ABSTRACT

At this point, the development of the construction offices, malls, hotels, apartment buildings and associated costs, become a larger in urban areas. Not only in urban areas, in the countryside now, has been difficult to find the empty of green land. The development progress that gets bigger with accompanied by an increase in the number of vehicles, will lead to a new problem for the land manager of parking spaces empty. On present conditions, often parking manager does not provide information to users of the land, for parked vehicles. This causes users of the land must look around, to find an empty parking lot.

In this final project created a system that will make it easier for the user to know the condition of the parking lot. The system is designed with the help of the device *software Matlab R2009a*. Image retrieval is done with three cameras for each test image and background. On the system process occurs, *preprocessing, background substraction, dilation* and *bw labeling*. After that, the output of the image processing results will be shown as information the availability of parking spaces. The method used in the analysis of this system is a *threshold method* and algorithms use of *background substraction*.

Testing on this system, using the parameters-parameters such as *threshold value, eksposure value, bw labeling value,* and testing against *noise* and *blur*. Testing on the system was conducted on 5 conditions. The research results showed that the system that has the highest accuracy value i.e. sunny morning conditions with 91.11%. Meanwhile, a system that has the lowest value of accuracy among the 5 conditions was rainy afternoon with 65.56%.

Keywords: detection of parking lots, empty parking lots, multiple *webcam, image processing, threshold*.