practice the methodology of speaking in a slower rate to improve their ability to speak clearly. The research component of the project focuses on identifying the level and severity of stuttering of the user and also studying the traditional methodologies “Slowed Reading” and “Easy Onset” with the help of a SLP and providing a methodology to develop it inside the mobile application. Research also focuses on identifying a best optimized methodology to get the users voice input and convert it to respective text. The main high-level object of the research is to come up with a syllable counter module to provide an application with acceptable level of improvement from stuttering. The application is a pocket guide for people who stutter and are looking ways to improve their speaking abilities to become better communicators.

Key words: Stuttering, Stammering, Speech to text analysis, Speech language pathologists

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LIST OF ABBREVIATIONS

GB	Gigabyte
MB	Megabyte
MHz	Megahertz
RAM	Random Access Memory
SLP	Speech Language Pathologists
PwS	People who stutter