UE23CS251B: MPCA 4th Semester Section

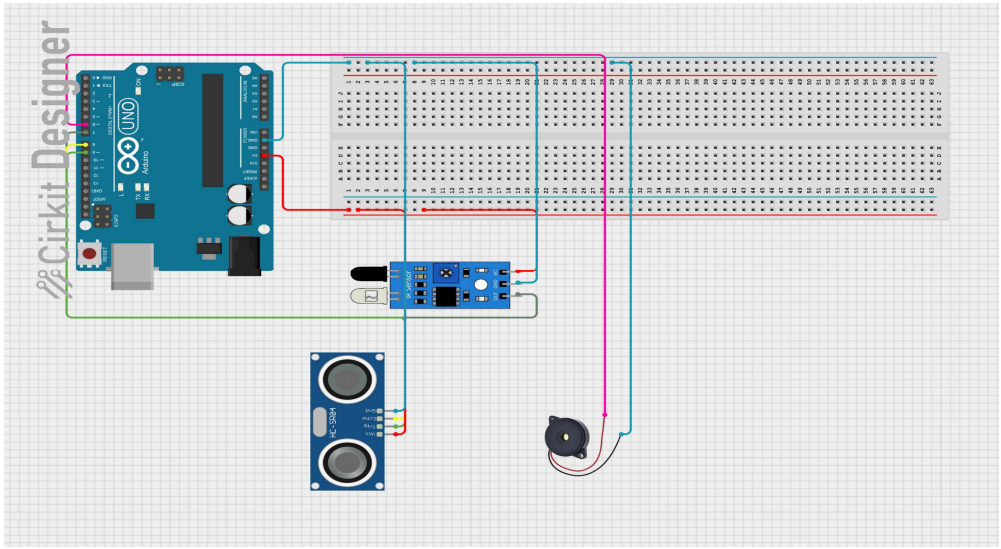
Smart Man Blind Stick

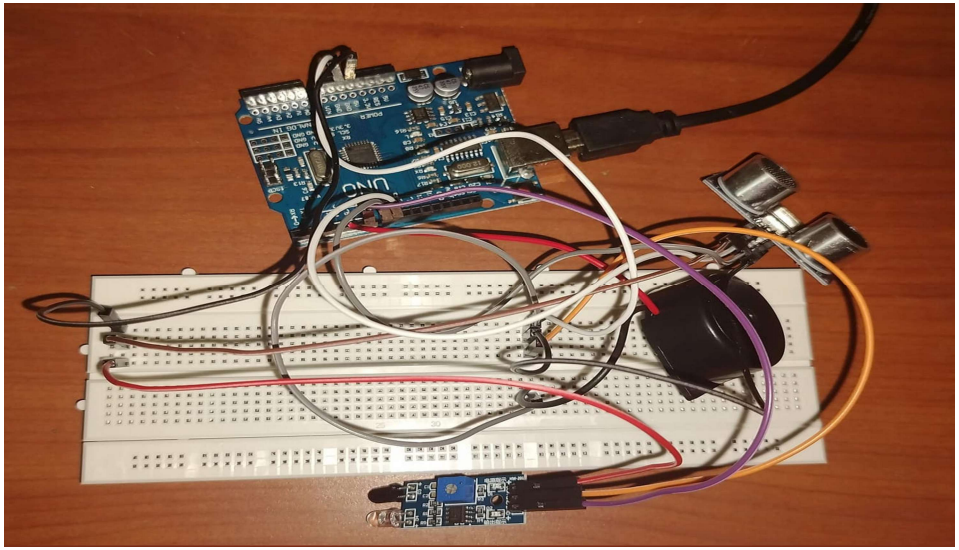
The **Smart Man Blind Stick** is an intelligent, cost-effective, and assistive device designed to enhance navigation and safety for visually impaired individuals. It leverages both hardware-based sensing and software-driven image recognition to provide a multi-layered awareness system.

The stick is equipped with an **ultrasonic sensor** to measure the distance of obstacles ahead, and an **IR sensor** to detect close-range obstructions. When a nearby object is detected, a **buzzer alerts** the user with an audible beep, ensuring immediate response and safety.

To further enhance usability, **image processing** is performed using a connected **laptop or smartphone camera**. The system is capable of detecting specific objects or humans in the path. Based on real-time recognition, a **voice-over system** provides meaningful verbal feedback using speech synthesis—announcing alerts such as **"person detected"**

This hybrid solution combines **Arduino-based hardware** with **Python-powered software**, eliminating the need for wireless modules and keeping the system affordable and practical. By integrating both sensory and visual feedback mechanisms, the Smart Man Blind Stick offers a reliable and enhanced mobility aid for the visually impaired, improving confidence and independence in daily navigation.



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