

A Prototype of an Information and Communication Technology Based Intervention Tool for Children with Dyslexia

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Abstract : Dyslexia is a neurocognitive disorder, affecting around fifteen percent of the Indian population. The symptoms include difficulty in reading alphabet, words, and sentences. This can be difficult at the phonemic or recognition level and may further affect lexical structures. Therapeutic intervention of dyslexic children post assessment is generally done by special educators and psychologists through one on one interaction. Considering the large number of children affected and the scarcity of experts, access to care is limited in India. Moreover, unavailability of resources and timely communication with caregivers add on to the problem of proper intervention. With the development of Educational Technology and its use in India, access to information and care has been improved in such a large and diverse country. In this context, this paper proposes an ICT enabled home-based intervention program for dyslexic children which would support the child, and provide an interactive interface between expert, parents, and students. The paper discusses the details of the database design and system layout of the program. Along with, it also highlights the development of different technical aids required to build out personalized android applications for the Indian dyslexic population. These technical aids include speech database creation for children, automatic speech recognition system, serious game development, and color coded fonts. The paper also emphasizes the games developed to assist the dyslexic child on cognitive training primarily for attention, working memory, and spatial reasoning. In addition, it talks about the specific elements of the interactive intervention tool that makes it effective for home based intervention of dyslexia.

Keywords : Android applications, cognitive training, dyslexia, intervention

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