Amplify: an audible adventure system to deliver interactive speech therapy to children with cerebral palsy

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Technology description

Market Opportunity

No child should have his or her sense of expression suppressed. Yet, for more than half of all children affected by cerebral palsy (CP), effective vocal communication is set back by difficulties with speech volume, articulation, word formation, among others. Traditional speech therapy has proven benefits, but visits to the doctor and repetitive exercises make therapy itself a hurdle for many. It is inaccessible to low-income mothers and fathers who cannot afford the travel time or payments.

USC Solution

Researchers at USC have developed a system that will carry the child through an interactive audible journey in the format of a choose-your-own-adventure story, replete with exercises and voice interactions that define the trajectory of the narrative; the system will collect detailed analytical voice data on pitch, volume, and pronunciation clarity. This system can support programs that are matched to specific clinical manifestations at home, and can incorporate the unique cultures, languages, and customs of different populations. This experience will engage and enthrall children with CP, create a visual progress dashboard for parents and therapists, and open the children’ s ability to express themselves both vocally and socially.

Key Publication

Chris Laine, and Brian Cohn. "Amplify: An Audible Adventure System to Deliver Interactive Speech Therapy to Children with Cerebral Palsy." Adventure Biofeedback. N.p ., 2018. Web. 2018.

Application area

Speech therapy
Quantitative clinical research

Advantages

At-home therapy so no travel expense
Analytical views of the data allows tracking progress in a way that far exceeds the current standard of care
Parents can participate and with greater knowledge of their child's progress, provide effective encouragement
For the therapist, change the scope and reach of their practice

Institution

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