

**AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL
MARKET**

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December 2023**

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ACKNOWLEDGMENT

The researchers would like to express their sincerest gratitude and appreciation to the following advisers and contributors who have made this research work possible.

Above all, the researchers are immensely grateful to the **Almighty God** for blessing them with His unconditional guidance and wisdom as they embarked on our journey to complete this capstone research project.

The researchers would like to express their deep appreciation and thanks to their parents, who have been a constant source of unconditional love, support, motivation, and encouragement from the very beginning of this research endeavor.

The researchers would like to express their sincere appreciation to their thesis adviser, **Mr. Bryan Paul D. Danganan**, for his unending encouragement, insightful guidance, and abundance of useful ideas and new knowledge that has inspired and guided them throughout the research process.

The researchers would also like to express their thanks and appreciation to the members of their advisory committee, **Dr. Joven A. Tolentino** and **Mr. Renel F. Dumla**, for generously giving their time to review, read, and provide feedback for the improvement of the system study.

Special recognition to **Dr. Sheila R. Lingaya** and **Dr. Joven A. Tolentino**, for their unwavering support, encouragement, advice, and constant reminders, which have served as inspiration in completing the requirements on time.

The researchers would also like to acknowledge the respondents from Camiling, Tarlac and San Clemente, Tarlac for lending time and attention. Their accurate evaluation and thoughtful feedback will greatly improve the system's usability and functionality. The researchers are grateful for their tremendous expertise and dedication to agricultural technology advancement.

Lastly, appreciation is also extended to their group mates and friends, who shared their strengths, ideas, courage, and support, for each other from the first day until the end of the research journey.

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ABSTRACT

Agromart is designed to support farmers and reinforce their sales revenue. Farmers face challenges due to high prices of products, impacting living costs and time spent on obtaining goods from distant places. Agromart, a web-based system, aims to aid farmers, boost sales, and connect users across distances. This research paper outlines the development of a web-based Marketplace Agricultural Product system designed to cater to users, seller, and administration interfaces. Employing the Software Development Life Cycle (SDLC) Prototype method, the system utilizes JavaScript programming and MySQL database management. Agromart facilitates online interaction and offers data mapping, a component of agromart system that include the use of geographic information system (GIS) of the municipality of Camiling and San Clemente, Tarlac. With the use of data mapping, it locates land use or land unused, business related to agriculture, poultry farms, livestock farming, and different varieties of rice fields. It includes enhancing user, seller, and administrative interfaces, incorporating data mapping, and implementing forecasting features. The system provides accurate information on agricultural products and is excellent in terms of usability, empower farmers to market their goods, and facilitate direct transactions between farmers and customers.

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INTRODUCTION

Background of the Study

Globally, agriculture sector is suffering from high pricing of agricultural products which affects the cost of living. Traveling to a long distance of location to get the product needed can be time consuming. In Bangladesh, farming is the predominant activity. In the current market, agents primarily defraud Bangladeshi farmers, resulting in economic deprivation. (Mia, 2017).

The utilization of social media on a large scale has increased recently. E-commerce are progressively become essential elements of businesses and a potent source of economic growth in the newly developing global economy. The adoption of information and communications technology (ICT) in business has completely changed how people relate to one another both inside and outside of enterprises. Specifically, aside from minimizing costs, the use of ICT in business has increased productivity, prompted greater customer engagement, and enabled mass customization.

With advancements in Internet and Web-based technology, distinctions between traditional markets and the global electronic marketplace are shifting. The ability of a corporation to identify emerging opportunities and use the required human capital skills to capitalize on these opportunities through an e-business plan is straightforward, practical, and practicable in the context of a global information milieu and new economic environment. E-commerce, when combined with the appropriate

strategy and policy approach, allows small and medium-sized businesses to compete with large and capital-rich businesses (61164_Ecommerce-and-E-Business, n.d.).

Therefore, a web-based system called Agromart is designed to support farmers and reinforce their sales revenue. It creates an interaction between an end-to-end user along with a far distance of location. Enable to open online sharing ideas, like a real-world open forum. It also provides data mapping which locates the availability of products, different varieties of rice fields, poultry farms and livestock farming. Farmers are still lacking benefits from the internet. Farmers are the foundation of our country, and the absence of them, society would not run properly. (Gomathy, 2021).

Data mapping, a component of agromart systems that include the use of geographic information systems or GIS of the municipality of Camiling and San Clemente, Tarlac. With the use of data mapping, it helps to locate land use or land unused, to locate business related to agriculture, and easily locate poultry farms, livestock farming and different varieties of rice fields. Data mapping provides a solution for an informative system that informs the user for easy calculation of estimated percentile of agricultural products.

Furthermore, forecasting supports business in anticipating product demand and adjusting inventory levels accordingly. This decreases the risk of releasing new products by preventing overstocking and stockouts. This helps with decision making to maintain the supply of products that align with user and customer desires.

Significance of the Study

The researchers have developed Agromart web-based system, and the following beneficiaries are expected from this group:

To the seller, the web-based system will help sellers to promote and improve their business in terms of locating products needed in certain areas and meet expected supply of agricultural products. This is expected to result in increased profits for the seller.

For the farmers as buyers, the web-based system will provide an alternative method for the farmers to purchase agricultural products. It also provides data mapping for the location of product availability. This is expected to enhance the buyer experience and make the web-based market more convenient.

With United Nation Sustainable Development Goals (UNSDG), the project aligns with the UNSDG Goal Number 8, Decent Work and Economic Growth, as it aims to support the farmers by providing access to agricultural products. It also aligns with goal number 12, Responsible Consumption and Production, as it aims to enhance the production of agricultural products by increasing the sales and lowering the cost to improve resource efficiency and promote sustainable lifestyle.

To future researchers, the findings and outcome of this study will serve as reference material for those interested in developing similar projects. This can contribute to the advancement of research in computer studies.

Objectives of the Study

The main objective of the study is to build a web-based system for the agricultural market.

The study specifically aims to achieve the following objectives:

- a. to develop a web-based market with the following components:
 - a.1 Buyer interface used to purchase and browse agricultural products.
 - a.2 Seller interface was able to monitor the sales and manage orders.
 - a.3 Administrator's interface to monitor the systems, validate seller accounts, and maintain the system's performance.
 - a.4 Data mapping was able to locate agricultural produce and land uses.
 - a.5 Forecasting for the buyers and sellers to have an insight about the products produced annually.
- b. to evaluate the proposed IT Solution based on ISO 25010 through the following:
 - b.1 End User
 - b.1.1 Usability
 - b.1.2 Functionality
 - b.2 to determine the accuracy of the used forecast algorithm
 - b.3 stress testing of the proposed system.

Scope and Delimitations

The IT solution project was conducted at the Municipality of Camiling, Tarlac and San Clemente, Tarlac with the selected farm owners and selected farmers of different barangays within the year of 2023. The Municipalities of Camiling and San Clemente were chosen as the locale of the study because of its 61 and 12 barangays that are well known for their large scale of agricultural livelihood.

The proposed web-based e-commerce system is said to be accessible on any device within the chosen locale. It also highlights the data mapping feature which locates different information using a geographic information system structure of Camiling and San Clemente. The system has some limitations as it can only be accessed using internet connection upon deployment.

Definition of Terms

Agro	Things relating to agriculture, or to agriculture combined with another activity.
Agromart	An e-marketplace for agriculture products that provide a sustainable platform for businesses and consumers.
CPU	Refers to the central processing unit, which is the brains of computers; it includes the circuitry required to interpret and execute commands from programs.
Data mapping	Refers to the process of taking a set of data and assigning or "mapping" it to a desired location. Data mapping is the foundation for more structured, unified, and user-friendly data organization.
E-commerce	Is an electronically platform used for buying and selling items along with the network connection.
End-to-end	Pertaining to the user from one to another or maybe a user from a specific location to another user.
GIS	A Geographic information system refers to a land structure within the earth surface that contains specific data of a certain area.
Mart	A trade center or a marketplace used for exchanging products and services.

- RAM** Refers to random access memory, it is one of the core components of computers. RAM is a sort of temporary memory bank where data that has to be retrieved quickly is stored on the computer.
- Single Exponential Smoothing** It is a time series forecasting technique applied to univariate data devoid of seasonal patterns and trends. The smoothing factor, or alpha (α), is the only parameter required.
- UNSDG** Sustainable Development Goals (SDGs) are a set of objectives that members of the United Nations (UN) are obligated to pursue in order to secure a more sustainable and favorable future.
- Web-based** It is an application that can be functional with the use of internet connection.

REVIEW OF RELATED LITERATURE AND STUDIES

One of the many applications of e-commerce platforms is marketing. E-commerce is useful since it enables the marketing of items by adjusting customer preferences. Meanwhile, a business expert believes that human knowledge, tools, working methods, processing systems, electronic tools, communication tools, hardware, and software are all required for doing business (Soegoto & Nugraha, 2020). Furthermore, the purpose of electronic commerce for both buyers and sellers is to create a more accessible and reliable platform for finding, viewing, and purchasing their desired products (Fay Edulsa et al., 2017).

E-commerce websites are appealing to all internet users, regardless of age. These e-commerce websites gather accurate data from users for internal utilization to increase sales (Saleem et al., 2019). However, during the COVID-19 epidemic, which everyone is affected by, led the government to impose quarantines and lockdowns, forcing everyone to remain inside their homes. Customers decide to switch to the e-commerce platform to secure purchases and transactions due to the restriction on traditional shopping channels. This prompted business owners to explore electronic transactions with a digitizing system in handling business (Abgelina et al., n.d.).

The expansion of the Philippine economy has been aided by the positive effects of e-commerce on the global economy. It facilitates the professional development of undergraduates and enhances the employment landscape of the Philippines. In the commerce industry, its dynamic attributes facilitate faster and more effortless website

navigation for Filipino consumers compared to the conventional purchasing process (Rayah Delos Santos et al., 2022). In addition, it maximizes profits when there is a high demand for a product with a limited supply, and it minimizes losses from product down selling. The absence of a mechanism keeps merchants out of this online marketplace. For an internet customer, there are many benefits. Maintaining the seller's revenue and customers' interest requires dynamic pricing that is always adaptable and capable of considering changes in market conditions and quality (Banerjee et al., 2019).

In the Philippines, mobile ecommerce is facilitated by applications like Smart Money and G-Cash mobile banking (Alampay, 2008). In contemporary society, e-commerce enterprises, namely online retail, are widely recognized and provide convenience. They offer superior merchandise at affordable rates and ensure prompt delivery. Consumers often express their opinions and reviews in the comments section, indicating a shift away from traditional manual surveys conducted by researchers towards technology-enabled input on social media and product feedback sections. The study concludes that language limitations can pose challenges, nevertheless, achieving high accuracy and optimal performance can lead to improved product transactions, enhanced customer happiness, and more revenues in the future (Zhu et al., n.d.).

(Hasanov & Khalid, 2015) found businesses should establish a comparison between the worth of their online stores and the expectations of their customers given that the quality of a website has an inverse relationship with the goal of online purchasing products that are organic. to enhance online purchase intent among their

target demographic and to advertise available services. Moreover, (Syafrizal, 2021) pointed out that the objective of installing an internet marketing system for SMEs is to generate precise and efficient sales information data.

The platforms for e-commerce are a means of exchanging products and services. Regardless of their location, it is helpful inside an organization since it controls the growth of businesses to have simple access to diverse products, including quicker inventory, as mentioned by (Moriset & Moulin, 2018).

Since most trading models have changed, information and communication technology are used in every industry. A platform for purchasing and selling agricultural goods is referred to as e-Commerce. The promotion of economic development in agriculture is greatly aided by agribusiness online sales and market expansion for rural communities, both for residents and for farmers in particular which purchases and sells agricultural goods as stated by (Delima et al., 2018).

(Ramteke et al., 2020) discussed that the created farmer E-Marketplace would enable users to view orders, sell goods, and offer related account data. Users can register and create their own stores using this web-based system. (Jain & Carandang, 2018) added that farmers can handle customer inquiries, update product and price inventories using their short message service capability.

(Novytska et al., 2021) stated that studies have shown that the e-commerce system helps businesses by boosting productivity by lowering transaction costs and times.

According to (Bégué et al., 2018) to assist sustainable agricultural management, regular monitoring of agricultural systems is required because it provides farmers and decision-makers that allows them to better deal with disruptions to the environment that could affect crop production.

A data mapping tool facilitates the linkage between several programs and manages the conversion of data from the source application to its intended format in the implementation for location. Moreover, it allows for the implementation of diverse data manipulation operations on the input as it is being transmitted from the source to the destination. To ensure the appropriate allocation of necessary data fields and the generation of desired output in specified formats, a data mapping process must possess the ability to handle many types of structured and unstructured files and data formats. (Yaddow, n.d.).

As stated by the study of (Gatdula et al., 2017) to ensure uniformity of maps distributed to various stakeholders, the defined mapping design was considered when producing the agricultural land area. It is utilized to handle database information about geographical areas and to map products. Additionally. (Ding et al., 2022) discussed the importance of precise land cover mapping for preserving and managing the environment. Data from the Google Earth Engine platform is used to create instructional examples.

(Salahuddin et al., 2018) explain further the fundamental purpose of a geographic information system is to provide users with the data necessary to map possible areas for the cultivation of specific commodities and to identify producers of

agricultural superior products. Moreover, Bunao et al., (2019) mentioned that using GPS to find a location is useful. As a result, the system development guided the user to their intended place using interactive mapping.

According to (Jayadi, 2021) data projection statistics of e-commerce consumers can be seen from business people that have a strategic requirement to create sales. However, crop type information is one of many agricultural system parameters that are required for a range of purposes, including crop land area projecting, crop yield, and production forecasts (Liu, 2022) This system provides a simple and cost-effective method of managing some of its business processes as stated by (Jain & Carandang, 2018).

Furthermore, (Khan, n.d.) mentioned that forecasting is a method of creating predictions based on historical and current data, most frequently through analyzing trends. However, as stated by (Petropoulos et al., 2022) the data may need to be pre-processed before using a forecasting algorithm. There are fundamentals, such as ensuring correctness and incorporating missing values. Additionally, making decisions and planning have always been driven by forecasting. Unpredictability of the future is both exciting and challenging, and organizations and individuals strive to minimize risks and maximize benefits. In order to tackle practical challenges, a multitude of forecasting applications require an extensive array of forecasting techniques.

(Marpaung et al., 2019) cited that utilizing Single Exponential Smoothing, student acceptance for the subsequent academic year was predicted. The processed data consists of the number of new pupils admitted between 1999/2000 and

2003/2004. The utilization of the Single Exponential Smoothing Method yielded forecast results that predicted the quantity of 117 new students and 125 accepted students for the academic year 2003/2004.

Dharmawan & Indradewi (2021) mentioned that the primary challenges included the owner's poor recall, fluctuations in client demand, and the incapability to predict sales due to the owner's advanced level of experience. A goods inventory increase is necessary to prevent unanticipated sales declines and to address supply shortages that may occur during sales surges. In the present investigation, however, a web-based sales forecasting system was developed and built to assist the proprietor in predicting the quantity of sales that would transpire during the forthcoming term. Thus, determinations can be made regarding the quantity of objects that need to be delivered. By employing double exponential smoothing brown, an approach that enhanced forecasting by averaging the past value of time-coherent data and subsequently decreasing it exponentially with the need for a single parameter, the approach utilized was double exponential smoothing.

(Svetunkov & Petropoulos, 2018) identified a well-known forecasting technique as the simple moving average (SMA). It is simple to use, comprehend, and interpret, but it lacks a mechanism for selecting an acceptable duration and a supporting statistical model. Due to this, it is nearly hard to generate the proper parametric prediction intervals, which in turn makes it difficult to make decisions on inventory control. Because of this, the SMA is frequently overlooked in forecasting studies and isn't thought to be a forecasting technique worth looking into. However,

(Ketut Suwintana et al., 2018) that the SMA has advantage for demand of the following products inference when information about demand is not shared across the supply chain. As can be seen, the SMA is utilized as a method for several goals in inventory management literature, although it has not been explored on its own.

AGROMART: A Web-Based system for Agricultural Market is related to the studies previously mentioned because they have the same goal of having a system that is a reliable e-market for the users. However, the current study focuses on data mapping and forecasting features of the products in the Municipality of San Clemente and Camiling.

METHODOLOGY

System Development Methodology

The researchers used the Agile SDLC Model as it defines and outlines the plan in stages and is easy to manage. There are five (5) main stages in the development process of the system. (1) Analyze User Requirements, (2) Design the Program, (3) Code the Program, (4) Document and Test the System, and (5) Operate and Maintain the System.

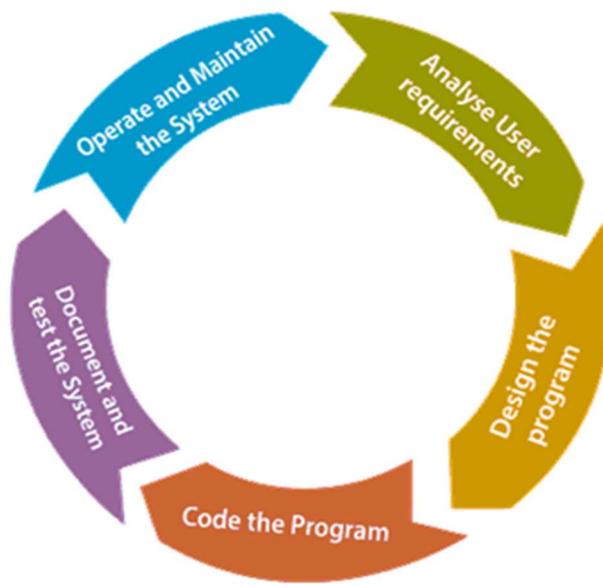


Figure 1. Agile SDLC Model used for Agromart.

Analyze User Requirements. The first stage in developing the agricultural market is analyzing user requirements, which define the system allocation and build the models of the data, functional domains, and behavioral domains that are treated by the system. However, collecting information on how the intended users interact

with the system is necessary in order to analyze the user requirements. It is also necessary to look at other studies that are comparable in order to get a sense of how they handle and get ready for their target audience.

Design the Program. Designing the program is the second stage for determining the components and interface of the system. Agromart is developed with a buyer interface, seller interface, and administrator interface that is organized and tuned to provide user-friendly navigation and accessibility. Similarly, seller accounts inside the Agromart system need validation to ensure that individuals provide accurate information to have easy and secure transactions. Furthermore, the administrator interface is likely to be outfitted with strong tools and functions for managing the entire system. The Data Mapping feature enables it to collect, organize, and visualize massive volumes of data relating to product location and sales patterns.

Agromart's web-based system is expected to include predictive analytics capabilities that use historical data and statistical models to estimate yearly product patterns. These forecasting methods employ historical sales data to forecast potential patterns in producing products for future periods.

Code the Program. Coding the program is a stage where the website development team provides a web system that meets the user's needs in the process of organizing and developing the system for its functionality in a written computer language and ensuring the design is correct and liable to the designed program. To provide a solid system, the Agromart platform is programmed utilizing a broad tech stack that includes the following programming languages like JavaScript, HTML,

CSS, PHP, CodeIgniter, XAMPP, and MySQL. Additionally, it used an integrated development environment software such as Visual Studio Code and XAMPP Apache web server for the database management of the system.

Documentation and Testing. This stage will test the system for more improvements and polishing the code. In terms of unnecessary errors and bugs which guarantee the quality of the system before dissemination. The researcher availed a hosting domain with the use of hostinger platform to easily test the system through different search engines such as Google chrome, Microsoft Edge, Opera GX, Mozilla Firefox, and others. Moreover, the researcher conducted the testing with different devices for different screen width to determine the smoothness of the system interface. Throughout its development, the system underwent testing and continuous enhancement, for its capabilities and fortifying its reliability to achieve a higher level of performance.

As the system was being constructed, new features and functionalities were continuously integrated into the system. These additional features were carefully selected and implemented to address specific needs or to improve upon existing functionalities. Each enhancement aimed to elevate the system's usability and functionality culminating in a more refined and dependable platform.

Operate and Maintain the System. This final stage of system operation and maintenance concentrates on system management to reduce the possibility of system failure and ensure that it continues working smoothly. This stage maintains the system

behavior by means of admin. Agromart also includes using it for website assessment to get feedback and reviewing it for updates and improvements.

Data Gathering Procedures

During data collection, the researchers have utilized various references that are related to the study.

Interview. The researchers conducted an interview with the future user to get the required information about what needs to be added to the system.

Questionnaire. A questionnaire was also used during the evaluation of the system to get suggestions from future users.

Literature survey. Literature surveys are a potent tool in gathering important information. The main resource for references that are able to be utilized to find materials that are related to any research study is the internet. However, Internet research requires the researchers' careful and critical eye to gain excellent and reliable sources.

System Design

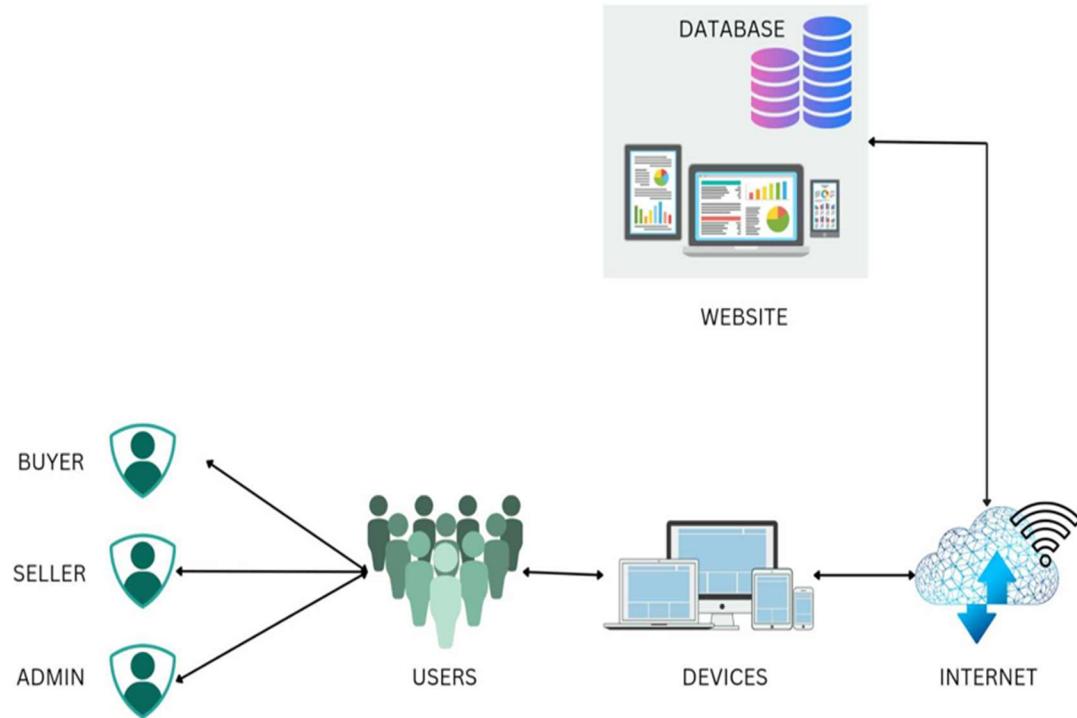


Figure 2. The Architecture Design of the System

Figure 2 shows that the system architecture design consists of four (4) main parts of the system, the users that consist of admin, buyer, and seller, devices, internet, and website. It demonstrates that users will engage through the usage of devices such as mobile phones, laptops, and desktop computers for Android, iOS, Windows, and Mac users. To enable users to utilize the system, an internet connection is required to access the website and enable users to register and create an account for users. The system will present different sorts of user interfaces depending on whether the users are admin, seller, or buyer.

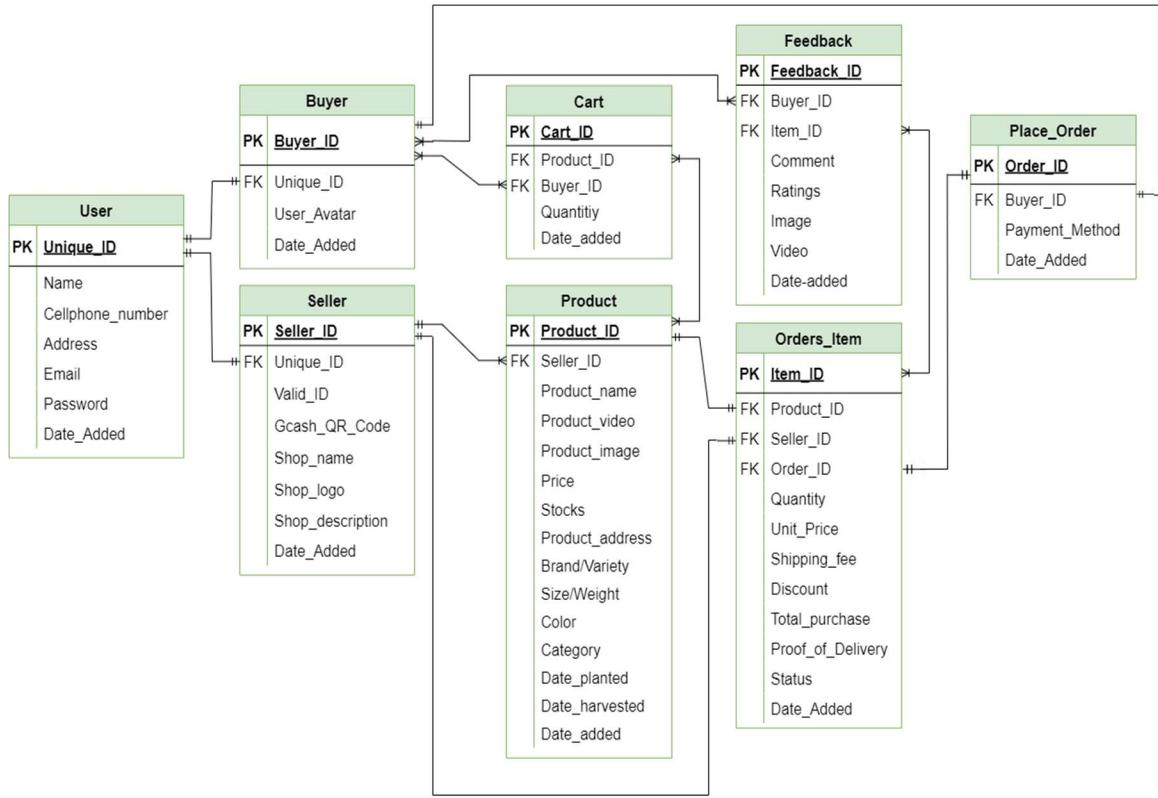


Figure 3. Entity Relationship diagram of the System

Figure 3 depicts the system's entity-relationship diagram. It shows the flow of the system by presenting the database design. Also, it shows the entity relationship of each table. First, in logging in, the system checks the type of users and loads the user interface according to the user type. Each type of user has a unique identity such as farmer and seller. If the seller inputs a product, it would automatically give a unique identity through product ID. If the farmer orders a product, it will go to the cart and the system will provide a shipment method. After that, if the product was successfully delivered the farmer can provide feedback. The product information is shown through map location.

Algorithms Used

Single Exponential Smoothing. Single Exponential Smoothing, often abbreviated as SES, is a widely employed time series forecasting technique that is particularly useful for short-term predictions based on historical data. SES is characterized by its simplicity and adaptability, making it a valuable tool in various domains including finance, economics, and inventory management.

The core principle of SES lies in its weighted averaging of past observations, with exponentially decreasing weights assigned to earlier data points. This implies that recent data carries a higher influence on the forecast, while older data gradually diminishes in significance.

Tools used in the Development

The following are the tools that the researchers used to develop the web-based system for the agricultural market.

Hardware. The hardware used by the researchers to developed the system included the following:

Table 1. Hardware used for System Development.

CLASSIFICATION	SPECIFICATION
CPU	1.10GHZ
RAM	8.00 GB
Storage	4 GB

Table 1 shows the hardware used in developing the system. Is a laptop device within at least 1.10ghz cpu, 8gb of ram, and 4 gb ssd storage.

Software. The software used by the researchers to develop the system includes the following:

Table 2. Software used for System Development.

SOFTWARE	DESCRIPTION
HTML	It is a web-based markup language that establishes the foundation of web pages.
CSS	It is a simple layout language designed to streamline the process of making web pages visually appealing.
JAVASCRIPT	It is a programming language utilized for manipulating, computing, and validating data and is a fundamental technology of the World Wide Web.
PHP	It is a scripting language for backend development, especially in developing website system.
CODEIGNITER	It is a sophisticated PHP framework with an easy-to-use toolkit for building full-featured web applications.
XAMPP	This web server is extensively utilized across several platforms, aiding developers in the creation and testing of their apps on a local server.
MySQL	It is the database software used with crud operation.

Evaluation

Scale to be Used in the Evaluation. The *Likert scale* will be used to interpret the result of the evaluation. The users will evaluate the system's usability and functionality using the scale, where each parameter was detailed for the understanding of the evaluator.

Table 3. Scale Used in Evaluating the System.

RANGE VALUE	VERBAL INTERPRETATION
4.50 – 5.00	Excellent
3.50 – 4.49	Very Satisfactory
2.50 – 3.49	Satisfactory
1.50 – 2.49	Good
0.00 – 1.49	Poor

Table 3 will be used to interpret its weighted mean with corresponding verbal description. The users will rate the system according to an identified parameter on the scale of 1 to 5, where excellent for five (5), Very Satisfactory for four (4), Satisfactory for three (3), Good for two (2), and Poor for one (1).

Respondents to the Evaluation. The evaluators of the study were selected through the availability of people in the Municipality of San Clemente, Tarlac and Camiling, Tarlac as the locale of the study. A total number of three hundred and ninety-eight (398) respondents evaluated the system identified through Convenience Sampling.

Validation

Data. The researcher gathered and collected data from different government official websites to ensure the legitimacy of data being used. Due to the limits of data availability the researcher gathered all available historical produce data for time series forecasting. Researchers filtered data to ensure the consistency of its time intervals.

The production of crop produce is well known for its inconsistency. The reason is planting crops or vegetables is dependent on their seasonal plantation. Therefore, it is difficult to gather and filter data for monthly, weekly, and daily forecasting models. The researcher used an annual forecasting model for more stabilized time intervals using a single exponential smoothing or simple exponential smoothing algorithm.

To acquire the best smoothing parameter for a (alpha) the researcher performed a grid search in a range of 0.01, 0.02 to 0.99 and eliminate the best alpha (a) from this range to reduce the RMSE and get the best forecast result the same as the method used by the study of (Dielman, 2006).

Table 4. Data Used for Annual Forecasting.

CROP PRODUCE	ACTUAL DATA DATE	FORECAST DATA DATE
Rice	2010-2022	2023
Corn	2010-2022	2023
Mango	2010-2022	2023
Ginger	2010-2022	2023

Accuracy. The validation of the forecasting algorithm was done by calculating and acquiring the lowest value of RMSE. First, the researcher calculated the forecast

error by simply subtracting the actual value to forecast value. Then researchers squared the forecastError (E) to calculate the squared errors (E^2).

Lastly, the researcher calculated the MSE or mean squared error by simply

$$\text{forecastError (E)} = \text{actualData} - \text{forecastData} \quad (1)$$

$$(E^2) = \text{forecastError}^{^2} \quad (2)$$

averaging the (E^2). Then calculate the RMSE for the validation of accuracy of the forecast algorithm used. To calculate the RMSE it is by square rooting the MSE.

$$\text{MSE} = \text{SUM OF } E^2 / \text{NO. } E^2 \quad (3)$$

$$\text{RMSE} = \text{MSE}^{^2} \quad (4)$$

Stress Testing

The researcher used the Apache JMeter software tools to validate the stress testing of the proposed system. Apache JMeter is a tool used to evaluate load testing for web systems or web applications.

Table 5. Parameters in Apache JMeter.

TEST PLAN	NO. OF THREADS (USER)	RAMP UP PERIOD (IN SECONDS)	LOOP COUNT	HTTP SAMPLE REQUEST
Agromart	100	1	infinite	https://shopnow.agromart.tech/userpage
	100	1	infinite	https://shopnow.agromart.tech/sellerpage

Table 5 shows the parameters used for stress testing. The researchers first, creates a testing plan for the system and sets the total number of samples executed by

setting the number of thread (users) by 100 to be multiplied by the number of loop counts. However, the researchers set the loop count to infinite loops and break the loops when an error occurred during the testing to easily determine the total sampler with a successful testing through the proposed system. Then researchers set two http requests to connect the Apache JMeter to the proposed system for the seller page and user page.

RESULTS AND DISCUSSION

AGROMART: A Web-based System for Agricultural Market

The web-based system named Agromart is designed to achieve a specified agricultural need on behalf of the beneficiaries of the system.

Purchasing and browsing agricultural products can be done through the user interface. Through the seller interface, it enables the seller to handle orders and manage production. The system also has an administrator's interface for the system maintenance and as moderator. It allows the user to locate agricultural produce and land use with the help of data mapping. The system also provides Forecasting for the buyer and seller to track product demand on an annual basis. The system highlights the data mapping that locates the availability of products in specific locations and recognized agricultural produce such as rice, corn, coconut mango, sugarcane, pineapple, fish farms, and poultry areas were beneficiaries to users.

User Requirements

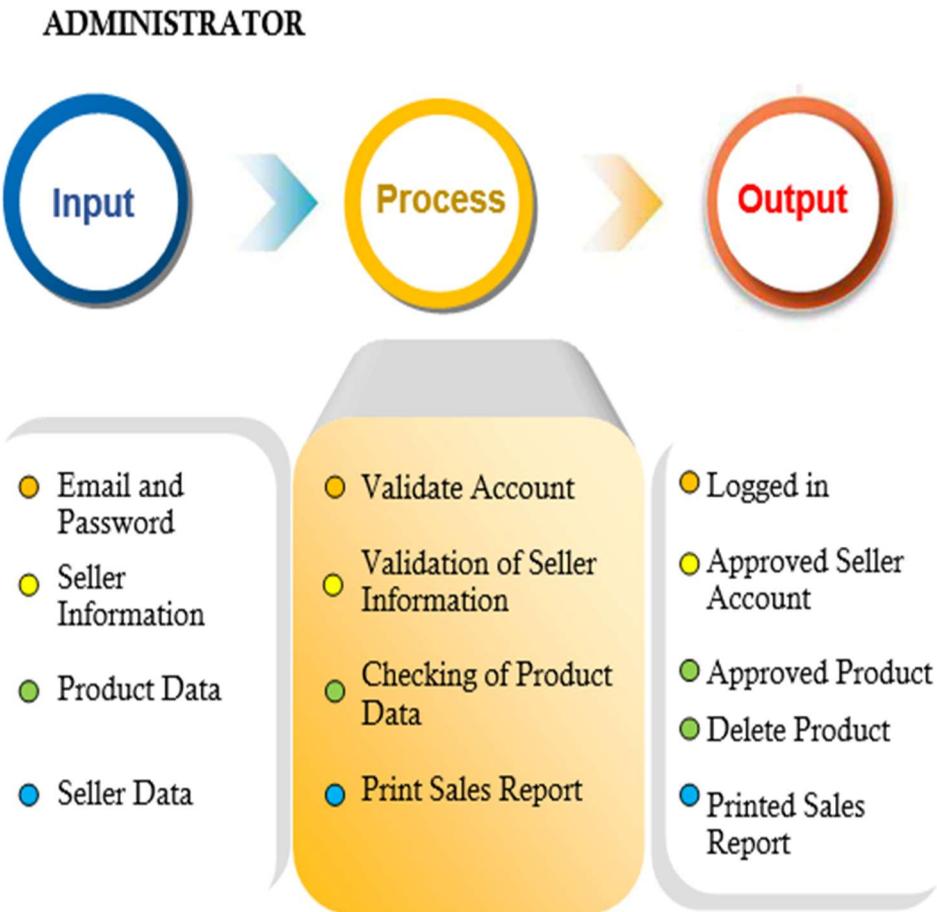


Figure 4. Admin Input Process Output

Figure 4 shows the input, process, and output of the Administrator. The admin can also log in to the system and the data will be stored in the database. Only the admin has the capability to validate seller information to access the seller interface and product data of the seller. The admin can also print the sales report from the system.

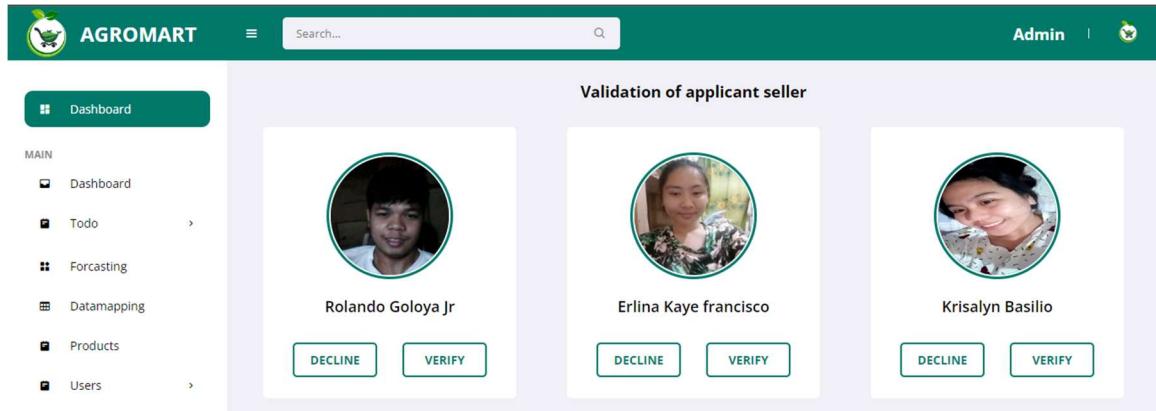


Figure 5. Validation if seller

Figure 5 demonstrates that every seller applicant is verified by the administrator to guarantee system security and prevent dishonest sellers.

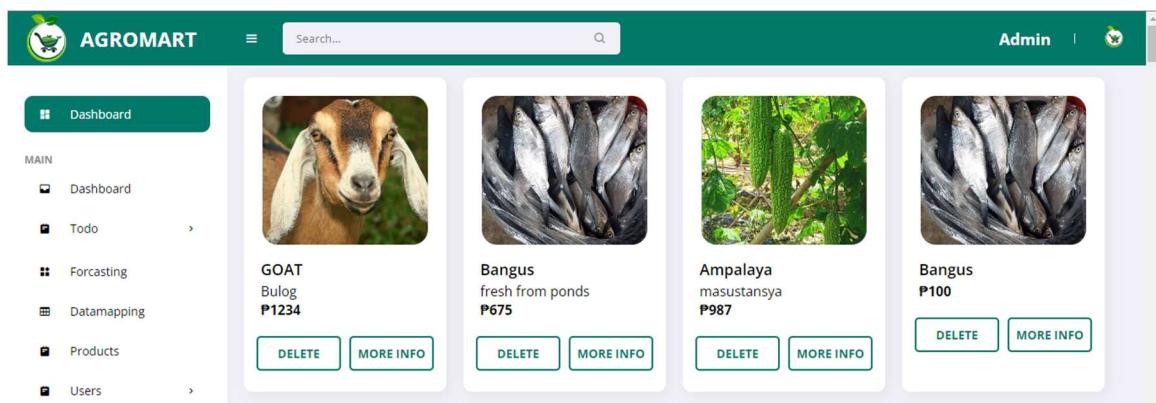


Figure 6. Checking of Products

Figure 6 shows that administrators check and validate the product data, including name, description, stock, price, and any other pertinent information. To guarantee that the system contains an exact and correct description of every product. Also, avoid things that are not agriculture related, such as drugs, cigarettes, and other products.

FARMER (Buyer)

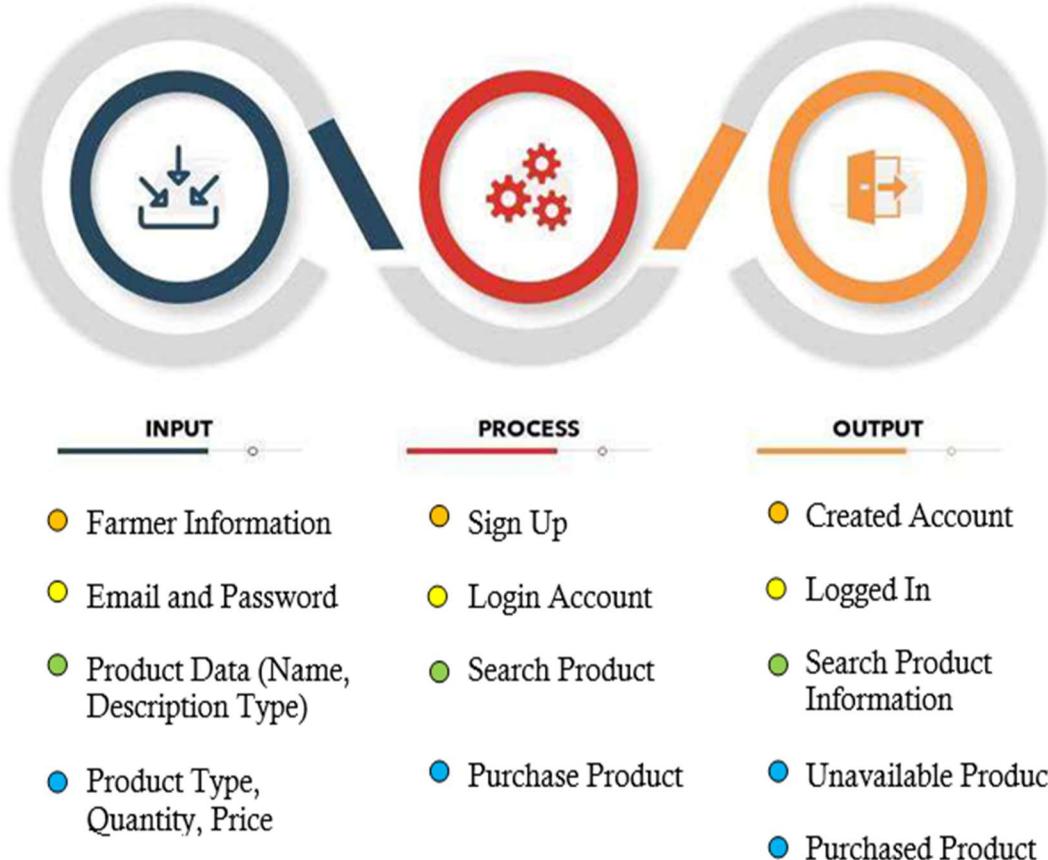


Figure 7. Farmer (Buyer) Input Process Output

The Input Process Output of Agromart for Farmer as buyer, as shown in Figure 7, indicated the process in creating an account. Once a buyer has logged-in, the buyer can search for available products and purchase agricultural products.

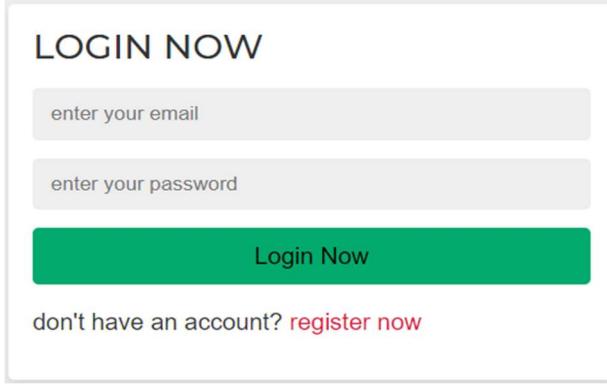


Figure 8. Log In

Figure 8 shows the Login Interface where the user will enter their email together with their password to access the system. If the user does not have an account yet the user should click Sign Up or Start selling so they can register.

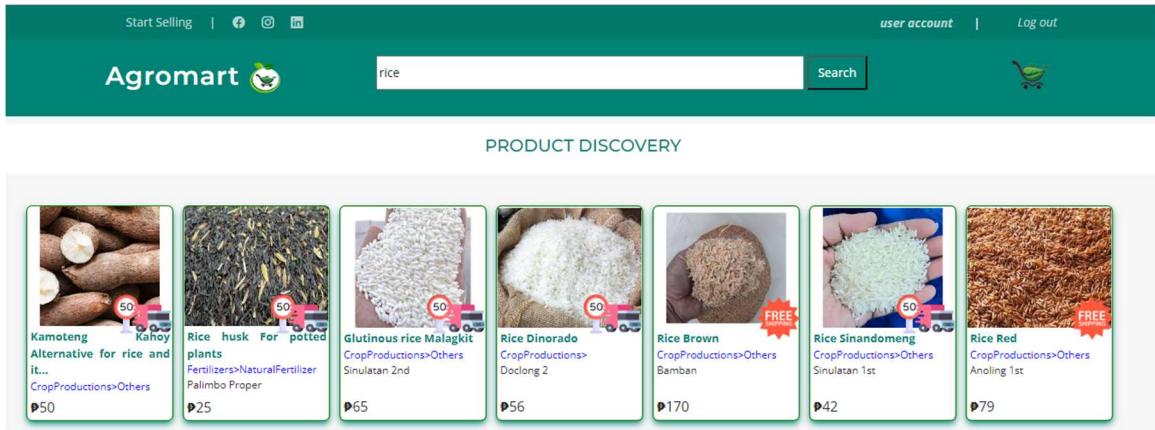


Figure 9. Search Product

Figure 9, shows the search for a product involves taking a user query, processing it through a search algorithm, and presenting the user with a list of relevant results. The user then selects a product based on these results, leading to further interactions within the system, such as viewing a product page or purchasing a product.

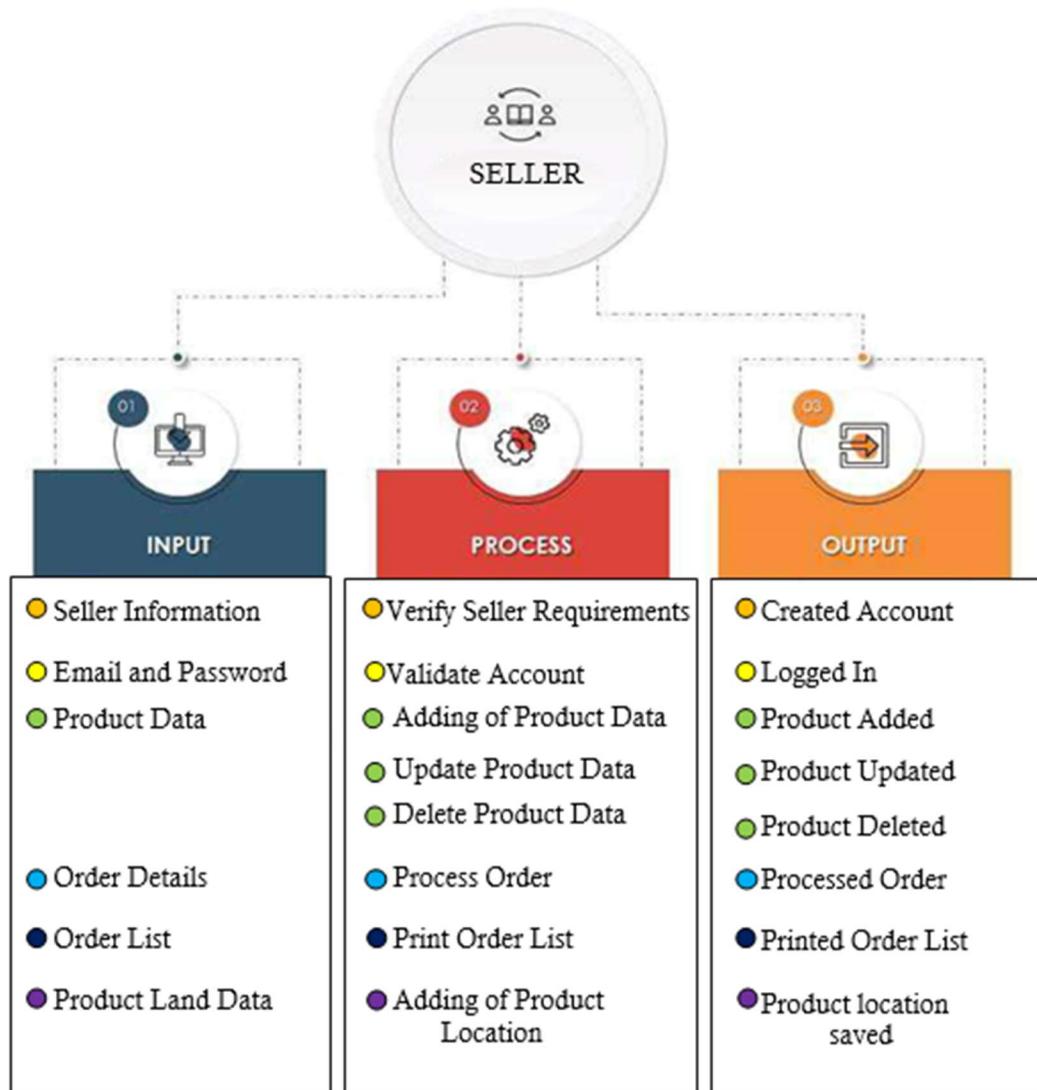


Figure 10. Seller Input Process Output

Figure 10 shows the input, process, and output of Seller. Seller registration is needed to access the seller interface to add, update, and delete products. Once a buyer orders a product, the seller will print and process the orders. The seller can also add the product location.

The screenshot shows the Agromart seller account interface. At the top, there is a navigation bar with the Agromart logo, a search bar, and a 'seller account' link. Below the navigation bar, there is a main menu with options like 'Dashboard', 'Orders', 'My Products', 'My Accounts', 'Print Page', and 'Log out'. The main content area is titled 'ABOUT PRODUCT' and contains various input fields for product details. The fields include:

- Title/Name: Product name
- Description: Brief description
- Price: Enter Product Price
- Stocks: 1000 kg, pieces, pound
- Variety/Brand: ex. magnolia chicken
- Pack size: ex. per kilo, per pcs
- Color: ex. black, red, white
- Date Planted: dd/mm/yyyy
- Actual harvested: dd/mm/yyyy
- Estimate Date harvested: dd/mm/yyyy
- Address: SAN CLEMENTE, TARLAC

Below the input fields, there is a note: "Set Actual Date Harvest if product is already harvested and Estimate Date Harvested if not yet harvested". At the bottom right of the form is a large teal button labeled 'next'.

Figure 11. Adding of Product

Figure 11 shows that adding a product entails entering comprehensive product data, uploading images, and providing additional relevant details. This is followed by a processing and validation step. The result is a published product listing that can be accessed by potential buyers on the agromart system. This procedure is essential since it helps the seller to market and sell their product easily and successfully.

CREATE SELLER ACCOUNT

My Shop

Shop Logo:

Choose File

No file chosen

I have read and agree to the [Terms and Conditions](#)

Submit

Already have an account? [Login](#)

Figure 12. Seller Registration

In Figure 12, shows the seller registration process involves the input of detailed information by the seller. The submitted information undergoes a verification process to ensure its accuracy and legitimacy. This may involve manual verification by the admin of the system. Once registered, sellers can gain access to various services provided by the system.

Hardware and Software Requirements

The following are the minimum and maximum hardware and software required to run and operate Agromart.

Table 6. Hardware and Software Requirements to Run Agromart.

DEVICES	CLASSIFICATION	SPECIFICATION
Desktop	Operating system Web Browser Hardware	Windows 7 Google Chrome 2GB of RAM
Mobile Phone	Operating System Web Browser Hardware	Android 10 or IOS 14 Google Chrome or Safari 2GB of RAM

Evaluation Results

The system was evaluated by the end users based on the criteria under specific objectives, the proposed web-based system was evaluated using simplified questions for the evaluation. The researchers accumulated a total of three hundred and ninety-eight (398) respondents from Camiling and San Clemente.

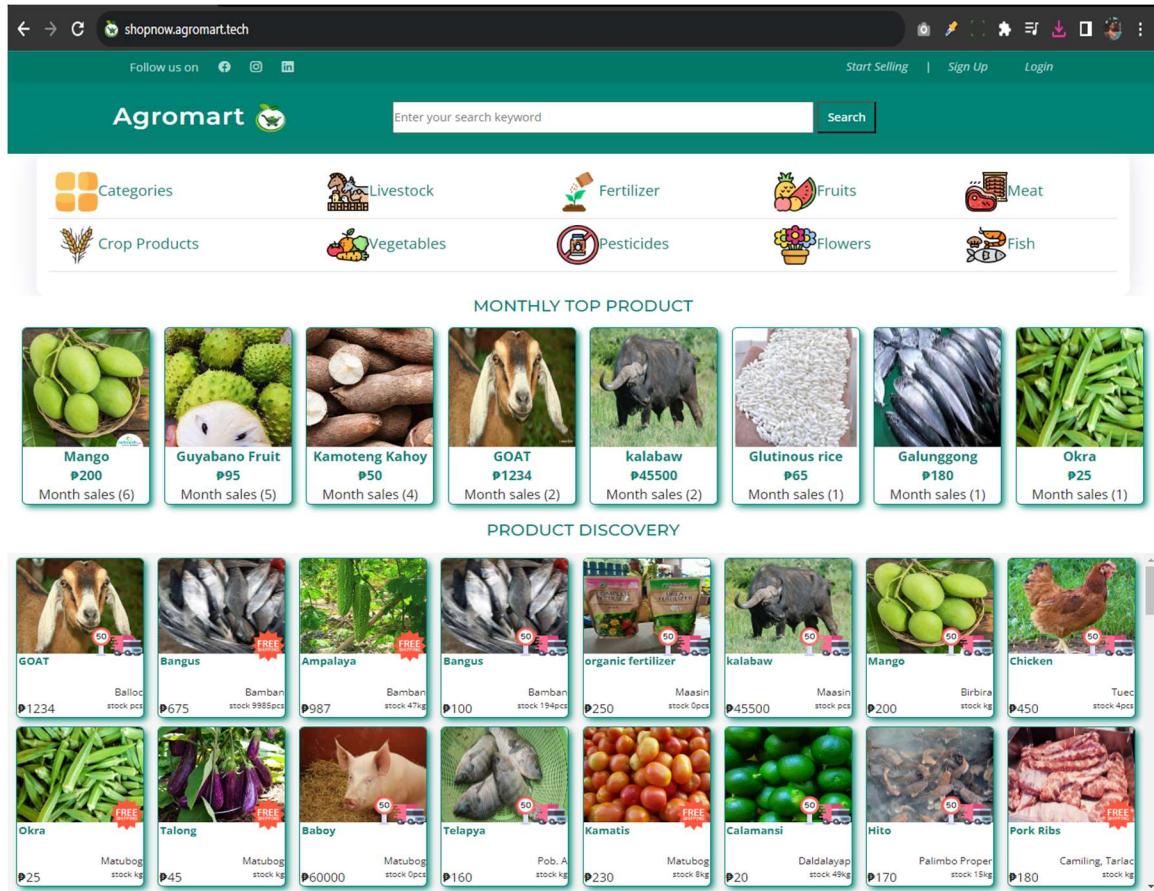


Figure 13. Agromart Landing Page

Figure 13 shows the Agromart Display Page wherein the signing up for a new account is the process upon registration. After that users can log in as buyer or seller. This page provides such images and information regarding the products and showcases the product from different angles and perspectives. Search bar for the users to be able to easily view specific products.

Table 7. Evaluation of Users on Software Usability.

1. USABILITY	AVERAGE	DESCRIPTIVE RATING
1.1. The system was easy to use.	4.65	Excellent
1.2. The system page is simple to navigate.	4.57	Excellent
1.3. The system has the expected features and capabilities.	4.43	Very Satisfactory
1.4. The system requires no technical skill or assistance to use.	4.37	Very Satisfactory
1.5. The information provided by the system was clear and accurate.	4.48	Excellent
Composite Mean	4.50	Excellent

Table 7 shows the result of the evaluation on the proposed system's usability by the end users. Most of the measurements are rated as excellent, whereas the system's usability for the end users is validated as excellent, with a composite mean of 4.50.

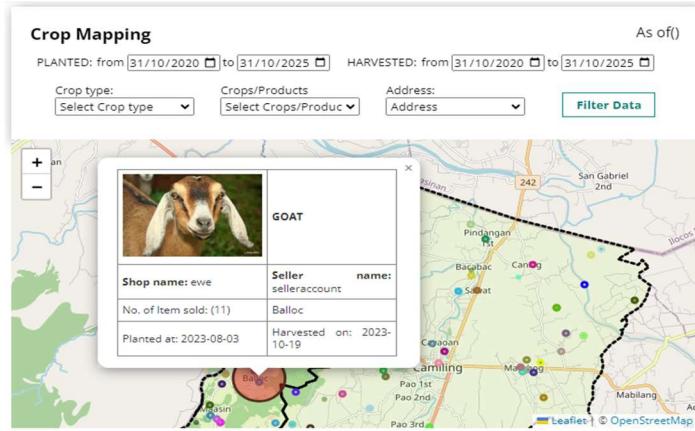


Figure 14. Data Mapping

Figure 14 Data mapping functionality, to locate agricultural produce and land use. Data mapping enables users to map fields from one source to another, specifying how data is comparable and the quantity of products during the searching process.

Table 8. Evaluation of Users on Software Functionality.

2. FUNCTIONALITY	AVERAGE	DESCRIPTIVE RATING
2.1. The website button's function properly.	4.61	Excellent
2.2. The system prevents unauthorized users.	4.50	Excellent
2.3. Transactions of the system were quick and easy to complete.	4.43	Very Satisfactory
2.4. The system's search and filtering option provides accurate results.	4.36	Very Satisfactory
2.5. The system allows the user to view most sold items and forecast produce.	4.39	Very Satisfactory
Composite Mean	4.46	Very Satisfactory

Table 8 shows the rating of the end users on the proposed system's functionality with a score of 4.46, which means that the system's functionality from the perspective of the users, is very satisfactory.

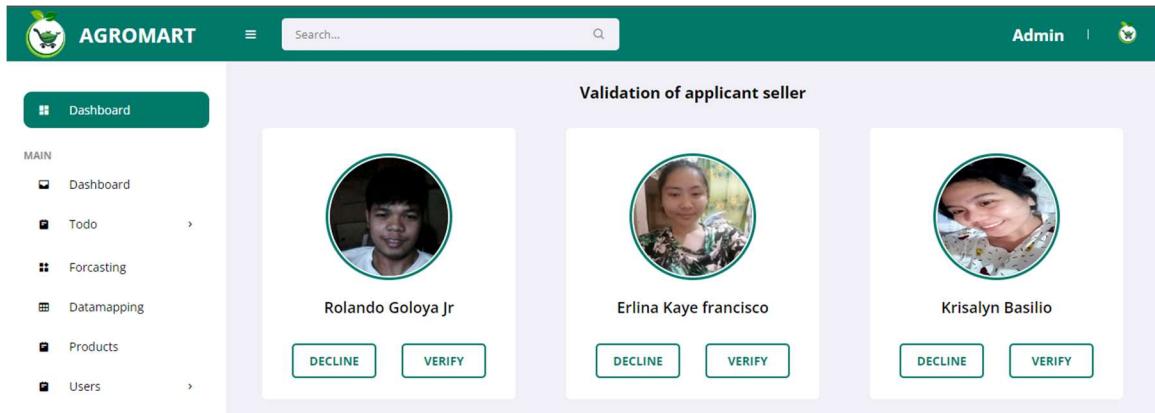


Figure 15. Validation of Seller Account

In figure 15, it shows that in the Admin interface the admin has the ability to validate the seller and access seller interface to maintain the security of the buyer.

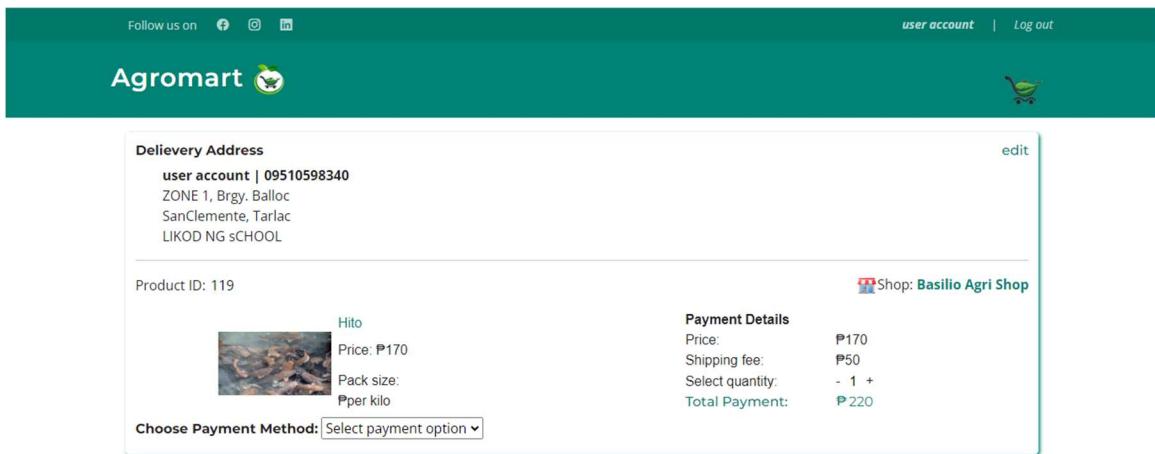


Figure 16. Purchase Order

In Figure 16 after clicking the product, the users will go to the page where they can purchase products with corresponding payment methods. Buyers have a clear and convenient way to add items to their shopping carts and proceed to the checkout process. This page also allows the user to give feedback upon purchasing.

Table 9. Grand Mean for User's Evaluation.

Mean	Weighted average	Descriptive rating
1. Usability	4.50	Excellent
2. Functionality	4.46	Very Satisfactory
Grand Mean	4.48	Very Satisfactory

Table 9 shows the grand mean of the user's evaluation of the proposed IT solution. The users evaluated the system's usability as excellent and system's functionality as very satisfactory, with the grand mean of 4.48 as very satisfactory.

Validation Results

The accuracy of the forecasting algorithm used is dependent on the smoothing parameter value to achieve the lowest value of RMSE as a result of an accurate forecasting model. RMSE is a widely used statistic to examine the precision of forecasts.

ALPHA	RMSE				ALPHA	RMSE			
	RICE	CORN	MANGO	GINGER		RICE	CORN	MANGO	GINGER
0.01	3.38429	2.37109	6.15452	6.57912	0.51	4.31451	2.47625	5.23477	5.89615
0.02	3.39379	1.84541	4.79754	5.12711	0.52	4.34692	2.23128	4.69721	5.29337
0.03	3.39992	1.44749	3.76646	4.02484	0.53	4.37955	2.00888	4.21122	4.74793
0.04	3.40358	1.14436	2.97841	3.18302	0.54	4.41241	1.80698	3.77176	4.25444
0.05	3.40554	9.11912	2.37242	2.53611	0.55	4.44551	1.62372	3.37449	3.80794
0.06	3.40647	7.32462	1.90355	2.03577	0.56	4.47886	1.45742	3.01546	3.40417
0.07	3.40694	5.92958	1.53833	1.64626	0.57	4.51247	1.30658	2.69109	3.03917
0.08	3.40744	4.83744	1.25207	1.34111	0.58	4.54635	1.16981	2.39818	2.70937
0.09	3.40823	3.97618	1.02621	1.10014	0.59	4.58053	1.04587	2.13383	2.41156
0.1	3.40976	3.29222	8.4688	9.08802	0.6	4.61501	9.33633	1.89541	2.14283
0.11	3.41222	2.74506	7.03351	7.55773	0.61	4.64982	8.32067	1.68057	1.90054
0.12	3.41575	2.30426	5.87894	6.32553	0.62	4.68497	7.40237	1.48714	1.68233
0.13	3.42053	1.94662	4.94359	5.32672	0.63	4.72049	6.57291	1.31318	1.48592
0.14	3.42664	1.65444	4.18096	4.51177	0.64	4.75641	5.82451	1.15691	1.30944
0.15	3.43413	1.41412	3.55524	3.84256	0.65	4.79275	5.15007	1.01671	1.15104
0.16	3.44302	1.21516	3.03877	3.28957	0.66	4.82953	4.54309	8.91129	1.00911
0.17	3.45333	1.04938	2.60974	2.82984	0.67	4.86679	3.99764	7.78815	8.82104
0.18	3.46504	9.10401	2.25145	2.44541	0.68	4.90455	3.50828	6.78555	7.68693
0.19	3.47811	7.93212	1.95054	2.12212	0.69	4.94285	3.07002	5.89222	6.67616
0.2	3.49252	6.93837	1.69647	1.84878	0.7	4.98173	2.67829	5.09808	5.77777
0.21	3.50821	6.09122	1.48086	1.61648	0.71	5.02121	2.3289	4.39381	4.97999
0.22	3.52512	5.36533	1.29699	1.41809	0.72	5.06134	2.01799	3.77089	4.27439
0.23	3.54322	4.74042	1.13948	1.24787	0.73	5.10216	1.74203	3.22151	3.65222
0.24	3.56239	4.22222	1.00395	1.10119	0.74	5.14371	1.49776	2.73853	3.10471
0.25	3.58262	3.73068	8.86863	9.74254	0.75	5.18603	1.28219	2.31543	2.62514
0.26	3.60383	3.32149	7.85312	8.63988	0.76	5.22918	1.09258	1.94621	2.20654
0.27	3.62596	2.96341	6.96915	7.67855	0.77	5.27319	9.26383	1.62537	1.84273
0.28	3.64894	2.64897	6.19704	6.83742	0.78	5.31813	7.81283	1.34789	1.52801
0.29	3.67273	2.37196	5.52048	6.09925	0.79	5.36403	6.55137	1.10914	1.25719
0.3	3.69726	2.12721	4.92586	5.44945	0.8	5.41097	5.45977	9.04915	1.02549
0.31	3.72247	1.91036	4.40188	4.87586	0.81	5.45999	4.51994	7.31333	8.28531
0.32	3.74833	1.71772	3.93872	4.36823	0.82	5.50817	3.71526	5.84847	6.62311
0.33	3.77477	1.54622	3.52853	3.91799	0.83	5.55856	3.03055	4.62226	5.23163
0.34	3.80176	1.39315	3.16437	3.51752	0.84	5.61024	2.45168	3.60508	4.07739
0.35	3.82924	1.25629	2.84044	3.16081	0.85	5.66326	1.96666	2.76992	3.12979
0.36	3.85719	1.13369	2.84241	2.84241	0.86	5.71771	1.56178	2.09223	2.36101
0.37	3.88557	1.02367	2.29378	2.55777	0.87	5.77367	1.22837	1.54967	1.74575
0.38	3.91434	9.24789	2.06315	2.30272	0.88	5.83122	9.56077	1.12204	1.26107
0.39	3.94348	8.35791	1.85656	2.07403	0.89	5.89043	7.36138	7.91103	8.86286
0.4	3.97295	7.55585	1.67124	1.86864	0.9	5.95141	5.60644	5.40474	6.02803
0.41	4.00274	6.83214	1.50481	1.68395	0.91	6.01425	4.22488	3.55527	3.94004
0.42	4.03282	6.17846	1.35517	1.51769	0.92	6.07903	3.15358	2.23298	2.45149
0.43	4.06317	5.58745	1.22047	1.36789	0.93	6.14588	2.33667	1.32399	1.43288
0.44	4.09378	5.05265	1.09913	1.23278	0.94	6.21489	1.72536	7.29525	7.71455
0.45	4.12464	4.56836	9.89723	1.11084	0.95	6.28619	1.27765	3.65277	3.71267
0.46	4.15573	4.12953	8.91012	1.00071	0.96	6.35989	9.58092	1.60902	1.51833
0.47	4.18705	3.73166	8.01895	9.01192	0.97	6.43611	7.37606	5.9592	4.79899
0.48	4.21859	3.37076	7.21399	8.11217	0.98	6.51555	5.93295	1.77333	9.47689
0.49	4.25035	3.04333	6.48661	7.29843	0.99	6.59669	5.08341	4.64442	5.93262
0.5	4.28232	2.74607	5.82913	6.56226					

Figure 17. Identifying the optimal alpha value.

Figure 17 shows the result that researchers found regarding the 0.01 optimal alpha value for the crop produce forecast. While the optimal alpha value for corn

produce is 0.37 and 0.24 optimal alpha for Mango. Lastly, 0.46 is the optimal alpha value for Ginger.

However, to consider an accurate forecasting model the ideal alpha value is determined by acquiring the lowest RMSE or the root of mean squared errors. The RMSE is a commonly used metric for evaluating forecasting accuracy. This is calculated through subtracting the forecast value unto the actual value to get the forecast errors. Then squared the errors and get the mean squared error. Next is the square root of MSE and provides an error measure in the same units as the data.

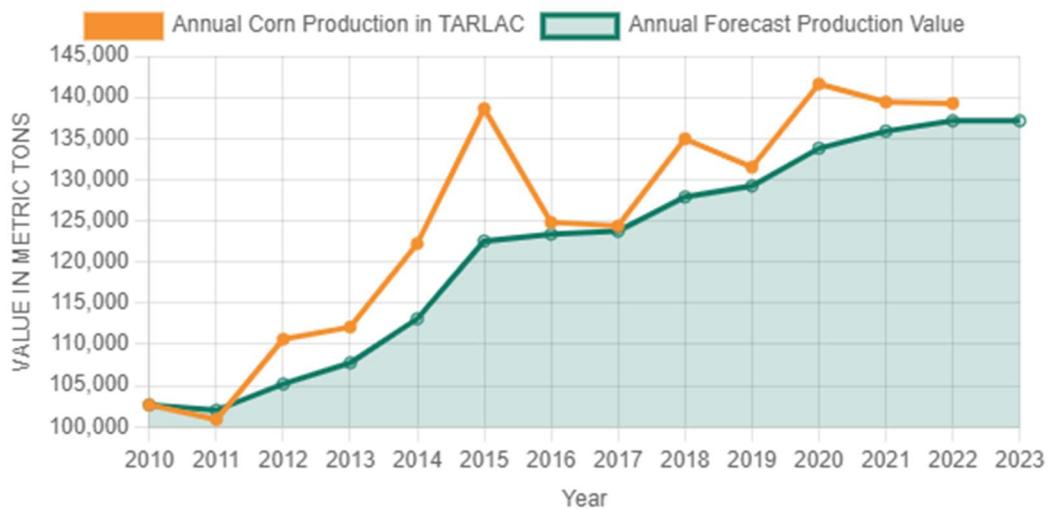


Figure 18. Forecasting

Figure 18 shows the forecasting feature of the system. Users and sellers in Camiling, Tarlac, and San Clemente, Tarlac, can keep an eye on the yearly production of goods. The figure above projects the potential yield in 2023 for selected crop types

that have an available historical data. By applying a single exponential smoothing forecast algorithm to their historical data.

The primary purpose of a data product forecasting page is to offer predictive insights into future trends, behaviors, or outcomes based on historical data and advanced modeling techniques. This enables users to anticipate and prepare for potential future scenarios. The page often includes interactive charts, graphs, and visual representations of forecasted data. These visuals make it easier for users to grasp the predicted trends and patterns, providing a clear and intuitive understanding.

Table 10. Apache JMeter Stress Testing Result.

LABEL	SAMPLES	AVERAGE	MIN	MAX	ERROR	THROUGHPUT	RECEIVED (KB)	SEND (KB)
userpage	8715	3683	74	92290	0.00%	13.76097/sec	1682.31	1.81
sellerpage	8672	3547	98	120558	0.01%	13.6028/sec	1566.67	1.82
TOTAL	17387	3615	74	120558	0.01%	27.6697/sec	3237.16	3.62

In table 10, data shows the successful result of Apache JMeter stress testing with 0.01% total of errors. It also shows that the system can handle a total of 17,387 number of samples, 8,715 number of samples for user page and 8,672 number of samples for seller page with an average total of 3615 millisecond response time. While in throughput it is determined that the number of transactions has 27.6697 per seconds that the users can access the system simultaneously.

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

The expansion of online shopping has resulted in the development of a web-based agricultural market adapted to cater to the needs of farmers and the agricultural industry. Agromart, an innovative online agricultural market, is revolutionizing farming with its data mapping function that exactly locates your crops. Furthermore, it provides vital annual produce forecasts, providing farmers with information for successful transactions.

During the system development stage, it is important to ensure that the system is user-friendly, facilitating easy comprehension and engagement for users. Additionally, the system's content should uphold accuracy to provide reliable information to its users.

As a result, Agromart stands as a leading web-based system for agricultural markets, distinguished as very satisfactory in the perspective of the users through its usability and functionality, together with accurate forecasted products. This platform sets a remarkable standard, making it a promising solution for improving agricultural market experience for both farmers and sellers within Camiling and San Clemente, Tarlac as the locale of the research study.

Conclusion

The findings of this study lead to the following conclusions:

1. The development of the Agromart web-based market meets the primary objectives with the following components namely: Buyer Interface, Seller Interface, Administrator Interface. It is well-developed with the use of the following languages like HTML, CSS, PHP, JAVASCRIPT and more.
2. The Agromart web-based agricultural market, was evaluated and rated by the user as excellent in terms of system's usability with the composite mean of 4.50 while in system's functionality was rated as very satisfactory with a corresponding composite mean of 4.46. The accuracy test on the system produced outstandingly favorable results with 0.01 optimum alpha (α) for rice produce, 0.37 optimum alpha for corn produce, 0.24 for mango optimum alpha value and 0.46 optimum alpha value for ginger produce which is considered as the most ideal smoothing parameter to acquire the accurate forecast model. Lastly, the system can successfully handle a total of 17,387 number of samples with the result of 0.01% of total error. The Agromart system displayed an exceptional level of accuracy, instilling optimism regarding its performance and confirming its suitability in forecasting future annual product for which it was developed.

Recommendation

This study provides a recommendation for future researchers.

1. **Mobile Application.** The agricultural market web-based system should be designed with the ability to be adapted into a mobile application in the future. This extension has the potential to improve user accessibility and convenience.
2. **Payment Integration.** Creating payment connections for an Agromart website requires connecting several payment channels to facilitate agricultural commodities purchasing. Also considering Mobile Wallets for mobile payment options such as Gcash, PayPal, Paymaya, and others mobile transactions. By applying these kinds of payment gateways benefits users specially buyers to pay using a selection of methods that do not require human processing or separate terminals.
3. **Data mapping.** It is strongly recommended to improve the data mapping capabilities to maximize the usefulness and accessibility of our web-based agricultural market. We recommend creating a comprehensive data mapping system that covers a wide range of places throughout the Philippines. The feature enhancement or additional features which could improve user experience, market efficiency and satisfaction of the users.

REFERENCES

- Abgelina, M. L., Johnzen Galang, D. B., Jose Pacada, E. B., Seña, J. L., Ngo, J. K., & Kester Ong, A. S. (n.d.). *Designing E-commerce Marketing Strategies for the Online Retail Industry: The Influence of Filipino Consumer Preference Towards Online Shopping*.
- Alampay, E. E. (2008). Filipino entrepreneurs on the internet: When social networking websites meet mobile commerce. *Science, Technology and Society*, 13(2), 211–231. <https://doi.org/10.1177/097172180801300203>
- Banerjee, T., Mishra, M., Debnath, N. C., & Choudhury, P. (2019). *Implementing E-Commerce model for Agricultural Produce: A Research Roadmap Keyword: Agricultural produce E-Commerce Static pricing Supply Demand Perishable nature Dynamic pricing Corresponding Author*. 7(1), 302–310. <http://pen.ius.edu.ba>
- Bégué, A., Arvor, D., Bellon, B., Betbeder, J., de Abelleira, D., Ferraz, R. P. D., Lebourgeois, V., Lelong, C., Simões, M., & Verón, S. R. (2018). Remote sensing and cropping practices: A review. In *Remote Sensing* (Vol. 10, Issue 1). MDPI AG. <https://doi.org/10.3390/rs10010099>
- Delima, R., Santoso, H. B., Andriyanto, N., & Wibowo, A. (2018). Development of Purchasing Module for Agriculture E-Commerce using Dynamic System Development Model. In *IJACSA) International Journal of Advanced Computer Science and Applications* (Vol. 9, Issue 10). www.ijacsa.thesai.org
- Dharmawan, P. A. S., & Indradewi, I. G. A. A. D. (2021). Double exponential smoothing brown method towards sales forecasting system with a linear and non-

stationary data trend. *Journal of Physics: Conference Series*, 1810(1).

<https://doi.org/10.1088/1742-6596/1810/1/012026>

Dielman, T. (2006). Choosing smoothing parameters for exponential smoothing: Minimizing sums of squared versus sums of absolute errors. *Journal of Modern Applied Statistical Methods*, 5(1), 117–128.

<https://doi.org/10.22237/jmasm/1146456600>

Ding, Q., Shao, Z., Huang, X., Altan, O., & Hu, B. (2022). Time-series land cover mapping and urban expansion analysis using OpenStreetMap data and remote sensing big data: A case study of Guangdong-Hong Kong-Macao Greater Bay Area, China. *International Journal of Applied Earth Observation and Geoinformation*, 113. <https://doi.org/10.1016/j.jag.2022.103001>

Fay Edulsa, A. A., Benedict Bernardo, J. L., & Mae Compo, P. R. (2017). An Ecommerce Platform and Decision Support for Plants with Comprehensive Information. In *International Journal of Innovative Science and Research Technology* (Vol. 2, Issue 5). www.ijisrt.com

Gatdula, N. B., Jerez, M. V., Rollan, T. A. M., Jose, R. P., Caranza, C. D. U., Laurente, J. A., & Blanco, A. C. (2017). Development of mapping design for agricultural features extracted from LiDAR datasets. *GISTAM 2017 - Proceedings of the 3rd International Conference on Geographical Information Systems Theory, Applications and Management*, 276–283.

<https://doi.org/10.5220/0006365902760283>

Gomathy, Dr. C. K. (2021). A Study on Ecommerce Agriculture. *International Journal for Research in Applied Science and Engineering Technology*, 9(10), 1486–1488.

<https://doi.org/10.22214/ijraset.2021.38648>

Hasanov, J., & Khalid, H. (2015). The Impact of Website Quality on Online Purchase Intention of Organic Food in Malaysia: A WebQual Model Approach. *Procedia Computer Science*, 72, 382–389. <https://doi.org/10.1016/j.procs.2015.12.153>

Jain, A. M., & Carandang, C. B. (2018). Development of an Online Laguna Agricultural Trading Center. *International Journal of Computing*, 2(4), 131–150.

<https://doi.org/10.25147/ijcsr.2017.001.1.29>

Jayadi, R. (2021). SENTIMENT ANALYSIS OF INDONESIAN E-COMMERCE PRODUCT REVIEWS USING SUPPORT VECTOR MACHINE BASED TERM FREQUENCY INVERSE DOCUMENT FREQUENCY 1 SITI FIDYANTI NURFADILA HADJU. *Journal of Theoretical and Applied Information Technology*, 15, 17. www.jatit.org

Ketut Suwintana, I., A Oka Sudiadnyani, I. G., A P H Saptarini, N. G., & Negeri Bali Bali, P. (2018). *Developing Web-Based Application of Sales Forecasting System Using Triple Exponential Smoothing Method For Small and Medium Garment Enterprises Information System Department*.

Khan, A. (n.d.). *Forecasting*.

- Liu, G. (2022). An ecommerce recommendation algorithm based on link prediction. *Alexandria Engineering Journal*, 61(1), 905–910.
<https://doi.org/10.1016/j.aej.2021.04.081>
- Marpaung, N. L., Amri, R., Ervianto, E., & Salim, K. R. (2019). Application of Single Exponential Smoothing in Forecasting Number of New Students Acceptance. *International Journal of Technology and Engineering Studies*, 5(6), 169–182.
<https://doi.org/10.20469/ijtes.5.10001-6>
- Mia, A. (2017). *E-Farming: An E-Commerce Site for Agricultural Products*.
- Moriset, B., & Moulin, J. (2018). *e-Business and e-Commerce International Encyclopedia of Human Geography*, 2nd éd. Elsevier.
- Novytska, I., Chychkalo-Kondratska, I., Chyzhevska, M., Sydorenko-Melnyk, H., & Tytarenko, L. (2021). Digital marketing in the system of promotion of organic products. *WSEAS Transactions on Business and Economics*, 18, 524–530.
<https://doi.org/10.37394/23207.2021.18.53>
- Petropoulos, F., Apiletti, D., Assimakopoulos, V., Babai, M. Z., Barrow, D. K., Ben Taieb, S., Bergmeir, C., Bessa, R. J., Bijak, J., Boylan, J. E., Browell, J., Carnevale, C., Castle, J. L., Cirillo, P., Clements, M. P., Cordeiro, C., Cyrino Oliveira, F. L., De Baets, S., Dokumentov, A., ... Ziel, F. (2022). Forecasting: theory and practice. In *International Journal of Forecasting* (Vol. 38, Issue 3, pp. 705–871). Elsevier B.V. <https://doi.org/10.1016/j.ijforecast.2021.11.001>

- Ramteke, P., Pathak, S., Raut, P., Sarade, P., Palandurkar, N., & Professor, A. (2020). Development of Web Based System for Farmer to Consumer Product Selling Through Direct Marketing. In *International Journal of Creative Research Thoughts* (Vol. 8). www.ijcrt.org
- Rayah Delos Santos, K., Elizabeth Gabinete, F., Freedom Red, M., & Jeff Camaro, P. (2022). The Implications of E-Commerce on Labor Productivity in the Philippines. *INTERNATIONAL JOURNAL OF SOCIAL AND MANAGEMENT STUDIES (IJOSMAS)*, 3(1).
- Salahuddin, Husaini, & Anwar. (2018). Web-based information system design of agricultural management towards self-sufficiency local food in North Aceh. *Journal of Physics: Conference Series*, 953(1). <https://doi.org/10.1088/1742-6596/953/1/012018>
- Saleem, H., Khawaja, M., Uddin, S., Habib-Ur-Rehman, S., Saleem, S., & Aslam, A. M. (2019). Strategic Data Driven Approach to Improve Conversion Rates and Sales Performance of E-Commerce Websites. *International Journal of Scientific & Engineering Research*, 10(4). <http://www.ijser.org>
- Soegoto, E. S., & Nugraha, A. (2020). E-Commerce for Agriculture. *IOP Conference Series: Materials Science and Engineering*, 879(1). <https://doi.org/10.1088/1757-899X/879/1/012117>

- Svetunkov, I., & Petropoulos, F. (2018). Old dog, new tricks: a modelling view of simple moving averages. *International Journal of Production Research*, 56(18), 6034–6047. <https://doi.org/10.1080/00207543.2017.1380326>
- Syafrizal, M. (2021). Web-Based SME Online Marketing System (E-Commerce). *International Journal Software Engineering and Computer Science (IJSECS)*, 1(2), 75–79. <https://doi.org/10.35870/ijsecs.v1i2.599>
- Yaddow, W. (n.d.). *The Process of Data Mapping for Data Integration Projects Data Mapping-A Key Work Product for Data Warehouse, Data Integration, and Data Migration Projects*. <https://doi.org/10.13140/RG.2.2.10352.81925>
- Zhu, H., Wang, J., Zhou, M., IEEE Systems, M., Nanjing li gong da xue, & Institute of Electrical and Electronics Engineers. (n.d.). *Proceedings of the 2019 IEEE 16th International Conference on Networking, Sensing and Control (ICNSC 2019) : May 9-11, 2019 Banff, Alberta, Canada*.

APPENDICES

Appendix A Farmer (Buyer) Sign Up Page

Sign Up Login Start Selling

Follow us on   

Agromart 

CREATE ACCOUNT

First name Last name
useraccount@gmail.com
Contact Number
..... Confirm Password
Address:
Select Province Select Municipality
Select Barangay Purok/Zone/Street
Enter Other Address Details


Location latitude Location longitude
Upload Photo:
 No file chosen
 I have read and agree to the Terms and Conditions

Already have an account? [Login](#)

↑

Appendix B. Farmer (buyer) Landing Page

Agromart

Follow us on

user account | Log out

Categories Livestock Fertilizer Fruits Meat

Crop Products Vegetables Pesticides Flowers Fish

MONTHLY TOP PRODUCT

Chicken ₱450 Month sales (16)	GOAT ₱1234 Month sales (14)	organic fertilizer ₱250 Month sales (10)	Rice ₱170 Month sales (5)	kalabaw ₱45500 Month sales (4)	Rice husk ₱25 Month sales (4)	Singkamas Bunga ₱25 Month sales (4)	Hito ₱110 Month sales (3)
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PRODUCT DISCOVERY

Bangus ₱575 Stock 99850g	Hito ₱170 Stock 1kg	Pallombi Pepper ₱140 Stock 1kg	Carabe ₱140 Stock 1kg	Hagon ₱250 Stock 1kg	Salmon ₱600 Stock 1kg	Tilapia ₱160 Stock 20kg	Galunggong ₱180 Stock 10kg
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ANNUAL PRODUCE FORECAST IN TARLAC

Legend: Annual Corn Production in TARLAC Annual Forecast Production Value

Forecasted Rice Production in 2023: 574,145.87 in Metric tons

Forecasted Corn Production in 2023: 137,198.00 in Metric tons

Forecasted Mango Production in 2023: 5,387.20 in Metric tons

Forecasted Ginger Production in 2023: 178.70 in Metric tons

PRODUCT DATA TABLE
(San Clemente, Tarlac & Camiling, Tarlac)

Sort by: All Data | Crop Name (ASC) | Crop Name (DESC) | Date Planted (ASC) | Date Planted (DESC) | Date Harvested (ASC) | Date Harvested (DESC)

Legend:	Product Name:	Product Address:	Date Planted	Date Harvested	Status
	Aubergine	Pao 3rd	September 27, 2023	November 8, 2023	Already Harvested
	Ampalaya	Bamban	August 16, 2023	October 20, 2023	Already Harvested
	Antithium	Baloc	February 9, 2023	September 15, 2023	Already Harvested
	Alos	Cayasan	October 15, 2023	November 8, 2023	Already Harvested
	Avocado	Cayasan	November 16, 2023	December 28, 2023	Already Harvested
	Daboy	Malubog	January 7, 2023	October 25, 2023	Already Harvested
	Daboy	Casipao	August 24, 2023	November 15, 2023	Already Harvested
	Banpus	Bamban	July 6, 2023	October 18, 2023	Already Harvested
	Bengus	Bamban	June 1, 2023	October 25, 2023	Already Harvested
	Bayabas	Litug	June 9, 2023	November 18, 2023	Already Harvested

PRODUCT MAPPING
(San Clemente, Tarlac & Camiling, Tarlac)
As of []

Crop type: Select Cro Crops/Products Select Cro PLANTED 31/10/2023 To: 31/10/2023 HARVESTED 31/10/2023 To: 31/10/2023 Address Address Continue

Shop name: ewe
Seller name: selleraccount
No. of item sold: (11)
Planted at: 2023-08-03
Harvested on: 2023-10-19

Appendix C. Cart and Purchase Item Page

Follow us on   

user account | Log out

Agromart

Enter your search keyword

Manage and protect your carts

December 4, 2023

Product ID: 96 <input checked="" type="checkbox"/>	 GOAT 2 pcs	Price: ₱1234 Total: ₱2518	<input type="button" value="Checkout"/> <input type="button" value="Delete"/>
--	---	------------------------------	---

December 4, 2023

Product ID: 108 <input checked="" type="checkbox"/>	 Kamatis 1 kg	Price: ₱230 Total: ₱230	<input type="button" value="Checkout"/> <input type="button" value="Delete"/>
---	---	----------------------------	---

December 4, 2023

Product ID: 147 <input type="checkbox"/>	 Puso ng saging 3 pieces	Price: ₱50 Total: ₱200	<input type="button" value="Checkout"/> <input type="button" value="Delete"/>
--	---	---------------------------	---

Selected Products: [2]

Appendix D. Farmer (buyer) Account and Address

The screenshot shows the Agromart website interface. At the top, there is a navigation bar with social media links (Facebook, Instagram, LinkedIn), the Agromart logo, a search bar, and account management links ('user account' and 'Log out'). A shopping cart icon is also present.

My Profile
Manage and protect your account

Profile picture: A young woman with long dark hair smiling. File extension: JPEG, PNG, JPG.

Email: useraccount@gmail.com
Password: QWERTY
First Name: user
Last Name: account
Number: 09510598340

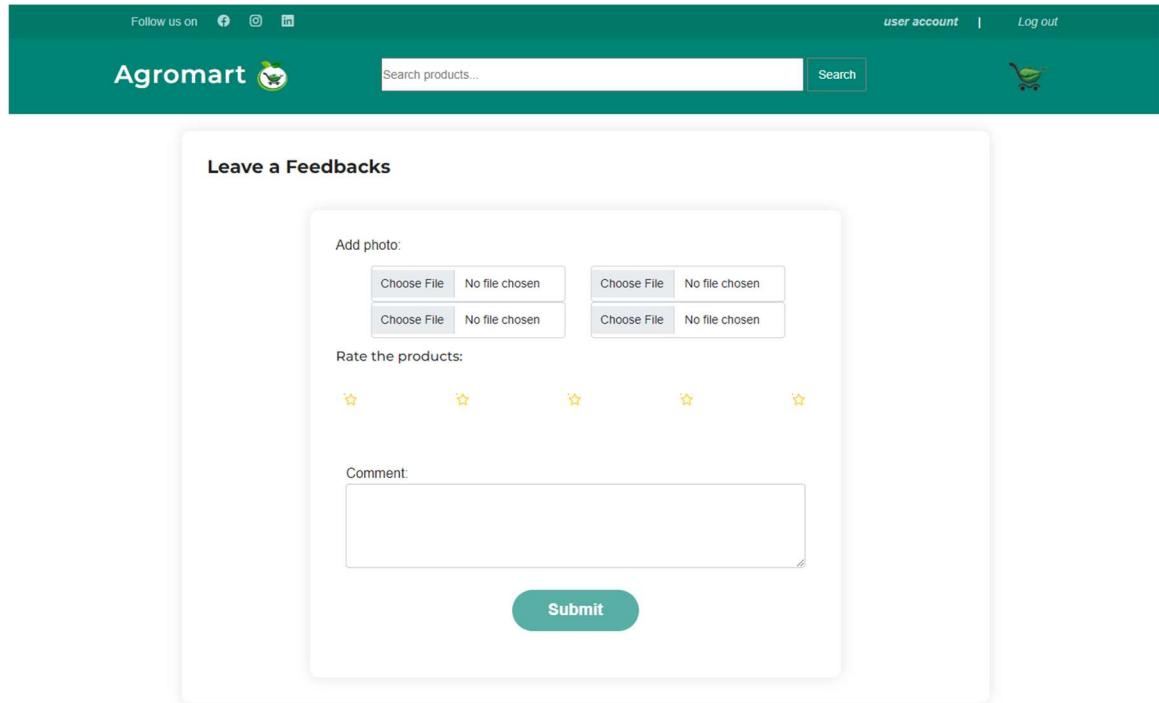
Upload New Photo: Choose File No file chosen

My Delivery Address
Manage and protect your address

user account | 09510598340
ZONE 1
Tarlac, SanClemente, Balloc
LIKOD NG sCHOOL

Street: ZONE 1
Province: Tarlac
Municipality: SanClemente
Barangay: Balloc
OtherAddress: LIKOD NG sCHOOL

Appendix E. Feedback and Rating Forms



The screenshot shows the Agromart website interface. At the top, there is a green header bar with social media links (Facebook, Instagram, LinkedIn), user account information ('user account' and 'Log out'), and a search bar with a magnifying glass icon. Below the header is the Agromart logo with a small icon. A shopping cart icon is also present. The main content area has a white background and features a title 'Leave a Feedbacks'. It includes sections for adding photos (with four input fields for file uploads) and rating products (with five yellow star icons). There is a large text input field for comments and a teal-colored 'Submit' button at the bottom.

Follow us on [Facebook](#) [Instagram](#) [LinkedIn](#)

[user account](#) | [Log out](#)

Agromart 

Search products...

Leave a Feedbacks

Add photo:

No file chosen No file chosen

No file chosen No file chosen

Rate the products:

☆ ☆ ☆ ☆ ☆

Comment:

Submit

Appendix F. Seller Applicant Sign Up Page

Sign Up Login Be a Seller Follow us on [Facebook](#) [Instagram](#) [LinkedIn](#)

Agromart 

Contacts

CREATE SELLER ACCOUNT

First name Last name

Email

Contact Number

Password Confirm Password

Address:

Select Province Select Municipality

Select Barangay Purok/Zone/Street

Enter Other Address Details

Find my location



Leaflet | © OpenStreetMap

Location latitude Location longitude

Valid ID: Choose File No file chosen

Gcash
QrCode: Choose File No file chosen

Take a Selfie:



My Shop

Shop Name

Shop Description

Shop Logo:

Choose File No file chosen

I have read and agree to the Terms and Conditions

Submit

Already have an account? [Login](#)

Please wait for an SMS message for confirmation of your account. Thank you!

Appendix G. Seller Dashboard

AGROMART
Search...
seller account

- [Dashboard](#)
- [Dashboard](#)
- [Orders](#)
- [My Products](#)
- [My Accounts](#)
- [Print Page](#)
- [Log out](#)

2
New Orders

₱203572.00 ▲

Sales As of November 2023

2
To ship

₱203572.00 ▲

Revenue As of November 2023

9
Delivered

₱198095.34 ▲

Profit As of November 2023

2
Cancelled

₱6126.66 ▲

Cost As of November 2023

MONTH SALES COMPARISON

AUGUST 2023 NOVEMBER 2023

24.58%

Annual Corn Production in TARLAC

Annual Forecast Production Value

Value in Metric Tons

Year

Forecasted Rice Production in 2023
574,145.87 in Metric tons

Forecasted Corn Production in 2023
137,130.80 in Metric tons

Forecasted Mango Production in 2023
5,387.20 in Metric tons

Forecasted Ginger Production in 2023
178.70 in Metric tons

AGROMART SALES REPORT

Date: October 5, 2023 12:00 AM - November 23, 2023 12:00 AM

Date	Ordered ID	Product	Units Sold	Sales	Profit	Service Fee
November 19, 2023 12:00 AM	191	GOAT	9pcs	₱133000.00	₱129010.00	3990.00
November 3, 2023 12:00 AM	161	kalabaw	2pcs	₱90000.00	₱87300.00	2700.00
November 5, 2023 12:00 AM	157	kalabaw	2pcs	₱90000.00	₱87300.00	2700.00
October 18, 2023 12:00 AM	124	kalabaw	1pieces	₱45000.00	₱43650.00	1350.00
November 20, 2023 12:00 AM	205	GOAT	3	₱2952.00	₱2863.44	88.56
Total Products: 21			x50	₱251452.00	₱243908.44	₱7543.56

[Export](#) [filter](#)

Crop Mapping As of()

PLANTED: from to HARVESTED: from to

Crop type: Crops/Products: Address:

Legend

Label Category	Product		
Crops	Fertilizer	Livestock	Fruits
Product	Bird	Vegetables	Pesticides
Bird	Meat	Fish	Flowers

search:

GOAT

Shop name: ewe
Seller name:
No. of item sold: (11)
Planted at: 2023-08-03
Harvested on: 2023-10-19

59

Appendix H. Buying of Products

Follow us on

user account | Log out

Agromart

Delivery Address [edit](#)

user account | 09510598340
ZONE 1, Brgy. Balloc
SanClemente, Tarlac
LIKOD NG sCHOOL

Product ID: 96

GOAT
Price: ₱1234
Pack size: ₱1500 per kilo

Buy 2 get less ₱250 for each product

Choose Payment Method: Gcash QR-Code

Payment Details

Price:	₱1234
Shipping fee:	₱50
Discount:	500.00
Select quantity:	- 2 +
Total Payment:	₱ 2018.00

RO**O J* G.**
Mobile No.: 0951-*****340
User ID: *****XSPD7B

Pay using our gcash qr code or via gcash number **0951-0598-340**.

Upload your gcash receipt here:
 No file chosen

Checkout

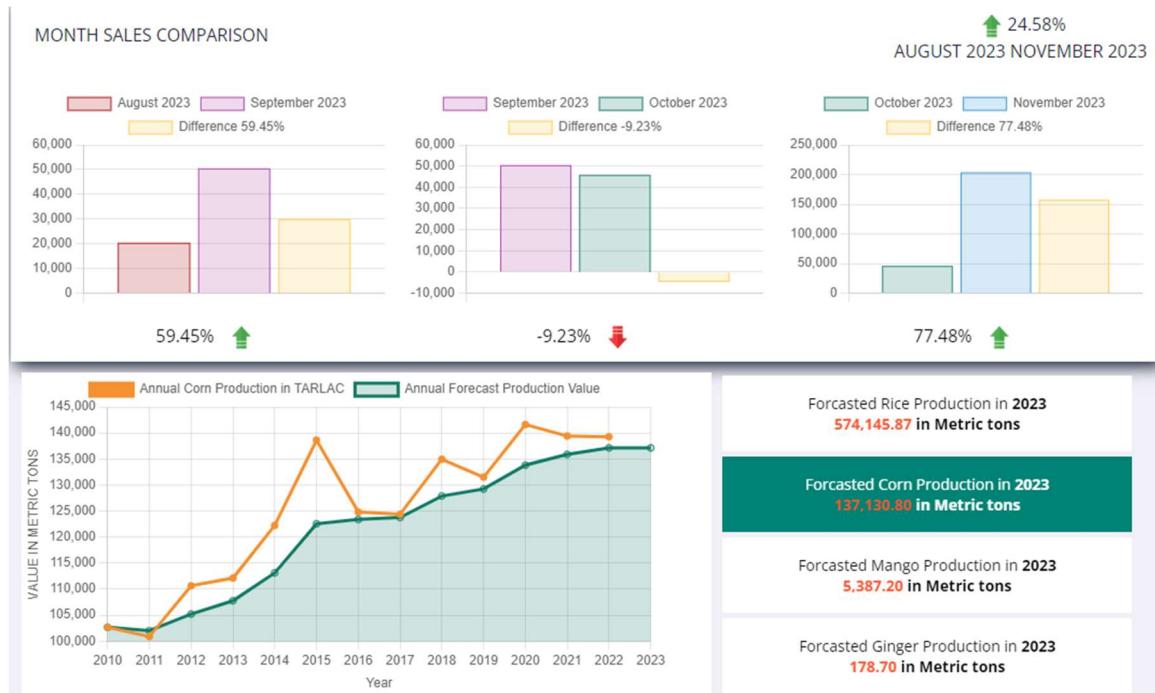
Appendix I. Sales Report Filtering Option

AGROMART SALES REPORT

Date: October 11, 2023 12:00 AM - November 23, 2023 12:00 AM

By:	Units Sold	Order by:	DESC	Show:	10	Products																																																																																				
From:	11/10/2023	To:	23/11/2023																																																																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Date</th> <th>Ordered ID</th> <th>Product</th> <th>Units Sold</th> <th>Sales</th> <th>Profit</th> <th>Service Fee</th> </tr> </thead> <tbody> <tr><td>October 18, 2023 12:00 AM</td><td>122</td><td>Bangus</td><td>4pieces</td><td>₱120.00</td><td>₱116.40</td><td>3.60</td></tr> <tr><td>November 19, 2023 12:00 AM</td><td>191</td><td>GOAT</td><td>9pcs</td><td>₱133000.00</td><td>₱129010.00</td><td>3990.00</td></tr> <tr><td>November 20, 2023 12:00 AM</td><td>205</td><td>GOAT</td><td>3</td><td>₱2952.00</td><td>₱2863.44</td><td>88.56</td></tr> <tr><td>October 26, 2023 12:00 AM</td><td>141</td><td>Bangus</td><td>2pieces</td><td>₱240.00</td><td>₱232.80</td><td>7.20</td></tr> <tr><td>October 23, 2023 12:00 AM</td><td>134</td><td>Mango</td><td>2kg</td><td>₱400.00</td><td>₱388.00</td><td>12.00</td></tr> <tr><td>October 31, 2023 12:00 AM</td><td>149</td><td>Bangus</td><td>17</td><td>₱2040.00</td><td>₱1978.80</td><td>61.20</td></tr> <tr><td>October 25, 2023 12:00 AM</td><td>137</td><td>Calamansi</td><td>1kg</td><td>₱20.00</td><td>₱19.40</td><td>0.60</td></tr> <tr><td>November 7, 2023 12:00 AM</td><td>174</td><td>GOAT</td><td>1pcs</td><td>₱1500.00</td><td>₱1455.00</td><td>45.00</td></tr> <tr><td>November 5, 2023 12:00 AM</td><td>168</td><td>organic fertilizer</td><td>9pcs</td><td>₱2250.00</td><td>₱2182.50</td><td>67.50</td></tr> <tr><td>October 18, 2023 12:00 AM</td><td>124</td><td>kalabaw</td><td>1pieces</td><td>₱45000.00</td><td>₱43650.00</td><td>1350.00</td></tr> <tr> <td colspan="3">Total Products: 21</td><td>x50</td><td>₱251452.00</td><td>₱243908.44</td><td>₱7543.56</td></tr> </tbody> </table>							Date	Ordered ID	Product	Units Sold	Sales	Profit	Service Fee	October 18, 2023 12:00 AM	122	Bangus	4pieces	₱120.00	₱116.40	3.60	November 19, 2023 12:00 AM	191	GOAT	9pcs	₱133000.00	₱129010.00	3990.00	November 20, 2023 12:00 AM	205	GOAT	3	₱2952.00	₱2863.44	88.56	October 26, 2023 12:00 AM	141	Bangus	2pieces	₱240.00	₱232.80	7.20	October 23, 2023 12:00 AM	134	Mango	2kg	₱400.00	₱388.00	12.00	October 31, 2023 12:00 AM	149	Bangus	17	₱2040.00	₱1978.80	61.20	October 25, 2023 12:00 AM	137	Calamansi	1kg	₱20.00	₱19.40	0.60	November 7, 2023 12:00 AM	174	GOAT	1pcs	₱1500.00	₱1455.00	45.00	November 5, 2023 12:00 AM	168	organic fertilizer	9pcs	₱2250.00	₱2182.50	67.50	October 18, 2023 12:00 AM	124	kalabaw	1pieces	₱45000.00	₱43650.00	1350.00	Total Products: 21			x50	₱251452.00	₱243908.44	₱7543.56
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Total Products: 21			x50	₱251452.00	₱243908.44	₱7543.56																																																																																				
Export				filter																																																																																						

Appendix J. Monthly Sales Monitoring and Annual Produce Forecasting



Appendix K. Evaluators' Questionnaire

AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET

Name: _____

Date: _____

Address: _____

Device: _____

Instructions: Write check (✓) that corresponds to the rating you will give to the system, based on how well it met your expectation in terms of usability, functionality, and availability.

5 = Excellent | 4 = Very Satisfactory | 3 = Satisfactory | 2 = Good | 1 = Poor

	5	4	3	2	1
A. Usability					
1. The system was easy to use.					
2. The system page is simple to navigate.					
3. The system has the expected features and capabilities.					
4. The system requires no technical skill or assistance to use.					
5. The system information provided was clear and accurate.					
B. Functionality					
1. The website button's function properly.					
2. The system prevents unauthorized users.					
3. Transaction of the system was quick and easy to complete.					
4. The system's search and filtering option provides accurate results.					
5. The system allows the user to view most sold items and forecast produce.					

Appendix L. Evaluators' Profile

NAME	ADDRESS	DEVICE
Martin, Arturo C.	Bobon 1 st , Camiling, Tarlac	Laptop
Balaoing, Joel O.	San Isidro, Camiling, Tarlac	Mobile Phone
Esteban, Argel Y.	Surgui 1 st , Camiling, Tarlac	Laptop
Ildefonso, Randie J.	Palimbo Caarosipan, Camiling, Tarlac	Tablet
Esteban Alther P.	Palimbo Caarosipan, Camiling, Tarlac	Laptop
Cruz, Rene V.	Pao 2 nd , Camiling, Tarlac	Mobile Phone
Esteban, Ronald S.	Sinulatan 2 nd , Camiling, Tarlac	Mobile Phone
Natividad, Saturnina B.	Palimbo Proper, Camiling, Tarlac	Laptop
Santos, Roberto L.	Bacsay, Camiling, Tarlac	Laptop
Ayap, Labarento F.	Anoling 1 st , Camiling, Tarlac	Mobile Phone
Santos, Roger L.	Bacsay, Camiling, Tarlac	Tablet
Gomez, Jomel	Birbira, Camiling, Tarlac	Mobile Phone
Guillermo, Jesus C.	Anoling 1 st , Camiling, Tarlac	Mobile Phone
Paanan, Ronel R.	Papaac, Camiling, Tarlac	Mobile Phone
Ramirez, Ivy D.	Sawat, Camiling, Tarlac	Tablet
Jose, Ernesto Jr. B.	Anoling 2 nd , Camiling, Tarlac	Tablet
Bruno, Orlando	Doclong 1 st , San Clemente, Tarlac	Laptop
Pagarigan Jimmy P.	Pindangan 2 nd , Camiling, Tarlac	Laptop
Pagarigan Benjamin Y.	Pindangan 2 nd , Camiling, Tarlac	Laptop
Onza, Melanie	Doclong 2 nd , San Clemente, Tarlac	Tablet
Onza, Pablo	Doclong 2 nd , San Clemente, Tarlac	Mobile Phone
Sablay, Maylene T.	Palimbo Proper, Camiling, Tarlac	Tablet
Delos Reyes, Glenn L.	Marawi, Camiling, Tarlac	Laptop
Lorenzo, Apolinar D.	Marawi, Camiling, Tarlac	Mobile Phone
Lorenzo Danilo L.	Matubog, Camiling, Tarlac	Laptop
Gabuya, Marie S.	Nagserialan, Camiling, Tarlac	Tablet
Genove, Ann Ann L.	Marawi, Camiling, Tarlac	Tablet
Delos Santos, Beth O.	San Isidro, Camiling, Tarlac	Laptop
Absolor, Peter S.	Pob. I, Camiling, Tarlac	Mobile Phone
Esteban, Christian C.	Bacabac, Camiling, Tarlac	Mobile Phone
Inovejas, Troy B.	Bacabac, Camiling, Tarlac	Laptop
Copuz, Lito C.	Bancay 2 nd , Camiling, Tarlac	Tablet
Aquino, Dolly B.	Bancay 2 nd , Camiling, Tarlac	Tablet
Inocencio, Renel S.	Caniag, Camiling, Tarlac	Tablet
Gomez, Ireneo G.	Caniag, Camiling, Tarlac	Laptop
Alcala, Danilo D.	Bobon 2 nd , Camiling, Tarlac	Mobile Phone
Nieves, Jonel C.	Bobon 2 nd , Camiling, Tarlac	Mobile Phone

Pacanas, Nenita A.	Daldalayap, San Clemente, Tarlac	Tablet
Fabros, Cita A.	Daldalayap, San Clemente, Tarlac	Tablet
Rico, Rex A.	Casipo, San Clemente, Tarlac	Mobile Phone
Rico, Dennis A.	Casipo, San Clemente, Tarlac	Mobile Phone
Arellano, Lanie P.	Balloc, San Clemente, Tarlac	Laptop
Pacanas, Reynaldo R.	Bamban, San Clemente, Tarlac	Mobile Phone
Romualdo, Romeo D.	Bamban, San Clemente, Tarlac	Mobile Phone
Pangilinan, Lito	Pit ao, San Clemente, Tarlac	Tablet
Bugayong, Caesar	Pit ao, San Clemente, Tarlac	Laptop
Ringor, Marivic	Bamban, San Clemente, Tarlac	Laptop
Pagaduan, Amanda	Balloc, San Clemente, Tarlac	Tablet
Fabros, Elmer	Pob. Norte, San Clemente, Tarlac	Mobile Phone
Basilio, Crisanto Jr. S.	Palimbo Proper, Camiling, Tarlac	Laptop
Pacquiao, Vivierose A.	Nagsabaran, San Clemente, Tarlac	Tablet
Reyes, Ruth	Palimbo Proper, Camiling, Tarlac	Laptop
Ringor, Gillien G.	Sinulatan 1 st , Camiling, Tarlac	Laptop
Nieves, Earl	Bobon 2 nd , Camiling, Tarlac	Laptop
Arcagua, Cathlyn A.	Bilad, Camiling, Tarlac	Laptop
Perez, William	Bobon Caarosipan, Camiling, Tarlac	Mobile Phone
Arocena, Bianca G.	Cayaaoan, Camiling, Tarlac	Laptop
Natividad, Richmond	Palimbo Proper, Camiling, Tarlac	Mobile Phone
Bueno, Analyn	Bacabac, Camiling, Tarlac	Mobile Phone
Tadeo, Alexis	Sinilian 2 nd , Camiling, Tarlac	Mobile Phone
Quiniola, Be-jay	Pao 2 nd , Camiling Tarlac	Mobile Phone
Acosta, Edna A.	Cacamilingan Norte, Camiling, Tarlac	Laptop
Cerezo, Richelle	Pob. I, Camiling, Tarlac	Laptop
Omagtang, Elisa G	Pob. B, Camiling, Tarlac	Laptop
Primero, Bryan A.	Surgui 2 nd , Camiling, Tarlac	Laptop
Bagang, Lyrazel S.	Surgui 1 st , Camiling, Tarlac	Laptop
Ereso, Jasper	Telbang, Camiling, Tarlac	Mobile Phone
Pamintuan, Jane A	Tuec, Camiling, Tarlac	Tablet
Cablinga, Edlyn	Pob. C, Camiling, Tarlac	Tablet
Perez, Jen Q	Bobon 2 nd , Camiling, Tarlac	Mobile Phone
Silang, Kezia	Pob. F, Camiling, Tarlac	Mobile Phone
Castillo, Reitheniel	Sawat, Camiling, Tarlac	Mobile Phone
Guting, Randy	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Acosta, Erika A.	Cacamilingan Norte, Camiling, Tarlac	Laptop
Feliciano Willie	Bilad, Camiling, Tarlac	Laptop
Riparip Darwin	Pob. J, Camiling, Tarlac	Tablet
Asoncion, Ian	Matubog, Camiling, Tarlac	Laptop
Salvador Janwen	Manaqueum, Camiling, Tarlac	Laptop

Viloria, Zuela	Matubog, Camiling, Tarlac	Mobile Phone
Pascual, Noel	Manaque, Camiling, Tarlac	Mobile Phone
Sagasag Claire	Lasong, Camiling, Tarlac	Laptop
Quimson, Jamaica	Lasong, Camiling, Tarlac	Laptop
Barba, Angel	Palimbo Caarosipan, Camiling, Tarlac	Mobile Phone
Primero, Arianne	Bobon 1 st , Camiling, Tarlac	Laptop
Primero, Pearl	Bobon 1 st , Camiling, Tarlac	Tablet
Omagtang, Caleb O.	Pob. B, Camiling, Tarlac	Laptop
De Ocampo, Jezarine	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Reyno, Jowdie	Pao 1 st , Camiling, Tarlac	Mobile Phone
Primero, Aurhea	Anoling 1 st , Camiling, Tarlac	Laptop
Tabula, Krishna	Cacamilingan Norte, Camiling, Tarlac	Laptop
Cutamora, Louis	Doclong 1 st , San Clemente, Tarlac	Laptop
Julian, Alec	Cayaaoan, Camiling, Tarlac	Mobile Phone
Millado, Angel	Pob. G, Camiling, Tarlac	Tablet
Pagarigan, Joven	Pindangan 2 nd , Camiling, Tarlac	Mobile Phone
Carbonell, Bush	Pob. Norte, San Clemente, Tarlac	Mobile Phone
Ilddefonso, Christian	Palimbo Caarosipan, Camiling, Tarlac	Tablet
Nevado, Dennis	Palimbo Caarosipan, Camiling, Tarlac	Mobile Phone
Aquino, Earl	Libueg, Camiling, Tarlac	Mobile Phone
Esteban, Gerald	Palimbo Caarosipan, Camiling, Tarlac	Laptop
Tenorio, Ralp	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Tenorio, Renzo	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Navarrete, Mark	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Navarrete, Anthony	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Solis, Mark	Bobon 1 st , Camiling, Tarlac	Tablet
Legaspi, Ashley Mae	Sinulatan 1 st , Camiling, Tarlac	Laptop
De Mayo, Jessabel	Sinulatan 1 st , Camiling, Tarlac	Tablet
Ibarra, Jeffrey	Pob. J, Camiling, Tarlac	Laptop
Nicolas, Ashley	Pob. F Camiling, Tarlac	Laptop
Gamboa, Shekinah	Anoling 3 rd , Camiling, Tarlac	Tablet
Javate, Raphael	Pob. D, Camiling, Tarlac	Tablet
Apostol, Vergiel	Sinulatan 2 nd , Camiling, Tarlac	Mobile Phone
Tersola, Rey	Casipo, San Clemente, Tarlac	Mobile Phone
De Jesus, Rey L.	Palimbo Proper, Camiling, Tarlac	Mobile Phone
Somaoang, Wilma A.	Palimbo Proper Camiling, Tarlac	Laptop
Pagaduan, Princess	Palimbo Caarosipan, Camiling, Tarlac	Laptop
Somaong, Wilmer	Palimbo Proper, Camiling, Tarlac	Mobile Phone
Agustin, Fe	Palimbo Proper, Camiling, Tarlac	Mobile Phone
Daligdig, Rey	Pob. A, Camiling, Tarlac	Mobile Phone
De Guzman, Jojo	Pob. C, Camiling, Tarlac	Mobile Phone

Basilio, Rogelio	Pob. H, Camiling, Tarlac	Mobile Phone
Que, Miguelito A.	Pob. E, Camiling, Tarlac	Laptop
Que, Antonio B.	Pob. E, Camiling, Tarlac	Laptop
Pasicolan, Ghino	Pao 1 st , Camiling, Tarlac	Laptop
Manangan, Jeffrey	Pob. G, Camiling, Tarlac	Mobile Phone
Angelo, Jesus	Pob. J, Camiling, Tarlac	Tablet
Balaquit, Joan	Pob. H, Camiling, Tarlac	Mobile Phone
Balaquit, Jon	Pob. H, Camiling, Tarlac	Mobile Phone
Acosido, Ivho	Pob. H, Camiling, Tarlac	Mobile Phone
Bartolomeo, Kenlin	Pob. D, Camiling, Tarlac	Mobile Phone
Dadulla, Fred B.	Pob. B, Camiling, Tarlac	Mobile Phone
Antiquina, Lee	Pob. B, Camiling, Tarlac	Laptop
Papa, Leyan	Pob. G, Camiling, Tarlac	Laptop
Garcillano, Argel	Pob. B, Camiling, Tarlac	Laptop
Tiburcio, Mariz	Maasin, San Clemente, Tarlac	Laptop
Urbano, Maxine	Doclong 1 st , San Clemente, Tarlac	Mobile Phone
Infanta, Razel	Sinilian 2 nd , Camiling, Tarlac	Mobile Phone
Nicolas, Ronnie D.	Tuec, Camiling, Tarlac	Tablet
Ibarra, Sharisse	Malacampa, Camiling, Tarlac	Mobile Phone
Villanueva, Ted	Surgui 2 nd , Camiling, Tarlac	Mobile Phone
Sarino, Vincent O.	Surgui 1 st , Camiling, Tarlac	Mobile Phone
Lino, Paricia	Aniling 3 rd , Camiling, Tarlac	Tablet
Esteban, Sharie	Bacabac, Camiling, Tarlac	Mobile Phone
Dela Cruz, Hazel	Sinulatan 2 nd , Camiling, Tarlac	Tablet
Moreno, Aika	Cayaooan, Camiling, Tarlac	Tablet
Donato, Hazel D.	Palimbo Proper, Camiling, Tarlac	Mobile Phone
Duque, Jasmine	Palimbo Proper, Camiling, Tarlac	Mobile Phone
Esteban, Romar	Sinulatan 2 nd , Camiling, Tarlac	Laptop
Rosal, Rosalyn	Sinulatan 2 nd , Camiling, Tarlac	Laptop
Manrobang, Joshua	Sinulatan 2 nd , Camiling, Tarlac	Laptop
Pascua, Aldrix L.	Balloc, San Clemente, Tarlac	Mobile Phone
Lambinico, Paul	Bamban, San Clemente, Tarlac	Mobile Phone
Agustin, JP	Pit-ao, San Clemente, Tarlac	Mobile Phone
Corpuz Andy	Balloc, San Clemente, Tarlac	Mobile Phone
Alcala, Beverly	Casipo, San Clemente, Tarlac	Mobile Phone
Ortaleza, Dona	Casipo, San Clemente, Tarlac	Mobile Phone
Urdabe, Eliza	Catagudingan, San Clemente, Tarlac	Tablet
Elanga, Ella	Balloc, San Clemente, Tarlac	Laptop
Lejesta, Rich	Balloc, San Clemente, Tarlac	Laptop
Agustin, Paolo	Pit-ao, San Clemente, Tarlac	Mobile Phone
Dela Cruz, Gerald	Daldalayap, San Clemente, Tarlac	Mobile Phone

Cruz,Trisha	Catagudingan, San Clemente, Tarlac	Tablet
Gutierrez, Jimmy	Maasin, San Clemente, Tarlac	Mobile Phone
Dela Cruz, Aaron	Catagudingan, San Clemente, Tarlac	Mobile Phone
Pagduan, Airon	Balloc, San Clemente, Tarlac	Mobile Phone
Cabigas, Oscar	Daldalayap, San Clemente, Tarlac	Mobile Phone
Garcia, Jethro	Nagsabaran, San Clemente, Tarlac	Tablet
Loveria, Alma	Nagsabaran, San Clemente, Tarlac	Tablet
Pacquio, Jerry	Nagsabaran, San Clemente, Tarlac	Tablet
Loveria, Sarah	Nagsabaran, San Clemente, Tarlac	Mobile Phone
Juan, Jade	Pit-ao, San Clemente, Tarlac	Laptop
Agustin, Jave	Pob. Sur, San Clemente, Tarlac	Laptop
Sevilla, Rica	Catagudingan, San Clemente, Tarlac	Laptop
Cabigas, Nathaniel	Pit-ao, San Clemente, Tarlac	Mobile Phone
Tersola, Vicnente	Casipo, San Clemente, Tarlac	Mobile Phone
Malupa, Via	Bamban, San Clemente, Tarlac	Mobile Phone
Arellano, Rodel B.	Casipo, San Clemente, Tarlac	Mobile Phone
De jesus, Ralph	Pob. Norte, San Clemente, Tarlac	Tablet
Ringcopan, Erica	Pob. Norte, San Clemente, Tarlac	Tablet
Cabigas, Jamaica	Casipo, San Clemente, Tarlac	Laptop
De jesus, Javie	Daldalayap, San Clemente, Tarlac	Mobile Phone
Juan, Jerald	Pob. Norte, San Clemente, Tarlac	Mobile Phone
Juan, Jay	Maasin, San Clemente, Tarlac	Mobile Phone
Carbonell, Ryan	Pob. Norte, San Clemente, Tarlac	Laptop
Cardona, Jhandel S.	Doclong 2 nd , San Clemente, Tarlac	Laptop
Lagrana, Kurt R.	Bamban, San Clemente, Tarlac	Mobile Phone
De jesus, Lea M.	Balloc, San Clemente, Tarlac	Mobile Phone
Robancho, Mary S.	Balloc, San Clemente, Tarlac	Mobile Phone
Gagelonia, Nida P.	Bamban, San Clemente, Tarlac	Tablet
Mangrobang, Joker	Palimbo Proper, Camiling, Tarlac	Laptop
Lopena, Honey C.	Pob. I, Camiling, Tarlac	Mobile Phone
Lopena, Rose L.	Pob. I, Camiling, Tarlac	Mobile Phone
Ocampo, Jacinto M.	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Martin, Jacquiline	Bobon 1 st , Camiling, Tarlac	Laptop
Martin, Angelika	Bobon 1 st , Camiling, Tarlac	Laptop
Padio, Jane	Palimbo Caarosipan, Camiling, Tarlac	Laptop
Corpuz, Rose	Palimbo Caarosipan, Camiling, Tarlac	Mobile Phone
Rotairo, Jasmen	Pob. C, Camiling, Tarlac	Mobile Phone
Naboa, Julius A.	Paliombo Proper, Camiling, Tarlac	Mobile Phone
Simon, Jayvee	Pob. F, Camiling, Tarlac	Mobile Phone
Dumlao, Jolina S.	Sinulan 1 st , Camiling, Tarlac	Mobile Phone
Alejo, Apollo jr.	Palimbo Proper, Camiling, Tarlac	Mobile Phone

Cunning, Kyrelle T.	Pob. G, Camiling, Tarlac	Tablet
Bautista, Kristine Joy	Nagserialan, Camiling, Tarlac	Mobile Phone
Guting, Kyle	Bobon 2 nd , Camiling, Tarlac	Mobile Phone
Esteban, Mark	Cayasan, Camiling, Tarlac	Laptop
Gabuyo, Jerico	Birbira, Camiling, Tarlac	Laptop
Esteban, Ezekiel	Cayasan, Camiling, Tarlac	Laptop
Cruz, Maureen	Palimbo Caarosipan, Camiling, Tarlac	Tablet
Artucilla, Mica	Palimbo Proper, Camiling, Tarlac	Laptop
Barao, Mohaira D.	Cacamilingan Norte, Camiling, Tarlac	Mobile Phone
Rico, Nico C.	Libueg, Camiling, Tarlac	Mobile Phone
Bacolor, Romeo	Anoling 2 nd , Camiling, Tarlac	Mobile Phone
Jasmin, Ellalyn	Anoling 1 st , Camiling, Tarlac	Laptop
Guillermo, DJ	Anoling 1 st , Camiling, Tarlac	Tablet
Rosete, Jomer	Papaac, Camiling, Tarlac	Mobile Phone
Legaspi, Jomar	Papaac, Camiling, Tarlac	Tablet
Rico, Paulo	Cayasan, Camiling, Tarlac	Mobile Phone
Torres, Rowel D.	Bilad, Camiling, Tarlac	Mobile Phone
Perez, Chyla	Bobon Caarosipan, Camiling, Tarlac	Tablet
Gabriel, Rowena V.	Palimbo Caarosipan, Camiling, Tarlac	Laptop
Batocael, Mariel	Cayaaoan, Camiling, Tarlac	Tablet
Casipit, Dan	Cayaaoan, Camiling, Tarlac	Laptop
Casipit, Mica	Cayaaoan, Camiling, Tarlac	Laptop
Aguillion, Cylo	Birbira, Camiling, Tarlac	Mobile Phone
Dela Cruz, Dave	Birbira, Camiling, Tarlac	Mobile Phone
Pera, Regina	Birbira, Camiling, Tarlac	Mobile Phone
Santos, Sonia	Bacsay, Camiling, Tarlac	Tablet
Santos, Stephanie	Bacabac, Camiling, Tarlac	Tablet
Ibarra, Dominic	Maasin, San Clemente, Tarlac	Mobile Phone
Onza, Pamela	Doclong 1 st , San Clemente, Tarlac	Mobile Phone
Fernando, Andrei	Malacampa, Camiling, Tarlac	Mobile Phone
Guillermo, Berna	Palimbo Caarosipan, Camiling, Tarlac	Laptop
Fernandez, Dhen	Tuec, Camiling, Tarlac	Mobile Phone
Obispo, Elwood	Sinilian 2 nd , Camiling, Tarlac	Laptop
Canuela, Emman	Pob. J, Camiling, Tarlac	Mobile Phone
Sumaoang, Joel Jr.	Sinilian 1 st , Camiling, Tarlac	Laptop
Mangrobang, Juliene	Pob. I, Camiling, Tarlac	Mobile Phone
Alitin, Christopher	Cayaaoan, Camiling, Tarlac	Mobile Phone
Dadulla, Leah	Pob. B, Camiling, Tarlac	Tablet
Salvador, Liberty	Anoling 3 rd , Camiling, Tarlac	Tablet
Ramil, Laurence	Anoling 1 st , Camiling, Tarlac	Mobile Phone
Rovic, Jovert	Doclong 2 nd , San Clemente, Tarlac	Mobile Phone

Agabao, Louise	Silinian 2 nd , Camiling, Tarlac	Laptop
Maregmen, Marry	Manaque, Camiling, Tarlac	Mobile Phone
Maregmen, Ann T.	Manaque, Camiling, Tarlac	Mobile Phone
Agustin, Robin C.	Bacabac, Camiling, Tarlac	Mobile Phone
Alcaraz, Ryoji	Pao 2 nd , Camiling, Tarlac	Laptop
Timbol, Whaigne	Surgui 1 st , Camiling, Tarlac	Laptop
Bautista, Ellyn	Anoling 1 st , Camiling, Tarlac	Laptop
Sambrano, Karl A.	Bacabac, Camiling, Tarlac	Tablet
Dancel, Angelo	Pindangan 2 nd , Camiling, Tarlac	Laptop
Tolentino, Mark	San Isidro, Camiling, Tarlac	Laptop
Guiang, Maxel	Sawat, Camiling, Tarlac	Mobile Phone
Fernandez, Mark D.	Pindangan 2 nd , Camiling, Tarlac	Laptop
Pablo, Weber C.	Bobon 2 nd , Camiling, Tarlac	Laptop
Pablo, Sean C.	Bobon 2 nd , Camiling, Tarlac	Laptop
Simon, AJ	Malacampa, Camiling, Tarlac	Mobile Phone
Taosilog, Vanna	Palimbo Caarosipan, Camiling, Tarlac	Mobile Phone
Quias, Judith	Bobon 1 st , Camiling, Tarlac	Tablet
Galen, Joshua	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Apostol, Gemeul	Bobon 1 st , Camiling, Tarlac	Laptop
Zambrano, Jerome	Bobon 1 st , Camiling, Tarlac	Tablet
Casino, Justin	Palimbo Caarosipan, Camiling, Tarlac	Laptop
Esteban, Gladys O.	Sinulatan 2 nd , Camiling, Tarlac	Mobile Phone
Acala, Marvi L.	Palimbo Caarosipan, Camiling, Tarlac	Laptop
Absolor, Christian C.	San Isidro, Camiling, Tarlac	Laptop
Balaoing, John Kevin	San Isidro, Camiling, Tarlac	Mobile Phone
Domingo, Leo	San Isidro, Camiling, Tarlac	Laptop
Urbano, Beth	San Isidro, Camiling, Tarlac	Laptop
Prodencio, Merlina	San Isidro, Camiling, Tarlac	Tablet
Absolor, Lester	San Isidro, Camiling, Tarlac	Tablet
Dela Cruz, Vincent	San Isidro, Camiling, Tarlac	Mobile Phone
Somaoang, Jomel	San Isidro, Camiling, Tarlac	Mobile Phone
Verano, Arnel	Bancay 1 st , Camiling, Tarlac	Mobile Phone
Ocampo, Marco	Bancay 1 st , Camiling, Tarlac	Mobile Phone
Clemente, James	Bancay 1 st , Camiling, Tarlac	Mobile Phone
Morales, Kimberly	Bancay 1 st , Camiling, Tarlac	Mobile Phone
Mamerga, Mae	Bancay 1 st , Camiling, Tarlac	Mobile Phone
Caguioa, Mark	San Isidro, Camiling, Tarlac	Laptop
Cacayanga, Jonel	San Isidro, Camiling, Tarlac	Laptop
Alcala, Asley	Doclong 1 st , San Clemente, Talac	Tablet
Ignacio, Joselyn	Doclong 1 st , San Clemente, Talac	Mobile Phone
Alcala, Irene	Doclong 1 st , San Clemente, Talac	Tablet

Cansilio, Analisa	Doclong 1 st , San Clemente, Tarlac	Tablet
Alicacay, Laisa	Doclong 1 st , San Clemente, Tarlac	Tablet
Domingo, Marner	Cayaaoan, Camiling, Tarlac	Mobile Phone
Daus, Jonny	Cayaaoan, Camiling, Tarlac	Laptop
Casipit, Alexander	Cayaaoan, Camiling, Tarlac	Mobile Phone
Ocampo, Mico	Cayaaoan, Camiling, Tarlac	Mobile Phone
Pacleb, Eric	Cayaaoan, Camiling, Tarlac	Laptop
Santiago, Ellyne	Birbira, Camiling, Tarlac	Tablet
Del Rosario, Gel	Birbira, Camiling, Tarlac	Mobile Phone
Santos, Fernando	Birbira, Camiling, Tarlac	Mobile Phone
Sison, Marilyn	Birbira, Camiling, Tarlac	Laptop
Bagtong, Vincent	Birbira, Camiling, Tarlac	Mobile Phone
Simbre, Tirso	Lasong, Camiling, Tarlac	Mobile Phone
Palisoc, Jean	Lasong, Camiling, Tarlac	Tablet
Allingag, John	Lasong, Camiling, Tarlac	Tablet
Samortin, Rich	Lasong, Camiling, Tarlac	Laptop
Ramirez, Bernadette	Lasong, Camiling, Tarlac	Mobile Phone
Simbre, Alfredo	Lasong, Camiling, Tarlac	Mobile Phone
Porcadilla, Ian	Lasong, Camiling, Tarlac	Mobile Phone
Salarzon, Rochelle	Lasong, Camiling, Tarlac	Laptop
Simbre, Frediric	Lasong, Camiling, Tarlac	Mobile Phone
Simbre, Alfred	Lasong, Camiling, Tarlac	Tablet
Silastre, Crystal	Lasong, Camiling, Tarlac	Mobile Phone
Taduran, Rica	Marawi, Camiling, Tarlac	Mobile Phone
Salarzon, Fatima	Marawi, Camiling, Tarlac	Laptop
Roux, Kim	Marawi, Camiling, Tarlac	Laptop
Artucilla, Marlyn	Marawi, Camiling, Tarlac	Mobile Phone
Mamaba, Danica	Marawi, Camiling, Tarlac	Tablet
Sudaria, Apollo	Marawi, Camiling, Tarlac	Laptop
Sigmundo, Villamin	Marawi, Camiling, Tarlac	Laptop
Villoria, Cedez	Marawi, Camiling, Tarlac	Laptop
Cuna, Mark	Marawi, Camiling, Tarlac	Mobile Phone
Cacayurin, Albert	Marawi, Camiling, Tarlac	Laptop
Simbre, Angelica	Marawi, Camiling, Tarlac	Mobile Phone
Cacayurin, Summer	Marawi, Camiling, Tarlac	Laptop
De Guzman, Rose	Bobon 1 st , Camiling, Tarlac	Laptop
Rico, Danny	Bobon 1 st , Camiling, Tarlac	Tablet
Rico, Juanito	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Agustin, Carlo	Bobon 1 st , Camiling, Tarlac	Laptop
Yadao, Antonina	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Quintos, Jeffrey	Bobon 1 st , Camiling, Tarlac	Tablet

Quintos, Alma	Bobon 1 st , Camiling, Tarlac	Mobile Phone
Verano, Mike	Matubog, Camiling, Tarlac	Tablet
Verano, Michelle	Matubog, Camiling, Tarlac	Mobile Phone
Guzman, Ester	Matubog, Camiling, Tarlac	Mobile Phone
Ramos, Jerry	Matubog, Camiling, Tarlac	Laptop
Gallen, Gillbert	Matubog, Camiling, Tarlac	Tablet
Fernandez, Jason	Matubog, Camiling, Tarlac	Laptop
Ramos, Marincelle	Bacabac, Camiling, Tarlac	Laptop
Ramos, Maricar	Bacabac, Camiling, Tarlac	Laptop
Mari, James	Bacabac, Camiling, Tarlac	Mobile Phone
Yadao, Chistian	Bacabac, Camiling, Tarlac	Mobile Phone
Yadao, Princess	Bacabac, Camiling, Tarlac	Tablet
Eustaquio, Jonathan	Bacabac, Camiling, Tarlac	Mobile Phone
Baynosa, Dallas	Bacabac, Camiling, Tarlac	Laptop
Villanueva, Snow	Bacabac, Camiling, Tarlac	Mobile Phone
Grospe, Orly	Bilad, Camiling, Tarlac	Mobile Phone
Quiniones, Cecil	Bilad, Camiling, Tarlac	Tablet
Martin, Marie	Bilad, Camiling, Tarlac	Mobile Phone
Santos, Maribelle	Bilad, Camiling, Tarlac	Mobile Phone
Aquino, Maribeth	Bilad, Camiling, Tarlac	Laptop
Valdez, Cathleen	Bilad, Camiling, Tarlac	Mobile Phone
Rojas, Kevin	Bilad, Camiling, Tarlac	Tablet
Racal, Kevin	Bilad, Camiling, Tarlac	Mobile Phone
Agustin, Jannine	Bilad, Camiling, Tarlac	Mobile Phone
Ubaldo, Judano	Bilad, Camiling, Tarlac	Tablet
Ancheta, Jonathan	Bilad, Camiling, Tarlac	Laptop
De jesus, Erna	Palimbo Proper, Camiling, Tarlac	Laptop
Arellano, Peter	Bobon 2 nd , Camiling, Tarlac	Laptop
Tabile, Faye	Bobon 2 nd , Camiling, Tarlac	Laptop
Rico, Gertchen	Bobon 2 nd , Camiling, Tarlac	Laptop
Tabile, Joah	Bobon 2 nd , Camiling, Tarlac	Laptop
Ramirez, Deniz	Bobon 2 nd , Camiling, Tarlac	Mobile Phone
Alejandro, Jojo	Bobon 2 nd , Camiling, Tarlac	Mobile Phone
Martin, Jane	Bobon 2 nd , Camiling, Tarlac	Tablet
Seril, Jimmy	Bobon 2 nd , Camiling, Tarlac	Mobile Phone
Revamonte, Carolyn	Nagserialan, Camiling, Tarlac	Mobile Phone
Revamonte, Joyce	Nagserialan, Camiling, Tarlac	Mobile Phone
Calistino, Reymar	Nagserialan, Camiling, Tarlac	Laptop
Revamonte, Yna	Nagserialan, Camiling, Tarlac	Tablet
Soberano, Dan	Nagserialan, Camiling, Tarlac	Tablet
Bautista, Tito	Nagserialan, Camiling, Tarlac	Laptop

Manaol, Gerry D.	Nagserialan, Camiling, Tarlac	Tablet
Obispo, Jeanette	Nagserialan, Camiling, Tarlac	Laptop
Arcilia, Herry	Carael, Camiling, Tarlac	Mobile Phone
Corpuz, Maricar	Carael, Camiling, Tarlac	Mobile Phone
Carapatan, Annie	Carael, Camiling, Tarlac	Mobile Phone
Vallente, Rosie	Carael, Camiling, Tarlac	Laptop
Badillo, Crisosimo	Carael, Camiling, Tarlac	Mobile Phone
Laminosa, Cris	Carael, Camiling, Tarlac	Tablet
Roquiz, Genalyn	Carael, Camiling, Tarlac	Mobile Phone
Agdeppa, Jolo	Carael, Camiling, Tarlac	Mobile Phone
Ferrer, Danilo	Carael, Camiling, Tarlac	Laptop
Guillermo, Danny	Carael, Camiling, Tarlac	Laptop
Julian, Geraldine	Carael, Camiling, Tarlac	Mobile Phone
Pagaduan, Ermalyn	Carael, Camiling, Tarlac	Tablet
Duque, Carriza	Balloc, San Clemente, Talac	Laptop
Dizon, Carlo	Bamban, San Clemente, Talac	Laptop
Dizon, Kayla	Casipo, San Clemente, Talac	Laptop
Deniega, Rose ann	Catagudingan, San Clemente, Talac	Mobile Phone
Vegiga, Jamaica	Daldalayap, San Clemente, Talac	Laptop
Vegiga, Marry Rose	Doclong 1 st , San Clemente, Talac	Mobile Phone
Fabros, Edna	Maasin, San Clemente, Talac	Laptop
Fabros, Mary	Pit-ao, San Clemente, Talac	Laptop
Garcia, Novelyn	Pit-ao, San Clemente, Talac	Tablet
Casino, Justin	Maasin, San Clemente, Talac	Tablet
Carino, Claire	Nagsabaran, San Clemente, Talac	Laptop
Valdez, Rodney	Catagudingan, San Clemente, Talac	Mobile Phone
Ferrer, Reyza Mae	Nagsabaran, San Clemente, Talac	Mobile Phone
Labasan, Lady	Nagsabaran, San Clemente, Talac	Mobile Phone
Pangilinan, Leny	Maasin, San Clemente, Talac	Laptop
Rico, Rex	Bamban, San Clemente, Talac	Mobile Phone
Fetalco, Paulo	Casipo, San Clemente, Talac	Tablet

Appendix M. Pictures During Evaluation



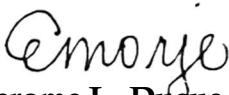
Appendix N. Grammariam's Certificate

December 13,2023

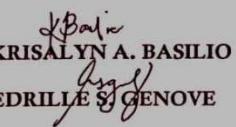
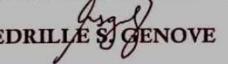
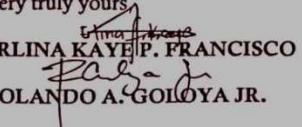
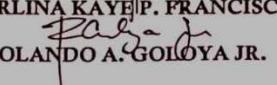
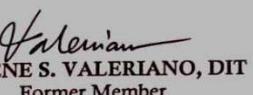
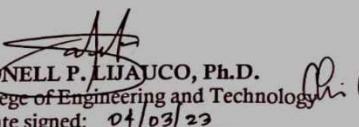
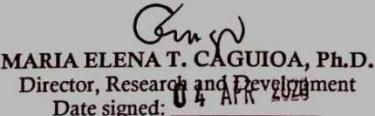
GRAMMARIAN'S CERTIFICATE

This is to certify that the undersigned has reviewed and went through all the pages of the Capstone Project Study Manuscript entitled "**AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET**" developed by **KRISALYN A. BASILIO, ERLINA KAYE P. FRANCISCO, EDRILLE S. GENOVE, ROLANDO A. GOLOYA JR.** aligned with the set of structural rules that govern the composition of sentences, phrases and words in the English language and the Information Technology technical writing.

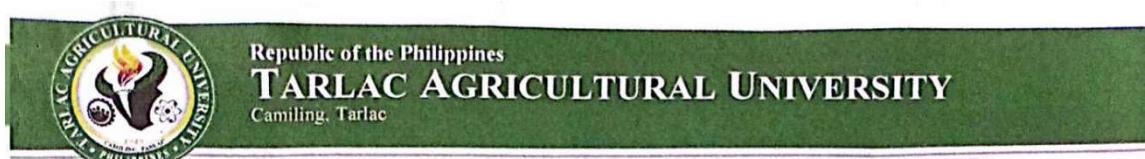
Signed:


Jerome L. Duque, MA
External Linkages and International Affairs
Tarlac Agricultural University

Appendix O. TAU-DRD-QF-48 Change of Advisory Committee

<p style="text-align: center;"> Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camiling, Tarlac</p> <p style="text-align: center;">DEPARTMENT OF RESEARCH AND DEVELOPMENT</p> <p style="text-align: center;">CHANGE IN THE COMPOSITION OF ADVISORY COMMITTEE FORM</p>												
April 03, 2023												
<p>DR. LEONELL P. LIJAUCO <i>Dean</i> College of Engineering and Technology</p>												
<p>Sir/Madam:</p> <p>We have the honor to request for a change in the composition of our thesis Advisory Committee. Dr. EUGENE S. VALERIANO will be replaced by Dr. JOVEN A. TOLENTINO because of the following reasons:</p> <ol style="list-style-type: none">1. The department has decided to distribute the assignment of panel membership to its faculty, equally.2. The former panel member has already exceeded the maximum number of advisory groups to manage for our batch.3. The new panel member's field of specialization covers our proposed study.												
<p> KRISALYN A. BASILIO  EDRILLE S. GENOVE</p>		<p>Very truly yours,  ERLINA KAYE P. FRANCISCO  ROLANDO A. GOLOYA JR.</p>										
Bachelor of Science in Information Technology												
<p>CONFORME:</p> <p> JOVEN A. TOLENTINO, DIT New Member Date signed: <u>04/03/23</u></p>												
<p>RECOMMENDING APPROVAL:</p> <p> EUGENE S. VALERIANO, DIT Former Member Date signed: <u>04/03/23</u></p>												
<p>APPROVED:</p> <p> DR. LEONELL P. LIJAUCO, Ph.D. Dean, College of Engineering and Technology Date signed: <u>04/03/23</u></p>												
<p>NOTED:</p> <p> MARIA ELENA T. CAGUIOA, Ph.D. Director, Research and Development Date signed: <u>04 APR 2023</u></p>												
<table border="1"><tr><td>Form Code:</td><td>Revision No.:</td><td>Effectivity Date:</td><td>Page:</td></tr><tr><td>TAU-DRD-QF-48</td><td>00</td><td>January 18, 2023</td><td>1 of 1</td></tr></table>					Form Code:	Revision No.:	Effectivity Date:	Page:	TAU-DRD-QF-48	00	January 18, 2023	1 of 1
Form Code:	Revision No.:	Effectivity Date:	Page:									
TAU-DRD-QF-48	00	January 18, 2023	1 of 1									

Appendix P. TAU-DRD-QF-44-Thesis Title Approval Form



DEPARTMENT OF RESEARCH AND DEVELOPMENT

THESIS TITLE APPROVAL FORM (For Undergraduate Thesis Students)

April 03, 2023

DR. LEONELL P. LIJAUCO
Dean
College of Engineering and Technology

Sir /Madam:

We have the honor to present our Thesis entitled: **AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET** for your consideration and approval.

Your approval on this matter will be highly appreciated.

Very truly yours,

KRISALYN A. BASILIO

EDRILLE S. GENOVE

ERLINA KAYE P. FRANCISCO

ROLANDO A. GOLOYA JR.

Bachelor of Science in Information Technology

Recommending Approval:

THE ADVISORY COMMITTEE

JOVEN A. TOLENTINO, DIT
Chairperson
Date signed: 04/03/23

RENEL F. DUMLAAO, MSIT
Member
Date signed: 04/03/23

BRYAN PAUL D. DANGANAN
Chairperson
Date signed: 04/03/23

APPROVED:

LEONELL P. LIJAUCO, Ph.D.
Dean, College of Engineering and Technology
Date Signed: 04/03/23

NOTED:

MARIA ELENA T. CAGUIOA, Ph.D.
Director, Dept. of Research and Development
Date Signed: 04 APR 2023

Form Code:	Revision No.:	Effectivity Date:	Page:
TAU-DRD-QF-44	00	January 11, 2023	1 of 1

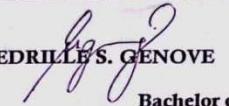
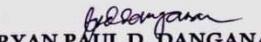
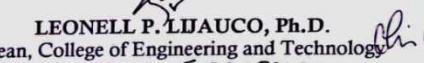
Appendix Q. TAU-CET-QF-06-Approval Form For Thesis Outline Circulating Copy

 <p>Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camilin, Tarlac</p>											
COLLEGE OF ENGINEERING AND TECHNOLOGY											
APPROVAL FORM FOR THESIS OUTLINE CIRCULATING COPY											
Name of Student (s): Krisalyn A. Basilio Erlina Kaye P. Francisco Edrille S. Genove Rolando A. Goloya Jr.	April 03, 2023										
Thesis Title: AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET											
ADVISORY AND PANEL COMMITTEE											
Chairperson: BRYAN PAUL D. DANGANAN Member: JOVEN A. TOLENTINO, DIT Member: RENEL F. DUMLAO, MSIT	Signature/Date Signed: <u>04 - 03 - 23</u> Signature/Date Signed: <u>04 - 03 - 23</u> Signature/Date Signed: <u>04 - 03 - 23</u>										
CET Research Coordinator: ENGR. CHELSIE C. PAGATPATAN (Signature over printed Name)	<u>04/03/2023</u> Date Signed										
Department Chairman: DR. JOVEN A. TOLENTINO (Signature over printed Name)	<u>04/03/23</u> Date Signed										
College Dean: DR. LEONEL P. LIAUCO (Signature over printed Name)	<u>04/04/23</u> Date Signed										
<table border="1"><tr><td>Form Code:</td><td>Revision No.:</td><td>Effectivity Date:</td><td>Page:</td></tr><tr><td>TAU-CET-QF-06</td><td>00</td><td>May 10, 2021</td><td>1 of 1</td></tr></table>				Form Code:	Revision No.:	Effectivity Date:	Page:	TAU-CET-QF-06	00	May 10, 2021	1 of 1
Form Code:	Revision No.:	Effectivity Date:	Page:								
TAU-CET-QF-06	00	May 10, 2021	1 of 1								

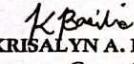
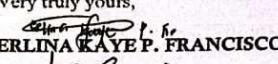
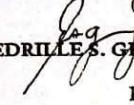
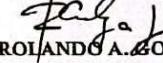
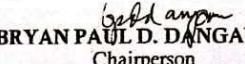
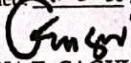
Appendix R. TAU-DRD-QF-45-Thesis Outline Approval Form

<p style="text-align: center;"> Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camiling, Tarlac</p> <p style="text-align: center;">DEPARTMENT OF RESEARCH AND DEVELOPMENT</p> <p style="text-align: center;">THESIS OUTLINE APPROVAL FORM (For Undergraduate Thesis Students)</p>											
<p>MR. BRYAN PAUL D. DANGANAN Chairperson Advisory Committee</p> <p>Sir/Madam:</p> <p>We have the honor to present our undergraduate Thesis Outline entitled: AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET for your evaluation and consideration. We plan to conduct this research starting 2ND semester, 2023- 2024.</p> <p>Your approval on this matter will be highly appreciated.</p>		<p style="text-align: right;">April 03, 2023</p> <p><i>K. Basilio</i> KRISALYN A. BASILIO <i>E. Genove</i> EDRILLE S. GENOVE</p> <p><i>Erlina Kaye P. Francisco</i> ERLINA KAYE P. FRANCISCO <i>R. Goloya Jr.</i> ROLANDO A. GOLOYA JR.</p> <p style="text-align: center;">Bachelor of Science in Information Technology</p> <p>APPROVED: THE ADVISORY COMMITTEE</p> <p><i>Joven A. Tolentino</i> JOVEN A. TOLENTINO, DIT Member Date signed: <u>04/03/23</u></p> <p><i>Renei F. Qumiao</i> RENEI F. QUMIAO, MSIT Member Date signed: <u>04/03/23</u></p> <p><i>Bryan Paul D. Danganan</i> BRYAN PAUL D. DANGANAN Chairperson Date signed: <u>04/03/23</u></p> <p>NOTED: <i>Leonell P. Ibaoco</i>, Ph.D. Dean, College of Engineering and Technology Date Signed: <u>04/03/23</u></p> <p><i>Maria Elena T. Caguioa</i>, Ph.D. Director, Dept. of Research and Development Date Signed: <u>04 APR 2023</u></p> <table border="1" style="width: 100%;"><tr><td style="width: 25%;">Form Code:</td><td style="width: 25%;">Revision No.:</td><td style="width: 25%;">Effectivity Date:</td><td style="width: 25%;">Page:</td></tr><tr><td>TAU-DRD-QF-45</td><td>00</td><td>January 11, 2023</td><td>1 of 1</td></tr></table>		Form Code:	Revision No.:	Effectivity Date:	Page:	TAU-DRD-QF-45	00	January 11, 2023	1 of 1
Form Code:	Revision No.:	Effectivity Date:	Page:								
TAU-DRD-QF-45	00	January 11, 2023	1 of 1								

Appendix S. TAU-DRD-QF-47-Request for Oral Examination (Proposal Defense)

<p style="text-align: center;"> Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camiling, Tarlac</p> <p style="text-align: center;">DEPARTMENT OF RESEARCH AND DEVELOPMENT</p> <p style="text-align: center;">REQUEST FOR ORAL EXAMINATION FORM (For Undergraduate Thesis Student)</p>											
May 22, 2023											
<p>DR. LEONELL P. LIJAUCO <i>Dean</i> College of Engineering and Technology</p>											
<p>Sir/Madam:</p> <p>May we request for an Oral Examination of our undergraduate thesis entitled: AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET to be evaluated on MAY 25, 2023, 10:00 AM, at Information Technology Center.</p>											
<p>Your approval on this matter will be highly appreciated.</p>											
<p> KRISALYN A. BASILIO  EDRILLE S. GENOVE  ERLINA RAYE P. FRANCISCO  ROLANDO A. GOLOYA JR.</p>											
<p>Bachelor of Science in Information Technology</p>											
<p>Recommending Approval:</p>											
<p style="text-align: center;">THE ADVISORY COMMITTEE</p>											
<p> JOVEN A. TOLENTINO, DIT <i>Member</i> Date signed: <u>05 - 22 - 2023</u>  RENEL E. DUMLAAO, MSIT <i>Member</i> Date signed: <u>05 - 22 - 2023</u></p>											
<p> BRYAN PAUL D. DANGANAN <i>Chairperson</i> Date signed: <u>05 - 22 - 2023</u></p>											
<p>APPROVED:</p>											
<p> LEONELL P. LIJAUCO, Ph.D. Dean, College of Engineering and Technology Date Signed: <u>5-22-2023</u>  MARIA ELENA T. CAGUIOA, Ph.D. Director, Dept. of Research and Development Date Signed: <u>22 MAY 2023</u></p>											
<p>NOTED:</p>											
<p> MARIA ELENA T. CAGUIOA, Ph.D. Director, Dept. of Research and Development Date Signed: <u>22 MAY 2023</u></p>											
<table border="1"><tr><td>Form Code:</td><td>Revision No.:</td><td>Effectivity Date:</td><td>Page:</td></tr><tr><td>TAU-DRD-QF-47</td><td>00</td><td>January 11, 2023</td><td>1 of 1</td></tr></table>				Form Code:	Revision No.:	Effectivity Date:	Page:	TAU-DRD-QF-47	00	January 11, 2023	1 of 1
Form Code:	Revision No.:	Effectivity Date:	Page:								
TAU-DRD-QF-47	00	January 11, 2023	1 of 1								

Appendix T. TAU-DRD-QF-47-Request for Oral Examination (Final Defense)

<p style="text-align: center;"> Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camiling, Tarlac</p> <p style="text-align: center;">DEPARTMENT OF RESEARCH AND DEVELOPMENT</p> <p style="text-align: center;">REQUEST FOR ORAL EXAMINATION FORM (For Undergraduate Thesis Student)</p>													
November 6, 2023													
<p>DR. LEONELL P. LIJAUCO Dean, College of Engineering and Technology</p>													
<p>Sir/Madam:</p> <p>May we request for an Oral Examination of our undergraduate thesis entitled: AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET to be evaluated on NOVEMBER 07, 2023, 10:00 AM, at Information Technology Center.</p>													
<p>Your approval on this matter will be highly appreciated.</p>													
<p> KRISALYN A. BASILIO</p>			<p>Very truly yours,  ERLINA KAYE P. FRANCISCO</p>										
<p> EDRILLE S. GENOVE</p>			<p> ROLAND G. A. OLOYA JR.</p>										
<p>Bachelor of Science in Information Technology</p>													
<p>Recommending Approval:</p>													
<p>THE ADVISORY COMMITTEE</p>													
<p> JOVEN A. TOLENTINO, DIT Member Date signed: <u>11/06/2023</u></p>			<p> RENEL L. SUMILAO, MSIT Member Date signed: <u>11/06/2023</u></p>										
<p> BRYAN PAUL D. DANGANAN Chairperson Date signed: <u>11/06/2023</u></p>													
<p>APPROVED:</p>													
<p> LEONELL P. LIJAUCO, Ph.D. Dean, College of Engineering and Technology Date Signed: <u>11-6-2023</u></p>													
<p>NOTED:</p>													
<p> MARIA ELENA T. CAGUIOT, Ph.D. Director, Dept. of Research and Development Date Signed: <u>07 NOV 2023</u></p>													
<table border="1" style="width: 100%;"><tr><td>Form Code</td><td>Revision No.</td><td>Effectivity Date</td><td>Page</td></tr><tr><td>TAU-DRD-QF-47</td><td>1</td><td>July 31, 2023</td><td>1 of 1</td></tr></table>						Form Code	Revision No.	Effectivity Date	Page	TAU-DRD-QF-47	1	July 31, 2023	1 of 1
Form Code	Revision No.	Effectivity Date	Page										
TAU-DRD-QF-47	1	July 31, 2023	1 of 1										

Appendix U. TAU-CET-QF-05-Evaluation Form for Outline/Oral Presentation (Proposal Defense)



Republic of the Philippines

TARLAC AGRICULTURAL UNIVERSITY

Camiling, Tarlac

COLLEGE OF ENGINEERING AND TECHNOLOGY

EVALUATION FORM FOR OUTLINE/ORAL PRESENTATION (PROPOSAL DEFENSE)

Date: **05/25/2023**

Name of Student(s): **Krisalyn A. Basilio, Erlina Kaye P. Francisio, Edrille S. Genove and Rolando A. Goloya, Jr.**

AREA	COMMENTS/SUGGESTIONS/REVISONS
Title of Research Study	<input type="checkbox"/> Title "AGROMART: A Web-based System Form for Agricultural Market" is acceptable.
Introduction/ Background Information	<input type="checkbox"/> Include the significance of this study to the UN Sustainable Development Goals 2030.
Statement of the Problems/ Objectives/ Hypothesis	<input type="checkbox"/> Detail in the objective the module and what it does (feature) <input type="checkbox"/> Elaborate how the efficiency of the IT Solution will be measured as per validation. Simply add in the objective the evaluation for <ul style="list-style-type: none"> o Accuracy
Review of Literatures and Studies	<input type="checkbox"/> Add more literature citation for the evaluation and Forecasting, data mapping and data projection. <input type="checkbox"/> Don't categorize from studies and literature
Methods and Procedures <ul style="list-style-type: none">- Research Design- Data Gathering Instruments- Statistical Tool/s- Others	<input type="checkbox"/> Separate Seller and Farmer and Admin as User Type. <input type="checkbox"/> Provide authentication for the seller/Accredited Seller Requirements/ Required data to be a seller. <input type="checkbox"/> Identify User Role/Types <input type="checkbox"/> Improve the ERD – Enlarge the image to be viewable. <input type="checkbox"/> Improve the selection of longitude and latitude selection for users. <input type="checkbox"/> Maximize existing dataset, include CAMILING. <input type="checkbox"/> Stress, Unit testing to be added on the evaluation. <input type="checkbox"/> Include forecasting ALGORITHM definition ON THE RRL. <input type="checkbox"/> Find applicable algorithm for forecasting for produce / demand. <input type="checkbox"/> Data available encode for produce and consume in Camiling area. <input type="checkbox"/> Improve Landing page. Take advantage of the space available. <input type="checkbox"/> User Page -> Shop/Items -> change/ rename. <input type="checkbox"/> Admin Page -System Maintenance - Moderator <input type="checkbox"/> Landing Page – include the items already (Seller Page)
Results and Discussions	<input type="checkbox"/> (not included during Proposal Defense)
Summary and Recommendation	<input type="checkbox"/> (not included during Proposal Defense)
Literature Cited	<input type="checkbox"/> Make sure to format the list without space between paragraphs, hanging indent and APA 6 th or 7 th Edition
Appendix/ces	<input type="checkbox"/> (not included during Proposal Defense)
Other REMARKS Re. IT Solution	<input type="checkbox"/> Improve ERD Layout, provide Table name, PF, FK, attribute/field name. <input type="checkbox"/> Administer Acceptable/testing for forecasting algorithm.

Form Code:	Revision No.:	Effectivity Date:	Page:
TAU-CET-QF-05	00	May 10, 2021	1 of 2



Republic of the Philippines
TARLAC AGRICULTURAL UNIVERSITY
Camiling, Tarlac

COLLEGE OF ENGINEERING AND TECHNOLOGY

- | | |
|--|---|
| | <input type="checkbox"/> Evaluation of the forecast testing algorithm used.
<input type="checkbox"/> Preprocessing technique for the data prior to forecasting.
<input type="checkbox"/> Find 3 to 4 algorithm forecast and test the result of the forecast include in RRL.
<input type="checkbox"/> Take advantage of the landing page. Possible Integrate social media Links.
<input type="checkbox"/> Include livestock as an item if possible.
<input type="checkbox"/> Payment Method of the system.
<input type="checkbox"/> Percentage on Payment as service charge on platform.
<input type="checkbox"/> Agrocash – payment method scheme.
<input type="checkbox"/> Seller default as agrocash/gcash and cash on delivery, cash on delivery.
<input type="checkbox"/> Include category of each product.
<input type="checkbox"/> Product ratings and review.
<input type="checkbox"/> Product details – e.g. production date – include threshold
<input type="checkbox"/> Identify product near expiry.
<input type="checkbox"/> Indicator for fresh or near expiry.
<input type="checkbox"/> Sales generated report. |
|--|---|

ADVISORY COMMITTEE:

Chairman: MR. BRYAN PAUL D. DANGANAN Signature/Date Signed: 6/28/2023
Member: DR. JOVEN A. TOLENTINO Signature/Date Signed: 5/25/2023
Member: MR. RENEL F. DUMLAO Signature/Date Signed: 5/25/2023

NOTED:

CET Research Coordinator:
ENGR. CHELSIE C. PAGATPATAN Signature/Date Signed: 5/21/2023
Department Chairman: DR. JOVEN A. TOLENTINO Signature/Date Signed: 5/25/2023
College Dean: DR. LEONELL P. LIJAUCO Signature/Date Signed: 5-31-2023

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Appendix V. TAU-CET-QF-05-Evaluation Form for Outline/Oral Presentation (Final Defense)

 Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camiling, Tarlac			
COLLEGE OF ENGINEERING AND TECHNOLOGY			
EVALUATION FORM FOR OUTLINE/ORAL PRESENTATION			
Name of Student(s): <u>Goloya et.al</u>	Date: <u>11-07-2023</u>		
AREA	COMMENTS/SUGGESTIONS/REVISIONS		
Title of Research Study			
Introduction/ Background Information			
Statement of the Problems/ Objectives/ Hypothesis			
Review of Literatures and Studies			
Methods and Procedures - Research Design - Data Gathering Instruments - Statistical Tool/s - Others	Improve system Design Enumerate and describe the steps undergone and unique in the methodology Use a table in the specification of software tools used in the development		
Results and Discussions	Images needed to be improved, images are distorted Differentiate/ discuss on what is MSE and RMSE and identify the optimal value for evaluating it Identification of the Optimal Alpha value Discuss on how they determine the smoothing parameter Create a comparison of each alpha values and provide the MSE and RMSE to determine on what is the optimal alpha value Use a more visible and readable format for figures		
<i>Form Code:</i>	<i>Revision No.:</i>	<i>Effectivity Date:</i>	<i>Page:</i>
<u>TAU-CET-QF-05</u>	<u>00</u>	<u>May 10, 2021</u>	<u>1 of 3</u>



Republic of the Philippines

TARLAC AGRICULTURAL UNIVERSITY

Camiling, Tarlac

COLLEGE OF ENGINEERING AND TECHNOLOGY

	<p>Results should follow the convention and list of the objectives of the study.</p>
Summary and Recommendation	<p>Use Mendeley to format bibliography specially in the introduction part and related literature.</p>
Literature Cited	
Appendix/ces	
Other REMARKS	<p>Check for the attachment, specify and allow files that are uploadable</p> <p>Improve naming of data and other data being presented in the system</p> <p>Review the Delivery option did not reflect on the system when the product was delivered</p> <p>Improve the layout for payment</p> <p>Previous price of the product should be shown</p> <p>Put a feature to add discount/promo on their system</p> <p>Check out for the cart functionality</p> <p>Tab view for the insertion or adding of product</p> <p>Add a feature to make the service charge dynamic, then on addition of product service charge should be shown to the seller.</p>

Verdict: Passed

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Republic of the Philippines

TARLAC AGRICULTURAL UNIVERSITY

Camiling, Tarlac

COLLEGE OF ENGINEERING AND TECHNOLOGY

ADVISORY COMMITTEE:

Chairman: BRYAN PAUL DANGANAN Signature/Date Signed: 11-09-2023

Member: JOVEN A. TOLENTINO,DIT Signature/Date Signed: 11-09-2023

Member: RENEL F. DUMLAO,MIT Signature/Date Signed: 11-09-2023

NOTED:

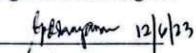
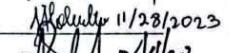
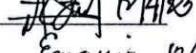
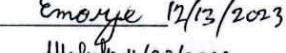
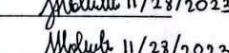
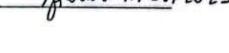
CET Research Coordinator: Engr. Chelsie Pagatpatan Signature/Date Signed: Ch. C. Pagatpatan 11-09-2023

Department Chairman: Dr.Joven A. Tolentino Signature/Date Signed: J. Tolentino 11-09-2023

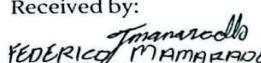
College Dean: Dr. Leonell P. Lijauco Signature/Date Signed: L. P. Lijauco 11-09-2023

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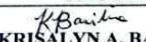
Appendix W. TAU-CET-QF-10-Approval for Final Circulating Copy

	<p align="center">Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camiling, Tarlac</p>								
COLLEGE OF ENGINEERING AND TECHNOLOGY									
APPROVAL FORM FOR FINAL CIRCULATING COPY									
Name of Student (s): Krisalyn A. Basilio Erlina Kaye P. Francisco Edrille S. Genove Rolando A. Goloya Jr.	November 28, 2023								
Title: AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET									
ADVISORY AND PANEL COMMITTEE									
Name	Signature/Date Signed								
MR. BRYAN PAUL D. DANGANAN	 12/16/23								
DR. JOVEN A. TOLENTINO	 11/28/2023								
MR. RENEL F. DUMLAO	 11/14/23								
English Editor: <u>MR. JEROME L. DUQUE</u>	 12/13/2023								
Statistician: <u>DR. JOVEN A. TOLENTINO</u>	 11/28/2023								
Format Editor: <u>DR. JOVEN A. TOLENTINO</u>	 11/28/2023								
Recommending Approval:									
BRYAN PAUL D. DANGANAN Chairman/Adviser, Advisory Committee Date Signed: <u>12/16/22</u>									
DR. JOVEN A. TOLENTINO Chairperson, Department of Computer Studies Date Signed: <u>12/14/23</u>									
Approved:									
LEONELL P. LIJAUCO, Ph.D. Dean, College of Engineering and Technology Date Signed: <u>12-18-2023</u>									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Form Code:</th> <th style="text-align: left; padding: 2px;">Revision No.:</th> <th style="text-align: left; padding: 2px;">Effectivity Date:</th> <th style="text-align: left; padding: 2px;">Page:</th> </tr> </thead> <tbody> <tr> <td style="text-align: left; padding: 2px;">TAU-CET-QF-10</td> <td style="text-align: left; padding: 2px;">00</td> <td style="text-align: left; padding: 2px;">May 10, 2021</td> <td style="text-align: left; padding: 2px;">1 of 1</td> </tr> </tbody> </table>		Form Code:	Revision No.:	Effectivity Date:	Page:	TAU-CET-QF-10	00	May 10, 2021	1 of 1
Form Code:	Revision No.:	Effectivity Date:	Page:						
TAU-CET-QF-10	00	May 10, 2021	1 of 1						

Appendix X. TAU-DRD-QF-39-Test for Similarity Index

 <p>Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camilin, Tarlac</p> <p>DEPARTMENT OF RESEARCH AND DEVELOPMENT</p>			
TESTING FOR SIMILARITY INDEX			
Research Title: AGROMART: A WEB-BASED SYSTEM FOR AGRICULTURAL MARKET Researcher(s): Krisalyn A. Basilio, Erlina Kaye P. Francisco, Edrille S. Genove, Rolando A. Goloya Jr. Contact No.: 0927-6795-069 Email Address: kabasilio@tau.edu.ph Type of Research: Technical			
<p><i>Ma'am/ Sir may I request for the plagiarism check of the above mentioned research. I am entrusting the softcopy of the research to be used for this purpose only. I hereby certify that the information given are true and correct and the research conducted is authentic. I further signify my commitment to revise the paper as per evaluation results.</i></p>			
 KRISALYN A. BASILIO (Signature over Printed Name)		December 14, 2023 Date	
Received by:  FEDERICO MAMAROLLO III DRD Staff/Turnitin Instructor (Signature over Printed Name)		 DECEMBER 18, 2023 Date	
Application Number: <u>PRA-0550</u>		Official Receipt Number: _____	
Form Code:	Revision No.:	Effectivity Date:	Page:
TAU-DRD-QF-39	01	December 20, 2022	1 of 1

Appendix Y. TAU-DRD-QF-40-Similarity Index Certificate

 <p>Republic of the Philippines TARLAC AGRICULTURAL UNIVERSITY Camiling, Tarlac</p>		
DEPARTMENT OF RESEARCH AND DEVELOPMENT		
SIMILARITY INDEX CERTIFICATE		
BASIC INFORMATION OF THE RESEARCH		
Research Title:	Agromart: A Web-Based System for Agricultural Market	
Researcher(s):	Krisalyn A. Basilio, Erlina Kaye P. Francisco, Edrille S. Genove, Rolando A. Goloya Jr.	
Type of Research:	<input type="checkbox"/> Social <input checked="" type="checkbox"/> Technical	
Proposed Budget:	N / A	
Date Started:	June 2023	
Date Completed:	December 2023	
Anti-Plagiarism Software Used:	Turnitin	
CERTIFICATION		
<p><i>This is to certify that the research of Mr./ Ms. <u>Krisalyn A. Basilio</u> is within the acceptable percentage of the anti-plagiarism software with unoriginal rating of <u>13%</u>. Attached herewith is the proof of authenticity.</i></p>		
Date signed: <u>14 DEC 2023</u>		
 <u>MARIA ELENA T. CAGUIOA, Ph.D.</u> DRD Director <i>(Signature over Printed Name)</i>		
RECEIVED		
Date signed: <u>18 - 12 - 2023</u>  <u>KRISALYN A. BASILIO</u> Requestor <i>(Signature Over Printed Name)</i>		
Date of Released: December 14, 2023	Certificate of Authenticity No: PLA-0550	Document No: <u>TAU-2023-3245</u>

Legend:

0-25% - acceptable
 26% and above – not acceptable

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