

Abstract

Smart Parking is one of the technological developments in the field of transportation. Smart Parking is widely applied today allows the optimization of the parking area by providing information on the number of vacant parking slots. But in the system is still found the problem, one of which is parking users have trouble finding parking space slots are empty. These problem often lead to parking queue density due to the absence of vehicle guidance to an empty parking slot. Smart Parking in previous research, there are deficiencies that is the use of looping method that causes incoming vehicles will not be detected by the system as it passes the entrance less than three seconds. In addition, the research is still limited in terms of scalability development because it still uses the cable media. In this final project designed prototype Smart Guides Parking System using event-based method so that system can turn on guide lamp with small response time when there is car entering into parking location. Wireless media is also applied to the system to improve the scalability of the microcontroller range in data capture by the sensor. The results obtained, the system is able to guide the vehicle to be parked into an empty parking slot. Response time system to guide when the parking area is empty is 0.077 seconds, when the parking slot is filled with some cars is 0.077 seconds, and 0.029 seconds when the case of parking car displacement. For results in scalability terms, the system can be applied to a large parking area with the maximum parking slot that can be handled by one slave are four parking slots.

Keyword : *Smart Parking, Smart Guides Parking System, Wireless Network, Event-Based/Interrupt*