

ABSTRACT

People with disabilities are individuals who experience long-term physical, mental, intellectual, or sensory limitations in interacting with the environment. The blind are individuals whose sense of sight does not function to channel visual information properly in everyday life. Globally, in 2020 the number of blind people in the world reached around 43 million out of a total population of 7.79 billion. Indonesia is in the third position, with a total blindness of around 3.7 million from the total population of Indonesia at that time around 265 million people.

Swimming is one of the sports that can be practiced by blind people. With good training and coaching, blind people will be able to develop optimally in this sport. Swimming is a type of sport that has a difficulty level for people with disabilities, especially for blind people. According to some experts, many blind people have a fear or trauma of water, especially for the first time. This is because the ear as a sense of hearing commonly used to access the surrounding environment is not optimal because it is in the water so that blind people cannot control the boundaries or objects in front of them well. With this level of difficulty, it also affects the level of interest for blind people to be willing to become athletes in this sport. It is also based on the limited availability of aids for the blind to carry out this sporting activity independently. Aids are objects that are useful for the independence of people with disabilities when carrying out daily activities. From the problem of the difficulty of blind swimmers in accessing the pool area independently, this final project research focuses on examining these problems so that a solution can be found.

To solve these problems, this research focuses on taking references from swimming goggles products on the market and commonly used by swimmers in NPCI Bandung Regency which are further developed and adapted to the needs of the blind in carrying out swimming sports activities. Meeting the needs of blind people who act as potential users of this product is a priority in this research, so the User Centered Design method is used to produce a good eyewear design design so that the product can be easily used by users, namely blind people who do swimming activities. The User Centered Design (UCD) method is divided into four stages,

which are understand context of use, specify user requirements, produce design solutions, and the last is evaluate the design.

The purpose of this final project is to identify the design of swimming goggles for the blind in accordance with the needs and wishes of the blind. With the design of the proposed swimming goggles product, it is expected to help reduce the difficulty of the blind in doing swimming sports independently and it is hoped that in the future it can increase the interest of the blind to contribute to becoming swimming athletes and make the nation proud.

Keywords — [**Disability, Blind, Swimming, Aids, User Centered Design**]