REAL TIME MEDICAL INVENTORY CONTROL

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Especially for my beloved family, friends and beloved ones

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ABSTRACT

Real Time Medical Inventory Control (MeDic) is a system that designed to supervise the medical supply and storage and accessibility of items in order to ensure an adequate supply without excessive oversupply. MeDic is important to access, supervise and perform medical inventory orders and it is obviously for smaller medical center for example, clinic. Due to the existing system is manual system, it has caused some problems, such as difficulties in finding medicine information, not alert with the expiry medicine and disorder management and supervision. This suggested system focuses on the management of medical inventory transaction, medical vendors' record and the most important purpose is this system able to maintain medical inventory without overstock or expiration. Via this system, medical staffs and doctor able to know the expiry date of the medical inventory to avoid patients using the expired medicine. This system is accessed by doctor and staff. Doctor has the right to generate medical inventory report based on type of medicine, to generate damage inventory report to view the expired medicine, to generate vendor profile list, to generate staff profile list, and to generate statistic which include balance and total quantity of medical inventory. Staff is divided to medical staff and admin staff. Medical staff responsible in medical inventory transaction while, admin staff responsible in doctor, staff and vendor registration. Hopefully MeDic can meet the user requirements to apply at clinic.

ABSTRAK

Inventori Kawalan Masa Nyata Perubatan merupakan satu sistem yang direka bentuk untuk menyelia bekalan perubatan dan juga untuk memastikan ubat adalah disediakan tanpa melebihi kuantiti yang diperlukan. MeDic adalah penting untuk akses, menyelia dan menjalankan inventori perubatan dan ia adalah disediakan untuk pusat perubatan yang lebih kecil contohnya, klinik. Disebabkan sistem yang sedia ada merupakan sistem yang manual, ia telah menyebabkan beberapa masalah, seperti kesukaran-kesukaran dalam mencari maklumat ubat, tidak terjaga dengan tamat tempoh ubat dan ketidakkemasan pengurusan dan penyeliaan. Sistem yang dicadangkan memberi tumpuan dalam pengurusan transaksi inventori perubatan, rekod pembekal-pembekal perubatan dan tujuan yang paling penting ialah sistem ini berupaya memantapkan inventori perubatan tanpa berlebihan stok quantiti yang diperlukan atau melepasi tarikh akhir ubat. Melalui system ini, pekerja-pekerja perubatan dan doktor berupaya mengetahui tarikh akhir inventori perubatan bagi mengelakkan pesakit-pesakit menggunakan ubat yang melepasi tarikh akhir. Melalui system ini, Doktor mempunyai hak untuk menjana laporan inventori perubatan, laporan kerosakkan inventori ubat, laporan tamat tempoh ubat, senarai pembekal dan pekerja, dan statistik yang termasuk baki dan jumlah kuantiti inventori perubatan. Manakala pekerja bertanggungjawab dalam transaksi inventori perubatan dan pendaftaran untuk doctor, pekerja dan pembekal yang baru. Semoga MeDic boleh memenuhi kehendak pengguna.

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LIST OF ABBREVIATION

COM	-	Component Object Model
DAO	-	Data Access Objects
DBMS	-	Database Management Systems
GUI	-	Graphical User Interface
IDE	-	Integrated Development Environment
MeDic	-	Medical Inventory Control System
PSM	-	Projek Sarjana Muda
RAD	-	Rapid Application Development
RDBMS	-	Relational Database Management Systems
RFID	-	Radio Frequency Identification
SQL	-	Structured Query Language
VB6	-	Visual Basic 6
VBA	-	Visual Basic for Applications

LIST OF APPENDIX

CHAPTER I

INTRODUCTION

1.1 Project Overview

This chapter generally explains the problem statement on Section 1.2, objective of the project Section 1.3 and Section 1.4 is the scope of this project. Problem statement section explains the commonly problem faced by a clinic that without a computerized inventory control system. After the problems are identified, objective is carried out to explain the importance of computerized inventory control system for a clinic. This system applies on clinic and its operation is different with the operation of a hospital. Therefore, the scope is needed to clarify the range of the operation of a clinic.

1.2 Problem Statement

The purpose to come out this project is to minimize the problem faced for all the clinics. Nowadays, most of the clinics use the manual inventory system to record all the data such as doctor's appointment, medicine details, device details, patient profile and patient treatment history and vendor profile.

However, a manual inventory system takes a considerable amount of time and effort to maintain, such as take a long time in maintaining and distributing medical inventory, searching some files or patients' personal details. Besides that, some of the important information or data such as medical stock data and vendor's data may be missing or damage. The possibility to face the problems in controlling and recording the medical stock quantity will be high. On the other hand, new staffs have to take time to learn and adapt the disorder system especially in memorize the files name and the location of files.

When there are many medical stocks, it is even more difficult to maintain accurate control with the manual system. This situation may cause them have an inappropriate amount of the medical stock. Additionally, retrieving information from a manual system is difficult, as there are volumes of paperwork to look through before data can be complied and analyzed. Furthermore, the staffs need to check manually the expired medicine frequently as the traditional method would not inform them. This will increase their work volume.

Therefore, a systematic and convenient system is developed to manage the problems faced. This system may maintain, control and monitor the medical stocks and

reduce the possibility of data missing. Also, it saves time and increase the efficiency on the stock management.

1.3 *Objective*

An objective is a projected state of affairs that a person or a system plans or intends to achieve a goal. It is very important as it determines the reason of carrying out this system. Several objectives that carry out are as follow:

a) To shorten the time in maintaining and distributing medical inventory
b) To maintain medical inventory without overstock or expiration
c) To make medical stock supervision more efficiency
d) To eliminate duplicate data entry errors

The first objective states clearly that this system will help the staffs to save the time in maintaining and distributing medical inventory. Computerized inventory management systems have the capability to manage and process large volumes of data quickly and provide reports that help the clinic do a better job of managing its medical inventory.

The second objective is important to maintain the quantity and quality of the medicine and the image of a clinic. With a computerized inventory management system, the staff would be alert with the medicine's expiration date. This system helps the clinic to maintain the level of the medical stock as possibly the demand or usage on certain medical stock is not high. This relates with third objective that indicate the efficiency in controlling the medical stock.

With a computerized inventory management system, the data entry errors are eliminated. This is useful if the staff enter the same data twice. It maintains the accuracy of medical stocks controlling when there is an amount of medical stock. It helps them having an appropriate amount of the medical stock.

Overall, this system helps to reduce the risk in information missing, provide more effective management on medical stock inventory, and also provide security for the medical stock and vendor profile.

1.4 Scope

This section describes the system operability, system functionality and user of this system. The software and language used to design this system include Visual Basic 6, Microsoft Access 2007 and SQL (Structured Query Language) respectively.

1.4.1 System Operability

This system is designed and applied to small size medical center, for example, clinic. Research found that each clinic has more than hundred kind of medicine. Thus, this systematic system is needed to maintain and distribute those medical inventories to increase the efficiency the operation of a clinic.

1.4.2 System Functionality

The most important function of this system includes provide expiration medical inventory alert, manage medical inventory transaction, and use barcode scanner to record

new medical inventory and retrieve existing medical inventory data. Barcode scanner may used as each medical inventory has its serial number. Besides, this system also provides user manual for new user as a guideline to excess this system.

1.4.3 User

Doctor

In this system, doctor can access and modify all the data. In other words, doctor may update or delete the data. Doctor also can generate the medical stock report, damage medical inventory (expired medicine) report, medical staff and admin staff list, and vendor list. An expiration alert may notice if the user login as doctor. The doctor was able to check the expired medical inventory at Inventory Expiration Monitoring. Besides that, doctor also has the right to view the balance and total quantity of medical inventory.

Medical Staff

This system allows the medical staff to manage the medical stock transaction. The transaction include medical stock purchasing, medical stock in and out. Besides that, the medical staff also has the right to update and delete the data and to generate the medical stock report, damage medical inventory (expired medicine) report, and view the balance and total quantity of medical inventory.

Admin Staff

This system allows the admin staff to manage the registration. The registrations include doctor registration, staff registration and vendor registration. The admin staff can save, update and delete the data.