

Automatic Vehicle Barrier Control and Logging

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Abstract

Information management system has become an important part of our daily lives. Today, many vehicles are acquired and bought and this means that traffic management is becoming more and more complex. When vehicles are bought they are assigned identification numbers usually present in a plate that is fixed to both front and back of the car. Normally, vehicle logging is done manually by a gate attendant involved in noting down the vehicle's registration number, type of vehicle, and time of entry before allowing vehicle entry to the premise. The vehicle is logged out when exiting in a similar manner. Automation of vehicle logging process at the gate as well as controlling a barrier to allow the vehicle to pass through is prototyped to supplement manual system which is usually a tiresome monotonous and quite unreliable process. To accomplish this automation task, cameras, sensors, microcontrollers and an image processing are integrated. A vehicle at the gate is detected then a series of processes are initiated to take the details of the vehicle before allowing it in or out through the gate by opening and closing a barrier. By automating the process, the various setbacks and limitations encountered with the use of the manual systems are eliminated. Such drawbacks include, erroneous and inaccurate logging of vehicle information, unreliability of the human element in a system, as well as poor time management. An automated system will ensure that control and logging of vehicles is done accurately and in time efficient manner. Use of such a system will eventually translate to social and economic development because more time and resources will be focussed on a much crucial sector in the society and less focus will be on minor elements such as getting past a manned gate or entry point.

Keywords: Information management system; vehicle logging; image processing, vehicle gate barrier