ABSTRACT

Parking area is an important service in a shopping center, offices, etc. A wide parking area can be a problem for car driver to know which area in the parking lot is unoccupied, this condition forced the driver to turn around the parking area to find empty lot.

In this final project, it will be designed a simulation to detect empty lot in a parking area by using image retrieval system based on digital image processing, so it is expected that this system can help driver to know which area in the parking lot is unoccupied. The designed simulation uses parking area miniature that uses car miniatures as object to be detected. The detection uses a webcam that connected to a computer to process captured image. The process is done by using image retrieval system which is a system that can show numerous reference images that similar with webcam captured image, then the minimum likelihood distance value is counted between reference images and webcam captured image.

Background color differences and light intensity changes can affect detection process, so both of them will be analyzed based real condition. In this Final Project, monitoring system can detect with 10% of error level maximum from the real condition.

Keywords: parking area detection, image retrieval, digital image pocessing