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Blind People Navigation System Using IoT

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Abstract: Navigation systems for blind individuals leveraging the Internet of Things (IoT) represent a significant advancement in enhancing their mobility and independence. This abstract explores the integration of IoT technologies into such systems, emphasizing their role in providing real-time environmental data and personalized navigation assistance. Key components include IoT sensors deployed in urban infrastructure and wearable devices, which collect and transmit data about surroundings, such as obstacle detection and location-based information. Machine learning algorithms process this data to generate optimized navigation routes and provide auditory or haptic feedback to the user. Human-machine interfaces, enabled by IoT, offer intuitive interaction, ensuring user-friendly navigation experiences. The abstract also discusses challenges, including data privacy, system reliability, and integration complexities, and proposes future research directions to enhance usability and scalability. Ultimately, IoT enabled navigation systems hold promise in empowering blind individuals by offering reliable and context-aware navigation support in diverse environments.

Keywords: IoT, Navigation, Mobility, Sensors, Machine Learning, Feedback



