Abstract

Parking in major cities, especially around a market vicinity is not only limited but costly. Innovative parking systems to curb this phenomenon is required. This paper proposes a novel and strategic approach using wireless sensor networks (WSNs) as a solution. The WSNs consisting of sensor nodes are known for offering detection, sensing and communication services. The market parking scheme serves as smart parking service, for monitoring the state of the market parking garage. To function, each slot within the parking space is fit with a magnetic sensor node. The parking process is modelled as an Entry-Exit stochastic process. Vehicles identified as they approach using the Licence Plate Recognition (LPR) program. Post identification, Low-Energy Adaptive Clustering Hierarchy (LEACH) routing protocol of the WSNs is used to route the information concerning the parking garage to the base station. The performance and evaluation of this proposed innovatory system proves its efficiency.

Index Terms

Computer Science
Wireless
Keywords
Wireless Sensor Networks; Vehicle Detection; Wireless Communication; Smart Parking