

Detecting speed violation using wireless sensor network to reduce road accidents among commercial bus

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ABSTRACT

Road accidents involving buses have increased each year because of speed violation. This may give an impact on regulation enforcement by the government institution. Consequently, it will disrupt the development continuity when the community stakeholders question the safety of the commercial vehicle industry. Hence, the purpose of this research is to reduce speed violation among bus drivers in order to decrease the number of accidents comprising buses. This research used wireless sensor network (WSN) technology which contains the usage of speed sensor and Arduino board. The sensor that has been chosen in this project is IR speed sensor. Global system for mobile communication (GSM) is used to transmit a notification by sending SMS. The IR speed sensor generally reads the speed of the wheel, so if the speed is over the limit, it will notify the user using SMS. This speed violation alert system is evaluated by its response time in detecting speed violation and giving alert. Besides, this research has also conducted a survey on usability testing with respondents rated the system highly on usefulness and ease of use.

KEYWORDS

Speed violation; Alert system; WSN; GSM; SMS; Commercial vehicle

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