

Role of Contextual Factors in the Usability of Access Solutions for People with Disabilities

Negar Memarian, Tom Chau

*Institute of Biomaterials and Biomedical Engineering, University of Toronto, Canada
Bloorview Research Institute, Bloorview Kids Rehab, Toronto, Ontario, Canada*

An access solution consists of an access pathway, the channel that translates the functional intention of an individual with disability into a functional activity, and an access technology, which processes the physical or physiological data acquired through the access pathway. Recommendation of the appropriate access pathway depends on the nature and severity of the impairment, and the strength, reliability and endurance of client's potential access sites. An important factor affecting the usability of access solutions is the context in which the client exploits it. Context, or contextual factors as it is referred to by the World Health Organization's International Classification of Functioning, disability and Health, not only encompasses the client's personal features and characteristics, it also includes environmental factors such as the milieu and time of access solution usage. A drawback of access strategies developed to date is that they do not account for personal and environmental factors and thus their usability declines when applied in more than one environment or by different users. In this paper we highlight the need for designing context aware access strategies, and the ways consideration of contextual factors can enhance the usability of access solutions for the population with severe and multiple disabilities. We also discuss how monitoring particular contextual factors can lead to creation of new access pathways.