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DESIGN AND CONSTRUCTION OF ELECTRONIC AID FOR VISUALLY IMPAIRED PEOPLE

Abstract

With the scope of electronics increasing day by day, the need for utilizing these advanced technologies to make human lives simpler is becoming more and more necessary. The demand for using these technologies to make lives easier for disabled people is also growing. This has encouraged many new areas of research and one of the areas is electronic mobility aid for blind. There are a few smart systems available in the market which uses electronic sensors mounted on the cane but those systems also have certain disadvantages. The Nav Guide is a novel electronic device to aid outwardly debilitated individuals with obstacle in freeway finding. The importance of the Nav Guide system is that it provides easy information on the surrounding environment and deduces priority information without causing information overload. The priority information is provided to the user via vibration and audio feedback mechanisms. The proof-of-concept device comprises of an Arduino with ultrasonic sensors, vibration motors, and a battery. The assessment results display that NavGuide is a valuable guide in the location of impediments, wet floors and ascending staircases. The proposed system guides the blind to detect fire and current passing and it also gives the line following guidance.