Literature Review

Abstract:

The purpose of a review of previous literature is to support the study carried out in this thesis. Smart parking is considered beneficial for car park operators, car park patrons as well as environmental protection. Literary Criticism is a work aimed at gathering appropriate research on smart parking. The purpose is to collect all the information available using Google Scholar and Science Direct and other academic sources. The literature review conducted for this article presents an in-depth review of the recent advances in sensor and communication technology in parking systems. In addition, this article presents a survey and analysis of an academic, qualitative literature review. It includes an in-depth study of selected topics and provides a step-by step process. Reviews various smart parking systems used for parking guidance and parking facilities management and provides insight into the technical aspects and specifications of such systems that have been scientifically announced in recent years. This study aims to improve parking facilities by the introduction of a new Smart Parking Systems that would reduce empty parking space searching time. 

Introduction:

With the ever-increasing urban population and the improvement in living standards, the number of vehicles has increased dramatically. Increasing urban car ownership not only increases the burden of urban traffic, but also aggravates the problem of inadequate parking. Increased driving power in the parking lot increases energy consumption and exacerbates parking difficulties. Automated parking technology has become a popular research topic as a key component of intelligent vehicle technology. Automated parking technology enables you to safely and quickly complete the vehicle, while improving the case of driving and minimizing accidents in the parking lot. The most widespread solution used currently, is to increase workers to handle such traffic. Even in malls, trade centers and business parks, parking of vehicles has become an issue. We have all experienced the chaos, confusion and time-consuming queues to find an appropriate parking space in such places. While leaving, we are get stuck in queues to pay the parking charges.

In Smart Car Based Parking System, when a car arrives in parking lot, it is automatically allotted a parking space. Space is allotted considering the best spot with respect to least walking distance of the parking spot from the entrance, parking type(slash/perpendicular/ parallel parking), security(coverage of spot by a camera). A user can record his preference through a website/mobile app, otherwise, default preference is considered. Default considers all preference criterion and allocates the best available As soon as the car is parked, a message is sent to the car owner about the parking location of the car, which helps a person to remember where he had parked his car. This problem arises as most of the time, as car owner come by their own transport, resulting in abundance or high number or transports competing for a few vacant parking spaces. The limited availability of vacant parking spaces often results in traffic congestion, as well as making a driver frustrated in finding an available parking space. In fact, it is one of the main problems that result to traffic congestion. Here we are using this technology to increase the safety, security, comfort, of drivers using public parking. The smart parking system concentrates on solving the problem of proper parking management by utilizing the advancement of technologies that will definitely help in alleviating, if not solving the current traffic problem.

In this proposed system, the video [**image processing**](http://www.scialert.net/asci/result.php?searchin=Keywords&cat=&ascicat=ALL&Submit=Search&keyword=image+processing) has been chosen to best suit the system because of its several advantages compared to other sensors. Video [**image processing**](http://www.scialert.net/asci/result.php?searchin=Keywords&cat=&ascicat=ALL&Submit=Search&keyword=image+processing) detects vehicles by analyzing the video imagery and determines the changes between successive frames.