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## Island Gas Ordering and Delivery System

A System Architecture and Design Project Documentation  
Presented to

The Department of Information Technology  
**Quezon City University**

In Partial Fulfillment  
of the Requirements for the Degree  
**Bachelor of Science in Information Technology**

**BSIT – 2F**

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(Date)

## APPROVAL SHEET

In partial fulfillment of the requirements for the degree BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY, this System Architecture and Design project entitled "Island Gas Ordering and Delivery System", has been prepared and submitted by MALIWAT, WHACKY C., MESTIOLA, NATASHA MAE R., POLLOSO, MARY JOY C., REGIS, JOHN CARLO E., RIVAS, EDWARD KENZO, SANDIQUE, RUBEN JR. A, SECULA, CHRISTOPHER B., SORIANO, JOSHUA ARON J., TAKASE, KOJIE TOLEDO JOHN AEROL G., VIAJE, JERALD S., VILLA CHARLES JOHANN P., VILLAVERA, GABRIEL ANGELO G., who hereby

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## DEDICATION

This project is wholeheartedly dedicated to our beloved parents, as our source of inspiration to pursue our study, to our professor who constantly taught us important reminders in doing this project, and to our team who shared their knowledge and did their best throughout the making and completion of this project.

## ACKNOWLEDGEMENT

We would like to express our deepest gratitude to our Almighty God who made all these possible, as well as to our parents who constantly support us in our study. To our professor who gave us this opportunity to do this wonderful project which helps us test our knowledge and skills while making this project.

We also want to take this opportunity to express our appreciation to our team who gave their best and share their knowledge to attain each and everyone's roles and responsibilities for the fulfillment of this project. For the encouragement and teamwork which made this project possible.



## EXECUTIVE SUMMARY

Liquefied petroleum gas (LPG) has emerged as the most environmentally friendly, cost-effective, and energy-efficient petroleum for both residential and commercial use. It is used in cooking, baking, and other similar activities. Although LPG is the most popular and cost-effective fuel for homes and businesses, there is a significant challenge associated with purchasing the gas at the stations.

The system's primary purpose is to make ordering for clients easier and to keep track of regular delivery schedules. To have an additional online system for tracking the company's performance for the business owner. The Data Flow Diagram was used by supporters to graphically represent the flow of data in a business information system. It is used to describe the processes that take place in a system to transfer data from the input to the file storage in order to perform certain business functions. Researchers also used a graphical representation known as an Entity Relationship Diagram (ERD) to depict relationships between people, objects, concepts, or events within our proposed system. In addition, the study was depicted using Context Diagrams and Use Case Diagrams for a better visualization of the entire system and transition to a fully operated system. While on the other hand, the Agile method was used in the research study's development methodology for the process, development guides, and to fully satisfy the system's demand and necessities. The Software Testing Life Cycle (STLC) was also used as the foundation for our system's testing procedure, demonstrating the specific actions performed sequentially during the process to ensure that the software quality objectives are met.



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## TABLE OF CONTENTS

Approval Sheet	ii
Dedication	iii
Acknowledgement	iii
Executive Summary	iv
Table Of Contents	v
List Of Tables	vii
List Of Figures	viii
List Of Appendices	ix
CHAPTER I Project Background	10
Introduction	10
Project Background and Context	13
Project Purpose and Description	14
Main Objective	14
Specific Objectives	14
Scope and Delimitations of the Project	15
Definition of Terms	16
CHAPTER II Review of Related Literature and System	17
CHAPTER III Technical Specifications	28
Hardware	28
Software	29
Diagrams and Flowcharts	30-37
CHAPTER IV Methodologies	38
System Development Methodologies	38-40
Conceptual	41
Testing Procedures	42
CHAPTER V Summary and Recommendation	46
Summary	46
Recommendations	47



# QUEZON CITY UNIVERSITY



Tables	48 -50
Appendices	51-65
References	66



## **QUEZON CITY UNIVERSITY**



#### REFERENCES

## LIST OF TABLES



# **QUEZON CITY UNIVERSITY**



## LIST OF FIGURES



# QUEZON CITY UNIVERSITY



## LIST OF APPENDICES

Appendix	Title	Page No.
A	Gantt Chart	51
B	Context Diagram	52
C	Screenshots of Web User Interface	53 - 58
D	Target Beneficiary Information Gathering Questionnaire	59 - 65



## CHAPTER I

### PROJECT BACKGROUND

#### Introduction

Since the emergence of social media, the Internet has become widely popular, and almost all information and processes have been converted into soft data carried by the Internet. From the mode of communication going far beyond transactions involving money and finances. The Internet has encouraged almost every industry to combine their marketing strategies and management with the trend of online settings.

Island Gas Inc. is one of the companies entering the field of online expansion in management processes. It is a family operated business located in Batangas. The store offers POL valve “De rokas” LPG gas, LPG tanks with the range sizes of 11 to 14 Kilograms and other related products. Nelson Rayos is the company's current Chief Executive Officer. Every business day, from 8 a.m. to 5 p.m., the operation has 10 employees divided into workloads. Because of the high demand and popularity of the store, the company provided its own delivery team using motorcycles with sidecars and four wheeler vehicles to maximize its service of delivery to its customers.

The company recently joined Facebook's online marketing platform through a page with 59,022 followers. It becomes their advertising strategy, uploading products, prices, promos and services. Since then, the connection of the company has expanded from the usual associates. The area of service has already expanded, throughout Metro Manila, Southern Tagalog, Central, Northern Luzon and Bicol Region. From this phase of expansion the company has become more popular to the customers, they've been patronized by hundreds of other small businesses and companies. Eversince the company maintained a good relationship with their valued customers then good quality of service



## QUEZON CITY UNIVERSITY



spreads faster than expected. On this good momentum of demand, the company offers franchising with their good term business associates.

The company sought the best experience for its customers, so they joined the online information collection of researchers from Quezon City University's second-year college of Information Technology Bachelor of Science. They have been selected as the beneficiary of the system entitled "Online Ordering and Delivery system." This may help them manage the customers orders and delivery even more better, easier and accurately. For the best experience of the customers is always the company's priority.



## Project Background and Context

The project goal of the proponents is to analyze the effectiveness of the Gas Ordering System as compared to traditional delivery tools. However, the majority have also faced significant challenges in establishing a sustainable business model based on their core technology and resources availability.

The purpose of this project is to explore four key challenges facing the Island Gas Ordering and Delivery System. To monitor the usage of LPG by customers to enable efficient re-filling and distribution, Making customers' payment transparent against the LPG used and securing and tracking cylinders to prevent theft/loss.

The Gas Ordering System can be defined as a simple and convenient way for customers to purchase online, without visiting Island Gas Store. This system is enabled by the internet – it is the internet that broadcasts the “Island Gas”. The customer can visit the website, browse through the various items available there and proceed with the checkout.

These will then be delivered to the customer's location at the time of their chosen date by a delivery team/person. Such online orders can be paid for with Gcash, Paymaya, Paypal and Cash on Delivery. This Gas online delivery system is completely safe and secure, and it is a very popular method that is revolutionizing the way LPG Gas industry operates.



## Project Purpose and Description

The pandemic is an unexpected happening. It brought negativity to everyone, but on the other side, online marketing and transaction systems have been spotted with high value. Bringing flexibility and efficiency for both customers and businesses.

The **Gas Ordering and Delivery System** is one of the online pre-ordering systems designed to help the customers meet their needs in terms of kitchen use Gasses and other related products. People would rather order online than leave their houses to go to the gas store. Not only are hassle-free services convenient, but they are also reassuring. The convenience attracts many different types of customers. Customers could make payments via Gcash, Paymaya, or paypal, but the system must prioritize cash on delivery. Customers could make payments via Gcash, Paypal Paymaya, but the system prioritizes cash on delivery. All payment transactions take place at the delivery location rather than online. The time and date of delivery are automatically generated, and orders can be received the same day.



## Main Objective

The main goal of the system is to bring convenience to customers when ordering and to track regular delivery schedules. For the business owner to have a supplemental online system that manages the performance of the business.

## Specific Objectives

- Will have a dashboard for the supplier to monitor the orders and check the delivery time and dates. Will manage orders by viewing order details, payment mode, delivery status, notifying customers , etc.
- The system will be internet operated for the flexible accessibility of the users.
- The system will present the location/address of the LPG GAS store.
- The system will have payment methods such as Paypal, Paymaya, Gcash, and Cash on Delivery.



## Scope and Delimitations of the Project

### Scope

The study covered gas ordering and delivery systems. It is a system that focuses on offering services that make customers' life easier at their own pace, at any time and in any location. The system protects customers' information, particularly their payments. They can also track the progress of their orders and receive updates on when they will be receiving it. It provides a list of products along with their pricing.

### Delimitations

The delivery system is only limited to the branch that wants to use the system. Delivery Services such as courier which has a third party system are not covered on this for they have separate systems management. Lastly, the online ordering system has a limited operating hours and can only serve a certain number of orders.



## Operational Definition of Terms

This section presents the operational definition of terms that can help the reader further understand the study.

**Beneficiary** - the company or business which the project will be endorsed to. The future owner of the out system.

**Customers-** In sales, commerce, and economics, a customer is the recipient of a good, service, product or an idea - obtained from a seller, vendor, or supplier via a financial transaction or exchange for money or some other valuable consideration.

**Delivers-** Delivery is the process of transporting goods from a source location to a predefined destination. Cargo is primarily delivered via roads and railroads on land, shipping lanes on the sea, and airline networks in the air.

**E-payment** - An electronic payment is a digital transaction that will be used on this system. E-payment types available in the system are Gcash, PayPal, and fundtrasfer on banks mobile application(if applicable).

**E-Receipt** - Electronic receipt is one created in a computerized cash register, or by an online retailer. It will usually show the date and time, how payment is made, and other details of the sale.

**LPG** -Liquefied Petroleum Gas(LPG) is a by-product of natural gas extraction and crude oil refining. LPG is a mixture of hydrocarbon gases, the most common being butane and propane. At room temperature, LPG is a colorless and odorless non-toxic gas. It is a far superior way of cooking for it has low sulphur content and controllable temperature.



## CHAPTER II

### REVIEW OF RELATED LITERATURE AND STUDIES

#### Foreign Literature, Studies and Systems

##### **Gas delivery system**

A gas delivery subsystem selectively delivers gases from gas sources, it is a system for a substrate processing system including a first manifold and a second manifold. A system for making a welded assembly.

Authors: Leicht, P & Zhai Y. ,et al. (2017)

##### **LPG Delivery Sequencing for Real-Time Continuous Incoming Purchasing Orders**

In Thailand's LPG (Liquefied Petroleum Gas) distribution company, the research study shows a created calculating algorithm for delivery sequencing for real-time purchasing orders. Customers call the LPG call center to seek services, and most of the time, each customer's order requires quick attention.

Authors: Teekaputti and Charoenchai. (2021)

##### **A learning and optimizing system for order acceptance and scheduling**

Order acceptance and scheduling is an interesting scheduling problem when scheduling and acceptance decisions need to be handled simultaneously. The aim of this system is to combine the advantages of the hyper-heuristic for learning useful scheduling rules and the meta-heuristic for further refining the solutions from the obtained rules.

Author: Nguyen, S (2016)



## **Integrated on-line scheduling of order batching and delivery under B2C e-commerce**

Order batching is a means of breaking down a large number of orders into smaller groups, or batches. Small lot-size orders coming dynamically within a particular time period should be sorted into batches and packed up before a specified departure time, since many warehouses outsource order delivery to a Third Party Logistics (3PL) provider in B2C e-commerce which reveals the importance of integrating order batching with delivery.

Author: J Zhang (2016)

## **Scheduling the periodic delivery of liquefied petroleum gas tank with time window by using artificial intelligence approaches: An example in Taiwan**

In Taiwan, liquefied petroleum gas tank users have to call a gas company to deliver a full liquefied petroleum gas tank when their tank is out of gas. The objective of the problem is to minimize the total traveling distance of the vehicle such that the delivery efficiency of tanks increases and the waiting time of customers decreases. Numerical results, including a practical example in Yunlin, Taiwan, were provided to show that the adopted approaches can significantly improve the efficiency of delivery.

Authors: Hsieh,Y., You, P. and Chen, C.( 2021)

## **Deployment of Monitoring Application for LPG Gas Delivery Using GPS and Geofencing Technology in PT. Resmi Gas Syahda**

The method used in this study is the identification of problems, data collection, design, testing, and conclusions. Data collection were interviews and questionnaires, in order to overcome these problems, companies in monitoring the delivery of LPG through GPS technology. Based on testing Black Box, Alpha and Beta, it can be concluded that



the construction of LPG delivery applications are expected to provide a solution to all the difficulties experienced by the company.

Authors: Herawan, T. Dewi, E. (2017)

### e-SEVA for LPG Delivery

This evolution has decreased the business of traditional marketing and people choose online purchasing rather than purchasing goods in the shops.. Our aim in this paper is to create a bridge between the customer and the supplier. The supplier is selected based on the nearest location of the customer. The development of technology has led to human convenience and effective marketing.

Authors: Prema T. Akkasaligar,(2020)

### Cooking gas (LPG) Distribution to Rivers State Homes, Case Study: Choba Community

This study unveils a distribution mechanism for effectively transporting cooking gas safely to homes in Rivers State. The project impacts on the major environmental components of the study area were assessed and considered .The distribution routes considered locations of present gas processing plants in Rivers State and optimized routes for transport was introduced. Local terminals to ease distribution, monitoring and safety were also included. The economic analysis of this study will show how the distribution of cooking gas to homes can increase the utilization of Nigerian gas and improve the benefits from Nigerian gas in the next 10 years

Authors: Amadi H. ,Uneh E. , Onwa C. and André N. (2021)

### Designing optimal route for the distribution chain of a rural LPG delivery system

This research looks at a realistic distribution system that develops when distributing liquefied petroleum gas (LPG) via cylinders. The goal of this issue is to



determine the best routes for a group of vehicles based at a distributing agency (DA) that provides simultaneous pickup and delivery operations for a single product. A comparative study is performed between the LSA and existing results for the relaxed version of the present model. Further, the efficiency of the LSA is tested through numerical experiments over small and medium CVRP benchmark test instances. The extensive computational results have shown that the LSA is productive and revealed that the real solutions are more consistent than the integral solutions in the presence of a truncation constraint.

Authors: Singamsetty, P & Thenepalle, J. ,(2020)

## **Robust Order Scheduling in the Discrete Manufacturing Industry: A Multi objective Optimization Approach**

This paper takes the fashion industry as an example and discusses the robust order scheduling problem in the fashion industry. By considering the pre-production events and the uncertainties in the daily production quantity, robust order scheduling problems in the fashion industry. We also unveil that the existence of the uncertainties in the daily production quantity heavily affects the order scheduling.

Authors: Du W. ,Yang T., Feng, Q., Athanasios V., Le T., (2018)



## Local Literature, Studies and Systems

### Delivery System

The existence of three themes in the study: competence, compassion, and integrity, might be used to assess the trustworthiness of electronic commerce. In the first topic, online customers can identify if an online business is reliable if it has a well-functioning payment system and fair product prices. Customers also place a premium on the delivery system when it comes to electronic commerce. This focuses on the precision of company deliveries in terms of delivery location and time, as well as the decorum and demeanor of the product deliverer. Furthermore, a company is compliant if it allows customers to cancel purchases and does not change the ordered goods after delivery. Finally, a reliable internet business preserves the quality of its items, particularly perishable commodities.

Authors: Uy, J. et al.,(2019)

The model depicting the relationship between trust in courier services, perceived service quality, and future intent to utilize the service is the key contribution to management theory. The goal of this study was to see how two basic variables from the technology acceptance model influenced trust in courier services and their quality. In addition to interpersonal trust, the authors presented a novel approach to the notion of trust in services that centered on trust in the supplier or trust in the technology used. In terms of methodology, the authors developed a scale to assess the usefulness, convenience of use, and customer trust in the context of courier services. The findings of the study will help managers in the field of courier services. The findings on the relationship between customer trust and perceived service quality can be used as a source of data for co-creating long-term services. Customer loyalty becomes a major



## QUEZON CITY UNIVERSITY



issue, courier service providers and consumers should collaborate on best practices for accepting current technologies in order to maximize the benefits of technology trust.

Authors: Ejdys, J. & Gulc, A. (2020)

During the new normal of the COVID-19 pandemic, the current study is one of the studies that evaluated aspects affecting customer satisfaction and loyalty in OFDS measurements. The study's findings can be used by OFDS developers to improve the quality of their services. Furthermore, according to this research, OFDS providers should pay attention to consumers' Hedonic Motivation (HM), Price (P), Information Quality (IQ), and Promotion (Pro). Finally, This research can be used to assess the elements that influence consumer satisfaction and loyalty in OFDS measures in other countries affected by the Covid-19 epidemic.

Authors: Prasetyo et al.,(2021)

The study was conducted with the assumption that customer happiness represents a company's service excellence. As a result, the purpose of this study is to measure customer satisfaction with chosen courier services in Cabanatuan City, Nueva Ecija, to determine the impact of satisfaction in satisfying customers expectations. Customers are satisfied with courier business service, according to the findings. Both clients and employees are quite satisfied with the system/process of service and delivery. As a result, the researchers concluded that this area of service matches customer expectations.

Authors: Diaz, R. (2019)



## Ordering System

The system can assist the catering administration in filtering, monitoring, storing, and protecting all reservation records because all of the files will be saved in the database. The system will aid the administration in making tasks such as updating, adding new menus, and printing records simple and quick. It is more secure and trustworthy to process reports and records of reservations using an automated online system than it is to use a manual one. Clients can check their reservations and availability at any time while online, and they can make catering reservations immediately. The system's login and password are only accessible to authorized personnel.

Authors: Brigula, N. (2016, October)

Rkmi has four locations across the country. Sales and inventories are handled manually by the company, which causes issues. Workers, for example, have their own notebook for tracking the spools and goods they've created, which creates inventory, sales reports, and delivery delays. The study is specifically designed to assist RKMI with one of its time-consuming and delicate tasks: ordering , sales, and inventory management. The challenges that the company faces will be decreased, and the workload of the staff will be reduced, thanks to the approach proposed in this study. In addition, by using the proposed system, the company will be able to expand their market, increase their advertising, and improve their customer service.

Author: Atienza, J. (2019)

The system also enables the quick and easy management of an online menu that clients can browse and order with a few mouse clicks. For efficient processing, restaurant personnel place these orders using an easy to use graphical interface.

Author: Patel,M.(2015)



## QUEZON CITY UNIVERSITY



Mobile commerce, commonly referred to as m-commerce, is an internet transaction carried out using mobile devices such as smartphones. Smartphones have become one of the essentials of today's young consumers in the Philippines, and it is undeniable that these are the consumers who engage in m-commerce. The study looked into the opinions of young customers in the country about the usefulness, hazards, acceptance, and satisfaction of m-commerce.

Authors: Almonte, R. et al.,(2021)

Customers are drawn to online shopping because it provides convenience, discounts, and a wide variety of product options on a single website. Customers can purchase from websites utilizing internet-connected devices with little effort (Desktop, computers, laptops, and mobile phones). One of the site's motivations is the giving of discounts and savings, which can entice and provide leverage for customers to purchase online rather than in a real store. These circumstances will be viewed as an opportunity for large retailers to efficiently ship their products in order to generate greater income.

Author: Macarayo (2017)



## QUEZON CITY UNIVERSITY



Consumers have discovered that online purchasing has numerous advantages. Because online retailers are open 24 hours a day, the issue of a store closing before a customer can make it on time is eliminated; shoppers do not have to wait in long, aggravating lines over the holidays. Because internet businesses have lower operational costs, they can sell goods at lower rates, making online shopping not only faster and more convenient, but also less expensive than traveling to a physical store. Although there are benefits to shopping online, there are numerous disadvantages to conducting business online. Online retailers are unable to give person to person interactions. Backordered goods may be extremely frustrating for customers, especially during the holidays. Customers also miss out on the one on one interaction that an online retailer cannot provide.

Author: Svonavec (2017)



## Synthesis of the Reviewed Literature, Studies and Systems

A gas delivery subsystem selectively delivers gasses from gas sources, it is a system for a substrate processing system including a first manifold and a second manifold. A system for making a welded assembly (**Leicht, P & Zhai Y. ,et al. (2017)**). In Taiwan, liquefied petroleum gas tank users have to call a gas company to deliver a full liquefied petroleum gas tank when their tank is out of gas (**Hsieh,Y., You, P. and Chen, C.( 2021)**), and most of the time, each customer's order requires quick attention (**Teekaputti and Charoenchai. (2021)**).

For the best service order acceptance and scheduling is an interesting scheduling problem when scheduling and acceptance decisions need to be handled simultaneously. (**Nguyen, S (2016)**). One of the solutions is the use of Order batching which means breaking down a large number of orders into smaller groups, or batches. Small lot-size orders coming dynamically within a particular time period should be sorted into batches and packed up before a specified departure time. (**J Zhang (2016)**). It is also found out that the construction of LPG delivery applications are expected to provide a solution to all the difficulties experienced by the company (**Herawan, T. Dewi, E. (2017)**) such as finishing time-consuming and delicate tasks: ordering , sales, and inventory management (**Atienza, J. (2019)**). The system for quick and easy management of an online menu that clients can browse and order with a few mouse clicks (**Patel,M.(2015)**), effective in marketing (**Prema T. Akkasaligar,(2020)**). Mobile commerce, also known as m-commerce, is an internet transaction conducted using mobile devices such as smartphones. Smartphones have become a necessity for today's young Filipino consumers, and it is undeniable that these are the consumers who engage in m-commerce. (**Almonte, R. et al.,(2021)**). Customers prefer online shopping because it offers convenience, discounts, and a wide range of product options on a single website.



## QUEZON CITY UNIVERSITY



Customers can easily purchase from websites using internet-connected devices (Desktop, computers, laptops, and mobile phones) (**Macarayo (2017)**). But still consumers should collaborate on best practices for accepting current technologies in order to maximize the benefits of technology trust (**Ejdys, J. & Gulc, A. (2020)**). There are benefits to shopping online but there are also disadvantages. Online retailers are unable to give person to person interactions with customers. Backordered goods may be extremely frustrating for customers, especially during the holidays. Customers also miss out on the one-on-one interaction that an online retailer cannot provide. (**Svonavec (2017)**).



## CHAPTER III

### TECHNICAL SPECIFICATIONS

This chapter discusses the technical specifications of the hardware and software requirements that have been used in developing and implementation of this project.

#### SOFTWARE AND HARDWARE OF THE DEVELOPER

##### TECHNOLOGIES

The proponents decided to use the following technology hardware and software for building the Island Gas Ordering and Delivery System.

##### HARDWARE:

**Device name:** DESKTOP-VRUO066

**Processor:** Intel(R) Core(TM) i3-9100 CPU @ 3.60GHz 3.60 GHz

**Installed RAM:** 8.00 GB (7.13 GB usable)

**System type:** 64-bit operating system, x64-based processor

##### Windows specifications

**Edition:** Windows 10 Pro

**Version:** 21H1

**OS build:** 19043.1348

**Experience:** Windows Feature Experience Pack 120.2212.3920.0



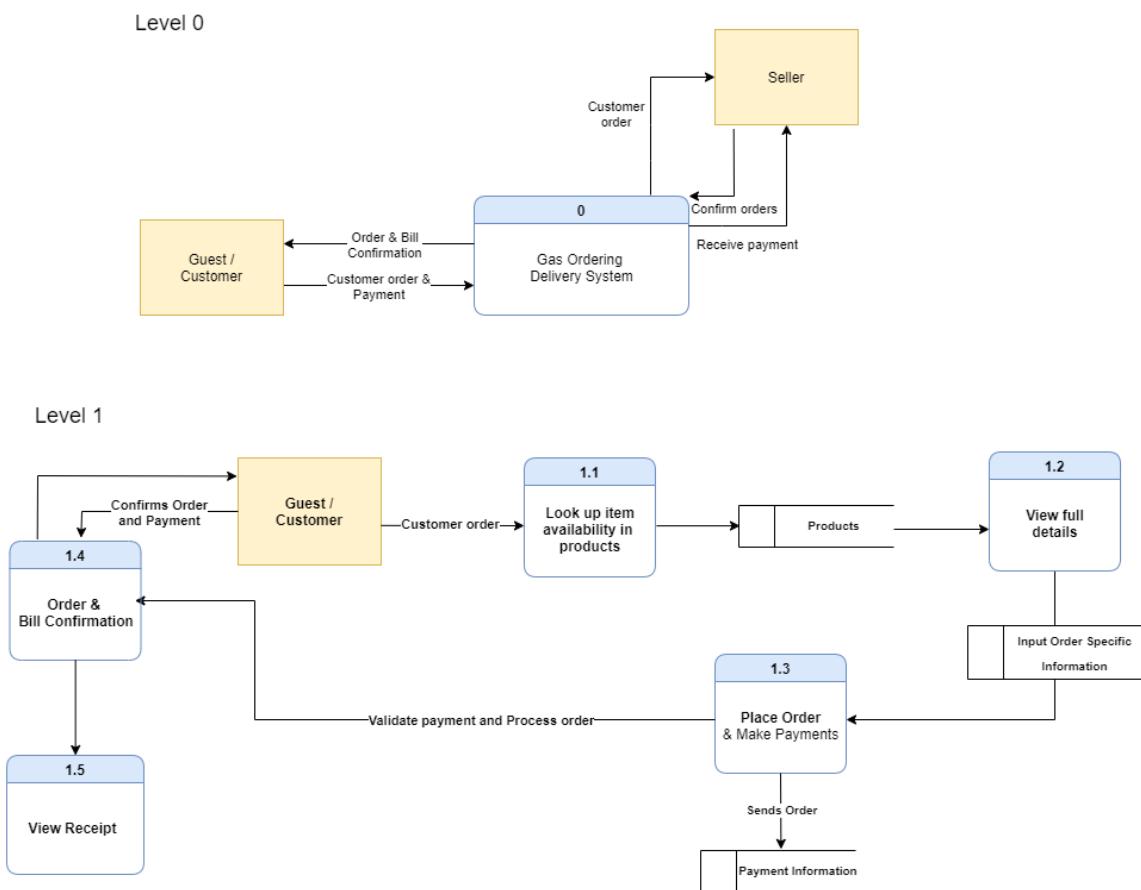
## SOFTWARE:

1. Windows 10 Pro 64-Bit
2. Sublime/Notepad
3. Visual Studio Code
  - The programmers decided to use Sublime/Notepad and Visual Studio Code for the front-end of the Island Gas Ordering and Delivery System.
4. XAMPP (MySQL)
  - The programmers decided to use the XAMPP (MySQL) database to store all information and form related tables for the Island Gas Ordering and Delivery System. XAMPP (MySQL) will serve as the back-end of the system.
5. Programming Languages used
  - Hypertext Markup Language (HTML)
  - Cascading Style Sheets (CSS)
  - JavaScript
  - PHP: Hypertext Preprocessor



## DIAGRAMS AND FLOWCHARTS

### DATA FLOW DIAGRAM (DFD)



The Data Flow Diagram graphically represents the flow of data in a business information system. It is used to describe the processes that are involved in a system to transfer data from the input to the file storage to perform certain functionality of a business.



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The Level 0 or the Context diagram of our Data Flow Diagram shows the basic overview of the whole system or the process being modeled. This diagram shows the whole system represented as a single process. Based on the diagram, the gas ordering delivery system will process the activities being done from the customer to the seller. From the system, the customer will input the order from the list of products and services available in the system and will choose their method of payment from the lists. The order will prompt the seller, as well as the payment of the customer chosen from the varieties of payment method. After being confirmed in the system by the seller, the processed and lined up for delivery.

Level 1 of our Data flow diagram will note each of the major sub-processes that comprise the entire system, highlighting the main functions of a system while visualizing data flow, processes, and output data flows. The external entity, the customer, will see variations of products and services available from the system, and they will be the ones to input their desired product and their preferred method of payment present in the system. The system will execute the process by looking up the item availability in the product lists; from there, the system will be able to see the product and the data will flow from the executed process to the data stored in the system, which are the lists of available products in the system; it will view the full details of the available product, specifically the customer's order information.



## QUEZON CITY UNIVERSITY



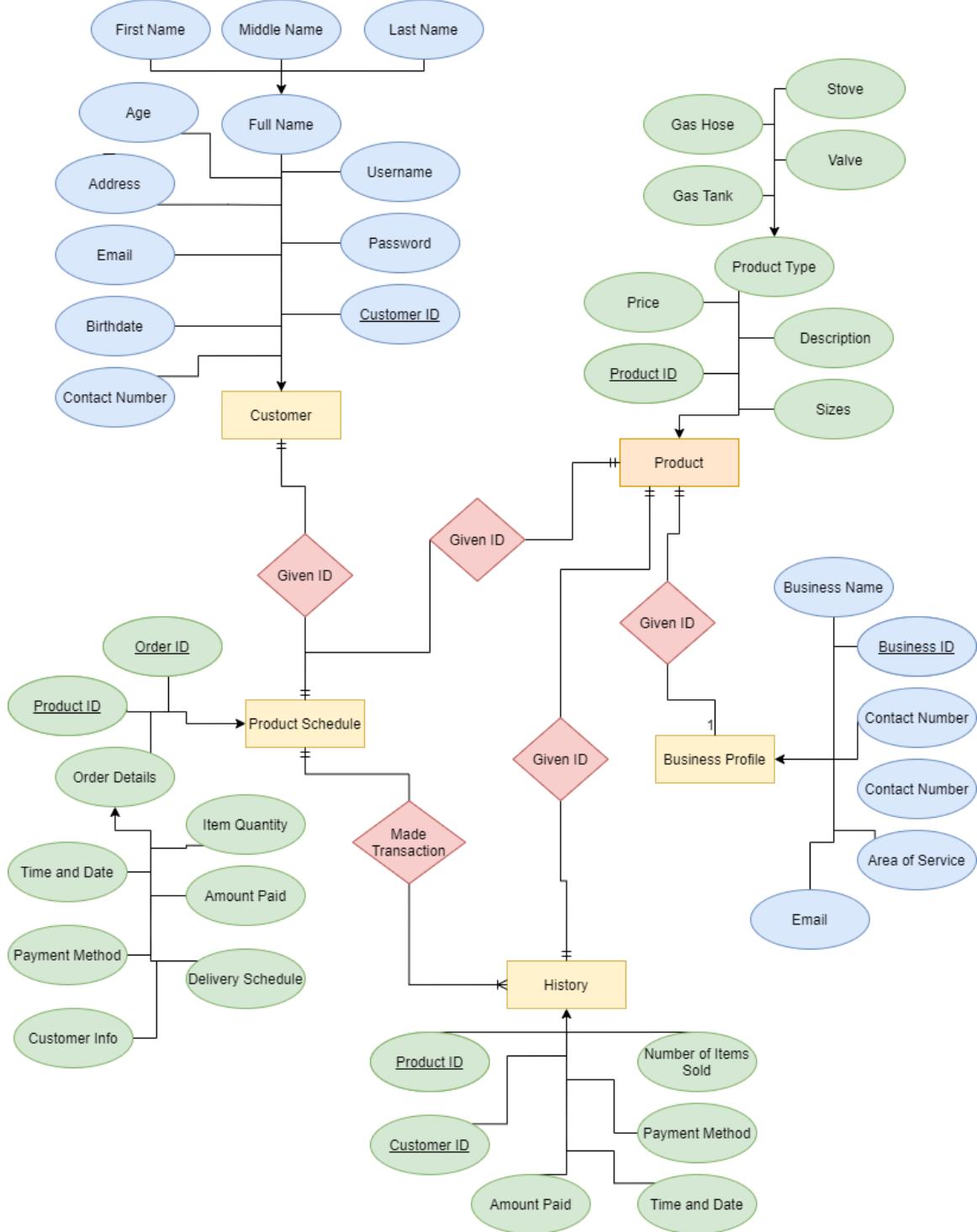
It will execute a process by placing the order and making payments based on the availability of the product and the full details of the specific product, it will send the data to the system carrying out the order and its details, the data stored in the system which contains the payment information will validate the payment and process order, thus the data flowed from the stored data will execute the process of confirming the order and the customer's bill. The data will prompt the customer to view a summary of their order as well as their payment method, allowing them to determine whether or not the system gone through the process accurately and the method of payment, for them to check if the system carried out the process well.



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## ENTITY RELATIONSHIP DIAGRAM (ERD)





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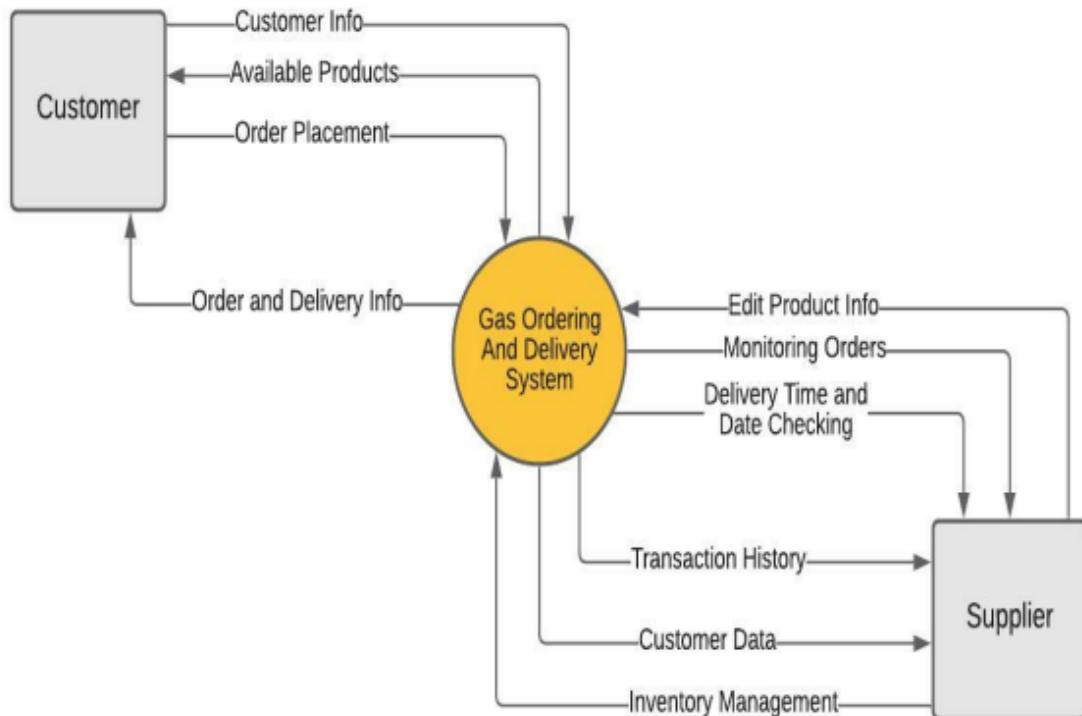


The purpose of this entity-relationship diagram is to illustrate the graphical representation that depicts relationships among people, objects, concepts, or events within our proposed system, which is the Gas Ordering and Delivery System. As illustrated in this diagram, there are five entities that represent the system's key components. Those are the Customer, Product, Business Profile, Product Schedule, and History.

The Customer entity contains personal information attributes which are required upon registration of the customers on the website, it also includes the username and password needed for the login and the Customer ID that is auto-generated upon the user's registration. The Product entity holds the details such as the price, sizes, description, variations, and identification of each type of product. The Business Profile entity contains the information, contact number, area of service, and email of the company. As a seller, they can make changes to the products, and they can monitor the health of their business through the dashboard. The History entity also contains the product id, customer ID, and the customer's order details, which are only located and can be managed in the seller's dashboard. Lastly, the Product Schedule entity can show the information about customers' purchases. Sellers can monitor the whole transaction while customers can only view the order details.



## CONTEXT DIAGRAMS



The objective of the system context diagram is to focus attention on external factors and events that should be considered in developing a complete set of systems requirements and constraints. The context diagram of Gas Ordering and Delivery has two entities, the customer and supplier. The customer can manage their information, access available gas products and place their order through the system. The supplier on the other hand holds all the information about transaction history, customer data and can edit



product information. Suppliers manage their inventory, monitor orders, and receive delivery time for orders from the system.

## USE CASE DIAGRAM



This diagram describes the general processes or functions that the system could perform based on the transactions between the seller and the customer. Logging in and out is required for both the seller and the customer. The seller could manage and monitor



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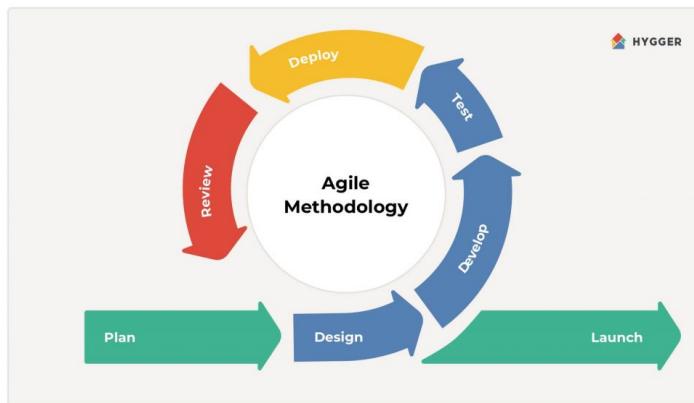
their customers' information and status. They can also manage and view every transaction created or formed by their customers, as well as the delivery date, location, and payment method chosen. If the customer does not have an account, they can create one by signing up in order to view the menu or product more easily. They begin to place their orders and are given the opportunity to provide feedback. on the effectiveness of websites and businesses.



## CHAPTER IV METHODOLOGIES

This chapter describes the methodologies used by the proponents in developing the project.

### System Development Methodologies



The study's goal is to create an online ordering and scheduling system that will benefit both the consumer and Island Gas Company. The ordering and scheduling system will help the customer save time when ordering LPG gas for their kitchen or business use; to view different sizes of the product even without physical interaction with the store and supplier/s; to place orders that will be delivered on the same day; to pay with flexible modes with E-wallets such as Paymaya, Paypal, Gcash, and more; the system also includes the ability to view previous transactions .



The system also assists the company in the following ways: accessing delivery schedules and other transaction histories; and having more interactions with customers online upon delivering good news and the company's success.

The proponents' goal is to use the system's features to meet the needs of customers and suppliers. The researchers will use agile methodology to take a systematic approach to each process of the system's development.

## **Plan**

This phase necessarily involves brainstorming with researchers, developers, analysts, and database managers in order to develop cutting-edge plans and strategies. This was also the time when workloads were being distributed, target timeframes for each development stage were being established, and raw ideas on system requirements and features for customers and suppliers were being gathered.

## **Design**

The stage in which data is identified, database tables, data flow diagrams, and database structure are designed. The design phase also includes research for the gathering of ideas and the creation of prototypes. At this stage, the system specifications and features to meet the system objectives are identified. This also includes the development of layouts, event flows, data flows, and preliminary system designs.

## **Develop**

During the Development phase, system developers collect the logical details from the planning and designing phases as well as convert them into machine-executable forms. They also ensure that the system's individual components function properly and interface properly with other components of the system.

## **Test**



At this point, the product becomes available to customer/s, so the team runs a series of tests to ensure that the software is fully functional. If any potential bugs or flaws are discovered, the developers will fix them as soon as possible. At this point, they also gathered customer feedback on the systems functions, designs, Effectiveness, and quality of transactions.

## Deploy

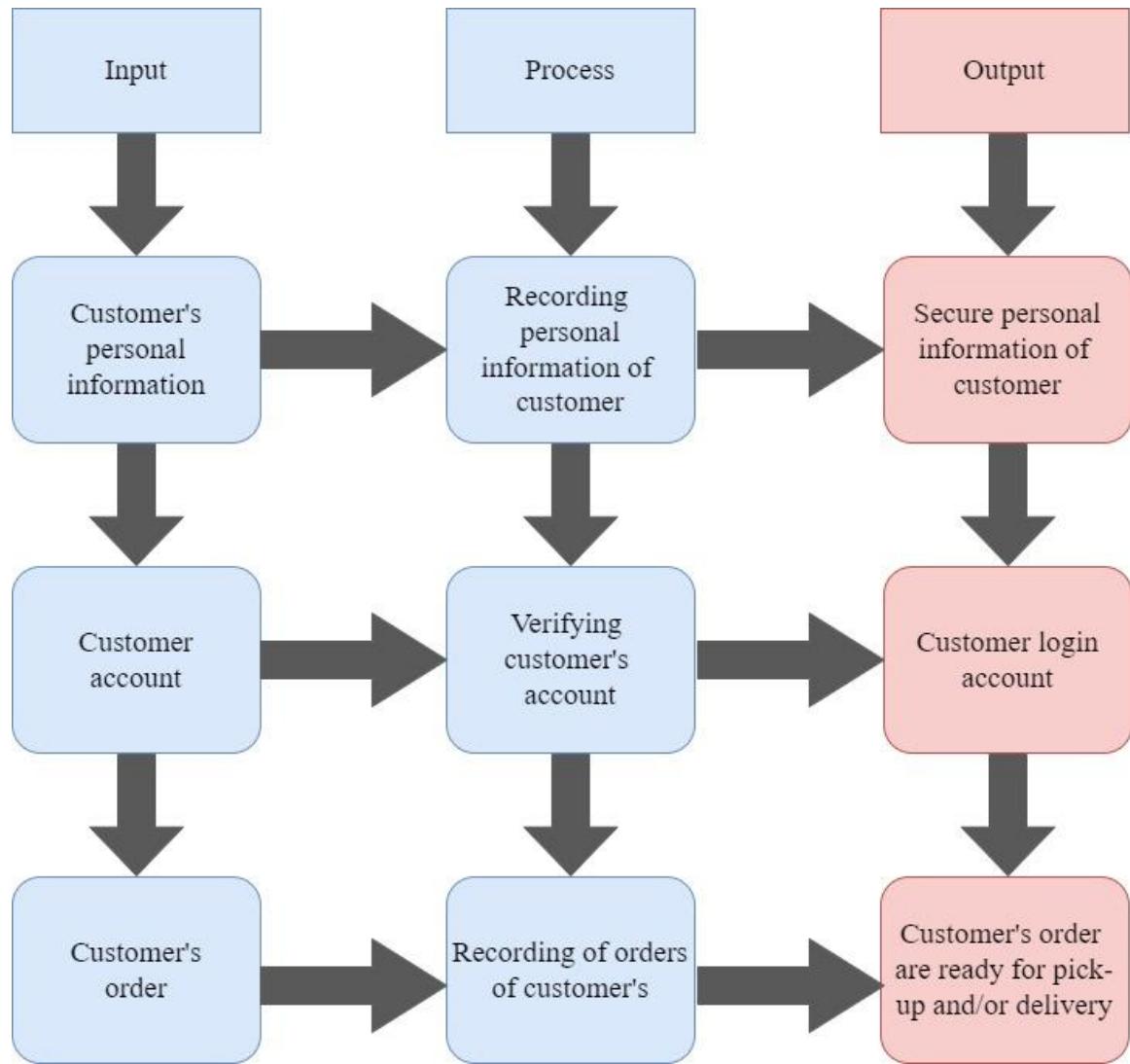
Customers can now access the software, which has been fully deployed. It is now in the maintenance phase. During this stage, the software development team provides ongoing support to keep the system running smoothly and to fix any new bugs that may arise. Iterations to update an existing product or add new functionality are possible in the future.

## Review and Launch

This is the last stage of the Agile development cycle. After completing all previous stages of development, the development team presents the result achieved in meeting the requirements to the owner. Following that, the Agile software development phases are restarted – either with a new iteration or by progressing to the next stage and scaling Agile.



## Conceptual Framework

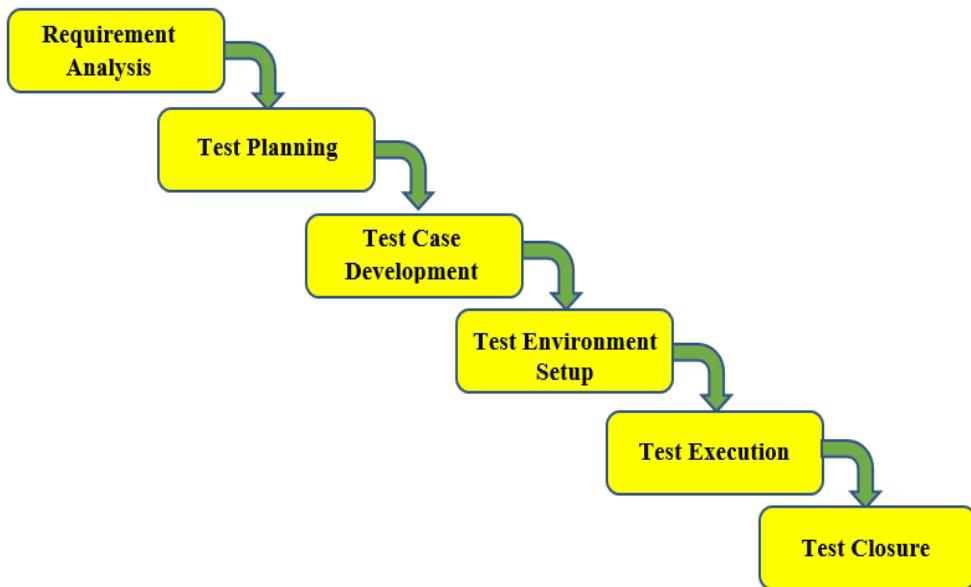


The conceptual framework shows how the Island Gas Ordering and Delivery System will take place through the I-P-O, or the Input-Process-Output system. The input consists of the respondents' profiles, which are the customers, and their personal information, which focuses on assessing the customer order in the Island Gas Ordering and Delivery System. Moreover, the process involves recording a customer's personally identifiable information and customer orders are recorded. The output, therefore, shows



the customer's personal information is protected, and the customers' orders are also ready for pick-up and/or delivery.

## Testing Procedure



We used the Software Testing Life Cycle (STLC) as our basis for the testing procedure of our system, showing the specific actions in a sequential manner, performed during the process to ensure that the software quality objectives are met.



## PHASE I: Requirement Phase

During this phase, our team analyzed the requirements needed for the initial progress of our system. We focused on the basic needs to start the system, like the availability of the manpower, our resources (programs used for coding and running of the codes), identified the testability of the requirements as well as the scope of our system, we also developed strategies to properly imply all the requirements and processes needed for the effective running of our system.

## PHASE II: Test Planning

After identifying the requirements needed for the system, in this phase, we identified the activities and methods as part of the construction of our system, by using all the resources available. We estimated the available human resources/labor required to complete each task. We assigned different tasks to our team members and imposed time intervals to accomplish the task and responsibilities given to each of them.

## PHASE III: Test Case Development

In this phase, we started preparing test cases and checking. This is where we developed forms for our system and started monitoring the results if there are technical errors on the responses upon entering the needed information in the form. We checked the logging functionality of our system by checking responses when entering valid/invalid



usernames and passwords, and when username was empty while the login button was pressed.

## PHASE IV: Test Environment Setup

In this phase, we made adjustments on the configuration of the system with software, hardware and network. We executed test for the hardware and software environment configuration. It ensures the readiness of the system as it executes its functions, while identifying the required server operating system, databases and other components.

## PHASE V: Test Execution

We carried out testing the software of our system by executing the programs and running the codes of the system. It consists of test scripts execution, test script maintenance and bug reporting. We identified bug reports and successfully reverted it back to the development team for the correction and retesting of the system.

## PHASE VI: Test Closure

The last phase where we completed the construction of the system, identified all the bug reports and fixed it, corrected the malfunctioned parts and checked if the system's parts will run smoothly according to its designed function. The testing we made ensured the compatibility of the resources to the desired objective for the system, the time



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spent in doing the project, the amount of errors identified and corrected and summarizing the results and productivity of the system we developed.



## CHAPTER V

### SUMMARY AND RECOMMENDATIONS

This chapter contains a discussion of the report and recommendations reached by the project's proponents. The project's results are summarized to exemplify how effective the system is, and recommendations are made to further improve future development of the project or for future study.

#### **Summary**

The proposed system is a web-based ordering system that Island Gas customers can use. Customers have the option of creating an account in order to access the website and conduct transactions. During ordering, they can choose to increase the number of items in their orders. The customer may also use one of the available E-money payment methods, such as Gcash, Paymaya, or Paypal, or engage in Cash on Delivery transactions. Payments are processed after orders are delivered to the customer's preferred address by the rider/courier. The supplier, on the other hand, has the ability to manage orders, view canceled orders, and track transaction histories. The supplier also has access to the information of the customers and can conduct the necessary research on their profiles. For both the customer and the supplier to accurately view and access features, Windows 8 or 10 is the recommended operating system.



## Recommendations

In the view of the findings and conclusions of the study, the following are recommended to further improve this project:

1. With the use of the system, the company will have an extension for order processing and delivery monitoring.
2. The future researcher may add functionalities to the Dashboard of the Seller such as: Point of Sale, Inventory, Monthly sale summary and other monitoring functions for the online business platform.
3. Enhancing the process and flow of ordering for the customers benefits.
4. Improving the interface of the system by making it more responsive and adaptive as possible.
5. The future researchers who want to use this study as a basis can improve the project by other more functionalities that will exist in the future.
6. Continuous system testing will be done on more respondents to improve the functionalities of the study.



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## TABLES

**Table. 1 Customer Table**

Field name	Data type	Field Length	constraint	description
Customer_id	int	15	primary key	ID auto generated
Lastname	Varchar	30	Not null	lastname of customer
Firstname	Varchar	30	Not null	firstname of customer
Middlename	Varchar	30	Not null	middlename of customer
birthdate	date	MM/DD/Y YYY	Not null	birthday of customer
age	int	3	Not null	customer's age
Contact_no	int	15	Not null	cellphone number
Email	Varchar	50	Not null	any email id
password	Varchar	15	Not null	login password
username	Varchar	20	Not null	username inside the system
BLDG/house no.	Varchar	20	Not null	bldg/house no. of the customer
street	Varchar	30	Not null	street of customer
brgy	Varchar	30	Not null	brgy name

**Table 2. Canceled**

Field name	Data type	Field Length	Constraint	Description
Cancel_id	int	11	Primary Key	ID auto generated
ID	int	100	Not null	member ID
Name	varchar	1000	Not null	name of the customer
Orders	varchar	1000	Not null	name of item/s
Quantity	int	100	Not null	the quantity of items
Amount	int	100	Not null	the total amount of order
Date	date		Not null	date of order placement
Payment_Method	varchar	100	Not null	method of payment
Remarks	varchar	100	Not null	if ( Delivered , to be deliver, pending )



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**Table 3. Product Details**

Field name	Data type	Field Length	constraint	description
product_id	int	15	primary key	ID auto generated
name/brand	varchar	20	not null	name and brand
product description	varchar	20	not null	product description
size	varchar	15	not null	size of product
price	int	10	not null	price of product

**Table 4. Product Schedules**

Field name	Data type	Field Length	Constraint	Description
order_id	int	11	Primary Key	ID auto generated
ID	int	100	Not null	member ID
Name	varchar	1000	Not null	name of the customer
Orders	varchar	1000	Not null	name of item/s
Quantity	int	100	Not null	the quantity of items
Amount	int	100	Not null	the total amount of order
Date	date		Not null	date of order placement
Payment_Method	varchar	100	Not null	method of payment
Remarks	varchar	100	Not null	if ( Delivered , to be deliver, pending )



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**Table 5. History Records**

Field name	Data type	Field Length	Constraint	Description
CUSTOMER_ID	int	11	Not null	Customer ID Number
PRODUCT_ID	int	100	Not null	product Id Number
Amount_paid	varchar	1000	Not null	Total amount paid
Number_of_Item_sold	varchar	1000	Not null	number of item/s ordered
Payment_Method	int	100	Not null	payment method selected by the customer
Time_and_Date	date		Not null	date and time of order placement

**Table 6. Contact Us**

Field name	Data type	Field Length	Constraint	Description
Name	varchar	50	Not null	Name of the Customer
ContactNO	int	50	Not null	Customer Active number
Email	varchar	50	Not null	Active Email Address
lanlineNo	varchar	50	Not null	Active Landline Number
comment	int	999	Not null	Comments or feedback from the mbr

**Table 7. Customer Feedback**

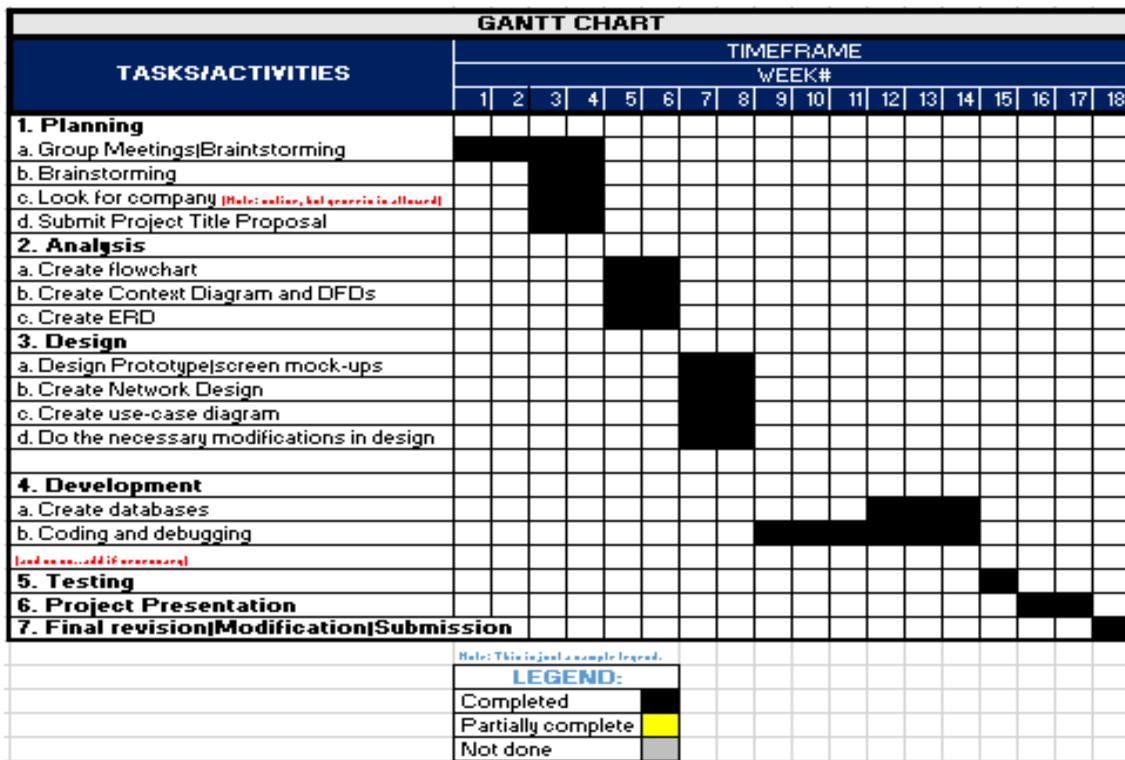
Field name	Data type	Field Length	Constraint	Description
rating	varchar	8	Not null	rating
comment	varchar	999	Not null	the comments of the mbr
Name	varchar	50	Not null	Active Email Address
Email	varchar	100	Not null	Active Landline Number



## APPENDICES

### APPENDIX A

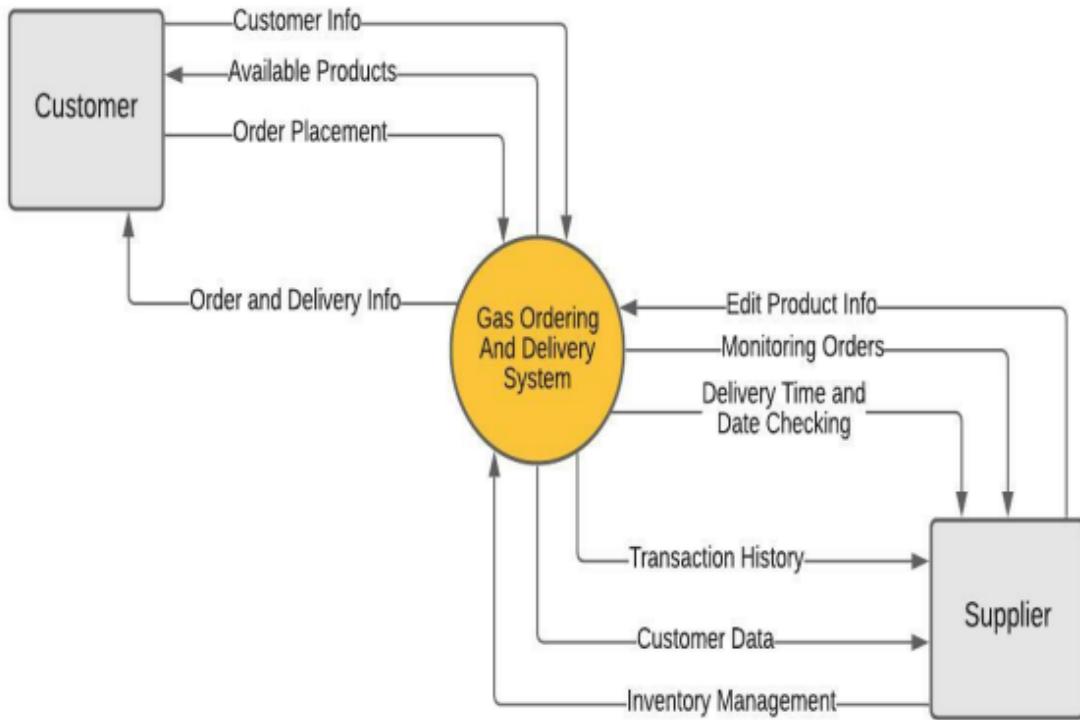
#### Gantt Chart





## APPENDIX B

### Context Diagram





## APPENDIX C

### Screenshots of Web User Interface

#### Home

The screenshot shows the homepage of the Island Gas website. At the top, there is a navigation bar with tabs for Home, Dashboard, Product, and Profile. A search bar is located on the right side of the header. Below the header, there is a main content area with a yellow gradient background. It features the text "ISLAND GAS" and "Hanap niyo ba ay produktong maraming gamit?". Below this text is a cartoon illustration of a boy holding two gas cylinders labeled "ISLAND GAS". There is also a "ORDER NOW" button. At the bottom of the page is a dark footer bar containing links for Island Gas (Copyright, Privacy Policies, Terms And Condition, Contact, Feedback), FAQ (FAQ, Branches, Service Area, Payment Options), About Us (Our Story, Mission Vision, Business), and Follow Us (links to Facebook, Twitter, and Google+).

#### Dashboard

The screenshot shows the dashboard page of the Island Gas website. The layout is similar to the home page, with a yellow gradient header and a dark footer. The main content area displays a table titled "SCHEDULES" showing an order for a customer named G., VILLAVERA GABRIEL. The table includes columns for order\_id, ID, Name, Orders, Quantity, Amount, Date, Payment Method, Remarks, and Action. Below this is a table titled "CANCELLED" showing a cancelled order for the same customer. The footer contains the same navigation and social media links as the home page.

SCHEDULES										
order_id	ID	Name	Orders	Quantity	Amount	Date	Payment Method	Remarks	Action	
42	252839087	G., VILLAVERA GABRIEL	IS-Gas Stove 2 Burner IS-A/S Valve IS-small 11kg IS-Shine 2.5KG IS-butterfly 5kg	5	3975	21-Dec-17	Gcash	To be deliver	<a href="#">cancel</a>	

CANCELLED									
Cancel_ID	ID	Name	Orders	Quantity	Amount	Date	Payment Method	REMARKS	
41	252839087	G., VILLAVERA GABRIEL	IS-Gas Stove 2 Burner	1	1000	21-Dec-17	COD	To be deliver/	

HISTORY										
history_id	ID	Name	Orders	Quantity	Amount	Date	Payment Method	REMARKS		
53	252839087	G., VILLAVERA GABRIEL	IS-Gas Stove 2 Burner	1	1000	21-Dec-17	COD	ordered		
54	252839087	G., VILLAVERA GABRIEL	IS-Gas Stove 2 Burner	1	1000	21-Dec-17	COD	Cancelled order		
55	252839087	G., VILLAVERA GABRIEL	IS-Gas Stove 2 Burner IS-A/S Valve IS-small 11kg IS-Shine 2.5KG IS-butterfly 5kg	5	3975	21-Dec-17	Gcash	ordered		

The footer section of the website contains the same navigation and social media links as the other pages.



## Product

Home   Dashboard   Product   Profile   search here... search   Welcome jerald Log Out

IS-Shine 2.5KG ₱ 405.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>	IS-small 11kg ₱ 1300.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>	IS-butterfly 5kg ₱ 680.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>
IS-Medium 22kg ₱ 2250.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>	IS-Big 50kg ₱ 2995.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>	IS-Gas Hose 1.5M ₱ 315.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>
IS-Gas Hose 2.0M ₱ 360.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>	IS-Gas Hose 100M ₱ 3500.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>	IS-Gas Stove 1 Burner ₱ 478.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>
IS-Gas Stove 2 Burner ₱ 1000.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>	IS-POL Valve ₱ 510.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>	IS-A/S Valve ₱ 590.00 <input type="text" value="1"/> <a href="#">Add to Cart</a>

Order Details

Check Out NOW!

[CheckOut](#)

Item Name	Quantity	Price	Total	Action
IS-Gas Hose 100M	1	₱ 3500.00	₱ 3,500.00	<a href="#">Remove</a>
		Total	₱ 3,500.00	<a href="#">Clear</a>

[Island Gas](#)   [FAQ](#)   [About Us](#)   [Follow Us](#)

Copyright   FAQ   Our Story  
Privacy Policies   Branches   Mission Vision  
Terms And Condition   Service Area   Business  
Contact   Payment Options  
Feedback



## Profile

The screenshot shows a user profile page with a yellow header bar containing navigation links for Home, Dashboard, Product, and Profile, along with a search bar and a log out link. The main content area is titled 'My account' and includes sections for User Information, Contact Information, and About Me. Under User Information, fields for Username (jerald), Email address (jerald@gmail.com), First name (jerald), and Last name (vieje) are shown. Under Contact Information, there is an Address field (12 taga kanto jan lang molopit), and separate fields for City, Country, and Postal code. The About Me section contains a placeholder 'Say something about your self'. At the bottom, a table lists order details with columns for order\_id, ID, Name, Order, Quantity, Amount, Date Ordered, Payment Method, Remarks, and action. The footer features links for Island Gas (Copyright, Privacy Policies, Terms And Condition, Contact, Feedback), FAQ (FAQ, Branches, Service Area, Payment Options), About Us (Our Story, Mission Vision, Business), and Follow Us (links to Facebook, Twitter, and Instagram).

order_id	ID	Name	Order	Quantity	Amount	Date Ordered	Payment Method	Remarks	action

**User Information:**

Username	jerald	Email address	jerald@gmail.com
First name	jerald	Last name	vieje

**Contact Information:**

Address	12 taga kanto jan lang molopit	
City	Country	Postal code

**About Me:**

About Me  
Say something about your self

**Footer Links:**

- Island Gas:** Copyright, Privacy Policies, Terms And Condition, Contact, Feedback.
- FAQ:** FAQ, Branches, Service Area, Payment Options.
- About Us:** Our Story, Mission Vision, Business.
- Follow Us:** Facebook, Twitter, Instagram.



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## Logins

A screenshot of the login page. It features a red-to-yellow gradient background. At the top center is a circular logo with a cartoon character holding a sign that says "ISLAND GAS". Below the logo are two input fields: "Username" and "Password", each with a placeholder text ("Enter Username" and "Enter Password" respectively). A green "Login" button is positioned below the password field. To the right of the password field are links for "Forgot password?" and "Remember me". At the bottom are "Cancel" and "Register" buttons.

## Signup

A screenshot of the registration form. The title "REGISTRATION FORM" is at the top. The form consists of several text input fields for personal information: Lastname, Firstname, Middlename; Gender (with a dropdown menu); Birthdate, Age, Contact, Email, Password, confirm Password; Username; Full Address, city, country, postal code; and a checkbox for "Agreed to terms and conditions". A "Submit" button is at the bottom, and a link "Already signup ?" is at the very bottom.



## Checkout Order

### Order Details

Item Name	Quantity	Price	Total	Action
IS-Gas Hose 100M	1	\$ 3500.00	\$ 3,500.00	<a href="#">Remove</a>
IS-A/S Valve	1	\$ 590.00	\$ 590.00	<a href="#">Remove</a>
IS-butterfly 5kg	1	\$ 680.00	\$ 680.00	<a href="#">Remove</a>
Total	3		\$ 4,770.00	

## Payment Form

ACCOUNT

[Gcash](#)    [Paypal](#)    [Paymaya](#)

[Cash On Delivery](#)

Customer Name

Email Address

Home Address

Date of Birth

Select Payment Method [Payment Method](#)

[Confirm Payment and Place Order](#)

[Return Home](#)



## APPENDIX D

### Target Beneficiary Information Gathering Questionnaire

Section 1 of 4

#### Target Company Information Gathering

X ::

Form description

#### Consent Cover Letter

□ W ::

Dear Participants,

We invite you to participate in a research study entitled: Gas Delivery and Ordering System

We are currently enrolled in Quezon City University taking up Bachelor of Science in Information Technology and we are in the process of writing our research in partial fulfillment of the requirements for the degree. The purpose of the research is to design and create system that will help the company on its operation and performance in terms of ordering and delivery system.

The enclosed questionnaire has been designed to collect information on your company's specific data only such as: Company's Specific Information, Business Operations Information, and Product Information.

Your participation in this research project is completely voluntary. You may decline altogether this questionnaire if you don't wish to answer. There are no known risks on participation beyond those encountered in everyday life. Some of your responses may not remain anonymous and might be used to the research document, but still other data from this research questionnaire will be kept lock and key.

If you agree to participate in this project, please answer the questions on this questionnaire as best you can. If you have any questions about this project feel free to contact our Operation Manager: Jerald S. Viaje at [jerald.viaje0117@gmail.com](mailto:jerald.viaje0117@gmail.com).

Thank you for your assistance in this important endeavor.



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As you affixed your name below, you agreed on the consent letter above

Description (optional)

Full Name \*

Short answer text

Contact Number \*

Short answer text

Section 2 of 4

## Company's Specific Information

X

⋮

Description (optional)

Company Name \*

Short answer text

Email Address \*

Short answer text



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Physical Address of the office and/or Warehouse \*

Long answer text

Name of the CEO or Persons In Charge \*

Short answer text

Number of Employees \*

Short answer text

History of your Company

Long answer text



## Section 3 of 4

### Business Operation Information

X ::

Description (optional)

#### Operation Hours \*

- 8Am - 5Pm
- 9Am - 5PM
- 10Am - 7Pm
- Other...

How do you manage your business in this time of Pandemic?

Long answer text

#### Delivery \*

- I have my own delivery team/department.
- I have a partnership with other companies for my deliveries as my courier.
- Both



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Type of Vehicle/s used to Deliver the Product \*

- E-Bike
- Bicycle
- Motorcycle
- Motorcycle with sidecar
- Four Wheels
- Other...

Service Area Within NOVALICHES QC \*

- Bagbag
- Capri
- Gulod
- Nagkaisang Nayon
- Sauyo
- San Bartolome
- San Agustine
- Talipapa
- Santa Monica
- Santa Lucia
- Pasung Putik Proper



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- Great Lagro
- Fairview
- Novaliches Proper (Bayan / Poblacion)
- Other...

Do you have the following Business Permit/Licenses? \*

- Baranggay Business Clearance
- Mayor's Business Permit
- Building Permit
- Sanitary/Plumbing Permit
- Electrical Permit
- Fire Safety Inspection Certificate from the bureau of Fire Protection (BFP)
- Health, Safety, Security, Environment (HSSE) Plan
- Emergency Response Procedure/Safety and Emergency Manual
- Operation and Maintenance Manual
- Fire and Gas Electrical Checklist Manual



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- Certification of Personnel Training Conducted including results of competency assessment.
- Certificate of calibration of All Metered Units
- Certificate of Final Electrical Inspection
- Certificate of Occupancy

## Section 4 of 4

### Product Information



Description (optional)

Types of LPG Gas that is available in your store \*

- A/S Valve "De sapak"
- POL Valve "De roskas"
- Both



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Types of LPG sizes (LPG Cylinder) available in your Store \*

- 1.0 - 2.9 kg
- 3.0 - 5.0 kg
- 6.0 - 10.0 kg
- 11 - 14 kg
- 15 - 18 kg
- 19 - 25 kg
- 25 - 50 kg
- 50kg and above

Do you offer other related products on your store?

- LPG tank
- Regulatory
- Burner ( Single / Double / Triple etc. )
- LPG hose
- Hose Clamp
- Pol Adaptor
- Other...

Thank you for your participation!

Description (optional)



## BIBLIOGRAPHY

### Online Sources

Leicht, P & Zhai Y. ,et al. (2017,February 02) Semiconductor Device and Method of Encapsulating Semiconductor Die Lam Research Corporation (Fremont, CA, US)  
<https://www.freepatentsonline.com/y2017/0032982.html>

Teekaputti and Charoenchai. (2021,May 11). Real-Time Purchasing Order. Industrial Engineering and Operations Management Singapore. Retrieved from  
<http://www.ieomsociety.org/singapore2021/papers/865.pdf>

Nguyen,S.(2016, January 15).A learning and optimizing system for order acceptance and scheduling. Department of Business Administration, Hoa Sen University, Ho Chi Minh,Vietnam. Retrieved from  
<https://link.springer.com/article/10.1007/s00170-015-8321-6#auth-Su-Nguyen>

J Zhang ·( 2016,April 01).Computer Industrial Engineering.Association for Computing Machinery. <https://dl.acm.org/doi/abs/10.1016/j.cie.2016.02.001>

Hsieh,Y., You, P. and Chen, C.( 2021,September 24)Scheduling the periodic delivery of liquefied petroleum gas tanks with a time window by using artificial intelligence approaches.National ChiaYi University. Retrieved from  
<https://journals.sagepub.com/doi/full/10.1177/00368504211040355>

Prema T. Akkasaligar,(2020,December 31). .2020 IEEE Bangalore Humanitarian Technology Conference (B-HTC). Retrieved from  
<https://ieeexplore.ieee.org/document/9297976>

Amadi H. ,Uneh E. , Onwa C. and André N. (2021,June 11).Chemicals Research. G. E. Uneh Greenville LNG Limited, Nigeria. Retrieved form  
<https://www.ejers.org/index.php/ejers/article/view/2442/1100>

Singamsetty, P & Thenepalle, J. ,(2020, November 23).Truncated vehicle routing problem LPG delivery. Tamil Nadu, India. Retrieved from  
[http://www.growingscience.com/ijec/Vol12/IJIEC\\_2020\\_26.pdf](http://www.growingscience.com/ijec/Vol12/IJIEC_2020_26.pdf)



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Du W., Yang T., Feng, Q., Athanasios V., Le T., (2018, January 1). Jornal & Magazines.IEEE Transactions on Industrial Informatics.  
<https://ieeexplore.ieee.org/document/7842622>

Uy, J. et al.,(2019, March). Customers' Perception on the Trustworthiness of Electronic commerce:A Qualitative study.<https://sg.docs.wps.com/l/sIMiw8ZBV6d7higY>

Ejdys, J. & Gulc, A. (2020, October 31). Trust in Courier Services and Its Antecedents as a Determinant of Perceived Service Quality and Future Intention to Use Courier Service.[https://docs.google.com/document/d/1pjL6mlj4EVouy27ShH0OxHa4wdJFBRG AHfWy4Tu0nsk/edit](https://docs.google.com/document/d/1pjL6mlj4EVouy27ShH0OxHa4wdJFBRGAHfWy4Tu0nsk/edit)

Prasetyo et al.,(2021). Factors Affecting Customer Satisfaction & Loyalty in Online Food Delivery Service during COVID-19 Pandemic in A Developing Country: An Extended Theory of Planned Behavior.  
[https://docs.google.com/document/d/17jVj2m5xQBRJ9MbA8GMYKbissnRU\\_SycZITr DqbphQ/edit](https://docs.google.com/document/d/17jVj2m5xQBRJ9MbA8GMYKbissnRU_SycZITrDqbphQ/edit)

Diaz, R. (2019, June). Quality of Service of Selected Courier Service Company in Cabanatuan City: It's Implication to Customer Satisfaction. Retrieved from :  
[https://docs.google.com/document/d/1sEXr7ItCzcLynvcw8NctOwB2eZIew4cwHn\\_iNkH\\_3Do/edit](https://docs.google.com/document/d/1sEXr7ItCzcLynvcw8NctOwB2eZIew4cwHn_iNkH_3Do/edit)

Brigula, N. (2016, October). Online Ordering System Capstone Project Document.<https://capstoneguide.com/online-ordering-system-capstone-project-document/?fbclid=IwAR3nm2MBRmkhfQIA9895srR6xuW886FMEiEgEXRJKvDOZbpJSb1yzeJ16RI>

Almonte, R. et al.,(202, July 1). M- Commerce Adoption in the Philippines: Perception of Young Consumers.  
[https://dl.acm.org/doi/abs/10.1145/3409891.3409914?fbclid=IwAR1zepX4N6OQqt7fb0I\\_29sx5Ghw8XYmP6cx79KjfZGTFMFwhznjsqk0-I](https://dl.acm.org/doi/abs/10.1145/3409891.3409914?fbclid=IwAR1zepX4N6OQqt7fb0I_29sx5Ghw8XYmP6cx79KjfZGTFMFwhznjsqk0-I)

Atienza, J. (2019). ABC Company E-Business System Capstone Project Document.<https://capstoneguide.com/abc-company-e-business-system-capstone-projectd>



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ocument/?fbclid=IwAR0ifjXIY8gnSF8SILDFrm01CkkBgACIR2gKoAcqFS4B10ODDbWx-QzaAs

Patel,M.(2015, December). Online Ordering of Brocks Burger (Lemery Branch)..[https://www.academia.edu/27882800/Allan\\_Online\\_Ordering\\_of\\_Brocks\\_Burger\\_Lemery?fbclid=IwAR0R2SaaqBA9S4RL\\_plKx6Dvm31kWw7FdhOJTuoWTKlSwS5luyzAYsnoeCo](https://www.academia.edu/27882800/Allan_Online_Ordering_of_Brocks_Burger_Lemery?fbclid=IwAR0R2SaaqBA9S4RL_plKx6Dvm31kWw7FdhOJTuoWTKlSwS5luyzAYsnoeCo)

Almonte, R. et al.,(2021, July 1), M- Commerce Adoption in the Philippines: Perception of Young Consumers.Retrieved from.  
[https://dl.acm.org/doi/abs/10.1145/3409891.3409914?fbclid=IwAR1zepX4N6OQqt7fb0I\\_29sx5Ghw8XYmP6cx79KjfZGTFMFwhznjsqk0-I](https://dl.acm.org/doi/abs/10.1145/3409891.3409914?fbclid=IwAR1zepX4N6OQqt7fb0I_29sx5Ghw8XYmP6cx79KjfZGTFMFwhznjsqk0-I)

Macarayo, (2017) Retrieved from:  
<https://www.coursehero.com/file/46139111/CHAPTER-2-RRLdocx/>

Svonavec (2017, September). Retrieved from:  
[https://www.academia.edu/41002010/CHAPTER\\_2 REVIEW\\_OF\\_THE RELATED LITERATURE](https://www.academia.edu/41002010/CHAPTER_2 REVIEW_OF_THE RELATED LITERATURE)



# QUEZON CITY UNIVERSITY



## CURRICULUM VITAE

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### **John Aerol Genebraldo Toledo**

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09474117722  
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---

### **PERSONAL INFORMATION**

**Date of Birth:** July 3, 1999

**Place of Birth:** Quezon city

**Citizenship:** Filipino

**Gender:** Male

**Civil Status:** Married

**Interest:** Playing Mir4

---

### **EDUCATIONAL BACKGROUND**

**Primary:** West Fairview Elementary

**Secondary:** North Fairview High School

**Tertiary:**

**Bachelor:** Quezon City Polytechnic University (Information Technology)

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### **PERSONAL QUALIFICATION**

I can work under pressure, Good communication skills and good interpersonal skills



# QUEZON CITY UNIVERSITY



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## Ruben Azul Sandique

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09457415600

[sandiqueruben@gmail.com](mailto:sandiqueruben@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** May 15, 2002

**Place of Birth:** Sorsogon

**Citizenship:** Filipino

**Gender:** Male

**Civil Status:** Single

**Interest:** Computer Games

---

## EDUCATIONAL BACKGROUND

**Primary:** Culiat Elementary School

**Secondary:** Culiat High School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

I'm a funny person I can work in any environment



# QUEZON CITY UNIVERSITY



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## Edward Kenzo Rivas

#10 St. Joseph Str., Plainville subd., Brgy. Sta.Lucia, Novaliches, Quezon City  
09951702334

[edwardkenzo.rivas@gmail.com](mailto:edwardkenzo.rivas@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** August 11, 2002

**Place of Birth:** Quezon City

**Citizenship:** Filipino

**Gender:** Male

**Civil Status:** Single

**Interest:** Computer Games, Music, Anime, Binge Watching

---

## EDUCATIONAL BACKGROUND

**Primary:** San Gabriel Elementary School

**Secondary:** Sta Lucia High School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

Basic knowledge at web development and java programming. Fluent at speaking English.



# QUEZON CITY UNIVERSITY



## Charles Johann Pimentel Villa

Kamia St. Ramirez Subdivision, Brgy. Novaliches Proper, Quezon City

09772862827

[charlesjohann.villa@gmail.com](mailto:charlesjohann.villa@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** May 24, 2002

**Place of Birth:** Quezon City

**Citizenship:** Filipino

**Gender:** Male

**Civil Status:** Single

**Interest:** Playing video games

---

## EDUCATIONAL BACKGROUND

**Primary:** Doña Rosario Elementary School

**Secondary:** Doña Rosario High School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

Adaptable, Obedient, Hardworking



# QUEZON CITY UNIVERSITY



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## Kojie Lazaro Takase

#5 Engineering St., G.S.I.S Village, Barangay Sangandaan, Project 8, Quezon City  
09552314111

[kojie.takase017@gmail.com](mailto:kojie.takase017@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** April 17, 2002

**Place of Birth:** Quezon City

**Citizenship:** Dual Citizenship (Filipino/Japanese)

**Gender:** Male

**Civil Status:** Single

**Interest:** Playing Guitar, Music, Dancing and Reading Mangas

---

## EDUCATIONAL BACKGROUND

**Primary:** Sto. Nino Elementary School - Grade 1 and 2 / First Line Integrated School - Grade 3 to 8

**Secondary:** Ismael Mathay Sr. Highschool

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

adaptability, Honest, Humility



# QUEZON CITY UNIVERSITY



GABRIEL ANGELO G.  
VILLAVERA

## **Gabriel Angelo G. Villavera**

160 Gen. Luis St. Caybiga Caloocan City

09159017447

[gabriel.villavera21@gmail.com](mailto:gabriel.villavera21@gmail.com)

---

## **PERSONAL INFORMATION**

**Date of Birth:** November 21, 2021

**Place of Birth:** Caloocan City

**Citizenship:** Filipino

**Gender:** Male

**Civil Status:** Single

**Interest:** Gaming & programming

---

## **EDUCATIONAL BACKGROUND**

**Primary:** Bagbaguin Caloocan City

**Secondary:** Caybiga High School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## **PERSONAL QUALIFICATION**

I can be a leader when it is necessary

I use every tool at hand

it's easy to work with me



# QUEZON CITY UNIVERSITY



## Mary Joy Cuajotor Polloso

Blk 25 Lot 17 Ilang-Ilang St. Maligaya Park Novaliches Quezon City  
09974467957

[mary.joy.polloso1@gmail.com](mailto:mary.joy.polloso1@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** December 8, 2001

**Place of Birth:** Quezon City

**Citizenship:** Filipino

**Gender:** Female

**Civil Status:** Single

**Interest:** Playing Volleyball

---

## EDUCATIONAL BACKGROUND

**Primary:** Maligaya Elementary School

**Secondary:** Maligaya High School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

Well Organized, Flexible and adaptable to changes



# QUEZON CITY UNIVERSITY



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## Natasha Mae Ramos Mestiola

#16 Marcela St. Sta Lucia Novaliches Quezon City  
09504484726  
[natasha.mestiola0817@gmail.com](mailto:natasha.mestiola0817@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** August 17, 2002

**Place of Birth:** Manila

**Citizenship:** Filipino

**Gender:** Female

**Civil Status:** Single

**Interest:** Watching K-Drama, reading fiction story and Music

---

## EDUCATIONAL BACKGROUND

**Primary:** San Gabriel Elementary School

**Secondary:** Sta Lucia High School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

Hardworking, Flexible, creative



# QUEZON CITY UNIVERSITY



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**John Carlo Elcano Regis**

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09056301332  
[johncarlo.regis11@gmail.com](mailto:johncarlo.regis11@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** December 28, 2001

**Place of Birth:** Quezon City

**Citizenship:** Filipino

**Gender:** Male

**Civil Status:** Single

**Interest:** Online games, basketball, watching movies

---

## EDUCATIONAL BACKGROUND

**Primary:** Placido Del Mundo Elementary School

**Secondary:** Ernesto Rondon High School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

Active Listening, Computer Skills, Time Management



# QUEZON CITY UNIVERSITY



SECULA CHRISTOPHER BELARMINO

## Christopher Belarmino Secula

#7 Belen st. Rp gulod Novaliches Quezon City  
09324001728

[Christopher.secula26@gmail.com](mailto:Christopher.secula26@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** May 6, 2001

**Place of Birth:** Quezon City

**Citizenship:** Filipino

**Gender:** Male

**Civil Status:** Single

**Interest:** Hobby online games

---

## EDUCATIONAL BACKGROUND

**Primary:** Rosa L. Susano Elementary School

**Secondary:** Sta Lucia High School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

Flexible, Team Player , Good listener , Quick learner, Determined



# QUEZON CITY UNIVERSITY



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**Joshua aron Jarillo Soriano**  
**10#Castro compound**  
09519369978  
[aronsoriano001@gmail.com](mailto:aronsoriano001@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** June 23, 2002  
**Place of Birth:** Quezon City  
**Citizenship:** Filipino  
**Gender:** Male  
**Civil Status:** Single  
**Interest:** Basketball

---

## EDUCATIONAL BACKGROUND

**Primary:** Rosa L. Susano Elementary School  
**Secondary:** Sta Lucia High School  
**Tertiary:** Quezon City University  
**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION



# QUEZON CITY UNIVERSITY



## Jerald Salvador Viaje

PH3 170 Junji St. Rolling Hills Subd., Kaligayahan  
09684419934  
[jeraldviaje2002@gmail.com](mailto:jeraldviaje2002@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** January 17, 2002  
**Place of Birth:** Barangay Sibulan Polillo, Quezon  
**Citizenship:** Filipino  
**Gender:** Male  
**Civil Status:** Single  
**Interest:** Investments, Hardware Troubleshooting, Networking

---

## EDUCATIONAL BACKGROUND

**Primary:** Pinaglubayan Elementary School  
**Secondary:** Polillo National High School  
**Tertiary:** Quezon City University  
**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

Interpersonal skills, Teamwork Skills, Leadership Skills, Attention to details, Management and organizational skills,



# QUEZON CITY UNIVERSITY



WHACKY MALIWAT

## Whacky Cereza Maliwat

B37 L28 Lily St. Maligaya Park Subd. Novaliches Q.C.  
09453371027  
[maliwatwhacky01@gmail.com](mailto:maliwatwhacky01@gmail.com)

---

## PERSONAL INFORMATION

**Date of Birth:** February 12, 2002

**Place of Birth:** Quezon City

**Citizenship:** Filipino

**Gender:** Male

**Civil Status:** Single

**Interest:** Reading different genre

---

## EDUCATIONAL BACKGROUND

**Primary:** Saint Francis Xavier Catholic School

**Secondary:** Saint Francis Xavier Catholic School

**Tertiary:** Quezon City University

**Bachelor:** Quezon City Polytechnic University (Information Technology)

---

## PERSONAL QUALIFICATION

Can adapt to any environment