

## ABSTRACT

Assistive technology is a device or assistive technology that can improve the functional abilities of people with disabilities, especially people with visual impairments. However, people with visual disabilities often face difficulties in using assistive technology because most usability testing assumes that users can see the display visually. Therefore, solving the problem of difficulties in using technology by people with visual impairments through improved usability testing is a must to create a more inclusive and equal society for all individuals.

The development of the android-based VIUT application comes as a solution for people with visual impairments in conducting usability testing specifically for assistive technology. The utilization of talkback technology in this application will ensure that people with visual impairments can access and use the application optimally, without requiring assistance from other parties.

The development of this application applies the iterative incremental method to enable completion stage by stage which can be tested repeatedly, this method approaches with repeated iterations, through the stages of initial planning, analysis & design, implementation, testing, evaluation, and deployment.

The results showed that the application was successfully designed and developed according to the desired needs, and testing the application using blackbox testing achieved positive results with an average success and testing using user acceptance testing obtained a total average percentage of 91.63% with a total number of values and weights of 165 and got a very good category. It is hoped that the VIUT application can become one of the applications capable of conducting usability testing specifically for assistive technology.

Keywords: *Assistive Technology, Usability Testing, Blind, Iterative Incremental, Android*