

## **A Design Guideline to Overcome Web Accessibility Issues Challenged by the Visually Impaired Community in Sri Lanka**

N Wedasinghe<sup>1#</sup>, NT Sirisoma<sup>1</sup> and APR Wickramarachchi<sup>2</sup>

<sup>1</sup>General Sir John Kotelawala Defence University, Sri Lanka

<sup>2</sup>Faculty of Science, University of Kelaniya, Sri Lanka

# nirossha@kdu.ac.lk

Visual impaired communities are one of the hindrance groups to accessing web content in the world. The obstacles encountered by this community in their current practices and in developing best practice guidelines to overcome the digital divide in Sri Lanka is a gap that needs to be filled in this domain. A preliminary survey indicated five main problems including 1.) Access limited by the impairment, 2.) Usability issues due to lack designing, 3.) Unavailability of visually-impaired-friendly applications, 4.) Lack of communication, and 5.) Web navigation issues as the most dominant issues. To overcome those issues, solutions are tested and validated using the Design Science approach. The purposive sampling method was used and interviews and questionnaires were used to extract data. A content analysis was also used to derive the result. Results are further validated by using expert opinion. Results indicate that significant factors that need to be incorporated are ensuring a keyboard-friendly website, easy accessibility and support with semantic annotation by adding alternative text for images. Furthermore, using headers to structure the content correctly, designing all forms to support accessibility in mind, including Content developing and designing, navigation, the best colour combination, Pre-recorded video with the audio facilities, braille support on the web, the designing option has no significant impact on visually impaired web users. Introducing a rating widget option to a website identifies the level of accessibility features availability facilitates, thereby overcoming the disability digital divide. The results further conclude that a significant difference exists in websites, with and without the involvement of the visually impaired community. Semantic web and semantic annotations of the context of page elements, content serialisation, and navigation by special keyboard commands are also highly influencing the effective use of the web and increasing the satisfaction level of the website accessing process.

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