ASSISTIVE DEVICE FOR THE COMPLETELY BLIND

(KSCST FUNDED PROJECT)

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ABSTRACT

Blind people confront a number of visual challenges everyday – from reading the label on a medicine, labels on products and items on a restaurant menu to figuring out if they are at the right location.

We propose a camera-based assistive text reader and a GPS based navigation system integrated in a single device. This device is proposed as an effort to help blind people to read hand-held objects in their daily lives and also to provide navigation support to them. To initiate the device, we use a speech command to select between two operations namely reading and navigation. As the device is started, the camera captures the image of the hand-held object and uses a text localization algorithm to extract the text from the captured image. The text is then recognized using OCR (Optical Character Recognition) software. The recognized text codes are output to blind users in speech.

The navigation system uses the speech command to set the destination location. The best path is selected by the pre-loaded maps. The navigation system constantly guides the blind persons along the route.