Parking Space Visual Monitoring System

A Project Study
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BACHELOR OF SCIENCE IN ELECTRONICS ENGINEERING

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ABSTRACT

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Many cities suffer from lack of parking spaces or have a traffic build-up in search for a parking space, whether in Airports, Office Buildings, Shopping Malls, Factories or Business Avenues. With this scenario, the researchers propose a Parking Space Visual Monitoring System that provides graphical information regarding the relative availability of parking spaces within a parking lot or other large facility. The construction of a parking lot miniature model was prepared to test the efficiency and reliability of the study. This includes sensor nodes for each parking space and uses an LDR (Light Dependent Resistor) as the sensor to detect vehicles. The system relies on a microcontroller based circuitry that determines the status of a parking space (whether or not it is occupied). The circuit is interfaced with a Visual Basic Program. The information is displayed in an LCD monitor at strategically located displays along the way to the available space. The display contains the graphical user interface of the parking lot and a counter that shows the number of available spaces per floor. In the graphical user interface, an image of a vehicle within a parking space is displayed if that space is occupied. Parking fees are collected upon entrance in the parking lot.

The information obtained from the sensors in each parking space may be used to provide information to the manager of the facility regarding space utilization. Information regarding the occupancy status of each space may also be used as a check on receipts of parking fees.

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