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Abstract This paper presents a portable traveling support system using stereo image processing for the visually impaired people's navigation. This system named as SVETA consists of a helmet molded with stereo cameras in the front, wearable computer over the top and stereo earphones. The two cameras capture the visual information in front of the blind user. The captured images are then processed using the proposed methodology in wearable computer. The methodology includes stereo image processing module to calculate distance through disparity. The information is conveyed to the blind through the set of earphones in terms of musical tones. Voices are also used to inform blind user when the obstacle is very close to him. Experimentations were conducted in both indoor and outdoor environment, and the results of this experiment verified the practicability of the newly developed system.

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