

Smart Belt Obstacle Detection with Voice Output for Blind Person

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Abstract: *The field of healthcare is experiencing remarkable advancements through the integration of technological innovations. Information technology, when applied to the realm of medicine, has showcased its potential to create innovative solutions for individuals with disabilities. Navigating through the world independently poses a significant challenge for visually impaired individuals. To address this, the Smart Belt for Obstacle Detection with Voice Output integrates cutting-edge technology to provide real-time assistance. This project utilizes ESP32 microcontroller, GSM/GPS modules, and ultrasonic sensors to create a comprehensive assistive device. The Smart Belt detects obstacles in the user's path and communicates vital information through voice output, enhancing safety and autonomy. By continuously tracking the user's location, it ensures timely assistance and peace of mind for both the user and caregivers. This abstract explores the Smart Belt's functionality, highlighting its transformative potential for the visually impaired community*

Keywords: Ultrasonic sensor, ESP32, GSM/GPS Module, Object Detection, Smart Belt

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