

An Intelligent Active Alert Application on Handheld Devices for Emergency Evacuation Guidance

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Abstract

When an emergency occurs, like a fire alert, people usually follow the fixed escape route. However, they will not necessarily know where the fire is and which way would be the best route to exit the building. Sometimes people get panicky and the escape guidance might not be adequate or clear enough. In order to provide safe and correct guidance when emergencies happen, an emergency crowd guidance system was designed and implemented. In the system, a wireless sensor network, RFID, and a smart handheld device were integrated to provide a realtime, active, intelligent guidance system for fire evacuation. Moreover, an emergency guidance algorithm was run in the central control module of the proposed system displaying the evacuation route on mobile devices. Also, in the proposed system, the user can obtain information of the environment and get evacuation guidance with a well-marked arrow on a mobile device.

Keyword : Wireless sensor networks, RFID location, Emergency crowd guidance application