LYCEUM OF THE PHILIPPINES LAGUNA

**COLLEGE OF ENGINEERING AND COMPUTER STUDIES**

RAM-DALE JUNKSHOP

# RAM-DALE JUNKSHOP ONLINE INVENTORY AND MANAGEMENT SYSTEM

A Capstone Project presented to the College of Engineering and Computer Studies
In partial fulfillment of the requirements for the degree
Bachelor of Science in Information Technology

Jan Dale Austria
Dave Pagkaliwagan
Denzel Joseph Tolosa

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## APPROVAL SHEET

This Capstone Project entitled: **"***Ram Dale Junkshop Online Inventory and Management System",* prepared and submitted by Austria, Jan Dale, Pagkaliwagan, Dave, and Tolosa, Denzel Joseph, in partial fulfillment of the requirements for the degree Bachelor of Science in Information Technology, has been examined and is recommended for acceptance and approval for Final Oral Defense.

**Mr. Rey-An Baricanosa**
Technical Adviser

**Ms. Mirafe R. Prospero, MSCS, MAITE**
Adviser

Approved by the Committee on Oral Examination:

**Mr. Neil P. Balba, MSIT, MSCS, PhD.**
Panel Chair

**Mr. Favis Joseph C. Balinado, PECE**
Panel Member

**Mr. Isaac Morallo, MSIT**
Panel Member

Accepted and approved in partial fulfillment of the requirements for the degree Bachelor of Science in Information Technology:

**Mr. Favis Joseph C. Balinado, PECE**
Dean, College of Engineering and Computer Studies

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**Jan Dale Austria**
**Dave Pagkaliwagan**
**Denzel Joseph Tolosa**

## ABSTRACT

People nowadays love to shop online especially in this time of pandemic to avoid going outside of their own homes. Some use computer, laptop or mobile phones in online shopping. The developers created a website that sells products from a junkshop since it is a profitable business. The said business is not only profitable, but it helps save product wastes and protects the environment. Some products are being recycled, reused, and fixed that can be sold at a good price. This can help provide another purpose for the parts or goods to be used again and avoid being thrown out. The website provides convenience to the users since it can be accessed by anyone with Internet connection, and they only need to register to the website and to buy anytime without going out of their own homes.

***Keywords:*** *junkshop, online, Inventory and Management System*

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# Chapter 1

## PROJECT CONTEXT

In today's world, many different tools or technologies make people live for their needs. Technologies can help people in their daily tasks in job and studies. Technologies simplify tasks.

According to Anlacan (2013), junkshop and scrap trade may be a purchase and offer commerce but cannot be taken by other people since the items that are being exchanged or offered are recyclable and unclean. It may be a moneymaking commerce as well since it can create a part of cash from buying, exchanging, or offering a items or merchandise at a cheaper cost. It can be a pertinent trade since it makes a difference in environment. Squander mindfulness among Filipinos can advance legitimate squander transfer and reusing of merchandise ensure the preservation of the environment.

Junkshop is comparative to a neighborhood store that offers items or products at reasonable cost. Thrift shops and collectible shops can be recognized as portion of junkshop where they offer recyclable and squander items. Those who purchase from junkshops are recognized as junkers, pickers and bargain hunters.

The proponents wanted to create a system for the junkshop which is the Inventory and Management System. Nowadays, many people sell their junk products that are old but still in good condition. The admin of the proposed system will put the old products in the inventory system and can be resold.

Ram-Dale Junkshop is located in Santiago Sto. Tomas Batangas. Based on the interview of the proponents, the junkshop was in the business for more than 5

years. During its inception, it started with one worker, and eventually grew to ten workers. The common problem that they encounter is inventory. They do the manual listing and accounting of sales in a day, that sometimes led to problems because the logbook after some time was torn.

With this, the proponents aimed to develop a system that will support and manage all the transactions and product availability in the said junkshop. SQL database and Visual Studio Code software were used to create a design and to build the functions of Online Inventory and Management System.

## Objectives

### General Objectives

The general objective is to develop an Online Inventory Management System.

### Specific Objectives

1) To design an Online Inventory and Management System for Ram-Dale Junkshop
2) To develop Inventory and Management System that can update the records of stocks and price of the items
3) To test the acceptability of the system

## Scope and Limitation

The scope of the study is to develop a system to help customers and junkshops to buy scrap. The proposed system provides online ordering, wherein the

users can see the inventory. The admin can see also how many kilos or pieces of scrap the users buy. The users can visit the website to select their order.

The system has its limitations wherein customers can only pay thru G-Cash and Cash on Delivery (COD). The proponents did not add functions of online payment system such as bank and credit cards. This is to protect both the buyers and sellers from scam. The Inventory Management System can only be accessed online whether it is updating the inventory, tracking the records of transactions and payment.

**Project Constraints**

To avoid problems and constraints and for effective use of the system, the users need to follow the rules of the system and need to carefully read the description.

**Table 1. Project constraints**

| Constraints | Description |
|---|---|
| Resource | It requires application that can be accessed in mobile phone, computer, or laptops to place an order. |
| Cost | Internet connection is required to access the application. |
| Ethical | Bad actions are not necessary on the use of the application. |
| Legal Constraints | It is not possible to place an order without online payment. |

Table 1 shows the project constraints of the system which include the resource, cost, ethical and the legal constraints of the system. In resource, it shows the technology required in the system, while in cost, it shows the Internet connection that the users need. In terms of ethical, it shows the security of the application, and in the legal constraints, it shows the rule of payment.

**Significance of the Study**

This study will be compelling in providing a proper Inventory Management System in a junkshop. It will also identify the effects to the business operations and transactions in the junkshop.

This study will be useful to the following:

**Future Business Owners.** This study will help future business owners to have better operation and transaction with their client. They can also use it as a guide in the implementation since it points out the benefits of having Online Inventory and Management System.

**Junk Shop Company.** The study is beneficial to the owners of a Ram-Dale Junk Shop because this will make their tasks easier. This will also help them to earn more profit since having an Online Inventory and Management System will help them control and monitor the inventory and track all the spending and transaction.

**Future Researchers.** The study will benefit Information Technology (IT) students since they can use it as a guide and reference for their next research. They can identify the components and parts of the study and how it is conducted. They can improve and add more features in this study.

**Definition of Terms**

**Admin** – The person who has control and monitor to all the records in the system.

**Add to Cart** – A method which users can purchase a product that is listed in the system.

**Online Ordering System** - Is a system that is put in place to allow junkshop to take orders and accept payments both online and in-person.

**Online Inventory System** - Is the method used to track the products in the supply chain, from obtaining to generation to conclusion deals, it administers how one approaches stock administration for the trade.

**Scrap** - Comprises of recyclable products cleared out over from item fabricating and utilization, such as parts of vehicles, building supplies, and excess products.

**System Report** – The method which generates all kinds of reports that will be recorded in the system.

**User** – The person who uses the system.

# Chapter 2

# REVIEW OF RELATED LITERATURE AND STUDIES

## Inventory Control and Management System

Implementation of Inventory Control and Management can be beneficial to enterprise like junkshop, with the help of technology. It will make controlling and managing the inventory easier. According to Schreibfeder and Snawder (2017), inventory control is used for maintaining the items in the inventory to minimize the cost that can be stored in inventory. Inventory management, on the other hand, is the restock of items to the inventory with the right amount of item that can help maximize the profit that could generate and meet customer satisfaction.

## Inventory Classification

Inventory and Management System can be classified into different parts in managing the whole products that are stored in the inventory. According to Dinesh (2017), managing and controlling the inventory can be easier when they are categorized into different parts. Having to categorize the inventory can identify what items are popular to customer and help minimize the cost that needs to be spend in refilling the item inventory.

## Control of Inventory

Having the control to inventory is crucial to business nowadays since it can help determine what is needed to be restocked and to protect the inventory in running out of stock. It can also lead to better customer service. According to Indira

(2018), inventory control is managing all the inventory records and storage of items. A lot of enterprise invests in Inventory and Management System since it is very helpful in managing all the records and stocks of products. It also helps in determining the limit of storage that can be stored in the inventory.

**Inventory Management Tools**

Managing of inventory with the use of tools can be helpful in monitoring the performance of the business. According to Indira (2018), inventory management uses tools such as mobile, laptop and computers to keep track on the sales and records of the company. These can be helpful in improving the Inventory and Management System since one can develop his or her own Inventory and Management System that can make the tasks easier.

**The Efficiency of Using a Tailored Inventory Management System in the Military Aviation Industry**

The study of Hesham (2020) is to set up a nearby, reasonable, tall quality, dependable, and versatile stock administration framework which manages and makes strides stock within the military flying industry, The point of the modern framework is to make strides air ship armada serviceability, unwavering quality, and preparation in arrange to improve the operational status and level of status at the slightest conceivable costs.

**The Chemical Management System**

According to Payne (2020), inventory management is central to the effective operation of any office that employs and stores chemicals. There are various computer program bundles accessible that perform this work palatably. Most commercially accessible stock administration program is administrative, or obtainment centered and more often than not comes with forthright or month to month expenses. This report depicts openly downloadable program created at Sandia National Research facilities that conveys a compelling stock administration framework with an extra center on chemical security.

**Identifying Inventory Project Management Conflicts**

The study of de Vries (2020) is being considered in numerous diverse administration areas which appears to have a confined number of considerations on inventory management-related clashes. This will help in investigating the distinctive sorts of clashes, their causes and the developing character of clashes amid the forming, execution and utilization of stock frameworks. In doing so, a system for surveying diverse sorts of clashes is taken as a beginning point.

**Supply Chain Management System**

According to Fox, Chionglo, and Barbuceanu (n.d.) from the Department of Industrial Engineering, the supply chain management requires coordination with clients and providers. The dynamics of the showcase make this troublesome. Clients frequently make changes or cancel orders. Providers may provide inaccurate materials or provide late. Frameworks that can rapidly react to showcase dynamics

while minimizing lead times and stock are required. Like the advertisement, the generation floor is additionally energetic. Spontaneous occasions happen and cause deviations from planned exercises. To achieve planned production, it is fundamental for the production control framework to powerfully react to these occasions in ways that optimize generation objectives. In some cases, occasions cause issues that are not “locally contained”. The generation control framework must facilitate its activities with higher-level capacities such as arranging, deals, and marketing.

**Oracle Retail Store Inventory Management**

A lot of retails stores use Inventory Management System in tracking the stocks of their products, any business can use this method since it is very helpful in keeping an update in the availability on your products. According to the article that was investigated and reviewed by the oracle retail. They concluded that the problem that retailer stores faced nowadays is the out-of-stock problem which it can affect the needs of the customer.

**Inventory Management**

In any commerce or organization, all capacities are interlinked and associated to each other and are frequently covering. Stock administration may be an exceptionally imperative work that decides the wellbeing of the supply chain as well as the impacts the monetary wellbeing of the balance sheet. Each organization continually endeavors to preserve ideal stock to be able to meet its prerequisites and maintain a strategic distance from over or beneath stock that can affect the money related figures. To avoid this kind of problem, they developed a system in maintaining

the accuracy of tracking the information of the products and all the transactions, The developed system is connected on a cloud server database which can make everything backed up and more secured. Also, it has a lot of strengths in the system as the main purpose of developing the system is to avoid stock problems of the products. Increasing the accuracy of the inventory as the stock of the product will always be updated.

**Inventory System**

The stock framework is found exceptionally valuable for the defenders in making the system. “It is about outlandish to overemphasize the significance of keeping stock levels beneath control,” Pachuca (n.d.) composed in a piece for IIE Arrangements. “Whether the issues caused are caused by carrying as well small or as well much inventory, manufacturers have to be ended up mindful that stock control is not fair a materials administration or distribution center office issue. The acquiring, getting, building, fabricating, and bookkeeping divisions all contribute to the exactness of the stock strategies and records.” It is small ponder that commerce specialists commonly cite stock administration as an imperative component that can spell the distinction between victory and disappointment in today’s definitely competitive trade world.

**Junkshop Inventory**

Once the fabric is announced to be scrap, its esteem should be found out and it is included back within the stock of the organization. This stock account is ordinarily the coordinate materials account of the important work. In a few cases, companies

tend to utilize scrap from one work as a portion of coordinate fabric for another work. This may be done straightforwardly or some of the time fabric may need to be handled. For occasion, metal scrap can be molted and reshaped, and it gets to be as valuable as an unused piece of metal. Hence, it can be specifically utilized within the generation handle.

**Intelligent Decision-Making of Online Shopping Behavior Based on Internet of Things**

According to Fu (2020), the advancement of enormous information and Internet of Things (IoT) have brought huge changes to e-commerce. Diverse sorts of data sources have moved forward the consumers online shopping execution and make it conceivable to realize the trade insights. Hold constrains and eye-tracking sensors are connected to consumers' online audits look behavior by relating them to the investigate approaches in IoT. To start with, open cognition of human contact degrees of reused water reuses with grasp drive test was measured.

**Electronic Inventory System**

According to Bchaney (n.d.), the Bell 11 electronic lab located at Calamba, Laguna, the inventory system is a viable way for checking and following distinctive materials that are exchanged in and out of a company’s distribution center or foundation more often than not for bookkeeping purposes. It is additionally imperative for a company to screen all the exchanges and development of products in arrange to keep an account of all their stocks. In any case in a few foundations, the stock of

materials is done physically in such a way that a representative composes down the data of distinctive materials each time it is exchanged in and out of the room.

**Ocampo's Incorporated Inventory System**

Software engineer or IT experts is concerned with enhancements in an assortment of human and organizational problem-solving endeavors through the plan, improvement, and utilization of mechanically-based frameworks and forms that improve the productivity and viability of data in an assortment of key, strategic, and operational circumstances. In a perfect world, this is often fulfilled through basic consideration to the data needs of people in problem-solving errands and within the arrangement of innovative helps, counting electronic communication and computer-based frameworks of equipment and computer program and related forms. IT complements and upgrades conventional building through accentuation on the data premise for building.

**A Qualitative Inquiry of Online Shopping Consumers**

According to Ruwan Bandara Online, customers frequently voice discontent and concern over their security and however fall flat to require satisfactory safeguards. Nor do they go without from uncovering data. This considers points to investigate this marvel which is known as the protection conundrum. Based on semi-structured interviews with online shopping shoppers and topical examination of information.

**Optimal Decisions and Distribution Channel Choice of Closed-Loop Supply Chain when an E-Retailer Offers Online Marketplace**

According to Dongfeng (n.d.), the study is considered a closed-loop supply chain including e-retailer's online commercial center (i.e., stage benefit) and self-run shop, which are accessible alternatives for upstream producer to advertise unused and remanufactured items. Considering the stage expense and the arrange satisfaction fetched, people explore four dissemination channel modes, and get choice districts and comparing ideal choices for supply chain individuals.

**Web-Based Sale and Purchase Online Product Catalogue and Ordering System**

According to Lin (2020), web-based deal and buy is the buying and offering of products and administrations on the web, particularly the world wide web. It makes acquiring simpler for client. In any case, it will fetch an enterprise a part of cash to construct up an energetic e-commerce site. To overcome this issue, a web-based deal and purchase is created to form web page to offer the organization‘s items. The proposed venture offers a web-based benefit to let suppliers put their items to offer online. Meanwhile, this permits the clients to have more choices in same products and empowers to compare the costs within the same web page. It incorporates online item catalogue, online requesting framework, backend administration and database.

**Information System in Promoting and Ordering of Web-Based Confection Service**

According to Warlina and Ambara (2018), creating a confection benefit utilizes the site as a medium of advancement and requesting. The strategies utilized in this inquire about were the graphic strategy, and the information looked in essential and auxiliary through the diary of inquire about related to the advancement and requesting web-based. With this investigation, it anticipates that confection administrations can be broadly known through the site based on advancements and can be more comfortable with requesting.

**Service Quality Factors Affecting Customer Attitudes in Online-to-Offline Commerce**

According to Moon (2020), a company works different channels: online, portable, and offline. A company pulls in clients and triggers installments online or by means of portable, and after that leads customers to an offline store to get the items or administrations. The creators contend that in this blended shopping environment, client recognitions of benefit quality are diverse from those of existing commerce situations in confinement

**Inventory Management with Online Payment and Preorder Discounts**

According to Hasan's (2020) study the ideal cost and renewal cycle when different rebates arrangement is actualized for clients when they buy amid the preorder period and make the installment through a web framework. The proposed financial arrange amount demonstrate works for non-instantaneous deteriorating

items that will maximize the full benefit. Besides, it considers the impact of offering cost and notice on client request.

**Sustainable Inventory System with Controllable Non-Instantaneous Deterioration and Environmental Emission Rates**

According to Mishra (2020), in today's environment, it is troublesome to be fruitful without considering maintainability. The impacts of worldwide warming are getting to be more discernible in lifestyle. Supply chain exercises are vital sources of natural outflows. This impact increments concerns to control emanations through the advancement of a supply chain stock show. A recharging issue based on joint estimating, energetic speculation in natural fetched, arrange fetched, conservation innovation taken a toll, and ideal renewal times for a non-instantaneous breaking down thing is considered to maximize retailer benefit

**Theoretical Background**

Having a proper plan and better decision in the inventory was critical in the business operation. Heizer and Render (2014) specify that inventory management or inventory planning, and control refers to the continuing plan of an item with demand wherein the quantity of the items are always on hand. Lean Theory has been used in the study since it concentrates on cost optimization in the stock of the products. The decision-making on the production, storage of the products and supply chain can be accumulated in this theory (Tempelmeier, 2015). It was suggested that the theory is based on the financial quantity model, which pursues to enhance the amount of product that was ordered.

Inventory and Management System may be expensive especially if one combines it with technology. Barry's Render's book by Heizer (2006) stated that inventory management is one of the most expensive resources in many organizations and business companies. It was stated that 40% of the capital was invested in Inventory Management System. A company can cut down the cost by lowering some levels of storages in inventory, but customers may be disappointed when an item is out of stock. Furthermore, companies should have a plan in balancing the investment in the inventory and how to satisfy the customer.

**Technical Background**

Technology has become a trend especially in business nowadays, they use it in operations and using it to communicate with their customers and suppliers. Junk shop has one of the biggest potentials that one can establish in business. Not only it helps with the waste management, but one can also earn a money since one can recycle other goods and can turn them into a product that people can use. A problem with it is how they store all their inventories and records; they only use a notebook to manually record business transactions. Misplacement of price in a product can also happen due to lack of materials in recording the transactions and pricing of the products.

By implementing technology, the proponents created a system that will make the tracking of inventories and transactions easier. Having an Online Inventory and Management System will make the business grow and gain more profits since having management in inventory can also avoid mistakes and spend less money.

## Synthesis

This study is the summary of the review of related literature that shows the title of the literature, methods and techniques used in the project. Synthesis ordinarily goes together with analysis it breaks down a concept into its critical analysis to make functional conclusions or make choices around the topic or issue.

**Table 2. Synthesis of related studies**

| TITLE | AUTHOR/S | METHOD/TECHNIQUES |
|---|---|---|
| Romancing with Inventory Management": New Delhi: Blue Diamond Publishing In. (2018) | Indira, P. | Inventory control is managing all the inventory records and storage of items. |
| Inventory Control and Management System (2017) | Schreibfeder, J. and Snawder, T. | They stated that inventory control is used for maintaining the items in the inventory to minimize the cost of that can be stored in inventory. |
| Problems and Solutions in Inventory Management (2017) | Dinesh, S. | Managing and controlling the inventory can be easier when they are categorized into different parts. |
| Web-based Sale and Purchase Online Product Catalogue and Ordering System (2020) | Lee, W. L. | A web-based deal and purchase is created to form web page to offer the organization's items. |
| The Chemical Management System (CMS): A Useful Tool for Inventory Management (2020) | Payne, M.K. | Accessible stock administration program is administrative, or obtainment centered and more often than not comes with forthright or month to month expenses. |
| Identifying Inventory Project Management | Vries, J. | Inventory management related clashes and it is for this reason why the |

| | | |
|---|---|---|
| Conflicts (2020) | | proponents conducted a ponder on investigating the distinctive sorts of clashes. |
| Intelligent Decision-Making of Online Shopping Behavior based on Internet of Things (2020) | Hanliang, F. | Hold constrains and eye-tracking sensors are connected to consumers' online audits look behavior by relating them to the investigate approaches in IoT. |
| The Efficiency of Using a Tailored Inventory Management System in the Military Aviation Industry (2020) | Al-Momania, H., Al Meanazela, O., Abdallah, E., Khasalehab, A.A. and Qamara, A. | This is about planning, proposing and executing an exceedingly solid customized Microsoft Access program as an effective, basic, user-friendly reasonable program that bolsters the on-time accessibility of the drive stock of save parts. The framework will have full capability of coordination support administration frameworks and will address airplane stock challenges. |
| A Qualitative Inquiry of Online Shopping Consumers (2020) | Bandara, R. | It points to investigate this marvel which is known as the protection conundrum. |
| Oracle Retail Store and Management System (2020 | Oracle Retail Store | Reveals the problem of retail stores and revealed on how they develop their own Inventory and Management System with cloud server database. |
| Optimal Decisions and Distribution Channel Choice of Closed-Loop Supply Chain when E-Retailer Offers Online Marketplace (2020) | Li, D.J.S. | It considers a closed-loop supply chain including e-retailers online commercial center (i.e., stage benefit) and self-run shop). |

| | | |
|---|---|---|
| Impact of Implementing ICT on Inventory Control System in the Transportation of the Organization (2014) | Mongare and Nasidai | Provides overview on who can be affected for not having proper stock management. |
| Service Quality Factors Affecting Customer Attitudes in Online-to-Offline Commerce (2019) | Moon, Y. and Armstrong, D.J. | Talks how company pulls in clients and triggers installments online or by means of portable. |
| Sustainable Inventory System with Controllable Non-Instantaneous Deterioration and Environmental Emission Rates (2020) | Mishra, U. | Talks about control emanations through the advancement of a supply chain stock show. |
| Inventory Management with Online Payment and Preorder Discounts (2020) | Hasan, R. | It works for non-instantaneous deteriorating items that will maximize the full benefit. |
| Web-Based Sale and Purchase Online Product Catalogue and Ordering System (2020) | Lin, L.W. | The project offers a web-based benefit to let suppliers put their items to offer online |
| Information System in Promoting and Ordering of Web-based Confection Service (2018) | Warlina, L. and Ambara, J.P. | The plan of this projects is to utilize the graphic strategy, and the information looked in essential and auxiliary through the diary of inquire related to the advancement and request of web-based services. |
| Supply Chain Management System (2019) | Fox, M.S., Chionglo, J.F., Barbuceanu, M. | This system shows that one can rapidly react to showcase dynamics while minimizing lead times and stock are required. Like the advertisement, the generation floor is additionally energetic. |

| | | |
|---|---|---|
| Online Shopping System (2018) | Madhukar, S. | It talks about an online shopping website, and this project helps to supply the benefits of this system to the users and help to purchase items with the shop through web sites by using a technology. |
| Electronic Inventory System (2019) | Bchaney | This is inventory system, and it is the way of checking the materials that are being exchanged in and out of the company center. |
| Incorporated Inventory System (2018) | Ocampo | This system is about the fulfilled consideration to the information needs by the users in their problem, the computer-based system of equipment and computer related forms. |
| Scrap Tracking Management System (2020) | Zepra | The system is planned to streamline the radical scraps forms at fabricating offices. |
| Junk Shop Operation (2013) | Anlacan | Describes the junk shop and sees on how to make money with junk shop business. |

In summary, junk shop is a good business since one can recycle any products and reuse them to any thing useful. Anlacan (2013) stated that one can also make money by selling old and reusable products to any junkshop. Having a junk shop business has a big potential given that it helps the environmental waste and can also encourage people not to waste reusable products. It can be a big potential business where in one can generate a lot of money. It only needs a proper Inventory

and Management System. With an application of technology, people can create a system wherein it can make the work more manageable and can boost productivity of the business. Reimer (n.d.) stated that having an advanced Inventory and Management System can bring a lot of benefits to the organization considering that it makes managing of work easier and increase productiveness in the business. Babatunde and Arogundade (n.d.) determined the inventory production cost that can help maximize the profit that can be earn.

## Conceptual Framework/Block Diagram

### IPO Chart

The Input, Process, and Output (IPO) is the way to show the system process, the IPO, can accept the information, in the input it can do process, and in the process, it converts the input into the output, and the output shows the result of the process.

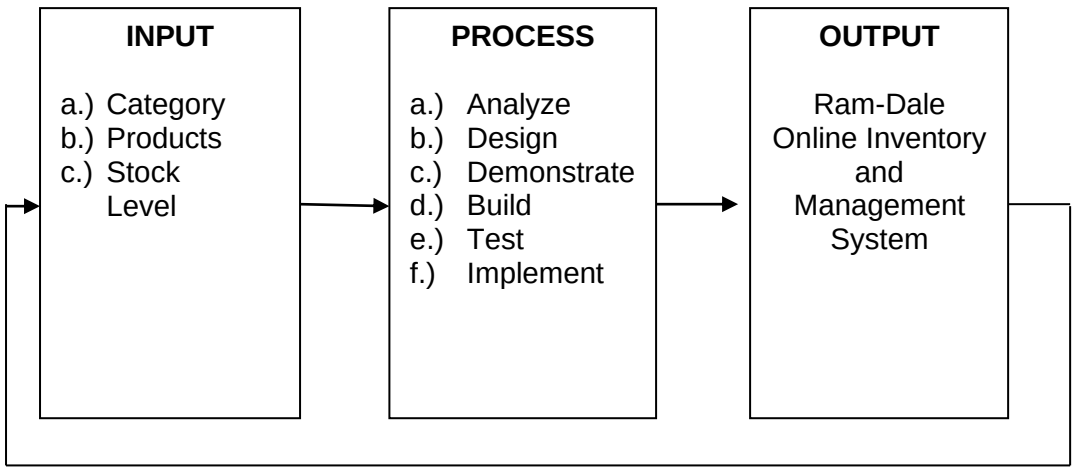



**Figure 1. IPO chart of Ram-Dale Junkshop Online Inventory and Management System**

Figure 1 shows the Input-Process-Output of the project system. The proponents need input and process to develop the system. In the input, the proponents need to input the category, products and the stock level, while in the process, the proponents need to use rapid application development by analysis, design, demonstration, building, testing and implementation of the system to make the output which is Online Inventory and Management System.

# Chapter 3

# DESIGN AND METHODOLOGY

## Research Design

The study on Online Inventory and Management System made use of descriptive and development method of research to answer the questions and define the data and aspects of the topic that was being reviewed.

According to Rahi (2017), descriptive research collects quantity data which can be defined and analyzed using statistical method in data analysis. Gillaco (2014) stated that descriptive works mainly in describing and analyzing the data which can be useful in conducting the study. Developmental research method, on the other hand, pertains only to instruction development which means that output will be developed at the end in conducting this study (Beb, 2014). Furthermore, design, development and gathering of feedback are the methods used in conducting the study.

## Research Type

The proponents used descriptive development method as research strategy in conducting this study. The combination of qualitative and quantitative approach was used in describing the data given that each part of component is very useful in developing this study. According to Gall and Borg (2007), the data may have been gathered qualitatively, but it used quantitative approach by using frequencies, percentage, average and any statistical related tool in analyzing and summarizing the data of the study. This study used qualitative research in collecting the data from

data method and quantitative approach in analyzing the data that have been collected. The researchers used the two research methods in the collection, analysis, defining, and writing the results from the study.

**Data Gathering Method and Analysis**

The proponents asked permission and wrote a letter to the dean of College of Engineering and Computer Studies (COECS) in conducting this study outside school premises. The tool used in gathering the data is online survey. Before conducting the survey with ISO, the questionnaires were checked by the Research adviser. A letter was also sent to ask permission from the respondents in conducting the study. The respondents were asked to answer the ISO survey. The proponents assured that their private information and answers were confidential.

**ISO Survey**

The proponents used the IPO 25010 because they need to see the outcomes in terms of the system's functionality, suitability, performance efficiency, compatibility, usability and reliability, and the clients rated the following performance by five numbers using the following: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1).

**Table 3. ISO survey**

| | | SA 5 | A 4 | N 3 | D 2 | SD 1 | Weighted Mean | Verbal Interpretation |
|---|---|---|---|---|---|---|---|---|
| | **Functional suitability** | | | | | | | |
| 1 | Functional completeness | | | | | | 0.00 | Strongly Disagree (Poor |
| 2 | Functional correctness | | | | | | 0.00 | Strongly Disagree (Poor |
| 3 | Functional appropriateness | | | | | | 0.00 | Strongly Disagree (Poor |
| | **Performance efficiency** | | | | | | | |
| 4 | Time behaviour | | | | | | 0.00 | Strongly Disagree (Poor |
| 5 | Resource utilization | | | | | | 0.00 | Strongly Disagree (Poor |
| 6 | Capacity | | | | | | 0.00 | Strongly Disagree (Poor |
| | **Compatibility** | | | | | | | |
| 7 | Co-existence | | | | | | 0.00 | Strongly Disagree (Poor |
| 8 | Interoperability | | | | | | 0.00 | Strongly Disagree (Poor |
| | **Usability** | | | | | | | |
| 9 | Appropriateness | | | | | | 0.00 | Strongly Disagree (Poor |
| # | Learnability | | | | | | 0.00 | Strongly Disagree (Poor |
| 11 | Operability | | | | | | 0.00 | Strongly Disagree (Poor |
| # | User error protection | | | | | | 0.00 | Strongly Disagree (Poor |
| # | User interface aesthetics | | | | | | 0.00 | Strongly Disagree (Poor |
| # | Accessibility | | | | | | 0.00 | Strongly Disagree (Poor |
| | **Reliability** | | | | | | | |
| # | Maturity | | | | | | 0.00 | Strongly Disagree (Poor |
| # | Availability | | | | | | 0.00 | Strongly Disagree (Poor |
| # | Fault Tolerance | | | | | | 0.00 | Strongly Disagree (Poor |

**Sampling Method**

The proponents used snowball sampling in identifying samples. They used online survey for collecting data and samples and they got 10% of online survey answers. Samples were collected from other e-commerce business like other junkshops or company who shared their experiences about stocks of products and possible solutions.

## Requirement Analysis

### Functional Requirements

The users of the Ram-Dale Junk Shop Online Inventory and Management System must be provided the following functionality:

- Register account
- Secure their account
- Log in
- Inventory system
- Product Selection
- Confirmation of purchasing products
- Payment (G-Cash only)
- Receive Notifications

### Non-Functional Requirements

**Performance:**

**User Friendly**

The Ram-Dale Junkshop Online Inventory and Management System should be more user-friendly, and the web site should be good and understandable.

**Flexibility**

The developers should be flexible, if the proponents want to upgrade the system immediately, they will not have a problem soon to change and upgrade the system, and the benefits of this performance will boost their skill in maintenance.

**User Types, Access Rights and Privileges**

**Figure 2. User types, access rights and privileges**

Figure 2 shows the user types, access rights and privileges of Ram-Dale Junkshop Online Inventory and Management System. The admin should access the websites and manage the system; while the users need to use the website of the system to see and purchase the products inside the system. The supplier should know about stocks they need to manage the stocks and bills and they need to check the inventory and create invoice and send the products to the users.

**Hardware and Software Requirements**

In this study, it discusses the hardware and software requirements before using the system and the system needs specifications and technology:

- Hardware - Proc: Intel(R) Core (TM) i5-4670 @3.4GHz
  - OS: Microsoft windows 10 x64
  - RAM: 16GB DDR3 ram
  - ROM: 256 SSD / 500 HDD internal storage drive
  - -DISPLAY: 32" LCD Monitor Dual
  - Network Adapter: 802.11ac 2.4/5GHz wireless adapter
  - Other: external webcam, external hard drive for backups
- Software – The researchers will use HTML, CSS, PHP and MySQL in developing this system.
- People – The implemented system can be used by people who own business and struggle in managing their inventories and transactions.

**Development**

In conducting the study, the proponents used Adobe XD for creating the UI and UX Design of the system in the first part of process in system. In the development of the system, the proponents' strategy in creating the system is to use Microsoft Visual Studio Code given that it provides an open source and provides many features that developers expect. Following the successful development of the system, the proponents connected the system in a database which it can secure important data using XAMPP or

PhpMyAdmin considering that XAMPP is used in testing the website before uploading it to the main web server.

**Implementation**

The proponents' strategy of creating the system is creating a plan for doing and dividing the tasks that are assigned. Requirements were discussed on what is needed in the system. One member created a UI Design in Adobe XD Software since it is an open source wherein it can create any web design and provides many styles that the developer can use. Discussion on the design created was identified for improvement and enhancement. The other member developed and coded it in Visual Studio Code considering that it is an open-source platform and provides unique source code editor and connected it in database because the website that was created provides important information. The database is useful in storing important information. The last member tested the whole system to know what needs to be upgraded and improved before deploying the system.

**Methods, Tools, and Techniques**

The proponents used online survey to see how the system works for the users and if it is user-friendly. The owner of the junkshop was asked to know the type of scraps the users buy and mode of payment that the users use in transactions.

The ISO was used for survey because it is important to know the user's satisfaction and the system's functionality. The proponents also used Gantt chart to schedule how to process the system.

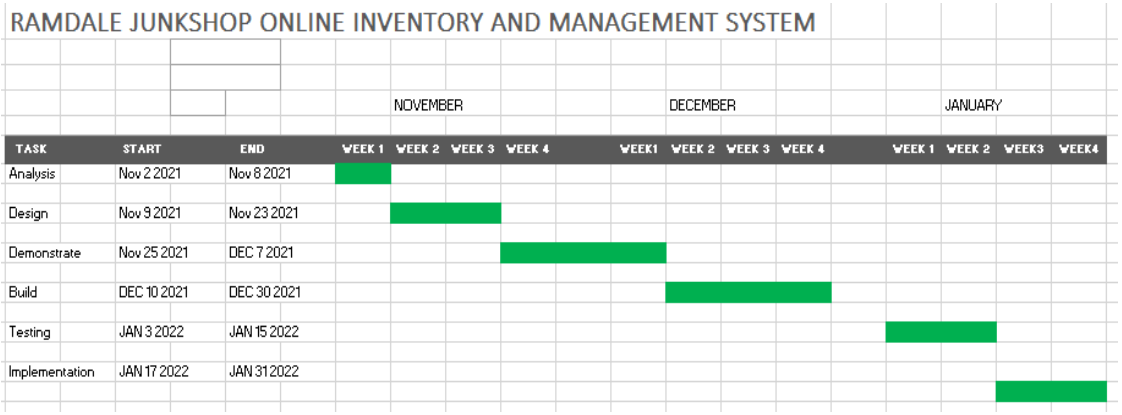



**Figure 3. Gantt chart**

Figure 3 shows the Gantt chart that the proponents used in the development of the system. In the Rapid Application Development, tasks were shown which includes the analysis, design, demonstration, building and testing of the system. IT also shows the timeline of the system's development.

**Project Development Methodology**

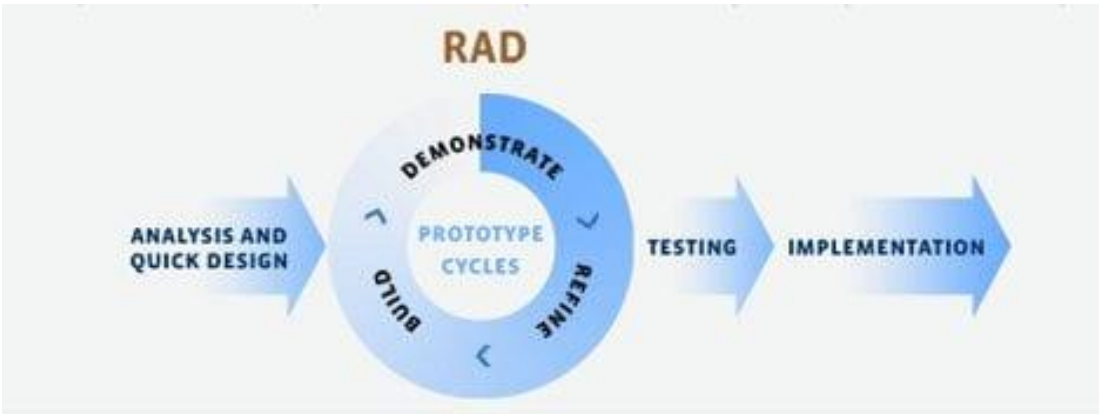



**Figure 4. Rapid Application Development**

The figure above shows the SDLC Method that was used in creating Ram-Dale's Junkshop Online Inventory and Management System. The proponents used the Rapid Application Development for SDLC method in creating the system. During the Analysis and Quick Design, the proponents discussed how the system will be formed and created using UI design for the system. The system was developed using programming software and demonstrated the whole function of the system. The system was tested by some users. After successfully testing the system, the system was deployed and implemented.

## Process Models

### Current State

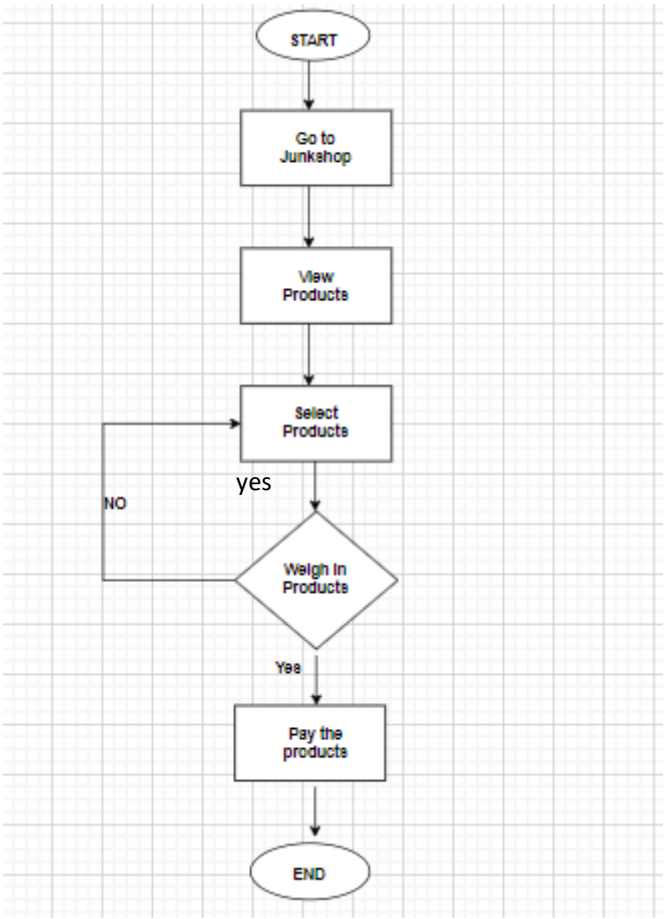



**Figure 5. Current state**

Figure 5 presents the current state of Ram-Dale Junkshop as well as its current process. Many people come to the junkshop and sell their scrap, and the manager of the junkshop lists down the weight of the scrap. In the current process of buying scraps, there are many coming from different places. There are customers who visit the junkshop to buy secondhand products, see the products, weigh and pay them.

**Proposed Process**

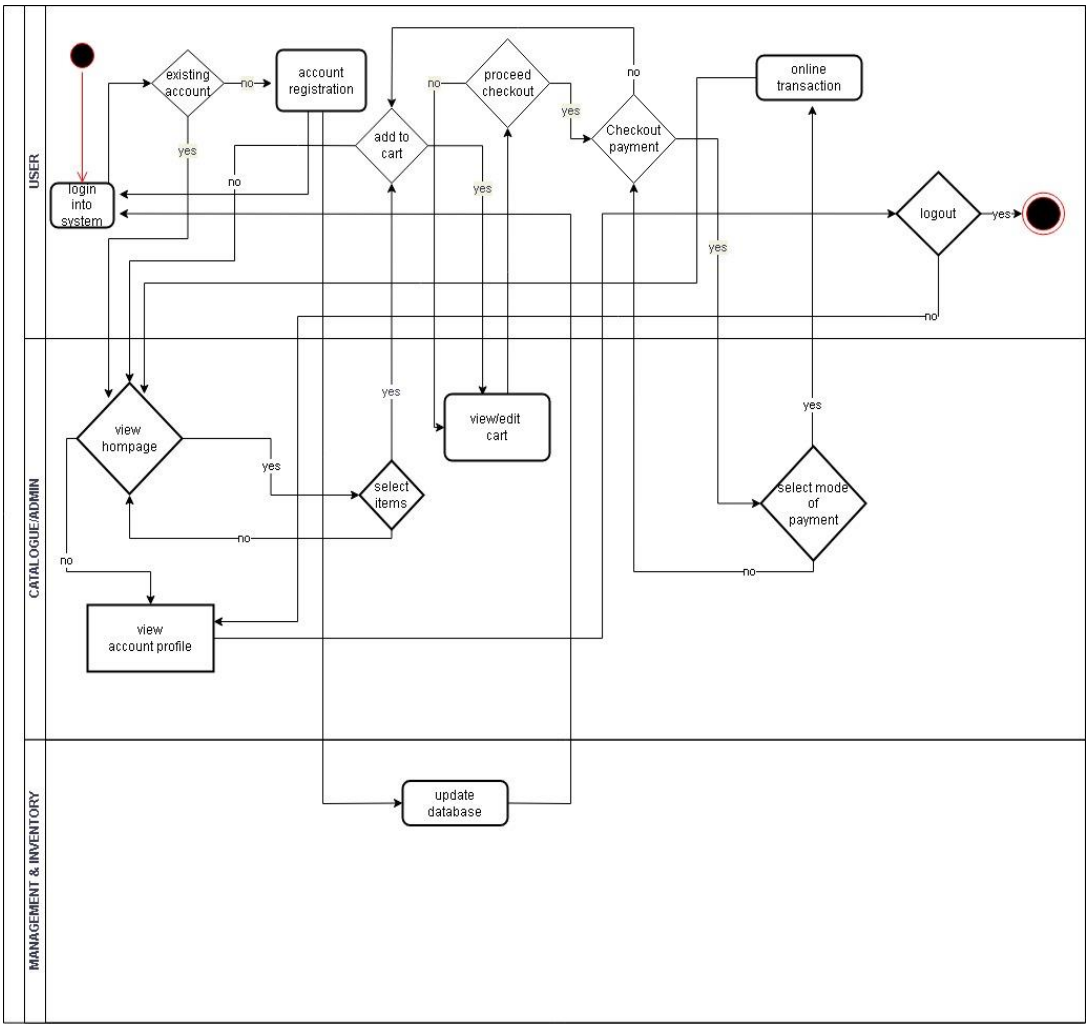



**Figure 6. Proposed process**

The figure above shows the flow of the system in which the user will login into system using his or her existing account. If the user does not have an existing account, he or she may create an account and login into the system. The information given by the user will be listed on the database so the he or she can login into the system. After logging into the system, the user may choose if he or she wants to view

the homepage or view his or her account profile. If the user views the account profile, he or she will see his or her account status or logout. If the user chooses to proceed on viewing the homepage, he or she may select an item. If the user chooses not to proceed on selecting an item, he or she will stay on homepage. If the user chooses to proceed on selecting the item that he or she wants, he or she will add the item to the cart in which he or she may view and edit the items. If the user wants to pay the item/s, it will proceed to checkout. If the user chooses to cancel the purchase, the system will go back to viewing and editing the list or the cart. If the user continues to pay the item, it will checkout the payment and proceed to choosing the mode of payment. However, if the user cancels it, he or she will be redirected to adding an item. In mode of payment, if the user cancels the purchase, it will be redirected to checkout payment. If the user continues, the transaction will be processed and will be redirected to the homepage.

## System Workflow

### System Workflow Log-in and Sign-Up Page

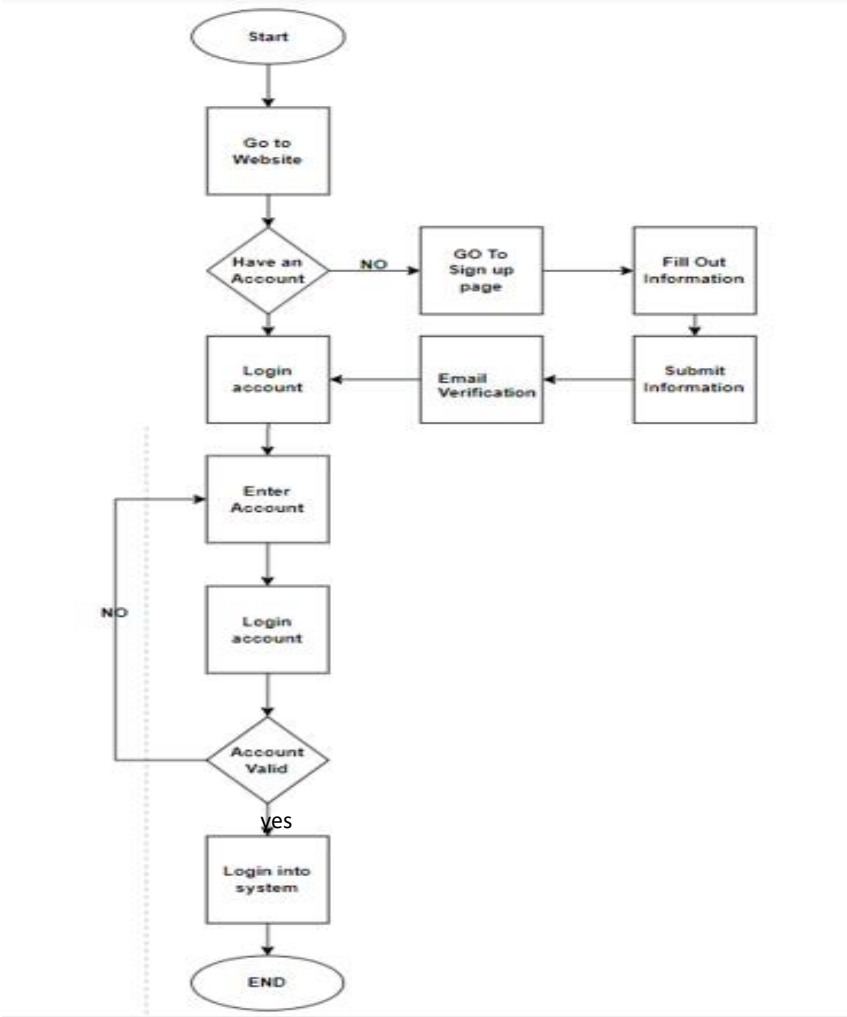



**Figure 7. System workflow account log-in and sign-up**

For the system workflow of log-in and sign-up, the user needs to register. If he or she does not have an account, he or she will fill out the important information needed. He or she needs to verify his or her email that will be used to ensure the collection of data and provide better assistance, if there is any needed support. After

the successful verification of the email, the user can now login to the website by inputting the corresponding email and password to gain access to the website.

**System Workflow Customer Product Ordering**

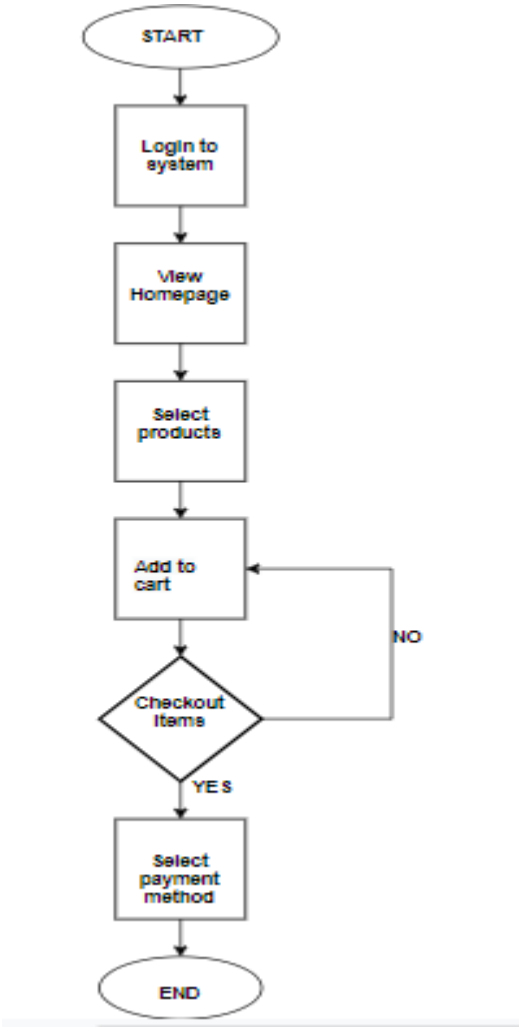



**Figure 8. System workflow customer product ordering**

In the figure above, it shows the process on how the user can use the website. The user needs to register or login to the system. Then, he or she can view

the homepage of the system and find a product. He or she can select from the products listed on the system, can add the selected items to the cart, can checkout all the items that were added and can choose the payment method in purchasing the products.

**System Workflow Admin Management**

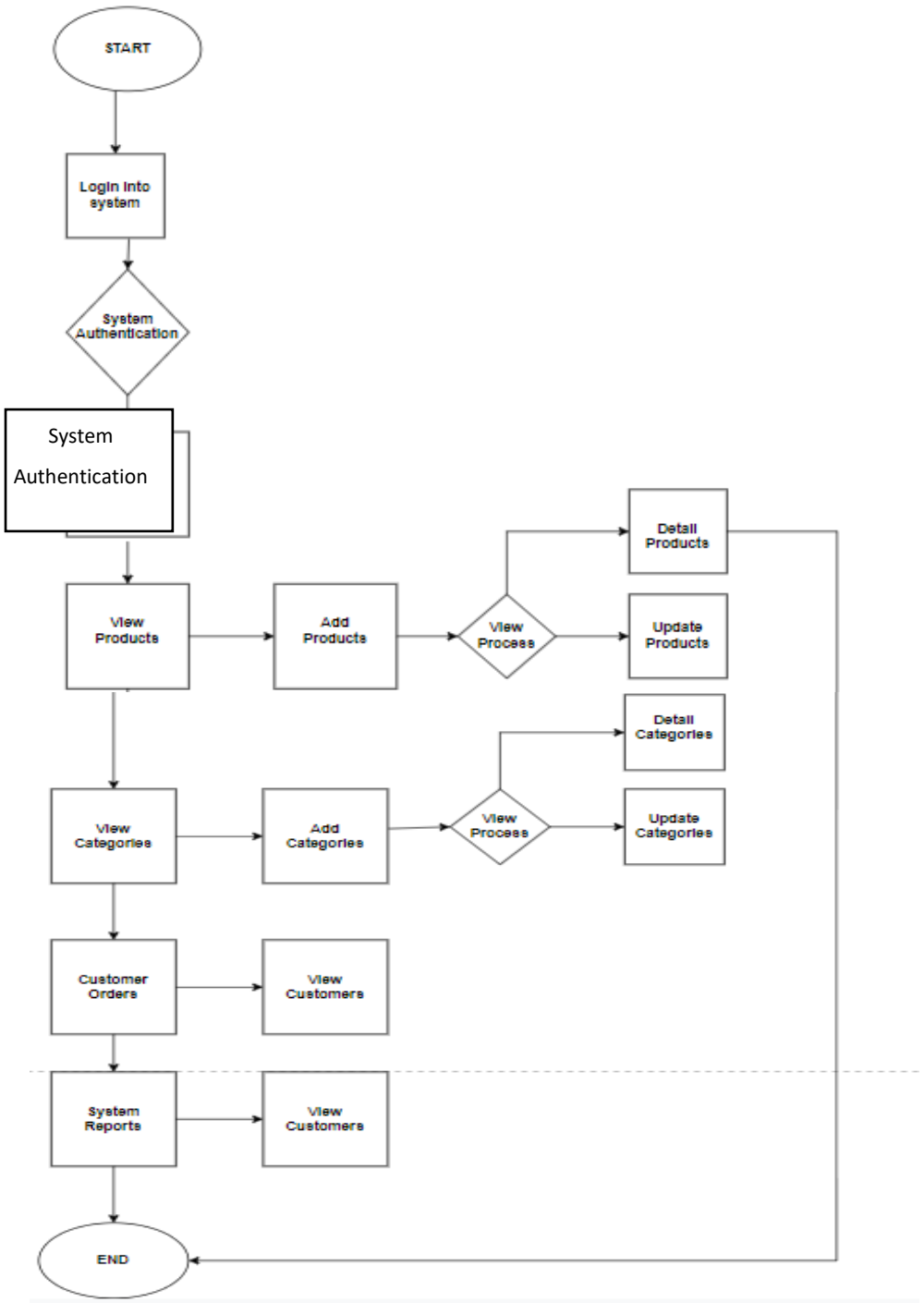



**Figure 9. System Workflow Management System**

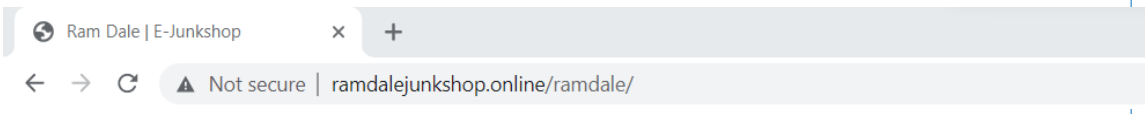
This figure shows the system workflow of admin management. In this flow, the admin needs to login in the system so that he or she can view the dashboard. In the management of products, the admin can view and add products, and the process. The admin can also update the products since he or she knows their details. The admin can also manage the categories by adding and updating, manage the customer orders, view the customer who used the system and generate system reports of the customers.

**User Interface Design**

In this chapter, it discusses the user interface of the system. Before the users go to website, the brochures and flyers will be sent to the users and there will be advertisements on social media referring to the junkshop.

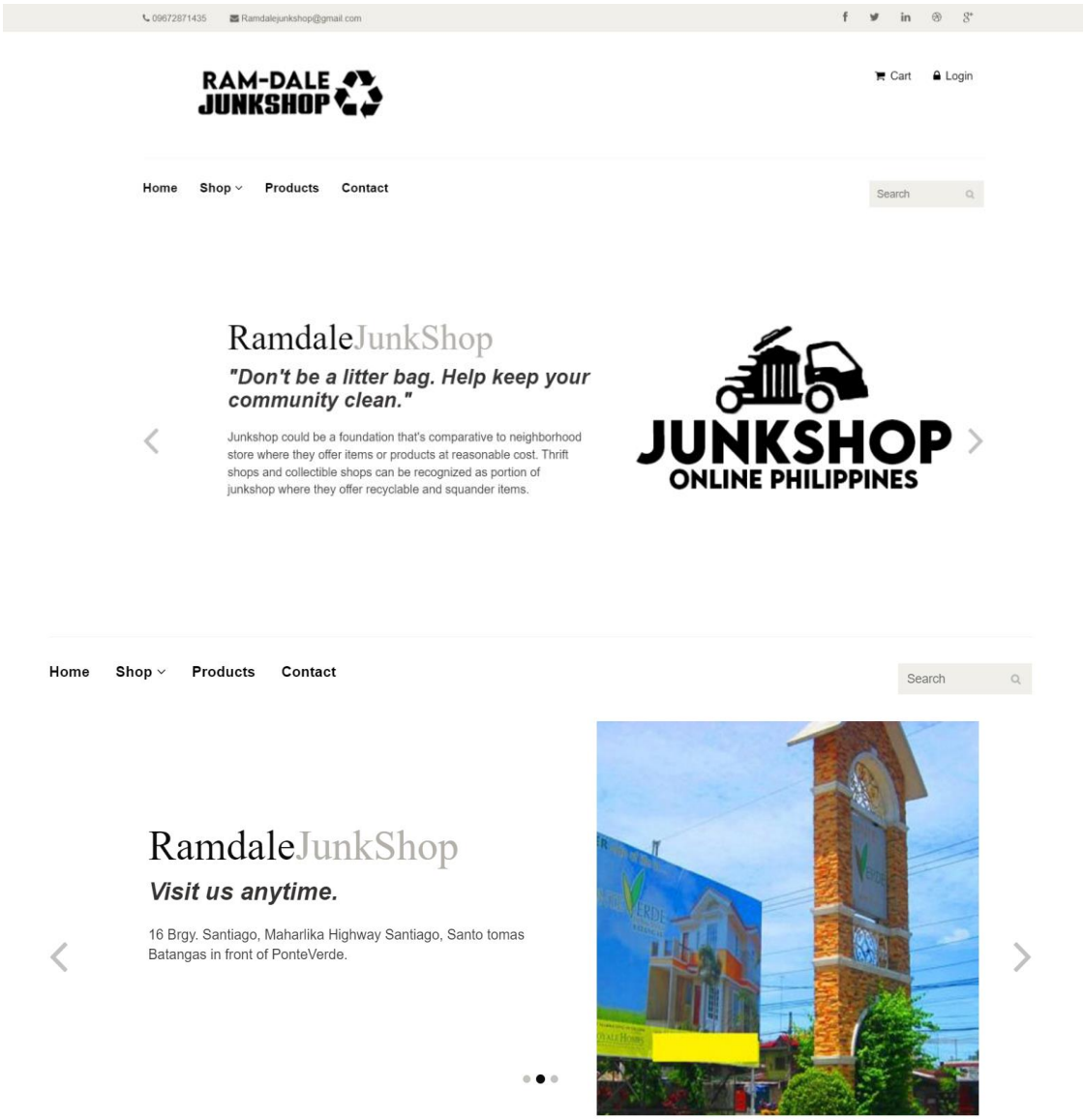
**Users**

**Website**




This is the website of Ram-Dale Junkshop Online Inventory and Management System.

## Home page


09672871435
Ramdalejunkshop@gmail.com
RAM-DALE JUNKSHOP
Cart
Login
Home
Shop
Products
Contact
Search
RamdaleJunkShop
"Don't be a litter bag. Help keep your community clean."
Junkshop could be a foundation that's comparative to neighborhood store where they offer items or products at reasonable cost. Thrift shops and collectible shops can be recognized as portion of junkshop where they offer recyclable and squander items.
JUNKSHOP
ONLINE PHILIPPINES
Home
Shop
Products
Contact
Search
RamdaleJunkShop
Visit us anytime.
16 Brgy. Santiago, Maharlika Highway Santiago, Santo tomas Batangas in front of PonteVerde.

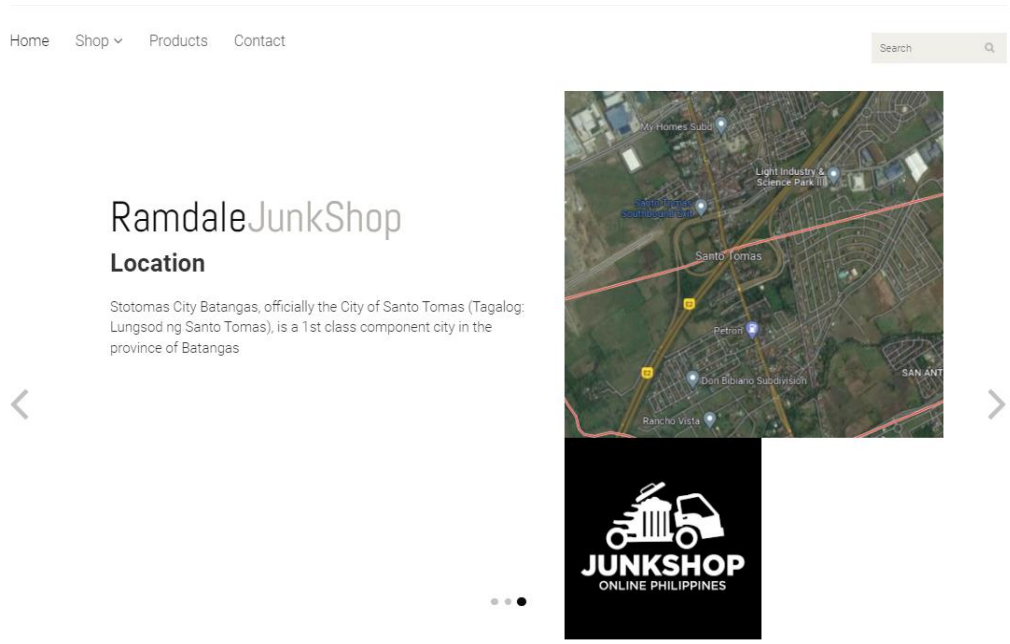



**Figure 10. Homepage and address**

Figure 10 shows the homepage of the system, it shows the description of the junkshop as well the owners, address and location map.

**Sign up page**

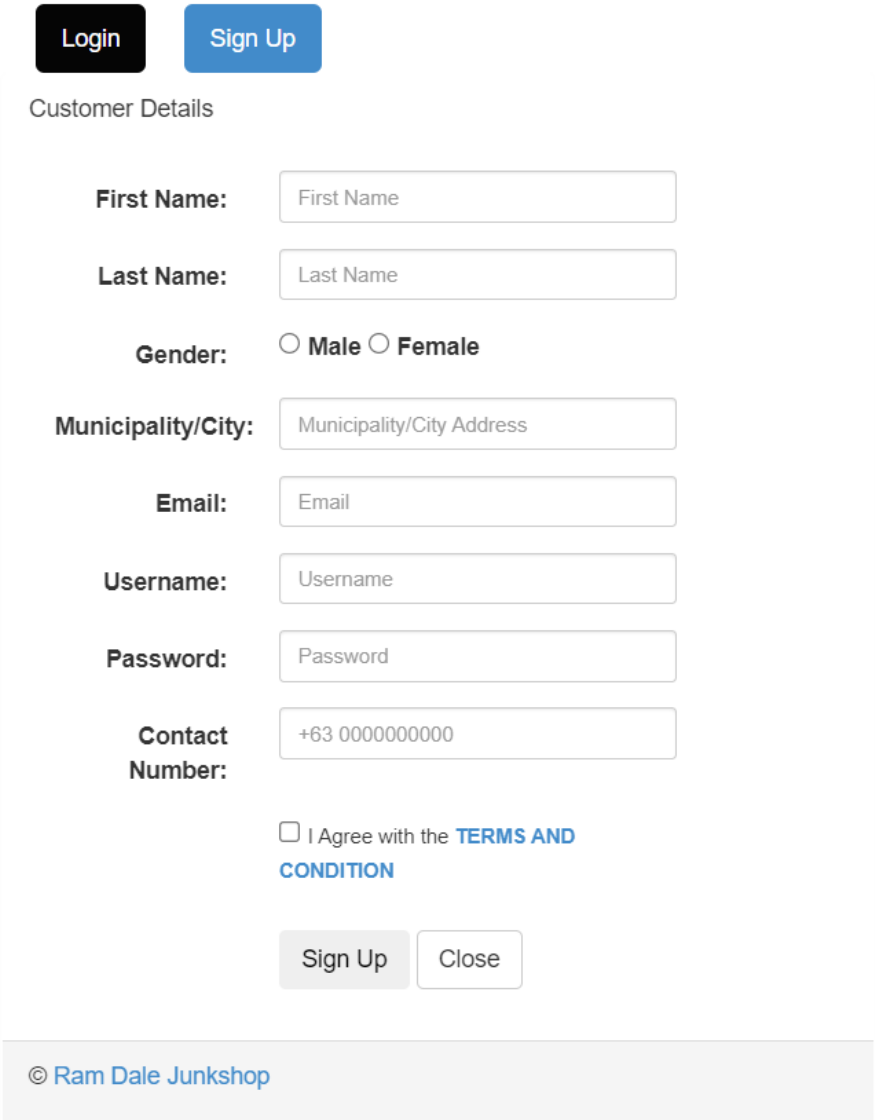



**Figure 11. Sign-up page**

Figure 11 shows the sign-up page of the users. The users need to register their account before logging in. They need to put their first name, last name, username, password, and email in order to have access to the system.

**Login Page**

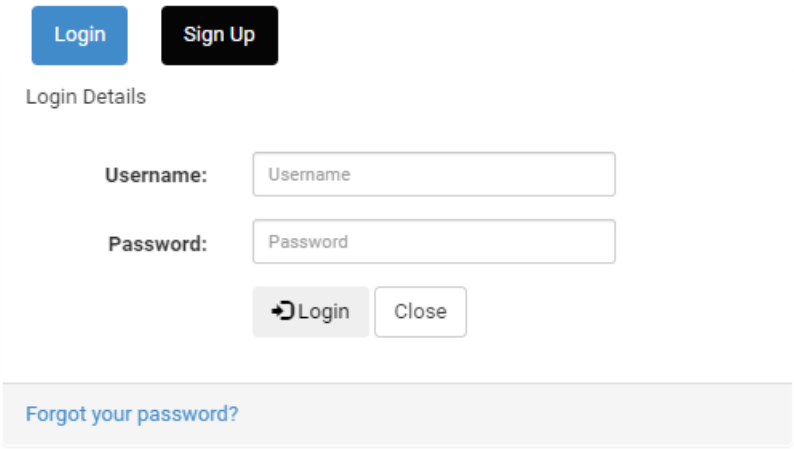



**Figure 12. Log-in page**

Figure 12 shows the log-in page. The users will input their email and password to get into the system.

**Home Page**

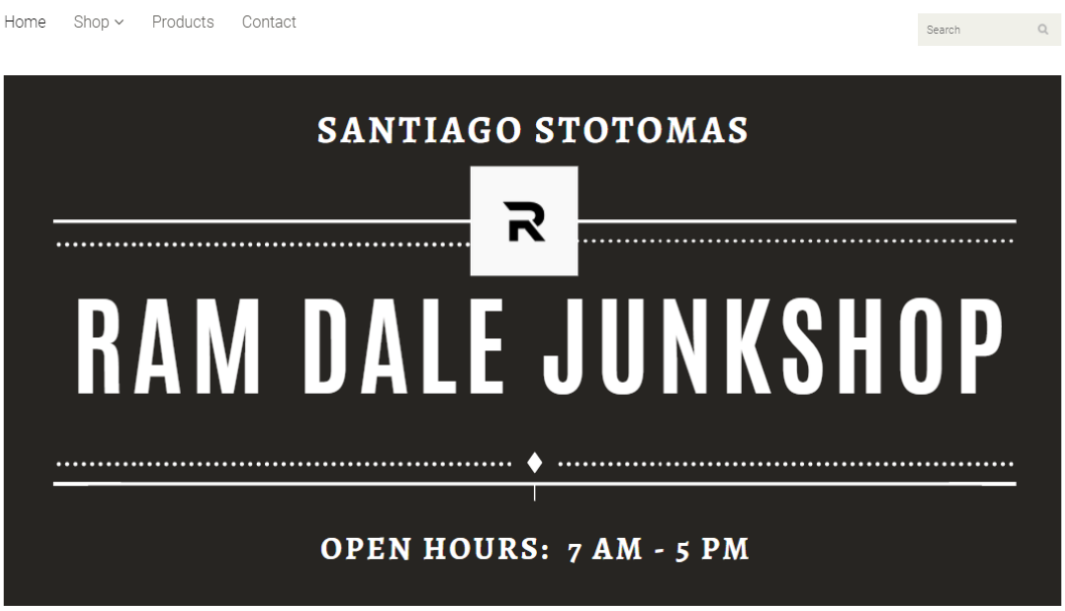



**Figure 13. Home page 2**

This figure shows the contact page of the junkshop. The proponents also attached the social media accounts so that users can search and follow the social media sites and send message for more inquiries.

**Item Categories**

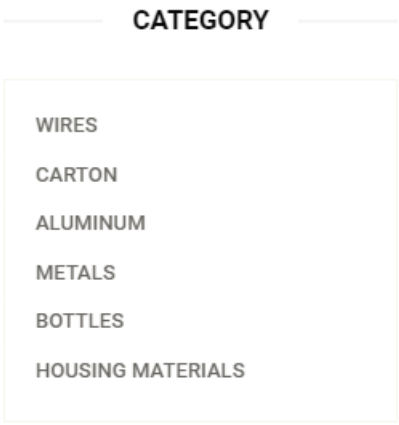



**Figure 14. Item categories**

Figure 14 shows the categories of the product. Users can choose their products in the categories. In the categories, they will see the products like wires, bottles, steels, aluminum and housing materials.

**Item names**

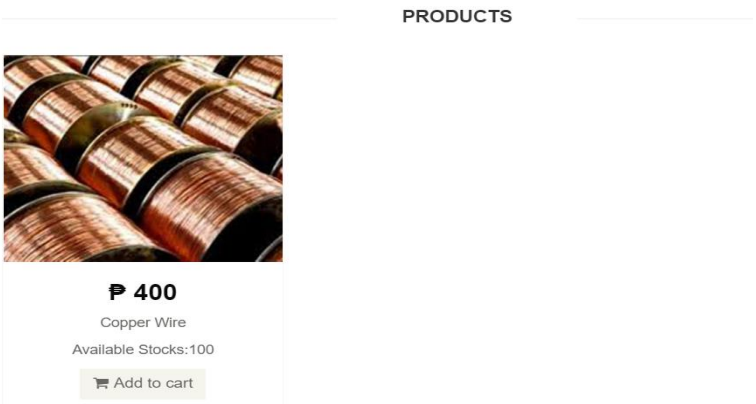



**Figure 15. Wires categories**

In this figure, the users can see the item name as well as its price.

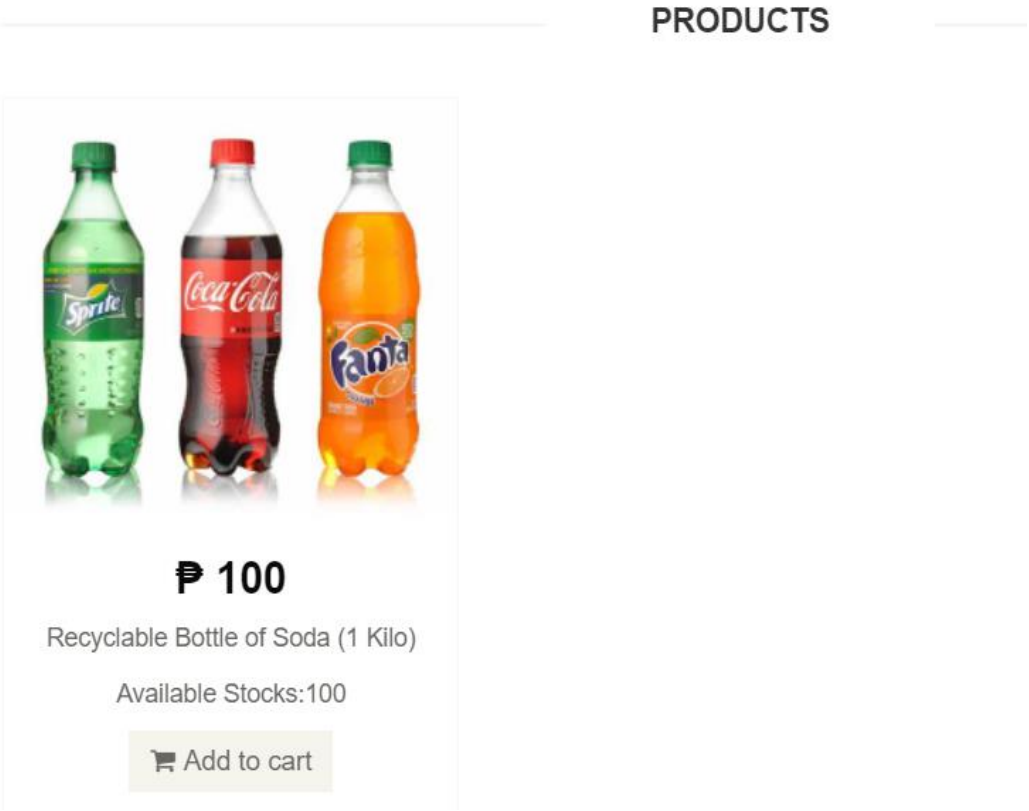



**Figure 16. Bottle categories**

Figure 16 shows the bottle categories. The name of the item is bottles and there are types like PET which is the plastic bottle, EMP bottle, gin bottle and 4x4. Prices for each item are also indicated.

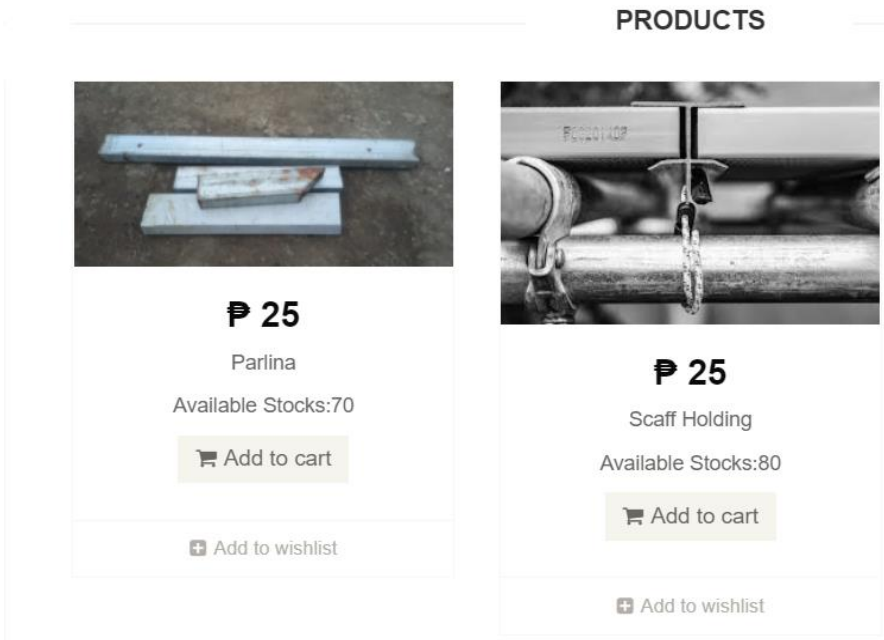



**Figure 17. Metals categories**

Figure 17 shows the steels categories like parlina, where price can also be seen.

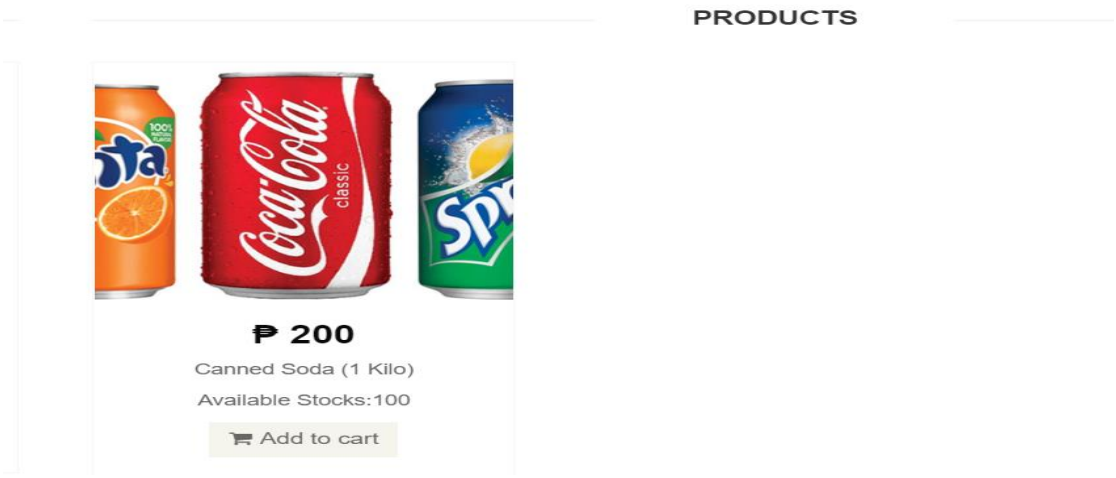



**Figure 18. Aluminum categories**

Figure 18 shows in the aluminum categories and item name like tin can, as well as the price.

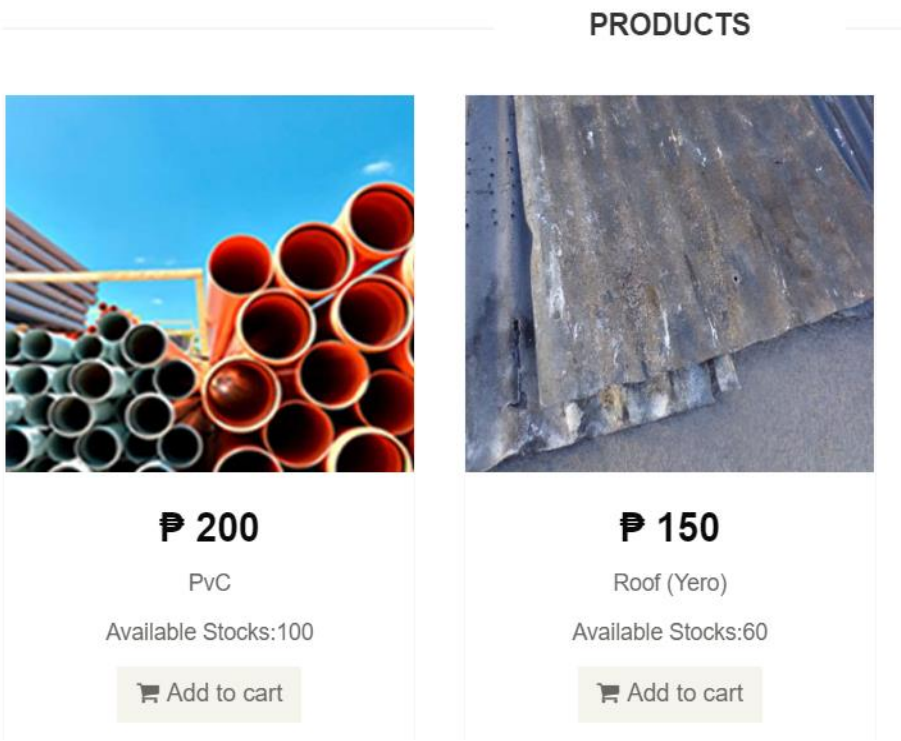



**Figure 19. Housing materials categories**

Figure 19 shows the housing materials categories and item names like “yero” and PVC, as well the price of each item.

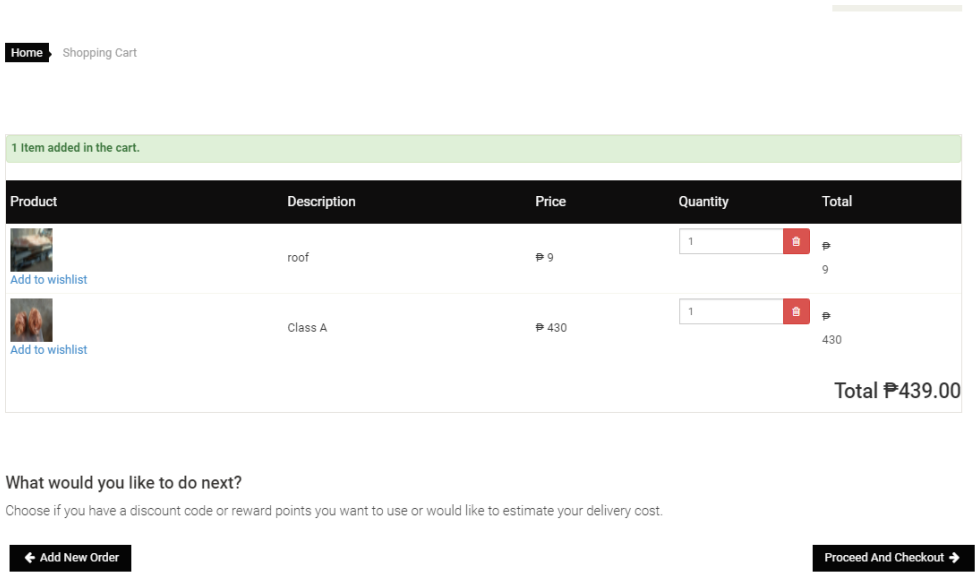



**Figure 20. Items cart**

Figure 20 shows how to place order in the cart wherein it shows the item name, quantity and the total price of order.

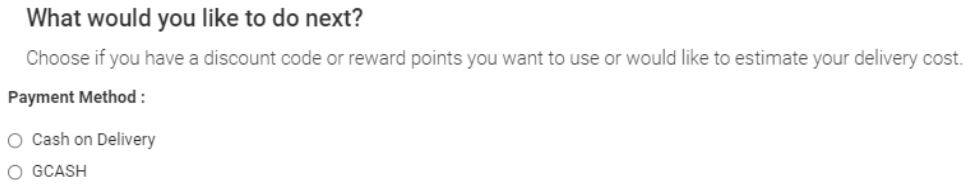



**Figure 21. Payment method**

Figure 21 shows the payment method, where the users may choose from Cash on Delivery (COD) or GCash.

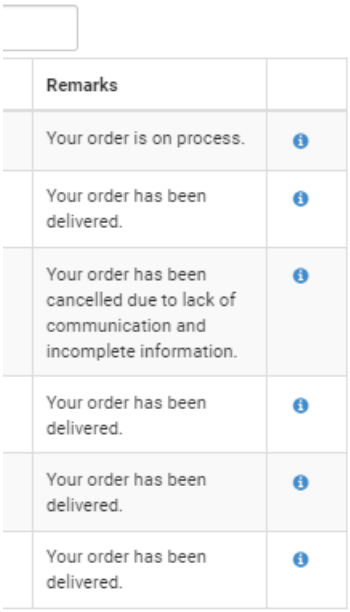



**Figure 22. System notification**

Figure 22 shows the notification message of the system. Users can send a message about their orders. Product availability, restock items, out of stock of item, and the delivery status can also be seen.

**Admin**

**Login Page**

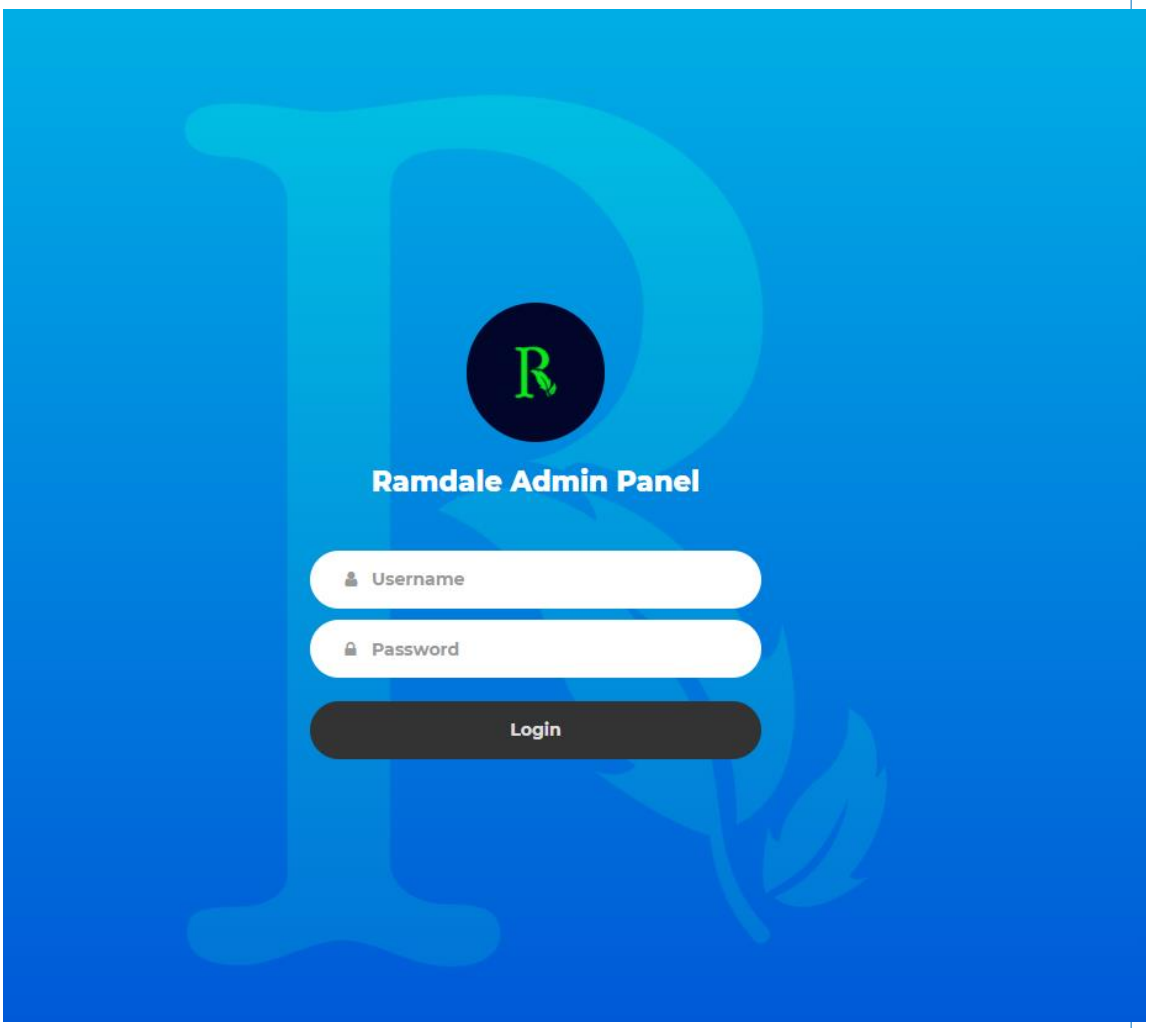



**Figure 23. Admin log-in page**

Figure 23 shows the log-in page of the admin. This page is used in managing the system.

### Admin Dashboard

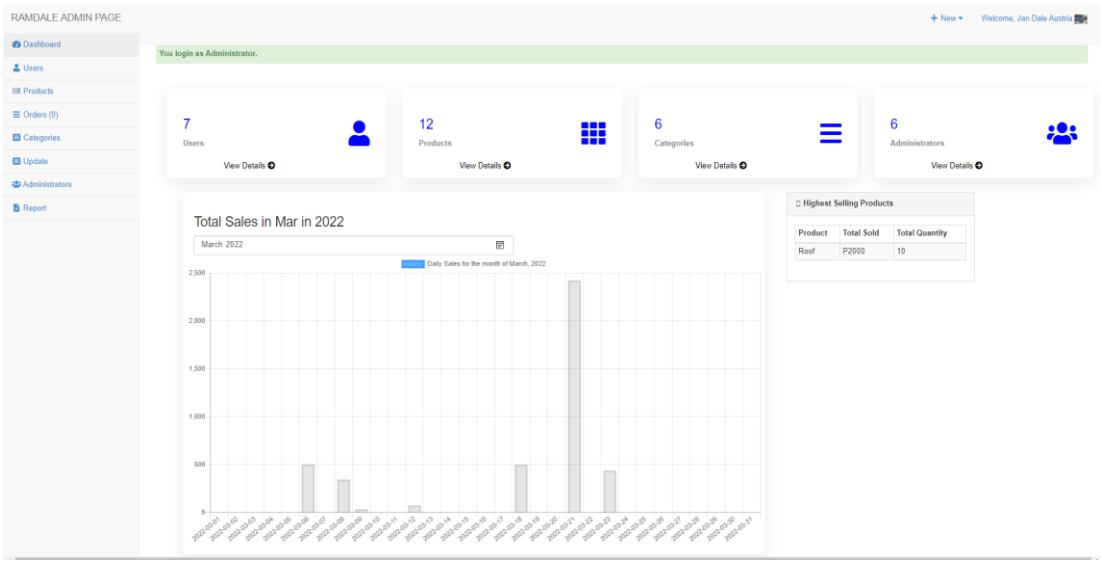



**Figure 24. Admin dashboard**

In this figure, it shows the admin dashboard of the system, and the admin will manage the sales, products, categories, customers, suppliers, and sales report of the system, and this page is considered as inventory system.

### Products

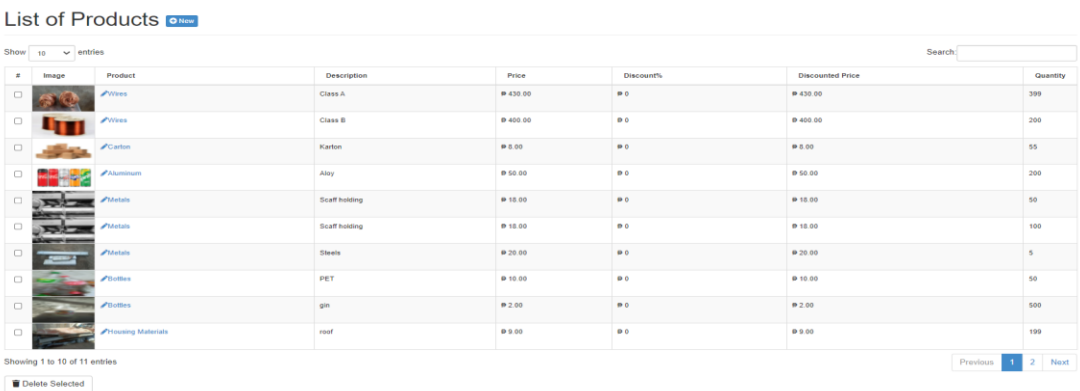



**Figure 25. Manage products**

Figure 25 shows the inventory of products: the item code, item name, category, supplier of the products, availability of products, selling price, quantity, and the total. The admin can add products if there are new deliveries.

### Categories

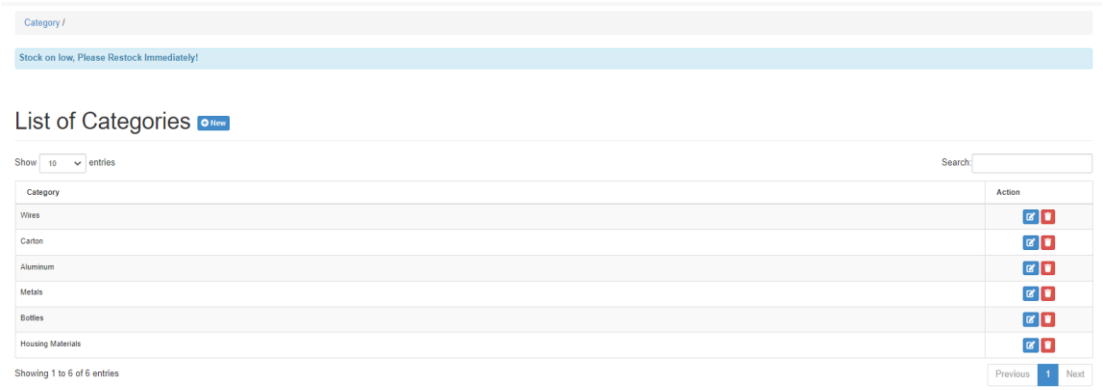



**Figure 27. Item categories**

Figure 26 shows the product categories. It shows the products like house materials, wires, bottle, steel, plastic bottle. The admin can add products in the categories if there are new deliveries.

### Customers

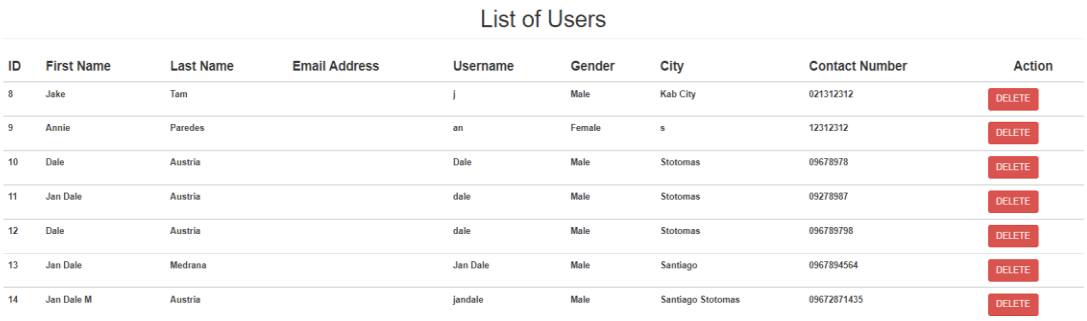



**Figure 27. Manage users**

Figure 27 shows the customers or users who used the system to order products. The admin can see the full name, address, contact number, product name ordered, price and date of order of the users.

### Suppliers

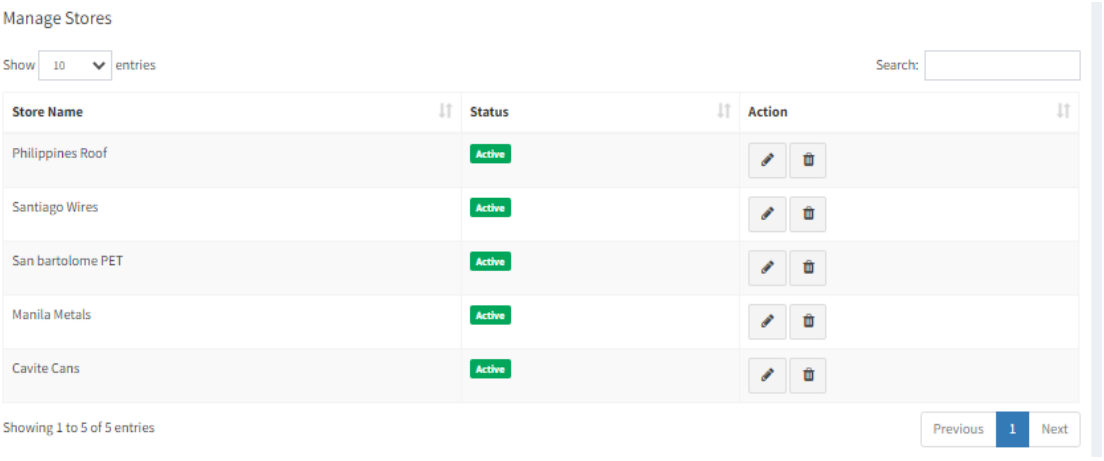



**Figure 28. Manage suppliers**

Figure 28 shows the store and supplier of products. The admin can see the name of the store, new deliveries and availability of products.

### User's Admin

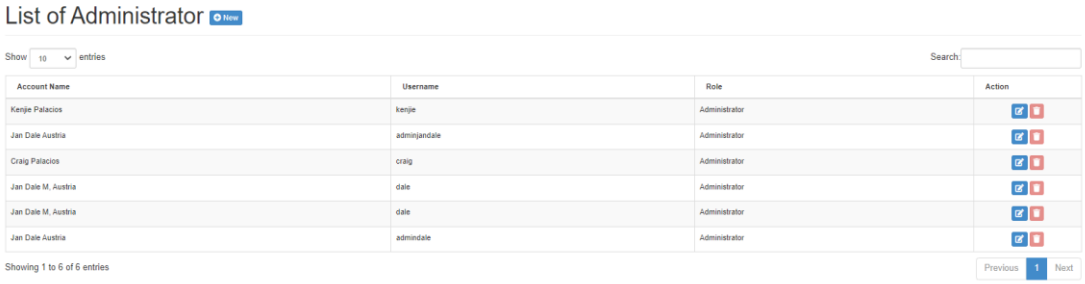



**Figure 29. User's admin**

Figure 29 shows the user's admin who manage the inventory system.

### Database

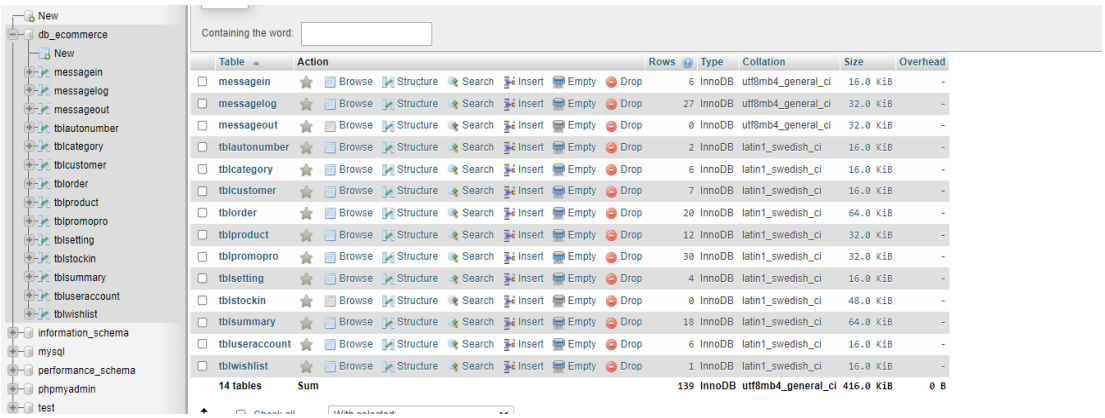
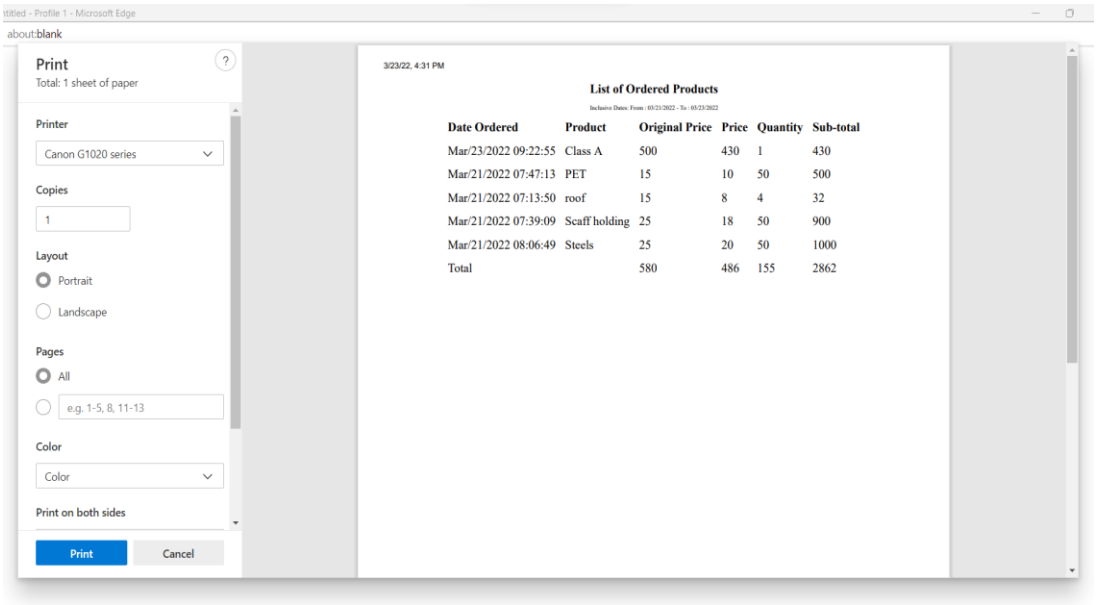



**Figure 30. Database**

Figure 30 shows the sample database of the system.

### Sales and receipt




| Date Ordered | Product | Original Price | Price | Quantity | Sub-total |
|---|---|---|---|---|---|
| Mar/23/2022 09:22:55 | Class A | 500 | 430 | 1 | 430 |
| Mar/21/2022 07:47:13 | PET | 15 | 10 | 50 | 500 |
| Mar/21/2022 07:13:50 | roof | 15 | 8 | 4 | 32 |
| Mar/21/2022 07:39:09 | Scaff holding | 25 | 18 | 50 | 900 |
| Mar/21/2022 08:06:49 | Steels | 25 | 20 | 50 | 1000 |
| Total | | 580 | 486 | 155 | 2862 |

**Figure 31. Sales and receipt**

Figure 31 shows the sales of the products wherein users can add products category and quantity. It shows the price of the products based on quantity and amount of the price. It also shows the profit of the product sales, and it can print the receipt.

**Maintenance**

**Profile change**

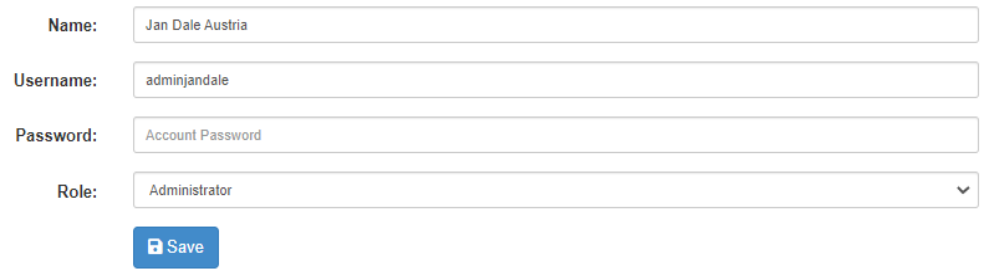



**Figure 32. Maintenance**

Figure 32 shows where to change profile. Changes in information and orders can be done here.

**Change Password**

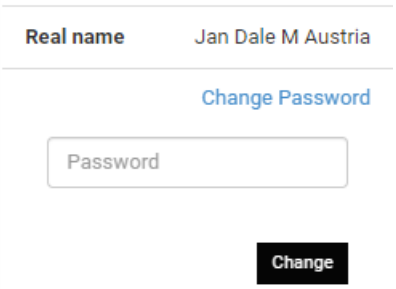



**Figure 33. Account change password**

Figure 33 shows the change password of the accounts where the user can change password by typing current password to change to new password.

### Change Image

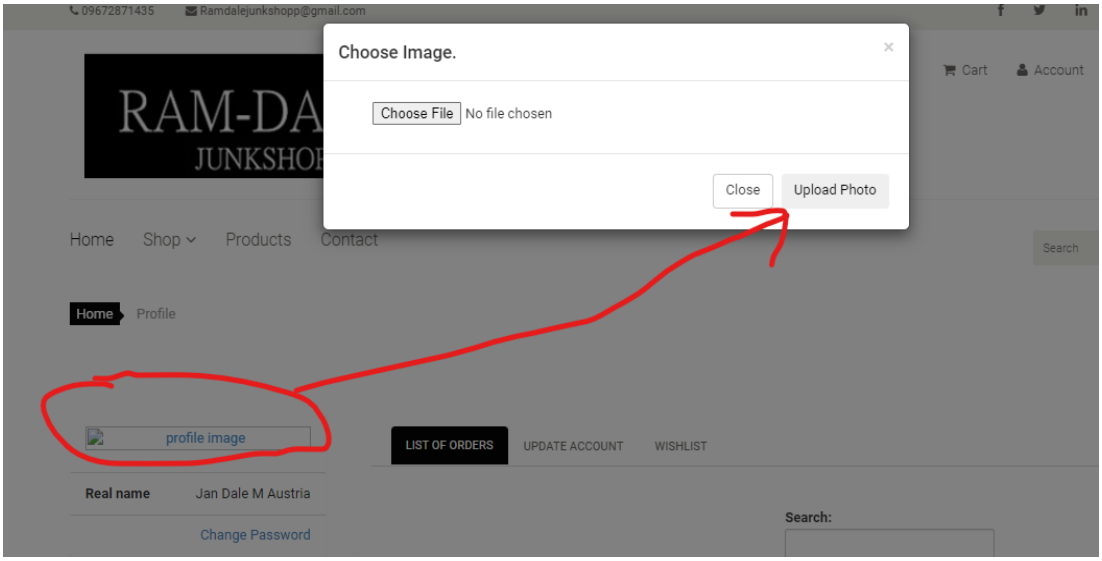



**Figure 34. Account change profile**

Figure 34 shows where the image can be changed. The user can change his or her profile picture in your account by clicking the change icon.

### Activity Logs

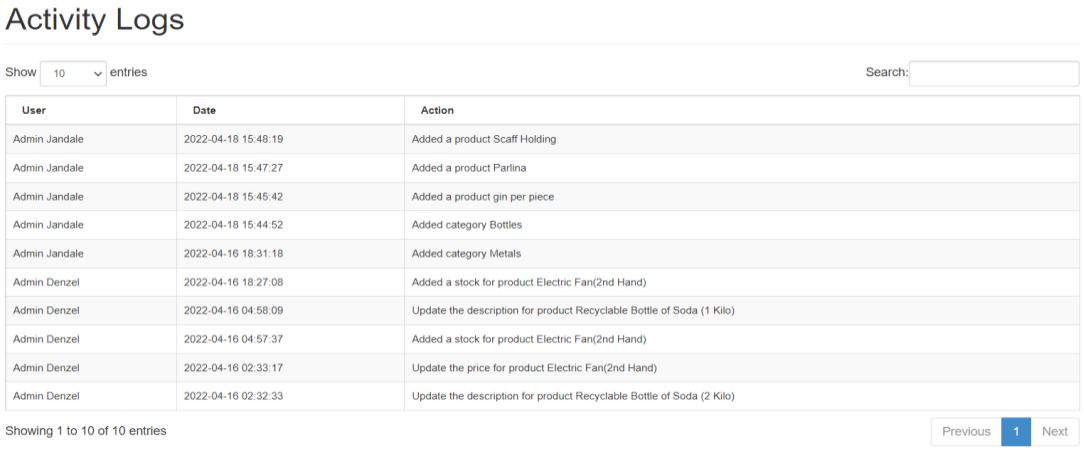



**Figure 35. Activity logs**

Figure 35 shows the activity logs of the system. It shows in the user who edited or updated the product or categories; and it also shows the date and time of updates, as well as the action of the system.

## System Reports Design

### Customers

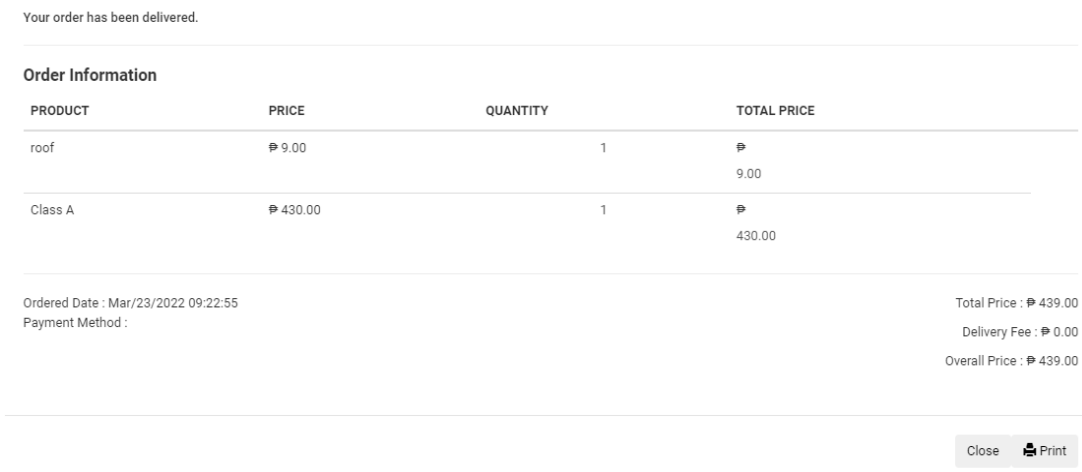



**Figure 36. Customer's report design**

Figure 36 shows the customer's report wherein the admin can send the notification and receipt when the products are bought.

**Admin**

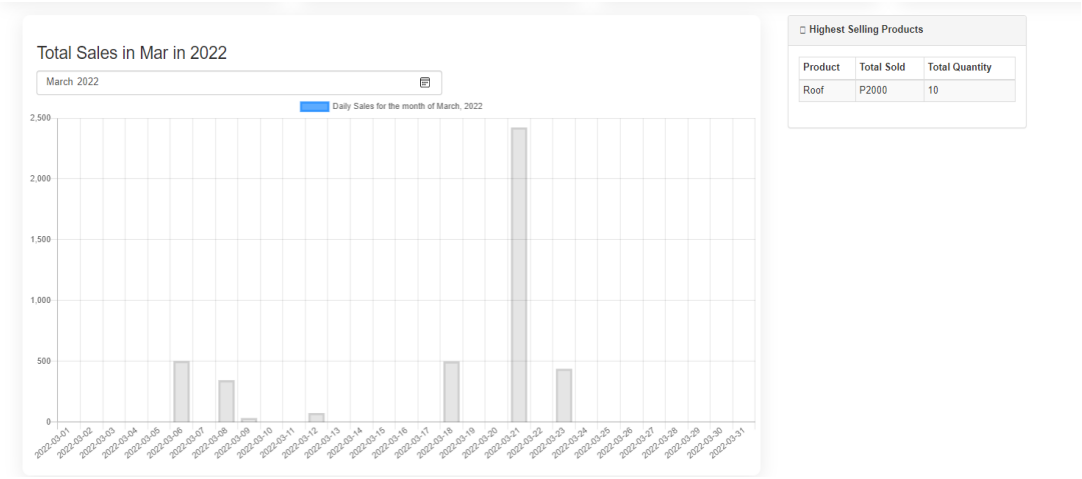



**Figure 37. System's report and design**

Figure 37 represents the list of report of sales in which the admin can monthly sales. It also presents the overall cost per sale of the item as well as data needed.

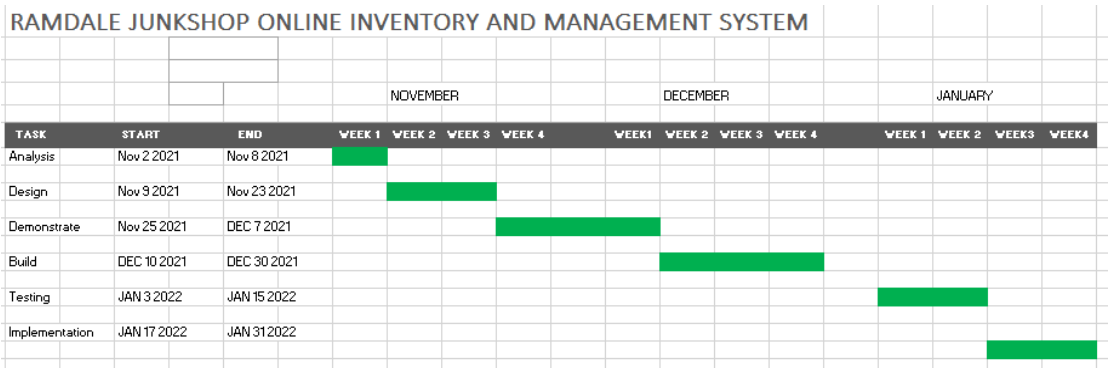
**System Environment during Developing, Testing, Validation and Live Production**

For the testing of the Ram-Dale Junkshop Online Inventory and Management System, the first step is for the user to register his or her account to log in in the system. In the log in page, the system needs to verify the user, and if the user is recognized by the system, the user can access the system. He or she can see and navigate the system. Once the user has entered, he or she can go to the inventory system to select the product he or she wants. Once the user selected the products,

he or she can buy the products, choose the payment method either online payment or COD. After the payment, the admin will send a notification to the user. Upon receipt of the notification, the delivery workers will deliver the products to the users.

## Implementation Plan

### Table 4. Implementation plan




The table above shows the implementation plan using the Rapid Application Development. Tasks include the analysis, design, demonstration, building and testing of the system. The table also shows the date that the proponents need to finish each task.

# Chapter 4

# CONCLUSION AND RECOMMENDATIONS

## Conclusion

The proposed Online Inventory and Management System is functional because the proponents designed its User Interface. The proponents developed the system using programming language of PHP. Rapid Application Development, on the other hand, was used to process the system. In the main function of the inventory system, the proponents added a function in the system that can update the records of stocks and price of the items. After the development of the system, the proponents put the system in the web for the testing of the users.

A lot of businesses encounter problems when it comes to transactions, tracking data and daily sales especially junkshop owners. The manual system kept going for years and to ease the problem, the proponents came up with the Online Inventory and Management System for automated transaction, sales, inventory, etc. The system has an organized list. The sales reports are up to date and the interface is user-friendly. In this system, the user can pay thru online payments like GCash, and COD.

To know if the system is working well, the proponents conducted a survey to test the functionality of the system. Results show that the users *strongly agreed* with the system's stability, efficiency, compatibility, reliability, security, maintainability, and portability.

**Recommendations**

For the improvement of the system, the proponents recommend the following:

1. Future developers may add notifications on the user's side.
2. A chat box may be added on the user's side for fast communication.
3. Email verification to the users before accessing the system may also be added.
4. More functions to the graphical sales in dashboard may also be added.
5. Future developers may also enhance both the customer and admin page.

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# APPENDICES

## Appendix A

## JOURNAL ARTICLE

# RAM-DALE ONLINE INVENTORY AND MANAGEMENT SYSTEM

*Jan Dale Austria, Denzel Joseph Tolosa, Dave Pagkaliwagan*
*jandaleaustria30@gmail.com +639672871435*
*Mirafe Prospero*

### Introduction

In today's world, many different tools or technologies make people live for their needs. Technologies can help people in their daily work, and mostly used in jobs and studies. Technologies are real which simplify tasks.

According to Anlacan (2013) in Balaria (2021), junkshop and scrap trade may be a purchase and offer commerce but cannot be taken from other people since the items that are exchanged or offered are recyclable and not clean. It may be a moneymaking commerce as well since it can create a part of cash from buying, exchanging, or offering items or merchandise at a cheaper cost. It can be a pertinent trade since it makes a difference in environment squander mindfulness among Filipino individuals that can advance legitimate squander transfer and reusing of merchandise to ensure the environment and can create it to cash by arranging them to a junkshop.

Junkshop could be a foundation that is comparative to neighborhood store which offers items or products at reasonable cost. Thrift shops and collectible shops can be recognized as portion of junkshop where they offer recyclable and squander items. Those who purchase from junkshop are recognized as junkers, pickers and bargain hunters. The proponents aimed to develop a system for the junkshop which is focused on inventory and management system. This is because many people sell their old junks that are still in good condition. The admin of the system will put the old products in the inventory system and can be resold.

### Objectives of the study

The general objective of this study is to develop an Online Inventory and Management System. Specifically, it aimed to achieve the following:

1. to design an Online Inventory and Management System for Ram-Dale Junkshop

2. to develop an inventory and management system that can update the records of stocks and price of the items
3. to test the acceptability of the system

**Scope and Limitations**

The scope of the study is to develop a system to help the users and junkshops buy and sell scrap through online ordering system. The system provides inventory so the users can order and pay while the admin can see the quantity of the purchased products and do online sales transactions using Internet.

The system has its limitation. It only accepts cash payment through GCash and COD. The proponents did not add the function of online payment system such as bank and credit cards for the protection and security against scammers. The Inventory Management System can only be accessed online for updating the inventory, tracking the records of transactions and payment.

**Review of Related Literature and Studies**

**Inventory Control and Management System**

Implementation of Inventory Control and Management can be beneficial to enterprise like junkshop, with the help of technology. It will make controlling and managing the inventory easier. According to Schreibfeder and Snawder (2017), inventory control is used for maintaining the items in the inventory to minimize the cost. The inventory management, on the other hand, is the restock of items to inventory with the right amount of item that can help maximize the profit and meet customer satisfaction.

**Inventory Classification**

Inventory and Management System can be classified into different parts in managing the products that are stored in the inventory. According to Dinesh (2017), managing and controlling the inventory can be easier when they are categorized into different parts. Having to categorize the inventory can identify what items are popular to customer and help minimize the cost that needs to be spend in refilling the item inventory.

**Control of Inventory**

Having the control to inventory is crucial to business nowadays since it can help determine what is needed to be restocked and to protect the inventory in running out of stock. It can also lead to better customer service. According to Indira (2018), inventory control is managing all the inventory records and storage of items. A lot of enterprise invests in Inventory and Management

System since it is very helpful in managing all the records and stocks of products. It also helps in determining the limit of storage that can store in the inventory.

**Synthesis**

Junkshop is a good business since one can recycle any products and reuse them to any things. One can also make money by selling old and reusable products to any junkshop (Anlacan, 2013). Having a junk shop business has a big potential given that it helps lessen environmental waste and can also encourage people not to waste reusable products. It can be a big potential business wherein one can generate money. It only needs proper inventory and management system. With the application of technology, a system can make the work more manageable and can boost productivity of the business. Reimer (n.d.) stated that having an advanced Inventory and Management System can bring a lot of benefits to the organization considering that it makes managing of work easier and increase productivity in the business. Babatunde and Arogundade (n.d.) determined the inventory production cost that can help maximize the profit that can be earned.

**IPO Chart**

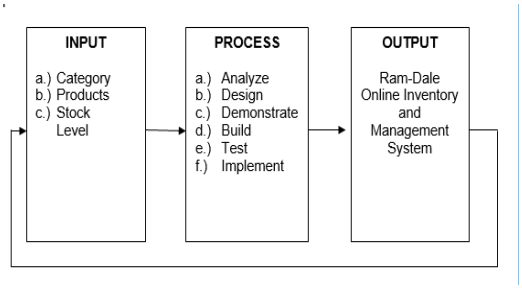


**Figure 1. IPO chart of Ram-Dale Junkshop Online Inventory and Management System**

Figure 1 shows the Input-Process-Output of the project system. The proponents need input and process to develop the system. In the input, the proponents need to input the category, products and the stock level, while in the process, the proponents need to use rapid application development by analysis, design, demonstration, building, testing and implementation of the system to make the output which is Online Inventory and Management System.

**Research Design**

The proponents used the descriptive and developmental method of research for answering the questions and defining the data and aspects of the topic that was being reviewed.

According to Rahi (2017), descriptive research collects quantity data which can be defined and analyzed using statistical method in data analysis.

Gillaco (2014) stated that descriptive works mainly in describing and analyzing the data which can be useful in conducting the study.

**Research Type**

The proponents used descriptive development method as research strategy in conducting this study. The combination of qualitative and quantitative approach used in describing the data given that each part of component is very useful in developing this study. According to Gall and Borg (2007), in conducting this research, the data may have been gathered qualitatively, but it used quantitative approach by using frequencies, percentage, average and any statistical related tool in analyzing and summarizing the data of the study.

**Project Development Methodology**

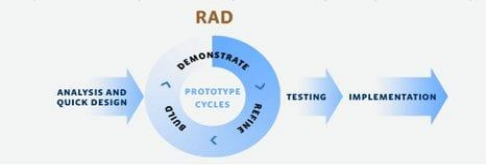


**Figure 2. Rapid Application Development**

The figure above shows the SDLC Method that was used in creating Ram-Dale's Junkshop Online Inventory and Management System. The proponents used the Rapid Application Development for SDLC method in creating the system. During the Analysis and Quick Design, the proponents discussed how the system will be formed and created using UI design for the system. The system was developed using programming software and demonstrated the whole function of the system. The system was tested by some users. After successfully testing the system, the system was deployed and implemented.

**Proposed Process**

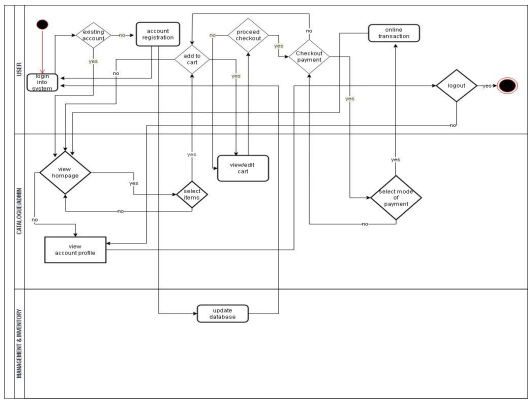

**Figure 3. Proposed process**

The figure above shows the flow of the system in which the user will login into system using his or her existing account. If the user does not have an existing account, he or she may create an account and login into the system. The information given by the user will be listed on the database so the he or she can login into the system. After logging into the system, the user may choose if he or she wants to view the homepage or view his or her account profile. If the

user views the account profile, he or she will see his or her account status or logout. If the user chooses to proceed on viewing the homepage, he or she may select an item. If the user chooses not to proceed on selecting an item, he or she will stay on homepage. If the user chooses to proceed on selecting the item that he or she wants, he or she will add the item to the cart in which he or she may view and edit the items. If the user wants to pay the item/s, it will proceed to checkout. If the user chooses to cancel the purchase, the system will go back to viewing and editing the list or the cart. If the user continues to pay the item, it will checkout the payment and proceed to choosing the mode of payment. However, if the user cancels it, he or she will be redirected to adding an item. In mode of payment, if the user cancels the purchase, it will be redirected to checkout payment. If the user continues, the transaction will be processed and will be redirected to the homepage.

**System Environment during Developing, Testing, Validation and Live Production**

For the testing of the Ram-Dale Junkshop Online Inventory and Management System, the first step is for the user to register his or her account to log in in the system. In the log in page, the system needs to verify the user, and if the user is recognized by the system, the user can access the system. He or she can see and navigate the system. Once the user has entered, he or she can go to the inventory system to select the product he or she wants. Once the user selected the products, he or she can buy the products, choose the payment method either online payment or COD. After the payment, the admin will send a notification to the user. Upon receipt of the notification, the delivery workers will deliver the products to the users.

**Conclusion**

The proposed Online Inventory and Management System is functional because the proponents designed its User Interface. The proponents developed the system using programming language of PHP. Rapid Application Development, on the other hand, was used to process the system. In the main function of the inventory system, the proponents added a function in the system that can update the records of stocks and price of the items. After the development of the system, the proponents put the system in the web for the testing of the users.

A lot of businesses encounter problems when it comes to transactions, tracking data and daily sales especially junkshop owners. The manual system kept going for years and to ease the problem, the proponents came up with the Online Inventory and Management System for automated transaction, sales, inventory, etc. The system has an organized list. The sales reports are up to date and the interface is user-friendly. In this system, the user can pay thru online payments like GCash, and COD.

To know if the system is working well, the proponents conducted a survey to test the functionality of the system. Results show that the users *strongly agreed* with the system's stability, efficiency, compatibility, reliability, security, maintainability, and portability.

**Recommendations**

For the improvement of the system, the proponents recommend the following:

1. Future developers may add notifications on the user's side.
2. A chat box may be added on the user's side for fast communication.
3. Email verification to the users before accessing the system may also be added.
4. More functions to the graphical sales in dashboard may also be added.
5. Future developers may also enhance both the customer and admin page.

## Appendix B

## BIOGRAPHY

**Denzel Joseph Tolosa** is a Bachelor of Science in Information Technology student in Lyceum of the Philippines University-Laguna. His goal is to seek for an opportunity to start and build a career in web development where he could utilize and enhance his skills and learnings that can be useful in his career and achieving his goals. He is willing to learn continuously to become a great asset and bring contribution to the company. He wants to work to a company where he can apply his knowledge and experience from his education where he can provide a quality of work and career growth.

He has a strong communication skill where he can positively interact and work with his colleagues. Also, he is a team-oriented since he likes to collaborate and work with teams especially when working as a web developer, he can generate new ideas that can be helpful and useful in achieving a project. Throughout his college, he was a back-end developer in their group during his capstone in developing Ram-Dale Online Inventory and Management System. During his internship, he was assigned in Java team and worked with a project, Mobile Recharge Online Payment System, where it can input a specific detail and reload to any mobile couriers and pay online.

Prior to all knowledge and learnings that he gained, he loves spending time on studying, designing User Interface and coding on web development, He also attended a webinar on Introduction to Web Development last February 2021. He also

took online courses that are related to web development in Coursera and Udemy during his college days.

His eagerness to learn can become a great asset as he works in a company. He also wants to develop a website or application that people can use in the future since it can help them with their businesses. He wants to gain the position of full-stack developer.

**Jan Dale Austria** is a Bachelor of Science in Information Technology student in Lyceum of the Philippines University-Laguna. He is a motivated and goal-oriented person, his objectives are to boost his knowledge, and to enhance his skills. He wants to grow in a company to become a full-stack developer someday.

During his internship, he worked at Hitachi Payment Solution in Makati, in Java Department. As web developer in his internship, he was able to develop skills in programming using Java, JSON, Servlet, and JSP, and he experienced how to use shell scripting and API testing. These experiences made him more knowledgeable about his field. In his previous job, he took the lead, especially when it comes to developing and designing websites. He has collaboration skills and can motivate his teammates for the achievement of a goal.

He earned certificates in Coursera, particularly in CISCO, Microsoft and Adobe, and other IT-related programs that helped him boost his skills.

**Dave D. Pagkaliwagan** is a student in Lyceum of the Philippines University-Laguna pursuing Bachelor of Science in Information Technology. His goal is to build up his career in web development where he could enhance his skills and learn new things, opening new doors to achieve his goals. He is willing to learn continuously to be great and give contribution to the company. He dreamed of working to a company wherein he can apply all his knowledge and experience from his learnings where he can make a good quality of work and growth to the company.

His strong will to learn can be a great asset in working on a company. He wants to continue developing websites or application in the future for the people who need help to adapt to the modern world. He has good communication skills, collaboration skills and driven to pursue his goals. During his college years, he was a front-end developer in their capstone project, Ram-Dale Online Inventory and Management System. While during his internship, he was assigned as software engineer C++ Team in Hitachi Company.

His courage to explore things as an individual is an extraordinary skill that can help the company to grow.