

DEVELOPING INTELLIGENT SOFTWARE INTERFACE FOR WIRELESS MONITORING OF VEHICLE SPEED AND MANAGEMENT OF ASSOCIATED DATA

ABSTRACT

The aim of this work is to develop an intelligent wireless system for monitoring vehicle speed, identify speeding vehicles and imposing penalty for the speeding offenders. A prototype system has been developed in a laboratory environment to generate random speed data using a mechanical wheel (acts as a vehicle), measure the speed data with a Shimmer wireless sensor and transfer the data wirelessly to a server computer for further analysis. Software interface has been developed using Java based socket-programming to monitor the vehicle speed in a server computer and to send the data associated with a speeding vehicle to a remotely placed client computer. The functionality of the software has been tested by experimenting different traffic scenarios. If the vehicle speed is higher than the set speed limit for the road, the system automatically detects it and generates a report with the time of speeding, vehicle number, vehicle speed, etc. The report is saved in a central database (client computer) in order to take further necessary actions for the speeding offender. The experimental evaluation results show that the system can measure and monitor the vehicle speeds wirelessly and manage the speeding data automatically.

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