Agriculture Inventory Management System

Presented to the Faculty of the College of Information and
Computing Science
Zamboanga Peninsula Polytechnic State University

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

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Chapter I

1. Introduction

Agriculture Inventory Management System is a computer-based system that facilitates the management of agriculture. It is designed to provide information to decision-makers in the agricultural industry, such as entrepreneurs and suppliers to help them make informed decisions related to agricultural production and management. The system activates agriculture inventory management software and provides tools to manage a business' entire workflow from procurement to sales to fulfillment, all while finances are synced. The inventory planning and purchasing tools allow the purchasing entrepreneurs (owners/managers) to anticipate the sales team's needs and have the right products in the right quantities in stock at the right time, resulting in both improved sales numbers and a better relationship with the sales team.

Proper Management is essential when livestock and fruits are managed as product that is sold to the end customer, a business is better able to manage its inventory, management and ordering. This can be great because it can use its resources in the right places so that wastage of such resources does not happen. Agriculture Inventory Management System also helps suppliers and entrepreneurs (owners/managers) to develop policies that support sustainable agriculture and improve food security. It enables researchers to access data and develop new insights into agricultural production and management, and it helps businesses in the agricultural industry to make informed decisions about investments and market strategies.

Overall, Agriculture Inventory Management System plays a critical role in enhancing the efficiency and productivity of the agricultural sector by providing timely and accurate information to entrepreneurs (purchasers). This Agricultural Inventory Management System, as part of the innovation for the agricultural sector, is envisioned to rationalize resources and holistically address ICT opportunities and challenges for the agricultural sector in a more efficient manner while generating new revenue streams, improving livelihoods, and contributing to the achievement of broader national plans.

1.1 Project Context

The Agriculture Inventory Management System provides support in marketing decision-making and marketing efforts of entrepreneurs and suppliers. Nevertheless, the information or data is also useful for various types of organizations, such as governments, development organizations, and establishments. The availability of timely and accurate information to all interested parties is therefore essential, whether it be provided by the government itself or by the private sector. This paper looks into the various types of agriculture inventory management systems prevalent and attempts to provide a broad perspective on marketing information systems. Using a descriptive approach, it attempts to describe relevant agriculture inventory management systems and analyze them to generate ideas and insights which may be useful for developing and strengthening the agriculture sector.

1.2 Purpose and Description

The main purpose of the Agriculture Inventory Management System is to disseminate accurate and timely marketing information so as to support marketing decision-making and marketing efforts of entrepreneurs, farmers, government, development organizations, and various establishments. Agriculture Inventory Management System helps in ensuring that produce goes to markets or establishments where there is a demand for it. It shortens marketing channels and cuts down on transport costs, and helps ensure that each marketing transaction is a fair one and that all participants share the risks and benefits.

1.3 Objectives

The basic aim of this research design and implement a software, Agriculture Inventory Management System that shall be used to manage the activities of agriculture to the entrepreneurs in the agricultural section of the Zamboanga City economy and outside Zamboanga City.

Specific Objectives

i. To implement a web-based system for performing all the processes of the agriculture inventory management system which shall be accessible and efficient to our client.

ii. An inventory management platform that will provide an organized means of documentation of suppliers and product information as well as process specification documentation that will help the suppliers with easier management of information.

iii. Production and product price forecasting modules that will allow the suppliers to document and manage suppliers' processes and become more cost-effective in terms of production and pricing and

iv. Allow the suppliers to have a broader perspective on Agro-Entrepreneurship via report generation modules which will allow them to have a deeper understanding of the business process.

1.4 Significance of the Study

The Agriculture Inventory Management System is significant in several ways:

Improved decision-making: AIMS provides suppliers, entrepreneurs, researchers, and other stakeholders with accurate and timely information on agricultural production and management. This information helps them to make informed decisions on anticipating the sales team's needs and have the right products in the right quantities in stock at the right time, market prices, and other critical aspects of agriculture.

Enhanced productivity: AIMS facilitates the efficient use of resources, such as transportation, by providing suppliers (farmers) with information on what is needed, and other factors. This leads to increased productivity and improved yields.

Sustainable agriculture: AIMS provides data to activate agriculture inventory management software to provide tools to manage a business' entire workflow from procurement to sales to fulfillment. This information helps suppliers (farmers) to adopt sustainable practices that promote long-term agricultural productivity.

Food security: AIMS plays a critical role in ensuring food security by providing establishments with information on market prices, and food availability. This information helps establishment to develop policies that support food security and reduce the risk of food shortages.

Economic growth: AIMS helps businesses in the agricultural sector to make informed decisions about investments and market strategies, leading to increased economic growth and job creation.

Overall, the significance of AIMS lies in its ability to provide stakeholders with timely and accurate information that supports decision-making, enhances productivity, promotes sustainable agriculture, ensures food security, and contributes to economic growth.

1.5 Scope and Limitations

Scope

The scope of Agriculture Inventory Management System is quite broad, covering all aspects of agricultural production and management. The system can collect, process, store, and disseminate data related to: Crop and Livestock production: including availability. Market information: including information on market prices, supply and demand, and marketing strategies. Agribusiness management: including information on business planning, financial management, and risk assessment. Policy and research: including information on policy development, research data, and information dissemination.

Limitations

However, the limitations of AIMS include: Limited access to technology: not all suppliers and entrepreneurs has access to the technology needed to access and use AIMS effectively. Limited data availability: the availability of data on some aspects of agriculture may be limited, making it difficult to provide accurate and timely information. Data quality: the quality of the data collected may vary, affecting the accuracy of the information provided. Language barriers: AIMS may not be accessible to all suppliers due to language barriers, particularly in regions with diverse languages and cultures. Cost: the cost of implementing and maintaining AIMS can be significant, particularly in developing countries with limited resources.

1.6 Definition of Terms

Admin – the one who manage, make sure the bills and staff wages are paid each month, and implement strategies to ensure that the gym obtains new members and retains current members

Agriculture - the science or practice of farming, including cultivation of the soil for the growing of crops and the rearing of animals to provide food, wool, and other products.

Bootstrap - is a free, open-source front-end development framework for the creation of websites and web apps.

CodeIgniter - is a PHP full-stack web framework that is light, fast, flexible and secure.

CSS – responsible for the text style, size, positioning, color, and more on a website

Database – A database is a named collection of tables can also contain views, indexes, sequences, data types, operators, and functions. Other relational database products use the term catalogue.

HTML – heavily used for creating pages that are displayed on the website.

JavaScript - is a scripting language used to create and control dynamic website content, i.e. anything that moves, refreshes, or otherwise changes on your screen without requiring you to manually reload a web page.

Investment - the action or process of investing money for profit or material result.

Market Strategy - is a long-term plan for achieving a company's goals by understanding the needs of customers and creating a distinct and sustainable competitive advantage.

Production - the action of making or manufacturing from components or raw materials, or the process of being so manufactured

Security - the state of being free from danger or threat.

Chapter II

Review of Related Literature / System

This chapter presents the related literature and studies after the thorough and in-depth search done by the researchers. This contains all the information gathered from the internet and other related materials. This will help the readers to understand the study and serve as their guide for future references. The given related literature came from foreign and local literature, as well as foreign and local related systems to provide broader knowledge.

2.1 Related Literature/Studies

Tarekegn, G. M., Alemu, A. W., & Tulu, T. D. (2018). The role of agricultural management information system in agricultural development: Evidence from Ethiopia. International Journal of Agricultural Extension, 6(1), 1-8.

This study examined the role of Agricultural Management Information System (AMIS) in agricultural development in Ethiopia. The authors found that AMIS played a significant role in enhancing agricultural productivity, promoting sustainable agriculture, and improving food security. The study recommended the need for increased investment in AMIS to support agricultural development in the country.

Liu, J., Tang, Y., & Zhu, X. (2018). Design and development of an agricultural information management system based on mobile internet technology. Journal of Agricultural Engineering Research, 4(4), 1-6.

This study designed and developed an agricultural information management system based on mobile internet technology. The authors found that the system improved information management and decision-making among farmers and agribusinesses, leading to increased productivity and profitability.

Delos Reyes, J. F., Roldan, F. J., & Edosma, E. D. (2019). Agricultural information and management system for smallholder farmers in the Philippines. International Journal of Advanced Research in Computer Science and Software Engineering, 9(5), 447-452.

This study developed an Agricultural Information and Management System (AIMS) for smallholder farmers in the Philippines. The authors found that AIMS improved information management and decision-making among smallholder farmers, leading to increased productivity and profitability. The study recommended the need for increased investment in AIMS to support smallholder farmers in the country.

Larga, E. A., & Bactol, C. A. (2019). Development of an agricultural information management system for rice farmers in the Philippines. International Journal of Computer Science and Information Technology Research, 7(3), 33-38.

This study developed an Agricultural Information Management System (AIMS) for rice farmers in the Philippines. The authors found that AIMS improved farmers' access to agricultural information, leading to improved decision-making and increased productivity. The study recommended the need for continued investment in AIMS to support rice farmers in the country.

Aringay, J. E. C., Mendoza, R. T., Pascua, J. P. R., & Romanillos, O. C. (2019). Development and implementation of a mobile-based agricultural information management system for smallholder farmers in the Philippines. Journal of Multidisciplinary Studies in Agriculture, 5(1), 1-10.

This study developed and implemented a mobile-based Agricultural Information Management System (AIMS) for smallholder farmers in the Philippines. The authors found that AIMS improved farmers' access to agricultural information, leading to improved decision-making and increased productivity. The study recommended the need for continued investment in AIMS to support smallholder farmers in the country.

2.2 Foreign and Local Related System

AgriNeTT System

AgriNeTT: AgriNeTT is an AIMS system developed for Trinidad and Tobago's agriculture sector. The system provides agricultural information on crop management, pest management, soil management, and weather information. It targets farmers, researchers, and extension agents in the country.

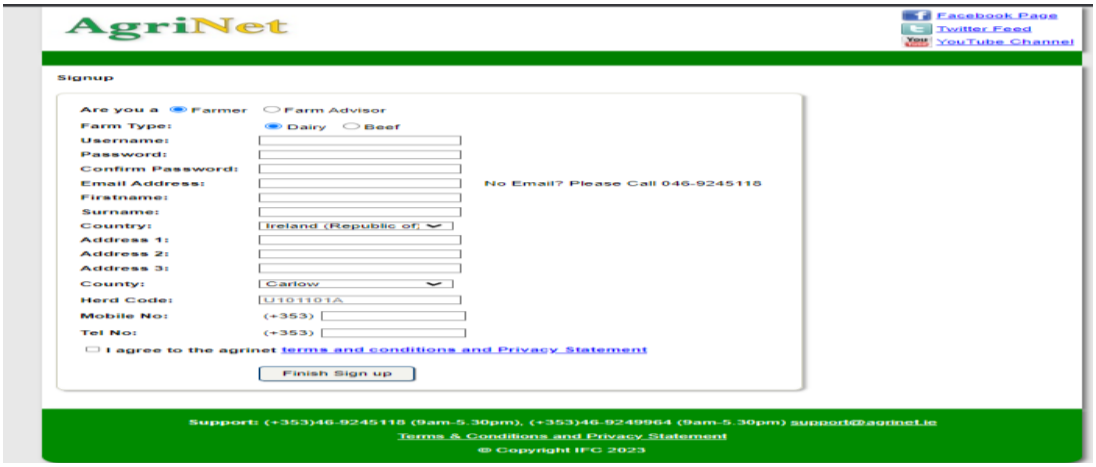


Figure 2.2.1 AgriNeTT System

e-Soko System

e-Soko: e-Soko is an AIMS system developed for Kenya's agriculture sector. The system provides agricultural information on price information, market news, weather information, and crop information. It targets farmers, traders, and agribusinesses in the country.

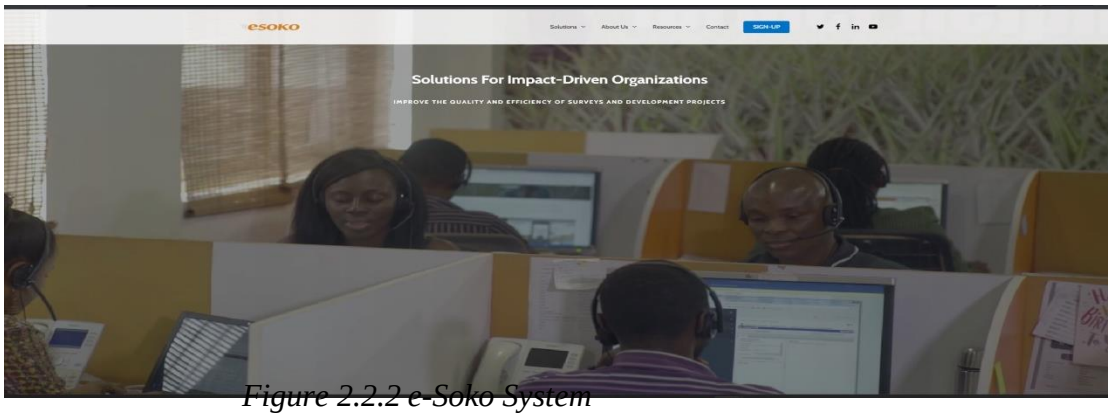


Figure 2.2.2 e-Soko System

E-Extension System

E-Extension: E-Extension is an AIMS system developed for the Philippines' agriculture sector. The system provides agricultural information on crop management, pest management, livestock management, and fisheries management. It targets farmers and extension workers in the country.

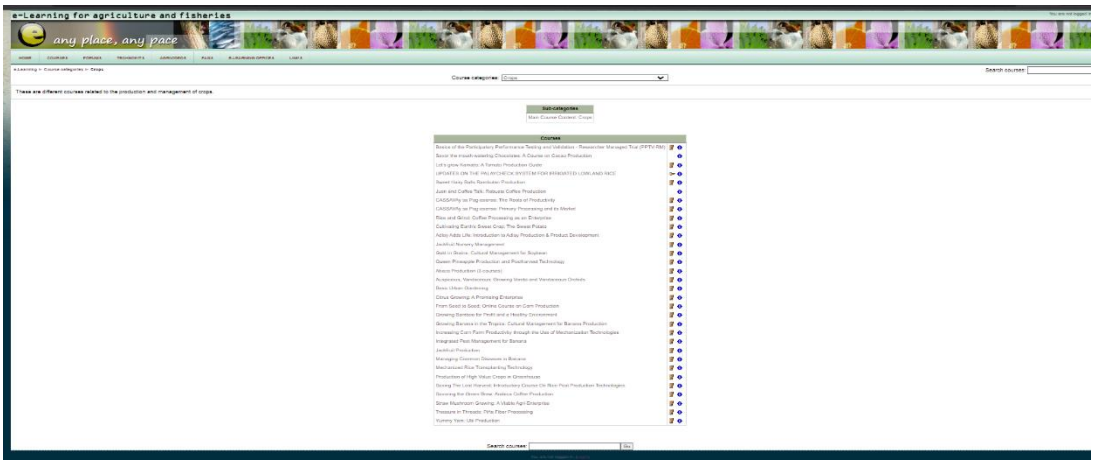


Figure 2.2.3 E-Extension System

i-Krishi System

i-Krishi: i-Krishi is an AIMS system developed for India's agriculture sector. The system provides agricultural information on crop management, pest management, weather information, and market prices. It targets farmers, traders, and agribusinesses in the country.

Figure 2.2.4 i-Krishi System

Agrovision System

Agrovision: Agrovision is an AIMS system developed for Tanzania's agriculture sector. The system provides agricultural information on crop management, pest management, soil management, and weather information. It targets farmers, extension agents, and agribusinesses in the country.

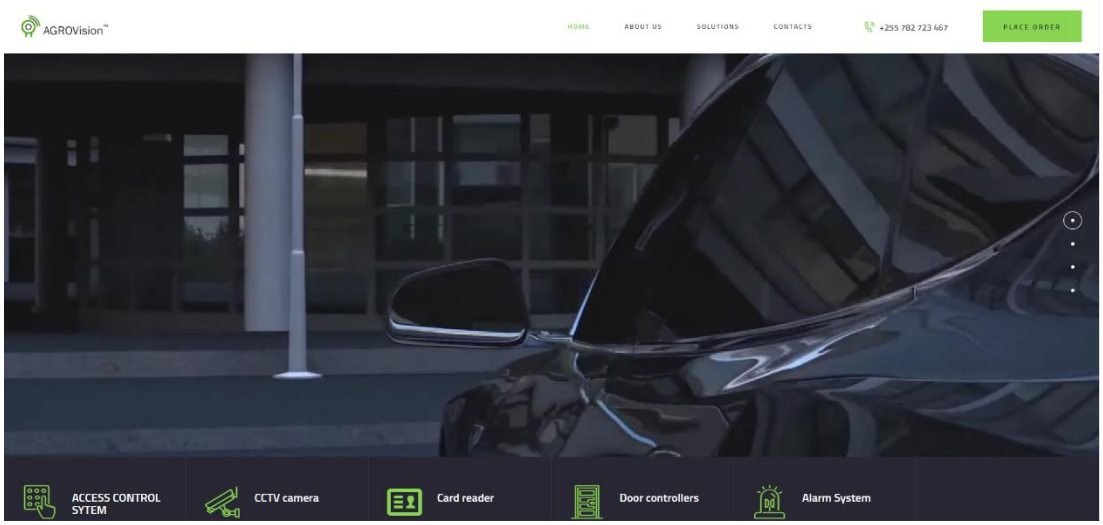


Figure 2.2.5 Agrovision System

2.3 Synthesis (Table of Comparison)

Features:	AgriNeTT	e-Soko	E-Extension	i-Krishi	Agrovision	Agriculture Inventory Management System
Log in/ Log out	✓	✓	✓	✓	✓	✓
Dashboard	✓	✓	✓	✓	✓	✓
Brand						✓
Category	✓	✓	✓	✓	✓	✓
Dates						✓
Product	✓	✓	✓	✓	✓	✓

Live Chat						✓

2.4 Synthesis

The above-related literature and related studies collected by the researchers were based on the internet, articles, books, and unpublished thesis. The stated articles cites and all other information were suited for the study. It was considered to identify and know all the details and information about Agriculture Inventory Management System for a better understanding of the study which the researchers were trying to accomplish and achieve. The review of related literature and studies serves as the guidelines and foundations of the researchers on their study. Researchers use the information gathered from the different literature and studies, local and foreign. Rodney (2023), Sweet (2023) conducted studies that can keep the client or entrepreneur records in a better way which is to develop a system that can manage the record and information, deploying computerized records that can be efficient to use, and also lessen the chances of losing the file. Most of the common problems they encountered in having a manual system is loss of productivity and having this type of system solved this kind of problem. It helped the researchers to come up with system management because as mentioned, the system can help maintain the records of every inventory, management and ordering, and make it computerized.

Chapter III

Technical Background

This chapter had gone through the technical aspects of the project, as well as the specifics of the technologies that will be employed and how the project will operate. It covers the hardware, software, and network that are employed in the creation of the proposed system as well as the software life-cycle development.

3.1 Technicalities of the Project

The system is an Agriculture Inventory Management System where client can manage inventory, management and ordering records. There are terms of technologies related to IT and computing fields that may be difficult to clutch and only IT students and people in IT-related fields can understand. The following are some of the technologies and terminologies that has been used in the development of the project: HTML, CSS, Visual Studio, JavaScript, Igniter Framework, MySQL, PHP, Xampp and Bootstrap Framework.

Frontend Technologies:

- CSS – used to style the frontend of the application.
- Bootstrap – CSS framework to rapidly build frontend user interfaces.
- HTML – a programming language used to construct and describe the structure of a web page.
- JavaScript - front-end functionality

Backend Technologies:

- PHP - Programming language
- Xampp – as local host or server
- Express JS – JS framework for building backend APIs.
- MySQL - database for storing persistent data.

The researchers have chosen the technology listed and mentioned above because it aims to provide just the tools a developer needs for quick code-build-debug cycles and leaves more complex workflows.

3.2 Details of the Technologies to be used

The system is developed on a Visual Studio Code written in JavaScript. Visual Studio Code is a simplified code editor that includes debugging, and task execution. To provide a detailed and organized structure of the codes the researcher will use the JS Framework. JavaScript is one of the most important web development technologies, and it can be used on both the front-end and back-end. To provide user-friendly web development, the researchers use JavaScript. JavaScript (JS) is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. Express JS is a back-end framework that is used to design building web applications and APIs. HyperText Markup Language (HTML) and Bootstrap are used to build the front-end user interface. HTML (HyperText Markup Language) is the most fundamental component of the Internet. It is responsible for defining the meaning and organization of web content. On the other hand, Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive websites. For the back-end, the researchers will integrate Database Management Systems (DBMS) and use MySQL which will serve as the database for storing data.

3.3 How the Project will Work

The researchers decided to use the agile model for the process of the system development cycle in developing the system.

For the first phase, the researchers explore and conducted a survey and interview for the target client. The current method used by the firm has pinned the researchers to improve their client management.

In the second phase, the researchers gathered and compiled all requirements for a detailed analysis while developing an alternative solution. This phase also caters to the design of the project.

The third phase proceeds to the development of the system. This phase cover extensive coding that shapes the design and interface of the system. Several dry tests also been covered to ensure that every feature functions according to its purpose.

The fourth phase covers the full testing of the system. The researchers observe and focus on debugging to ensure the capability of the system to ensure that it is ready for implementation.

In the fifth phase, the system released to the client. The researchers have provided a demonstration and hands the operation to the client. In this phase, the researchers also monitor and accept any feedback from the client.

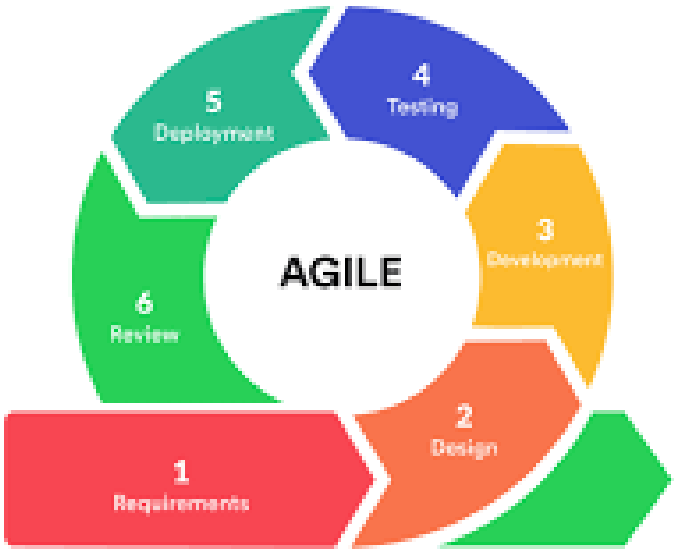
The final phase will go through the maintenance and feedback. Any flaws and problems in the system was addressed. The researchers evaluate clients' suggestion for possible fix and add useful feature

Chapter IV

Methodology

This chapter will cater to the strategy and tactical methods used by the researchers in administering the study that will be used to accomplish the system design. The researchers will be presenting the chosen software development life cycle and its stages that will be used for the study. To provide detailed planning this chapter will also discuss the requirements gathering techniques, requirements documentation, and, requirements analysis. The presentation of the design of the software, systems, product and/or processes, testing, the description of the prototype, and implementation will provide a strong guideline and workflow.

For the software development life cycle (SDLC), the researchers choose the Agile Methodology process. The Agile Methodology method will allow the researchers to thoroughly examine and conduct its stages accordingly to its professional standard. Agile methodologies constitute design and development techniques that are associated with the Agile Manifesto's values and principles for software development. Agile techniques strive to find the proper product utilizing small cross-functional self-organizing teams that release small pieces of functionality frequently, allowing for frequent customer feedback and reassessment as needed.



4.1 Requirement Analysis

Requirements - The researchers acquired the needed information and met with the clients and conducted an interview and observations for the data gathering.

Design – The researchers will then analyze and study the gathered data and information and create a suggested feature for the system by the client.

Development – The researchers then start the development of the system. The researchers focus on addressing the features of the system.

Testing – The researchers have conducted several tests and debugging of the system. This phase addresses the features, user interface, and functionality of the system. This helps researchers to adjust and repair any potential errors.

Deployment – The researchers hand out and deploy the system to the clients. During this stage, the researchers provide demonstration and ongoing support to monitor if the system is running smoothly.

Review – After completing all the stages of development, the researchers will present the results that were achieved if the requirements were met. This phase also included maintenance and system updates.

4.2 Requirements Documentation

The Agriculture Inventory Management System is gathered with the aims of giving our client the opportunity and provide convenience not just for their business, but also to their respected and highly valued customers. As advocate, we thoroughly understand their situation and promised to do our best in making this system convenient and useful for their services.

The design and development be completed if the following goals and objectives are met:

1. To provide a solution to the problem of manual way of ordering and purchasing

2. To provide a system that enables them to save time and ensures quantity of each stock of goods.
3. To provide and ensure quality products.
4. Provide new and various variations of products.

4.3 Design of Software, System, Product, and Processes

This section is designed to define the proposed system's conceptual design, which includes use case analysis, data flow, entity-relationship design, and architecture design.

4.3.1 Use Case Analysis

The use-case graphic depicts how a super administrator/ administrator interact with the Agriculture Inventory Management System. The super administrator or administrator shall supervise the user's login databases and manipulate with the availability and inventory of products while client can only add, remove and order the products.

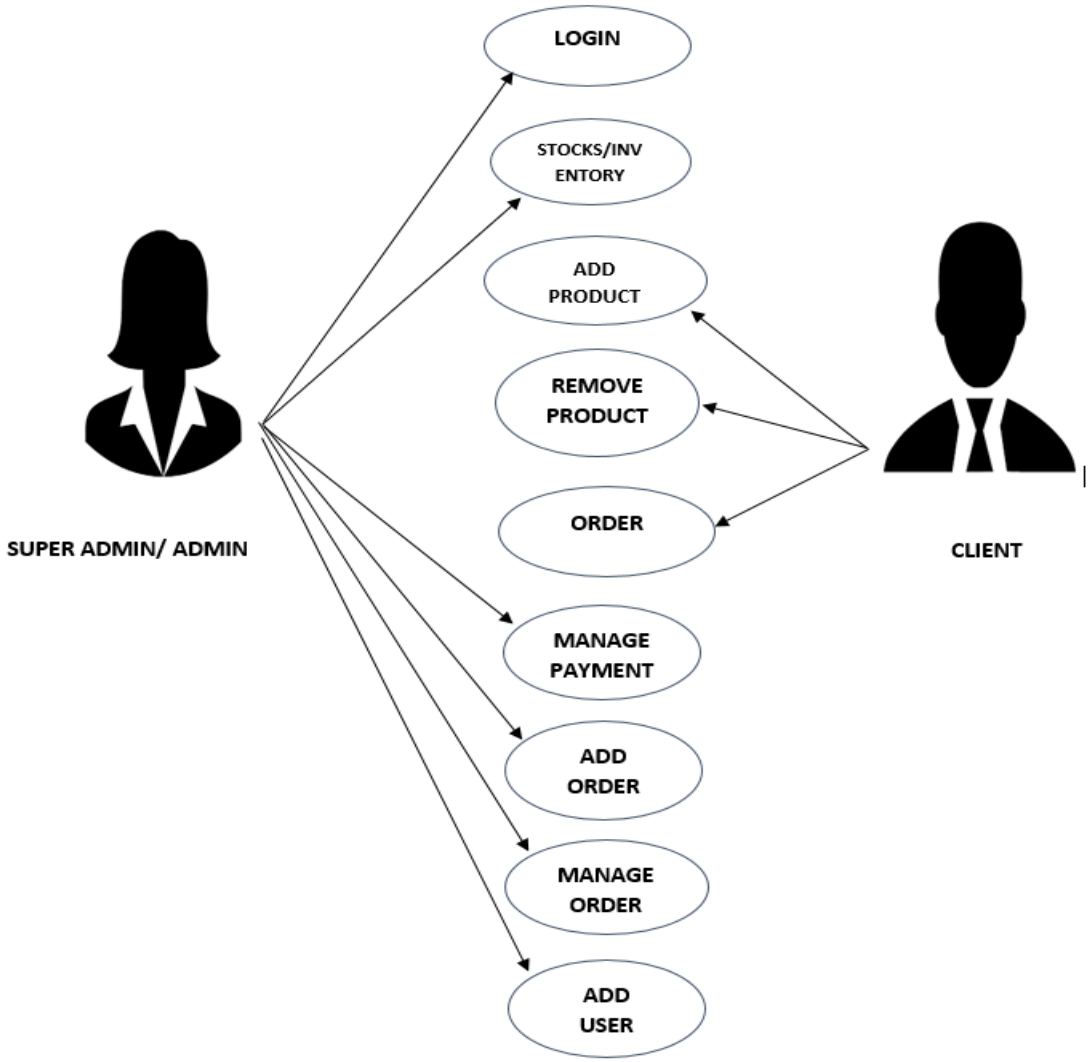


Figure 4.2 Use Case Diagram

4.3.1 Data Flow Diagram

The data flow diagram (DFD) represents the movement of data in a visual manner utilizing the system depending on user input activity.

Context Diagram/ Level 0

The context diagram depicts the interplay between several entities and the overall system. The user inputs all the information needed for purchasing products for the inventory record.

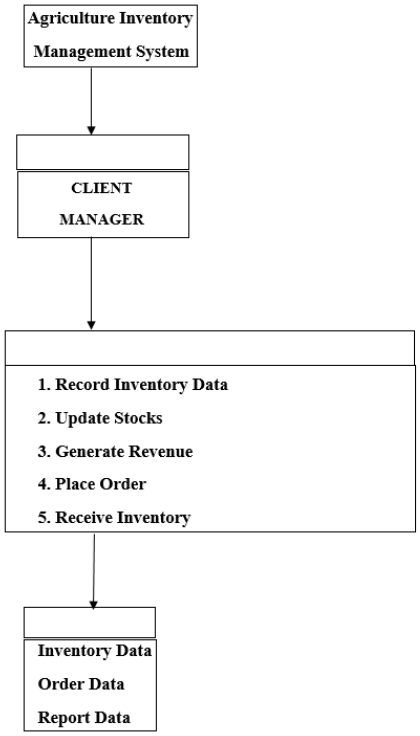


Figure 4. 3 Data Flow Diagram Level 0.

Data Flow Diagram

LEVEL 1

Within the Agriculture Inventory Management System, DFD level 1 explains where data inputs go and where data inputs originate from. You can see how important it is to break down processes in further depth based on the data flow levels indicated above. The displayed level not only determines the system's technical functions, but also the precise destination of the data that travels through it.

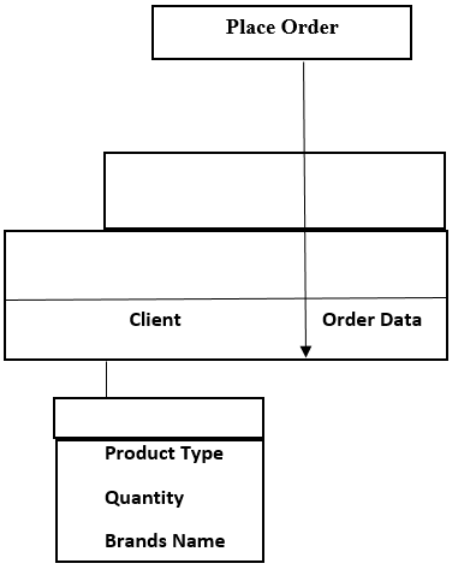


Figure 4.4 Data Flow Diagram Level 1

Entity Relationship Diagram

The Entity Relationship Diagram (ERD) presents the data modelling design and entity relationship of the system. It is designed to satisfy the demands of the clients more specifically in the agricultural businesses.

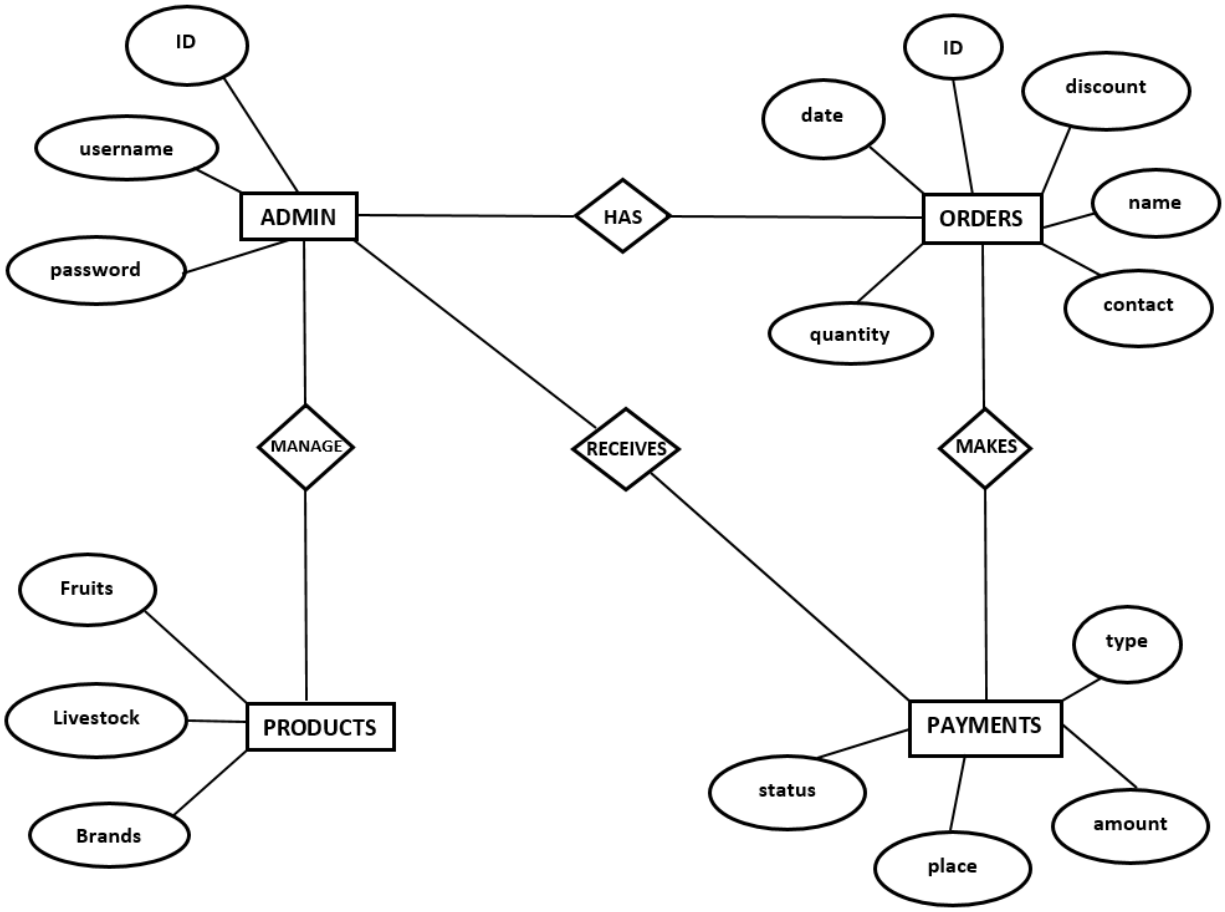


Figure 4.5 Entity Relationship Diagram

Architectural Design

Users are presented by the front-end user interface, which prompts them to submit a request to the server. The Model-View-Controller design pattern will be used in the architecture

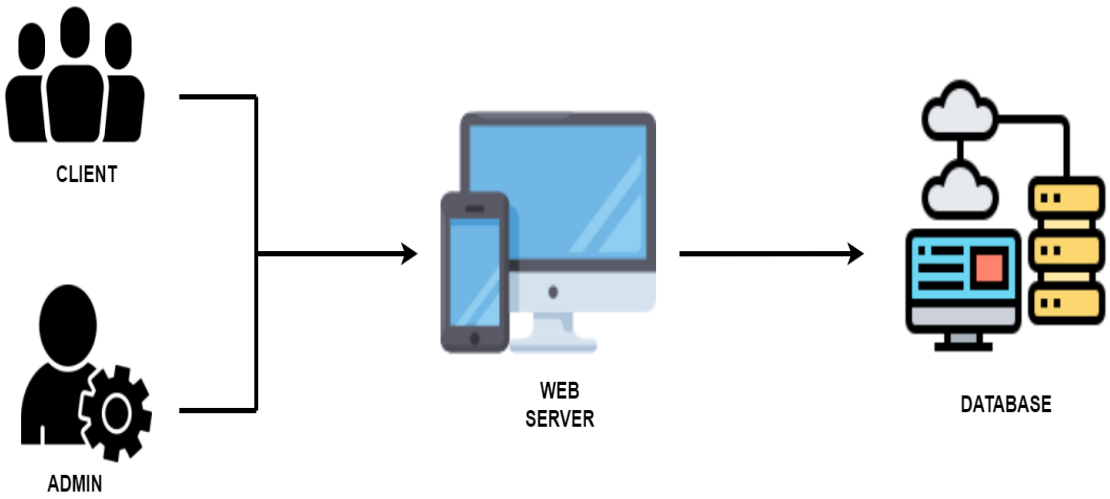


Figure 4.6 Architectural Design

4.4 Development and Testing

4.4.1 Development

This section will detail the guidelines that the researchers will adhere to throughout the development and evaluation of the system. The process will be divided into different periods. It will entail continual development throughout each stage and will follow the planning, implementing, and professionally evaluating process cycle.

Research/Capstone Project Team

This section explained the various roles of each project team member. The project team's various roles include the Project Manager (PM), System Analyst (SA), Quality Assurance Tester (QA), and UI Designer (UID).

1. Armina A. Viliran (Project Manager)

Is in charge of the whole thing. Manage the team and be in charge of all stages of development as well as project deliverables.

2. Shan Kaizer D. Umbong, Armina A. Viliran (System Analyst & Software Engineer)

Assistant programmer, in charge of system implementation, and data modeling.

3. Sweet Cathy Diana S. Hibone (Quality Assurance Tester)

Ensures that the system is of high quality and that all goals are met.

4. Rodney M. Macansantos, Shan Kaizer D. Umbong, and Armina A. Viliran (Network Designer & UI Designer)

Designing the system's user interface and network design

Gantt Chart

			Estimate		
Task ID	Task Name	Assign to	Duration (Days)	Start Date	Finish Date
	Requirements Gathering	Proponents	10	06/05/23	06/13/23
I	Chapter 1: Introduction	Project Manager: Viliran, Armina A.	8	06/14/23	06/20/23
1.1	Project Context	System Analyst: Viliran, Armina A.	10	06/20/23	06/28/23
1.2	Purpose and Description	System Analyst: Umbong, Shan Kaizer D.	10	07/04/23	07/12/23
1.3	Objective	Programmer/QA Tester: Viliran, Armina A.	7	07/16/23	07/21/23

1.4	Scope and Limitation	Project Manager: Viliran, Armina A.	7	07/23/23	07/28/23
1.5	Definition of Term	Network Designer: Umbong, Shan Kaizer D.	6	07/30/23	08/04/23
II	Chapter 2: Review Related Literature and Systems	Network Designer: Umbong, Shan Kaizer D.	8	08/06/23	08/12/23
2.1	Foreign and Local Related Literature/Studies	Network Designer: Hibone, Sweet Cathy Diana S.	5	08/13/13	08/16/23
2.2	Foreign and Local Related Systems	Network Designer: Hibone, Sweet Cathy Diana S.	4	06/07/23	06/12/23
2.3	Table of Comparison	Network Designer: Viliran, Armina A.	8	08/17/23	08/23/23
2.4	Synthesis	Network Designer: Umbong, Shan Kaizer D.	5	08/24/23	08/28/23

Table 1 Gantt Chart

4.4.1.2 Project Work Plan

This is the work plan of the study and will be broken down into different phases and will be given specific durations, following the agile methodology.

			Estimate		
Task ID	Task Name	Assign to	Duration (Days)	Start Date	Finish Date
1	Requirements Phase	Hibone Sweet Cathy Diana S.	81	06/03/23	06/25/23
2	Design Phase	Macansantos, Rodney M.	66	08/25/23	10/30/23
3	Development Phase	Umbong, Shan Kaizer D. & Viliran, Armina A.	92	10/30/23	11/30/23

3.1	Frontend UI Development	Umbong, Shan Kaizer D. & Viliran, Armina A.	62	06/30/23	08/31/23
233.2	Backend Development	Viliran, Armina A	77	07/15/23	09/30/23
4	Testing Phase	Hibone Sweet Cathy Diana S.	30	10/02/23	10/08/23
4.1	Debugging	Umbong, Shan Kaizer D.	15	10/17/23	11/6/23
5	Deployment Phase	Umbong, Shan Kaizer D. Viliran, Armina A Hibone Sweet Cathy Diana S. & Macansantos, Rodney M.	15	11/06/23	12/15/23
6	Review Phase	Umbong, Shan Kaizer D. & Viliran, Armina A	47	12/15/23	12/22/23

Table 2 Project Work Plan

4.4.2 Testing

This section will outline the parameters that the researchers will follow during the system's development and evaluation. The procedure will be separated into phases. It will require continuous development at each level and will adhere to the planning, implementing, and professionally evaluating process cycle.

Stage	Type	Description	Source	Deliverables
Unit testing	White box	Identified functionality will be tested	Source code	Case data & unit test cases

Integration testing	UI & System Interface Testing	Each component, data flow, and UI will be tested	System & and UI Source code	System and UI test case data
System Testing	Functionality & Usability testing	The System will be tested in all different use cases	System	Functionality & Usability results
	Performance & Reliability Testing	Testing the Responsiveness & reliability of the System	System	Performance & Reliability Data
	Documentation Testing	Ensuring that the documentation matches the system	System Documentation	Documentation Evolution
Acceptance Testing	OAT Testing	Conduct a pre-release testing	User	Operational and Quality

Table 3 Testing Plan

4.4.3 Table Modified System Ratings

The developers employed a modified Likert scale to analyze the data gathered from the respondents. The system earned ‘ ’ rating which conforms to the system’s objectives.

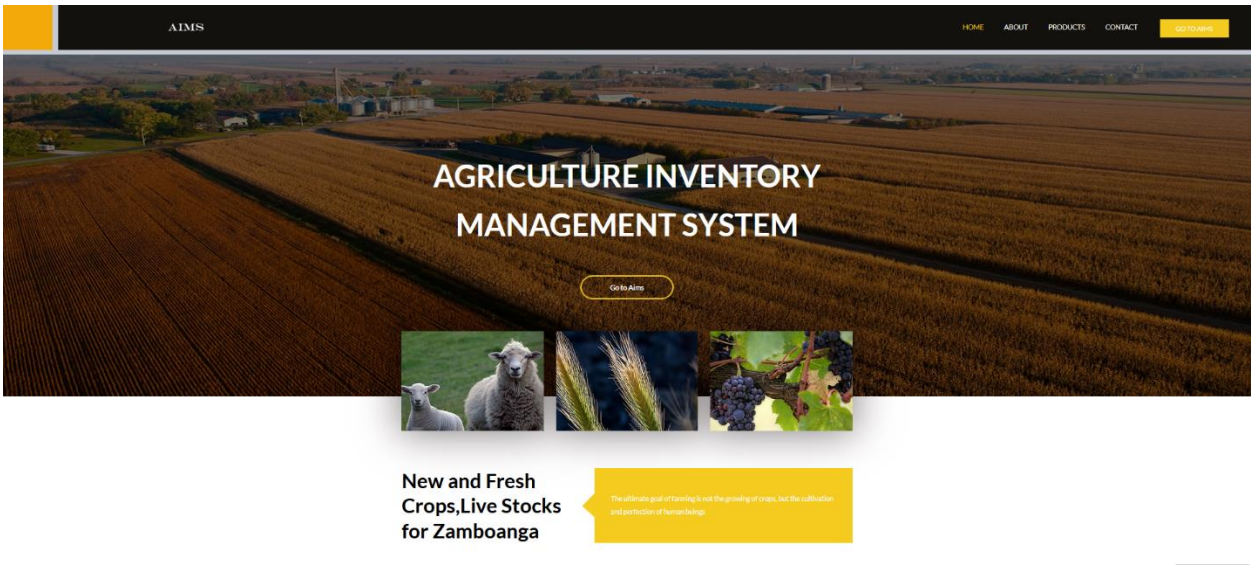
NUMERICAL VALUE	ARITHMETIC RANGE	EQUIVALENT RATING
5	4.21- 5.00	Strongly Agree
4	3.41- 4.20	Agree
3	2.61- 3.40	Neutral
2	1.81- 2.60	Disagree
1	1.00-1.80	Strong Disagree

Table 4.4.3 **Likert Scale Table**

4.5 Description of Prototype

The proposed agriculture inventory management system is an offline web application purposely to input and saves data, a system that can be used to help the Agri business owner to electronically input the product, manage the incoming and outgoing product being sale, track the inventory of the product, order product and print the saved information.

Building the prototype will be using different web technologies. The researchers will be using bootstrap to create a modern user interface. Bootstrap is used for directive and responsive web development. For the back-end development, MySQL will be used for storing and manipulating the data.



4.6 Implementation Plan

The implementation strategy developed by the research team was outline the steps that will be taken to achieve the study's goal or objectives. The proponents lay out the measures they'll take to achieve a shared objective. The table below presents the outlines of every procedure that the team will undergo for accomplishing this study. This includes system support, system maintenance and the project’s overall assessment.

TASK	Time Frame	Responsible	Deliverable

User's Guide	10 days	Hibone, Macansantos	User Manual
System Support • Desk assistance • Technical Support	60 days	Umbong, Viliran	System Evaluation
System Maintenance	30 days	Umbong, Viliran	System Performance
Project Assessment • Planning • Evaluation	90 days	Umbong, Hibone	Project Assessment Report

Table 4.6.1: Implementation Plan

The above table shows the different task for the implementation of the project. It is divided into four task that has different time frames and the responsible of the divided task.

4.7 Implementation Results

The outcomes of the system test plan are highlighted in this section. The goal of the researchers' software test strategy was to provide a strategy for testing the system's functionality and data streams. It also contains test plans, the testing procedure, and the system evaluation findings.

Objectives of testing:

- Test system stability.
- Ensure the application conforms to functional and non-function requirements.

The system was tested using a core i3-3113m laptop with 8GB ram Laptop Windows10. This was done to check the compatibility of the system using web browsers. Testing using desktop web

browser ensured that the system functioned as intended. The developers did not find any major bugs that affected the performance or overall stability of the system. However, the developers found out that the styling of the form is not been detected.

4.8 Questionaire

Below is the set of questions depicting the performance of the system. It display the overall value of performance in each category.

Systems Capabilities and Features	Mean	Descriptive Rating
A. Functional Suitability		
1. *Functional Completeness*. The Agriculture Inventory Management System covers all the specified tasks and user objective.	5	Strongly Agree
2. *Functional Correctness*. The Agriculture Inventory Management System provides the correct results with the needed degree of precision.	4	Agree
3. *Functional Appropriateness*. The Agriculture Inventory Management System facilitates the accomplishment of specified tasks and objectives.	5	Strongly Agree

MEAN	4.6	AGREE
B. Performance Efficiency		
4. *Time Behavior*. The system's response and processing times and throughout rates when performing its functions meet and requirements.	4	Agree
5. *Resource Utilization.* The system's amounts and types of resources used when performing its functions, meet requirements.	4	Agree
6. *Capacity.* The system's maximum limits of parameters meet requirements.	4	Agree
MEAN	4	AGREE
C. *Reliability*		
7. *Maturity.* The Agriculture Inventory Management System meets for reliability under normal operation.	3	Neutral
8. *Availability.* The Agriculture Inventory Management System is operational and accessible when required for use.	4	Agree

9. *Fault Tolerance*. The Agriculture Inventory Management System operations as intended despite the presence of hardware and software faults.	3	Neutral
MEAN	3.3	NEUTRAL
D. Security		
10. *Confidentiality*. The Agriculture Inventory Management System ensure that data are accessible only to those authorize to have access.	4	Agree
11. *Integrity*. The Agriculture Inventory Management System prevents unauthorized access to, or modification of computer program or data.	4	Agree
12. *Non- repudiation*. The Agriculture Inventory Management System can be proven to have taken place, so that the events or actions cannot be repudiated later.	4	Agree
MEAN	4	AGREE

E. Portability		
13. *Adaptability*. The system can effectively and efficiently be adapted for different or evolving hardware, software or other operational or usage environment.	2	Disagree
14. *Installability.* Can be successfully installed and/or uninstalled in a specified environment.	3	Neutral
MEAN	1.6	DISAGREE
GRAND MEAN	**3.5**	**AGREE**

Table 4.8.1 Questionaire

Chapter V

Conclusions and Recommendation

This chapter will present the conclusions and recommendations that discuss the outcome of the project of Agriculture Inventory Management System.

5.1 Conclusions

Inventory Management System is a crucial part of any business that deals with physical products or services. An efficient inventory management process ensures that the right amounts of stock are available at the right time, while minimizing costs. It also helps to ensure that customers receive their orders in a timely manner and that they are satisfied with the product or service they receive. Creating an Agriculture Inventory Management System (AIMS) for the business owner of Agri product can greatly improve the management. By automating many of the processes involved in managing the Agri product of the business, the AIMS has increased the efficiency, reduced errors, and improve data management outcomes. Each step is done carefully to provide the best outcomes throughout the planning, development and implementation of this project. By observation the system helps to store data digitally and improves productivity inside the business.

Based on the analysis, the study has contributed a wider improvement in data processing using the new technology. All data has been stored electronically into a single system. As a result, it enhances the manual process and enables automated data processing.

The overall results that are associated with the objectives of this study. Which is to develop a computerized system, and to provide a report of overall action and method uses. With the cooperation of the respondents the result of this project has successfully meet the requirements of the objectives indicating that the system has succeeded in achieving its goals.

5.2 RECOMMENDATION

For future researchers of any individual or group who wish to improve the system further the following recommendations will be mention. Include an online payment for faster transaction and reservation flow. And creating a mobile application for Agri business who doesn’t have access to web base.