| Title | Design and development of a low-cost smart stick for visually impaired people | | |
| --- | --- | --- | --- |
| Author(s) Name | M. Ashrafuzzaman, S. Saha, N. Uddin, P. K. Saha, S. Hossen, and Kamruddin Nur | | |
| Contact Email(s) | kamruddin@aiub.edu | | |
| Published Conference Name | International Conference on Science Contemporary Technologies (ICSCT) | | |
| Type of Publication | Conference | | |
| Volume |  | Issue |  |
| Publisher | IEEE | | |
| Publication Date | December, 2021 | | |
| ISSN | 978-1-6654-2132-4 | | |
| DOI | <https://doi.org/10.1109/ICSCT53883.2021.9642500> | | |
| URL | <https://ieeexplore.ieee.org/document/9642500> | | |
| Other Related Info. | Page 1-6 | | |
|  | | | |

| Abstract |  |
| --- | --- |
| One of the biggest problem faced by visually impaired people is to navigate from one place to another. They always need human support for moving either indoors or outdoors. The unfavourable conditions of the environment make it more complicated for visually impaired people. A blind person always needs to be alert to get off the situations like crashing with obstacles, holes, staircases, slipping down wet territory. Also, in case of any emergency, they might want to send an alert message to their families or friends nearly their location. Considering the above, in this paper, we have addressed all these issues and provides a solution to assist visually impaired people so that they can live without the much help of others. The Ultrasonic sensor of this system helps blind people to detect obstacles, hole, and staircase alongside water sensor is used to detect the water. The buzzer is placed at the smart stick which provides a sound when any obstacle is identified. The GPS and GSM module of this device assists peoples to obtain the specific location of the smart stick. In the system, Arduino UNO is used as a controller of the device. The proposed smart stick is a low-cost device with faster response, user-friendly, and low energy consumption. | |