Usability Evaluation of a Mobile Application to Enhance the Use of Smartphone, by Visually Impaired Users in Indonesia

Authors : Johanna Renny Octavia, Kamila Okta Saarah

Abstract : Smartphone nowadays is widely used by many people all over the world. However, people with vision impairment may experience difficulties that interfere with the proper usage of the smartphone. In Indonesia, the population of visually impaired is about 13 million people (estimated 285 million people worldwide). There are a number of mobile applications developed to enhance the use of smartphone by visually impaired. This paper discusses the usability evaluation of a mobile application, namely Ray Vision, designed to help visually impaired in using smartphone. A series of usability testing with a number of Indonesian visually impaired revealed 28 usability problems in the mobile application that led to 14 design recommendations. The redesigned application was then re-evaluated through another usability testing series. The results showed that all five usability criteria assessed were increased (usefulness by 13%, effectiveness by 27%, efficiency by 27%, satisfaction by 23%, and learnability by 12%). The System Usability Score (SUS) was also increased by 14.92%.