ABSTRACT

A parking lots from time to time become a problem continuously because the number of vehicles keep increasing. Availability of parking lots at universities, hospitals and other public facilities. Due to the limited parking space for public facilities, car driver need more time to look for available parking locations. Most of the time in the parking area, the parking officers are not available to help dirver to find a parking space so that the driver can park their car faster.

In this final project, a prototype parking location is designed. The method used is *Cicle Hough Transform*(CHT). In the process using a Raspberry Pi, Logitech C270 webcam camera and prototype parking location. The process is to detect the parking location with a camera connected to the raspberry pi and takes a picture of the parking location that was created through a prototype, then the results are sent to a laptop that has been designed using *Graphical User Interface*(GUI). The GUI has 5 display menus, such as calibration, assistance, parking, *available*, *parked*. The GUI has a function as a vehicle entrance that will place its vehicle to the available parking location.

The results of this parking location design using *Circle Hough Transform* is the system got the highest percentage with a value of 100% on the parameter value of light intensity with a range of 80-120 lx. The system has a time delay on the calibration button which is 7.99 seconds and the parking button which is 3.12 seconds.

Keywords: *Raspberry pi, parking location, parking lot, camera, GUI.*