

IoT based Parking Management and Guidance System using Image Processing

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Abstract. Car Parking has become a serious problem due to the increase of amount of population. In urban areas have huge traffics because of the informal vehicle parking on both side of the road. As a solution for this problem, the Vehicle Parking areas were introduced. It may be indoor or outdoor car parks. After these are introduced, a new problem begins. In a huge car park, it can be taken 30 minutes to find a vacant spot in a rush hour, creating unnecessary fuel waste and air pollution. Image processing-based Car Park Management System is described in this paper. It detects vacant legal parking spots and safely guide to selected parking spot. Detection can be performed in indoor parking lots. The system is consisted of many cameras and Arduino board with LED display. All the devices are connected by using IoT. Using this system, a driver who need a vacant spot in the indoor parking area can be guided to the vacant spot by displaying the number of vacant spots in each level at the entrances of each level. Then the driver can read the display and can take idea about vacant spots in each level and drive through it to the vacant spot.

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