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AN APP FOR DEAF CHILDREN: A USER CENTERED TEXT TO SPEECH TECHNOLGOY

Abstract

This project examined at how deaf children can improve their communication skills with normal people. Conversation is essential in everyday life, yet not everyone can communicate well vocally, such as the deaf children. The project aims is to create a simple mobile application for deaf children to communicate using the concept of "text to speech" software to convert words or terms written by them on a mobile keypad into voice (text to speech).

Problem Statement

- Social diffficulty
- Materials not always present
- Limit of learning

Methodology

- For this study, the methodology that have been used is - User-Centered Design (UCD).
- Conducted a questionnaire to six parents or caregivers of deaf people who are the closest to them on a daily basis regarding the usability and UI design of the application in order to ensure that all of the requirements of deaf children aged 7 to 12 years were acknowledged before real development started. .

Conclusions

After implementation and testing phase, the pros and cons of the system were discovered:

Pros:

- Text-to-Speech capabilities
- There is no need for internet access.
- Interface Guidelines for Deaf Children

Cons:

- Only designed for the Android platform; IOS will be rendered ineffective.
- Language options are limited.
- More animation, such as videos or GIFs, could be incorporated into interfaces.

Project Objectives

- To design an app for deaf children using a user-centered text-to-speech technology.
- To develop an app that will aid in the translation and facilitation of communication between deaf children and normal people.
- To evaluate the usability of an application for deaf children, which include the easiness for learning purpose on how to convey messages conveniently using a text-to-speech technology application

Framework Design

The diagram below shows the homepzge on the left side, which consists of four dashboards, and the TTS page on the right side, where users can enter text in the textbox and press the button speak to produce the voice.