Abstract

For visually impaired people, a cane is a close companion helping them to detect and avoid obstacles while walking. But while walking in a new or changed environment, it is hard for them to guess where they are. Also it will be a problem when they lose memory of locations and places. The standard method for taking notes by visually impaired is to emboss Braille dots on a paper, which can be read by feeling the dots by fingers [16]. It is difficult to imprint, copy, transfer or edit these writings. With the advancement in modern day electronic sensors, touch sensing and microcontroller technology, the proposed system aids the visually impaired in navigation via audible messages and haptic feedback, helping them localize where they are and to improve their mobility. This system supports the visually impaired to enter notes and control device operation via touch keypad. The device also provides user information in audio format, including navigation direction, ambient light and temperature condition. The aim of this project is to help visually impaired to improve their communication and provides independency during walking in even unknown areas.
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**Index Terms**

Computer Science  
Embedded Systems

**Keywords**

ARM  
MEMS  
Touch Keypad  
and Voice assisted Navigation