

Title :

Real-time Accident Notification to Emergency Medical Services in Brunei Darussalam

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Abstract

Traffic accidents happen regularly which may cause fatalities to those involved. There are cases where victims of traffic accidents require immediate help in order to survive and this is possible by promptly providing the victims with help and support from nearby emergency services. In this work, a notification system was developed to provide real-time accident notification to nearby emergency medical services in Brunei Darussalam. In the case when a vehicle installed with the notification system is involved in an accident, the on-board vibration and shock sensors will detect the occurrence of the accident and send the information signal to the controller. Arduino Uno is used as the controller for the system. In addition, the system is also equipped with fire sensor to detect if the vehicle is on fire. The controller will process the information from the sensors upon accident and wait for 15 seconds in order to wait for a response from the user. At this point, the owner can cancel the notification and reset the system in case of minor accidents that do not require support from the emergency medical services. If no cancellation is detected from the user, the system will retrieve the last recorded GPS information in terms of longitude and latitude and send an alert notification to nearby hospitals. Results from field tests showed an improvement of at least 6 minutes compared to conventional method where others need to report the accident and inform nearby hospitals on behalf of the victim. This system will help to instantly notify emergency medical services and significantly improve the total emergency response time which in return would help increase the survival percentage of the victims.

Remark

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