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## Finished Woodcraft Inventory System

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**ABSTRACT:** Computerized inventory system makes the work of every employee easy for them, making all the transactions fast and secure. The system aims for organizing and managing the inventory of finished products in a secure, easy, and fast way. Monitoring and updating records of inventory, generating a report of the inventory and record customers data. The method used was the V-Shaped method since it is simple and easy to use; each phase has specific deliverables and a higher chance of success than the waterfall due to the development of test plans early on during the life cycle. The evaluation result has the performance efficiency as the highest sub-characteristic at 93% which makes the work more effective and efficient in performing the recording of information/data, the lowest being reliability at 65% where the system cannot save the inputs when a power outage or human error occurs.

**KEYWORDS:** Inventory System, Database, Woodcraft, Finished Products, V-Shaped Method, Report Generation

### I. INTRODUCTION

In most businesses, keeping records of inventory or products is important. A manual inventory is required to write down each time a finished product is removed or added to the inventory. The counting of finished products in the inventory must be performed frequently to monitor the finished products which are stored to avoid a miscounted, stolen, or missing product, and a shortage of stocks. This is time-consuming for the owner/manager and the employees. If there is an inconsistency it may also affect the sales of the product.

Keeping track of the finished products in a modern way is more convenient. Upgrading the manual process of inventory into a computerized inventory will help them work fast and easy. Very useful in tracking the in and out of stocks and the total number of stocks available.

This project aims to develop a computerized finished goods inventory that will help woodcraft businesses in managing their inventory for a secure, easy, and fast monitoring and updating of records of stocks and customer data and generating a report of the said data.

The purpose of this system is to help the woodcraft businesses to have a useful and organized finished product inventory for an easy and fast way of monitoring and accessing the in and out of stocks and the total number of stocks as well as having a well-organized list of the customer information. This system will help the employees, it will lessen their work in monitoring the inventory process and updating the records. It will also lessen the human error in the counting of stocks. As for the developers of this system, it will sharpen their ability to create a computerized system and their programming skills[1].

### II. REVIEW OF RELATED LITERATURE AND STUDIES

It is needed to provide an inventory management system to conserve resources and be able to work easily in real time[2]. A strategy for overseeing inventories of items utilizing a unified stock database to encourage product exchanging. The technique incorporates spreading the brought together stock database with long and short stock



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positions put together by different merchants[3]. The purpose of this study is to examine an inventory system that a simulation model from the company that obtained data from Thailand who has a fast moving consumer goods chain retail operation[4]. Embodiments that will or can be useful in inventory management are a computer readable medium, a system, a computer program product, a method for determining an inventory exception inference associated with a product, etc[5]. The business will improve customer service, its cash flows, and its profitability if inventory management is effective and efficient[6]. This study will explain the Placement Decision (which selects the fulfillment centers in which where the items are to be placed) and the Replenishment Decision (which concerns about the amount of inventory to order for each item)[7].

If you already know a programming language, then there is mostly a fair chance that you may write software or program to accomplish that assignment yourself. While there are many programming languages, many of them have quite a few similarities; which means when you analyze one programming language pretty well, in most occasions you'll be capable of choosing up a brand new one a long way faster[8]. It emphasizes the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Uses structured programming techniques; develop correct executable programs; creates appropriate documentation, and creates applicable GUI (Graphical User Interfaces)[9]. The production inventory model has a dominant role when it comes to production scheduling and planning[10]. Visual Basic, or the overall influences of programming language, have an impact on how programmers analyze problems and how they formulate its solution in program form[11].

This study guide helps you to learn format database records and for you to make it presentable and readable. It includes a study on how you make use of built-in database templates, create tables in a simple and accessible way and the standard way of inserting and managing tables fields[12]. The objectives of this project are to help a student to understand the logic of Access 2013 and its implementing database design. This also for Professional accounting and appropriate in management information systems. Satisfying learning objectives and understanding application controls[13]. Gives deeper information and understanding about Access 2016 in an easy way. Gives opportunities to learn basic and advanced features and help you to create and manage database better. Learn how to create web-centric web applications and database-driven applications and increase your knowledge about the nature of Access 2016[14]. This is a study about Microsoft Access 2007, learners will gain a comprehensive understanding and approach of the New perspective series for Access 2007. It has case-base tutorials that challenge learners to apply what are they planning to real-life tasks and help them to prepare easily transfer skills to new situations[15]. This course introduces the standards for designing relational databases. It includes the creation of logical design and translation into a physical database using the relational model. Interaction with the physical database will be conducted through a graphical interface and Query-by-example[16].

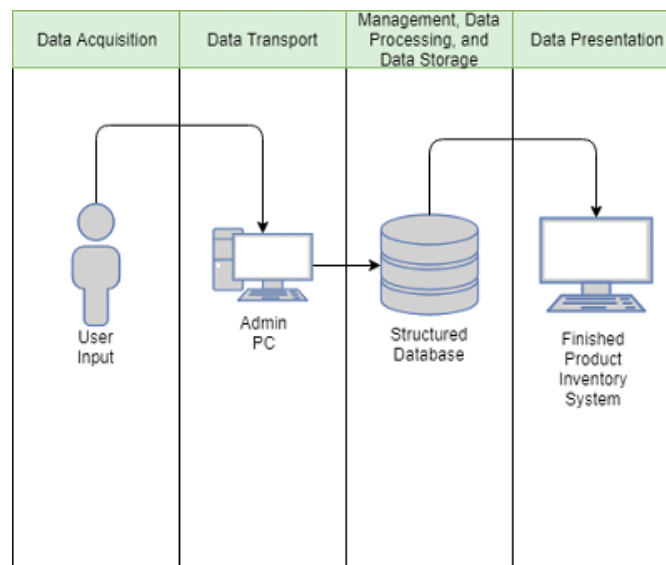
### III. PRESENTATION OF THE MAIN CONTRIBUTION OF THE PAPER

Our Finished Woodcraft Inventory System is capable of easy management for the information that woodcraft businesses have where only one individual is accountable in assigning the important points or records. Security-wise, this system is guarded by using user accounts to keep the data/information of the shop safe and secure where the accounts can only access these data. Although it is safe, there is no capability of retrieving the users' passwords when forgotten. Since this is a computerized system, this will surely be convenient for the inventory of the finished products and the info of the clients to keep track of the data that they hold. The system accurately generates a report on both the Finished Products and the Clients list in order to produce an overall list of both. It is also capable of printing the lists, if necessary, and is also capable of saving the list via MS Excel, PDF, and MS Word. The system also has file maintenance in order to fix and manage the data, when needed. It can add new products and clients and delete the old records, as well. The system is very useful and convenient to use when keeping inventory and client records. Sadly, our pilot area and most of the content of this system will only use it for woodcraft products and purposes only.

### IV. METHODOLOGY

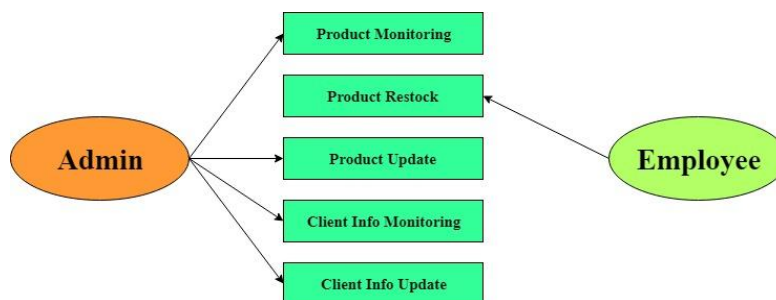
The Finished Woodcraft Inventory System allows the business owner of the woodcraft business to have a more efficient and convenient way of managing all their inventory. This system uses Visual Studio 2010 Professional for the interface and the functions of the system and Microsoft Access for the database that will be used to save all the records

in the system. The software development method we used is the V-shaped method since it shows the relationship between the phase of each development in the system, it also has a higher chance of success than the waterfall method due to the early development plans during the life cycle. This study involves the owner and the employee of the business as the provider of the information for the database which is the Finished Products. This study used a software evaluation tool following the ISO 25010 criteria for the evaluation of the system which brings us the clarification of the system operating capabilities. Gathering data involves using a survey for the system where the owner/system gave their honest rating and opinions when using the said system. The gathered data was then analyzed using the previously mentioned ISO 25010 where the data was computed to the evaluation result.



**Figure 1.0: System Architecture**

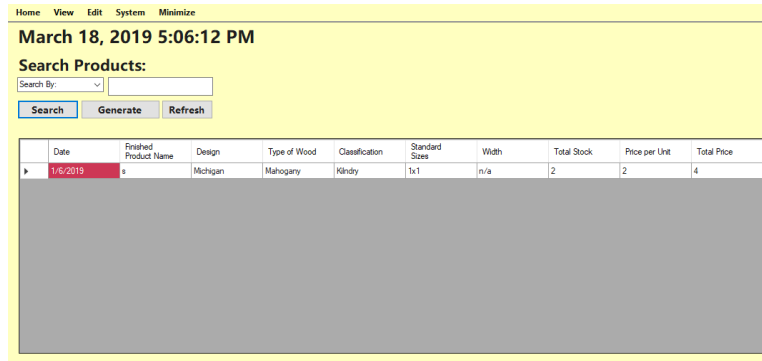
Figure 1.0 is a graphical representation of the system architecture of the finished woodcraft inventory system. The user adds their input into the system (Admin PC) which is then added into its database for further use of the user(s).



**Figure 2.0: Use Case**

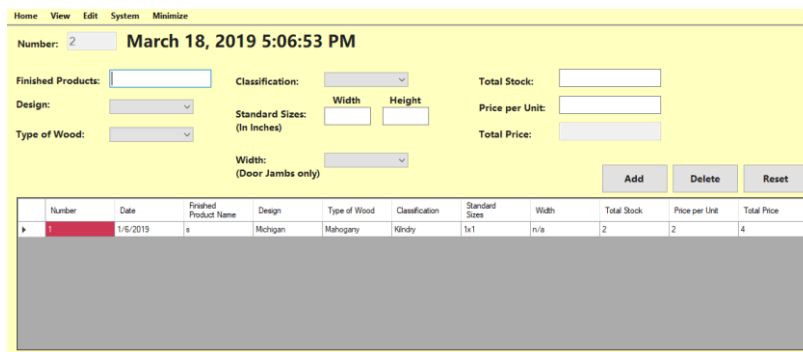
Figure 2.0 indicates what the administrator(s) and the employee(s) can do, and every one of their points of confinement in the proposed framework. The admin(s) is the one who can manage all the elements in the system except on the product restock, which has the employee(s) in charge of that element. The employee(s) can access the system itself, but only if he/she has been given access by the admin(s).

**V. RESULTS AND DISCUSSIONS**



**Figure 3.0: Viewing of Finished Products Inventory**

Figure 3.0 the user can search and view records of the Finished Products and the client’s information. It offers a search based on the column name to ease users searches for specific records.



**Figure 4.0: Adding/Editing of Finished Products Inventory**

Figure 4.0 you can add or edit finished products and the client’s information, the added data can be viewed in Figure 1.0. It lets the users add specific data in the fields and lets them delete any record using the record's number.



**Woodcraft  
Finished Products List**

Number	Date	Finished Product Name	Design	Type of Wood	Classification	Standard Sizes	Width	Total Stock	Price per Unit	Total Price
1	1/6/2019 12:00:00 AM	s	Michigan	Mahogany	Kilndry	1x1	n/a	2	2	4

**Figure 5.0: Report Generation for Finished Products Inventory**

Figure 5.0 the system can generate a report of Finished Products that have been recorded. It shows the whole records of either the Finished Products or Client's Information and can be used for printing or backing up through MS Excel, PDF, etc.

**Table 1.0: Evaluation Result**

<b>Criteria</b>	<b>Mean</b>	<b>Interpretation</b>
Functional Suitability	4.33	Acceptable
Performance efficiency	4.67	Acceptable
Compatibility	4.50	Acceptable
Usability	4.00	Acceptable
Reliability	3.25	Moderately Acceptable
Security	4.20	Acceptable
Maintainability	4.20	Acceptable
Portability	3.67	Moderately Acceptable

Table 1.0, represents the overall evaluation of the system, the highest which is the compatibility having a 4.50, and the reliability for having the lowest mean with 3.25. The overall weighted mean is 4.10 which is considered good.

The system has made a great contribution to woodcraft businesses since they mainly rely on manual inventories through the use of logbooks or manually input their data in Excel. The system can easily manage and maintain the information even including a backup through Excel when needed.

## **VI. CONCLUSION**

The Finished Woodcraft Inventory System was developed and successfully designed with its functions which have satisfied the owner. The system was able to function well as it is needed by the user. It produces the correct output of finished products and the client's info. It is very useful for the business since it lessens the time to write down all the inventory of the finished products, it can also easily find the records of the finished products due to searching.

However, this system has a lot of room for improvement which can satisfy the owner even more. For example, adding statistics to the system can lessen the work for the business when gathering the overall input and output of finished products per month. Another example is the improvement of the user interface where it can greatly improve the user's experience with the system.

## **VII. ACKNOWLEDGMENT**

Thanks to God Almighty, who enabled our team to fulfill our project for this semester. It has taken long times of tremendous work to witness that no great work was ever fulfilled without the support of God and the people around us. Last but not the least we would also like to thank all the members of this team who cooperated and greatly contributed to their role, also for those who were not mentioned here but were such a big help in fulfilling this project.



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