



## ***Automated Mobility and Orientation System for Blind or Partially Sighted People***

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***Abstract- Currently, blind people use a traditional cane as a tool for directing them when they move from one place to another. Although, the traditional cane is the most widespread means that is used today by the visually impaired people, it could not help them to detect dangers from all levels of obstacles. In this context, we propose a new intelligent system for guiding individuals who are blind or partially sighted. The system is used to enable blind people to move with the same ease and confidence as a sighted people. The system is linked with a GSM-GPS module to pin-point the location of the blind person and to establish a two way communication path in a wireless fashion. Moreover, it provides the direction information as well as information to avoid obstacles based on ultrasonic sensors. A beeper, an accelerometer sensor and vibrator are also added to the system. The whole system is designed to be small, light and is used in conjunction with the white cane. The results have shown that the blinds that used this system could move independently and safely.***

**Index terms:** Assistive Technology, Global System for Mobile communication (GSM), Microcontroller, Short Message Service (SMS), AT Commands.