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(57) Abstract :
In order to help the visually challenged people, a study that helps those people to walk more confidently is proposed. The study hypothesizes a smart walking stick that alerts visually-impaired people over obstacles, and fire, water in front could help them in walking with less accident. It outlines a better navigational tool for the visually impaired. It consists of a simple walking stick equipped with sensors to give information about the environment. GPS technology is integrated with pre-programmed locations to determine the optimal route to be taken. The user can choose the location from the set of destinations stored in the memory and will lead in the correct direction of the stick. In this system, ultrasonic sensor, temperature sensor, rain drop sensor, GPS receiver, dark sensor, voice synthesizer, speaker, DSPIC controller and power supply are used. The smart walking stick helps blind people to perform navigation and to do their work easily and comfortably. In normal stick, the detection of the obstacle is not done and normal stick is not efficient for visually impaired persons. Because the blind person does not know what type of things or what type of the objects come in front of him or her. The person cannot recognize what is the size of that object and how far is he/she from the object. It is difficult for blind person to move here and there. In smart walking stick, the object is detected with the help of a camera and also it measures the distance between objects by using ultrasonic sensor. If any obstacle comes in front of blind person, he/she can know about the obstacle by hearing the sound generated by the head phone. The system is very useful for people who are visually impaired and are often need help from others.

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