

TEAM 9

NAVIGATING INSOLE

Abstract

The Navigating Insole is an innovative solution designed to empower visually impaired individuals to overcome challenges related to independent and safe navigation. This shoe-based navigation system offers assistance for the visually impaired, allowing them to move freely in their surroundings. Fitted into the individual's shoes, the navigation system provides directional guidance through the use of Internet of Things (IoT) technology, sensors, and microcontrollers. The shoes feature strategically positioned vibrations in the sole, enhancing spatial awareness and providing a more comprehensive understanding of the surrounding environment. This innovative technology not only promotes confidence but also represents a significant advancement in adaptive equipment to improve the overall standard and comfort of life for the visually impaired.

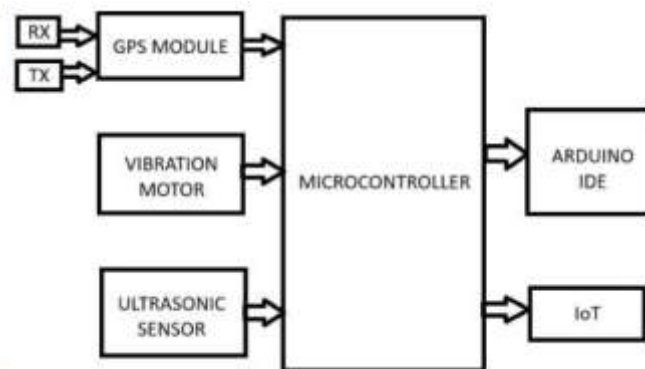
Modules

- GPS Module
- Obstacle Detection
- Navigation through Vibration

Tools and Technologies

- Arduino IDE

Architecture



Conclusion and Future Scope

In conclusion, the Navigating Insole is a groundbreaking solution that significantly enhances the lives of visually impaired individuals through smart technology, vibrations, and thoughtful design, fostering independence, confidence, and a more comfortable daily experience. The tactile feedback provided by vibrations establishes a crucial connection between users and their surroundings, enabling interpretation and interaction with spaces in novel ways. Future enhancements include integrating Google Places API for nearby points of interest, optimizing the compact model, ensuring water resistance, and refining navigation algorithms for more accurate guidance.

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GitHub Links

1. <https://github.com/20WH1A1221/Navigating-Insole>
2. <https://github.com/sushmitha1237/Navigating-Insole>
3. https://github.com/Saivarshini-N/NAVIGATING_INSOLE