Barcode Scan Inventory Management Mobile Application For Hasanah Halal Mart

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Abstract. The current technology that's used for inventory is barcode reader that consist of a scanner, decoder and a cable used to connect the barcode reader to the computer. It is an electronic device that is used to reading and printing the barcode onto the computer. The barcode reader captures and translate the barcode into numbers/letters and the data will sent to the computer. The global barcode scanning market is growing at a steady market. An increasing number of retail outlets in developing countries such as China,Thailand,India are contributing to the high demand for barcode scanning industries. This is how the barcode reader caters for the big market. Because of the high demanding of the barcode scanning industries, the barcode reader is more known and frequently used in big market such as big mall. This is because the barcode reader is easy to use. The current system that is used by Hasanah Halal Mart is a cash register machine. The cash register machine is used to calculate the total of the price of the inventory. Besides that, Hasanah Halal Mart also writes the record of inventory manually on the book to keep track of the inventory stock.The problem that they faced as they used the manual system is they cannot have the exact data of their inventory as they need to calculate the stock and write it at the book. The data of Hasanah Halal Mart is not well organized and not systematic as the data is only written manually on the book. The receipt that they kept from the cash register machine when the customer buy the inventory, only can track the daily sales inventory. That means, they have a lot of problems in organizing their inventory data. This project is proposed to solve their problems to manage the inventory faster and in a well-organized way.

Keywords: Barcode, mobile mpplication, Inventory.

1   Introduction

Inventory is one of the crucial elements that must be well managed in order to ensure daily business activities run smoothly. However, Hasanah Halal Mart is having difficulties in keeping and updating stock or inventory. It is due to their inventory management is not equipped with computerized system instead of doing manually. As a result, all the data, transactions, and inventory are not kept in secured. In fact, the current method also wastes time and money. They use a lot of documents to keep records for each product. This is not effective for future reference. Besides, they also face a problem in identifying the availability of product items in stock.

Currently the shop uses a cash register machine to store the total sales of the day. But, the problem of using a cash register the machine is the sales record will be generated on a receipt paper this is not a proper way to keep all the record because the The record doesn't store in the database. They were also having difficulties in tracing products that have a minimum amount of available stock. Therefore, they have to make a manual checking to get the information for updating the inventory. It clearly shows the current The system is not efficient at all.

2   System Analysis and Design

The methodology used is Agile Software Development (AGD). In the software development, ASD is a methodology for the creative process that anticipates the need for flexibility and applies a level of pragmatism into the delivering finished product. There are few of methods that using ASD concept. The method that will be focused on for this project is Extreme Programming.The system is developed based on the user requirements which have been represented by using a diagram which use case diagram as shown in Figure 1 below. Description of the functionalities of each of the case will be shown in Table 1.
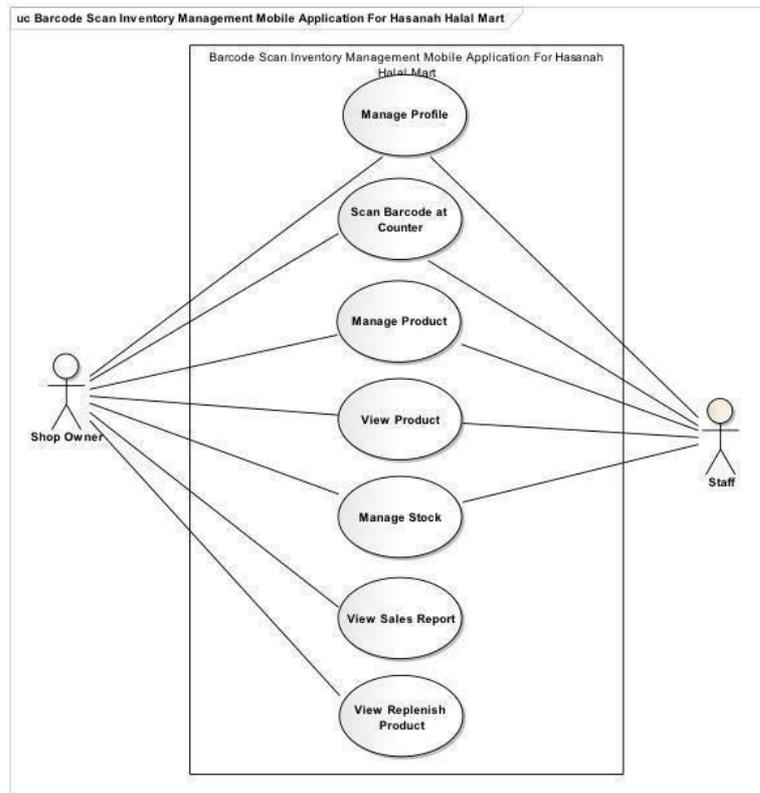

Figure 1. Use Case Diagram

Table 1 Use Case Description

Use Case	Description
Manage Profile	This use case enable shop owner and staff edit their profile such as their username and
Scan Barcode at Counter	This use case enable shop owner and staff to scan
Manage Product	This use case enable shop owner and staff to add
View Product	This use case enable shop owner and staff to
Manage Stock	This use case enable shop owner and staff to update their inventory stock when new stock arrived at the shop.
View Sales Report	This use case allows shop owner to view sales
View Replenish Product	his use case allows shop owner to view list of product that need to restock.

Figure 2, 3, and 4 below shows some of the interfaces of this system which are all products, add new product and preview product page that have been developed.
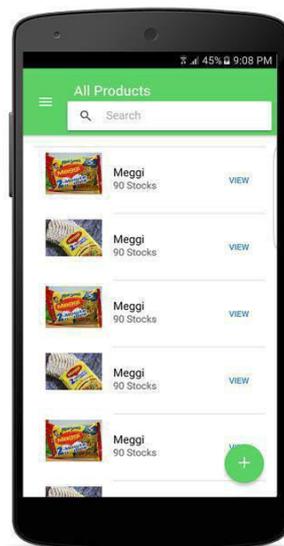
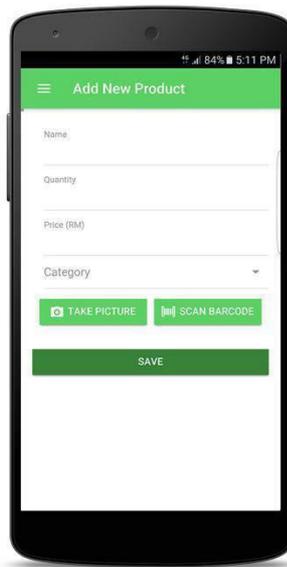

Figure 2. All Product Page of this system
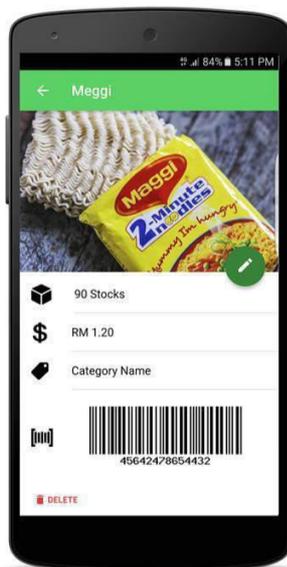
Figure 3. Add New Product Page of this system

Figure 4. Product Preview Page of this system

3   System Evaluation

Software testing is crucial in any software development. Testing ensure that the system works as required. There are two common type of testing which are Black Box Testing and White Box Testing. White Box Testing focuses on internal logic of the system while Black Box Testing focuses on functionality of the system. For this project, black box testing was selected as the type of testing performed on the system.

Black-box testing is a method of software testing that examines the functionality of an

application without peering into its internal structures or workings. This method of test can be applied virtually to every level of software testing: unit, integration, system and acceptance [5].

This test is performed by creating a test case for all the function in the system. Test

cases are built to know what the application is supposed to do. For this project, both valid and invalid inputs for each functions are selected and then the output are recorded in a table. The output then are compared with the expected output to know whether the functions works as expected or not.

As the results, all the functions actual output tested match the expected output means **that this system works as expected. İn conclusion, this test has be**en successfully executed and the results of the test is positive.

User acceptance test is performed using predefined acceptance test procedures by directing the testers which data to use, the step-by-step processes to follow and the expected result following execution. The actual results then are retained for comparison with the expected results. If the actual results match the expected results for each test case, the test case is said to pass.

For this system, all the actual results for each test case match the expected results means that all the test are pass. The test run smoothly and all the results are pass means that the system works as expected. In conclusion, both test give a positive results means that the system is ready to be handle to the Hasanah Halal Mart.

6   Conclusion

The objective of the development of Barcode Inventory Mobile Application for Hasanah Halal Mart has been reached. In addition, the system helps the owner and staff at Hasanah Halal Mart to manage their inventory.

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