

POINT OF SALE AND INVENTORY SYSTEM OF YHOHAN
CONSTRUCTION SUPPLY OF NUEVA FUERZA, CARMEN, BOHOL

College of Technology and Allied Sciences
BOHOL ISLAND STATE UNIVERSITY
Zamora, Bilar, Bohol

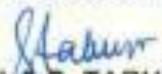
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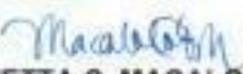

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**POINT OF SALE AND INVENTORY SYSTEM OF YHOHAN
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A Thesis

Presented to the Faculty of the
College of Technology and Allied Sciences
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Zamora, Bilar, Bohol

In Partial Fulfillment
Of the Requirements for the Degree
Bachelor of Science in Computer Science

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THE RESEARCHERS

ABSTRACT

Point of Sale and Inventory System is a customized system that is based on the process and data transaction of Yhohan Construction Supply of Tohogon I, Nueva Fuerza, Carmen, Bohol. The establishment still implement the manual processes of their daily transaction. The processes involve recording the daily transactions from the customers and suppliers, calculating all the payments, generating the receipts and reports for the proprietor. Because of the manual processes the establishment encountered some problems such as losing of data, inaccurate and time consuming of their daily transactions. In order to avoid the problem, the researchers aim to convert manual processes into automation to give a faster way of processing business transactions. It generates an easy, accurate and fast way of managing the records and provide effective reports that could be utilize for management consumption as well as insuring secured and accurate information.

The researchers conducted an interview using the questions and some of their sample forms to gather data and information. The study was guided with the following questions: (1) What are the processes of sales and inventory of Yhohan Construction Supply? (2) What are the existing challenges encountered in monitoring point of sales and inventory? (3) What can be offered to improve the monitoring of sales and inventory? (4) What is the level of system usability

perceived by the user? The study was developed with integration of local networking using centralized server and with the following modules: point of sale, purchasing and implementing of business intelligence technique for decisionsupport to the business such as real time reports of sales and inventory. Moreover, the researchers used the following tools such as: (1) Microsoft Visual Studio version 11.0, (2) MySQL, (3) Microsoft Visio, (4) Windows server 2008 R2 in order to build up the system. During testing and implementation, the researchers presented the system to the owner, cashier, sales clerk, personnel, and customers at Yhohan Construction Supply. The researchers demonstrate and exhibited the system's functionality, including acquisitions, changing, deleting, and examining payables, as well as accepting customer purchases and generating reports on the point of sale and inventory system. Occasionally, respondents attempt to use the system to see how simple it is to use. After the hands – on, they answered the system usability questionnaire. As a result of the usability, the average weighted mean is 6.49 with the interpretation of Strongly Agree. This implies that the system is strongly high in its usability. Furthermore, this also implies that the respondents strongly agree with the capabilities, functions and ease of use of the proposed system.

Based on the findings, the researchers discovered the following findings after conducting an investigation at Yhohan Construction Supply: the current system relies on manual processes for sales transactions, computations, and inventory; they are unable to retrieve reports and replace certain damages; the independent examination and inspection of their sales is inaccurate due to audit entails report; and monitoring of stock availability and depletion. The researchers recommend

that Point of Sale and Inventory System should: owner and cashiers who will utilize the proposed system must receive a training in order to become familiar with the system, the business establishment should continuously update the programmers for bugs and errors for continuous and updates, as the time goes by, the business will become bigger and build another branch. In this case, they must implement the web-based point of sale and inventory system to centralize the operations of all the branches, and the system must be implemented to Yhohan Construction Supply.

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Chapter 1

THE PROBLEM AND ITS SCOPE

Rationale

A computerized point of sale and inventory system is a software-based business solution used to simultaneously track sales activity and inventory easier. Doing a manual count of inventory can take days. But with a computerized point of sale and inventory system, the same process can be done in a matter of hours. It also has document generation features which the proprietor and the cashier can use to automatically generate all kinds of reports from sales and inventory. It has timely data from which the management can pull a report and instantly see how many units are on the floor and how many have been sold.

According to Hamlett (2017), primary use of the periodic inventory system occurred prior to the introduction of point-of-sale scanners and computers. Companies such as drug and hardware stores that sold lots of small merchandise found it easier to update their inventory balances periodically instead of trying to account for every item sold on a daily basis. The periodic inventory system allows a company to record sales of merchandise in a special account. When

merchandise gets sold, the company records the revenue but does not record a cost of goods sold (CoGS) entry. Likewise, the introduction of point-of-sale systems and computers greatly advanced the use of the perpetual inventory system. Perpetual inventory records each sale of merchandise and places an entry in the company's inventory account. This system also immediately reduces sold inventory from stock and adds inventory back to stock when a customer returns merchandise. On the other hand, Mohr (2017) identified four types of inventory valuation under the perpetual inventory system namely: FIFO or the first in first out method of valuation applies the cost of the oldest inventory units to the cost of goods sold. This results in the inventory account on the balance sheet which closely approximates the most current value. This can artificially boost net profit. LIFO or the last in first out method of valuation applies the most recent inventory costs to the cost of goods sold. Here the income statement best approximates current costs. The inventory left over is valued at the oldest cost making the inventory in the balance sheet outdated when prices are rising. This valuation is not being used anymore. Average cost of valuation takes all of the units of inventory purchased and comes up with an average cost that is applied to both units still in inventory and those that have been used.

According to Analyn et al. (2019) of the Trimex Colleges, Biñan, Laguna, Philippines, with the guide of Point of Sale System with Inventory, the executives can without much of a stretch make predictable, dependable, and convenient choices. On the off chance that records are required, these can be gotten to in mere seconds by merely seeking significant data on the screen. All the data can be put away in a single document, rather than having reams of paper and different

records for every item that would require filtering through to access in the manual framework.

According to Alaiza et al. (2015), Jochsen Hardware and Construction Supply, the client needs software or a system that would help the owner with the problems in terms of the different processes. Automation is mandatory, thus automated report generation is to be included in the proposed system.

Today, one best example of a new emerging technology that uses computer is point of sales and inventory system. Manufacturers and traders can benefit from a thorough solution, where single transaction entry records necessary details on the customer, products purchases and price while also updating inventory levels.

Despite of the existence of these highly developed technologies, some business firms still use the manual system even if it requires more effort, time, costs, and resources. Yet, it is apparent that as the business gets larger, its processes become complicated and requires a more convenient tool, which will help attain the company's goals and objectives. Organizations have to consider, acquire, allocate and control certain factors which are necessary to achieve these goals and objectives. Point of sales and inventory system, being one of these factors, has always been a major preoccupation for the company's survival and growth.

Yhohan Construction Supply is a small construction business which uses traditional method in the sales and inventory procedures. The business is located at Tuhogon I, Nueva Fuerza, Carmen, Bohol. The business started in the year

2018 and that is managed by one person, the owner. The Yhohan Construction Supply sells different product or items like a typical hardware that we can see everywhere.

The development of the study covered the following process: point of sales, monitoring of stocks, updating and releasing reports. For Yhohan Construction Supply, the built computerized point of sales and inventory system can help reduce the cashiers and owner's time and workload. This will eradicate all of the current procedure's flaws.

The researchers in this study, create a system that will convert Yhohan Construction Supply's manual recording techniques into a computerized point of sales and inventory system. It will help in retrieval of information, the reduction of record loss, the reduction of transaction time, safe data storage, rapid and reliable operations and the development of efficient reports. The transaction is handled through modules such as acquisitions, point of sales, administrations, and reports. Presently, Yhohan Construction Supply encountered the following problems and challenges. 1) Difficulty in retrieving records; 2) inaccurate computations; 3) loss of records; 4) delivery records 5) lost items are just being ignored; 6) monitoring of the availability of stocks is not real-time causing shortage of stocks.

Literature Background

These are the data and information gathered by the proponents, which became part of the research literature and were extremely helpful in the

development of this study. Based from Article XIV Section 10 of the 1987 Constitution of the Republic of the Philippines states that:

“Science and Technology are essential for national development and progress. The State shall give priority to research and development, invention, innovation and their utilization; and to science and technology education, training, and technological capabilities, and their application to the country’s productive systems and national life.”

According to this Article, the State shall give priority in adapting Science and Technology in order to give more convenience and tangible advantages to both students and teachers. It is essential that the government provide the most up-to-date technology so that the students may readily adapt to the changes and progress.

This article advocates for the advancement of technology. The researchers create a system that might be used for administrative and accounting purposes. The optimal employee monitoring and recording system will be able to govern the database's storage, retrieval, deletion, security, and integrity. As a result, database management theories are critical to achieving the objectives.

Furthermore, Article II Section 3 of the CHED Memorandum Order No. 53, series of 2006 states that:

“Computer Science is the study of concepts and theories, algorithmic foundations, implementation and application of information and computing solutions.”

With this provision of the CHED Memorandum, we are convinced that application of information and computing solutions problem like inventory system, through the knowledge in Computer Science, would make a great leap from the

manual methods of inventory to innovated solutions. As a result, the theories listed below serve as the study's foundation.

The first theory is referred on the Principles of Automation by Peter J. Denning and Craig Martell. It is concerned on the findings of efficient computation ways to perform human task. The principles try to emphasize that there is an efficient way to perform human tasks by making used of the advancement of technology (Denning et al., 2007).

The second theory is on Edgar F. Codd's Relational Database Management System. This is a standard method by which information is organized and retrieved from computers. It is also a collection of data items organized as a set of formally described tables from which data can be accessed easily. The theory is based on the idea that the data will be manipulated by the user using interface tool. Furthermore, retrieving of data gathered is also possible.

The above theories help serve as the basis about data basing in storing of data and information.

To provide accurate and reliable sales and inventory management system, there are numerous related systems that are available and running in different companies and organization. Among these that are significant in this study are:

1. Point of Sales with Inventory of Arm's Food and Delicacies. According to Analyn R. Mendoza et al, International Journal of Advanced Research in Computer Science (2019) who develop the point of sales with inventory management system for Arm's Food and Delicacies. The

system aids in the screening of a wide range of records in a more efficient, less stressful, and progressively favorable manner. The system is designed to allow the company to show increasingly relevant information to customers, with the goal of speeding up and increasing sales and, above all, increasing the company's value.

2. Sales and Inventory System of Smart Pharmacy. The system will also improve in the selling and maintenance of medicinal items, which is a time-consuming operation. Because you'll have to physically go through each product box and look through the things. A manual inventory method is primarily reliant on people's actions, which increases the risk of human mistake. The corporation may quickly perform a computerized transaction with this system without having to manually list the names of the sold products and place them.
3. The Sales and Inventory System for Clavite Enterprise and Construction Supply in Poblacion Norte, Carmen, Bohol. The system designed for Clavite Enterprises and construction supply will convert the manual recording procedure to automation. Modules such as acquisition, sales, administration and reports are designed to handle the transaction. This will eliminate all the shortcomings of the present procedure (2016).
4. Sales and Inventory System of Leny's Centermart Store. Data like creditors envelop, delivery slip file, delivery receipt file are kept by the manager in his drawer. The manager retrieved and updated this file manually in every time he uses the files. The use manual calculation and sales losses is possible, recording of cash sales and credit sales are

time consuming. The system enables to keep those files secure and avoid losses. It is also easy for the manager to retrieved files through network sharing.

There are four related open-source systems that are the most relevant to the proposed Computerized Point Sales and Inventory System. Among these related softwares are the following:

1. ABC Inventory Software – is a freeware inventory management application which should be an absolute choice for small and middle level business groups because it works like a professional. This program is jam packed with multiple features like purchase order management, complete inventory track along with barcode, sale and shipping order management, scheduling warehouse appointments, automatic stock report generation, sale, quotations, unlimited database record, mailing labels and so on.
2. Chronose Stock Card Inventory software – is a freeware inventory management application which keeps the complete track of your sales, purchase ad warehouse inventory. It supports barcode system. Its features include detail inventory tracking, customizable interface, email alerts, complete inventory management, stock transfer, report generation, multi-currency conversion and many more.
3. InFlow Inventory - The software offers bar code tracking and allows for inventory tracking from multiple locations. Businesses can set up raw materials tracking so that numbers of whole items can be kept track of via the individual parts needed for assembly. Customizable fields and

units of measurement allow the business to make the software perform to its market. Graphing. Cost tracking, invoicing, and purchase orders are also offered by InFlow. The free edition even offers multiple users access to data in a read-only format. Support is in the form of quick-start guides and tutorial videos, and the site also offers help forums and a direct contact support option (Archon Systems Inc., 2014).

4. CyberMatrix – is an open source pos product that focuses on Retail businesses. It has excellent inventory management, employee management, customer management, accounting features, and reporting. It will run on any ordinary windows PC. This is something you might want to check out if you are thinking of using any tablets, or you might want to check out if you are thinking of using any tablets, or mobile ordering. I do not think this software has the capacity to utilize these yet. But if you are managing a retail store and need a server-based application to run a few stations (or a few stores), this software will suite you.

As mentioned in the existing theories, a business intelligence system is a system that efficiently processes in obtaining the correct information and fast. Businesses require bravery to survive in today's world. This courage comes from spotting problems or opportunities, understanding the issue, and monitoring how decisions effect the present and future. It requires analytics to assist any organization in improving its efficiency and reporting results. This intelligence system will use data processing machines to automate the abstracting machines

and encoding of documents, as well as the creation of interest profiles for each of the organization's action points.

Decision Support System (DSS) are characterized as interactive computerbased system that assist decision makers in identifying and solving problems and making decisions by utilizing data and models. Their major characteristics are: DSS incorporate both data and models; they are aimed in improving the effectiveness-rather than efficiency-of decisions; they are designed to assist managers in semi-structured or unstructured decision-making processes; DSS also supports, rather than replace, managerial judgment. The DSS was further divided into four categories: model, data, process and communication oriented. In addition, there are also so-called DSS Generators, which make the development of specific DS Systems easier.

One of the solutions that have been widely adapted in vendor managed inventory (VMI) is a decision-support system. One of the key issues for failure in the implementation of VMII is the lack of integration with key decision support and reporting systems within retailer and manufacturer organizations. ISS framework for VMI is between general consumer goods retailers and their manufacturing suppliers. It can only be considered applicable for the most common consumer goods which supplies chains are same or similar in nature to apparel, consumer electronics, toys and furniture's. This includes using historical sales data that includes all seasonal variations to identify to coefficient values that had significant sales impact. The frequency of sales forecast should be selected based on the operations of the retailers, particularly how the sales data is captured and updated.

The initial value for forecasting model is generated to adjust for changes in sales patterns overtime (Hammock Inc., 2014).

In addition, business intelligence, or BI, is an umbrella term that refers to a variety of software applications used to analyze an organization's raw data. BI as a discipline is made up of several related activities, including data mining, online analytical processing, querying and reporting. Companies use BI to improve decision making, cut costs and identify new business opportunities. BI is more than just corporate reporting and more than a set of tools to coax data, out of enterprise systems (Mulcahy, 2014).

Among the related functions and features discussed are implemented in the proposed Computerized Point of Sales and Inventory System of Yhohan Construction Supply. In particular, Computerized Point of Sales and Inventory System has a Local Area Network capability with relevant services such as: Product Management, Point of Sales, Stock Inquiry, Sales Report and Inventory Report that will facilitate the fully modular components of the system. These are the functions and features that are incorporated in the centralized Point of Sales and Inventory System. It was useful to adapt some functions and capabilities which are likely beneficial for the end-user, developer and also for the project development of the study.

The researchers use the existence of these systems as a starting point. This will help in meeting the requirements and features for proposed Computerized Point of Sales and Inventory System for Yhohan Construction Supply.

THE PROBLEMS

Statement of the Problem

Based on the limitations and existing challenges of manual sales and inventory, as well as the opportunities available, a computerized point of sales and inventory system was proposed to assist the establishment in improving its processes. Specifically, the research was conducted to find answers to the following questions:

1. What are the processes of sales and inventory of Yhohan Construction Supply?
2. What are the existing challenges encountered in monitoring point of sales and inventory of Yhohan Construction Supply?
3. What can be offered to improve the monitoring of sales and inventory?
4. What is the level of system usability perceived by the target user?

The proposed system is to be called the Yhohan Construction Supply and it will integrate the processes. The point of sale and inventory system is developed with the following features:

1. integrate an offline networking mechanism to use centralized server for the establishment.
2. design and implement the following modules:
 - a. acquisitions,
 - b. point of sale,
 - c. administration,
 - d. reports; and

3. implement business intelligence technique for decision-support to the establishment.

Scope and Delimitation of the Study

The study is called point of sales and inventory system for Yhohan Construction Supply. Specifically, the development of the proposed system covered only the following processes:

1. Centralization: This facilitates an offline fully integrated point of sales and inventory system with modular components and methodology for easy process.
2. Acquisition: This includes the recording of new acquisitions, incorporate a simple search facility, addition and update of items, profiling of creditors information and suppliers' information.
3. Point of Sale: This covers cash and credit transactions. It also creates a form with summated details of the transaction for customers. This is also gives a quick link to various aspects of this system manager related to taking and processing customer orders.
4. Administration: This function provides administrative tools for system maintenance, facilitates management of look-up tables, system configuration, schedules services, facilitates management users and groups, privileges and security.
5. Reports: The system provides enterprise reporting to serve the strategic management of the Yhohan Construction Supply. It will offer

customizable reports ready for printing; generates of reports transactions such as purchase orders, delivered items, return item, creditors list, generates sales and inventory reports, damage reports, delivery reports, inventory assessment check, remaining stocks and graphical reports.

The study was limited only to the standard operation and procedures in Yhohan Construction Supply. The users of the system were also limited to the personnel. The development of the study will handle the following modules: point of sale, inventory, monitoring of products and generates reports.

Significance of the Study

The study of Computerized Point of Sales and Inventory System for Yhohan Construction Supply propose an accurate and easy way of managing information. The main beneficiary of the study is the management. Specifically, this study could be beneficial to some entities, such as:

Owner. The developed system could lessen the difficulties in managing the sales and inventory count which is a key activity of business logistics and a major preoccupation in the entity's daily activities. This would also minimize their time in doing a monthly physical count because of the computerized system that can search and update records quickly.

Cashier. It could provide an easier way of processing and retrieving data on their daily transactions and minimized errors upon data processing.

Customer. The system could lessen inconvenience to customers when they make a purchase. It would be easily known if the certain item they want to buy is still available or how many stocks are still available.

Researchers. This research helps the enhancement of the researcher's ability, knowledge and skills in software development.

Future Researchers. This research would serve as reference for the future researchers that chose point of sales and inventory system as their title.

Academic Institutions. This research would serve as a model and basis of the students for their endeavor to change establishments to have automations.

RESEARCH METHODOLOGY

It is a procedure, technique, and a set of rules that analyze the principles in guide inquiry in a particular field. It gives more knowledge to understand the flow of the logic.

Developmental Framework

Figure 1 shows the conceptual diagram of the proposed system. It represents the model of the study that follows the principal input-process-output. These inputs are coming from the owner, cashier and sales clerk. The processes include the Point of sales, acquisitions, local networking and administration. The output provides decision support to the owner. It would also represent with the work of the owner, cashier and sales clerk.

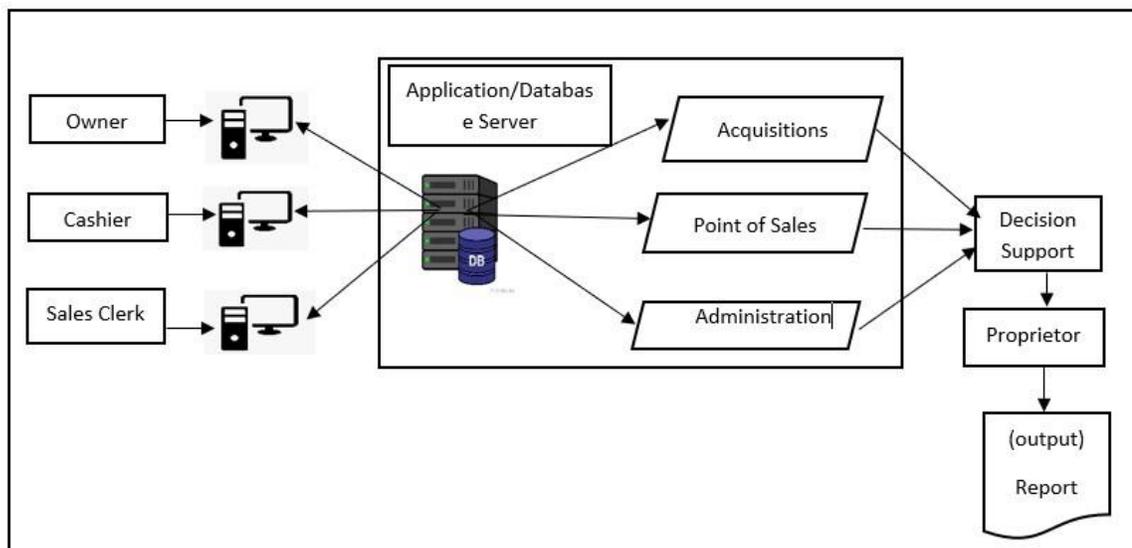


Figure 1. The Conceptual Framework of the Study

Block Diagram

Figure 2 shows the block diagram of the proposed. Computerized Point of Sales and Inventory System for Yhohan Construction Supply. It covers the specification of the basic functionality of the system that represents with the work of the owner, sales clerk and cashier. This includes new Point of sales for, Inventory procedures, inquiring of available item for the sales clerk and generating

reports for the owner. It will also automatically generate a purchase order of an item if it reaches its re-ordering point.

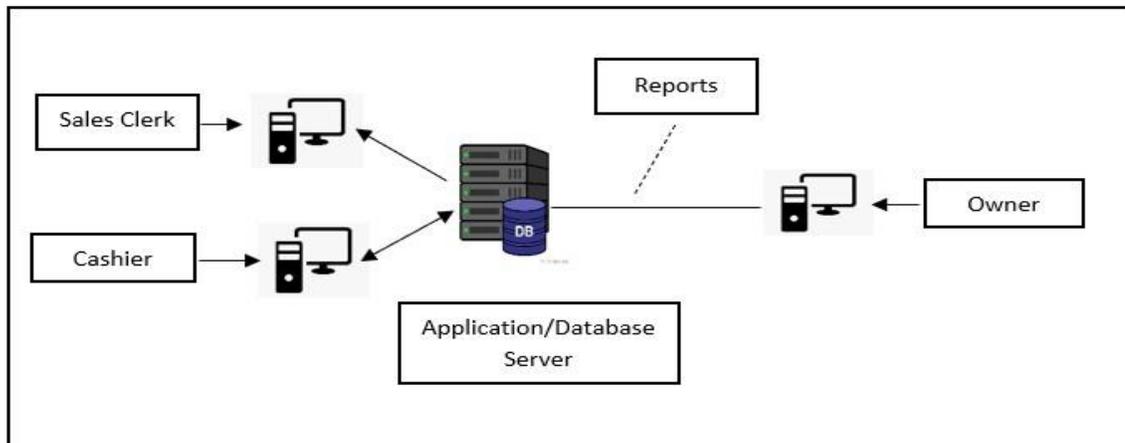


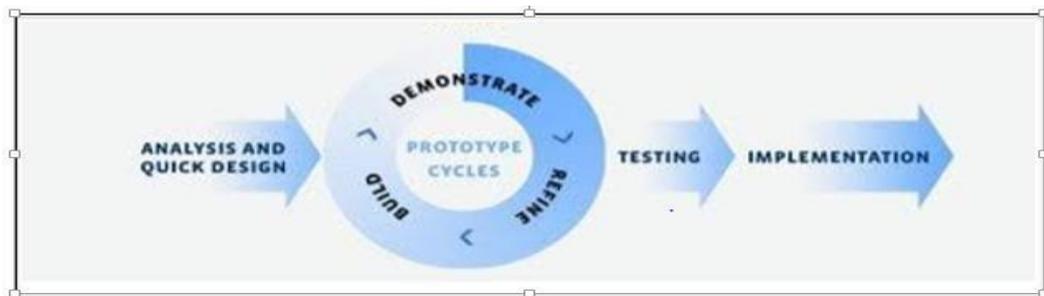
Figure 2. The Block Diagram of the Proposed System

The main entities consisting of processes and services related to specific enduser were the cashier, sales clerk and the owner of the Yhohan Construction Supply. The cashier's interface accepts cash sales transaction, sales clerk interface inquires available items, and the owner interface holds most processes such as updating of stocks and generating reports for business sales which could be daily, monthly, or yearly reporting. The reports are generated in a form of statistical and graphical formats.

The network mechanism used in the Local Networking of Yhohan Construction Supply was the Client/Server Architecture. The Server is a computer that send data to other machines on a local area network (LAN).

Development Model and Approaches

The methodology used was Rapid Application Development (RAD). It is a software development methodology used for refer to alternative to the conventional waterfall model of software development. Specifically, it approaches and emphasizes the necessity of adjusting requirements in reaction to knowledge gained as the project progresses. This cause RAD to use prototype in addition to or even sometimes in place of design specification. RAD approaches also emphasize a flexible process that can adapt as the system evolves rather than rigorously defining specifications and plans correctly from the start.



Source: <http://www.google.com/search?q=rapid+application+development+model&client=ms-android-oppo->

Figure 3. Rapid Application Development Model

Software Development Tools

The following are the tools used in the development of the Computerize Point of Sales and Inventory for Yhohan Construction Supply:

- **Windows Server 2010 R2** – a server operating system development by Microsoft, which builds on the enhancement, built into Windows Server 2010. Operating system (OS), which is highly integrated with the client edition Windows 10, offers improvements in scalability and availability, as well as power consumption.

- **WAMP** – is a window web development environment that allows creating web applications with apache2 and Mysql Database. It was use as the server of the proposed system and to view the system locally and one of the tools for database.
- **Microsoft Visual Studio 2012** – it is object-oriented database management system that makes it possible for programmers to create database solutions for the desktop to the Web. It also accepts external databases like MySQL which is an Open Database Connectivity (ODBD). It is used during the visual project programming of the proposed system. This language not allows programmers to create simple GUI applications, but also develop complex applications.
- **MYSQL** – offers standard database driver connectivity for using MySQL with applications and tools that are compatible with industry standards ODBC and JDBC. It is used in the connectivity of database in the programming application of the proposed system.
- **Microsoft Visio** – provides stencils for business and engineering diagrams, process diagrams, network diagrams, software and database diagrams. It is used to represent the processes in the system.

Environment and Participants

The study was conducted at Yhohan Construction Supply in Tuhogon I, Nueva Fuerza, Carmen, Bohol. Approximately, it is twenty-seven kilometers away from Bohol Island State University, Bilar Campus (B.I.S.U), Zamora, Bilar, Bohol. The respondents were the owner, cashier and sales clerk of the establishment. A personal interview was conducted to the owner who handled and managed the business and asked about the processes of their business.

Data Collection

The researchers asked permission from the owner to conduct a study of their store regarding the information, their process, and procedures of the establishment which is the sales and inventory. The researchers gathered information by conducting a personal interview, observing customers during purchasing items and having a document review. The researchers also asked what the processes are during purchasing and payment and also, the researchers asked who was responsible for keeping and retrieving the records.

Summary of Respondents in the System Usability

Respondents	No. of Respondents
Owner	2
Cashier	1
Sales clerk	2
Staff	2
Total	7

Functionality evaluation was conducted through the system usability testing survey with the target clients. It was done in order to quantify the effectiveness of the developed system. The system usability testing was done by rating according to the system usability questionnaire by Lewis James R. Questions. It assessed whether the users are satisfied with the system functionality.

Table 2

Interpretative guide of the System usability

Weight	Range	Description	Interpretation
7	6.4-7.0	Strongly Agree	The respondents strongly believe and confident that the system is very useful.
6	5.5-6.3	Agree	The respondents believe and confident that the system is usable.
5	4.6-5.4	Tend to Agree	The respondents tend to believe that the system is usable.
4	3.7-4.5	Neither Agree nor Disagree	The respondents are neutral in trusting that the system is usable.
3	2.8-3.6	Tend to Disagree	The respondents tend not to trust that the system is usable.
2	1.9-2.7	Disagree	The respondents believe that the system is not usable.
1	1.0-1.8	Strongly Disagree	The respondents strongly confident that the system is not usable.

In order to determine the general acceptability of the system, the average weighted mean or the weight mean score was computed to evaluate the system and web acceptability level using the following formula:

$$\text{WMS} = \frac{1f_1 + 2f_2 + 3f_3 + 4f_4 + 5f_5 + 6f_6 + 7f_7}{n}$$

Where:

WMS = Weighted Mean Score

F₁ = frequency of respondents given a rate of 1

F₂ = frequency of respondents given a rate of 2

F₃ = frequency of respondents given a rate of 3

F₄ = frequency of respondents given a rate of 4

F₅ = frequency of respondents given a rate of 5

F₆ = frequency of respondents given a rate of 6

F₇ = frequency of respondents given a rate of 7

N = total number of respondents

1,2...7 = constant (rating to the services provided)

Document Review

Different documents were reviewed to come up with the process needed in sales monitoring and inventory system including the possible input and output process, and for possible features to be added.

Procedure

To gather the data, the researchers asked permission to the owner from the Yhohan Construction Supply to conduct the study through a letter of approval. The documentation procedure was done first in order to familiarize the procedure of the present system as basis for the development Point of Sale and Inventory System.

OPERATIONAL DEFINITION OF TERMS

The terminologies used and mentioned in this study and were further defined operationally in this study:

Computerized Point of Sales and Inventory System. The name of the establishment system software representing the Yhohan Construction and Supply.

Yhohan Construction Supply. It is the name of establishment proposed with the computerized point of sales and inventory system.

Likewise, the following terms are defined conceptually in the conduct of this study:

Administration. A module that handles the conceptually in the conduct of this proposed system.

Business Intelligence (BI). The ability of an organization who collects, maintains, and organizes knowledge. It aims to support better business techniques and decision-making with solutions that take business intelligence (BI) to a whole new level and getting the right information.

Cash. Amount to be given by a customer exchange for an item.

Customer. Also called client, buyer or purchaser, is usually used to refer to a current potential buyer or user of the products of an individual or organization, mostly called the supplier, seller or vendor.

Decision Support. It is a technique, method of system of operating or controlling a mechanical or production process by highly automatic means, as by electronic devices.

Inventory. A list of goods and materials, or those goods and materials themselves, held available in stock by a business.

Networking. Is a telecommunications network that allows computer to exchange data.

Receipt – it is a piece of paper that will be given to a customer where they can see the items or products being bought and its corresponding price.

Report - an account or statement describing in details an event, situation, or the like, usually as the result of observation and inquiry.

Sales – is the principal activity involved in the selling of products or services in return for money or other compensations.

System Users - it is the one who interacts with the system, to enable its operation, or to utilize its functions. These were the owner and sales clerk of Yhohan Construction Supply.

CHAPTER 2

PRESENTATION OF FINDINGS, ANALYSIS AND INTERPRETATION OF DATA

Existing Operation and Processes

This research focuses on Yhohan Construction Supply's sales and inventory system. Every day from 7:00 a.m. until 5:00 p.m., the establishment is open. Mrs. Antonnette Grace L. Budiongan, the owner, is in charge of this. The company employs one salesclerk, cashier, four drivers, and five other employees, each with their own responsibilities.

A. Inquiry

As a customer purchase a product, the sales clerk checks if that product is available in the display/storage area. As the sales clerk checks its availability, she also looks for the product/item price. The customer also inquiries about the transaction during the delivery of the purchased product/items.

B. Purchasing

The sales clerk listed all the purchased items in a small paper which is summated for total payable. The cashier prepares and computes all purchased items/products and gives the payable amount to the customer, then the cashier receives the payment. The purchased items/products are given by the sales clerk to the customer after paying the total amount payable. Official receipt are issued

to the customer as a proof of purchase. The original receipt is issued, and the duplicate copy is placed in the drawer for inventory and cash reference. And also, as for the receipts, it depends on the customer if they want a receipt or not.

C. Recording of Items

When purchasing orders, the owner gives a call to the supplier for booking/scheduling. Stocks are monitored because the suppliers make a list of their orders. Every month, the suppliers come to their establishment for delivery. Since the establishment does not have a form for purchasing orders, the owner writes on a paper and checks for the product once these are delivered. The delivered items are listed in the stock book. And if customers would purchase, the sales clerk will record every per item that the customers had already purchase in the record book.

D. Delivering of Items

During delivery of product, construction supplies amounting of P1, 000 and up only are delivered. These will be recorded in the ledger. The delivery is firstcome-first-serve basis if product is existing. If items are not available; the establishment prioritizes the products that are available to be delivered to the customers.

E. Replacement of Items

The establishment has a box where damaged products are kept. For products to be replaced, the customers need to present the receipt of the products to the sales clerk to be sure that said items are from their establishment.

Replacement of the products is within a week from purchase date only.

F. Inventory

As for the inventory the stocks are monitored by the manually counting the stocks weekly. The cashier and the sales clerk will be checking the record book if the count of the remaining item is matched to the list. If the number of remaining items is not matched to the record book, they consider it lost. Inventory of the stocks are done monthly.

G. Reports

At present based on the manual operation for the reports, the cashier who is responsible for keeping all the receipt of the daily transaction and also write the amount of the daily sales in the sales report book. The owner will be checking the record book for the reports.

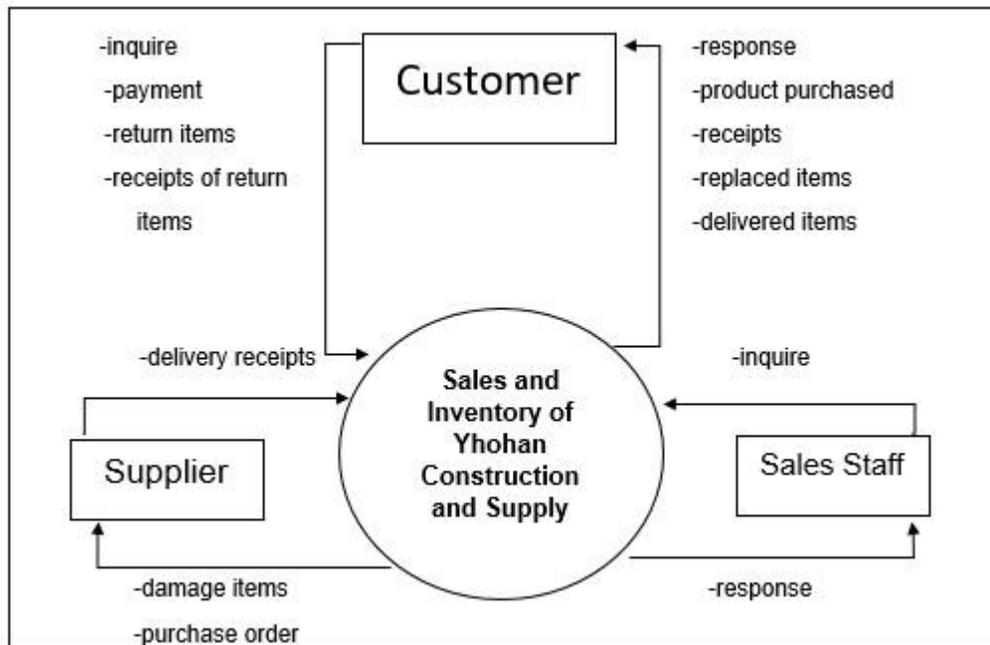


Figure 4. Context Diagram of the Present System

PRESENT EVENT LIST

1. Customer Inquire Product
2. Staff Inquire Product
3. Customer Purchase Product
4. Customer Credit Sales
5. Customer Return Items
6. Customer Damage Replacement
7. Supplier Restock Item
8. Owner/ Manager Reports

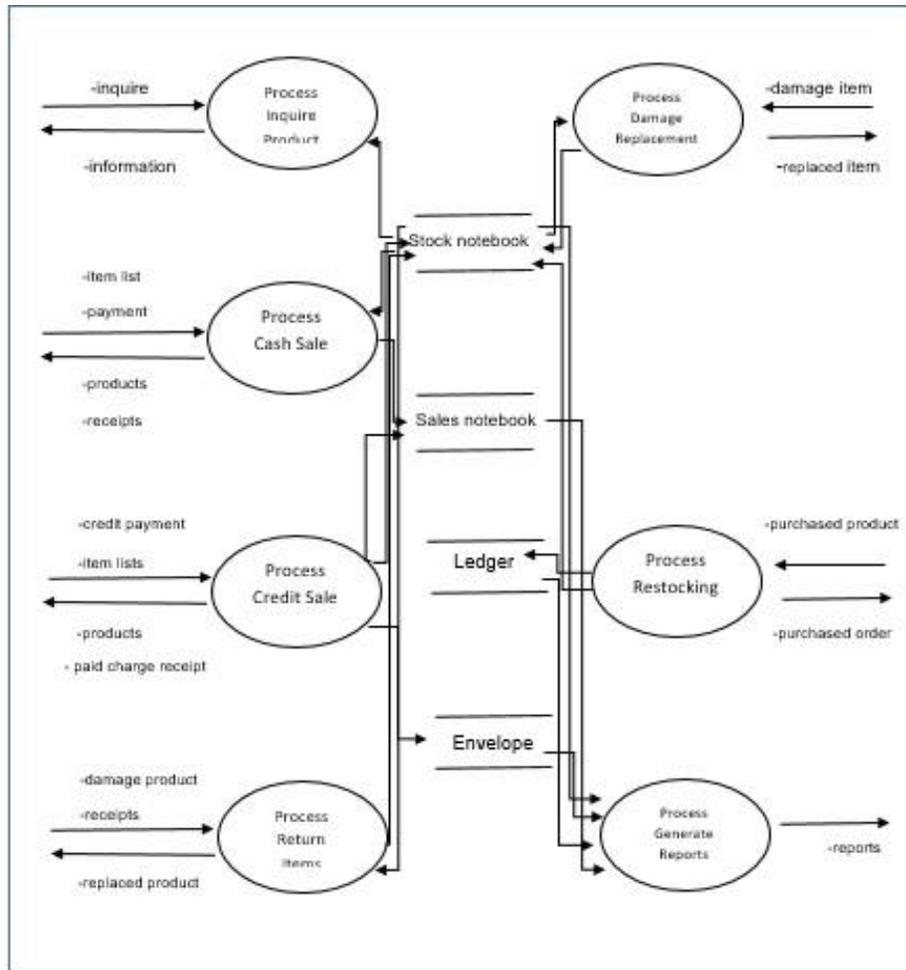


Figure 5. Top Level of the Present System

EVENT SPECIFICATION

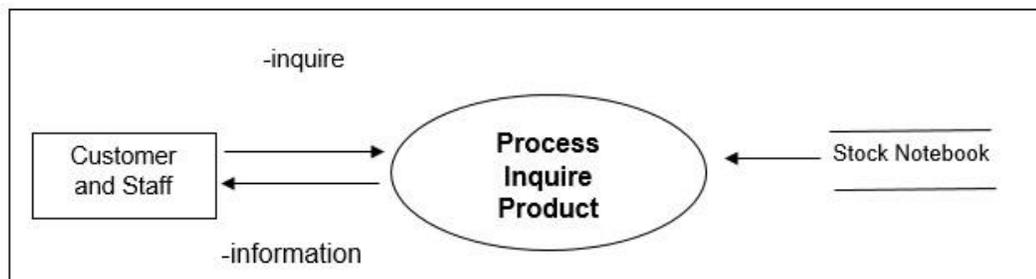


Figure 6. Event 1. Customer/Staff Inquire Product

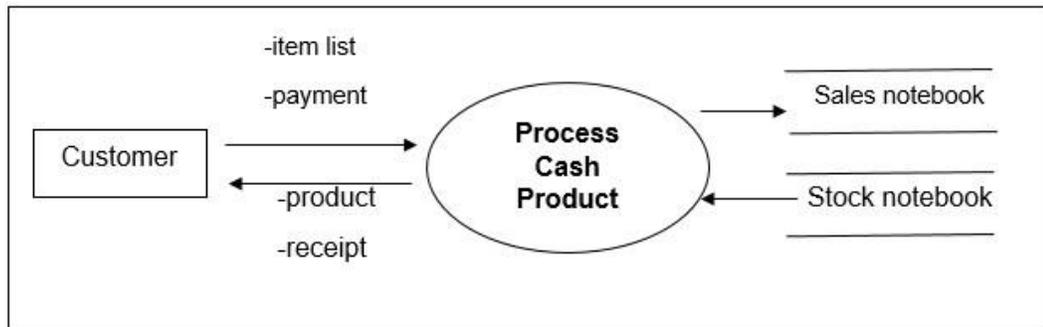


Figure 7. Event 3. Customer Purchase Product

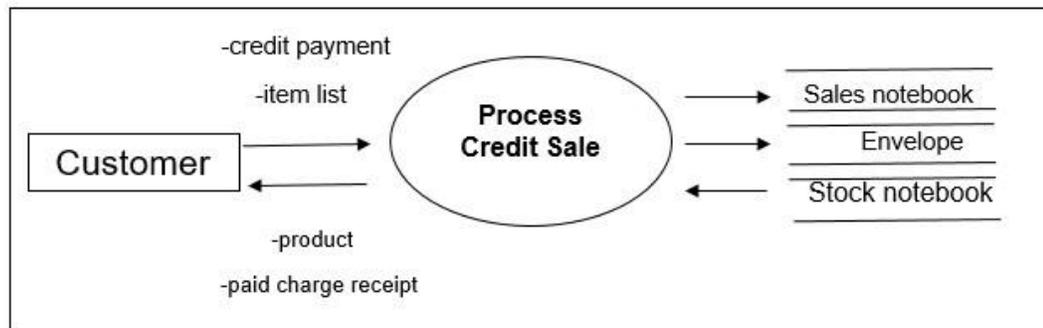


Figure 8. Event 4. Customer Credit Sale

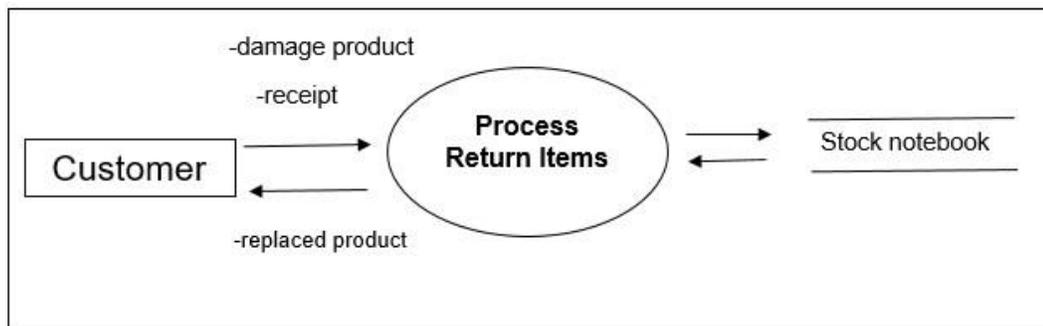


Figure 9. Event 5. Customer Return Items

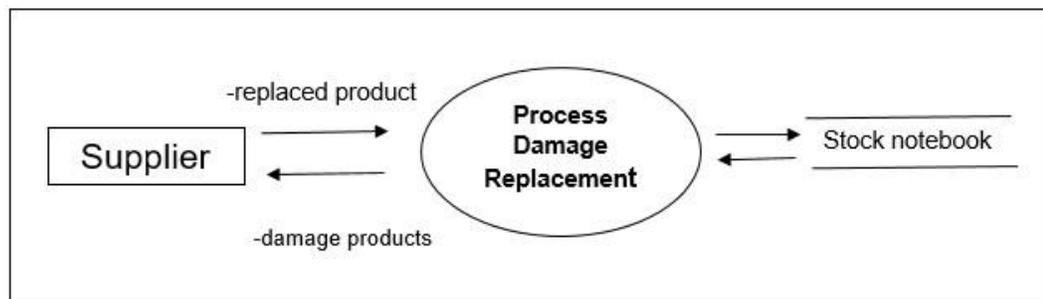


Figure 10. Event 6. Customer Damage Replacement

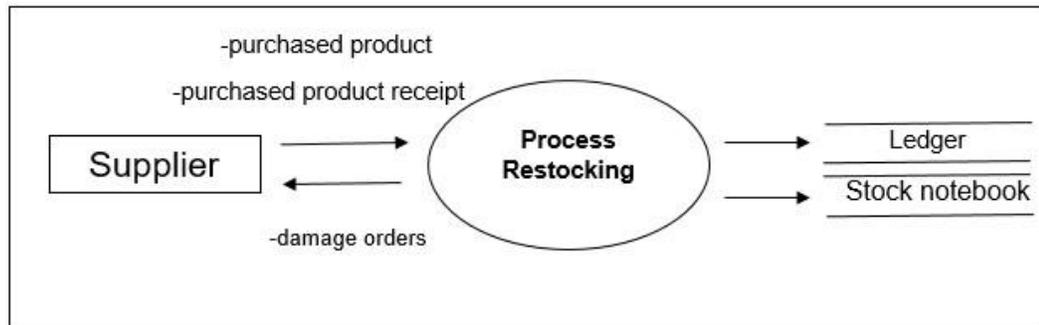


Figure 11. Event 7. Supplier Restock Items

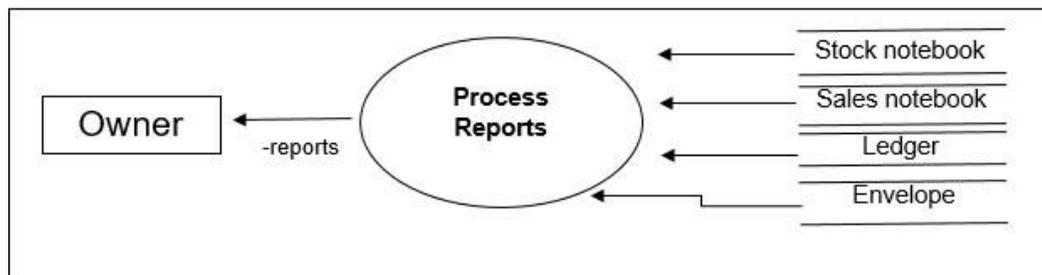


Figure 12. Event 8. Owners Report

Needs of the Present System

Following a review of Yhohan Construction Supply's current Sales and Inventory System, the researchers found the following requirements in order to improve and facilitate the Sales and Inventory System's processing.

The following are the needs of the Sale and Inventory System of Yhohan Construction and Supply:

1. Develop a system that will handle sales, product records and sales activity using computer tool.
2. Provide data references with updated and accurate product information.
3. Point of sale must be reflected real time scenario to be able to forecast sales for future management purposes.

4. Database that contains all the information for generating records.
5. Computerized system in order to achieve less time and effort in doing tasks.
6. Delivery of products and product inventory must be recorded well.
7. There is a need for fast and accurate computations of payments to attain good service to the customers.
8. The monitoring of stocks must be improved in order to cater to more sales transactions.

PROPOSED SYSTEM

System Narrative

The automated Sales and Inventory System is conceptualized based on the information obtained by the researchers concerning the current system's manual procedure. The computer is used to carry out all of the processes involved in sales and inventory, such as query processing and report generating.

A user must have an individual account before being able to access the business's computerized sales and inventory management system. The accounts are split into three categories: administrator, sales clerk and cashier. The administrator account is for the firm owner, who has complete access and control over the entire business process. The sales clerk account has limited access of the system intended only for inquiring of items in database and providing the list of total items and its total amount. The in-charge will punch the item to be purchased when the consumer

makes a transaction. The item's name and prices will be presented, and the total amount of the item purchased will be calculated automatically. After receiving payment, the customer is issued a cash sales invoice that includes an itemized breakdown of the things purchased as well as the total cost.

The sales clerk is the only person who has access to the form "Products," which is where products are added. The sales clerk will fill out this form with information about the item, such as the item description, quantity, product unit, price, mark-up, and re-ordering point. The item information will be kept in the database after the owner confirms it. When a customer arrives at the front desk, the sales clerk will look up the things the buyer wants to purchase in the database. The total quantity of items will be calculated by the sales clerk. The system performs the calculations automatically and prints two copies of the temporary receipt: one for the customer and one for the cashier to verify the products and collect the customer's entire payment. For cash sales, the transaction details will be saved in the database. A receipt will be requested from a client returning a defective item. The cashier will check the database to see if the receipt has been logged. The defected item information will be recorded in the database if the receipts have been confirmed. For an accurate inventory report, the replaced item will be deducted from the database.

Crystal Report Viewer is used in the proposed system to generate several types of business intelligence reports. The administrator is the only

one who can generate these reports. Under the report form, the owner can select from a variety of reports, such as Inventory Report, which displays a tabular list of products together with associated information such as item name and remaining quantity, allowing the owner to keep track of the database's remaining inventories.

Point of Sales and Inventory System of Yhohan Construction Supply using Barcode

The researchers had gathered all the data and information with regards to the present system and came up with the development of the Sales and Inventory System of Yhohan Construction and Supply using Barcode.

A. Administration

The login system is the first security module that will determine the authorized user to ensure the security of the records and files in the developed system. Users are divided into three categories: The owner, salesclerk and the cashier. The owner will manage and monitors the business, the cashier will handle the Point of Sale, and the sales clerk will check its availability.

B. Inventory

The owner will log in to the system, which handles the inventory of the items and items availability, view remaining stocks, and the point of sales.

C. Transaction

It includes sales and inventory system that allows business owners and entrepreneurs flexibility in the morning of sales transaction, provide target sales, and monitor the profit reports for the month or year.

D. Reports

In the generation of reports, the manager is the only one who will approve the reports. These reports include the list of item stocks, a list of availability of stocks, a list of daily remaining stocks, and a daily gross profit report.

Use Case Diagram

A Use Case Diagram is a list of actions or event steps typically defining the interactions between a role (known in the Unified Modeling Language as an actor) and a system to achieve a goal.

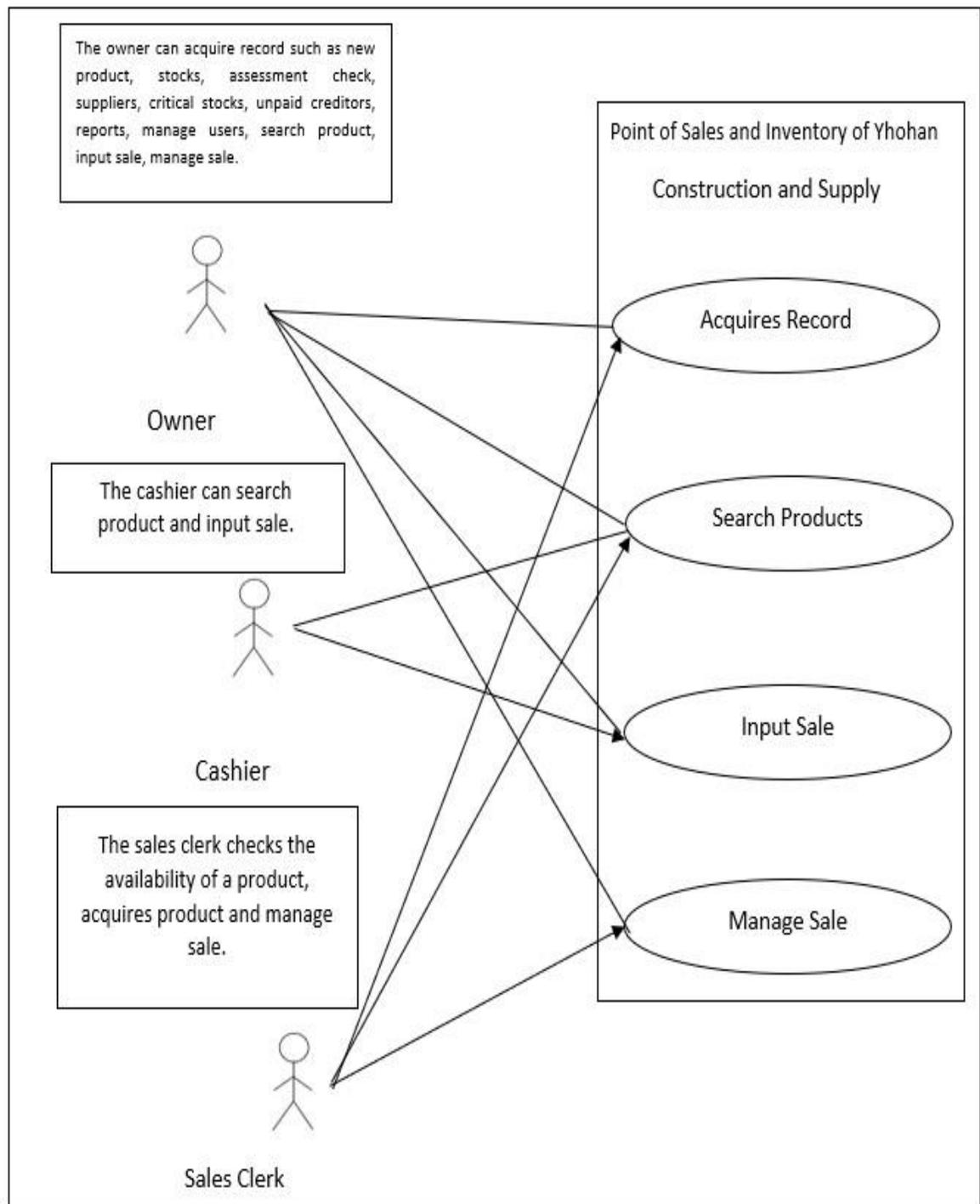


Figure 13. Use Case Diagram – Point of Sale and Inventory of Yhohan Construction and Supply

Use Case Narrative

Manage Items (Owner)

Use case name	Manage Items
Actor	Owner
Precondition	Owner is already in Manage Item module.
Description	Allows the Owner to Add, Update information.
Typical Course of Action:	
Actor Action	System Response
Step 1 User select the Manage tab	Step 2 Display the new products, Stocks, Custom Inventory, and Suppliers.
Step 3 User select “New Products”	Step 4 Display the new products with Add, Update and Delete.
Step 5 User selects a button	Step 6 If the user clicks “Add’ button.
Step 7 The user add new Items and chooses Save button.	Step 8 The system saves the data into the database and a message will display “Item Added”. .
Step 9 The user clicks “Update” button.	Step 10 The system update the data into the database and a message will display “Item Updated”.
Step 11 The user clicks “Delete” button.	Step 12 The system deletes the data into the database and a message will display “ Item Deleted”
Step 13 User select the “manage stocks” menu	Step 14 Displays the Stocks in products, Damage products, Losses.
Step 15 The user clicks “Display the stocks” button.	Step 16 The system will add stocks into the database and a message will display “New stock successfully added”.

Step 17	Step 18
The user clicks "Damage Products" button.	The system can record and add defective Quantity and a message will display "damage successfully recorded."
Step 19 The user clicks "Losses".	Step 20. The system can record loss items and a message will display "Loss items successfully recorded."
Step 21 User select the "Custom Inventory" menu	Step 22 The system can add data, remove selected data, and remove all data.
Step 23 The user clicks "add data" button	Step 24 The system can add data to the data list from the product list.
Step 25. The system can remove selected item from the data list.	Step 26. The system can remove all selected item from the data list.
Step 27 User clicks the "Suppliers" menu	Step 28. The system can add, update information

Monitoring (Owner)

Use case name	Monitoring
Actor	Owner
Precondition	Owner is already in Monitoring module.
Description	Allows the Owner to monitor the critical stocks and Unpaid Creditors.
Typical Course of Action:	
Actor Action	System Response
Step 1 User select the Monitoring tab	Step 2 Display the Critical Stocks and Unpaid Creditors.

Step 3 User select "Critical Stocks"	Step 4 The system can generate purchase order and PO list.
Step 5 User select "unpaid creditors".	Step 6 The system can view the unpaid creditors

Reports (Owner)

Use case name	Reports
Actor	Owner
Precondition	Owner is already in Reports module.
Description	Allows the Owner to monitor the inventory report, stock in report, damage report, losses report, credit report, paid creditor's report and sales report.
Typical Course of Action:	
Actor Action	System Response
Step 1 User select the Reports tab	Step 2 Display the inventory report, stock in report, damage report, losses report, credit report, paid creditor's report and sales report.
Step 3 User select the Inventory report	Step 4 The system will display the inventory reports.
Step 5 User clicks the stock in report	Step 6 The system will display the stock in reports.
Step 7 User clicks the damage report	Step 8 The system will display the damage reports.
Step 9 User clicks the losses report	Step 10 The system will display the loss items.
Step 11 User clicks the credit report	Step 12 The system will display the credits reports.

Step 13 User clicks the paid creditor's report	Step 14 The system will display the paid creditors.
Step 15 If the user clicks the sales report menu	Step 16 Display the daily graphs, monthly graphs and cashiers daily sales.
Step 17 If the user clicks " daily graphs "	Step 18 The system will display the graph of sales.
Step 19 If the user clicks " monthly graphs "	Step 20 The system will display the monthly graph,
Step 21 If the user clicks " cashiers daily sales"	Step 22 The system will display the cashier's daily sales.

Administration (Owner)

Use case name	Administration	
Actor	Owner	
Precondition	Owner is already in Administration module.	
Description	Allows the Owner to monitor the " Manage users and Developers "	
Typical Course of Action:		
Actor Action	System Response	
Step 1 User select the " Administration " tab	Step 2 Display the " Manage users and Developers "	
Step 3 If the user clicks the "manage user's".	Step 4 The system will display the "Manage User ".	
Step 5 If the user clicks the " Developers"	Step 6 The system will display the" Developers Profile."	

Search Items (Cashier/Sales Clerk/Owner)

Use case name	Search items	
Actor	Cashier/Sales Clerk/Owner	
Precondition	Cashier is already in POS module. Sales Clerk is already in Inventory module. Owner is already in Manage Items module.	
Description	Allows the Cashier, Sales Clerk, and Owner to search items and view availability.	
Typical Course of Action:		
Actor Action	System Response	
Step 1 Cashier Logs in	Step 2 Displays automatically the POS module.	
Step 3 The user clicks the Search Item Button	Step 4 Displays the Search item.	
Step 5 Sales clerk logs in	The system displays automatically the Search item.	
Step 6 The Owner logs in to administration	Step 7 Clicks the Manage Items menu and automatically displays the Search Item.	

Manage Sales (Cashier, Owner)

Use case name	Manage Sales	
Actor	Cashier, Owner	
Precondition	Owner is already in Report module. Cashier is already in Cashiers module.	
Description	Allows the Owner and Cashier to manage sales.	
Typical Course of Action:		
Actor Action	System Response	

Step 1 User select the report module.	Step 2 Clicks the Sales report tab and displays the Daily graphs, Monthly graphs by Year and the Cashier Daily Sales.
Step 3 User logs in to Cashiers	Step 4 System automatically displays the POS

Inventory (Owner)

Use case name	Inventory
Actor	Owner
Precondition	Owner is already in Inventory module.
Description	Allows the owner to do Inventory.
Typical Course of Action:	
Actor Action	System Response
Step 1 The user logs in to Admin	Step 2 The system displays the administration module
Step 3 The user clicks the Manage menu	Step 4 The system displays the sub menus
Step 5 The user clicks the Custom Inventory sub-menu	Step 6 The system displays automatically the custom inventory form
Step 7 The user chooses random items	Step 8 The system transfer information to another form
Step 9 The user input the actual count	Step 10 The system will automatically display the discrepancy
Step 11 The user clicks the analyze button	Step 12 The system automatically displays the analysis
Step 13 The user clicks the print details button	Step 14 The system will automatically print the analysis

Database Design

Database design is the process of producing a data model of the database. This model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a data definition language, which can be create a database.

System design is an aspect of system progress that serves as building for the system enhances the Point of Sale and Inventory System of Yhohan Construction Supply. And the researchers aim a new system which would be used in the establishment.

In order to meet the client's needs, various improvements were made to Yhohan Construction Supply Point of Sale and Inventory System. The goal of this design is to provide a solution to a problem and assist the end user.

Class Diagram

In Figure 14 is a class diagram in the Unified Modeling Language (UML) is a form of static structure diagram that shows the system classes, their attributes, operations, and interactions among the classes to explain the structure of a system.

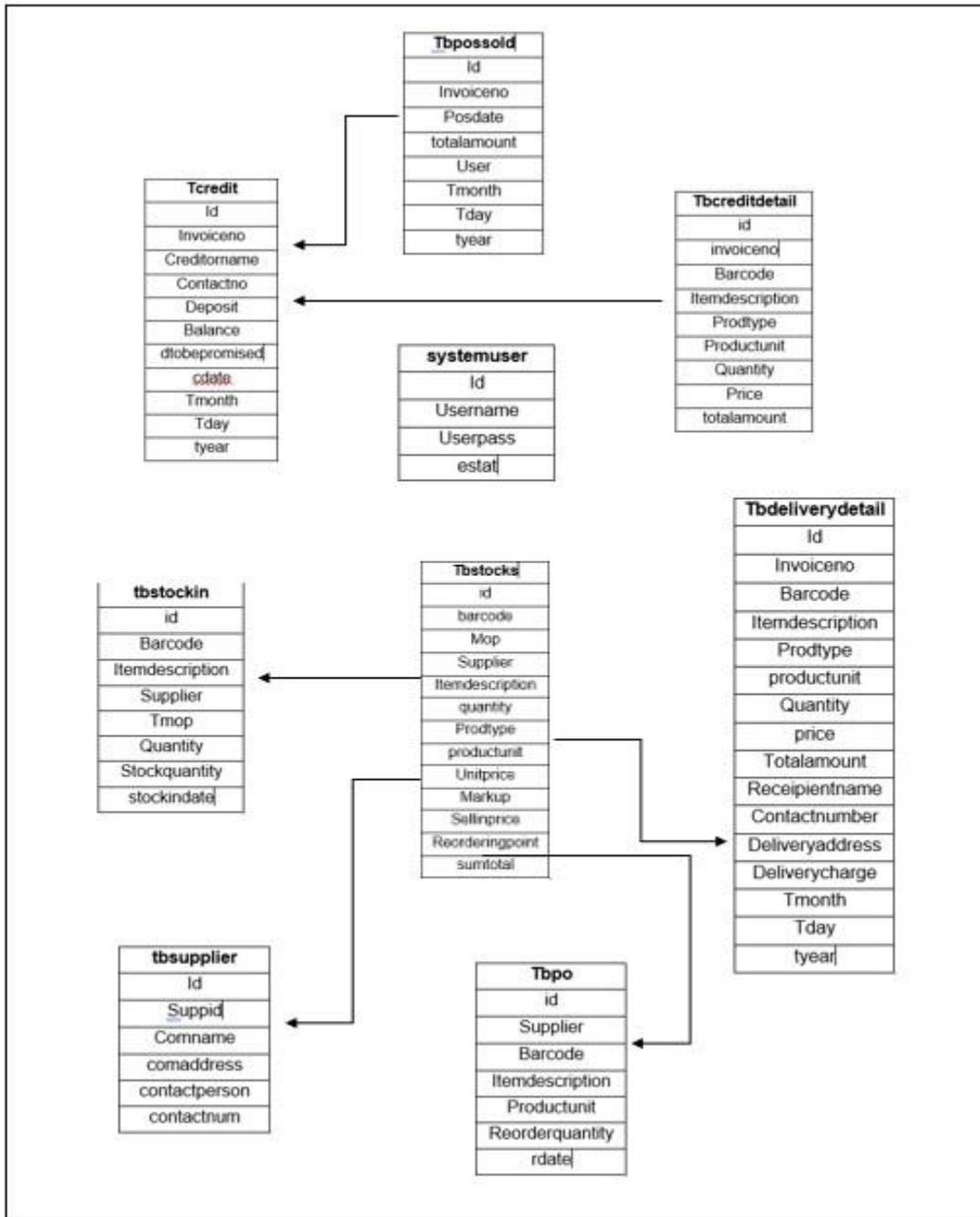


Figure 14. Class Diagram

Data Structure

The following tables are the database tables that used in storing the information that are inputted in the system together with a collection of operations that facilitates searching, sorting, recombination and of similar activities.

Table 3

Database for the System Security Log-in

Field	Fieldname	Type	Width	Description
1	Username	Varchar	50	User's Username
2	Userpass	Varchar	50	User's Password
3	Estat	Estat	20	Type of user

Table 4

Database for Supplier Information

Field	Fieldname	Type	Width	Description
1	Suppid	Varchar	20	Suppliers ID Member
2	Comname	Varchar	50	Companies Name
3	Comaddress	Varchar	50	Companies Address
4	Contactperson	Varchar	50	Contact Person's Name
5	Contacnum	Varchar	15	Person's Contact Number

Table 5

Database for Updating Product Information

Field	Fieldname	Type	Width	Description
1	Barcode	Varchar	30	Products code
2	Mop	Varchar	15	Mode of payment
3	Supplier	Varchar	20	Products supplier name
4	Itemdescription	Varchar	20	Products name
5	Quantity	Double	None	Products quantity
6	Prodtype	Varchar	12	Products type
7	Procdtunit	Varchar	7	Products unit
8	Unitprice	Double	none	Products price
9	Markup	Double	none	Mark-up Percentage
10	Sell_price	Double	none	Products selling price

11	Reorder_point	Double	none	Products re-ordering point
12	Sumtotal	Double	none	Products total

Table 6

Database for Product Stock-in

Field	Fieldname	Type	Width	Description
1	Barcode	Varchar	30	Product code
2	Itemdescription	Varchar	20	Products name
3	Supplier	Varchar	30	Suppliers name
4	Tmop	Varchar	30	Mode of payment
5	Quantity	Float	None	Add quantity
6	Stockquantity	Float	None	Products new stock quantity
7	Stockin_date	Date Time	12	Products stock in date

Table 7

Database for Return Item

Field	Fieldname	Type	Width	Description
1	Invoice_no	Bigint	15	Products invoice number
2	Barcode	Varchar	30	Product code
3	Itemdescription	Varchar	20	Product name
4	Productunit	Varchar	10	Products unit
5	Price	Float	None	Products price
6	Quantity	Float	none	Products quantity
7	Date	Date time	12	Products returned item

Table 8

Database for Sold Item

Field	Fieldname	Type	Width	Description
1	Invoiceno	Bigint	14	Invoice number
2	Postdate	Date time	12	Sold date
3	Totalamount	Float	None	Total amount
4	User	Varchar	15	Type of user

Table 9

Database for Storing Cash Transaction

Field	Fieldname	Type	Width	Description
1	Invoiceno	Bigint	15	Products Invoice Number
2	Cashrender	Double	None	Cash rendered
3	Grandamount	Double	None	Product total amount
4	Tchange	Double	none	Changed

Table 10

Database for Sale Transaction Detail

Field	Fieldname	Type	Width	Description
1	Invoiceno	Bigint	15	Invoice number
2	Barcode	Varchar	30	Product code
3	Itemdescription	Varchar	20	Products name
4	Prodtype	Varchar	10	Product type
5	Productunit	Varchar	10	Product unit
6	Quantity	Float	None	Products quantity
7	Price	Float	None	Products price
8	Totalamount	Float	none	Products total amount

Table 11

Database for Purchase Order

Field	Fieldname	Type	Width	Description
1	Supplier	Varchar	20	Supplier's name
2	Barcode	Varchar	30	Product Code
3	Itemdescription	Varchar	20	Product's name
4	Productunit	Varchar	10	Product unit
5	Reorderquantity	Float	none	Re-order quantity
6	Rdate	Date Time	12	Re-order date

Table 12

Database for Damage Item Management

Field	Fieldname	Type	Width	Description
1	Barcode	Varchar	30	Product Code
2	Itemdescription	Varchar	20	Product's Name
3	Supplier	Varchar	20	Supplier's name
4	ProdType	Varchar	15	Product's Type

5	Productunit	Varchar	50	Product unit
6	Damagequantity	Float	none	Product's Damage item quantity

Table 13

Database for Credit Purchase Transaction

Field	Fieldname	Type	Width	Description
1	Invoice_no	Bigint	15	Product's Invoice Number
2	Barcode	Varchar	30	Product Code
3	Itemdescription	Varchar	20	Product's Name
4	ProdType	Varchar	15	Product's Type
5	Productunit	Varchar	10	Product Unit
6	Quantity	Float	none	Product's Quantity
7	Price	Float	none	Product's Price
8	Totalamount	Float	none	Product's Total Amount

Table 14

Database for Creditor's Information

Field	Fieldname	Type	Width	Description
1	Invoiceno	Bigint	50	Product's Invoice Number
2	Creditorname	Varchar	50	Creditor's name
3	Contactno	Varchar	11	Creditor's Contact Number
4	Deposit	Double	none	Creditor's Deposit
5	Balance	Double	none	Creditor's Total balance
6	Dtobepromised	Varchar	35	Date to Be Promised
7	Cdate	Date Time	12	Credit Date

Table 15

Database for Credit Transaction Detail

Field	Fieldname	Type	Width	Description
1	Invoiceno	Bigint	15	Product's invoice Number
2	Credirtorname	varchar	30	Creditors Name
3	Contactno	Varchar	20	Contact Number
4	Deposit	Varchar	15	Deposit
5	Balance	Varchar	10	Creditor's Balance

6	Change	Float	None	Change
---	--------	-------	------	--------

Table 16

Database for Loss Items

Field	Fieldname	Type	Width	Description
1	Barcode	Varchar	30	Product Code
2	Itemdesc	Varchar	20	Product's Name
3	Supplier	Varchar	20	Supplier's
4	Prodtype	Varchar	15	Product Type
5	Productunit	Varchar	10	Product's Quantity
6	Quantity	Float	None	Product's Quantity
7	Tdate	Varchar	35	Date

Table 17

Database for Custom Inventory

Field	Fieldname	Type	Width	Description
1	Barcode	Varchar	20	Product code
2	Itemdescription	Varchar	50	Products name
3	Quantity	Varchar	15	Products quantity
4	Actualcount	Varchar	12	Manual counting
5	descripancy	Double	none	Product descripancy

Program Hierarchy

The diagram is a simple hierarchy chart, showing the program functions of the system. Showing the visualization of menus and submenus found in the system regarding on operations gathered. The top of the chart is generally retrieved for the most important or significant part of the system. Cascading down from the top is the other component of the system hierarchy.

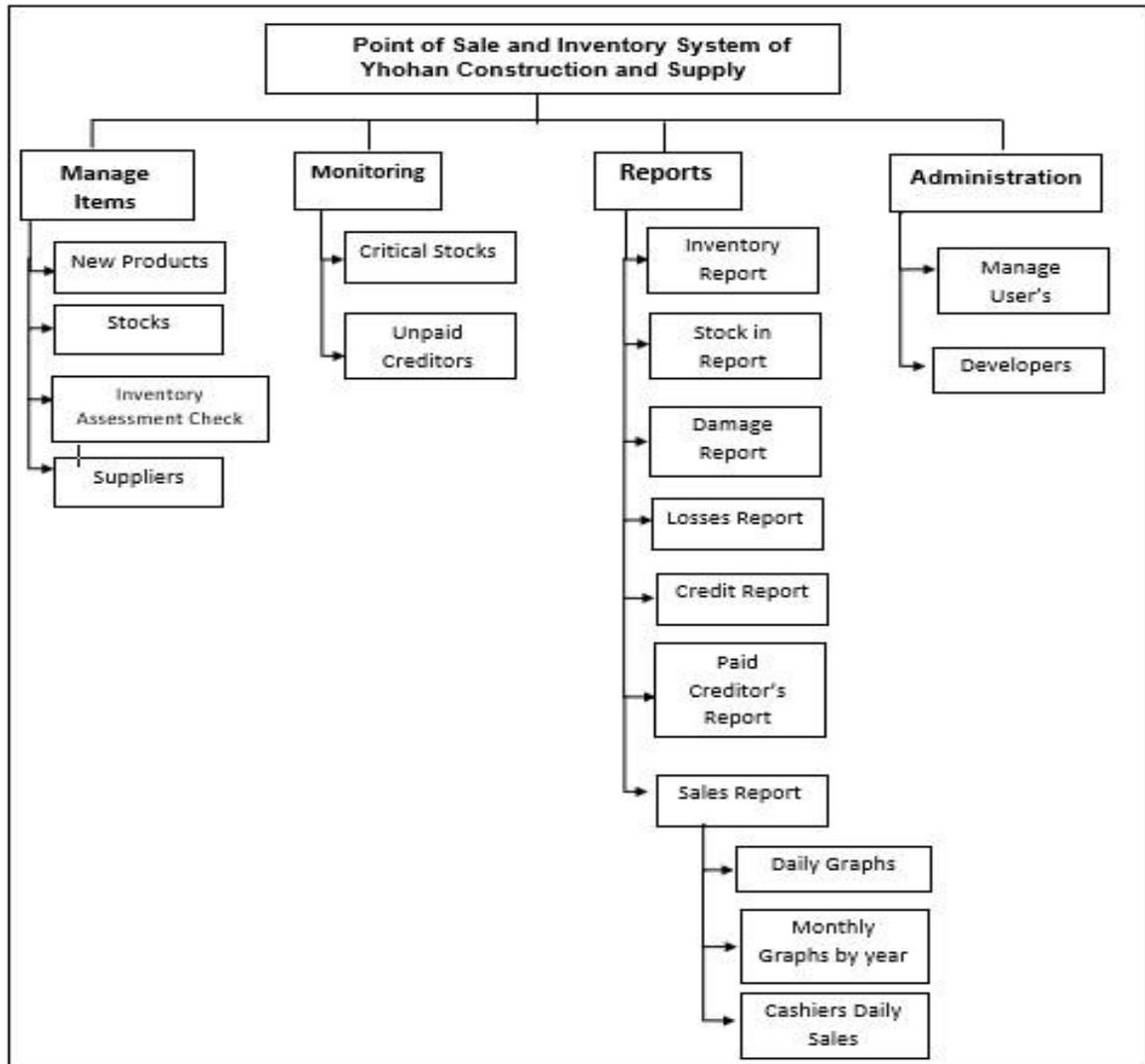


Figure 15. Top Level Program Hierarchy

Functional Requirements

A functional requirement specifies a software system's or component's function.

A function is made up of three parts: inputs, behavior, and outputs.

Calculations, technical details, data manipulation and processing, and other specific functionality that define what a system is expected to perform are

examples of functional requirements. The functional requirements were defined using a connected Point of Sale and Inventory System. The following are based on existing standard requirements of a Point of Sales and Inventory System with approval and coordination from management:

Product Purchasing.

FREQ 1. The system should allow the owner to enter item information.

FREQ 2. The system should allow the cashier to return items that are broken or defective.

Sales Function.

FREQ 3. The system must allow cashier to directly asses, calculate and collect fees from the customer.

FREQ 4. The system must allow the cashier to provide a receipt for the customer.

FREQ 5. The system must record each transaction into the database.

Inventory Function.

FREQ 6. The system must allow owner to search available items.

FREQ 7. The system must have a restocking point to avoid stock shortage.

Return Function.

FREQ 8. The system must allow cashier to accept return damage items and replace a new one.

Reports Function.

FREQ 9. The system should associate with retrieving, filtering, and displaying data stored in the execution of Sales and Purchasing.

FREQ 10. The system should provide the statistical reports for the decision support of the owner.

Administrative Function.

FREQ 11. Access to the system must be password protected.

FREQ 12. Only the management can update and access the inventory system.

Non-Functional Requirements

A non-functional requirement is one that defines criteria that can be used to assess the system's performance rather than specific actions. Functional requirements, on the other hand, specify precise behaviors or functions.

1. Authorized users must be protected from the system. By utilizing a username and password combination.
2. The system should be based on existing technology, such as the company's Windows.
3. The system has to be available 99.9% of the time.
4. The system should be able to run on the specified hardware.

Test Cases

A test case is a comprehensive procedure that fully tests a feature or an aspect of a feature under a set of conditions or variables that a tester would use to assess if an application or software system is running correctly or not. It also refers to a set of input variables, execution preconditions, expected results, and executions created for a certain program route or to ensure compliance with a specific requirement. These are the scenarios that were tested during acceptance testing. To test the proposed system, the test plan is to allow people utilize the system and follow the instructions in each test case. a module for adding new item information to the database, and it is expected to do so. The test case is a module for searching item information that is intended to return the desired results.

User Account Login:

Test Case 1:

Module: Administration account

Severity: 1

Instructions:

1. On the login form write the corresponding username of the Administrator.
2. Input user password. Then click the option "Login" button.

Expected Result:

1. User can access in all modules of the system except the point of sale.

Clean-up: Click "Cancel" button to close module.

Test Case 2:

Module: Cahier Account

Severity: 1

Instructions:

1. On the login form write the corresponding username of the Cashier.
2. Input user password. Then click the option "Login" button.

Expected Result:

1. User can only access in the Point of Sale module.

Clean-up: Click "Cancel" button to close module.

Test Case 3:

Module: Sales Clerk account

Severity: 1

Instructions:

1. On the login form write the corresponding username of the Sales clerk.
2. Input user password. Then click the option "Login" button.

Expected Result:

1. User can only access in viewing available items.

Clean-up: Click “Cancel” button to close module.

Adding New Products:

Test Case 1:

Module: Items Information Management for “Adding new item” command.

Severity: 1

Instructions:

1. On the main menu, click “Manage”.
2. On the Sub Menu, click “New Product”.
3. Input detailed item information.
4. Click “Add” button

Expected result:

1. Item successfully saved.
2. The newly added items information should be displayed.

Test Case 2.

Module: Items Information Management for “Search” command.

Severity:1

Instructions:

1. On the main menu, click “Manage”.
2. On the Sub Menu, click “New Product”.

3. Type the corresponding first letter of the items name or the barcode in the search textbox.

Expected result:

1. Item information should be successfully displayed.

Test Case 3:

Module: Items Information Management for “Updating” command.

Severity: 1

Instructions:

1. On the main menu, click “Manage”.
2. On the Sub Menu, click “New Product”.
3. Type the corresponding first letter of the items name or the barcode in the search textbox.
4. Click the item to edit information.
5. Edit the information to be updated.
6. Click the option “Update” button.

Expected Result:

1. Item should successfully be updated.

Test Case 4:

Module: Items Information Management for “Deleting” command.

Severity: 1

Instructions:

1. On the main menu, click “Manage”.
2. On the Sub Menu, click “New Product”.
3. Type the corresponding first letter of the items name or the barcode in the search textbox.
4. Click the item to delete.
5. Click the option “Delete” button

Expected Result:

1. Item should be successfully be deleted.

Point of Sale:**Test Case 1:**

Module: Case Sale Transaction.

Severity: 1

Instructions:

1. On the login form write the corresponding username of the Cashier.
2. Input user password. Then click the option “Log in” button.
3. Click the option “New Transaction”. Then input item barcode in the barcode textbox or click the search item button.
4. Input the item description in the search item menu.
5. Click the Selected Item to add.

6. Click Add quantity or double click the selected item to add quantity then press Enter or click "Ok" button.
7. Enter the amount of cash paid by the customer.
8. Click Print or press enter print transaction.

Expected Result:

1. It should display the correct total amount of the items.
2. It should print a sales receipt of the transaction for the customers.

Clean-up: Click "Close button" to close module.

Test Case 2:

Module: Credit Sale Transaction.

Severity: 1

Instructions:

1. On the login form write the corresponding username of the Cashier.
2. Input user password. Then click the option "Login" button.
3. Click the option "New Transaction". Then input item barcode in the barcode textbox or click the search item button.
4. Input the item description in the search item menu.
5. Click Selected item to add.
6. Click Add quantity or double click the selected item to add quantity then press enter or click "Ok" button.
7. Click "Credit" button.

8. Input credit information.
9. Click “Enter” button to save credit information.

Expected Result:

1. It should save in the credit database.

Clean-up: Click “Close” button to close module.

Test Case 3:

Module: Removing unwanted items.

Severity: 1

Instructions:

1. While in the transaction click the desired item to remove.
2. Click “Remove Selected Item” button.
3. Click “Yes” button.

Expected Result:

1. It should remove the selected item.

Clean-up: Click “Close” button to close module.

Test Case 4:

Module: Credit Payment

Severity: 1

Instructions:

1. On the login form write the corresponding username of the Cashier.
2. Input user password. Then click the option “Login” button.
3. Click “Credit Payment” button.
4. Input invoice number or click “Credit List” button. Double click the selected information in the credit list menu to select.
5. Enter the amount to be deposit.

Expected Result:

1. It should deduct the total balance of the customer.

Clean-up: Click “Close” button to close module.

Test Case 5:

Module: Adding interest

Severity: 1

Instructions:

1. On the login form write the corresponding username of the Cashier.
2. Input user password. Then the option “Login” button.
3. Click “Credit Payment” button.
4. Input invoice number or click “Credit List” button. Double click the selected information in the credit list menu to select.
5. Click “Add Interest” button.
6. Enter interest percentage.

Expected Result:

1. A percentage should be added in the total balance.

Clean-up: Click "Close" button to close the module.

Critical Stocks:

Test Case 1:

Module: Generating Purchase order.

Severity: 1

Instructions:

1. On the main menu, click "Monitoring". Then select "Critical Stocks" in the Sub menu.
2. Select the supplier in the combo box.
3. Select item information from the list.
4. Enter re-order quantity.
5. Click "Generate Purchase Order" button.

Expected Result:

1. It should add to the purchase order list.

Reports:

Test Case 1:

Module: Sales Reports

Severity: 1

Instructions:

1. On the main menu, click "Report". Then select "Sales Reports" in the Sub menu.
2. On the "Sales Reports" click Sales Reports in the Sub menu.
3. Choose the beginning date and the ending date.
4. Click the "Load" button.

Expected result:

1. The report information preview should be displayed on screen.

Clean-up: Click "Close" button to close module.

Test Case 2:

Module: Inventory Reports

Severity: 1

Instructions:

1. On the main menu, click "Reports". Then select "Inventory Reports" in the Sub menu.
2. Click the Combo box then select "Mode of Payment" then click "Go" button.

Expected Results:

1. It should display list of available products.

Minimum Hardware Requirements

This covers the minimum hardware requirements needed by the system to function appropriately as intended and expected. The consideration of these

requirements was based on what is available in the market and what most computer package system offers.

COMPONENT	SPECIFICATION
Microprocessor	Intel Core Celeron 2.40 GHZ
Hard disk drive	500 Gigabytes
Random Access Memory	4 Gigabytes, twinmos
Monitor	Dell
Keyboard	Usb- connector type
Mouse	Usb – connector type

Minimum Software Requirements

The project Point of Sale and Inventory System of Yhohan Construction Supply, requires various software to function correctly. This software's features are listed below, along with their specifications. These requirements are create using the computer units that were used during the system's construction.

ITEM	SPECIFICATION
Operating System	Windows 10 64 - bit
Programming Language	Vb.net version 11.0
WAMP	Version 2.0i

Business Intelligence Integration

According to extant theories, business intelligence refers to an organization's ability to collect and arrange information. It strives to promote better business practices and decision-making with solutions that take business intelligence (BI) to new heights and ensure that the relevant data is available. Enterprise reporting,

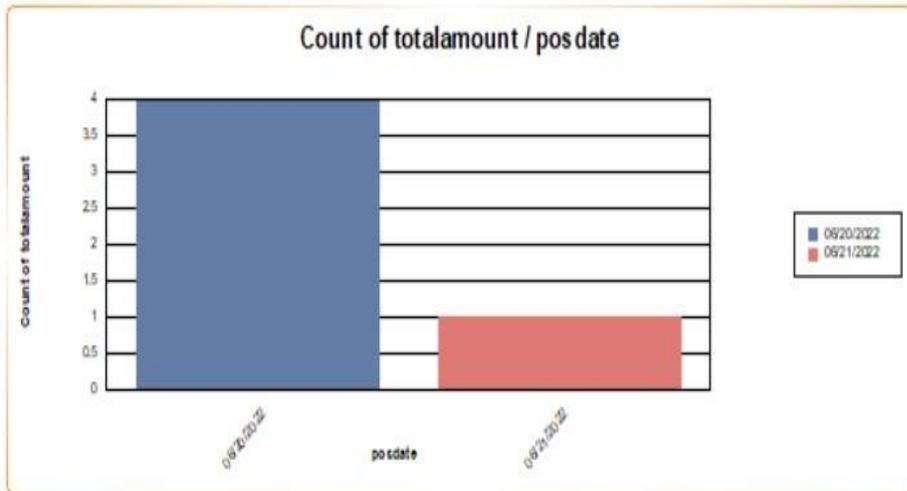
specifically tabular business intelligence reporting, was employed by the system. Business intelligence was integrated into the system, particularly in the query and reporting component. All reports must be dynamic, and they must update in real time whenever the users perform any transactions. Each report is created by connecting multiple tables in the database's connection. This guarantees that the data in the report is accurate and consistent.

The Owner, who is also the system's Administrator, generates four reports for the cashiers to review. To track their items and sales on a daily basis, they use the Sales Report, Inventory Report Inventory Assessment Check Report, and Damage Report.

 YHOHAN CONSTRUCTION AND SUPPLY Nueva Fuerza, Carmen Bohol Inventory Report 30/06/2022				
Supplier	Product Name	Qty.	Price	Total
YY Homes	30mm steel bar	100.00	362.25	36,225.00
Pearl Enterprises	40mm steel bar	95.00	487.25	46,725.00
YY Homes	25mm steel bar	100.00	329.46	32,946.00
YY Homes	#5 nails	100.00	52.50	5,250.00
YY Homes	2x3x8 plywood	200.00	908.25	181,650.00
YY Homes	Spreadsheet Cement	0.00	275.00	13,750.00

Total Number of Products: 36
 Total Product Quantity: 8,497.00
 Target Sales: 3,303,442.00

Preview 1. Inventory report



YHOHAN CONSTRUCTION AND SUPPLY

Nueva Fuerza, Carmen Bohol

Sales Report

30/06/2022

<u>Date</u>	<u>Invoice no.</u>	<u>Amount</u>
06/20/2022	100001653	1,977.75
06/20/2022	100001655	3,132.30
06/20/2022	100001658	2,088.20
06/20/2022	100001661	278.25
06/21/2022	100001668	2,199.28

Total Number of Sales: 5

Total Sales: 9,675.78



YHOHAN CONSTRUCTION AND SUPPLY

Nueva Fuerza, Carmen Bohol

Damages Report

Date: 27/06/2022

Supplier: YY Homes

Product Code	Product Description	Unit	Damage Qty.
1000002	2x3x8 flywood		2.00
1000005	6mm lawanit board		2.00
1000003	2x2x8 flywood		2.00
1000001	2x4x8 flywood		2.00
1000036	Spreadsheet Cement		1.00

No. of Items: 5

Total Quantity: 9.00



YHOHAN CONSTRUCTION AND SUPPLY

Nueva Fuerza, Carmen Bohol

Delivery Report

30/06/2022

Invoice #.	Recipient Name	Contact #.	Address	Charge
100001653	Janien Minguito	+63-9106715354	Villarcayo, Carmen, Bohol	30
100001645	Jay Ian Langamon	+63-9106715354	Alcantara, Carmen, Bohol	100
100001673	jemar	+63-8787787878	carmen	200
100001674	jemar amodia	+63-3757575755	carmen	100
100001647	maela	+63-3434343433	carmen	200
100001668	Maela Yaun	+63-9012345667	Mabago, Pob. Sur, Carmen, E	50
100001643	qwqwqwqwqw	+63-1212121212	qwqwqwewqwqwqw	500



YHOHAN CONSTRUCTION AND SUPPLY

Nueva Fuerza, Carmen Bohol

Stock-in Report

30/06/2022

Date	Item Code	Name Of Product	Item Qty.	Payment Mode
05/30/2022	1000001	2x4x8 flywood	25.00	Cash On Delivery
05/31/2022	1000001	2x4x8 flywood	200.00	Cash On Delivery
06/01/2022	1000002	2x3x8 flywood	200.00	Cash On Delivery
06/01/2022	1000002	2x3x8 flywood	100.00	Cash On Delivery
06/01/2022	1000001	2x2x8 flywood	500.00	Cash On Delivery

Total Number of Item: 5

Total Stock Entry: 1,025.00

30/06/2022



YHOHAN CONSTRUCTION AND SUPPLY

Nueva Fuerza, Carmen Bohol

Losses Report

Barcode	Product Name	Supplier	Unit	Qty.	Date
1000001	2x4x8 flywood	YY Homes		2.00	2022-05-31 00:00
1000005	6mm lawanit board	YY Homes		2.00	2022-05-30 00:00
1000014	APO Cement	ACG Hardware	Gal	3.00	2022-05-29 00:00
1000008	Paint thinner	Pearl Enterprises	Gal	1.00	2022-05-29 00:00

Preview 6. Losses report

 YHOHAN CONSTRUCTION AND SUPPLY Nueva Fuerza, Carmen Bohol Credits Report					
Date	Invoice #.	Creditor's Name	Contact #.	Balance	Date Promised
05/30/2022	100001522	jay ian langamon	+63-2343423423	13,435.90	Thursday, 2 June 2022
05/30/2022	100001525	jemar	+63-3423434343	26,746.25	Thursday, 2 June 2022
05/30/2022	100001529	maela yaun	+63-3243434343	7,211.00	Tuesday, 31 May 2022
05/31/2022	100001541	Janien Minguito	+63-	3,276.00	Tuesday, 31 May 2022
05/31/2022	100001542	Crissy Yaun	+63-9106715354	891.25	Tuesday, 31 May 2022
Total Number of Creditors:					5
Total Amount:					51,560.40

Preview 7. Credits report

Screen Layout

Screen layout is one of the many attributes of the systems user-friendliness. It should be designed in such a way the browsers can navigate the system quickly and easily and it should provide a clear recognition of the task the users need to perform.



A screenshot of a user login dialog box. The dialog has a yellow title bar with a close button (X) in the top right corner. Below the title bar is a grey area containing a user icon (a man in a suit) on the left and the text "User's Log-in" in a black box on the right. Below this is a text input field labeled "Enter Username..." containing the text "admin". Below that is another text input field labeled "Enter Password..." containing five black dots. To the right of the password field is a checkbox labeled "Show password" which is currently unchecked. At the bottom of the dialog, there are two buttons: "Login" and "Cancel".

Preview 8. Screen layout for user log-in

Add New Products

Add Information below:

Product Code:

[Save code](#)

Payment Mode:

Supplier:

Item Description:

Quantity:

Product Type:

Product Unit:

Unit Price:

Mark-up: %

Selling Price:

Re-ordering Point:

Total Sales:

Search Item: Total no. of Items: 9

Barcode	Payment Mode	Supplier	Item Description	Quantity	Product Type	Product Unit	Unit Price	Mark-up	Sell
1000001	Cash On Delivery	YY Homes	Apo Cement	437	Construction	bags	220	10	242
1000002	Cash On Delivery	YY Homes	Spreadsheet Cement	462	Construction	bags	205	10	225.5
1000003	Cash On Delivery	ABAC Construction	G1 Gravel	13	Construction	cubic	250	10	275
1000004	Cash On Delivery	ABAC Construction	Sand Layte	15	Construction	cubic	305	10	335.5
1000005	Cash On Delivery	ABAC Construction	1/2 Gravel	16	Construction	cubic	250	10	275
1000006	Cash On Delivery	YY Homes	Hallowblocks	570	Construction	pc	12	10	13.2
1000007	Cash On Delivery	ABCED Construction	PBC Pipe	99	Construction	pc	175	10	192.5
1000008	Cash On Delivery	ABCED Construction	1/2 Nails	73	Construction	kg	40	10	44
1000009	Cash On Delivery	ABCED Construction	#1 Nails	143	Construction	kg	34	10	37.4

Preview 9. Screen layout for adding new product

Manage Products

Stock in Products | Damage Products | Losses

Stock in:

Barcode: Product Type:

Item Description: Current Stock: Stock-on Hand:

Supplier: Stock Entry:

Mode Of Payment:

Search Item:

Barcode	Mode Of Payment	Item Description	Stock on hand	Product Type
1000001	Cash On Delivery	Apo Cement	437	Construction
1000002	Cash On Delivery	Spreadsheet Cement	462	Construction
1000003	Cash On Delivery	G1 Gravel	13	Construction
1000004	Cash On Delivery	Sand Layte	16	Construction
1000005	Cash On Delivery	1/2 Gravel	16	Construction
1000006	Cash On Delivery	Hallowblocks	570	Construction
1000007	Cash On Delivery	PBC Pipe	99	Construction
1000008	Cash On Delivery	1/2 Nails	73	Construction
1000009	Cash On Delivery	# 1 Nails	143	Construction

Preview 10. Screen layout for stock in product management

Damage Item list

Supplier: YY Homes

Approved Item

Barcode	Item Description	Supplier	Product Type	Product Unit	Damage Quantity	tmonth	tday	tyear
1000006	Hallowblocks	YY Homes	Construction	Pc	25	May	23	2022
1000001	Apo Cement	YY Homes	Construction	Pc	3	May	23	2022
1000002	Spreadsheet Cement	YY Homes	Construction	Pc	3	May	23	2022
1000002	Spreadsheet Cement	YY Homes	Construction		3	May	23	2022
1000002	Spreadsheet Cement	YY Homes	Construction		3	May	23	2022

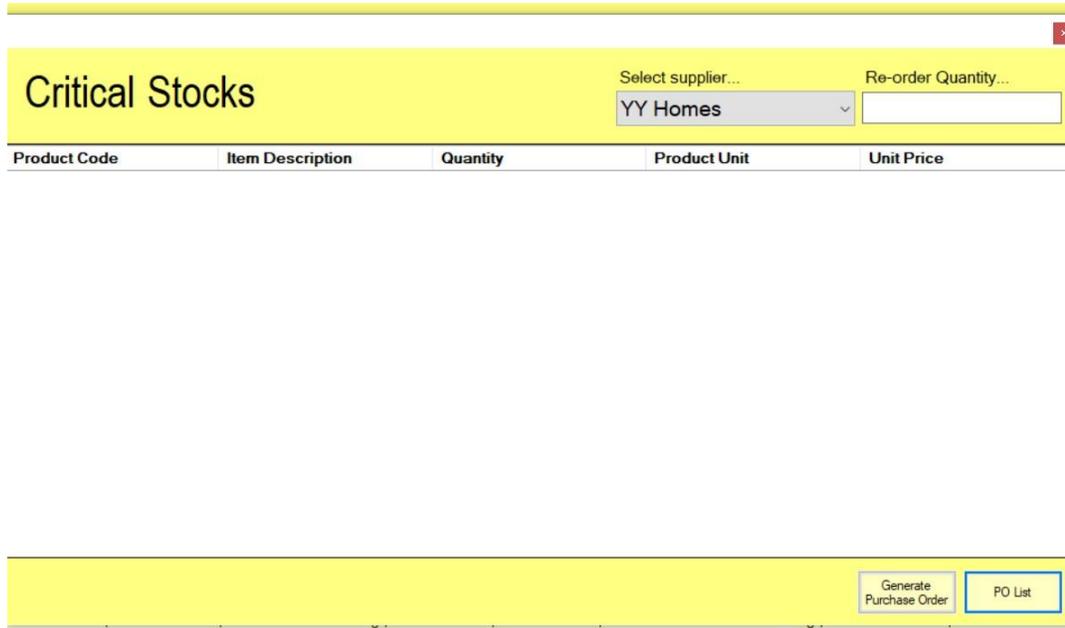
Preview 13. Screen layout for damage items

Loss Item List

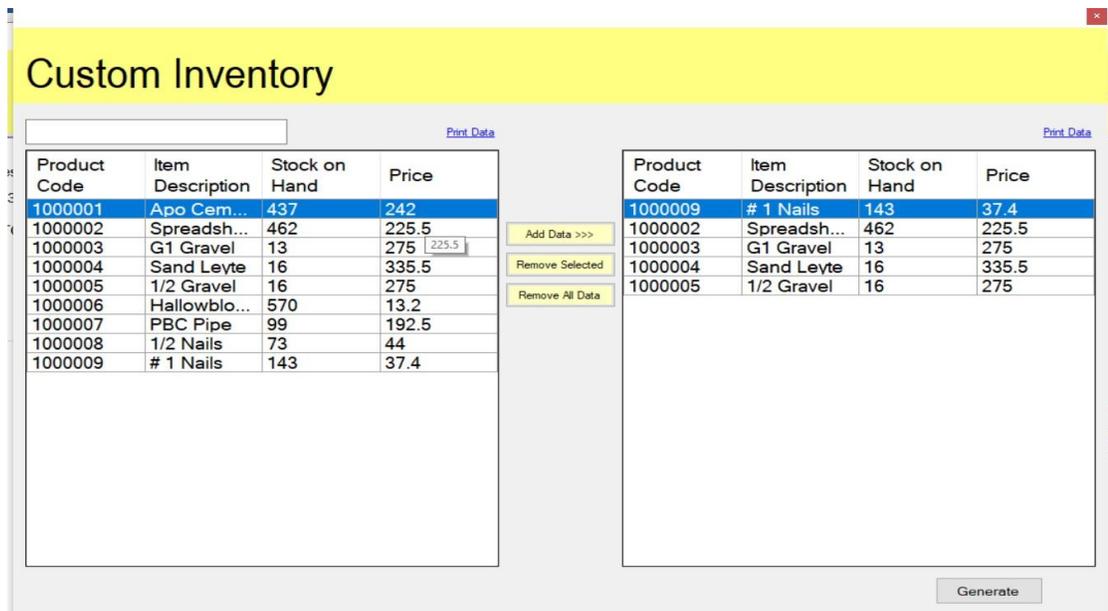
Print >>>

Barcode	Product Name	Supplier	Product Unit	Loss Quantity	Date	price	totalamount	tdate	tmonth	tday	tyear
1000006	Hallowblocks	YY Homes	Construction	Pc	5	13.2	66	2022-05-23 0...	May	23	2022
1000002	Spreadsheet ...	YY Homes	Construction	Pc	2	225.5	451	2022-05-23 0...	May	23	2022
1000001	Apo Cement	YY Homes	Construction	Pc	3	242	726	2022-05-23 0...	May	23	2022
1000002	Spreadsheet ...	YY Homes	Construction		3	225.5	676.5	2022-05-23 0...	May	23	2022

Preview 14. Screen layout for loss items



Preview 15. Screen layout for critical stocks



Preview 16. Screen layout for custom inventory

Unpaid Creditors			
		Search:	<input type="text"/>
Date	Invoice Number	Creditor Name	Date To Be Paid
05/23/2022	100001509	Janien Minguito	Monday, 23 May 2022
05/24/2022	100001523	jemar	Tuesday, 24 May 2022

Preview 17. Screen layout for unpaid creditors

Supplier's Information				
Search Supplier: <input type="text"/>				
Supplier ID	Company Name	Address	Contact Person	Contact Number
SUPP-ID-0000001	YY Homes	Tagbilaran City	Marc Wesley	+63-9106715354
SUPP-ID-0000002	ABCED Construc...	Tagbilaran City	Juan Dela Cruz	+63-9123456789
SUPP-ID-0000003	ABAC Construction	Talibon, Bohol	Crowen Zucherberg	+63-9012345678

Add Supplier's Information Below:

Supplier ID:

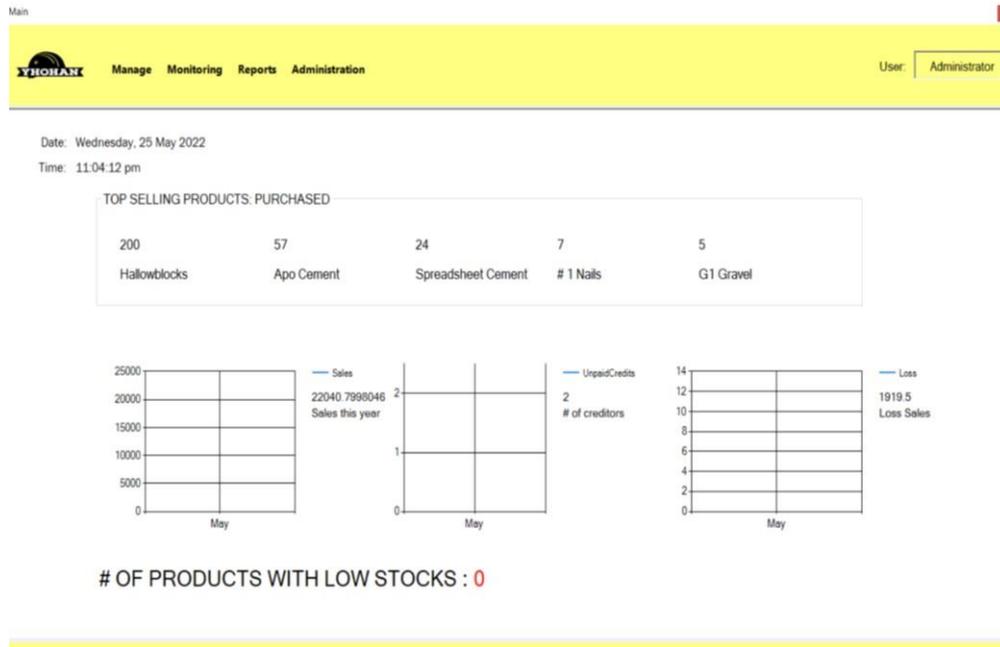
Company Name:

Address:

Contact Person:

Contact Number:

Preview 18. Screen layout for supplier's information



Preview 19. Screen layout for administration module

Testing and Evaluation

System testing referred to testing the entire software system. The software is being tested. System testing is typically performed on the entire application program to assess the software's overall compliance with business, functional, and end-user criteria. A software test professional's goal in system testing is to find defects or bugs in both the interfaces and the software as a whole. However, during integration testing of an application or software, the tester focuses on individual units that have been integrated together, whereas during system testing, the focus is on software design, behavior and even customer expectations, so the system testing phase of software testing is also known as investigatory testing.

System Usability

Software testing is a means of determining whether software is performing as expected, such as providing accurate output, running quickly enough, handling expected loads, and appropriately responding to user inputs. Software evaluation is the process of determining whether the software's original aims have been met. After the software has been produced and its users have had enough time to become familiar with it and be able to use it effectively, it is evaluated. The owner, cashier, sales clerk, staff, client were among the seven people being surveyed.

The system usability questionnaire developed by Lewis, J.R. was used by the researcher. (1995). The system usability test was conducted by the researchers in Yhohan Construction Supply located at Nueva Fuerza, Carmen, Bohol by May 25, 2022.

The researchers presented the system to the owner, cashier, sales clerk, personnel, and customers at Yhohan Construction Supply on May 25, 2022 at exactly 1:00 pm in the afternoon. The researchers exhibited the system's functionality, including acquisitions, changing, deleting, and examining payables, as well as accepting customer purchases and generating reports on the point of sale and inventory system. Occasionally, respondents attempt to use the system to see how simple it is to use.

The researchers decided to survey other customers to see how they react to how the system operates in order to come up with 7 respondents, including the client. The researchers demonstrated the system and presented it to them for

about an hour. The respondents are given a presentation and demonstration, and the researchers allow them to use and try it out.

Table 18
Distribution of Respondents in the System Usability

Respondents	No. of Respondents	Percentage
Owner	2	30
Cashier	1	20
Sale Clerk	2	30
Staff	2	20
Total	7	100

Shown in the table is the system usability result. The tabulated results were computed through the weighted mean. The equivalent interpretation of the weighted mean was based on the interpretative guide as indicated in the table above. The table shows the weighted mean the interpretation of each statement. The average weighted mean of the system usability questionnaire is 6.49 with the interpretation of Strongly Agree. The weighted mean which is 6.49 was the result of the computation which have been done by adding all the weighted mean ratings and divided by the number of criteria being rated. This implies that the system is strongly high on its usability. The result suggests that the system provides satisfaction among the respondents.

System Usability Result

Criteria for System Usability	Weighted Mean	Interpretative
1. Overall, I am satisfied it with how easy it is to this system.	6.49	Strongly Agree
2. It was simple to use this system.	6.60	Strongly Agree
3. I can effectively complete my work using this system.	6.40	Agree
4. I am able to complete my work quickly using this system.	6.60	Strongly Agree
5. I am able to efficiently complete my work using this system.	6.48	Strongly Agree
6. I feel comfortable using this system.	6.40	Agree
7. It was easy to learn on how to use this system.	6.40	Agree
8. I believe I became productive using this system.	6.40	Strongly Agree
9. The system gives error messages that clearly tell me how to fix problem.	6.40	Strongly Agree
10. Whenever I make mistake using the system, I recover easily and quickly.	6.50	Strongly Agree
11. The information (such as online help, on-screen messages, and other documentation) provided with this system is clear.	6.60	Strongly Agree
12. It is easy to find the information I needed.	6.58	Strongly Agree
13. The information provided for the system is easy to understand.	6.40	Agree
14. The information is effective in helping me complete the tasks and scenarios.	6.60	Strongly Agree
15. The organization of information on the system screens is clear.	6.50	Strongly Agree
16. The interface of this system is pleasant.	6.40	Strongly Agree
17. I like using the interface of this system.	6.48	Strongly Agree
18. This system has all the functions and capabilities I expect it to have.	6.40	Agree
19. Overall, I am satisfied with this system.	6.60	Strongly Agree

AVERAGE WEIGHTED MEAN	6.49	Strongly Agree
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CHAPTER 3

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

The study's goal was to improve Yhohan Construction Supply's current sales and inventory system in Nueva Fuerza, Carmen, Bohol, as a foundation for the proposed Point of Sale and Inventory System. These were the questions answered in order to meet the system's specifications and features: What are the processes of sales and inventory of Yhohan Construction Supply? What are the existing challenges encountered in monitoring point of sales and inventory? What can be offered to improve the monitoring of sales and inventory? What are the level of system usability perceived by the user?

The researchers technique of gathering relevant information is all the way through personal interview, document review, and actual observation in determining the challenges encountered by the business in the current system and responding to the concerns that have been expressed. Users were also asked to score the produced system using system usability standards in a survey.

For system usability ratings, the researchers gathered 7 people. The survey was conducted on May 16, 2022. The respondents were given information about how the system operates by the researchers. The participants were given the opportunity to test the system in their own businesses. It was tested for a few hours, and the researchers recorded the replies of the people who used it. The

respondents were given system usability questionnaires to rate in relation to system usability standards after the implementation.

Based on the information acquired from Yhohan Construction Supply's current sales and inventory system, the researchers built this proposed system, which would include the following features: 1. a) Acquisitions, b) Point of sale, c) Administration, and d) Reports 2. Implement business intelligence techniques to assist accounting professionals in making decisions.

The researchers discovered the following findings after conducting an investigation at Yhohan Construction Supply: the current system relies on manual processes for sales transactions, computations, and inventory; they are unable to retrieve reports and replace certain damages; the independent examination and inspection of their sales is inaccurate due to audit entails report; and monitoring of stock availability and depletion.

The average weighted mean of the system usability questionnaire is 6.49 which are interpreted as "Strongly Agree". The interpretation means that the system is strongly high on its usability. The result also suggests that the system gives high satisfaction among the respondents. It also reveals that the system is highly and user-friendly to use, effective, easy to know, and understandable. The respondents also mean strongly agree with the capabilities and function of the proposed system.

Conclusions

The proposed point of sale and inventory system of Yhohan Construction Supply was successfully constructed following a thorough design and development process. The researchers come up with the conclusion in which the point of sale, management records, reports, and stock information are all ordered and correctly stored.

The average weighted mean of the system usability questionnaire is 6.49 with the interpretation of Strongly Agree. This interpretation means that the system is strongly high on its usability. The owner, sales clerk and the cashier are satisfied with how easy it is to use the system. The respondent strongly believe and confident that the system is very usable.

Recommendations

Based on the study's findings and conclusions, it is strongly advised that the proposed system should be implement at Yhohan Construction Supply. The following suggestions should be followed for a good implementation:

1. The owner and cashiers who will utilize the proposed system must receive a training in order to become familiar with the system.
2. The business establishment should continuously update the programmers for bugs and errors for continuous and updates.
3. As the time goes by, the business will become bigger and build another branch. In this case, they must implement the web-based point of sale and inventory system to centralize the operations of all the branches.

4. The use the O.R (Official Receipt) approved from BIR (Bureau of Internal Revenue).
5. The system must be implemented to Yhohan Construction Supply.

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imat#GO

APPENDICES

APPENDIX A

SYSTEM USABILITY QUESTIONNAIRE

Instructions:

- Please rate the usability of the system
- Try to respond to all the items
- For items that are not applicable, use NA

- Make sure these fields are filled in
- Add a comment about an item

Rating Scale:

7 – Strongly Agree

6 – Agree

5– Tend to Agree

4 – Neither Agree nor Disagree

3 – Tend to Disagree

2– Disagree

1 – Strongly Disagree

Criteria for System Usability	Rating	Comment
20. Overall, I am satisfied it with how easy it is to this system.		
21. It was simple to use this system.		
22. I can effectively complete my work using this system.		
23. I am able to complete my work quickly using this system.		
24. I am able to efficiently complete my work using this system.		
25. I feel comfortable using this system.		
26. It was easy to learn on how to use this system.		
27. I believe I became productive using this system.		
28. The system gives error messages that clearly tell me how to fix problem.		
29. Whenever I make mistake using the system, I recover easily and quickly.		
30. The information (such as online help, onscreen messages, and other documentation) provided with this system is clear.		
31. It is easy to find the information I needed.		

32. The information provided for the system is easy to understand.		
33. The information is effective in helping me complete the tasks and scenarios.		
34. The organization of information on the system screens is clear.		
35. The interface of this system is pleasant.		
36. I like using the interface of this system.		
37. This system has all the functions and capabilities I expect it to have.		
38. Overall, I am satisfied with this system.		
Please list the three things you liked most about this system software: 1. 2. 3.		
Please list three things you liked least about this system software: 1. 2. 3.		

Based on Lewis J.R (1995) IBM Computer Usability Satisfaction Questionnaire:
Psychometric Evaluation & Instructions for Use.

APPENDIX B

INTERVIEW GUIDE QUESTIONS FOR THE PROPOSED SYSTEM

1. What is their present system process?

2. Where are the stocks recorded?
3. How does delivery done?
4. Is their additional fee in delivering order?
5. How do they monitor their stocks?
6. How is inventory done?
7. Is credit open to everyone? Where do they keep it?
8. How do they generate their sales reports?
9. How do they purchase their additional stocks?
10. Are you willing to accept new technology such as computerization of the system?

APPENDIX C

USER MANUAL

A. Accessing the System Steps:

1. Type user's name
2. Type user's password

3. Click “Login” button to continue
4. Confirmation: “Welcome Administrator, Cashier or Sales Clerk”

B. Adding of Products

Steps:

1. Click “Manage” menu
2. Select “New Product” sub-menu
3. Input the products information
4. Click the “Add” button
5. Confirmation: “Are you sure you want to add products?”, click “Yes” button to confirm

C. Editing Products List Steps.

1. Click “File” menu
2. Select “Product List” sub-menu
3. Select product information in the list below
4. Edit the products information
5. Click the “Update” button
6. Confirmation: “Are you sure you want to update?”, click “Yes” button to confirm

D. Deleting Products List Steps:

1. Click “File” menu
2. Select “Product List” sub-menu
3. Select product information in the list below
4. Click the “Delete” button

5. Confirmation: "Are you sure you want to delete this item?", click "Yes" button to confirm

E. Stock-in Management Steps:

1. Click "Manage" Menu
2. Click "Stocks" Sub-menu
3. Click "Stock-in Products"
4. Select Products in the list below
5. Input the Stock Quantity
6. Click "Add Stocks" button
7. Confirmation: "Are you sure you want to add?", click "Yes" button to confirm

F. Damage Item Management

Steps:

1. Click "Manage" Menu
2. Click "Stocks" Sub-menu
3. Click "Damage Products"
4. Select Product in the list below
5. Input the Defective Quantity
6. Click "Add Damage Item"
7. Confirmation: "Are you sure you want to add?", click "Yes" button to

confirm G. Adding Supplier Steps:

1. Click "Manage" Menu

2. Click "Suppliers" Sub-menu
3. Input the Supplier information
4. Clicks "Add" button
5. Confirmation: "Are you sure want to add a supplier"? click "Yes" button to confirm

H. Editing Supplier Information

Steps:

1. Click "Manage" Menu
2. Click "Supplier" sub-menu
3. Click Supplier Information in the list below
4. Edit the Suppliers Information
5. Click "Update" button
6. Confirm: "Are you sure you want to update"? ,click "Yes" button to confirm

I. Deleting Supplier Information Step:

1. Click "Manage" menu
2. Select "Supplier's Information" sub-menu
3. Select Supplier Information in the list below
4. Click "Delete" button
5. Confirmation: Are you sure you want to delete this Supplier? click "Yes" button to confirm

J. Point of Sales (POS) Steps:

1. On the login form write the corresponding username of the cashier.
2. Input user password. Then click the option "Login" button
3. On the Point of Sales form Click the search icon or press F4
4. Select products in the list below
5. Double click the selected product
6. Input Quantity then press Enter K. Return Item Management Steps:

1. On the login form write the corresponding username of the cashier.
2. Input user password. Then click the option "Login" button
3. On the Point of Sale form Click the "Return" button
4. Input the Invoice No, Item Description and Return Quantity
5. Confirmation: "Are you sure you want to add? ,click "Yes" button to confirm

L. Critical Stocks Monitoring Steps:

1. Click "Monitoring" menu
2. Click "Critical Stocks" sub-menu
3. Click supplier and input re-order quantity
4. Click "Generate Purchase Order" button
5. Confirmation: "Purchased Order successfully generated" M. Unpaid

Creditor Monitoring Steps:

1. Click "Monitoring" menu
2. Click "Unpaid Creditors" Sub-menu
3. Display the list of Creditors below N. Reports Steps:

1. Click "Reports" menu
2. Click what reports you want to be shown
 - a. Inventory Reports Steps:
 1. Click "Inventory Reports" on the sub-menu
 2. Select Mode of payment in the combo box
 3. Click "Go" button
 - b. Stock in Reports
 1. Click "Stock in Report" on the sub-menu
 2. Choose Beginning Date and End Date
 3. Click "Load" button
 - c. Damage Report
Steps:
 1. Clicks "Damage Report" on the sub-menu
 2. Click the Combo box and Select Supplier
 - d. Credit Reports
Steps:
 1. Click "Credit Reports" on the sub-menu
 - e. Losses Reports
Steps:
 1. Click "Losses Report" on the sub-menu
 - f. Sales Reports Steps:
 1. Click "Sales Report" on the sub-menu
 2. Choose Beginning Date and End Date

3. Click "Load" button

APPENDIX D

LETTER OF INTENT

Bohol Island State University
Bilar Campus
Zamora, Bilar, Bohol
College of Technology and Allied Sciences
Department of Computer Science

November 06, 2021

GRACE ANTONETTE BUDIONGAN

OWNER

Madam,

Greetings!

We, the fourth-year student of the Bachelor of Science in Computer Science under the College of Technology and Allied Sciences (CTAS) of Bohol Island State University – Bilar Campus, Zamora, Bilar, Bohol is required to conduct a research study and program development as a requirement of our THESIS, a subject and requisite for graduation. For this reason, we would like to conduct a system study in your business and choose you as our respondent. It would cover hands-on-system and program creation by automating manual process of your system.

To be able to come up with the computer program and application necessary for your business, we would like to ask permission to conduct interview and observation and answer survey that we would needing in the gathering of information.

This is vital to the creation of the application program needed for the study.

We are looking forward to work with your organization.

Thank you and more power!

Truly yours,

SGD. JANIEN B. MINGUITO

SGD. MAELA A. YAUN

SGD. JAY IAN B. LANGAMON

SGD. JEMAR AMODIA

Noted:

SGD. SHEILA GARCIA- TABUNO

Subject Instructor

Recommending Approval:

SGD. RENANTE S. DIGAMON, Ph. D.

Chairperson DINSMA

SGD. ARLEN B. GUDMALIN, Ph. D.

Dean, CTAS

CURRICULUM VITAE

Janien B. Minguito

Nickname : "Anen"
 Date of Birth : August 25, 1999
 Place of Birth : Tagbilaran City
 Age : 22
 Contact Number : 09106715354
 Zodiac Sign : Virgo
 Home Address : Villarcayo, Carmen, Bohol
 Email Address : janienbaro25@gmail.com
 Religion : Roman Catholic
 Father's Name : Wilmilo Minguito



Mother's Name : Elvera Minguito

EDUCATIONAL BACKGROUND

ELEMENTARY : Villarcayo Elementary School
 2011-2012

Villarcayo, Carmen, Bohol

SECONDARY : Policronio S. Dano Sr. High School
 2017-2018

Nueva Fuerza, Carmen, Bohol

TERRTIARY : Bohol Island State University
 2021-2022

Zamora, Bilar, Bohol

Degree Earned : Bachelor of Science in Computer Science

Work Experience : On-The-Job Training, NIA – Yhohan Construction Supply
 Carmen, Bohol

Nickname

Date of Birth

Maela A. Yaun



: "Maymay"

: August 28, 2000

Place of Birth : Carmen, Bohol

Age : 21

Contact Number : 09354225002

Zodiac Sign : Virgo

Home Address : Poblacion Sur, Carmen, Bohol

Email Address : maelayaun7@gmail.com

Religion : Roman Catholic

Father's Name : Romel Yaun

Mother's Name : Melitona Yaun

EDUCATIONAL BACKGROUND

ELEMENTARY : Carmen East Central Elementary School

2011-2012

Poblacion Sur, Carmen, Bohol

SECONDARY : St. Anthony's Academy of Carmen Inc.

2017-2018

Poblacion Norte, Carmen, Bohol

TERRTIARY : Bohol Island State University

2021-2022

Zamora, Bilar, Bohol

Degree Earned : Bachelor of Science in Computer Science

Nickname

Date of Birth

Work Experience : On-The-Job Training, NIA – Yhohan Corporation
Carmen, Bohol



**Jay Ian B.
Langamon**

: “Ian”

: August 07, 1994

Place of Birth : Carmen, Bohol

Age : 28

Contact Number : 09096654865

Zodiac Sign : Leo

Home Address : Poblacion Sur, Carmen, Bohol

Email Address : langamonj26@gmail.com

Religion : Roman Catholic

Father’s Name : Jose Langamon

Mother’s Name : Celestina Langamon

EDUCATIONAL BACKGROUND

ELEMENTARY : Poblacion Sur Elementary School

2005-2006

Poblacion Sur, Carmen, Bohol

SECONDARY : St. Anthony’s Academy

2009-2010

Poblacion Norte, Carmen, Bohol

TERTIARY : Bohol Island State University

Nickname

Date of Birth : 2021-2022

Zamora, Bilar, Bohol

Degree Earned : Bachelor of Science in Computer Science

Work Experience : On-The-Job Training, NIA – Yhohan Construction Supply
Carmen, Bohol



Jemar Amodia

: “mar”

: April 19, 1997

Place of Birth : La Paz Carmen, Bohol

Age : 25

Contact Number : 09501239341

Zodiac Sign : Taurus

Home Address : Poblacion Sur, Carmen, Bohol

Email Address : amodijemar21@gmail.com

Religion : Roman Catholic

Father’s Name : N/A

Mother’s Name : Thelma Igalinos

EDUCATIONAL BACKGROUND

ELEMENTARY : La Paz Elementary School

2008-2009

La Paz, Carmen Bohol

SECONDARY : Katipunan National High School

Nickname

Date of Birth

2012-2013

Katipunan, Carmen, Bohol

TERRTIARY : Bohol Island State University

2021-2022

Zamora, Bilar, Bohol

Degree Earned : Bachelor of Science in Computer Science

Work Experience : On-The-Job Training, NIA – Yhohan Construction Supply
Carmen, Bohol

“POS”

```
Imports MySql.Data.MySqlClient
Imports System.IO
Public Class pos
    Dim itemQuantity As Double
    Dim productCode As String
    Dim producttype As String
    Dim itemDesc As String
    Dim itemPrice As Double
    Dim totalPrice As Double
    Public totalCost As Double
    Dim productunit As String
    Dim disAmount As Double
    Dim invoiceno As String
    Dim itemNum As Integer
    Dim getProdtoDelete As Integer
    Public posSearch As Boolean
    Dim nonVatAmount As Double
    Dim vatAmount As Double
    Public isSearchCust As Boolean
    Dim isDiscount As Boolean
    Dim isQuantity As Boolean
    Dim cmd As New MySqlCommand
    'Public dr As SqlDataReader
    Public str As String
    Sub RemoveItem()
        TextBox4.Text = Format(TextBox4.Text - DataGridView1.CurrentRow.Cells(7).Value, "#,##0.00")
        DataGridView1.Rows.Remove(DataGridView1.SelectedRows.Item(0))
        totalCost = TextBox4.Text
    End Sub
    Public Sub NewTransaction()
        DataGridView1.Rows.Clear()
        TextBox4.Text = "0.00"
        TextBox5.Text = "0.00"
        TextBox3.Text = ""
        TextBox2.Text = ""      totalCost
    = 0      'GetInvoiceNo()
        TextBox1.Focus()
        Button4.Enabled = False
        Button5.Enabled = False
    End Sub
    Sub AddPayment()
        TextBox3.Text = TextBox3.Text.Replace(", ", "")
        Try
            Dim str As String = "INSERT INTO tbpossold(invoiceno,posdate,totalamount,user,tmonth,tday,tyear)
VALUES('" & Label15.Text & "','" & Format(Date.Now, "MM/dd/yyyy") & "','" & CDbl(TextBox4.Text) & "','" &
Label1.Text & "','" & DateTimePicker1.Text & "','" & Now.Day & "','" & Now.Year & "')"
            Try
                con.Open()
            Catch ex As Exception
                MsgBox(ex.Message)
            End Try
            cmd = New MySqlCommand(str, con)
            cmd.ExecuteNonQuery()      Catch ex As
Exception
                MsgBox(ex.Message)
            Finally
                cmd.Dispose()
            End Try
        End Try
    End Sub
End Class
```

```

con.Close()      End
Try
  End Sub
  Sub addposdetail2()
    'Dim conn As SqlConnection = New SqlConnection()
    'conn.Open()
    ' Dim comm As SqlCommand = New SqlCommand()
    'cmd.Connection = con
    Dim itemdescription1, producttype1, productunit1 As String
    Dim invoiceno1, barcode1, quantity1, price1, totalamount1 As Double
    If con.State = ConnectionState.Closed Then con.Open()      For i As Integer = 0 To
Me.DataGridView1.Rows.Count - 1      invoiceno1 =
Me.DataGridView1.Rows(i).Cells(0).Value.ToString()      barcode1 =
Me.DataGridView1.Rows(i).Cells(1).Value.ToString()      itemdescription1 =
Me.DataGridView1.Rows(i).Cells(2).Value.ToString()      producttype1 =
Me.DataGridView1.Rows(i).Cells(3).Value.ToString()      productunit1 =
Me.DataGridView1.Rows(i).Cells(4).Value.ToString()      quantity1 =
Me.DataGridView1.Rows(i).Cells(5).Value.ToString()      price1 =
Me.DataGridView1.Rows(i).Cells(6).Value.ToString()      totalamount1 =
Me.DataGridView1.Rows(i).Cells(7).Value.ToString()      cmd.CommandText = "insert into
tbposdetail(invoiceno,barcode,itemdescription,prodtype,productunit,quantity,price,totalamount,tmonth,tday,ty
ear) values(" & invoiceno1 & "," & barcode1 & "," & itemdescription1 & "," & producttype1 & "," &
productunit1 & "," & quantity1 & "," & price1 & "," & totalamount1 & "," & Now.Month & "," & Now.Day &
"," & Now.Year & ")"
      cmd.ExecuteNonQuery()
Next      con.Close()
  End Sub
  Sub adddeliverydetail()
    'Dim conn As SqlConnection = New SqlConnection()
    'conn.Open()
    ' Dim comm As SqlCommand = New SqlCommand()
    'cmd.Connection = con
    Dim itemdescription7, producttype7, productunit7 As String
    Dim invoiceno7, barcode7, quantity7, price7, totalamount7 As Double
    If con.State = ConnectionState.Closed Then con.Open()      For i As
Integer = 0 To Me.DataGridView1.Rows.Count - 1      invoiceno7 =
Me.DataGridView1.Rows(i).Cells(0).Value.ToString()      barcode7 =
Me.DataGridView1.Rows(i).Cells(1).Value.ToString()      itemdescription7 =
Me.DataGridView1.Rows(i).Cells(2).Value.ToString()      producttype7 =
Me.DataGridView1.Rows(i).Cells(3).Value.ToString()      productunit7 =
Me.DataGridView1.Rows(i).Cells(4).Value.ToString()      quantity7 =
Me.DataGridView1.Rows(i).Cells(5).Value.ToString()      price7 =
Me.DataGridView1.Rows(i).Cells(6).Value.ToString()      totalamount7 =
Me.DataGridView1.Rows(i).Cells(7).Value.ToString()
    cmd.CommandText = "insert into
tbdeliverydetail(invoiceno,barcode,itemdescription,prodtype,productunit,quantity,price,totalamount,recepient
name,contactnumber,deliveryaddress,deliverycharge,tmonth,tday,year) values(" & invoiceno7 & "," &
barcode7 & "," & itemdescription7 & "," & producttype7 & "," & productunit7 & "," & quantity7 & "," & price7
& "," & totalamount7 & "," & fordelivery.TextBox1.Text & "," & fordelivery.contactno.Text & "," &
fordelivery.TextBox2.Text & "," & fordelivery.TextBox7.Text & "," & Now.Month & "," & Now.Day & "," &
Now.Year & ")"      cmd.ExecuteNonQuery()      Next      con.Close()
  End Sub
  Sub addpostocreditdetail()
    'Dim conn As SqlConnection = New SqlConnection()
    'conn.Open()
    ' Dim comm As SqlCommand = New SqlCommand()
    'cmd.Connection = con
    Dim itemdescription1, producttype1, productunit1 As String
    Dim invoiceno1, barcode1, quantity1, price1, totalamount1 As Double

```

```

        If con.State = ConnectionState.Closed Then con.Open()      For i As Integer = 0 To
Me.DataGridView1.Rows.Count - 1      invoiceno1 =
Me.DataGridView1.Rows(i).Cells(0).Value.ToString()      barcode1 =
Me.DataGridView1.Rows(i).Cells(1).Value.ToString()      itemdescription1 =
Me.DataGridView1.Rows(i).Cells(2).Value.ToString()      producttype1 =
Me.DataGridView1.Rows(i).Cells(3).Value.ToString()      productunit1 =
Me.DataGridView1.Rows(i).Cells(4).Value.ToString()      quantity1 =
Me.DataGridView1.Rows(i).Cells(5).Value.ToString()      price1 =
Me.DataGridView1.Rows(i).Cells(6).Value.ToString()      totalamount1 =
Me.DataGridView1.Rows(i).Cells(7).Value.ToString()      cmd.CommandText = "insert into
tbposdetail(invoiceno,barcode,itemdescription,prodtype,productunit,quantity,price,totalamount,tmonth,tday,ty
ear) values('" & invoiceno1 & "','" & barcode1 & "','" & itemdescription1 & "','" & producttype1 & "','" &
productunit1 & "','" & quantity1 & "','" & price1 & "','" & totalamount1 & "','" & Now.Month & "','" & Now.Day &
 "','" & Now.Year & "')"
        cmd.ExecuteNonQuery()
Next      con.Close()
End Sub
Sub addcreditdetail()
    'Dim conn As SqlConnection = New SqlConnection()
    'conn.Open()
    ' Dim comm As SqlCommand = New SqlCommand()
    'cmd.Connection = con
    Dim itemdescription1, prodtype1, productunit1 As String
    Dim invoiceno1, barcode1, quantity1, price1, totalamount1 As Double
    If con.State = ConnectionState.Closed Then con.Open()      For i As
Integer = 0 To Me.DataGridView1.Rows.Count - 1      invoiceno1 =
Me.DataGridView1.Rows(i).Cells(0).Value.ToString()      barcode1 =
Me.DataGridView1.Rows(i).Cells(1).Value.ToString()      itemdescription1 =
Me.DataGridView1.Rows(i).Cells(2).Value.ToString()      prodtype1 =
Me.DataGridView1.Rows(i).Cells(3).Value.ToString()      productunit1 =
Me.DataGridView1.Rows(i).Cells(4).Value.ToString()      quantity1 =
Me.DataGridView1.Rows(i).Cells(5).Value.ToString()      price1 =
Me.DataGridView1.Rows(i).Cells(6).Value.ToString()      totalamount1 =
Me.DataGridView1.Rows(i).Cells(7).Value.ToString()
    cmd.CommandText = "insert into
tbcreditdetail(invoiceno,barcode,itemdescription,prodtype,productunit,quantity,price,totalamount) values('" &
invoiceno1 & "','" & barcode1 & "','" & itemdescription1 & "','" & prodtype1 & "','" & productunit1 & "','" &
quantity1 & "','" & price1 & "','" & totalamount1 & "')"
    cmd.ExecuteNonQuery()
Next      con.Close()

End Sub
Sub decreasestocks()
    For i As Integer = 0 To Me.DataGridView1.Rows.Count - 1
str = "UPDATE tbstocks SET quantity = quantity - " &
Me.DataGridView1.Rows(i).Cells(5).Value.ToString() & " WHERE barcode= " &
Me.DataGridView1.Rows(i).Cells(1).Value.ToString() & ""
        Dim cmd As New MySqlCommand(str, con)
        If con.State = ConnectionState.Closed Then con.Open()
cmd.ExecuteNonQuery()      Next      con.Close()
End Sub
Private Sub UpdateDecreaseQuantity()
    Try
        Dim str As String = "Update tbstocks SET quantity = quantity - '" & itemQuantity & "' WHERE
barcode = " & productCode & ""
        Try
            con.Open()
        Catch ex As
            Exception
        End Try
    End Try

```

```

        MsgBox(ex.Message)
    End Try
    cmd = New MySqlCommand(str, con)
    cmd.ExecuteNonQuery()
Catch ex As Exception
    MsgBox(ex.Message)
Finally
    cmd.Dispose()
con.Close()
End Try
End Sub
Sub addinvoiceno()
    TextBox3.Text = TextBox3.Text.Replace(", ", "")
    TextBox4.Text = TextBox4.Text.Replace(", ", "")
    TextBox5.Text = TextBox5.Text.Replace(", ", "")
    Try
        Dim str As String = "INSERT INTO tbposinvoice(invoiceno,cashrender,grandamount,tchange)
VALUES(" & Label15.Text & ", " & TextBox3.Text & ", " & TextBox4.Text & ", " & TextBox5.Text & ")"
    Try
        con.Open()
    Catch ex As Exception
        MsgBox(ex.Message)
    End Try
    cmd = New MySqlCommand(str, con)
    cmd.ExecuteNonQuery()
Catch ex As Exception
    MsgBox(ex.Message)
Finally
    cmd.Dispose()
con.Close()
End Try
End Sub
Sub GetInvoiceNo()
    Try
        Dim str As String = "SELECT invoiceno FROM tbinvoicenum Order By invoiceno desc"
    Try
        con.Open()
    Catch ex As Exception
        MsgBox(ex.Message)
    End Try
    cmd = New MySqlCommand(str, con)
    If con.State = ConnectionState.Closed Then con.Open()
    Dim dr As MySqlDataReader = cmd.ExecuteReader
    If dr.Read = True Then
        Label15.Text = Val(dr(0)) + 1
    Else
        Label15.Text = 100000000
    End If
    Catch ex As Exception
        MsgBox(ex.Message)
    Finally
        cmd.Dispose()
con.Close()
End Try
End Sub
Public Sub GetItemInfo()
    Try
        Dim str As String = "SELECT barcode, itemdescription, prodtype, productunit, quantity, sellingprice
FROM tbstocks Where barcode = " & Val(TextBox1.Text) & " "

```

```

    Try
        con.Open()
    Catch ex As
        Exception
        MsgBox(ex.Message)
    End Try
    Dim cmd As New MySqlCommand(str, con)
    If con.State = ConnectionState.Closed Then con.Open()
    Dim dr As MySqlDataReader = cmd.ExecuteReader
    If dr.Read = True Then
productCode = dr(0)
itemDesc = dr(1)
producttype = dr(2)
productunit = dr(3)
itemNum = dr(4)          itemPrice
= dr(5)
        For i As Integer = 0 To Me.DataGridView1.Rows.Count - 1
            If Me.DataGridView1.Rows(i).Cells(1).Value.ToString() = TextBox1.Text Then
                MessageBox.Show("Item Already Exist", "", MessageBoxButtons.OK,
MessageBoxIcon.Information)
                TextBox1.Text = ""
                TextBox1.Focus()
                Exit Sub
            End If
        Next
        If isQuantity = True Then
itemQuantity = TextBox2.Text
                TextBox2.Text = ""          isQuantity =
False          invoiceno = Label15.Text
totalPrice = itemQuantity * itemPrice          totalCost
+= Format(totalPrice, "#,##0.00")
                TextBox4.Text = Format(totalCost, "#,##0.00")
                con.Close()          DataGridView1.Rows.Add(invoiceno, productCode, itemDesc,
producttype, productunit, itemQuantity, itemPrice, totalPrice)
                TextBox1.Text = ""
                TextBox2.Focus()
        Else
                MsgBox("Please input quantity", MsgBoxStyle.Critical, "")
                TextBox1.Text = ""
                TextBox2.Focus()
                'stocklist.TextBox2.Focus()
        End If
    End If
    Catch ex As Exception
        ' MsgBox(ex.Message)
    Finally
        cmd.Dispose()
        con.Close()
    End Try
End Sub
Private Function isAvailableQuantity() As Boolean
    Try
        Dim Str As String = "SELECT quantity FROM tbstocks WHERE barcode = " & Val(TextBox1.Text) &
""
    Try
        con.Open()
    Catch ex As Exception
        MsgBox(ex.Message)
    End Try

```

```

Dim cmd As New MySqlCommand(Str, con)
If con.State = ConnectionState.Closed Then con.Open()
Dim dr As MySqlDataReader = cmd.ExecuteReader
If dr.Read = True Then
    If Val(TextBox2.Text) <= dr(0) Then
        isAvailableQuantity = True
    Else
        MsgBox("Insuficient stocks", MsgBoxStyle.Critical, "Validate Stocks")
        TextBox1.Clear()
    End If
    TextBox2.Focus()
    con.Close()
End If
End If
Catch ex As Exception
    MsgBox(ex.Message)
Finally
    cmd.Dispose()
    con.Close()
End
Try
    End Function
    Sub addinvoicenum()
        Try
            Dim str As String = "INSERT INTO tbinvoicenum(invoiceno) VALUES('" & Label15.Text & "')"
            Try
                con.Open()
            Catch ex As Exception
                MsgBox(ex.Message)
            End Try
            cmd = New MySqlCommand(str, con)
            cmd.ExecuteNonQuery()
        Catch ex As Exception
            MsgBox(ex.Message)
        Finally
            cmd.Dispose()
            con.Close()
        End Try
    End Sub
    Private Sub pos_KeyDown(ByVal sender As Object, ByVal e As System.Windows.Forms.KeyEventArgs)
Handles Me.KeyDown
        If e.KeyCode = Keys.F2 Then
            TextBox2.Focus()
        End If
        If e.KeyCode = Keys.F1 Then
            TextBox1.Focus()
        End If
        If e.KeyCode = Keys.F3 Then
            TextBox3.Focus()
        End If
        If e.KeyCode = Keys.F4 Then
            searchbox_Click(sender, e)
        End If
        If e.KeyCode = Keys.F6 Then
            Button6_Click(sender, e)
        End If
        If e.KeyCode = Keys.Home Then
            Button5_Click(sender, e)
        End If
        If e.KeyCode = Keys.F5 Then
            Button7_Click(sender, e)
        End If
    End If

```

```

        If e.KeyCode = Keys.F7 Then
            Button1_Click(sender, e)
        End If
        If e.KeyCode = Keys.F8 Then
            Button2_Click(sender, e)
        End If
        If e.KeyCode = Keys.F9 Then
            Button3_Click(sender, e)
        End If
    End Sub
    Private Sub pos_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
    MyBase.Load
        Me.KeyPreview = True
        addinvoicenum()
        TextBox2.Focus()
        con.Close()
        GetInvoiceNo()
        con.Close()
        addinvoicenum()
        NewTransaction() End
    Sub
        Private Sub TextBox1_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs)
        Handles TextBox1.TextChanged
            con.Close()
            If Not IsNumeric(TextBox1.Text) Then
                TextBox1.Text = ""
                Exit Sub
            End If
            If isAvailableQuantity() = True Then
                con.Close()
                GetItemInfo() con.Close()
            End If
            TextBox6.Text = (Me.DataGridView1.SelectedCells(4).Value.ToString)
            TextBox7.Text = (Me.DataGridView1.SelectedCells(1).Value.ToString)
        End Sub
        Private Sub TextBox2_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs)
        Handles TextBox2.TextChanged
            If Not IsNumeric(TextBox2.Text) Then
                TextBox2.Text = ""
                Exit Sub
            End If
            isQuantity = True
        End Sub

        Private Sub searchbox_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
        searchbox.Click
            stocklist.ShowDialog()
        End Sub
        Private Sub Button7_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
        Button7.Click
            NewTransaction()
            GetInvoiceNo()
        End Sub
        Private Sub Button6_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
        Button6.Click
            If DataGridView1.Rows.Count = 0 Then
                MsgBox("No Transaction", MsgBoxStyle.Exclamation, "Remove Item")
                TextBox1.Focus()
            End If
        End Sub
    End Sub

```

```

        Exit Sub
    Else
        If MsgBox("Are you sure you want to Delete?", MsgBoxStyle.YesNo, "Delete Item") =
MsgBoxResult.Yes Then
            RemoveItem()
            TextBox1.Focus()
        Else
            Exit Sub
        End If
    End If
End Sub
Private Sub TextBox3_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs)
Handles TextBox3.TextChanged
    Button4.Enabled = True
    If Not IsNumeric(TextBox3.Text) Then
        TextBox3.Text = ""
        Exit Sub
    End If
    If Val(CDbl(TextBox3.Text)) < Val(CDbl(TextBox4.Text)) Then
        TextBox5.Text = "0.00"
    Else
        TextBox5.Text = Format(Val(TextBox3.Text.Replace(",", "")) - Val(TextBox4.Text.Replace(",", "")),
"0.00")
    End If
End Sub
Private Sub TextBox5_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs)
Handles TextBox5.TextChanged
    If Val(TextBox5.Text) < 0 Then
        MsgBox("Cash is not enough")
        Exit Sub
    End If
End Sub
Private Sub Button5_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
Button5.Click
    If DataGridView1.Rows.Count = 0 Then
        MsgBox("Cart is empty", MsgBoxStyle.Exclamation, "")
        TextBox1.Focus()
        Exit Sub
    Else
        TextBox3.Text = ""
        editquantity.ShowDialog()
        editquantity.TextBox1.Text = DataGridView1.SelectedCells(5).Value.ToString
        editquantity.TextBox2.Text = DataGridView1.SelectedCells(1).Value.ToString
    End If
End Sub
Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
Button2.Click
    If Label1.Text = "Administrator" Then
        creditpayment.Label7.Text = "Administrator"
    End If
    If Label1.Text = "Cashier 1" Then
        creditpayment.Label7.Text = "Cashier 1"
    End If
    If Label1.Text = "Cashier 2" Then
        creditpayment.Label7.Text = "Cashier 2"
    End If
    creditpayment.ShowDialog()
End Sub
Private Sub DataGridView1_DoubleClick(ByVal sender As Object, ByVal e As System.EventArgs)
Handles DataGridView1.DoubleClick
    If DataGridView1.Rows.Count = 0 Then
        MsgBox("Cart is empty", MsgBoxStyle.Exclamation, "")
    End If
End Sub

```

```

        TextBox1.Focus()
    Exit Sub
Else
    TextBox3.Text = ""
    editquantity.ShowDialog()
    editquantity.TextBox1.Text = DataGridView1.SelectedCells(5).Value.ToString
    editquantity.TextBox2.Text = DataGridView1.SelectedCells(1).Value.ToString
End If
End Sub
Private Sub DataGridView1_MouseClick(ByVal sender As Object, ByVal e As
System.Windows.Forms.MouseEventHandler) Handles DataGridView1.MouseClick
    'TextBox6.Text = (Me.DataGridView1.SelectedCells(4).Value.ToString)
    'TextBox7.Text = (Me.DataGridView1.SelectedCells(1).Value.ToString)
    Button5.Enabled = True
End Sub
Private Sub Timer1_Tick(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
Timer1.Tick
    Dim x As Integer
    x = DataGridView1.RowCount()
    If x = 0 Then
        Me.Label7.Text = 0
    Else
        Dim acc As New DataTable
        Dim lin As String = "select * from purchase "
        Dim data As New MySqlDataAdapter(lin, con)
        Me.Label7.Text = 0
        data.Fill(acc)
        data.Dispose()
        Dim found As Boolean = False
        For m As Integer = 0 To acc.Rows.Count - 1 'pag gamag textbox nga total
            Me.Label7.Text = CInt(Me.Label7.Text) + CStr(acc.Rows(m)("elPquan"))
        Next
    End If
End Sub
End Class

```

“Return Item”

```

Imports MySql.Data.MySqlClient
Imports System.IO
Public Class itemreturn
    Dim str As String
    Dim DS As DataSet
    Dim source1 As New BindingSource
    Dim dtreport As New DataTable
    Sub loadproductcode()
        ComboBox1.Items.Clear()
        str = "Select itemdescription from tbposdetail where invoiceno=" & TextBox1.Text & ""
        Dim cmd As New MySqlCommand(str, con)
        If con.State = ConnectionState.Closed Then con.Open()
        Dim dr As MySqlDataReader = cmd.ExecuteReader
        If dr.HasRows Then
            While dr.Read
                ComboBox1.Items.Add(dr(0).ToString)
            End While
        End If
        con.Close()
    End Sub
    Private Sub ComboBox1_SelectedIndexChanged(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles ComboBox1.SelectedIndexChanged

```

```

End Sub
Private Sub ComboBox1_TextChanged(ByVal sender As Object, ByVal e As System.EventArgs) Handles
ComboBox1.TextChanged
    str = "Select barcode,itemdescription,productunit,quantity,price from tbposdetail where
itemdescription=" & ComboBox1.Text & ""      Dim cmd As New MySqlCommand(str,
con)
    If con.State = ConnectionState.Closed Then con.Open()
    Dim dr As MySqlDataReader = cmd.ExecuteReader
    If dr.HasRows Then
        While dr.Read
            TextBox2.Text =
            dr(0).ToString
            TextBox3.Text = dr(2).ToString
            TextBox4.Text = dr(3).ToString
            TextBox5.Text = dr(4).ToString
        End While
    End If
con.Close() End
Sub
TextBox6_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
TextBox6.TextChanged
    If Not IsNumeric(TextBox6.Text) Then
        TextBox6.Text = ""
        Exit Sub
    End If
    If Val(TextBox4.Text) < Val(TextBox6.Text) Then
        MessageBox.Show("Purchase quantity must not lesser than defective quantity.")
        TextBox6.Text = ""
        Exit Sub
    End If
    If TextBox6.Text = "" Then
        TextBox7.Text = ""
    End If
    TextBox7.Text = ""
    TextBox7.Text = Val(TextBox6.Text) * Val(TextBox5.Text)
End Sub
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
Button1.Click
    Try
        If MessageBox.Show("Are you sure you want to add?", "", MessageBoxButtons.YesNo,
MessageBoxIcon.Question) = Windows.Forms.DialogResult.Yes Then
            Dim sql As String = "INSERT INTO
tbreturn(invoiceno,barcode,itemdescription,productunit,price,quantity,date)
values(@invoiceno,@barcode,@itemdescription,@productunit,@price,@quantity,@date)"
            Dim cmd As New MySqlCommand(sql, con)
            cmd.Parameters.AddWithValue("@invoiceno", TextBox1.Text)
            cmd.Parameters.AddWithValue("@barcode", TextBox2.Text)
            cmd.Parameters.AddWithValue("@itemdescription", ComboBox1.Text)
            cmd.Parameters.AddWithValue("@productunit", TextBox3.Text)
            cmd.Parameters.AddWithValue("@price", TextBox5.Text)
            cmd.Parameters.AddWithValue("@quantity", TextBox6.Text)
            cmd.Parameters.AddWithValue("@date", Format(Date.Now, "MM/dd/yyyy"))
            Dim ms As New MemoryStream()
            If con.State = ConnectionState.Closed Then con.Open()
            cmd.ExecuteNonQuery()
            MessageBox.Show("Return item successfully added")
            addstocks()          cashdeduct()          solddeduct()
            posdetailremove()
            soldremove()
        End If
    Catch
    End Try
End Sub

```

```

        End If
        Catch ex As Exception
            'MessageBox.Show("Adding Failed!!! " + ex.Message, "", MessageBoxButtons.OK,
            MessageBoxIcon.Error)
        Finally
            con.Close()
        End Try
    End Sub
    Sub clr()
        TextBox1.Text = ""
        TextBox2.Text = ""
        TextBox3.Text = ""
        TextBox4.Text = ""
        TextBox5.Text = ""
        TextBox6.Text = ""
        TextBox7.Text = ""
        ComboBox1.Text = ""
    End Sub
    Sub addstocks()
        Dim sql As String = "UPDATE tbstocks SET quantity = quantity + " & TextBox6.Text & " WHERE
        barcode= " & TextBox2.Text & ""
        Dim cmd As New MySqlCommand(sql, con)
        cmd.ExecuteNonQuery()
    End Sub
    Sub cashdeduct()
        Dim sql As String = "UPDATE tbposdetail SET quantity = quantity - " & TextBox6.Text & ",totalamount
        = totalamount - " & TextBox7.Text & " WHERE barcode= " & TextBox2.Text & "" and invoiceno=" &
        TextBox1.Text & ""
        Dim cmd As New MySqlCommand(sql, con)
        cmd.ExecuteNonQuery()
    End Sub
    Sub solddeduct()
        Dim sql As String = "UPDATE tbpossold SET totalamount = totalamount - " & TextBox7.Text & "
        WHERE invoiceno=" & TextBox1.Text & ""
        Dim cmd As New MySqlCommand(sql, con)
        cmd.ExecuteNonQuery()
    End Sub
    Sub posdetailremove()
        Dim sqlstr = "delete from tbposdetail where totalamount<=0"
        Dim sqlcmd As New MySqlCommand(sqlstr, con)
        If con.State = ConnectionState.Closed Then con.Open()
        sqlcmd.ExecuteNonQuery()
        con.Close()
    End Sub
    Sub soldremove()
        Dim sqlstr = "delete from tbpossold where totalamount<=0"
        Dim sqlcmd As New MySqlCommand(sqlstr, con)
        If con.State = ConnectionState.Closed Then con.Open()
        sqlcmd.ExecuteNonQuery()
        con.Close()
    End Sub
    Private Sub Button4_Click(sender As Object, e As EventArgs) Handles Button4.Click
        Try
            If MessageBox.Show("Are you sure to add this damage item to list?", "",
            MessageBoxButtons.YesNo, MessageBoxIcon.Question) = Windows.Forms.DialogResult.Yes Then
                Dim sql As String = "INSERT INTO
                tbdamagereturn(invoiceno,barcode,itemdescription,productunit,price,quantity,date)
                values (@invoiceno, @barcode, @itemdescription, @productunit, @price, @quantity, @date)"
                Dim cmd As New MySqlCommand(sql, con)

```

```

cmd.Parameters.AddWithValue("@invoiceno", TextBox1.Text)
cmd.Parameters.AddWithValue("@barcode", TextBox2.Text)
cmd.Parameters.AddWithValue("@itemdescription", ComboBox1.Text)
cmd.Parameters.AddWithValue("@productunit", TextBox3.Text)
cmd.Parameters.AddWithValue("@price", TextBox5.Text)
cmd.Parameters.AddWithValue("@quantity", TextBox6.Text)
cmd.Parameters.AddWithValue("@date", Format(Date.Now, "MM/dd/yyyy"))
    Dim ms As New MemoryStream()
    If con.State = ConnectionState.Closed Then con.Open()
cmd.ExecuteNonQuery()
    MessageBox.Show("Damage item successfully added")
    ' addstocks()
cashdeduct()        solddeduct()
posdetailremove()
    soldremove()
clr()
    End If
    Catch ex As Exception
        MessageBox.Show("Adding Failed!!! " + ex.Message, "", MessageBoxButtons.OK,
MessageBoxIcon.Error)
    Finally
con.Close()
    End Try
    End Sub End
Class

```

“Credit”

```

Imports MySql.Data.MySqlClient
Imports System.IO
Public Class creditpayment
    Dim str As String
    Dim cmd As New MySqlCommand
    Public dr As MySqlDataReader
    Dim barcode As Double
    Dim itemdescription As String
    Dim productunit As String
    Dim quantity As Double
    Dim price As Double
    Dim totalamount As Double
    Dim source1 As New BindingSource
    Function AutoID(ByVal TableName As String, ByVal Fieldname As String) As Int32
        Dim cmd As New MySqlCommand
    Dim dr1 As MySqlDataReader
        cmd.Connection = con
        cmd.CommandType = CommandType.Text
        cmd.CommandText = "select " & Fieldname & " from " & TableName & " order by 1 DESC LIMIT 1"
        If con.State = ConnectionState.Closed Then con.Open()
dr1 = cmd.ExecuteReader
        If dr1.Read = True Then
            AutoID = Microsoft.VisualBasic.Right(dr1(0), 4) + 1
        Else
            AutoID = 1
        End If
        dr1.Close()
    End Function
    Sub depositdeduct()
        Dim sql As String = "UPDATE tbcredit SET balance = " & TextBox5.Text & " WHERE invoiceno= " &
TextBox1.Text & ""
        Dim cmd As New MySqlCommand(sql, con)

```

```

        If con.State = ConnectionState.Closed Then con.Open()
    cmd.ExecuteNonQuery()
    'MessageBox.Show("Deposit Successfully Added")
    con.Close()
    End Sub
    Sub addsold()
        Dim sql As String = "INSERT INTO tbpossold(invoiceno,posdate,totalamount,user)
values(@invoiceno,@posdate,@totalamount,@user)"
        Dim cmd As New MySqlCommand(sql, con)      cmd.Parameters.AddWithValue("@invoiceno",
    TextBox1.Text)      cmd.Parameters.AddWithValue("@posdate", Format(Date.Now, "MM/dd/yyyy"))
    cmd.Parameters.AddWithValue("@totalamount", TextBox8.Text)
    cmd.Parameters.AddWithValue("@user", Label7.Text)
        Dim ms As New MemoryStream()
        If con.State = ConnectionState.Closed Then con.Open()
    cmd.ExecuteNonQuery()
    MessageBox.Show("Amount Successfully Added")
    clr()
        con.Close()
    End Sub
    Sub addsold1()
        Dim sql As String = "INSERT INTO
creditors(idnum,invoiceno,creditorname,contactno,deposit,balance,tchange) values
(@idnum,@invoiceno,@creditorname,@contactno,@deposit,@balance,@change)"
        Dim cmd As New MySqlCommand(sql, con)
    cmd.Parameters.AddWithValue("@idnum", autoidd.Text)
    cmd.Parameters.AddWithValue("@invoiceno", TextBox1.Text)
    cmd.Parameters.AddWithValue("@creditorname", TextBox2.Text)
    cmd.Parameters.AddWithValue("@contactno", TextBox3.Text)
    cmd.Parameters.AddWithValue("@deposit", TextBox4.Text)
    cmd.Parameters.AddWithValue("@balance", TextBox5.Text)
    cmd.Parameters.AddWithValue("@change", TextBox7.Text)

        Dim ms As New MemoryStream()
        If con.State = ConnectionState.Closed Then con.Open()
    cmd.ExecuteNonQuery()
    clr()
        con.Close()
    End Sub
    Sub updatesold()
        Dim sql As String = "UPDATE tbpossold SET totalamount =totalamount + " & TextBox8.Text & ",user =
" & Label7.Text & " WHERE invoiceno= " & TextBox1.Text & ""
        Dim cmd As New MySqlCommand(sql, con)
        If con.State = ConnectionState.Closed Then con.Open()
    cmd.ExecuteNonQuery()
    MessageBox.Show("Amount Successfully Added")
    con.Close()
    End Sub
    Sub loadcreditinvoice()
        str = "Select invoiceno,creditorname,contactno,balance,dtobepromised,cdate from tbcredit where
invoiceno=" & TextBox1.Text & ""
        Dim cmd As New MySqlCommand(str, con)
        If con.State = ConnectionState.Closed Then con.Open()
        Dim dr As MySqlDataReader = cmd.ExecuteReader
        If dr.HasRows Then
            While dr.Read
                TextBox1.Text = dr(0).ToString
                TextBox2.Text = dr(1).ToString
                TextBox3.Text = dr(2).ToString
                TextBox6.Text = dr(3).ToString
            End While
        End If
    End Sub

```

```

        TextBox9.Text = dr(4).ToString
    End While
Else
    TextBox2.Text = ""
    TextBox3.Text = ""
    TextBox4.Text = ""
    TextBox9.Text = ""
    'TextBox5.Text = ""
    TextBox7.Text = "0.00"
End If
con.Close()
End Sub
Sub getcreditdetail()
    Dim da As New DataTable
    Dim cnstring As String = "Select
invoiceno,barcode,itemdescription,prodtype,productunit,quantity,price,totalamount from tbcreditdetail where
invoiceno =" & Val(TextBox1.Text) & ""
    Dim ds As New MySqlDataAdapter(cnstring, con)
    ds.Fill(da)
ds.Dispose()
    source1.DataSource = da
DataGridView1.DataSource = da
    DataGridView1.Columns(0).HeaderText = "Invoice No"
    DataGridView1.Columns(1).HeaderText = "Barcode"
    DataGridView1.Columns(2).HeaderText = "Item Description"
    DataGridView1.Columns(3).HeaderText = "Product Type"
    DataGridView1.Columns(4).HeaderText = "Product Unit"
    DataGridView1.Columns(5).HeaderText = "Quantity"
    DataGridView1.Columns(6).HeaderText = "Price"
    DataGridView1.Columns(7).HeaderText = "Total Amount"
con.Close() End Sub
Sub creditremove()
    Dim sqlstr = "delete from tbcredit where balance<=0"
    Dim sqlcmd As New MySqlCommand(sqlstr, con) If
con.State = ConnectionState.Closed Then con.Open()
sqlcmd.ExecuteNonQuery()
    con.Close()
End Sub
Private Sub creditpayment_Load(ByVal sender As System.Object, ByVal e As System.EventArgs)
Handles MyBase.Load
    Me.KeyPreview = True
    Label13.Text = Format(Date.Now, "Long Date")
    autoidd.Text = "Creditor-Id-" & Format(AutoID("creditors", "idnum"), "0000000")
con.Close()
    clr()
End Sub
Private Sub Panel1_Paint(ByVal sender As System.Object, ByVal e As
System.Windows.Forms.PaintEventArgs) Handles Panel1.Paint
End Sub
Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
Button2.Click
    addinterest.ShowDialog()
End Sub
Private Sub Button4_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
Button4.Click
    Me.Close()
End Sub
Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
Button3.Click

```

```

        creditlist.showdialog()
    End Sub
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
    Button1.Click
        If TextBox1.Text = "" Or TextBox4.Text = "" Then
            MessageBox.Show("All Fields required", "Error", MessageBoxButtons.OK, MessageBoxIcon.Error)
        TextBox1.Focus()
        Exit Sub
    End If
    depositdeduct()
    'addsold()
    updatesold()
    creditremove()
    addsold1()
    'addinvoiceno()
    'addcreditdetail()
    'creditsalesreceipts.TextBox1.Text = TextBox1.Text
    'creditsalesreceipts.ShowDialog()
clr() End Sub
    Sub clr()
        TextBox1.Text = ""
        TextBox2.Text = ""
        TextBox3.Text = ""
        TextBox4.Text = ""
        TextBox5.Text = ""
        TextBox6.Text = ""
    End Sub
    Private Sub TextBox4_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs)
    Handles TextBox4.TextChanged
        If Not IsNumeric(TextBox4.Text) Then
            TextBox4.Text = ""
            Exit Sub
        End If
        TextBox8.Text = Val(TextBox4.Text)
        If Val(TextBox4.Text) > Val(TextBox6.Text) Then
            TextBox5.Text = "0.00"
            TextBox7.Text = Format(Val(TextBox4.Text.Replace(",", "")) - Val(TextBox6.Text.Replace(",", "")),
"0.00")
        Else
            TextBox5.Text = Format(Val(TextBox6.Text.Replace(",", "")) - Val(TextBox4.Text.Replace(",", "")),
"0.00")
            TextBox7.Text = "0.00"
            Exit Sub
        End If
        If Val(TextBox8.Text) > Val(TextBox5.Text) Then
            'TextBox5.Text = "0.00"
            TextBox8.Text = Format(Val(TextBox4.Text.Replace(",", "")) - Val(TextBox7.Text.Replace(",", "")),
"0.00")
        Else
            'TextBox5.Text = Format(Val(TextBox6.Text.Replace(",", "")) - Val(TextBox4.Text.Replace(",", "")),
"0.00")
            'TextBox7.Text = "0.00"
            TextBox8.Text = Val(TextBox4.Text)
            Exit Sub
        End If
    End Sub
    Private Sub TextBox1_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs)
    Handles TextBox1.TextChanged

```

```

        con.Close()
loadcreditinvoice()
con.Close()
getcreditdetail()
con.Close() End Sub
Private Sub TextBox6_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs)
Handles TextBox6.TextChanged
    TextBox5.Text = Val(TextBox6.Text)
End Sub
Private Sub creditpayment_KeyDown(ByVal sender As System.Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles MyBase.KeyDown
    If e.KeyCode = Keys.F1 Then
        Button1_Click(sender, e)
    End If
    If e.KeyCode = Keys.F2 Then
        Button2_Click(sender, e)
    End If
    If e.KeyCode = Keys.F3 Then
        Button3_Click(sender, e)
    End If
    If e.KeyCode = Keys.F4 Then
        Button4_Click(sender, e)
    End If
End Sub End
Class

```

“Critical Stock”

```
Imports MySql.Data.MySqlClient
```

```
Imports System.IO
```

```
Public Class criticalstoks
```

```
Sub loadsupplier()
```

```
    ComboBox1.Items.Clear()
```

```
    ComboBox1.Text = ""
```

```
    Dim Str As String = "Select comname from tbsupplier"
```

```
    Dim cmd As New MySqlCommand(Str, con)
```

```
    If con.State = ConnectionState.Closed Then con.Open()
```

```
    Dim dr As MySqlDataReader = cmd.ExecuteReader
```

```
    While dr.Read
```

```
Dim row1 As String
```

```
row1 = dr(0)
```

```
    ComboBox1.Items.Add(row1)
```

```
    End While
```

```
con.Close()
```

```
End Sub
```

```
Sub criticallist()
```

```
    Dim sqlstr As String = "Select
```

```
id,supplier,barcode,itemdescription,quantity,productunit,unitprice,reorderingpoint from tbstocks where
quantity <= reorderingpoint and supplier=" & ComboBox1.Text & ""
```

```
    Dim sqldt As New MySqlDataAdapter(sqlstr, con)
```

```
    Dim ds As New DataSet
```

```
sqldt.Fill(ds, "tbstocks")
```

```
sqldt.Dispose()
```

```
    DataGridView1.DataSource = ds.Tables(0)
```

```
    DataGridView1.Columns(0).HeaderText = "ID"
```

```
    DataGridView1.Columns(1).HeaderText = "Supplier"
```

```
    DataGridView1.Columns(2).HeaderText = "Product Code"
```

```
    DataGridView1.Columns(3).HeaderText = "Item Description"
```

```

DataGridView1.Columns(4).HeaderText = "Quantity"
DataGridView1.Columns(5).HeaderText = "Product Unit"
DataGridView1.Columns(6).HeaderText = "Unit Price"
DataGridView1.Columns(7).HeaderText = "Re-ordering Point"
DataGridView1.Columns(0).Visible = False
DataGridView1.Columns(1).Visible = False
DataGridView1.Columns(7).Visible = False
Dim x As Integer
x = DataGridView1.RowCount
If x = 0 Then
Else
End If
End Sub
Sub addpo()
Try
Dim sql As String = "INSERT INTO
tbpo(supplier,barcode,itemdescription,productunit,reorderquantity,rdate)
values(@supplier,@barcode,@itemdescription,@productunit,@reorderquantity,@rdate)"
Dim cmd As New MySqlCommand(sql, con)      cmd.Parameters.AddWithValue("@supplier",
ComboBox1.Text)
For i As Integer = 0 To Me.DataGridView1.Rows.Count - 1
cmd.Parameters.AddWithValue("@barcode", Me.DataGridView1.Rows(i).Cells(2).Value.ToString())
cmd.Parameters.AddWithValue("@itemdescription", Me.DataGridView1.Rows(i).Cells(3).Value.ToString())
cmd.Parameters.AddWithValue("@productunit", Me.DataGridView1.Rows(i).Cells(5).Value.ToString())
cmd.Parameters.AddWithValue("@reorderquantity", TextBox1.Text)
cmd.Parameters.AddWithValue("@rdate", Format(Date.Now, "MM/dd/yyyy"))
Dim ms As New MemoryStream()
If con.State = ConnectionState.Closed Then con.Open()
cmd.ExecuteNonQuery()
MessageBox.Show("Purchase Order successfully generated")
'loadsupplier()
Next
Catch ex As Exception
' MessageBox.Show("Adding Failed!!! " + ex.Message, "", MessageBoxButtons.OK,
MessageBoxIcon.Error)
Finally
con.Close()
End Try
End Sub
Sub clr()
TextBox1.Text = ""
ComboBox1.Text = ""
End Sub
Private Sub Panel1_Paint(ByVal sender As System.Object, ByVal e As
System.Windows.Forms.PaintEventArgs)
End Sub
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
Button1.Click
Dim x As Integer
x = DataGridView1.RowCount
If x = 0 Then
MsgBox("No data found")
TextBox1.Focus()

Exit Sub
End If
If TextBox1.Text = "" Then
MessageBox.Show("Please enter quantity", "Error", MessageBoxButtons.OK,
MessageBoxIcon.Error)

```

```

        TextBox1.Focus()
    Exit Sub
End If
    addpo()
    critcallist()
    loadsupplier()
clr()
End Sub
Private Sub criticalstoks_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    loadsupplier()
    critcallist()
End Sub
Private Sub ComboBox1_SelectedIndexChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles ComboBox1.SelectedIndexChanged
    critcallist()
End Sub
Private Sub ComboBox1_TextChanged(ByVal sender As Object, ByVal e As System.EventArgs) Handles ComboBox1.TextChanged
    critcallist()
End Sub
Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button2.Click
    POlist.ShowDialog()
End Sub End
Class
"Damage List"

```

```

Imports MySql.Data.MySqlClient
Imports System.IO
Public Class damagelist
    Dim str As String
    Dim DS As DataSet
    Dim source1 As New BindingSource
    Dim dtreport As New DataTable
    Sub loadsupplier()
        ComboBox1.Items.Clear()
        ComboBox1.Text = ""
        str = "Select
comname from tbsupplier"
        Dim cmd As
New MySqlCommand(str, con)
        If con.State = ConnectionState.Closed Then con.Open()
        Dim dr As MySqlDataReader = cmd.ExecuteReader
        While dr.Read
            Dim row1 As String
            row1 = dr(0)
            ComboBox1.Items.Add(row1)
        End While
    con.Close()
End Sub
    Sub damagelist()
        Dim sqlstr As String = "Select * from tbdamage where supplier=" & ComboBox1.Text & ""
        Dim sqldt As New MySqlDataAdapter(sqlstr, con)
        Dim ds As New DataSet
        sqldt.Fill(ds, "tbdamage")
        sqldt.Dispose()
        DataGridView1.DataSource = ds.Tables(0)
        DataGridView1.Columns(0).HeaderText = "ID"
        DataGridView1.Columns(1).HeaderText = "Barcode"
        DataGridView1.Columns(2).HeaderText = "Item Description"
        DataGridView1.Columns(3).HeaderText = "Supplier"
        DataGridView1.Columns(4).HeaderText = "Product Type"
    End Sub
End Class

```

```

DataGridView1.Columns(5).HeaderText = "Product Unit"
DataGridView1.Columns(6).HeaderText = "Damage Quantity"
DataGridView1.Columns(0).Visible = False
Dim x As Integer
x = DataGridView1.RowCount
If x = 0 Then
    DataGridView1.Enabled = False
Else
    DataGridView1.Enabled = True
    TextBox1.Text = (Me.DataGridView1.SelectedCells(0).Value).ToString
    TextBox2.Text = (Me.DataGridView1.SelectedCells(6).Value).ToString
    TextBox3.Text = (Me.DataGridView1.SelectedCells(1).Value)
End If
End Sub
Private Sub damagelist_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    TextBox1.Text = ""
    TextBox2.Text = ""
    TextBox3.Text = ""
    loadsupplier()
End Sub
Private Sub DataGridView1_CellContentClick(ByVal sender As System.Object, ByVal e As System.Windows.Forms.DataGridViewCellEventArgs) Handles DataGridView1.CellContentClick
End Sub
Private Sub DataGridView1_CellMouseClick(ByVal sender As Object, ByVal e As System.Windows.Forms.DataGridViewCellEventArgs) Handles DataGridView1.CellMouseClick
    TextBox1.Text = (Me.DataGridView1.SelectedCells(0).Value)
    TextBox3.Text = (Me.DataGridView1.SelectedCells(1).Value)
    TextBox2.Text = (Me.DataGridView1.SelectedCells(6).Value)
    Button2.Enabled = True
End Sub
Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button2.Click
    cmdexecute("UPDATE tbstocks SET quantity = quantity + " & CInt(TextBox2.Text) & " Where supplier=" & ComboBox1.Text & "and barcode=" & TextBox3.Text & """)
    'delete from stock_damaged
    cmdexecute("Delete from tbdamage where id = " & TextBox1.Text & " and supplier=" & ComboBox1.Text & """)
    MessageBox.Show("Item Approved!")
    manageproducts.itemlistt()
manageproducts.clrr()
    damagelist()
End Sub
Private Sub ComboBox1_TextChanged(ByVal sender As Object, ByVal e As System.EventArgs) Handles ComboBox1.TextChanged
    damagelist()
End Sub
End Class

```