

Abstract

The purpose of this Request for Proposal is to frame the opportunity to design a clothing identification tool for people with severe visual impairment in China to use at home.

The framing team consists of five first-year Engineering Science students from the University of Toronto. *Impact, Efficiency, Accessibility, and Harmony* are the core values of the framing team. Our values have linked us closely with the community of people with severe visual impairment in China and have driven us to improve the lived experience of them.

Severe visual impairment, by definition, corresponds to a corrected visual acuity (CVA) of lower than 3/60 [i], where individuals have weak or no perception of light, and are unable to see even blurry objects or colors (including black and white). Due to the nature of physical defects of the visually impaired, as well as the traditional belief in China that they are incompetent for equal education and work opportunities, they have been traditionally unseen and under-represented. Although more attention has been drawn to this community and many digital resources as well as tools have been made to improve the inconvenience from vision loss, there still lack feasible designs which address challenges which hinders them from accessing a more comfortable life in social and psychological aspects.

Recognizing objects is one of the areas where the visually impaired still experience great difficulties. While outfit is an important way of self-expression, identifying clothes and extracting features attached to the clothes remain to be an unsolved challenge for people with visual impairment. The framing team aims to make such ways of self-expression and maintaining self-esteem accessible for the visually impaired. Therefore, the opportunity of designing a clothing identifying tool is proposed.

Therefore, to maximize the impact and practical value of the potential solution in real-life scenarios, the usability and accessibility of the solution should be prioritized. The efficiency of the solution should also be emphasized, since it is not only an important team values, but also a key requirement from the visually impaired. At the same time, the accuracy and the number of features extracted from the clothes are critical to the success of the design too. Taking into consideration of the limited in time and abilities of the responding team, as well as the need for the prototyping and verifying process, solution that are highly technological are not expected, both digital and physical solutions are encouraged.