

**GROCERY SALES AND STOCKS MANAGEMENT SYSTEM (GSSMS)**

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**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

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JUDUL: GROCERY SALES AND STOCKS MANAGEMENT SYSTEM (GSSMS)

SESI PENGAJIAN: 2015

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GROCERY SALES AND STOCKS MANAGEMENT SYSTEM (GSSMS)

HWA CHEN ANN

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2015

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I hereby declare that this project report entitled

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## DEDICATION

To my beloved parents and siblings, thank you for your endless love, encouragement, sacrifices and financial support all the time during project implementation. Without them, none of my success would be possible.

To my supervisor, Mdm. Nor Mas Aina Bt. Md. Bohari, thank you for sharing knowledge and inspiration throughout the project implementation. Without her early inspiration and coaching, none of this would have happened.

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## **ABSTRACT**

Grocery Sales and Stocks Management System (GSSMS) is a system that specifically built to manage grocery shop activities and records. It is an all-in-one system that has the function of manage staff, product, product's price, point of sales system with Goods and Services Tax (GST) and cent round mechanism, check stock availability and generate report of sales graph, sales profit and sales payment method. This system is believed would bring advantages to the client. For those grocery shops which are willing to use this system in their business, it will save their time, money and also manpower. In fact, this system replaces several existing management systems into a centralized system. It will automatically help user to manage their grocery shop records in a more structured way. For point of sales system, it will automatically calculate GST and cent round off to the nearest 5 cent, so it will directly save user's time and energy, and avoid from calculation errors. Besides, function of stock availability is provided to let users to check stock to avoid their business running out of stock. Lastly, it also provides the function to generate report which this will ease the owner of grocery shop to plan for business strategies from time by time in order to compete with other competitors.

## ABSTRAK

Sistem Pengurusan Runcit Jualan dan Stok (GSSMS) adalah satu sistem yang dibina khusus untuk menguruskan aktiviti dan rekod kedai runcit. Ia adalah satu sistem semua-dalam-satu yang mempunyai fungsi menguruskan pekerja, produk, harga produk, sistem pengurusan jualan termasuk Cukai Barangan dan Perkhidmatan (GST) dan mekanisme sen penggenapan, memeriksa stok dan menjana laporan mengenai graf jualan, keuntungan jualan dan cara pembayaran jualan. Sistem ini dipercayai akan membawa kelebihan kepada pengguna. Bagi kedai-kedai runcit yang sanggup menggunakan sistem ini dalam perniagaan mereka, ia akan menjimatkan masa, wang dan juga tenaga pekerja. Malah, sistem ini menggantikan beberapa sistem pengurusan yang sedia ada kepada satu sistem berpusat. Ia akan membantu pengguna untuk menguruskan rekod kedai runcit mereka dengan cara yang lebih tersusun. Untuk sistem pengurusan jualan, ia akan mengira GST dan menggenapkan sen ke 5 sen yang terdekat secara automatik, secara langsung ia akan menjimatkan masa dan tenaga pengguna, dan kesilapan pengiraan dapat dielakkan. Selain itu, fungsi pengiraan stok disediakan membolehkan pengguna memeriksa stok dari semasa ke semasa agar masalah kehabisan stok dalam kedai dapat dielakkan. Akhir sekali, ia juga menyediakan fungsi untuk menjana laporan yang akan memudahkan pemilik kedai runcit untuk merancang strategi perniagaan dari semasa ke semasa untuk bersaing dengan pesaing lain.



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## LIST OF ABBREVIATIONS

<b>GSSMS</b>	-	<b>Grocery Sales and Stocks Management System</b>
<b>ERD</b>	-	<b>Entity Relationship Diagram</b>
<b>DFD</b>	-	<b>Data Flow Diagram</b>
<b>PK</b>	-	<b>Primary Key</b>
<b>FK</b>	-	<b>Foreign Key</b>
<b>DBMS</b>	-	<b>Database Management System</b>
<b>DDL</b>	-	<b>Data Definition Language</b>
<b>DCL</b>	-	<b>Data Control Language</b>
<b>GUI</b>	-	<b>Graphical User Interface</b>
<b>POS</b>	-	<b>Point of Sales</b>

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## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Project Background**

Grocery Sales and Stocks Management System (GSSMS) is a standalone system that develops using PHP and Oracle Database 11g Express Edition. It is develop to assist grocery shop users to manage personal information, staff information, product information, daily sales record and financial record. It provides the solution to substitute the current grocery shop data management systems into an all-in-one computerize system. GSSMS can be categorized into few categories which are inventory management, finance management, sales analysis, point of sales (POS) system, staff management.

Grocery shop sells various type of product and there is billions of data needed to be recorded. So, a full-feature and user-friendly system becomes a need of grocery shop to manage all the important data and information systematically and efficiently especially the information about staffs, products and sales records. GSSMS will provide functions such as manage inventory and staff information, calculate sales profit, generate and download sales analysis report graph, view and download stock availability information, and point of sales (POS) system that supports Goods and Services Tax (GST) calculation and cent round mechanism.

Nowadays, businessman prefers to use all-in-one computerized system rather than use many data management systems to handle their business operations. By using GSSMS application, businessman just needs to purchase only one system to solve their difficulties in their business which can save money. All the business operations can be done easily with just a click which save users' time and buyers will not face the problem such as traffic jam when make payment. So, the business flow of any grocery shop can turn efficient and smooth.

Previously, users have to manually update the data of item sold into a sales management system to calculate the profit from sales and whenever they want to view the sales graph of their business, they have to key in the data one by one into excel and generate graph. The exact sales profit is unclear due to human mistake in key in the data or calculation error. By using GSSMS, users no need to update the same data into the different system whenever each single item has been sold which can calculate the exact profit from sales.

Moreover, the usage of computerized system has increased the efficiency of executing daily task or routine and helps in minimizing the error that made by human mistakes. By introducing GSSMS, it will provides quick and accurate information to user which it simply increases the efficiency of work done, so this will directly save working time. Besides that, this system can also eliminate the problems of time-difference and minimize the human errors such as give wrong information to the user.

The main purpose of developing this system is to develop an all-in-one system in managing sales and stocks in grocery shop to ease the owner and staffs in their works. The requirements to develop the system are gathered by interviewing Madam Nor Mas Aina. Besides, from the survey, we found that majority of grocery shops are using few computerized management system to record data yet their systems have weaknesses which might have bugs and lesser functions.

## 1.2 Problem Statement

Firstly, finding an all-in-one computerized system is not an easy task. Most of the grocery shops using few management systems to record the data of their grocery shop. They keep their sales and stocks data into different management systems which waste lots of time and energy. Storekeeper or owner normally will use manual method to update the quantities of products which this may lead to data loss or human mistakes.

Besides, the current systems have limited search mechanism. Many of the systems do not provide the search mechanism and even if the system has providing search mechanism, the searching function still very limited. Users can only search the data using sentences which must fully match with the data in database. Whenever user types the incomplete sentence, then data will not be found.

In the other hand, it is difficult to find a point of sales (POS) system that support Goods and Services Tax (GST) and cent round adjustment. Many of the available systems that using by grocery shops does not provide the function to calculate the GST to the selected product and no cent round adjustment is provided. Normally, grocery shop owners have to set the selling price of product to the nearest ten cents and GST is included. This is to convenience them in calculating the amount of sales but buyer never know which item is need to pay for GST.

Furthermore, grocery shop owners do not have a proper way to calculate exact profit from the sales of their business. They do not know their sales profit unless they have to wait their accountant or themselves need to manually calculate sales profit. But human being can never as perfect as computing system which human being will prone to errors and mistakes. For example, by using manual method in finance task, whenever it comes to thousands of sales records, owner or staff might make some errors or mistakes which they might miss out to add some sales record, so this will leads to errors and mistakes in calculating the exact profits.

Lastly, current system does not provide the function to check the stock availability in store and shop that can avoid business from running out of stocks. Normally owner and staffs do not have time to follow up or check the stock availability during business hour and they have to wait until the shop is not on operation either shop is closed or next morning before shop is open then they just restock. So, during business hour, the exact available quantities of products are unclear. Whenever comes to thousands of products, owner or staff require more time and energy to check the stocks one by one.

### **1.3 Objective**

The main purpose of developing Grocery Sales and Stocks Management System (GSSMS) is to provide an all-in-one system to accomplish the needs and demands of grocery shop users. In process to develop this GSSMS, few objectives are needed to be fulfilled which as below:

#### **a) All-in-one system with better business solution**

- GSSMS offers all-in-one system to help grocery shop to centralize all the data and information, and at the same time achieve lower cost and budget, reduce the working time and eliminate redundancy task.

#### **b) To improve search mechanism**

- Users can easily use the system to find out the related information about the product such as price of product and stocks level by just typing the keyword of product description or its barcode.

#### **c) To provide POS system that support GST and cent round adjustment**

- POS system in GSSMS will automatically calculate the GST to the selected item and round off the total sales amount into the nearest five cent which introduced and implemented by Malaysian Government.

**d) To provide function to calculate sales profit**

- Owner of grocery shops can easily know their total profit from sales with just a click where the date of sales can be specified and the calculation of total profit is done by computing system.

**e) To provide stock availability function**

- User can view the total stock left in shop and store by just a click, so business can avoid from running out of stocks.

**1.4 Project Scope**

The scopes of this system are focus on:

**a) Module:****i. Staff Management**

- This system will be able to manage the owner and staffs information such as their personal data and job scope.

**ii. Inventory Management**

- This system will be able to manage the quantity, cost and selling price of each product.
- Provides function to view and download the stock availability in store room and shop to avoid business from running out of stock. Then, owner can place an order from supplier and update the stock information when new stocks are arrived.

**iii. Point of Sales System**

- This system will be able to calculate total sales with Goods and Services Tax (GST) to selected item
- This system will also provide automated rounding mechanism to nearest 5 cents for over-the-counter payment that announced by Malaysian Government and fully implemented by 1 April 2008.
- This system also able to print receipt.

**iv. Finance Management**

- This system will be able to help the owner to calculate all the sales and payment that are made. It will be able to help owner to calculate total sales with different payment method.

**v. Sales Analysis**

- This system will be able to calculate total sales on daily and monthly basis. Therefore, owner can generate graph to analyse the sales of their grocery shop. This will be easier and faster way to let owner to know their business condition and improvement can be made in order to compete with other competitors.
- Calculate total profit from sales by dates, months.