Major Project

Blind Stick Using Arduino

By
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Introduction

Our project aims to help blind individuals navigate independently using ultrasonic sensors to detect obstacles. A stick equipped with sensors triggers alarms through buzzer and vibration when obstacles are detected, ensuring the user stays on track. Arduino IDE (V1.6.3) was used for programming.

Our Group

Names	Enrollment Number
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Introduction

Blindness or visual impairment refers to the inability to see, presenting challenges in performing daily tasks such as walking down the street or visiting friends.

To address this issue, we developed a Smart Blind Stick, designed to provide users with a sense of safety during their walks.

Why Blind Stick

1. Addresses the Real-World problem.
2. Economical
3. Curiosity

How it can bring Change

1. Enhance Safety
2. Independence
3. Accessibility

Components used

Arduino UNO

The brain of the system. It processes data from sensors, triggers feedback mechanisms (such as vibrations or sounds), and controls the overall functionality of the blind stick.

Ultrasonic Sensor

These sensors detect obstacles in the user's path. They send data to the Arduino microcontroller, which then processes this information to provide appropriate feedback to the user.

why we only prefer Arduino ?

01

Cost-effectiveness

Arduino is affordable, great for budget-friendly assistive projects

02

Community Support

Arduino community provides help, resources, and collaboration for project development.

03

Abundance of Resources

Arduino offers tutorials, docs, and community support for development.

04

Reliability

Arduino ensures stable performance, crucial for everyday device use.

What Makes Our Blind Stick Different From other IOT Projects.

Our blind stick focuses on essential functionality for visually impaired individuals, emphasizing obstacle detection and navigation assistance. Unlike many IoT projects, our priority is user safety and accessibility, foregoing complex features in favor of reliability and simplicity in design and operation.

What are the technology used in our Project

Our blind stick stands apart from typical IoT projects by prioritizing real-world impact over connectivity. While IoT often emphasizes remote monitoring or control, our focus remains on direct assistance to visually impaired individuals, ensuring safety and independence through tactile feedback and obstacle detection.

Thank You