SMART INVENTORY MANAGEMENT SYSTEM

LEE SIEW PING

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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Alamat tetap: No.9, Jalan Wakaf Mek Zainab, 15300, Kota Bharu, Kelantan.	Nama Penyelia: Prof. Madya Norhaziah Bt Md Salleh
Tarikh: 12 Aug 2015	Tarikh:

CATATAN: * Tesis dimaksudkan sebagai Laporan Akhir Projek Sarjana Muda (PSM)
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LEE SIEW PING

This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Database Management)

FACULTY OF INFORMATION AND COMMUNICATION TEKNOLOGY
UNIVERITY TEKNIKAL MALAYSIA MELAKA
2015

DECLARATION

I hereby declare that this project report entitled

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is written by me and is my own effort and that no part has been plagiarized without citations.

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SUPERVISOR : _____ Date: _____

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DEDICATION

To my beloved parents, thank you for providing a variety of support in terms of moral, financial and always be by my side when I am going through hard times to finish this my tertiary studies including this project.

To my beloved supervisor, Prof. Madya Norhaziah Bt Md Salleh, thank you for guiding, listen to me every time I face any problems and giving me the best advice all the way through this project.

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ABSTRACT

Smart Inventory Management System (SIMS) is a web based database system which used to manage the flow of inventory in the shop. By using this system, it will help the user to efficiently manage the flow of the stocks, effectively utilize the stock, and generate the sales report. Besides, at a specific time period, if the inventory is below the threshold level, the staff will be notify in a reminder to order the items from the vendors in order to restock the required items. By using this system, it will help to save manpower and money. In addition, this system is a user friendly system which can be used by anyone.

ABSTRAK

Sistem Bijak Pengurusan Inventori (SIMS) merupakan satu sistem yang berdasarkan web. Ia digunakan untuk mengurus aliran inventori di kedai. Dengan menggunakan sistem ini, ia akan membantu pengguna untuk mengurus aliran stock dengan effektif dan menghasilkan report dengan automatik. Selain itu, dalam masa yang tertentu, jikalau sesetengah stok berada bawah aras yang ditentukan, ia akan memberi notis kepada staff untuk membuat tempahan dari penjual. Di samping itu, dengan menggunakan sistem ini, ia juga dapat membantu pengguna untuk menjimat masa dan tenaga kerja. Sementara itu, sistem ini juga merupakan sistem yang senang digunakan untuk mana-mana golongan sama ada muda atau tua.

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LIST OF ABBREVIATIONS

SIMS	**-**	**Smart Inventory Management System**
SQL	**-**	**Structured Query Language**
ERD	**-**	**Entity Relationship Diagram**
DFD	**-**	**Data Flow Diagram**
PK	**-**	**Primary Key**
FK	**-**	**Foreign Key**
DBMS	**-**	**Database Management System**

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CHAPTER I

INTRODUCTION

1.1 Project Background

Organization of stock flow in an inventory shop is an important process as the stock is the main entity of a shop. Nowadays, most of the staff and managers are forced to keep track of inventory by hand. This means that they must count what they have sold, what they have left at the end of each day, store the data of each item and check the price of the items manually. They also must fill out order forms to be sent to the vendors so that they can restock their inventory. This wastes valuable man hours and is a rather simple task to automate using a software system. The solution that I would like to propose based on this issue by developing software system which will keep track of the stock in the shop.

Meanwhile, this system can help staff to efficiently manage the flow of the stocks, effectively utilize the stock, and generate the sales report. Besides, at a specific time period, if the inventory is below the threshold level, the staff will be notify in a reminder to order the items from the vendors in order to restock the required items.

1.2 Problem Statement

1. Backup and Recovery

The current inventory shop does not have any system to help them to do any backup or recovery whenever their data is loss.

2. Generate Report

Nowadays, report has become an important feature of a system as most of the organization need report to see statistic or the sales for the shop. It is time consuming by doing it manually.

3. Lack of record of the stock

No record of the sales are made so they can't figure up the exactly profit of the shop and how many stock are left.

1.3 Objective

Objectives are the goal of the proposed system. Below shows the objectives of SIMS:

1. To develop a system with generate report features

A report can be generated by using the system automatically and the desire parameters can be selected.

2. To reduce lead time, shelf space and errors

Time needed to record the data, space needed to put the file contains the data and some errors can be reduced by using the system.

3. To keep record of transaction logging through triggers

By using the system, some changes that are made to the important table such as use and role will be automatically keep track by using triggers.

4. To enable the user retrieve data easily and accurately

By using this system, all the data can be retrieved easily from the database.

1.4 Scope

In this section, the scope includes system modules, users and software required.

1.4.1 Scope of System Module

1. Login

In the login system, only the authorized staff can login to the system by using their own user id and password for login. The login system is important to ensure that the system will not be access or change by unauthorized user.

2. Calculation

This module is used to calculate the total sales and the highest quantity of item sales.

3. Inventory Module

i. Add new items
ii. Make order of items
iii. Remind the staff if the items are below the threshold level

4. Report

Generate sales report based on day, month and year.

1.4.2 Scope of users

The user that will be using SIMS is:

1. Normal Staff

Normal staff is the person who is in charge on the front end system. They manage the order, items and the supplier. They can view the stock, add a new stock, update data or delete unnecessary data.

1.4.3 Scope of Technologies

There are several technologies that are being used to develop SIMS which are software, network and hardware requirements. All the scope is show as below:

1. Software

i. Programming Language
PHP

ii. Operating System
Microsoft Windows 7

iii. Web Server
Apache

iv. Database Management System (DBMS)
Oracle

2. Hardware

i. Processor: Intel ® Core ™ i3-2367M
ii. RAM: 4GB

3. Network

i. Local Area Network (LAN)

1.5 Project Significance

The SIMS will benefit the staff which is going to use this system. Through this system, it can ease their task to operate and maintain the system. The staffs do not have to record all the data by using handwriting. They just need to key in all the data into the system. Besides, the system will also remind the staff to restock whenever the stock is below the threshold level. By using this, they can easily detect the flow of the stock.

1.6 Expected Output

The expected output from this system is where all the objectives that have been stated earlier have been achieved. It will provide the entire feature for user access control through the interface.

1.7 Conclusion

As a conclusion, this chapter includes the problem statement, objectives, and scope for the system. The other information about the system will be discussed in next chapter.

CHAPTER II

PROJECT METHODOLOGY AND PLANNING

2.1 Introduction

Project Methodology is an important component in developing a system. The methodology that has been choose for this project is Agile Software Development. Agile consists of planning, analysis, design, implementation and testing. Agile methodology is more suitable for this project because it is flexible. It can rapidly change whenever there is a need to change on the requirements. In addition, some of the phase is continually revisited until it meets the customer satisfaction.

2.2 Project Methodology

Smart Inventory Management System is proposed to improve the manual system to an automated and computerize system. Agile Software Development is used while developing this system.

1. Planning

In this planning phase, it is used to capture the requirement of SIMS. The objectives are determined and the requirements are captured. All the information is being analyzed for their validity.

2. Analysis

In this phase, the objectives, problem statement and scope will be identified. The manual system of the inventory will be analyzed using the flow chart while the to-be develop system will be analyzed using context diagram and data flow diagram.

3. Design

This phase will include the design of the database model that is going to support the operation system and the objectives. The context diagram and data flow diagram from the analysis phase will be used to initiate the design phase by develop the conceptual data model. Then the conceptual data model will be used to design the logical data model. Lastly, the physical data model will be developed.

4. Implementation

In this phase, PHP programming language will be used to develop this system. The modules that will be developed with system interface are the front-end user interface which can be used by the staff of the shop to do their daily work.