

**CASHIER AND INVENTORY MANAGEMENT SYSTEM WITH
BARCODE SCANNER**



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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JUDUL: CASHIER AND INVENTORY MANAGEMENT SYSTEM WITH BARCODE SCANNER

SESI PENGAJIAN: 2020 / 2021

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CASHIER AND INVENTORY MANAGEMENT SYSTEM WITH BARCODE
SCANNER

NUR KHAIRUNNISA BINTI IDRUS



This report is submitted in partial fulfillment of the requirements for the
Bachelor of Computer Science (Software Development) with Honours.

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2021

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DEDICATION

To my beloved parents, thank you for supporting me through this journey from the beginning until the end. Both of you have been supporting me without any complaint and always encourage me to finish this journey. Also, to my friends who helping me to complete this journey, thank you very much for the never-ending helps. Once again, thank you everyone



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ABSTRACT

The Cashier and Inventory Management System with Barcode Scanner is specifically developed to provide a systematic sales and inventory recording services. Cashier and Inventory Management System with Barcode Scanner system is a desktop system developed that it is focused on managing the activities running in convenience store that includes managing suppliers, managing stocks, and sales. This system also uses a barcode scanner to speed up the process of sales transaction. It can be accessed with two users which is the admin who is the store manager and cashier. Only authorized user can access and use the system. The admin can manage the suppliers by adding and updating the suppliers list using the system. The admin also could add the product and update the products using the system. They are also able to update the product stock anytime they want. There is also a function that allow the admin to add new users using the system. The admin could also specify the role of user. Then, they are also able to use the cashier function. Sales report function also included in the system. As for the user type cashier, they can only view and update their personal detail and access the cashier function. On the other hand, this system is also focused on database management of the product inventory. The methodology used to develop this system is Waterfall which is a standard process to conduct all the steps necessary to analyses, design, implement, and maintain information systems. An analysis study has been done based on the current existing system and all the problems statements and requirements have been identified. The interfaces for this system have been designed according to the requirement and needs of the current market. This Cashier and Inventory Management System with Barcode Scanner will help to improve the performance of current situation and overcome the problems that arise nowadays.

ABSTRAK

The Cashier and Inventory Management System with Barcode Scanner dibangunkan secara khusus untuk menyediakan perkhidmatan merekod jualan dan inventori yang sistematik. Sistem Cashier and Inventory Management System with Barcode Scanner adalah sistem desktop yang dikembangkan yang difokuskan untuk menguruskan kegiatan yang berjalan di kedai serbaneka yang merangkumi menguruskan pembekal, menguruskan stok, dan transaksi penjualan. Sistem ini juga menggunakan pengimbas kod bar untuk mempercepat proses transaksi penjualan. Ia dapat diakses dengan dua pengguna iaitu admin yang merupakan pengurus kedai dan juruwang. Hanya pengguna yang sah yang dapat mengakses dan menggunakan sistem. Admin boleh menguruskan pembekal dengan menambahkan dan mengemas kini senarai pembekal menggunakan sistem. Admin juga dapat menambahkan produk dan mengemas kini produk menggunakan sistem. Mereka juga dapat mengemas kini stok produk bila-bila masa sahaja mereka mahukan. Terdapat juga fungsi yang membolehkan admin menambah pengguna baru menggunakan sistem. Admin juga dapat menentukan peranan pengguna. Kemudian, mereka juga dapat menggunakan fungsi juruwang. Fungsi laporan penjualan juga termasuk dalam sistem. Bagi juruwang jenis pengguna, mereka hanya dapat melihat dan mengemas kini perincian peribadi mereka dan mengakses fungsi juruwang. Sebaliknya, sistem ini juga tertumpu pada pengurusan pangkalan data inventori produk. Metodologi yang digunakan untuk mengembangkan sistem ini adalah "Waterfall" yang merupakan proses standard untuk melakukan semua langkah yang diperlukan untuk menganalisis, merancang, menerapkan, dan memelihara sistem informasi. Satu kajian analisis telah dibuat berdasarkan sistem yang ada sekarang dan semua pernyataan dan keperluan masalah telah dikenal pasti. Antaramuka untuk sistem ini telah dirancang mengikut kehendak dan keperluan pasaran semasa. Cashier and Inventory Management System with Barcode Scanner ini akan membantu meningkatkan prestasi keadaan semasa dan mengatasi masalah yang timbul pada masa kini.

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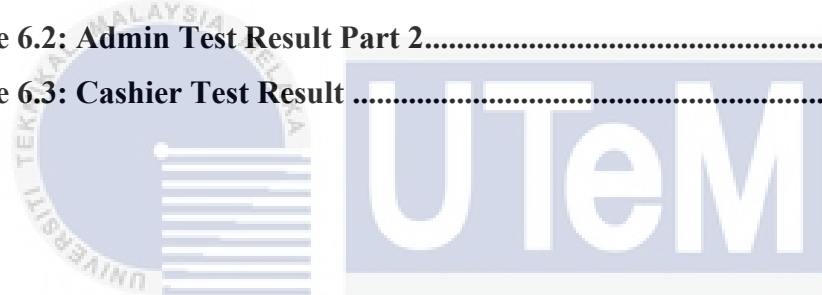
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LIST OF ABBREVIATIONS

FYP	-	Final Year Project
PSM	-	Projek Sarjana Muda
SDLC	-	Software Development Life Cycle
NRIC	-	National Registration Identity Card Number
ID	-	Identification
UI	-	User Interface
DDL	-	Data Definition Language
UTeM	-	Universiti Teknikal Malaysia Melaka
FTMK	-	Fakulti Teknologi Maklumat dan Komunikasi

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Cashier and Inventory System with Barcode Scanner is a desktop-based system to be developed that it is focused on managing the activities running in convenience store such as managing the product stock and sales transaction. Before, the store manager used manual way to manage the convenience store. Among the problems of the manual system are loss of stock data and data redundancy. To overcome this problem, Cashier and Inventory System with Barcode Scanner is the right step because it can store data safely and avoid data redundancy by storing the data in database. It also uses a barcode scanner that can speed up the payment process at the cashier.



1.2 Problem Statement

On the current system, the store manager and cashier of the convenience store handle all the process regarding the sales and inventory management. This approach has given a lot of problems to the manager. It is not efficient as all the process regarding the management is slow. It also wasted a lot of paper because the information of the stock and supplier are recorded and kept manually by the store manager. When finding certain information regarding the stock availability or supplier, it also wasted the store manager time and effort because it took so much time for them to find it manually one by one. The manual system also always causes data loss. Since it is stored on paper, human error could happen and the loss of the paper can lead to data loss. In conclusion, this manual system does not seem to be reliable anymore. To overcome this problem, we can use computerized system to manage all this processes and

solve this problem. With the barcode scanner, the cashier does not have to key in the barcode manually.

1.3 Objective

- To analyze the business process running by the convenient store.
- To design a system that can store all the stock and supplier data in one place without consuming a lot of physical space in the store
- To develop a system that can manage the stock and supplier data of in one place without redundancy
- To test the barcode scanner by tracing the stock with barcode assigned

1.4 Scope

1.4.1 System Module

(a) *User Management Module*

In this module, the admin can manage the users who can access inside the system. The admin can register a new user to give them permission to access the system

(b) *Point of Sale Module*

This module is responsible in calculating the items purchased by the customer. This module will be used by the cashier. To speed up the process, this module will be integrated with barcode scanner. The cashier can simply input the barcode inside the system with one single scan for each product purchased by the customer.

(c) ***Product Management Module***

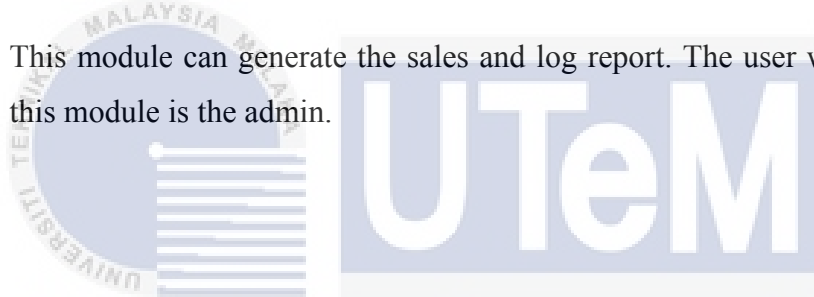
This is a module created specifically for the admin. The aim of this module is to help the admin to keep track with the product inventory. In this module, the admin can add new product details. They also can update the existing product

(d) ***Supplier Management Module***

This is another module created specifically for the admin. The aim of this module is to help the admin to manage the store supplier information. In this module, the admin can add new supplier details. They also can update the existing supplier.

(e) ***Report Generation Module***

This module can generate the sales and log report. The user who can access this module is the admin.



1.4.2 **System Target User**

(a) ***Cashier***

The cashier can do the following action

- i. *Login into system*
- ii. *Update account detail*
- iii. *Record sales transaction*

(b) System Administrator

The store administrator can do the following action

- i. *Login into system*
- ii. *Add new user*
- iii. *View user list*
- iv. *Update user detail*
- v. *Record sales transaction*
- vi. *Add new product*
- vii. *View product list*
- viii. *Update product detail*
- ix. *Add new supplier*
- x. *View supplier list*
- xi. *Update supplier detail*
- xii. *View report*

**1.5 Project Significant**

This project will be beneficially for the convenience store management as it can help them to manage the product stock and supplier digitally. This system also will be helpful for the cashier to speed up their task with the use of barcode scanner. Other than that, the management also can view the sales report.

1.6 Expected Output

The expected output for this project is to develop a desktop system that can be use by the convenience store to manage their business activities such as cashier system, stock management, supplier management and generate report in one place

1.7 Conclusion

As a conclusion, Cashier and Inventory Management System with Barcode Scanner would be helpful for convenience store to run their business activity smoothly. The system will let the admin to manage their supplier and inventory detail one place. The system also will speed up the sales transaction process between the cashier and customers



CHAPTER 2: LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Cashier is a person who record the sales transaction through a cash register for the items that the customer wishes to purchase at the convenience store. The items are scanned by a barcode reader positioned on the item with the use of a laser scanner. After all the items are being scanned, the cashier will be received either bank notes for cash or cash or debit or credit card for electronic payment for the goods or services exchanged, Balance will be returned to the customer that option for cash transaction. Whereas for customer that choose electronic transaction, a copy of electronic transaction will be printed and given to customer.

2.2 Facts and findings

This section will focus on the existing of cashier and inventory management system. It will introduce the domain and the explanations of the existing system along with the applicable technique related with cashier and inventory management.

2.2.1 Domain

Cashier and Inventory Management System with Barcode Scanner is a proposed desktop system that provides most of the functionality required for a sales transaction system. The system will allow the admin to make modification in supplier and product management while the cashier can access to the sales transaction function.