

## ABSTRACT

In everyday life, people with disabilities face various challenges in carrying out activities. One obvious example is visually impaired people who often experience difficulties in fetching drinking water safely and conveniently. A simple task such as pouring drinking water can be a high-risk task for them, with the potential for water spills, slippery floors and even the risk of being exposed to hot water. Developments in electronics and Arduino microcontrollers open opportunities to create creative solutions that can improve the quality of life of blind people. This research aims to design and develop an automated system specifically designed to assist blind people in filling their drinking water safely and comfortably.

This system is made using Arduino microcontroller technology which has proven to be reliable and can be programmed as needed. The microcontroller will be connected to an ultrasonic sensor that is used to measure the distance between the water surface and the lid of the drinker. When the water is close to full, the microcontroller will provide an audible alert through a buzzer, letting the user know that the drink holder is almost full. Furthermore, the microcontroller will also be connected to a servo motor that is used to automatically open the lid when the water reaches the desired level. With this combination of technologies, visually impaired people can fill their drinking water without the risk of accidents by helping them identify when the water container has reached full capacity, avoiding the problem of spills that are often difficult for them to detect.

This solution not only helps improve the quality of life of the visually impaired, but also serves as an example that technology can be used to create solutions that are inclusive and beneficial to people in need. Hopefully, with the implementation of this solution, blind people can live their daily lives more independently and safely.

Keywords: **Visually Impaired, Arduino, Buzzer, Drinking Place, Servo Motor**