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(57) Abstract :

Numerous features are offered by modern mobile devices, and new ones are constantly being introduced. Unfortunately, users who are visually challenged find it difficult to navigate a mobile phone's menu and use its features. People with low vision frequently use voice commands and screen readers. Screen readers are not always the best option, though, as blind persons may need their hearing for safety and automatic voice command recognition can be difficult in noisy settings. A fascinating opportunity to build new methods of user interaction with mobile phones is presented by novel smart watch technology. We discuss our initial efforts toward the creation of a system for supporting people with limited vision in their daily activities, based on the pairing of a mobile phone and a smart watch for gesture control. More precisely, we suggest an innovative method for recognising gestures that is based on global alignment kernels and is demonstrated to be successful in the difficult situation of user independent recognition. This technique is used to create a gesture-based user interface module that is integrated into a system designed for people who are visually impaired and which also includes a number of other modules. We demonstrate two of them: one for automatically recognising wet floor signs and the other for automatically recognising predetermined trademarks.

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