Abstract

This study is a part of designing a system that will help to detect possible obstacles among the in-house object for visually impaired, low vision personnel by birth or accident or due to old age. The input of the system will be a scene (set of objects) and output as audio. Facility of alert is provided based on potential obstacles that gives by its shape like pointed tip, sharp edge, fragile, danger symbol etc. Different techniques are use to provide detection of objects based on shapes and alert users about the severity of the objects. The features of the object are extracted, and clusters of features are formed based on shape similarity. This avoids the exhaustive searching during testing and thus gives less computation timing. Alert service is provided to the user before the actual object is detected by considering the shape of the object. In case the object does not have a likely matching shape in any of the clusters, then it will not
performed the remaining several operation that required for object detection. It declared as a new object. In such way, the overburden to the system is minimized.

References

- Kuc R, Binaural Sonar Electronic Travel Aid Provides Vibrotactile Cues for Landmark, Reflector Motion and Surface Texture Classification. IEEE Transactions on Biomedical Engineering, 49(10): 1173-1180, 2002
Detection of Possible Obstacle Objects based on its Shape

Index Terms
Computer Science Image Processing

Keywords
Alert facility severity of the objects and shape