

## ABSTRACT

*Four-wheel vehicle requires a wider space so the driver must surround the parking area to get a parking spot. Information availability of empty parking slots at designated parking areas is very important for the driver. Based on these problems, in this final project will be implemented smart parking system with car parking availability detection based digital image processing and Raspberry pi. The system can determine an empty parking area with input in the form of a mark on the image of the car park slots are taken using the camera usb.*

*A captured image in the parking area in the form of the model image of RGB and then do the color conversion to grayscale then performed thresholding to produce binary image output to be sent to the server via a LAN. The image processing system using the canny edge detetction. Based on tests performed gained an average percentage of data consistency in detecting the triangle mark at 83.333% and the system's success in ensuring that the information obtained in accordance with the database on the server data on Raspbery pi has a percentage of 92%.*

*Time computing system in detecting three reached 46.8 ms mark, the two marks detection computation time required for 36.1 ms, and the detection of the signs of the necessary computing time is 33.2 ms. Different light conditions affect the stability of the system in detecting signs. Stable system in detecting the mark on the light intensity value range of 6000 - 4000 lux.*

*Keyword : Digital pengolahan citra, Raspberry pi , Local Area Network, Canny Edge Detetction, availability of parking.*