ABSTRACT

Activities queuing up while making payments at the center is one of the solutions to make more orderly transactions. Queue theory is the result of making the resources needed to provide the service. For customers in supermarkets, the number of places where payment transactions cause the queuing system is less efficient. Much research has been done to solve this problem and based on the final task by Rifqi Aji Widarso on the analysis of queuing systems based on image processing this underlies the author makes an innovation to the customer queuing system through this Final Project.

In the final project entitled "Design of information system of the number of queue-based image processing", has created a prototype designing system the number of customer queues on kassa with a certain level of accuracy. The level of accuracy is determined by position parameters, the effect of light conditions on the accuracy level, and the duration of the system so that the system generates the minimum number of customer queues. The created system consists of a customer queue image, image processing on MATLAB software, GUI as the interface between user and system, Arduino Uno as a link between MATLAB and the number of customer queues displayed on 16x2 LCD Shield. In this case detection of the number of customers on each cashier from the picture of the customer queue. Number of queues forwarded to Arduino Uno to display on 16x2 LCD.

The results obtained in this final project is the system provides information on the number of customers with an accuracy of 97%, the best light conditions above 143 lux, the duration of the average duration of 16 seconds, recommended minimum recommended hardware with 6 Gb RAM and the number of customer antria displayed On 16x2 LCD Shield.

Keywords: image processing, MATLAB, GUI, arduino uno, LCD Shield 16x2, number of queues.