ABSTRACT

This project presents the design and development of an innovative Ultrasonic Blind Walking Stick (UBWS) equipped with cutting-edge features for enhanced safety and functionality. The proposed system integrates ultrasonic sensors (HC-SR04), a water sensor (LE 25.00), a microcontroller (ESP8266), and a fire sensor to create a comprehensive solution for visually impaired individuals. The UBWS utilizes ultrasonic sensors to detect obstacles in the user's path, providing real-time feedback through a buzzer and vibration mechanism. Furthermore, the water sensor enhances safety by detecting wet surfaces, alerting the user to potentially hazardous conditions. Additionally, the inclusion of a fire sensor provides early detection of fire hazards, ensuring the user's safety in various environments. Overall, the proposed project represents a significant advancement in assistive technology, offering an intelligent solution to enhance mobility and safety for the visually impaired on a global scale.