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MOST STATIONERY INVENTORY MANAGEMENT SYSTEM

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ABSTRACT

Most Stationery Inventory Management is a system that is built to facilitate the outgoing management of the stationery stock. The main objective of developing this system is to help inventory operator of Most Stationery shop to manage their inventory in a systematic and efficient way. Through the interview, the problem found is stationery stock inventory management still using the manual method to record stationery stock from the stored record file. All the stationeries are divided into file categories in which the suppliers and tools are based on invoice or bills provided. Besides, daily sales report cannot be generated due to the manual sales record produced. Therefore, profit report cannot be generated at the end of month. In a whole, the developed inventory management system can speed up the process of recoding the inventory information to generate the required report by the operators.

KEYWORDS

Inventory Management, stationery stock, inventory operator, invoice, bills.

1. INTRODUCTION

Lensalyza The main objectives to develop this inventory management system project are:

i. To develop a stationery inventory management system for a proper management
ii. To develop an inventory management system that can generate sales report
iii. To test the stationery inventory management system by using alpha and beta testing towards users

1.2 Scope

The project scope for the developed system is for the use of operators, Puan Hidamuliazi binti Asmon and workers of Most Stationery shop. Most Staionery shop located at Taman Universiti which is around Universiti Tun Hussein Onn Malaysia (UTHM) students' hostel area [1]. This system contains stationery management information which consists of incoming and outgoing stock. Moreover, this system also manages information of suppliers who supply stationery to Most Stationery shop. The stationeries include pen, pencil, eraser, ruler, note books, A4 paper, colour pencil, book wrapper and gum. This system also covers a few modules which registration module are, login module, inventory module, supplier module, sales module, defected item module and report module.

2. LITERATURE REVIEW

The main purpose of literature review is to analyze and carry out attentive research towards the topics involved. This literature review involves conclusion that explain the past and current situation information, arranging literature into certain topics and documenting requirements for the research [2].

2.1 Comparison between similar system

Table of comparison between proposed system and similar system is shown. Comparison from the aspects of feature advantages and modules' weak points are identified. Studies have been done to improve the developed system. Table 1 below shows the comparison between similar systems.

Table 1: Comparison between similar systems

System/ Features	Unit Inventory System Information Integrated System with UiTM Terrenganu	Inventory Management System	Most Stationery Inventory Management System
Login Module	Able to login but for operators used only	Able to login for management used only	Able to login for the use of operators and workers
Suppliers Module	Do not have additional form or list of suppliers shown	Do not have additional form or list of suppliers shown	Include additional form or list suppliers shown
Report Module	Do not have report displayed	Include report displayed	Include report displayed
Search Module	Include search space	Do not include search space	Include search space

3. METHODOLOGY

According Dewan Dictionary Foruth Edition, methodology is defined as system that includes method and principle to be used in activities, discipline situation and son on [3]. Research methodology can be defined as a kind of research and design, collect and analyze data technique to create evidence that can support the research. Methodology explains the ways to study a problem and the reason to use the method and technique [4].

3.1 Waterfall Methodology

The model chosen to develop Most Stationery Inventory Management System is waterfall methodology. Every phase in the development process will be carried out once the previous phase process has been done completely [5]. Figure 1 below shows each phase for the development of waterfall model.

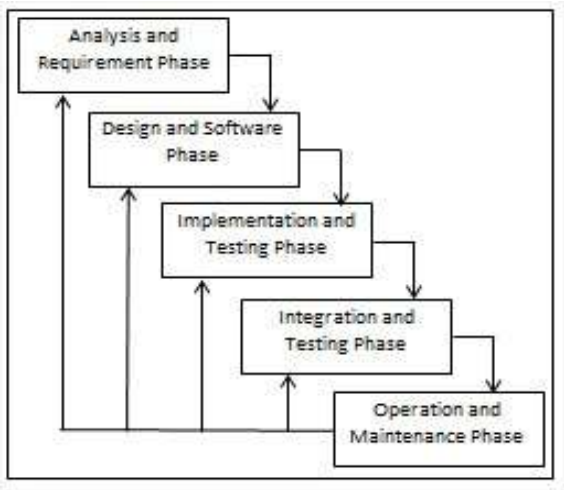

Figure 1: Waterfall Model Phases [6]

3.1.1 Analysis and requirement phase

Analysis and requirement phase is a phase in which it collects the information regarding the system and the requirements for the project development. The acquired data is collected and analyzed to determine the requirement for the corresponding system.

3.1.2 Design and software phase

Design phase explains how the developed system operates in terms of hardware, software and network base. Entity Relationship Diagram (ERD) and Data Flow Diagram (DFD) are designed to analyze the system flow. Database used is MySQL because it is one of the database management systems. User interface is designed by using *Adobe Dreamweaver CS6* software which increases the quality of system development.

3.1.3 Implementation and unit testing phase

This phase involves the actual system development where the development of program system is carried out by using the appropriate software which is *PHP* while user interface is done by using *Adobe Dreamweaver CS6* [7]. The development of database is done attentively as it is the main core for a system to function effectively. Besides, this phase also implements unit testing. Testing is done for the purpose to discover whether each unit had fulfilled the corresponding specification.

3.1.4 Integration and testing phase

For this phase, software testing is carried out to ensure that system and integration testing is done before released to the users. Testing is run on a whole to ensure the system has fulfilled the available requirements [8]. Moreover, testing is aimed to guarantee that no mistake is done and software is function as discussed.

3.1.5 Operation and maintenance phase

Operation and management phase is a phase in which system is developed and released to the users for a first-time use [9]. Users will check whether the appropriate requirement is done as discussed before. If there are any changes required, developer must correct the mistakes to fulfill user's needs. If there are no changes, the system will operate fully.

4. ANALYSIS AND DESIGN

This chapter will discuss about system design that provides a clear image on the situation and system flow for the proposed project. This chapter also explains Flowchart, Context Diagram, Data Flow Diagram (DFD), Entity Relationship Diagram (ERD) and System Design. Implementation is extremely important for this chapter to ensure the system development process fulfill user's needs and achieve the objectives as discussed.

4.1 Analysis on the System Requirement

Analysis on the system requirement is basically to analyze the system that is going to be built for the purpose to acquire a comprehensive understanding to the system environment.

4.1.1 Data Flow Diagram (DFD)

Context diagram is a diagram that shows a whole image on the process and data flow that involves in the development of inventory system. Context diagram contains two entities which are operator and workers. The main tasks for workers are registering new inventory, add and manage stock information, handle defected stuff information and add sales [10]. Furthermore, operator can generate sales report. Figure 2 below shows the context diagram for Most Stationery Inventory Management System.

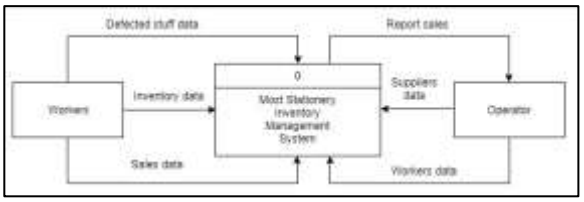

Figure 2: Context Diagram for Most Stationery Inventory Management System

4.2 System Interface

System interface is the interface that is displayed for users to access. Diagram below shows part of the system interface for the modules on the proposed system. For instance, Figure 3 shows the home page for this system.

Figure 3: System Home Page

Next, Diagram 4 shows interface for add stock inventory page

Figure 4: Add Stock Inventory Page

Diagram 5 shows the interface for search page to generate daily sales report and links to sales' graph.

Figure 5: Search Date Report Page

Diagram 6 shows graph for sales quantity according to year. The year can be chosen on the search year column space.

Figure 6: Sales Report Graph Page

5. IMPLEMENTATION AND TESTING

This phase is aimed to ensure the development of prototype is running accordingly and produce the corresponding output that follows users' needs. Testing is done on the system to determine whether the developed system has reached the objectives as discussed during early system development [11-13]. Besides, testing on the developed system can identify the system's weaknesses and in turn find ways to solve and correct the defects.

5.1 Implementation

System implementation is a program record process from design phase [7]. Through the process, programming language used, PHP and MySQL are the medium to translate users' needs to flexibility. It contains a few modules in this system, which are inventory module, sales module, defect stuff module, suppliers' module, report module and worker module.

5.2 Testing

Table 2 shows the results of system testing that have been done towards users. Below are the testing modules and the expected results for the system.

Table 2: System testing

Testing Module	Expected Result	Pass/Fail
1. Login	Users access system by using user id and valid password	Pass
2. Add new inventory	Users able to add new inventory	Pass
3. Add inventory stock	Users able to add inventory stock quantity	Pass
4. Update inventory information	Users able to update inventory information	Pass
5. Delete inventory information	Users able to delete inventory information	Pass
6. Add sales	Users can add sales quantity for the items sold	Pass
7. Add defect item	Users can add quantity for defect items	Pass
8. Add new suppliers	Users able to add new suppliers	Pass
9. Update supplier's information	Users able to update suppliers information	Pass
10. Delete supplier's information	Users able to delete suppliers information	Pass
11. Generate report - Daily report - sales report	System can generate report	Pass
12. Add new worker	Users able to add new workers	Pass
13. Update worker's information	Users able to update worker's information	Pass
14. Delete worker's information	Users able to delete worker's information	Pass

6. CONCLUSIONS

The purpose for system improvements is to fix weaknesses of the developed system to increase the system flexibility. Below are some suggestions on the system weaknesses.

i. The use of code scanners to record the incoming stock and sales stock more easily and faster.
ii. Display message notification on the stock inventory at a fixed minimum level
iii. Display a message notification regarding the quantity of defects received for inventory stock to operators
iv. Produce a sales report that can print the date and signature of reviewer and operator

As the conclusion, Most Stationery Inventory Management System is successfully developed and achieved the goal and objectives as discussed in previous chapters. This system able to help workers record stock information, sales and defect items information. Moreover, this system can also help operators to manage information regarding stock, suppliers, sales and defect items from time to time. The purpose for this developed system is to facilitate operators and workers to handle their inventories easily and organizable.

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