

Running head: E-STOP AND SHOP WEBSITE

DEVELOPMENT OF E-STOP AND SHOP WEBSITE

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E-STOP AND SHOP WEBSITE



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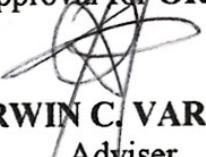


APPROVAL SHEET

This thesis hereto entitled:

DEVELOPMENT OF E-STOP AND SHOP WEBSITE

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E-STOP AND SHOP WEBSITE

ABSTRACT

The study developed E-Stop and Shop Website. This website specifically aimed to design a system with the following features: (a) Record and store sales transactions and automatically generate report (b) Stock Notification of product below critical level in the inventory and automatically update product inventory upon client orders. (c) Send email notification to activate account (d) Print Sales report. The system was developed using sublime text edit, XAMPP for the database. The evaluation criteria were based on ISO 25010 and tested in terms of functional suitability, compatibility and reliability. The acceptability of the system and application was rated "Very Acceptable" with the frequency rating of 74.73%.

TABLE OF CONTENTS

	Page
Title Page	1
Approval Sheet	2
Acknowledgment	3
Abstract	4
Table of Contents	5
List of Figures	7
List of Tables	9
List of Appendices	10

Chapter 1 THE PROBLEM AND ITS SETTING

Introduction	11
Background of the Study	11
Objectives of the Study	12
Scope and Limitations of the Study	13

Chapter 2 CONCEPTUAL FRAMEWORK

Review of Related Literature	15
Related Studies	34
Conceptual Model of the Study	35
Operational Definition of Terms	38

Chapter 3 METHODOLOGY

Project Design	39
Project Development	45
Operation and Testing Procedure	48
Evaluation Procedure	50

E-STOP AND SHOP WEBSITE**Chapter 4 RESULTS AND DISCUSSION**

Project Description	52
Project Structure	52
Project Capabilities and Limitations	65
Project Evaluation	68

Chapter 5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Findings	71
Conclusions	71
Recommendations	72

REFERENCES	73
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RESEARCHERS' PROFILE	75
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LIST OF FIGURES

Figure		Page
1	Conceptual Model of the Study	35
2	Context Diagram	39
3	Data Flow Diagram	40
4	Use Case Diagram	41
5	Statistical Method	50
6	Home Page	52
7	Product Overview	53
8	Product Description	53
9	Customer Shopping Cart	54
10	Checkout Page	55
11	Ordered Product Details	55
12	Paypal Payment	56
13	Admin Login Page	56
14	Admin Dashboard	57
15	Category	57
16	Add New Category	58
17	Edit Category	58
18	Delete Category	59
19	Product List	59
20	View Product	60
21	Add Product	60

E-STOP AND SHOP WEBSITE

22	Edit Product	61
23	Delete Product	61
24	Users	62
25	Add New User	62
26	Edit Existing User	63
27	Delete Existing User	63
28	Sales Report	64

LIST OF TABLES

Table		Page
1	Cart Table	42
2	Category Table	42
3	Details Table	43
4	Products Table	43
5	Sales Table	44
6	Users Table	44
7	Customer Functionality Test	48
8	Admin Functionality Test	49
9	Evaluation Scale	51
10	Rating Scale	51
11	Test Result for Customer Functionality Test	66
12	Test Result for Admin Functionality Test	67
13	Evaluation Result for Functionality	68
14	Evaluation Result for Reliability	68
15	Evaluation Result for Usability	69
16	Evaluation Result for Efficiency	69
17	Evaluation Result for Maintainability	70
18	Evaluation Result for Portability	70

E-STOP AND SHOP WEBSITE**LIST OF APPENDICES**

Appendix		Page
A	Evaluation Instrument	77
B	Answered Evaluation Instrument	78
C	Summary of Respondent's Evaluation	79
D	Gantt Chart	80
E	Grammarians Certification	81

Chapter 1

THE PROBLEM AND ITS SETTING

This chapter presents the introduction, background of the study, objectives and the scope and limitations of the study.

Introduction

As the Internet becomes world-wide and very reachable, everything feels to be at ease and more accessible. With the use of computer that interacts with the web browsers, everything is really at hand.

The concept of trade has been created to satisfy needs. This concept is a merchant-purchaser. Nowadays, it is known as seller and buyer way of transaction. The merchants create their own products or buy and sell them at a higher price to the purchasers known as the costumers who avail and buy the product.

Online Shopping Websites serve as the modern platform for business nowadays as people spend time for social media, give feedbacks and suggestions through Facebook, Twitter or Instagram. Using a website for advertising is quite cheaper yet effective compare to other ways of advertising. It builds new relationships between people and engages loyalty to the business. Compare to other ways of selling products, online shopping is more trending, popular, convenient and more desired by people than required by them.

Background of the Study

A client is part the networking business and as well as the online seller. The seller sells the products by advertising them in social networking apps like Facebook. The process goes like this: the seller posts the pictures of the products online and add a

E-STOP AND SHOP WEBSITE

matching description on them. Then, the potential customer will message the seller through the given contact details, mainly through messenger. The seller can be a solo businesswoman, having a hard time in managing orders manually. The seller still needs to talk with the customers one by one through messenger to verify the specified ordered products, their quantities, way of delivery and mode of payment. To avoid errors and misleading with the products, the seller must make sure that the products were properly allocated to the costumers.

On the other hand, a costumer cannot determine whether a product was tagged with its real selling price or discounted price. Also, a costumer cannot see whether the product is still in store or already sold out. They will just be informed after they have chosen the product and determines the availability for it. Additionally, the sellers manually compute the profit of the said business and cannot perceive the total income and improvement throughout a day, a month or a year.

Due to the situation of the sellers about the manual way of transaction. The seller wants to improve the services and lessens the work in selling the products and make a new way for the costumers to purchase products in an automated way.

This study is taking the advantage of internet by doing the business online.

Objectives of the Study

The objective of this study is to create a system that will manage the business transactions of sellers and customers.

Specifically, it aims to:

1. Design a system with the following features:

a. Display photos of products with matching descriptions.

E-STOP AND SHOP WEBSITE

- b. An ordering system for the customers.
 - c. View transaction history for registered customers.
 - d. Registration for new customers.
 - e. Website management content
 - f. Allocate price and discounts for the products.
 - g. Notification for every transaction.
 - h. Mode of payment
 - i. Create an inventory of sales.
2. Create the system using PHP as the programming language, Sublime for the website's content, Code Igniter for framework and MYSQL for the database.
 3. Test and improve the functionality of the system
 4. Evaluate the acceptability of the developed system using ISO 25010.

Scope and Limitations of the Study

This study finds a solution in the manual business transaction in order to transform it in the automated way through the use of internet in buying and selling of products. This problem will be solved by creating a website that will act as a middleman to the seller and the customer. The site is the representation of the shop of the seller and will display the products being sold, prices, and availability. The seller can also designate a discount on an item and how much is the discount and for how long. The customer needs to have a working email and register it to the website before they can pick the products they want. The products that the customer wanted will be listed on a list called *The Basket* which will represent the cart, a device used by customers to store the things they want to

E-STOP AND SHOP WEBSITE

buy in groceries. After they picked the desired products, they have to enter their personal information; such as the name of the one who made the transaction, the address where the items will be delivered, the contact number of the customer, mode of payment, type of delivery, and which courier will be used to deliver the items.

PayPal is the mode of payment. The transaction has the following set of rules: First, if the customer is unregistered, he/she needs to sign up an account and confirms it through email. If the customer is already registered, he/she must login to continue a transaction. Second, the admin will choose the courier to deliver the product to the customer. Third, payments will be made before delivering the product. The product will not be delivered until it is fully paid. Once paid, the transaction will be unchangeable and not subject to cancellation. Then, the item will be delivered.

The customer will be notified that the transaction is a success. In turn, if a customer succeeded in making a transaction using the website, the seller will be notified that a transaction has been made. The site will just be for the transaction and will not be providing services other than that.

Chapter 2

CONCEPTUAL FRAMEWORK

This chapter presents the review of related literature, related studies, conceptual model of the study and operational definition of terms.

Review of Related Literature

The following are the concepts that helped the researcher understand and develop the project:

E-commerce

Based on shopify.com, Ecommerce is also known as electronic commerce or internet commerce which refers to buying and selling of products and services online or using the internet, transferring of money and data for the execution of transaction. It often refers to the actual product online and at the same time describes the kind of transaction it has through the internet.

Furthermore, en.wikipedia.org describes that ecommerce draws on technologies such as mobile commerce, electronic data interchange, inventory management systems and create an automated data collection system. It also contains conversational commerce via chat, document automation, group buying, online shopping and order tracking, retail, shopping cart software, social networking, teleconferencing, and domestic and international payment system.

E-STOP AND SHOP WEBSITE

There are types of Ecommerce model that describes most of the transaction between a customer and a business.

1. Business and Consumer (B2C)

It is when a business sells a product or services to an individual. For example, buying a dress from an online retailer.

2. Business to business (B2B)

It is when business sells a product or services to another business. For example, a company buys a set of computer and printer for their business use.

3. Consumer to consumer (C2C)

It is when a consumer sells another product to his/ her co-consumer. For example, selling old clothes to a buy and sell online retailer such as EBay and someone buys it.

4. Consumer to Business (C2B)

It is when a consumer offers to sell his/her product or services to a business. For example, an actor became a model of the product in exchange of fee, online audience or license of photography use for business.

5. Business to Administration (B2A)

It is a transaction dealing with the business and the public administration. For example, legal documents, social security, fiscals and employments.

6. Consumer to Administration

It is an electronic transaction dealing with the consumer and the public administration. For example, online tax filing and information sharing.

Ecommerce has involved in variety of product transactions between the customer and the business. Below are the examples of variety of an ecommerce:

E-STOP AND SHOP WEBSITE

1. Retail

The selling of product by the business to consumer without mediator.

2. Wholesale

The selling of product in a large amount of volume.

3. Drop shipping

The selling of product which is manufactured and delivered by a mediator.

4. Crowdfunding

The collection of money in advance before the product is available in order to move up the capital and release the product to the market.

5. Subscription

An automated occurring of purchases on regular basis until the consumer decided to cancel it.

6. Physical Product

A selling of tangible products and requires inventory to provide its order to be physically shipped.

7. Digital Products

It is a product that is digital or downloadable. It might be templates, online courses, license, or software.

8. Services

A set of skills provided in exchange for compensation.

Likewise, to networksolution.com, it says that an ecommerce is a term for any type of business or commercial transactions. It is considered as the current most important Internet aspect to merge. It expands rapidly over the years and continues to accelerate.

E-STOP AND SHOP WEBSITE

Carrying the thousands of business transaction electronically provides competitiveness and large advantage over the traditional method. Compared to traditional method of bartending goods and services, ecommerce is faster, cheaper and more convenient.

Here are the advantages and disadvantages of an ecommerce based on Jose Fernandes:

Advantages of an E-commerce

1. Ability to reach global market without large financial investment.
2. Allows consumer to make global choice regards of their location.
3. Ecommerce shortens the distribution chain.
4. Allows the supplier to be closer to their consumers resulting to increased productivity and competitiveness.
5. Cost reduction

Online shopping

Defined by wikipedia.org, online shopping is a form of electronic commerce that allows the consumer to buy the product and services in the internet through the web browser. The consumer finds the product of their interest by stopping over the browser of the retailer website or by searching the alternative vendors available using the search engine. It awakens the physical idea of buying products and services from the traditional ‘bricks-and-mortar’, retailer and shopping store center.

E-STOP AND SHOP WEBSITE

Advantages of Online Shopping

1. Convenience

Aside from being opened 24 hours a day, it does not require a person to visit a conventional retail store to buy the product which requires travel, energy and fare.

2. Information and Reviews

Online shopping sells the product with a description, text and photos. They provide background information, advice and guide on how to use the product. It also allows the customer to review and to rate the product and give his/her opinion about it. Online shopping store has a real-time chat feature which answers the consumers' queries and questions.

3. Price Selection

Online shopping allows the consumers to have a quick look from the different sellers with different product and services for price comparison.

Website

Based from wikipedia.org, it describes website a collection of related web pages typically identified by a domain name and being published by at least 1 web server. It is accessible through public Internet protocol (IP) network such as Internet or through private LAN (Local Area Network) interfering the URL (Uniform Resource Locator) that identifies the site.

These are the common types of website:

- 1. Ecommerce Website**
- 2. Personal Website**

E-STOP AND SHOP WEBSITE

3. Political Sites
4. News Website
5. Corporate Website
6. SME (small-medium enterprise) Website
7. Consultation Website
8. Online Payment Website
9. Writer/ Author Website
10. Community Building Website
11. Photo-sharing Website
12. Blogging Website
13. Entertainment Website
14. Non-profit Website
15. Dating Website

Website is typically used for social networking and entertainment purposes that provides education and news.

Database

According to Mark Gilleson (2012) , it is a concept of assembling data into a highly organized collection.

There is a difference between database and DBMS. A database is an organized collection of data whereas database management system stores and maintain database. A database includes data tables, indexes, constraints rules, dependencies, triggers and stored procedure that makes database behave in a particular way while DBMS is the

vendor software that provides data storage and retrieval, a query engine, administrative tool, and other utilities to manage databases.

PHP

According to Tomas (2009), is a script language and interpreter. PHP comes from the Personal Homepage Tool. It is primarily used on Linux Web Server. Also an alternative for Microsoft Active Server Page (ASP) technology.

Larry Ullman describe PHP in *PHP for the World Wide Web* as currently the most popular tool available for developing dynamic Websites as it is uses 15 million domains.

It is easier to learn and use, free and cross-platform because PHP users drive it's development, it allows for no flexibility or responsiveness. Addition to that, PHP is really written specifically for dynamic web pages with a certain task.

It works easily and faster than other alternatives. With PHP, someone can create exciting pages based on whatever factors he/she considers.

PHP can also interact with databases and files, handle, and do many other things.

Variables

The variables are described as container of data. Once a data has been stored in a variable, the data/variable can already be altered and printed to the web browsers, saved to a database and emailed. Variables in PHP are by nature flexible. Variables containing data can retrieve, put new data and continues the cycle without making any effect to the value of the variable.

Types of Variables

1. Numbers

PHP classifies the number into two types: (1) integers (2) floating point or doubles.

Integers are like whole numbers. They can be positive or negative. Decimals and fractions are classified as floating point.

2. Strings

A variable is a string if it is contained by characters. It might be a combination of letters, numbers, spaces and symbols including variable names enclosed within a single or double quotation.

3. Arrays

Arrays use keys in able to create and retrieve the values they store. The array structure in PHP is flexible, they can use either string or numbers to the keys and values. Arrays can be typed into indexed arrays and associative arrays.

4. Objects

Object is a special type of variable in PHP. Structure can be defined while creating its instances.

PHP Mailer

Based on github.com, PHP Mailer is a class library for PHP that provides a collection of functions to build and send email messages. It supports several ways for sending emails such as send mail, qmail or direct SMTP servers (Simple Mail Transfer Protocol). PHP Mailer is an efficient way of sending emails within PHP.

According to [sitepoint.com](https://www.sitepoint.com), PHP Mailer is one of the popular open sources of PHP libraries to send emails with. It was released on 2001 and became a developer's favorite

E-STOP AND SHOP WEBSITE

way of sending emails programmatically. It provides an object-oriented interface whereas *mail()* is not an object oriented. It can use a non-local mail server for authentication.

PHP Mailer is also used by WordPress, Drupal, Joomla and others.

Here are the advantages in using PHP Mailer:

- It can print various kinds of error messages when it fails to send an email.
- Integrated support from SMPT protocol and authenticated over SSL (Secure Sockets Layer) and TLS (Transport Layer Security).
- Able to send alternative plaintext version of email for non-HTML email clients.
- It is secure and up to date.

CodeIgniter

Based on codeigniter.com, it is a powerful framework of PHP with a small footprint, simple solutions encourage the MVC (Model View Controller), clear documentation which contains introduction, tutorials and reference documentation for the components to make up the framework. It also has nearly zero configuration for instance putting models in the “model” folder and number of configuration options available through scripts in “config” folder. Aside from it, CodeIgniter takes security with a built-in protection against CSRF (Czech and Slovak Federative Republic) and XSS (Cross-Site Scripting) attacks. It is purposely built for developers who want a simple yet elegant toolkit to create full-featured website application. The latest version released was the CodeIgniter version 3.1.10.

Additional from github.com, CodeIgniter’s goal is to enable to develop projects much faster just like writing codes from scratch by providing a set of libraries for

E-STOP AND SHOP WEBSITE

common task, simple interface, and logical structure. To let developers, focus on the project by minimizing the amount of code needed for a given task.

HTML

Based on Wikipedia.org, HTML or Hypertext Markup Language is the standard mark-up language in creating web pages. It is not a programming language but a language that identifies meaning, purposes and structure of the text within the documents.

World Wide Web Consortium recommend HTML because it easily adheres to the browsers Internet Explorer and Google Chrome. The latest version is HTML 5.2 in which it has new semantic elements, new attributes of form elements, new graphic elements and new multimedia elements.

Moreover, based on the developer of Mozilla, “hypertext” refers to the link that connects web pages with one another. “Markup” is used to annotate text, images and other content display in the Web browser. This include the elements such as <head>, <title>, <header>, <body>, <footer>, <article>, <p>, <section>, <div>, , , <audio>, <video>, <embed>, <output>, <nav>, <datalist>, <canvas>, <progress> and many more.

HTML elements set off other text by “tags” which consist of the elements that are surrounded by “<” and “>”. Tags are case insensitive, it can be written in uppercase, lowercase or a mixture.

E-STOP AND SHOP WEBSITE

Cascading Style Sheet

Larry Ullman (2004) stated that CSS has increasingly started to be important part of the World Wide Web. It is focused in font sizes, colors, used in lieu of tables for controlling layout pages. There is no connection between PHP, HTML and CSS just in fact that PHP uses to generate CSS, the same with HTML.

In addition, based on the developer of Mozilla, CSS specifies how documents are presented to the users. Presenting documents means converting it into a usable form for the audience. It is whether presented in screen or paper.

XAMPP

According to Wikipedia.org, it is a free and open source cross-platform web server solution stack package. It is developed by Apache Friends and used mostly in web server deployment, it makes transition from local test server to live server.

Moreover, according to apachefriends.org, XAMPP is the most popular PHP development environment. It is easy to install Apache distribution containing the MariaDB, PHP and Perl. There are packages for Windows, Linux and Mac.

Flowchart

Based on Margaret Rouse in whatis.techtarget.com, flowchart is a formalized graphic representation of a logical sequence, manufacturing process, organization chart or structure.

E-STOP AND SHOP WEBSITE

It uses geometric symbols and arrows to define the relationship. The beginning and end are represented by an oval. Rectangle shows the process. Diamond shows the decision. Parallelogram shows the input and output. Cloud represents the internet.

Moreover, based from smartdraw.com, there are wide variety of flowchart types; such as swim lane flowcharts, data flow diagram, influence diagram, workflow diagram, process flow diagram, yes/no flowcharts, and decision flowcharts. Flowcharts originally used by industrial engineers to structure works such as assembly line manufacture. But as of today, flowchart is also used in other disciplines. It can be used in project planning, program or system design through flowchart programming, process documentation, audit process for malfunctions, map computer algorithms and documenting workflow.

ERD

According to Lowell Thing (2002), ERD stands for Entity relationship diagram. It is a graphical representation of entities and entity relationships with each other, it is commonly used in computing organization data within the databases and information systems.

Entity refers to the data or a concept in which the data is stored.

Additionally, based on smartdraw.com, ERD is developed by Peter Chen in 1976. ER diagram means visualizing how the information system produces is related.

There five main components of ERD:

(1) Entities represented by rectangles. A weak entity is an entity that must be defined by the foreign key relationship with another entity as it cannot be uniquely identified by its own attributes.

(2) Action represented by diamond shape and show how two entities share information in the database. For example, employees can supervise other employees.

(3) Attributes represented by ovals. It might be a key attribute, a multivalued attribute or derived attribute.

(4) Connecting lines, a solid line that connects the attributes to show the relationship of the entities.

(5) Cardinality specifies how many instances of the entity relate to a single instance of other entity.

But then, in making an effective ER Diagram, there are things to be considered such as: First, making sure that each entity only appears once per diagram and name every entity, attribute, and relationship. Second, examine every relationship between entities, eliminate any redundant relationship and do not connect relationships with each other. Third, use colors to highlight important portion in the diagram.

MySQL

As what Smith (2012) said, MySQL stands for Structures Query Language is a special purpose programming language for managing data. SQL consists of data control language. SQL consists with the scope of data insert, update and delete, data access control, query, modification and schema creation.

Edgar F. Codd considers SQL as one of the first commercial languages in his paper *The Relational Model data for Large Shared Data Banks* in 1970.

Moreover, oracle.com stated that MySql is the world's most popular open source database with a proven performance, reliability, and the leading database choice for

E-STOP AND SHOP WEBSITE

web-based application used by the high-profile web properties such as Youtube, Facebook and Twitter.

Sublime Text

Based on filehippo.com, sublime text is a superfast and feature packed text and development editor. It stands out from the other text editors because it has the following features:

1. Multiple cursors. It can let the user edit or write in multiple places in a document at the same time.
2. Vintage Mode. To use, the user must enable vintage mode.
3. Lightning fast. Fastest code editor
4. Command Pallet. Allows to reach about all functions of the editor via keyboard like sorting, changing the syntax and changing indentation settings.
5. Plugin Collection. Syntax highlighting and code snippets for large number of languages such as JavaScript, PHP, CSS, HTML, Python, LESS, XML and C++.
6. Package Control. Install plugins directly from the editor.

Moreover, based on techspot.com, Sublime text is available for Mac, Windows and Linux with the latest version Sublime Text 3.2

ISO 25010

ISO is a degree to which the system meets the standard, provides a value of the system and satisfies the stakeholders or clients' need. These clients' needs are the software product quality; such as functionality, performance, compatibility, usability, reliability, security, maintainability and portability.

E-STOP AND SHOP WEBSITE

ISO 25010 is defined by the software product quality characteristics such as the following:

Functionality Suitability

This characteristic represents the degree in a system or product functions meet the implied needs under specified conditions. The characteristics of functionality suitability are composed of the following sub characteristics:

- Functional Completeness- degree to which the functions cover all the task and objectives of the user.
- Functional Correctness- degree to which the system gives the correct results of needs and precision.
- Functional Appropriateness- degree to which the functions facilitate the accomplishments based on a specified objectives and tasks.

Performance efficiency

This characteristic represents the performance relative to the amount of resources under the stated conditions. This characteristic has these following sub characteristics:

- Time behavior- the degree to which the response and processing time and the output rates of the system, meets the requirements and performing its functions.
- Resource utilization- the degree to which the amounts and types of resources used of the system, meets the requirements and performing the functions.
- Capacity- the degree to which the maximum limits of the system parameter meets the requirements.

Compatibility

E-STOP AND SHOP WEBSITE

This characteristic represents the degree of the product, system or components can exchange information from other products, systems and components or/and perform its required functions while sharing the same software or hardware environment. This characteristic is composed of the following sub characteristics:

- Co- existence – the degree to which a product can perform its required functions efficiently while sharing the same environment and resources with other products without damaging the other products.
- Interoperability – the degree to which the two or more systems, product or components can exchange information and use the exchanged information.

Usability

This characteristic represents the degree of which the system or product attains the goals with effectiveness, efficiency, and satisfaction specified by the user on how it is used. This characteristic is composed of the following sub characteristics:

- Appropriateness recognizability – the degree to which the user can recognize whether the system or product is appropriate to his/her need.
- Learnability – the degree in which the system or product can be used to achieve specified goals of learning the product or system with efficiency, effectiveness, secureness and satisfaction on how it is used.
- Operability – the degree of which the system has a feature that can easily operate and control.
- User error protection – the degree of which the system protects the user in making errors.

E-STOP AND SHOP WEBSITE

- User interface aesthetics – the degree of which a user interface enables to please and to satisfy interaction for the user.
- Accessibility – the degree to which the system or product can be used by people with the widest range of characteristics and capabilities to achieve specified goals and context of use.

Reliability

This characteristic represents the degree of which the systems, products or components perform a specified function in a specified condition and period of time.

This characteristic is composed of the following sub characteristics:

- Maturity – the degree of which the system or product meets reliability under normal operation.
- Availability – the degree of which the system or product is operational and accessible when in use.
- Fault tolerance – the degree of which the system or product operates with disregard of the presence of hardware or software.
- Recoverability – the degree of which the system or product can recover the data when something breaks in or fails and brings it back to the original state of the system.

Security

This characteristic represents the degree of which the systems or products protect the information from other unauthorized elements and have the data access appropriate to

E-STOP AND SHOP WEBSITE

their type of level of authorization. This characteristic is composed of the following sub characteristics:

- Confidentiality – the degree of which the system or product ensures that only the authorized can access the data.
- Integrity – the degree of which the system or product prevents computer program and data being accessed and modified by unauthorized.
- Non-repudiation – the degree of which the action taken can be proven to have taken place to avoid repudiation.
- Accountability – the degree of which the action of an entity can be traced uniquely.
- Authenticity – the degree of which the identity of the subject can be proven by the one who claimed.

Maintainability

This characteristic represents the degree of effectiveness and efficiency of the system or product with which can be modified for improvement, correction and adaptation in changing the environment and requirements. This characteristic is composed of the following characteristics:

- Modularity – the degree of which the system or computer program was made of discrete components to lessen the impact with other components when one component is being changed.
- Reusability – the degree of which an asset can be used in more than one system or can be generated into a new asset.

E-STOP AND SHOP WEBSITE

- Analyzability – the degree of which the effectiveness and efficiency is possible to assess the impact on the system or product of possible changes in one or more on its parts or diagnose a product.
- Modifiability – the degree of which the system or product can be effectively and efficiently modified without encountering defects.
- Testability – the degree of which the effectiveness and efficiency with which the criteria can be established for a system and determine whether those criteria have been met.

Portability

This characteristic represents the degree of effectiveness and efficiency with which a system, product or components can be transferred from one software, hardware or usage environment from another. This characteristic is composed of the following sub characteristics:

- Adaptability – the degree of which the system or product can effectively and efficiently adapt evolving different software, hardware, operational and usage environments.
- Installable – the degree of which a system or product can be successfully installed in specified environment.
- Replaceability – the degree of which a product can replace another software product for the same purpose.

E-STOP AND SHOP WEBSITE

Related Studies

The Development of an E-commerce Website for Fresh Air and General Services Inc. (Babantayan 2015) is much the same to E-Stop and Shop website. It asks for the basic information of the costumer who will purchase the product, kind of product, price of the product, and location of the buyer.

AyosDito.ph (2009) is an online classified-ads catering the Philippines' market which joint ventures between media giant Singapore Press Holding and Schibsted. It offers free-posting of ads for items such as computers, cellphones, food and more. This website has a plain site layout yet fast and easy to use.

Wells et. al (2011), in his study entitled "Online impulse buying: understanding the interplay between costumer impulsiveness and website quality", it focused on the direct relationship of the website and online impulse buying. It has found out the direct influence of website quality on the urge to buy impulsively.

The study about "Visa Consumer Payment Attitude Study" (2015) released by Newsbytes Philippines identified trends in payment behavior among six consumers in Southeast Asian markets including the Philippines. The study showed that there are more active online shoppers nowadays compared years ago that resulted to the increased engagement of online shopping, coupled with payment technologies available, ensured a robust growth and steady development of local e-commerce business. And despite of low proportion of active card holder, the surge of transaction made through smartphones indicates consumers are going mobile first. Filipinos' top reason of doing their shopping online are convenience (52%), door-to-door delivery (30%), affordability (10%), and accessibility (8%).

E-STOP AND SHOP WEBSITE

Conceptual Model of the Study

The Input-Process-Output diagram was used to display the conceptual model of the study as shown in figure below.

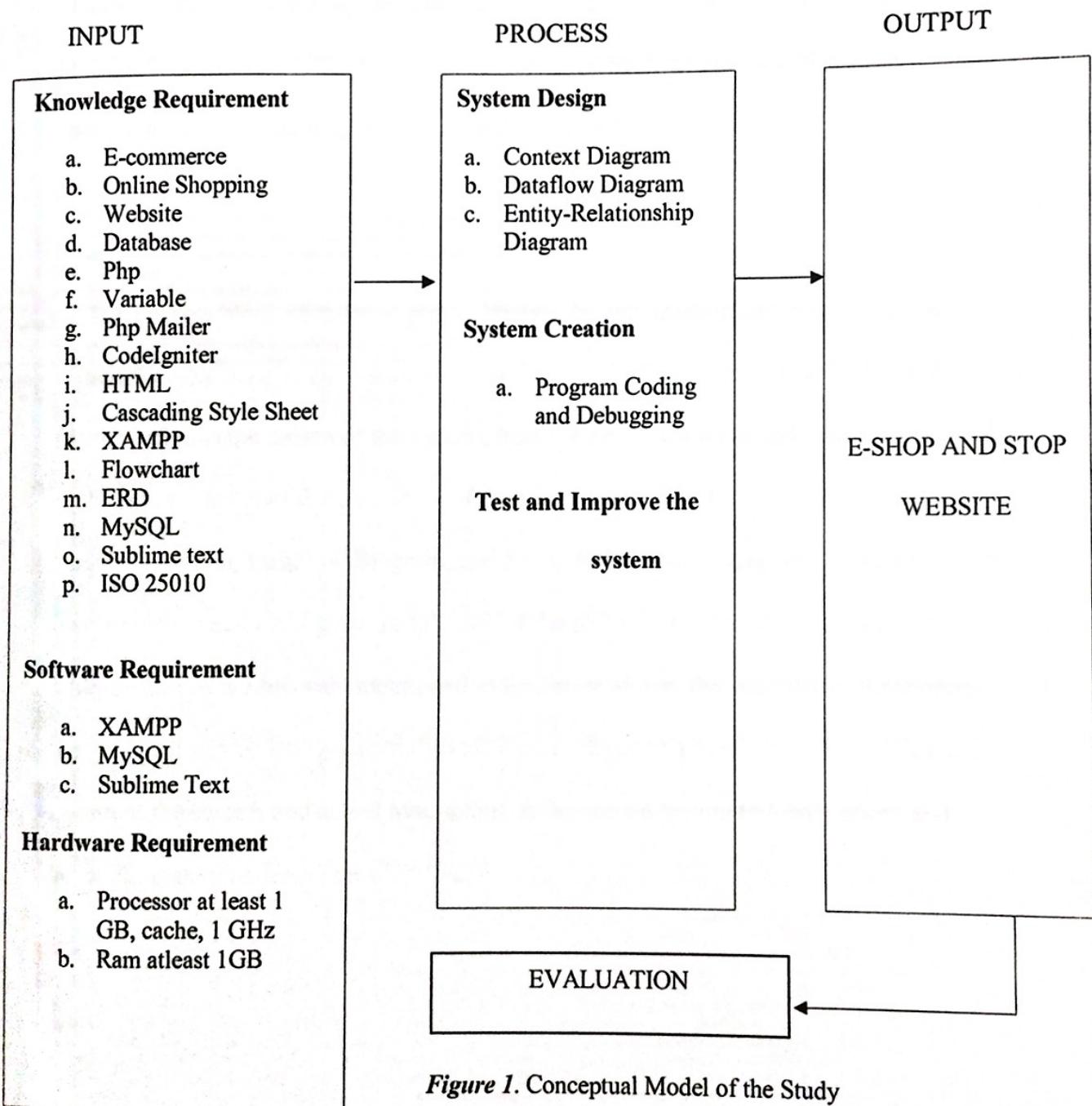


Figure 1. Conceptual Model of the Study

E-STOP AND SHOP WEBSITE

Input

The Input block consists of knowledge requirement, software requirement, and hardware requirement needed to develop the E-stop and Shop Website. Knowledge requirements deal with the Online Shopping Processes and Database System Management. Software Requirement deals with the software needed such as XAMPP, MySQL for database, PHP, Bootstrap, JavaScript, CSS Sublime for text editing. Hardware Requirement only involves the desktop or laptop use.

Process

The Process block consists of project design, system creation and construction and testing. These activities were undergone to develop the E-stop and Shop Website. Project Design refers to the design of the system, how the processes work and who are involved in the process for easy understanding of the transactions. The figures involved were Context Diagram, Dataflow Diagram, and Entity Relationship Diagram. System Creation involves the actual coding and installation of the software needed including the database. With the use of the software mentioned in the figure above, the structure of developing the goal project was being accomplished. The results of this block are the modules and design of the system and actual transaction. After certain testing to locate errors and bugs, the system undergoes evaluation.

E-STOP AND SHOP WEBSITE

Output

The output block consists of the actual system being developed, the E-stop and Stop Website which served as the system software. The system was subjected for evaluation by ISO software quality metrics to determine the acceptability.

E-STOP AND SHOP WEBSITE

Operational Definition of Terms

The following terms are defined to better understand the study:

Bug refers to an error in a computer program that causes it to produce incorrect output.

Cart refers to a basket that stores the customer's choice.

Client refers to the one buying the products; costumer.

Courier refers to the company that delivers the mail, messages and packages.

Hardware Requirement refers to the tangible materials being used in making the system. For example, is computer.

Knowledge Requirement refers to the ideas and concept needed in making the system.

Market refers to a medium allowing the seller and the buyer to make transactions of specific goods and services.

Merchant refers to the seller offer the product and services.

Queries refers to the short term for inquiry.

Registered User refers to the one who had registered to the system and gave a sort of their credentials.

Researcher refers to the persons who conducted this study and developed the E-Stop and Shop Website.

Software Requirement refers to the computer program used in making the system.

Sales Report refers to the overview of sales activities within a business.

World Wide Web refers to the system on the internet that allows a user to use information that is held by a computer all over the world.

Chapter 3

METHODOLOGY

This chapter focuses on how the study was developed. It discusses the Project Design, the Project Development, the Operation and Testing Procedure, and Evaluation Procedure.

Project Design

This section includes the project design of the developed system composing of System Data Flow Diagram, Context Diagram, Entity Relationship Diagram and Use-Case Diagram.

Context Flow Diagram

As shown in Figure 2, information of the customer such us account, payment and order details will be in the input of the system. The system will send an email notification to activate the customer account. Confirms order and payment of the customer to process the delivery. Then the courier will send the product and give a status of the order to the system.

The system is also generating a Sales Report to the admin.

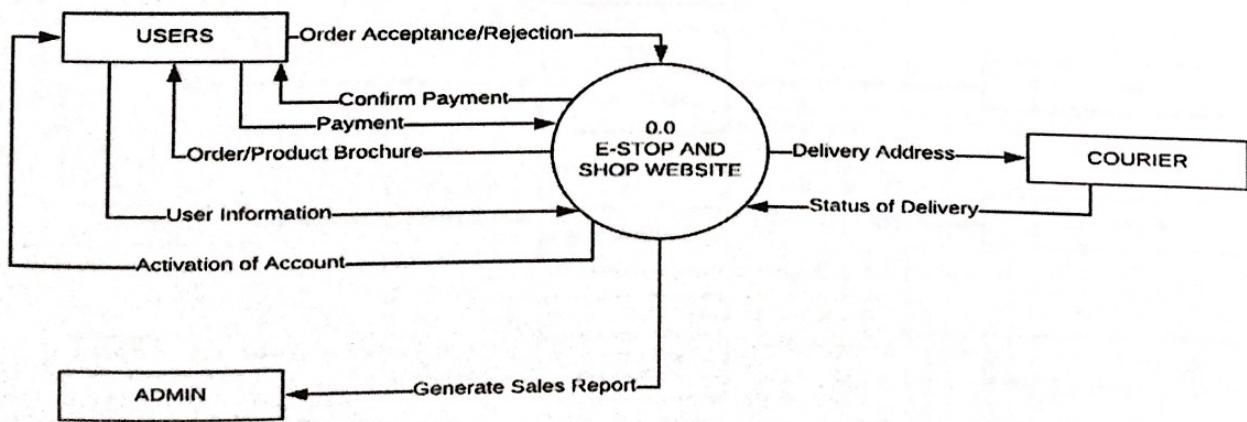


Figure 2. Context Diagram of E-Stop and Shop Website

E-STOP AND SHOP WEBSITE

Data Flow Diagram

For more understanding about the processes of the transaction of the E-shop and Stop Website, the data representation was presented through the Data Flow Diagram. As shown in Figure 3, the customer will give the information about herself/ himself for login process and the account will be activated with the email given in registration. The customer should provide his or her information for him/her to be able to transact. The customer will be notified about the purchased product, the system, and the payment method. The given information will be used for the delivery of the product. The system will save the transaction information to generate the payment as well as the customer information in the database in case of validation. The product purchased will be checked if it is available in the Inventory, if the product and the quantity needed is available, it will go to the next step, and the admin will be delivering the product to the buyer through a carrier as soon as he/she receives the payment from the customer.

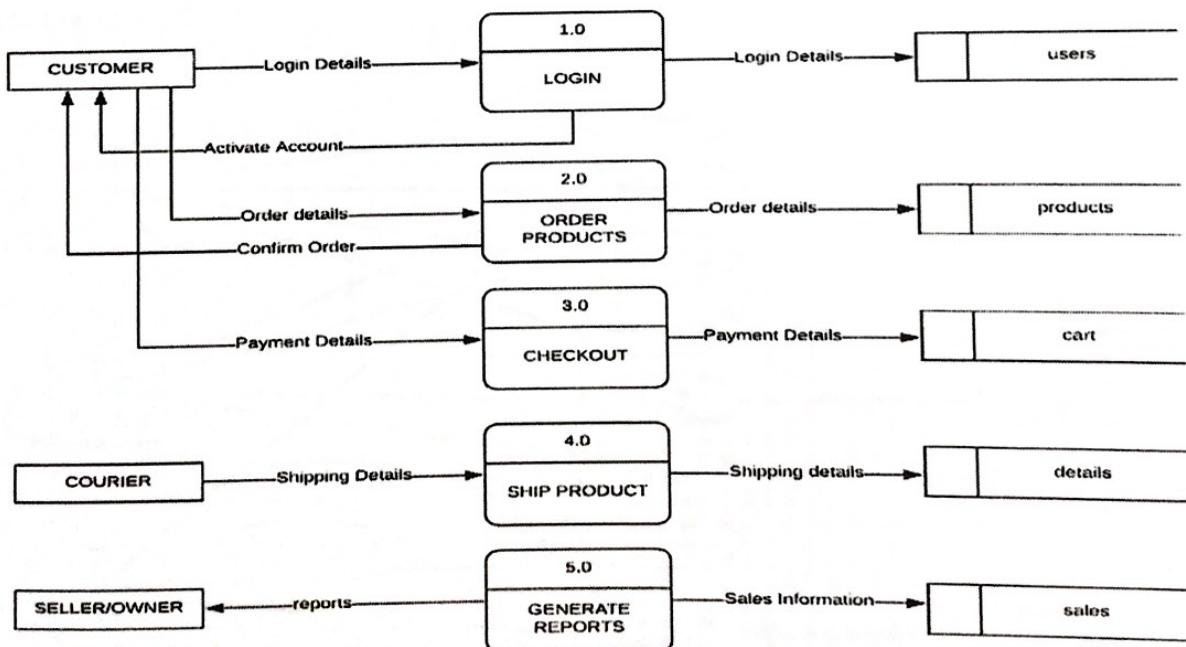


Figure 3. Data Flow Diagram of E-Stop and Shop Website

E-STOP AND SHOP WEBSITE

Use Case Diagram

In Use Case Diagram, it shows and describes the sequences of action made by certain people involve in the system to accomplish a particular goal.

As shown in Figure 4, a customer is classified into two; the unregistered customer and the registered customer. Unregistered customer can browse the product, choose a product and store in a cart but is required to register to enable him/her to have a transaction. Unregistered customers will give personal information to the system to generate an account registration. Registered customers are capable of having an account and managing it base on how he/she likes, browsing all over the site and purchasing the product. The customer only needs to login his/her account.

The Admin or the seller can browse the product, add, edit, or delete the products displayed in the website. He/she can manage the transaction including the payment and check the purchased product of the customer, manage the customer information and process the order.

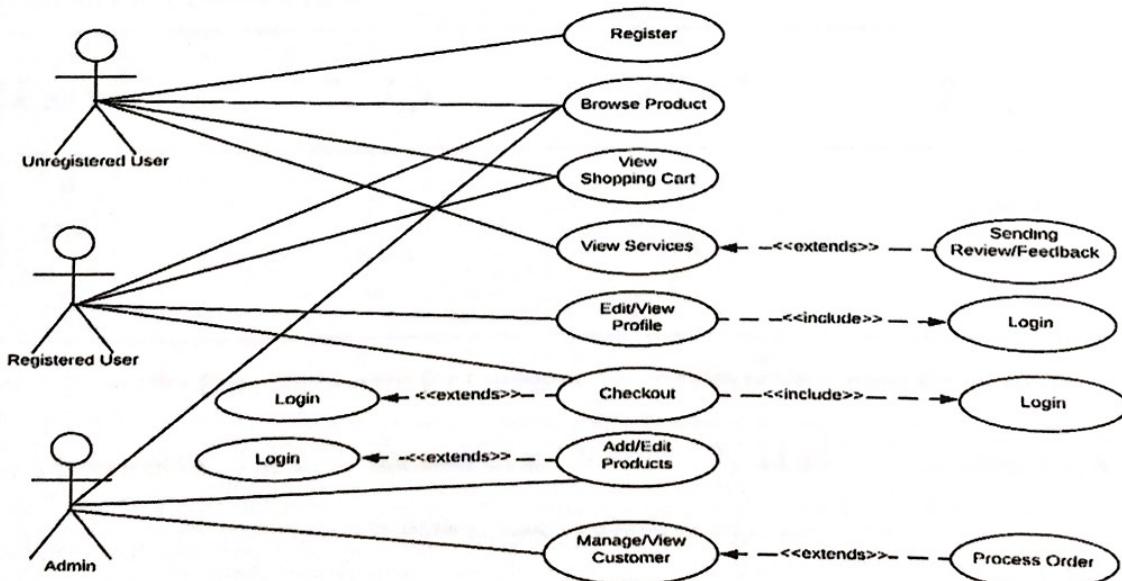


Figure 4. Use Case Diagram of the E-shop and Stop Website

DATA DICTIONARY

The following are the utilized table in the system:

Table 1.

Data dictionary of Cart table

Column Name	Data Type	Field Length	Description
id	Int	11	
user_id	Int	11	primary key
product_id	Int	11	unique
quantity	Int	11	product id quantity of products

Table 1 shows the Data Dictionary for Cart Table. The table is used for storing the cart's information. The table consists of columns namely: id, user_id, product_id. Each of the column has its own data type, field length and its descriptions.

Table 2.

Data dictionary of Category Table

Column Name	Data Type	Field Length	Description
id	int	11	
name	varchar	100	primary
cart_slug	int	150	unique

Table 2 shows the Data Dictionary for Category Table. The table is used for storing the category's information. The table consists of columns namely: id, name, cart_slug. Each of the column has its own data type, field length and its descriptions.

Table 3.*Data dictionary of Details Table*

Column Name	Data Type	Field Length	Description
id	int	11	
sales_id	int	11	primary key
product_id	int	11	unique
quantity	int	11	

Table 3 shows the Data Dictionary for Details Table. The table is used for storing the details information. The table consists of columns namely: id, sales_id, product_id and quantity. Each of the column has its own data type, field length and its descriptions.

Table 4.*Data dictionary of Products Table*

Column Name	Data Type	Field Length	Description
id	int	11	Primary Key
category_id	int	11	Category Id
name	text		Name of Products
description	text		Description of Product
slug	varchar	200	
price	double		Price of Product
photo	varchar	200	Photo of the Product
date view	date	11	Date of view
counter	int	11	

Table 4 shows the Data Dictionary for Products Table. The table is used for storing the products' information. The table consists of columns namely: id, category_id, name,

description, slug, price, photo, date view and counter. Each of the column has its own data type, field length and its descriptions.

Table 5.*Data dictionary of Sales Table*

Column Name	Data Type	Field Length	Description
id	int		Primary Key
user_id	int	11	User Id
pay_id	varchar	11	Payment Id
sales_date	date	50	Date of Sales

Table 5 shows the Data Dictionary for Sales Table. The table is used for storing the sales information. The table consists of columns namely: id, user_id, pay_id and sales_date. Each of the column has its own data type, field length and its descriptions.

Table 6.*Data dictionary of Users table*

Column Name	Data Type	Field Length	Description
id	int	11	Primary Key
email	varchar	200	Email of the Customer
password	varchar	60	Password of the Customer
type	int	1	Admin or Customer
firstname	varchar	50	Firstname of the Customer
lastname	varchar	50	Lastname of the Customer
address	text		Address of the Customer
contact_info	varchar	100	Contact of the Customer
photo	varchar	200	Photo of the Customer
status	int	1	Status of Customer Account
activate_code	varchar	15	
reset_code	varchar	15	Date created of the account
created_on	date		

Table 6 shows the Data Dictionary for Users Table. The table is used for storing the user information. The table consists of columns namely: id, email, password, type,

firstname, lastname, address, contact_info, photo, status, activate_code, reset_code, and created_on. Each of the column has its own data type, field length and its descriptions.

Project Development

This section discusses the procedures taken and how the structure of the system was created based on the design specification. Modules were created using the MySQL and PHP.

The steps below were coded as Login Module in the developed system.

Start:

1. Embed the login form with textboxes, buttons, checkboxes, text areas.
2. Adjust the sizes of the textboxes in able to attain the specified data the user inputted.
3. Place the button icons and link at the bottom part of the form.
4. Rename the button icon to Sign in and the link to Sign up.
5. Input valid username and password
6. If yes, the system will show short message and direct to the home page.
7. If not, you need to sign up and activate your email.
8. The system will send a notification email to you.
9. If you already activate it. You can now use your account.

End

The steps below were coded as Dashboard Module in the developed system.

Start:

1. The dashboard form is imbedded with multiple links.

2. Links rename as Totals sales, Number of products, Number of user and Sales Today.
3. It also includes a graph for the monthly sales and dropdown for selected years that you want to view for graphical representation.
4. In the left side the name of the admin and the photo of it.
5. It also shows if the admin is online or offline
6. In the right side you can edit the admin profile or sign out.

End.

The steps below were coded as Users Module in the developed system.

Start:

1. Embed the User page with textboxes, buttons, checkboxes, dropdowns and text areas.
2. It also has designed header and footer. With the logo of the store in the left side, navigation bar, and a profile in the right side.
3. The navigation bar renames as Home, about us, contact us and category.
4. There is a small icon shopping cart to direct you in your shopping cart.
5. A dropdown list of categories for the customer to choose their order products.
6. When a customer selects a product, it can view or add to cart button on it.
7. The product has its description, picture, and how many quantities the customer will select.
8. In the shopping cart it displays data table which includes photo of the product, name, price, quantity, and subtotal of the selected product.

E-STOP AND SHOP WEBSITE

9. In the bottom has a checkout link which the user will be directed in PayPal account for the payment.

End.

The database was created by the used of MySQL.

Start:

1. Create tables and identify the foreign and primary key.
2. Format primary key and set to Auto_Increment.
3. Input sample data to the database.

End.

The following are steps for website hosting:

Start:

- 1 Choose a domain name.
2. Register with a registrar.
3. Choose a hosting service.
4. Tell Registrar the IP address
5. Configure
6. Store onto hosting server (ITP)
7. Submit

End.

Operation and Testing Procedure

The following were steps conducted to ensure that the developed system is logically correct and capable of consistently performing tasks for which it was designed.

Table 7

Functionality test for Customer Access Level

Test On	Steps Undertaken
User	<ol style="list-style-type: none"> 1. Clicked "Login" 2. Input Valid Email and Password 3. Clicked "Sign in" button 4. Observed Results
Products	<ol style="list-style-type: none"> 1. Clicked the dropdown list "Category" 2. Select a category 3. View the product 4. Select the quantity 5. Clicked the "Add to cart" button 6. Observed Results
Shopping Cart	<ol style="list-style-type: none"> 1. Clicked the icon cart 2. Then clicked "go to cart" 3. Select quantity in dropdown list 4. Observed Results
Checkout	<ol style="list-style-type: none"> 1. Clicked the "checkout" button 2. Input Paypal account 3. Observed Results

The table 7 Functionality Test for Customer Access Level shows the steps taken by the Customer. This includes the pages of the User, Products, Shopping Cart, and Checkout

*Table 8**Functionality Test for Admin Access Level*

Test On	Steps Undertaken
Admin	<ol style="list-style-type: none"> 1. Clicked "Login" 2. Input Valid Email and Password 3. Clicked "Sign in" button 4. Observed Results
Category	<ol style="list-style-type: none"> 1. Clicked "Product" 2. Select a category 3. Type in category name to search 4. Clicked "New" to add category 5. Clicked "Edit" to edit category 6. Clicked "Delete" to delete category 7. Clicked the dropdown list to select how many entries to show 8. Observed Results
Product	<ol style="list-style-type: none"> 1. Clicked "Product" 2. Select a product list 3. Type in product name to search 4. Clicked "New" to add product 5. Clicked "Edit" to edit product 6. Clicked "Delete" to delete product 7. Clicked the dropdown list to select how many entries to show 8. Observed Results
Sales Report	<ol style="list-style-type: none"> 1. Clicked the "Sales" 2. Select the date 3. Clicked "Print" 4. Observed Results
	<ol style="list-style-type: none"> 1. Clicked "Users" 2. Clicked "New" to add new user 3. Clicked "Edit" to edit user 4. Clicked "Delete" to delete user 5. Observed Results

The table 8 Functionality Test for Admin Access Level shows the steps taken by the Administrator to modify the system. This includes the pages of the Admin, Category, Products, and Sales Report.

Evaluation Procedure

The system was evaluated by 15 respondents composed of three (3) IT Professionals and 12 IT/IS students who determined the level of capabilities of the system.

The following steps were followed:

1. The researchers demonstrated the developed E-Stop and Shop Website
2. The researchers introduced the system. The evaluation sheets were given to the respondents.
3. The respondents evaluated the system using the Rating Scale table shown below.
4. The researchers collected the evaluation sheets and listened to the comments and feedbacks from the respondents.
5. The results were tabulated and the frequency for each criterion was computed.

The respondents' ratings will be treated using frequency and its percentage in which the formula is given below.

$$\% = \text{Percent}$$

$$\% = \frac{f}{N} \times 100 \quad f = \text{Frequency}$$

$$N = \text{Number of cases}$$

Figure 5 Statistical Method

Table 9*Evaluation Scale Used in Evaluation Sheet*

Numerical Rating	Equivalent
4	Highly Acceptable
3	Very Acceptable
2	Acceptable
1	Not Acceptable

Table 10*Rating Scale for The Frequency and Percentage Distribution*

Percentage Ratings	Equivalent
76% - 100%	Highly Acceptable
51% - 75%	Very Acceptable
26% - 50%	Acceptable
1% - 25%	Not Acceptable

Chapter 4

RESULTS AND DISCUSSION

The chapter contains the project description, project structure, project capabilities and limitations, project evaluation of the study.

Project Description

This E-stop and Shop Website is specifically developed for valued clients. These clients will be the admin who will manage all the details and transaction inside the system. The system is capable to run online through web browser and internet. It is created through PHP programming language, Sublime for text editor and MySql for database. As part of the user privilege, the admin can modify the person who can enter the system, edit and add account. The system can generate sales printed report for a designated day the admin wants to modify. It can be a day, month or a day.

Project Structure

The following figures present the web pages and features of the E-Stop and Shop.

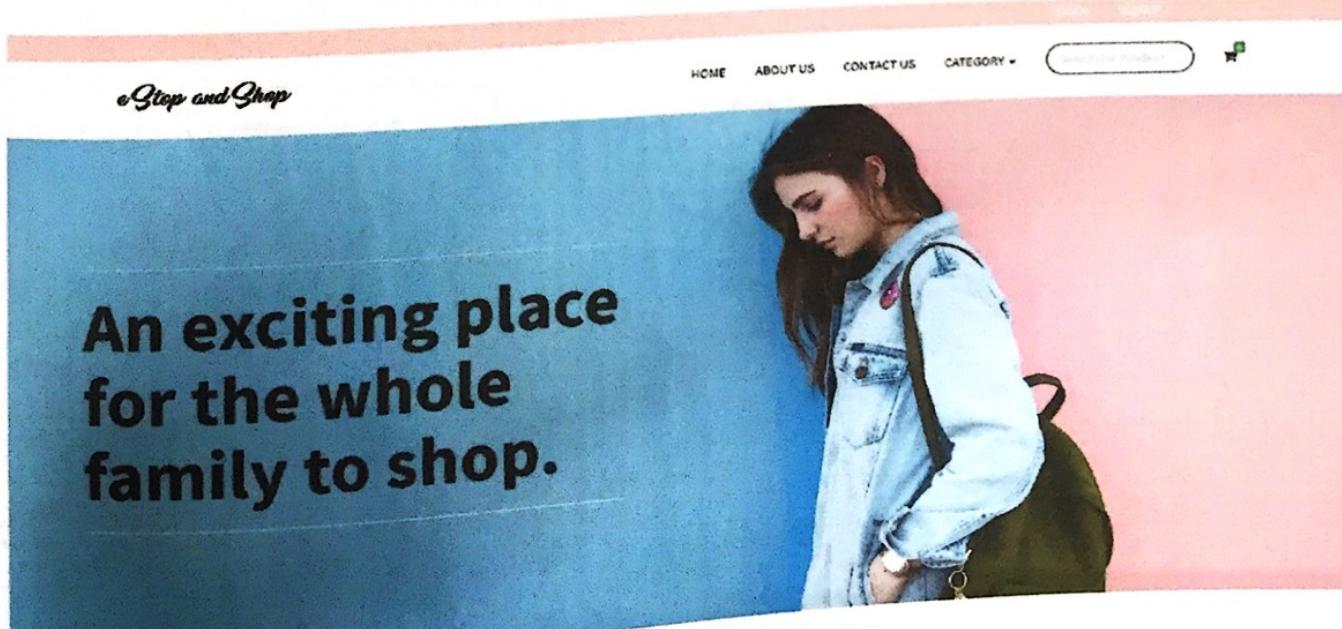


Figure 6 E-Stop and Shop Home Page

Figure 6 shows the main page of the e-commerce website for the customer side. In this page, the customer can search product or choose category. You can view the contact information of the owner at the bottom part of this page.



Figure 7 Product Overview

Figure 7 shows the overview of the product wherein a customer can view the name, picture of the product, and its price. It can be found in the middle part of the home page.



Figure 8 Product Description

Figure 8 shows the details of the product. The specification of the product selected, image, price and how many quantities the customer wants to buy. It also has a magnifying glass feature where you can magnify the image to see small details of the product.

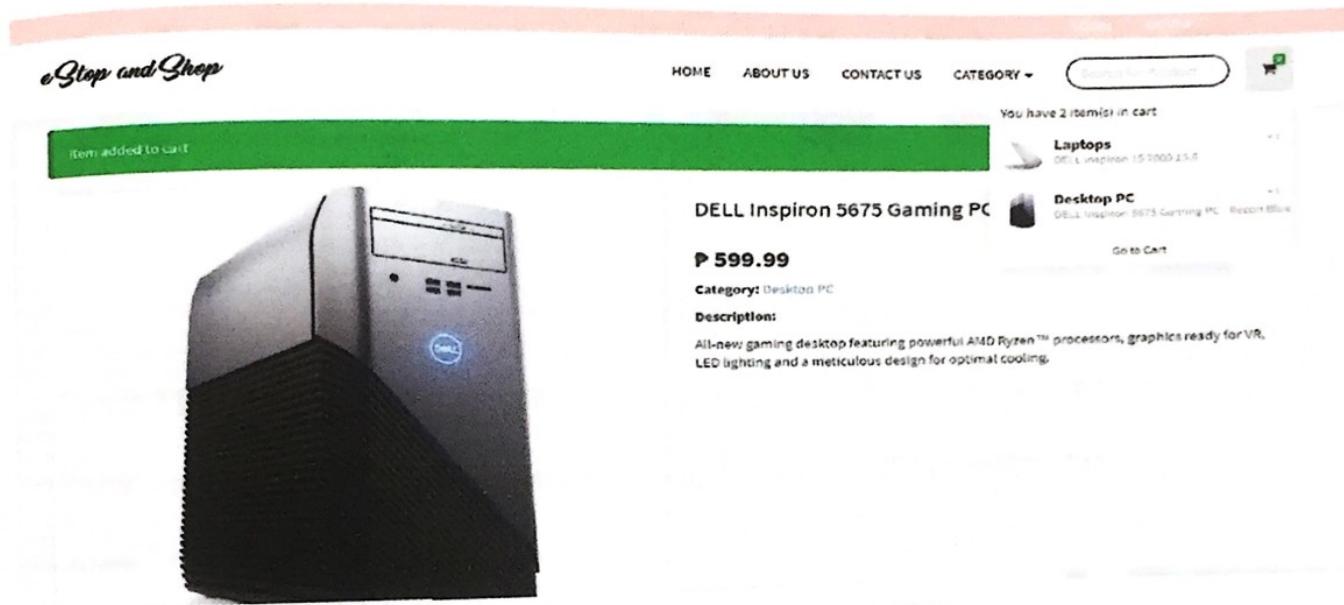


Figure 9 Customer Shopping Cart

Figure 9 shows the list of products inside the customers shopping cart. Customer can view what is in the shopping cart and how much are they going to pay for the total amount of all the products purchased.

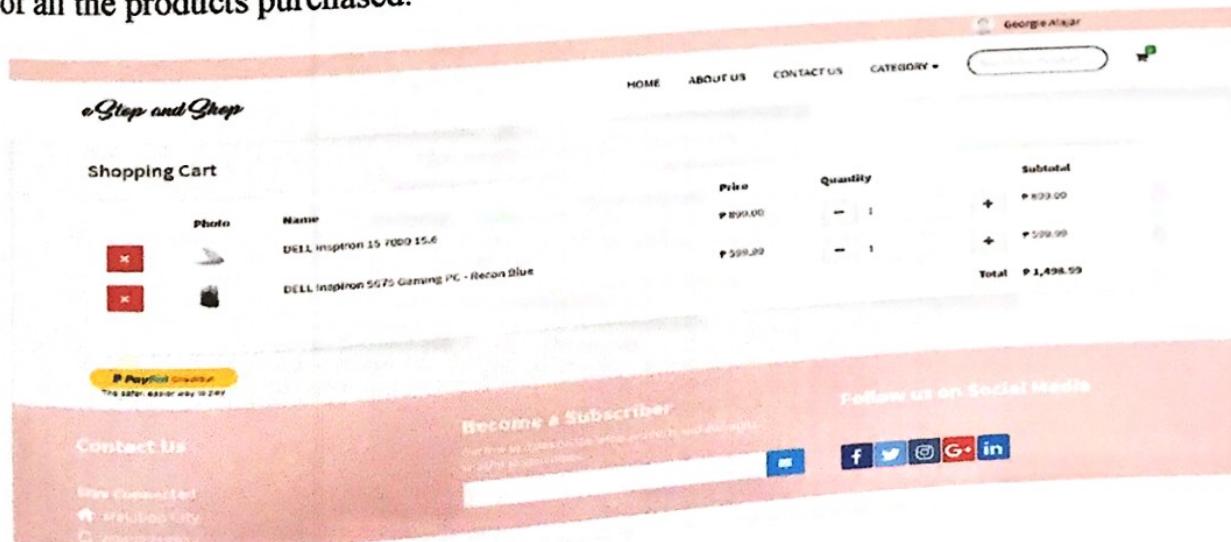


Figure 10 Checkout Page

Figure 10 shows the checkout page. This web page is where a customer can finalize the order and the mode of payment using PayPal account.

Shopping Cart					
Photo	Name	Price	Quantity	Subtotal	
	DELL Inspiron 15 7000 15.6	₱ 899.00	- 1 +	₱ 899.00	
	DELL Inspiron 5675 Gaming PC - Recon Blue	₱ 599.99	- 1 +	₱ 599.99	
Total ₱ 1,498.99					

Figure 11 Ordered Product Details

Figure 11 shows all the product chosen by the customers. Customers can remove products that have been selected. Customers can also manage the quantity of the products.

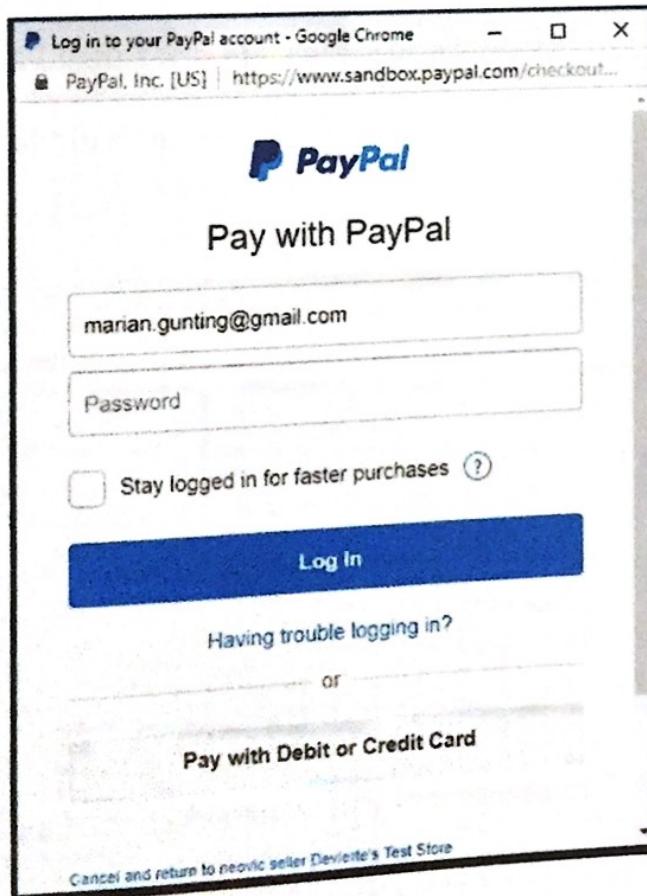


Figure 12 PayPal Payment

Figure 12 shows the payment method using PayPal account. The customer will input email and password then login. The customer can choose if he/she wants to pay in debit or credit card.



The image shows the Admin Login Page. At the top center is the text "Sign In". Below it is a form with two fields: "E-mail" containing "admin@admin.com" and "Password" containing "*****". A blue "Sign In" button is centered below the fields. At the bottom of the page is a link "Don't have an account Yet? Sign Up !".

Figure 13 Admin Login Page

Figure 13 shows the Login Form of admin. The admin will type the valid email and password to enter the admin side.

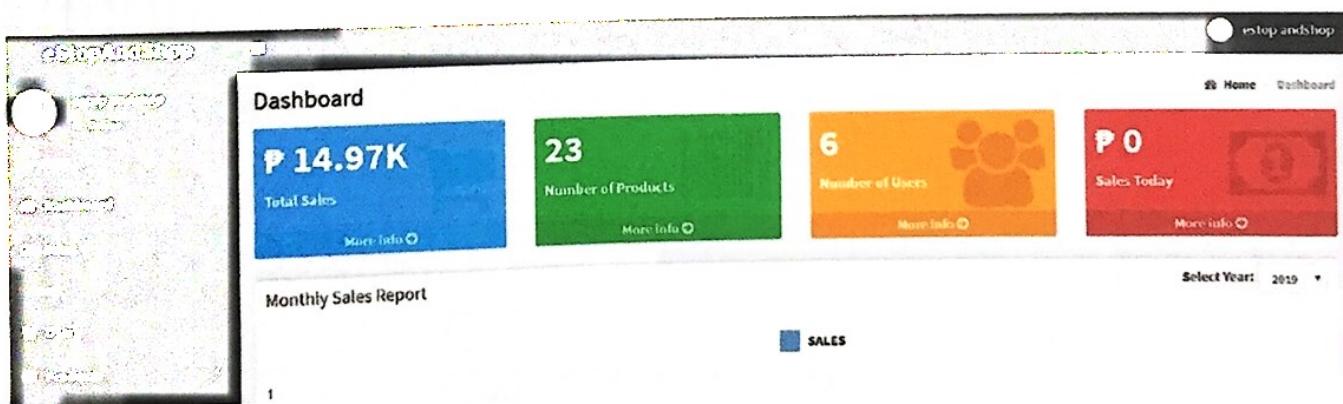


Figure 14 Admin Dashboard

Figure 14 shows the admin dashboard which is consisted of Total Sales, Number of Products, Number of Users, and the Sales Today. It also has the graphical representation

of sales by year. This page is where the admin can manage the whole system. Customers don not have any access to view or enter this page.

Category		Tools
+ New		
Show	10	▼ entries
Category Name		
Desktop PC		 Edit Delete
Laptops		 Edit Delete
Smart Phones		 Edit Delete
Tablets		 Edit Delete
Showing 1 to 4 of 4 entries		Previous 1 Next

Figure 15 Category

Figure 15 shows the category page. It is the part where the admin can add, edit or delete category.

Add New Category

Name	<input type="text"/>
 Close	 Save

Figure 16 Add New Category

Figure 16 shows the field where the Admin will type the name of the new category. After typing the name of the category, the Admin will click save to save the new category.

Edit Category

Name Desktop PC

Figure 17 Edit Category

Figure 17 shows the field wherein Admin will edit the category. After editing the chosen category, the admin will click update to save the changes.

Deleting...

DELETE CATEGORY

Desktop PC

Figure 18 Delete Category

Figure 18 shows the field where the Admin can delete category by simply clicking the delete button.

E-STOP AND SHOP WEBSITE

Name	Photo	Description	Price	Views Today	Tools
ACER Aspire GX-781 Gaming PC		View	₱ 749.99	0	Edit Delete
AMAZON Fire 7 Tablet with Alexa (2017) - 8 GB, Black		View	₱ 49.99	0	Edit Delete
AMAZON Fire HD 8 Tablet with Alexa (2017) - 16 GB, Black		View	₱ 79.99	0	Edit Delete
AMAZON Fire HD 8 Tablet with Alexa (2017) - 32 GB, Black		View	₱ 99.99	0	Edit Delete
APPLE 10.5" iPad Pro - 64 GB, Space Grey (2017)		View	₱ 619.00	0	Edit Delete
APPLE 9.7" iPad - 32 GB, Gold		View	₱ 339.00	0	Edit Delete
APPLE 9.7" iPad - 32 GB, Space Grey		View	₱ 339.00	0	Edit Delete
ASUS Transformer Mini T102HA 10.1" 2 in 1 - Silver		View	₱ 549.99	0	Edit Delete
DELL Inspiron 15 5000 15		View	₱ 449.99	0	Edit Delete

Figure 19 Product List

Figure 19 shows all the product that are listed in the database. The Admin can view, add, edit or delete a product.

ACER Aspire GX-781 Gaming PC

- **GTX 1050** graphics card lets you play huge games in great resolutions
- Latest generation Core™ i5 processor can handle demanding media software
- Superfast SSD storage lets you load programs in no time

The Acer Aspire GX-781 Gaming PC is part of our Gaming range, which offers the most powerful PCs available today. It has outstanding graphics and processing performance to suit the most demanding gamer.

[Close](#)

Figure 20 View Product

Figure 20 shows the description of the product when you click the view button.

Add New Product

Name:

Category: **- Select -**

Price:

Photo: No file chosen

Description:

B I S Ix H :> < H :> Styles Format ?

Figure 21 Add Product

Figure 21 shows the add new product form. The Admin will input the name, price, picture, description and select a category type. Then click the save button.

Edit Product

Name: ACER Aspire GX-781 Gaming PC

Category: Desktop PC

Price: 749.99

Description:

B I S Ix H :> < H :> Styles Format ?

- GTX 1050 graphics card lets you play huge games in great resolutions
- Latest generation Core™ i5 processor can handle demanding media software
- Superfast SSD storage lets you load programs in no time
The Acer Aspire GX-781 Gaming PC is part of our Gaming range, which offers the most powerful PCs available today. It has outstanding graphics and processing performance to suit the most demanding gamer.

Figure 22 Edit Product

Figure 22 shows how the Admin will edit a product. If there is anything that was changed, just click the update button to continue the changes.



Figure 23 Delete Product

Figure 23 shows how the Admin removed a product. When the Admin clicks the delete button, the product that is being chosen will be deleted permanently.

eStopAndShop		Users						
Show	10	entries		Name	Status	Date Added	Tools	
Photo		Email		Harry Den	active	May 09, 2018		
		<input checked="" type="checkbox"/> harry@den.com		Christine becker	active	Jul 09, 2018		
		<input checked="" type="checkbox"/> christine@gmail.com		Georgie Alajar	active	Mar 04, 2019		
		<input checked="" type="checkbox"/> slajargeorgie@gmail.com		Rove Galin	active	Mar 04, 2019		
		<input checked="" type="checkbox"/> rove-ann.galin@tup.edu.ph		Elyzian Angela Mendoza	active	Mar 04, 2019		
		<input checked="" type="checkbox"/> mendoza22@gmail.com						

Figure 24 Users

Figure 24 shows all the list of the registered users in the system. The admin can add, edit, or delete users.

E-STOP AND SHOP WEBSITE

Add New User

Email	<input type="text"/>
Password	<input type="password"/>
Firstname	<input type="text"/>
Lastname	<input type="text"/>
Address	<input type="text"/>
Contact Info	<input type="text"/>
Photo	<input type="button" value="Choose File"/> No file chosen
<input type="button" value="Close"/> <input type="button" value="Save"/>	

Figure 25 Add New User

Figure 25 shows how the admin add new users. This is done by filling up all the required information then save.

Edit User

Email	<input type="text" value="harry@den.com"/>
Password	<input type="password"/>
Firstname	<input type="text" value="Harry"/>
Lastname	<input type="text" value="Den"/>
Address	<input type="text" value="Silay City"/>
Contact Info	<input type="text" value="09092735719"/>
<input type="button" value="Close"/> <input type="button" value="Update"/>	

Figure 26 Edit existing user

Figure 26 shows how to simply edit user's information by the admin. Always click update button for the changes of information.



Figure 27 Delete existing user

Figure 27 shows how to remove a user. Select user and click delete button.

Date	Buyer Name	Transaction	Amount	Full Details
May 10, 2018	Harry Den	PAY-1RT494832H294925RL2ZTZA	P 8,874.01	View
May 10, 2018	Harry Den	PAY-21700797CV667562HLLZ7ZVY	P 6,095.92	View

Figure 28 Sales Report

Figure 28 shows the Sales Report of E-Stop and Shop. Select date and Print.

Project Capabilities and Limitations

The following are the capabilities of the developed e-commerce website:

1. The website has a Shopping Cart feature where customer can buy products and checkout easily.
2. The website has the security where the data of the buyer will not be exposed.
3. The website is also mobile compatible.
4. The website has its sales report that the owner can see whether the money invested is coming back and has a profit or the other way around.
5. The website has an admin dashboard where the owner can easily manage and view everything.
6. The website sends email notification to secure account.

The following are the system's limitation:

1. The website does not have the track order feature.
2. The website does not have inventory.
3. The website cannot access without internet connection.
4. The website does not have the Customer dashboard.
5. And lastly, the website does not have cash on delivery payment method.

Test Results

This will show the result of the functionality and accuracy of the system modules of the developed e-commerce website.

Table 11

Functionality Test Results for Customer Access Level

Test On	Steps Undertaken	Results Taken
User	1. Clicked "Login" 2. Input Valid Email and Password 3. Clicked "Sign in" button	4. Displayed Login Page 5. Confirmed Email and Password 6. Redirected to Home Page (see Figure 6)
Products	1. Clicked the "Category" 2. Select a category 3. View the Products 4. Select the quantity 5. Clicked "Add to Cart" button	1. Displayed Category 2. Category Selected Successfully 3. Viewed Products 4. Selected Quantity of Products 5. Successfully Added Product to Cart
Shopping Cart	1. Clicked the icon cart 2. Select product 3. Input quantity	1. Redirected to Cart 2. Displayed Product 3. Quantity inputted successfully
Checkout	1. Clicked checkout 2. Input PayPal Account 3. Clicked details of payment	1. Redirected to checkout 2. Verified Account 3. Payment Successful

The table 11 Functionality Test Result for the Customer Access Level shows the steps taken and results taken by the Customer. This includes the pages of the User, Products, Shopping Cart, and Checkout

E-STOP AND SHOP WEBSITE

Table 12*Functionality Test Result for Admin Access Level*

<u>Test On</u>	<u>Steps Undertaken</u>	<u>Results Taken</u>
Admin	1. Clicked "Login" 2. Input Valid Email and Password 3. Clicked "Sign in" button	1. Displayed Login page 2. Confirmed Email and Password 3. Redirected to Admin Dashboard. (see Figure 14)
Category	1. Clicked "Category" 2. Select a category 3. Type in a category name to search 4. Clicked "New" to add category 5. Clicked "Edit" to edit category 6. Clicked "Delete" to delete category	1. Displayed Category (see Figure 15) 2. Successfully selected Category 3. Category has been searched 4. Successfully Added category 5. Successfully Update category 6. Successfully Deleted category
Product	1. Clicked "Product" 2. Select product list 3. Type in product name to search 4. Clicked "New" to add product 5. Clicked "Edit" to edit product 6. Clicked "Delete" to delete product	1. Displayed Product 2. Successfully selected Product list 3. Product has been searched 4. Successfully Added product 5. Successfully Updated product 6. Successfully Deleted product
Sales Report	1. Clicked the "Sales" 2. Select the date 3. Clicked "Print"	1. Displayed Sales 2. Successfully selected date 3. Print Successfully
Users	1. Clicked "Users" 2. Clicked "New" to add Users 3. Clicked "Edit" to edit Users 4. Clicked "Delete" to delete Users	1. Displayed Users 2. Successfully Added Users 3. Successfully Updated users 4. Successfully Deleted users

The table 12 Functionality Test for Admin Access Level shows the steps taken and results taken by the Administrator to modify the system. This includes the pages of the Admin, Category, Products, and Sales Report.

Project Evaluation

The system was evaluated by 15 respondents composed of three (3) IT Professionals and thirteen (13) IT/IS students. The respondents determined the qualities, level of capabilities and significance of the system based on the standard criteria of ISO 25010.

Table 13*Evaluation Result for Functionality*

INDICATORS	4	3	2	1
Functionality				
1. Ease of Operation	10(66.67%)	5(33.33%)	0%	0%
2. Provision for comfort and convenience	8 (53.33%)	7(46.67%)	0%	0%
3. User Friendliness	9(60%)	6(40%)	0%	0%
	60%	40%	0%	0%
Overall percentage				

In terms of Functionality, 60% of the respondents rated the system and application with a score of 4 or “Highly Acceptable”, while 40% gave a score of 3 or “Acceptable”, and 0% (neither) of the respondents gave a score of 2 or “Not Acceptable” nor 1 or “Highly Not Acceptable”.

Table 14*Evaluation Result for Reliability*

INDICATORS	4	3	2	1
Reliability				
1. Maturity of the System	9(60%)	6(40%)	0%	0%
2. Fault tolerance	8(53.33%)	7(46.67%)	0%	0%
3. Recoverability	13(86.67%)	2(13.33%)	0%	0%
	66.67%	33.33%	0%	0%
Overall percentage				

In terms of Reliability, 66.67% of the respondents rated the system and application with a score of 4 or "Highly Acceptable", while 33.33% gave a score of 3 or "Acceptable", and 0% of respondents gave a score of 2 or "Not Acceptable" and 1 or "Highly Not Acceptable". See Table 14 Reliability

Table 15
Evaluation Result for Usability

INDICATORS	4	3	2	1
Usability				
1. Understandability	14(93.33%)	1(6.67%)	0%	0%
2. Learnability	10(86.67%)	5(13.33%)	0%	0%
3. Operability	9(60%)	6(40%)	0%	0%
	80%	20%	0%	0%
Overall percentage				

The result of the evaluation regarding the system's usability is shown in Table 15 Usability. Majority or 80% of the respondents gave a score of 4 or "Highly Acceptable" and 20% gave a score of 3 or "Acceptable", while the 0% of the respondents marked the system 2 and 1 or "Not Acceptable" and "Highly Not Acceptable"

Table 16
Evaluation Result for Efficiency

INDICATORS	4	3	2	1
Efficiency				
1. Time Behaviour	12(80%)	3(20%)	0%	0%
2. Resource Behaviour	14(93.33%)	1(6.67%)	0%	0%
	86.67%	13.33%	0%	0%
Overall percentage				

The result of the evaluation regarding the system's efficiency is shown in Table 16 Efficiency. Majority or 86.67% of the respondents gave a score of 4 or "Highly Efficient" and 13.33% gave a score of 3 or "Acceptable", while the 0% of the Acceptable" and 13.33% gave a score of 3 or "Acceptable", while the 0% of the

respondents marked the system 2 and 1 or “Not Acceptable” and “Highly Not Acceptable”

Table 17
Evaluation Result for Maintainability

INDICATORS	4	3	2	1
Maintainability				
1. Analyzability	11(73.33%)	4(26.67%)	0%	0%
2. Changeability	10(66.67%)	5(33.33%)	0%	0%
3. Stability	12(80%)	3(20%)	(0%)	0%
4. Testability	13(86.67%)	2(13.33%)	0%	0%
Overall percentage	76.67%	23.33%	0%	0%

The result of the evaluation regarding the system’s maintainability is shown in Table 17 Maintainability. Majority or 76.67% of the respondents gave a score of 4 or “Highly Acceptable” and 23.33% gave a score of 3 or “Acceptable”, while the 0% of the respondents mark the system 2 and 1 or “Not Acceptable” and “Highly Not Acceptable”

Table 18
Evaluation Result for Portability

INDICATORS	4	3	2	1
Portability				
1. Adaptability	10(66.67%)	5(33.33%)	0%	0%
2. Ease of Installation	13(86.67%)	2(13.33%)	0%	0%
3. Conformance	14(93.33%)	1(6.67%)	(0%)	0%
4. Ease of Replacement	10(66.67%)	5(33.33%)	0%	0%
Overall percentage	78.34%	21.66%	0%	0%

The result of the evaluation regarding the system’s security is shown in Table 18 Portability. Majority or 78.34% of the respondents gave a score of 4 or “Highly Acceptable” and 21.66% gave a score of 3 or “Acceptable”, while the 0% of the respondents mark the system 2 and 1 or “Not Acceptable” and “Highly Not Acceptable”

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains summary of findings, conclusions and recommendation of the study.

Summary of Findings

Upon the tests and evaluations conducted in regards with the E-shop and Stop Website, the following are findings of the study:

The E-shop and Stop Website is created according to the plan and needs of the client. The website was built through the use of PHP and MySQL. The functions given to the users are such as adding to the cart, listing the purchased product, ordering, viewing availability, uploading photos for sale, login and purchasing process. The administrator did the process of updating and editing of products for sale, monitoring the sold product and registering his/her company. Based on ISO 25010 standard evaluation, it meets the satisfaction. Test results show that the system is well-working. All the transactions are archivized. Fifteen (15) evaluators affirmed that the website functioned to its intended purpose. The evaluation given and frequency rating 74.73 is interpreted as "Very Acceptable".

Conclusions

In conclusion of the objectives of the study and the results of the evaluation conducted, the following conclusions were derived:

1. The E-stop and shop website was successfully developed with the following feature:

- Manage products with description
 - Ordering system
 - Customer registration
 - Website Management Content
 - Manage payment
 - Sales inventory
2. The system was created using PHP and MySQL for database
 3. The system was successfully tested and with improved in terms of functionality.
 4. The system was evaluated using ISO 25010 as quality model metrics with a frequency percentage of 74.73% as "Highly Acceptable".

Recommendations

The following are the recommendation of the researchers of the study:

1. Add payment process including the bank and remittances.
2. Develop mobile based environment for registered customer.
3. Use Google map for customer's specific location.

REFERENCES

Book References:

Mark Gillenson, 2012, Database Management System 2nd Edition,
Tomas 2009, PHP Linux Web Server Edgarr F. Codd (2012), The Relational Model
Data for Large Shared Data bank of 1970

Online Reference

Alex Kowel (March 10, 2019) Website,
Retrieve from <https://en.m.wikipedia.org/wiki/> Website.
Date Retrieve: March 15, 2019

CDN copyright Apache Friends (2019). "What is XAMPP".
Retrieve from www.apache friends.org/index.html.
Date Retrieve: March 11, 2019

CodeIgniter Rocks. "What is CodeIgniter?".
Retrieve from <https://codeigniter.com>.
Date Retrieve: March 1, 2019

EKOegler (March 25, 2019). XAMPP.
Retrieve from <https://en.m.wi-kipedia.org/wiki/> XAMPP.
Date Retrieve: March 25, 2019

Ellislab. "What is CodeIgniter?"
Retrieve from <https://github.com/bcit-ci/CodeIgniter>.
Date Retrieve: March 1, 2019

FileHippo s.r.o Copyright (2019) "Sublime Text 3.2.3200"
Retrieve from https://www.filehippo.com/download_sublime_text/.
Date Retrieve: March 12, 2019

Jason Carswell (March 2019). Online Shopping,
Retrieve from https://en.m.wikipedia.org/wiki/Online_shopping.
Date Retrieve: March 11, 2019

Josve05a (March 13, 2019) HTML,
Retrieve from <https://en.m.wikipedia.org/wiki/HTML>
Date Retrieve: March 15, 2019

JsWisher (March 27, 2019). HTML: Hypertext Markup Language.

Retrieve from <https://developer.mozilla.org/en-US/docs/Web/HTML>.

Date Retrieve: March 30, 2019

Marcus Boiton (September 23, 2018).

PHP Mailer.

Retrieve from <https://github.com/ PHPMailer/PHPMailer/ wiki/ Tutorial>.

Date Retrieve: December 14, 2018

Margaret Rouse (2009). Flowchart.

Retrieve from <https://whatis.techtarget.com/search/quey?q=Flowchart>.

Date Retrieve: December 11, 2018

Narayan Prusty (April 24, 2015) “Sending Emails in PHP with PHP Mailer”.

Retrieve from <https://www.sitepoint.com/ sending -emails-php-phpmailer/>.

Date retrieve: March 5, 2019

Network Solution, LLC (2014). “What is E-commerce?”.

Retrieve from www.network solution. com/education/what-is-ecommerce.

Date Retrieve: December 14, 2018

Oracle (2019). “Why MySql”,

Retrieve from <https://www.mysql.com>.

Date Retrieve: March 11, 2019

SmartDraw, LLC. “What is Flowchart”.

Retrieve from <https://www.smartdraw.com/ flowchart>.

Date Retrieve: December 11, 2018

SmartDraw, LLC. “What is an Entity Relationship Diagram (ERD)?”,

Retrieve from <https://www.smartdraw.com/entity-relationship-diagram/#whatisERD>.

Date Retrieve: December 11, 2018

Shopify. “What is E-commerce?”

Retrieve from <https://www.shopify.com/encyclopedia/ what-is-ecommerce>.

Date retrieve: December 27, 2018

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Address: 1921 Prudencia St. Don Pedro Marulas, Valenzuela City

**Objective**

To apply my knowledge about troubleshooting, programming, and resolving technical issues. And, to learn more and experience the environment outside the university.

EDUCATIONAL BACKGROUND**Primary Education**

Serrano Elementary School

2005-2011

Secondary Education

Cayetano Arellano

Highschool

2011-2015

Tertiary Education

Technological University of
the Philippines - Manila

Bachelor of Science in
Information System

2015-2019

SKILLS

Programming Language: C, C#, C++, Java, JavaScript, PHP

Database: MySQL

Software Tools: MS Office, Adobe Photoshop & Illustrator, Cisco Packet Tracer

ACCOMPLISHED PROJECTS

- Sales and Inventory System
- Scheduling System
- Snake Game
- Document Verification using QR code
- E-Stop and Shop

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Objective

To acquire the knowledge and skills I have learned from school to the actual job environment and to offer my service to the company throughout the time duration of my training.

EDUCATIONAL BACKGROUND

Primary Education

San Isidro Elementary School
(2004 - 2011)

Secondary Education

Alcantara National High
School
(2011-2015)

Tertiary Education

Technological University of
the Philippines-Manila
Bachelor of Science in
Information System
(2015-2019)

SKILLS

- MICROSOFT OFFICE
- PHOTOSHOP
- CISCO PACKET TRACER

- ASSEMBLING AND DISASSEMBLING
- CABLING
- PHP
- CodeIgniter

ACCOMPLISHED PROJECTS

- E-Library System
- Accounting Management System Application Development
- E-Stop and Shop Website (Thesis)



Appendix A

Technological University of the Philippines
 College of Science
 Mathematics Department



TUP Evaluation Instrument

EVALUATION INSTRUMENT FOR E-SHOP AND STOP WEBSITE

Name (optional): _____

Instruction: Please evaluate this system by using the given scale placing a check mark under the corresponding numerical rating.

Numerical Rating

4
3
2
1

Equivalent
 Highly Acceptable
 Very Acceptable
 Fairly Acceptable
 Not Acceptable

INDICATORS	4	3	2	1
Functionality				
1. Ease of Operation				
2. Provision for comfort and convenience				
3. User friendliness				
Reliability				
1. Maturity of the system				
2. Fault tolerance				
3. Recoverability				
Usability				
1. Understandability				
2. Learnability				
3. Operability				
Efficiency				
1. Time behavior				
2. Resource behavior				
Maintainability				
1. Analyzability				
2. Changeability				
3. Stability				
4. Testability				
Portability				
1. Adaptability				
2. Ease of installation				
3. Conformance				
4. Ease of replacement				

Appendix B

EXAMPLE ANSWERED EVALUATION INSTRUMENT



Technological University of the Philippines
 College of Science
 Mathematics Department



TUP Evaluation Instrument

EVALUATION INSTRUMENT FOR E-SHOP AND STOP WEBSITE

Name (optional): PATRIK

Instruction: Please evaluate this system by using the given scale placing a check mark under the corresponding numerical rating.

Numerical Rating
4
3
2
1

Equivalent
Highly Acceptable
Very Acceptable
Fairly Acceptable
Not Acceptable

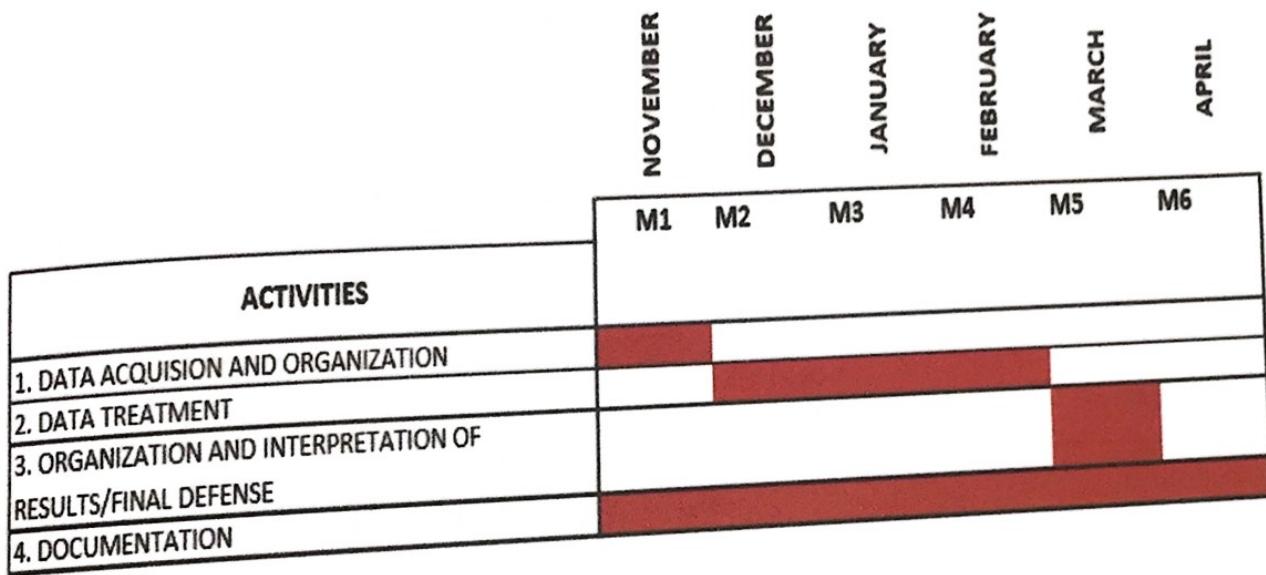
INDICATORS	4	3	2	1
Functionality				
1. Ease of Operation	✓			
2. Provision for comfort and convenience		✓		
3. User friendliness		✓		
Reliability				
1. Maturity of the system	✓			
2. Fault tolerance		✓		
3. Recoverability			✓	
Usability				
1. Understandability	✓			
2. Learnability	✓			
3. Operability		✓		
Efficiency				
1. Time behavior	✓			
2. Resource behavior		✓		
Maintainability				
1. Analyzability		✓		
2. Changeability		✓		
3. Stability			✓	
4. Testability				✓
Portability				
1. Adaptability	✓			
2. Ease of installation		✓		
3. Conformance			✓	
4. Ease of replacement				✓

Appendix C
Summary of Respondent's Evaluation

Functionality	Reliability	Usability	Efficiency	Maintainability	Portability
4 3 3	4 4 3	4 4 4	4 3	4 4 3 4	4 3 4 4
4 3 3	3 3 3	4 3 3	4 4	3 4 4 3	4 3 3 4
4 3 4	4 4 4	4 4 4	4 4	3 4 3 4	4 4 4 4
3 3 3	4 4 4	3 3 3	4 4	3 3 3 3	4 4 4 4
4 4 3	4 4 4	4 3 4	4 4	3 3 4 4	4 4 4 4
4 4 4	3 3 4	4 4 4	4 4	4 3 4 4	4 4 4 3
3 3 4	4 4 4	4 4 3	4 4	4 4 4 4	3 4 4 3
4 3 4	4 3 4	4 4 4	3 4	4 3 4 4	4 4 4 4
4 4 3	3 3 4	4 4 4	4 4	4 4 4 4	3 4 4 4
3 4 4	3 3 4	4 3 3	4 4	4 4 4 4	4 4 4 4
4 4 3	4 4 4	4 4 3	3 4	4 4 4 4	4 4 4 3
3 4 4	3 3 4	4 4 3	4 4	4 4 4 4	4 4 4 3
4 4 4	4 4 4	4 4 4	3 4	4 4 4 4	3 4 4 3
4 4 4	3 4 4	4 3 4	4 4	4 4 4 4	3 4 4 4
3 3 4	4 3 4	4 4 4	4 4	4 4 4 4	3 4 4 4
55 53 54	54 53 58	59 55 54	57 59	56 55 57 58	55 58 59 55
3.67 3.53 3.6	3.6 3.53 3.87	3.9 3.53 3.6	3.8 3.9	3.7 3.53 3.8 3.87	3.53 3.87 3.9 3.53
3.6	3.67	3.68	3.85	3.73	3.71

Overall Mean: 3.7

Appendix D
GANTT CHART



GRAMMARIAN CERTIFICATE

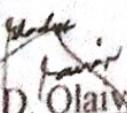
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**GRAMMARIAN CERTIFICATION**

This is to certify that the undersigned has reviewed and went through all the pages of the project study/ thesis entitled "**DEVELOPMENT OF E-STOP AND SHOP WEBSITE**" developed by Georgie L. Alajar and Rove-ann F. Galin was aligned with the set of structural rules that govern the composition of sentences, phrases and words in the English Language. Also, all corrections and recommendations made have been done and/or incorporated in the final project study.

Issued this 22nd day of April 2019.

Signed:


Gladys D. Olaivar, LPT
Grammariian/English Editor