



STUTTERING: Therapy for Kids Android Application

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ABSTRACT

Repetition of same word affects the flow of speech and it is termed as Stuttering. Stuttering makes the kid who suffers, nervous to face people and they will not be bold to talk aloud. The disorder of speech for a kid is a strong issue that has to be handled earlier. This paper, "Therapy for kids using an Application" is the proposed system of supporting the method of curing stuttering. Android App is a software application that runs on the android mobile. Android mobile is available with almost everyone, thus it makes it easier to assist through an app and help the doctors in monitoring the treatment of the kid.

Keywords: Stuttering, Android app, therapy, genetics, monitoring, voice recognition, record.

INTRODUCTION

[1] Stuttering is a speech disorder in which sounds, syllables or words are repeated disrupting the flow of speech. Development of stutter may be due to the genetics or the delay in speech or language problems. A long period treatment helps in curing the stuttering issues. Prolongation of a word also comes under stuttering. Affected count can be defined as 3:4 ratio of as many males as females. For kids, even the nervousness of something may cause stuttering. For example, reading a paragraph aloud in a class may lead a nervous child to stutter. Speech therapy is a method that brings out a huge difference. This application provides an easy way to help kids suffering from stuttering issues. It records the progress of the kid and the main factor of this is the voice recognition that supports in knowing the impact from the therapy.

STUTTERING

A. Stuttering Issues

Stuttering had a serious effect on the thoughts of a kid to face the world. [4] Several tests till date prove that most of the risk for stuttering onset is over by age five. [1] Many case-studies have shown that childhood speech impairments such as stuttering are mainly associated with lower test scores. Types of stuttering include blocks, prolongation, insertion, repetitions. M-mm is a kind of prolongation. Although it is less common around 1-5% it should also be treated. Treating with some regular exercises and therapies that does not bring discomfort is required.

GRAPH 1. Assessment of the Total Impact of Stuttering

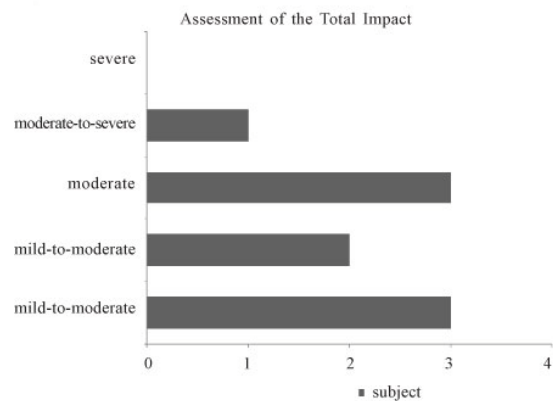


Fig1: Indicates a test that shows the impact of stuttering

B. Stages

At the initial stage of stuttering by kids when they try to join words to form a sentence is acceptable. Later if the same case continues in a frequent manner and leads to a worst case he/she should be evaluated by a speech-therapist in order to avoid further issues. Stuttering drops down when kids enter their school and start sharpening their skills.

Thus it may also result in a state of preventing stuttering.

EXISTING APPLICATIONS

Many applications were developed earlier that supports the speech therapy, but only few were successful. While creating an account, and log in to use the exercises were considered to be a huge development in the android app facilities. [5] Case studies defines that around 5% of children go through a period of stuttering that may last six-twelve months. Some cases will include few among many of those who begin to stutter might recover by late childhood. But few may have it as a long term problem. Apps were developed to aid parents to help their kid to overcome stuttering. The apps included an account creation for the kid to monitor and record his/her progress. The apps were seemed to be user friendly and also free of cost for utilization. Research activities have found that fluency disorders are not as popular as others. [3] Test cases were conducted which had speech, language tests with the obvious exception of stuttering for Children who stutter and Children's temperamental characteristics were determined using the Behavioural Style Questionnaire given.

PROPOSED APPLICATION

To Log in and to use the app is not a wonder. Latest technology has much more to support all issues with a solution of its kind. Regular practice improves the fluency. Basically, BUT-CAN-LIKE are few words that make a kid to stutter. It might be due to the pronunciation of the word or the formation of sentence in accordance with the tense. The correct pronunciation of a word may come out after a hard struggle of say half the word or a letter at most. [2] Exploring the stuttering treatment to an extent is the other way to assess, to which they address the cause of the disorder.

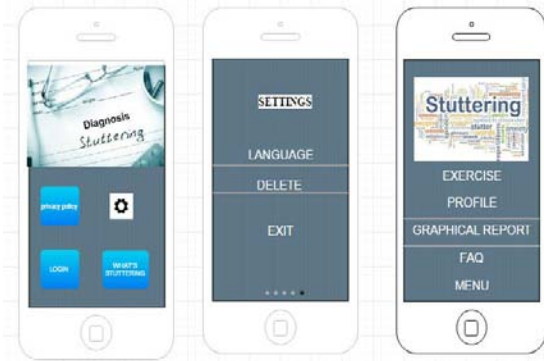


Fig2: A model representation

The application should be able to attain a child’s good progress if and only if it is creative and attractive. The above figure 2 shows the model of an app that has an initial page followed by settings and also user’s page after log in.

A. Application Features

In general, the app will consist of a login for user. Other than that, if an user is new to android and does not know how to access, there will be an option called guide that will help the user. It will be available for the user even if he didn’t log in. But the only difference will be that it will not have the full virtual tour of the app if the user didn’t login. Fig3 shows the flow chart that represents the way of giving exercise and evaluating a kid’s progress. The system proposed is further more advanced with verbal as well as voice recognisable ways to give a successful progress that will help their respective doctor as well as parents to understand their problem. It will also help the kid with their pronunciation of words and aid them. When repetition of words, phrases becomes excessive, when the kid has fear of stutters and changes the phrase or when there is an increase in prolongation of words then it may result in consulting a therapist. For further practices advised by the therapist to work out at home, this app will be an essential tool. The proposed system will have word, phrases included and it will also be helpful in taking the exercises and practice sessions again and again. In general, the frustrations developed because of stuttering can be overcome with the help of this application. This system will ensure that kids will be interested to learn with this app as it will have attractive visuals that will not get them bored.

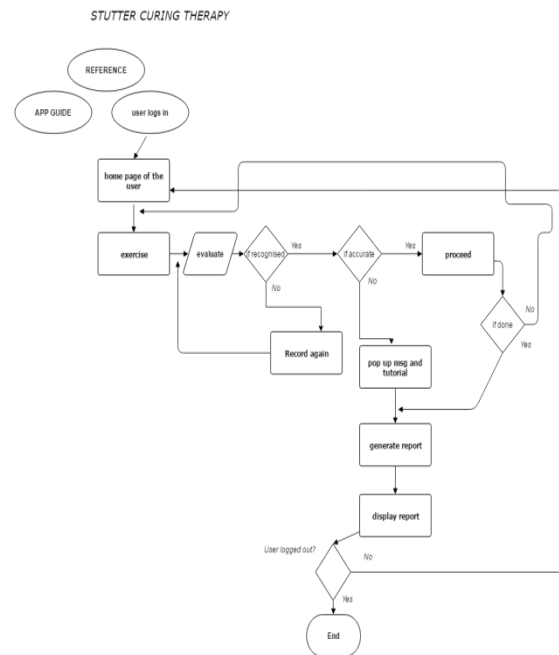


Fig3: Exercise and report generation flowchart

ACKNOWLEDGMENT

With the team work, the idea of proposing a flexible aid for kids who stutter is on progress. Inspired from various attempts of support to cure stuttering and would like to provide a better application to work on this speech aid or therapy.

FUTURE WORK

The scope for the future work is that this application will be user friendly with various new possible ideas such as live monitoring and it will also satisfy the requirements of the therapy system that can be implemented. The app that is to be developed will initially support English language which may have few additions in the next upgradable versions. It will also have a possibility of recording the voice and storing it for further references. It will also have an audio feedback system. With reference from professionals and therapists this app will be an aid that a therapist can recommend his/her patient.

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