Hope: Augmentative and Alternative Communication Application for Children with Down Syndrome

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With language being an important method of communication and socialization for children with Down's Syndrome, innovative technology solutions are increasingly being introduced to help in developing vocalization and speech. Interactive software applications have been shown to be effective in augmenting speech and language therapy by improving the level of engagement in clinical sessions and extending the learning beyond clinical settings. This novel study was developed in four stages. The first stage included a direct observational study. It was conducted to help understand the context of applying different methodologies of speech and language therapy in sessions with the children without any technological intervention involved. Using the results of these observations, a mobile application interactive concept design was created. The app focus integrated speech training methods with interactive software applications so as to maintain pedagogical precision. The second stage involved the development of an interactive mobile application in collaboration with a speech pathologist in iterative cycles of a user-centered design process. The third stage included an exploratory study for evaluating the first prototype of the design created to test the reaction of a child with Down's Syndrome to the app. This was directed for use in therapy sessions to elicit recommendations for improving the design of the interactive prototype. Finally, the fourth stage consisted of an observational study to evaluate the revised application in the context of speech and language therapy sessions. Findings of these observational studies suggest an improvement in the linguistic abilities of the children.