

Review of: "Design and Realization of a Low-Cost Smart Walking Aid for Visually Impaired and Blind People"

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Potential competing interests: No potential competing interests to declare.

The authors present a solution for the visually impaired and blind people that incorporates various sensors and a sound/vibration system to notify the user about the potential presence of obstacles.

Comments:

- The authors state that the device is "highly affordable". However, no data is provided to support this claim. The same goes for the claim all materials are recyclable. However, no information is provided as to what materials are used.
- What is the weight of the device?
- What was the motivation behind the placement of the two buzzers?
- Does the system produce different feedback depending on the distance to the obstacle? An obstacle in the near distance may require a different user response to an obstacle in the far distance.
- What happens when multiple devices are present? The ultrasonic waves will interfere with each other.
- The description of the performance evaluation is inadequate. Was the device tested by visually impaired people? No data is provided for the "swift" response time. How cluttered was the tested environment? How does the device performance vary based on obstacle size?
- A comparison of the developed device with other devices found in the literature/market should be provided to highlight the advantages of this device.
- A summary of the limitations of the proposed solution should be discussed as well.

The structure of the paper needs to be improved:

- A dedicated section detailing the state of the art should be added. The presented literature review needs to be improved as well (there are no references from the last few years). The authors should address what the state of the art/literature lacks to better motivate their work.
- The use of first-person writing should be avoided. e.g., instead of "we have ", use this research or this work, etc.
- Figures should be reformatted for better visualization.
- Equations/formulae should be written using appropriate tools. In the current format, they are confusing/unreadable. The variables should be clearly explained.
- Images taken from elsewhere are not cited properly (e.g. Figure 5). Permission may be required for usage.

Overall, the work needs significant improvement.

