ABSTRACT

In the era of technology, automation becomes something reasonable with the goal of saving labor cost and accuracy of the system more than if managed by humans. and process automation can be applied into the fields of purchase, such as replacement cashier. As is known cashiers usually managed by a store clerk, to be able to make payments, sometimes buyers queuing up in advance, because not all open gauze and store clerks also can make mistakes that can harm shops and shoppers. Therefore it is necessary we have designed a system that is capable of performing the calculations themselves and make payments easy.

This thesis explores a tool that serves as a shopping system that is based on the weight sensors, *barcode reader* and controlled by a SBC (Single Board Computer). Weight sensors will be positioned under the shopping cart. Every customer is to take the goods need to scann the *barcode* first before put into trolley. Weight sensors will detect the weight of the goods and to check the suitability of the weight and the weight accumulates in the trolley. When payments on an automatic teller, customers simply make a payment using the identity card members and the screen door would be open if the payment is successful.

The test results of *barcode* detection indicates the use of a *webcam* quickly with the average - average time required was 2:59 seconds. And the failure of matching weight of trolley and *database* is 10.598%.

Keywords*:* Raspberry Pi, *Load cell, Wireless LAN*