

AGRICULTURE FARM MANAGEMENT SYSTEM

A COURSE PROJECT REPORT

18CSC303J-DATABASE MANAGEMENT SYSTEM

Submitted by

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BONAFIDE CERTIFICATE

Certified that Mini project report titled “**AGRICULTURE FARM MANAGEMENT SYSTEM**” is the bonafide work of **AKETI SAI MANOHARA NAVEEN(RA2111027010197)** who carried out the minor project under my supervision. Certified further, that to the best of my knowledge, the work reported herein does not form any other project report or dissertation based on which a degree or award was conferred on an earlier occasion on this or any other candidate.

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ABSTRACT

The Agriculture Farm Management System (AFMS) project aims to revolutionize agricultural practices by offering a comprehensive digital solution for farm management.

This system encompasses various functionalities including crop and livestock management, resource allocation, financial tracking, and reporting. By leveraging technology, AFMS provides farmers with tools to optimize productivity, minimize costs, and make informed decisions.

AFMS includes modules for financial management, allowing farmers to track expenses, revenues, and profits associated with their agricultural activities. This feature enables better financial planning and decision-making.

The AFMS is designed to be user-friendly and accessible, with a web-based interface that can be accessed from desktop computers, laptops, and mobile devices. It is customizable to suit the specific needs of different types and sizes of farms, making it a versatile solution for the agricultural industry.

Accessible through a user-friendly web interface, AFMS caters to the diverse needs of farmers, regardless of the scale of their operations.

Overall, AFMS represents a significant step towards modernizing and enhancing the sustainability of agriculture through efficient management practices.

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CHAPTER-1

1.INTRODUCTION

1.1 Introduction

Agro Culture is the farmer system where they can plan, monitor and analyze the activity of the farmers production system. It manages farmer operation with one system and organizes data in one place. It helps smart farmers become even smarter. This creates in partnership with growers and buyers. It inspire farmer to produce and buyers to consume fresh goods.

Agro Culture System will make better conection among Farmers and Buyers ensure quality food. Standardize and increase efficiency of agro culture process.

1.2 Objectives of the Project

The specific objectives of the project include:

- To provide qualitative foods to the buyers.
- Implementing an automated/online agro culture system.
- To inspire farmer to produce quality goods and supply to the buyers.
- Eco-friendly farming system.

1.3 Scope of the Project

It is focused on studying the existing system of agro culture in and to make sure that the peoples are getting quality fresh goods. This is also will produce:

- Less effort and less labor intensive, as the primary cost and focus primary on creating, managing, and running a secure quality food supply.
- Increasing number of buyers as individuals will find it easier and more convenient to buy goods.
- Easy management.

1.4 Tools Used

- **Xampp:**
 - **Apache:**
 - (Application Server) Apache , often referred to as Server, is an open-source Java Servlet Container developed by the Apache Software Foundation.

- **MySQLServer:**
 - It handles large databases much faster than existing solutions.
 - It consists of multi-threaded SQL server that supports different back ends, several different client programs and libraries, administrative tools, and application programming interfaces (APIs)
 - Its connectivity, speed, and security make MySQL Server highly suited for accessing databases on the Internet.
- **Sublime Text 3.1.1-** Sublime Text is a sophisticated text editor for code, markup and prose. You'll love the slick user interface, extraordinary features and amazing performance.
- **Web browsers:** Google Chrome, Mozilla Firefox, Opera and Internet Explorer.
- **Git Hub:** GitHub Inc. is a web-based hosting service for version control using Git. It is mostly used for computer code. It offers all of the distributed version control and source code management functionality of Git as well as adding its own features.

1.5 Advantages of MySQL:

- SQL Queries can be used to retrieve large amounts of records from a database quickly.
- SQL is used to view the data without storing the data into the object
- SQL joins two or more tables and show it as one object to user
- SQL databases use long-established standard, which is being adopted by ANSI & ISO. Non-SQL databases do not adhere to any clear standard.
- Using standard SQL, it is easier to manage database systems without having to write substantial amount of code.

CHAPTER-2

2. PROJECT FEATURES

2.1 Methodology/Procedure

- For the development of project the designing of database was done on PHPMYADMIN, back end was coded in basic PHP and for frontend we used the same basic PHP codes.
- Software methodologies are concerned with the process of creating software – not so much the technical side but the organizational aspects. Several software development approaches have been used since the origin of information technology.

2.2 Project Framework

A framework is a standardized set of concepts, practices, and criteria for dealing with a common type of problem, which can be used as a reference to help us approach and resolve new problems of a similar nature.

The aim of framework is to provide a common structure so that developers don't have to redo it from scratch and can reuse the code provided. In this way, frameworks allows us to cut out much of the work and save a lot of time.

2.3 Data and Information

Data collection plays an important role in a projects succession and also it plays an inevitable role in the timely completion of the project. The data in the project includes contact information of the clients and their respective feedbacks/complaints which is stored in a database. To assure safety, only the admin has proper access to the information provided by the clients.

2.4 Primary Source of Data

Primary data are the first hand data. The necessary information was collected from day to day observation, problems, instructions of supervisor. Queries and personal discussion with the staff of the organization.

- Observation of working environment.
- Informal discussion and interaction with the staff of the library department.

2.5 Secondary Source of Data

The Secondary sources of data were collected in order to achieve the real and fact data as far as available. The major sources of secondary data are as follows:

- Annual reports of the concerned organization
- Related websites

2.6 Testing

Testing is evaluation of the software against requirements gathered from users and system specifications. Testing identifies important defects, flaws, or an error in the application code that must be fixed. It also assesses the feature of a system. Testing assesses the quality of the product.

2.6.1 Unit Testing

Unit testing refers to the testing certain functions and areas of the code. It gives the ability to verify that all the functions work as expected. Eventually, it helps to identify failures in the algorithms as well as logic to help improve the quality of the code that composes a certain function.

2.6.2 Integration Testing

Integration testing is basically a logical extension of unit testing. In simple words, two tested units are combined into a component and the interface between them is tested. It identifies problems that occur when different units are combined. The different modules of this project have undergone integration testing while being merged.

2.6.3 System Testing

System testing tests the behavior of whole system as defined by the scope of the development project. It might include tests based on risks as well as requirement specifications, business process, use cases or other high level descriptions of system behavior, interactions with the operating systems and system resources. It is most often the final test performed to verify that the system meets the specification and its objectives. System testing has been performed at the completion of each feature and is still taking place to make improvements on the existing system.

CHAPTER-3

3. SYSTEM ANALYSICS

3.1 System Analysis

System Analysis is a detailed study of the various operations performed by a system and their relationships within and outside of the system. Here the key question is- why all problems exist in the present system? What must be done to solve the problem? Analysis begins when a user or manager begins a study of the program using existing system. During analysis, data collected on the various files, decision points and transactions handled by the present system. The commonly used tools in the system are Data Flow Diagram etc. Training, experience and common sense are required for collection of relevant information needed to develop the system. The success of the system depends largely on how clearly the problem is defined, thoroughly investigated and properly carried out through the choice of solution. A good analysis model should provide not only the mechanisms of problem understanding but also the frame work of the solution. Thus it should be studied thoroughly by collecting data about the system. Then the proposed system should be analyzed thoroughly in accordance with the needs. System analysis can be categorized into four parts.

- System planning and initial investigation
- Information Gathering
- Applying analysis tools for structured analysis
- Feasibility study
- Cost/ Benefit analysis.

In our existing system the recording of user's information is done manually, So taking more time for searching the information of the users. Another major disadvantage is that preparing the list of members that viewed any user's information takes more time. So, after conducting the feasibility study I decided to make the agro culture System to be computerized.

3.2 Problem Analysis

It is related with the accessing the detailed information of a user and a candidate. So, I have initiated this project with simple requirements regarding the user and candidate information. Some of the problems for designing and developing this project.

3.3 Feasibility Analysis

A feasibility analysis is conducted once the problem is clearly understood. The purpose of the study is to determine whether the problem is worth solving. It is an analysis and evaluation of a proposed project to determine if it is technically feasible, feasible with the estimated cost and profitable.

3.4 Economical Analysis

The economic feasibility of a system is used to evaluate the benefits achieved from and the costs incurred for the project or system. This is done by a process called cost benefit analysis. It provides tangible and intangible benefits like reduction in cost, more flexibility, faster activities, proper database management, etc.

The application is medium scale application and is economically feasible for us to accomplish it. This involves cost benefits analysis. Thus there is no problem of high cost and cost benefits analysis.

3.5 Software Analysis

- Consumes a long-time for development of web application.
- Research and analysis cost to determine the actual need in real world.
- Implementation of application in the server and cost associated with the space in server.

CHAPTER-4

4. BACK END DESIGN, FRONT END DESIGN AND CONNECTIVITY

4.1 Design and Development Problem

- Problem in running XAMPP.
- To debug the error during the development.
- To show a relationship between entity.
- Minor error with database table.

4.2 Feasibility Analysis

A feasibility analysis is conducted once the problem is clearly understood. The purpose of the study is to determine whether the problem is worth solving. It is an analysis and evaluation of a proposed project to determine if it is technically feasible, feasible with the estimated cost and profitable.

4.3 Data Conversion

Another cost associated while implementing this web application is the data conversion. The previously used software database must be stored and backup such that there will be no loss in implementing a new web application which consumes time as well as money.

4.4 Operational Feasibility

The system is operational feasible as the system can be operate by normal users with basic computer skills without any additional trainings. We have developed this system with the willingness and ability to create, manage and operate the system which is easy for the end users to operate it.

4.5 Use case Diagram

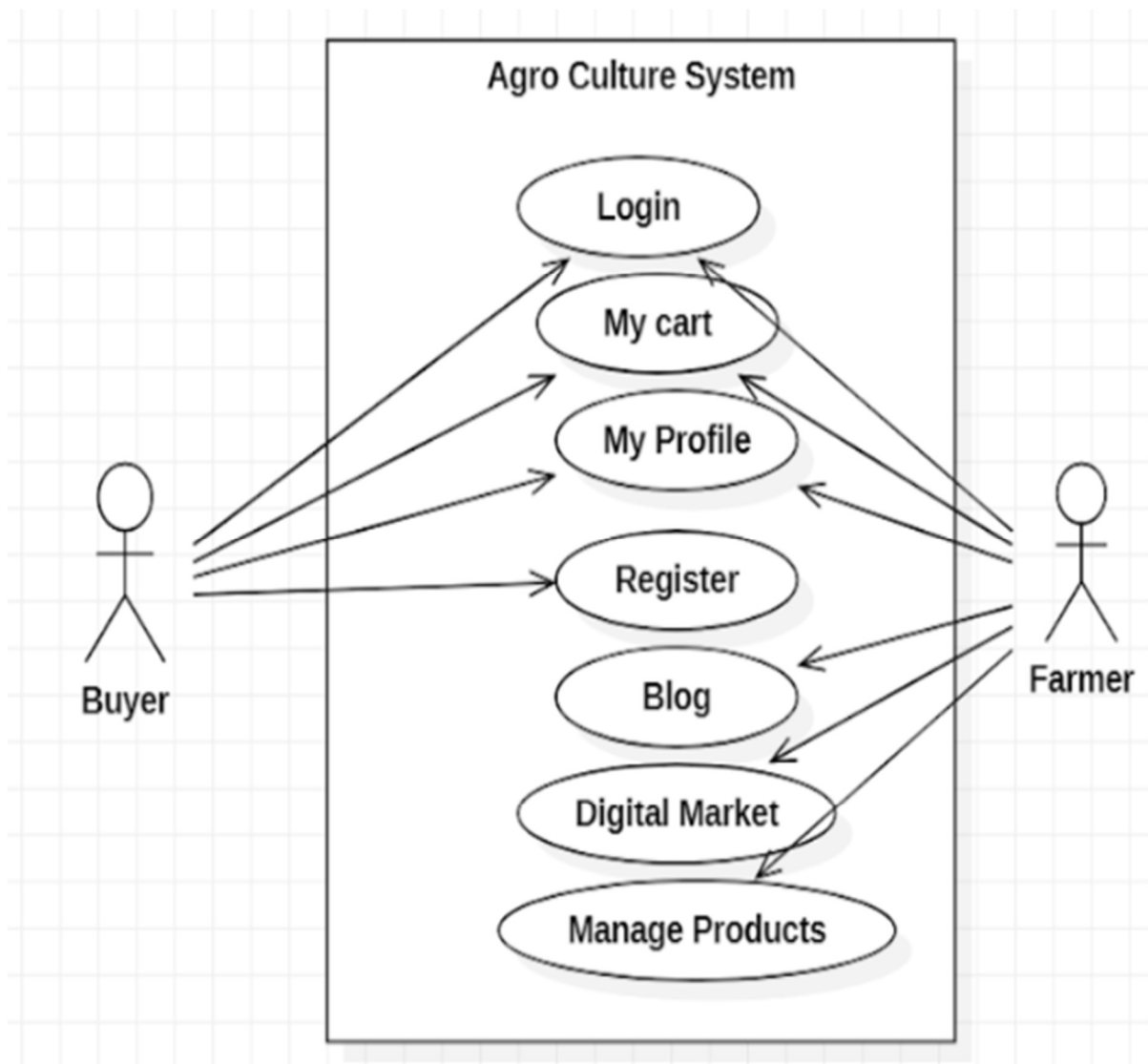


Figure 1: Use Case Diagram

Above figure represents Use Case Diagram of the project and is a useful technique for identifying, clarifying, and organizing system requirements. It describes how a user uses a system to accomplish a particular goal. Use cases help ensure that the correct system is developed by capturing the requirements from the user's point of view.

4.6 Sequence Diagram

A sequence diagram is a type of interaction diagram because it describes how—and in what order—a group of objects works together. A sequence diagram specifically focuses on lifelines, or the processes and objects that live simultaneously, and the messages exchanged between them to perform a function before the lifeline ends.

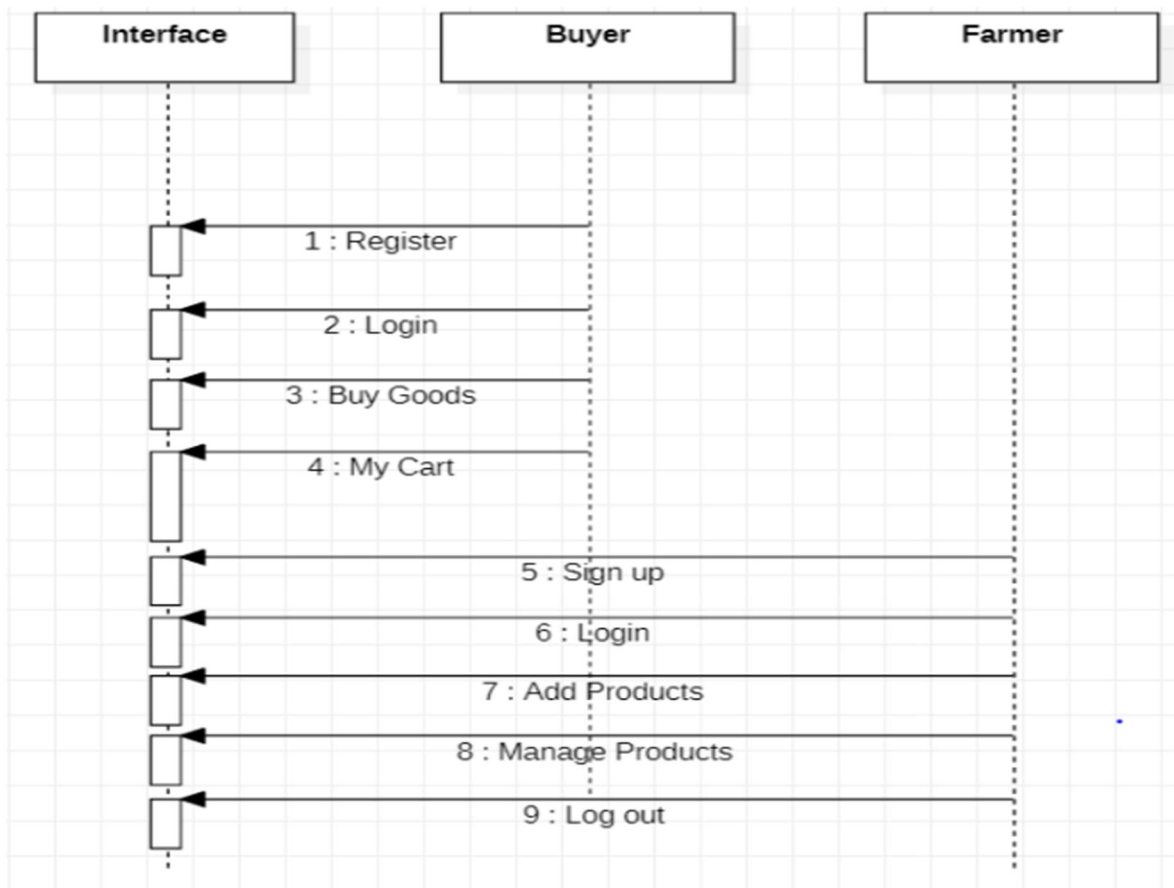


Figure 2:Sequence Diagram

Above diagram represents Sequence Diagram of the project which is a type of interaction diagram because it describes how—and in what order—a group of objects works together. A sequence diagram specifically focuses on lifelines, or the processes and objects that live simultaneously, and the messages exchanged between them to perform a function before the lifeline ends.

4.7 Activity Diagram

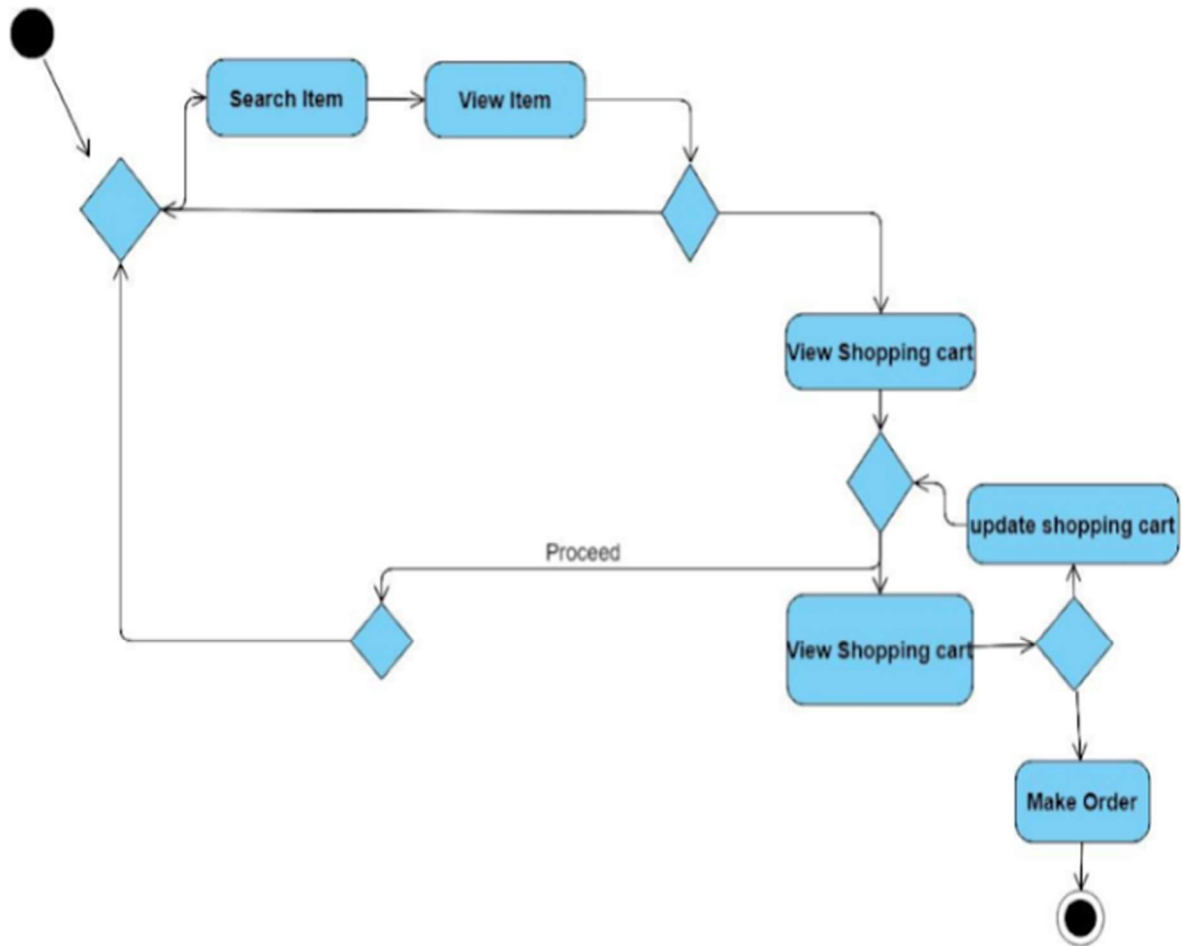


Figure 3: Activity Diagram

Above diagram describes the flow of control of a system. The flow can be sequential, concurrent or branched showing the overall functions of the system.

4.8 ER Diagram

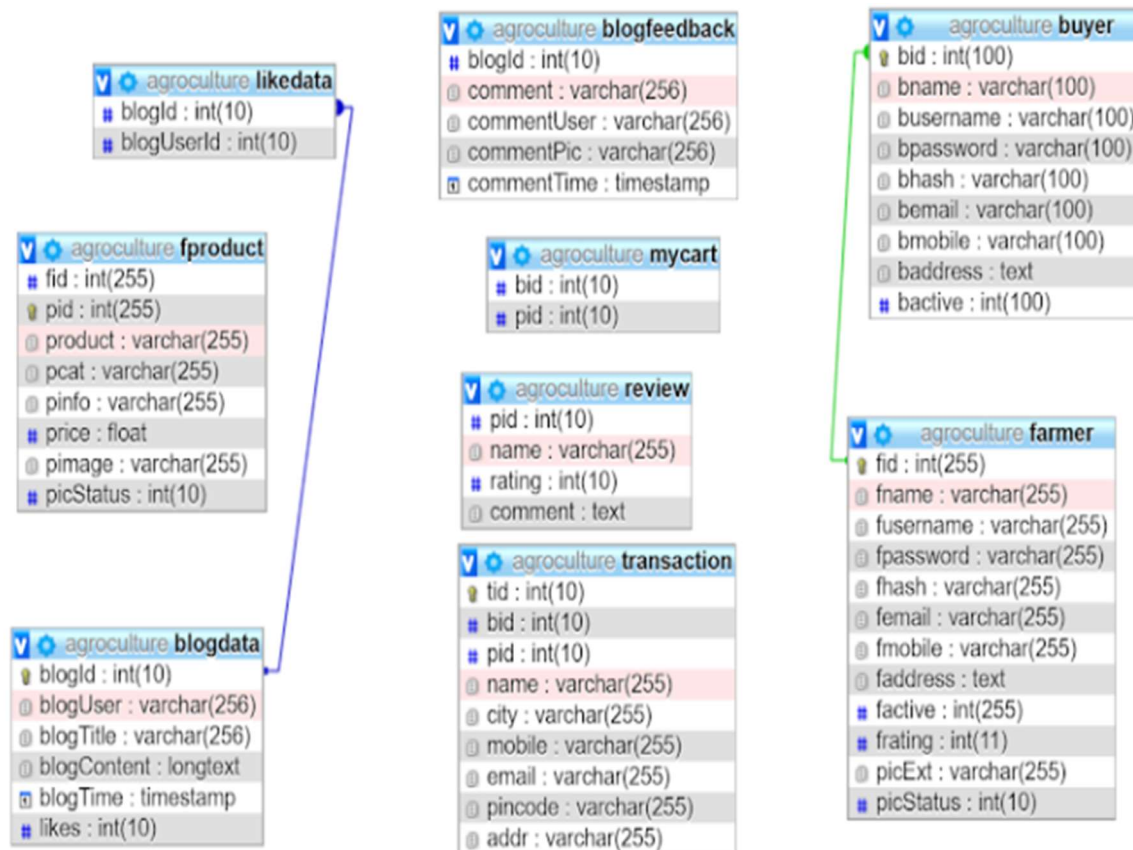


Figure 4: ER Diagram

ER diagram show all the relationships between entity sets stored in the database. It illustrates the logical structure of the database. It helps to visualize how data is connected in general ways.

4.9 Gantt Chart

Weeks Tasks	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10
Coding									
System Design									
Requirement Analysis									
Testing & Debugging									
Installation									
User Training									
Application Development									

Figure 5: Gantt Chart

A Gantt chart illustrates how the project will run. It communicates with the client and shows them the expected date of project completion. It helps you assess how long a project should take, determine the resources needed, and plan the order in which you'll complete task.

4.10 Findings

After a series of testing and debugging, the project was ready for projection and is believed that it will achieve the goals that it is designed to get, which is to vote in ease.

4.11 Connectivity (front end and Back end):

PHP is an amazing and popular language!

It is powerful enough to be at the core of the biggest blogging system on the web (WordPress)!, It is deep enough to run the largest social network (Facebook)!, It is also easy enough to be a beginner's first server side language!

- PHP is an acronym for "PHP: Hypertext Preprocessor".
- PHP is a widely-used, open source scripting language.
- PHP scripts are executed on the server.
- PHP is free to download and use.
- PHP files can contain text, HTML, CSS, JavaScript, and PHP code.
- PHP code are executed on the server, and the result is returned to the browser as plain HTML.
- With PHP you are not limited to output HTML. You can output images, PDF files, and even Flash movies. You can also output any text, such as XHTML and XML.

CHAPTER-5

5. OUTPUT

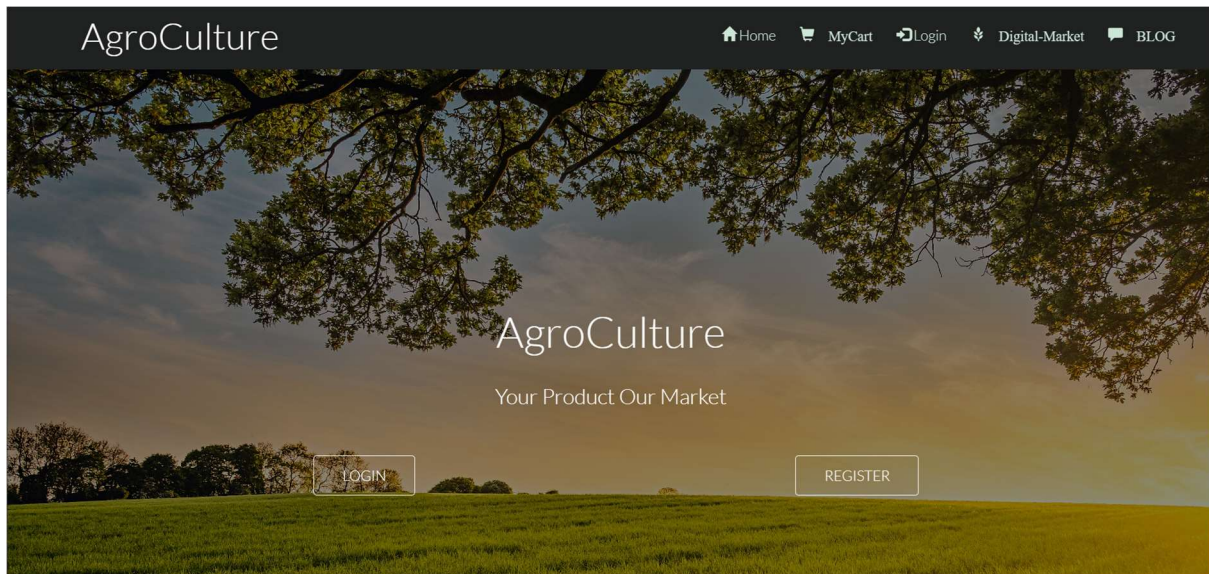


Figure 6: Home Page

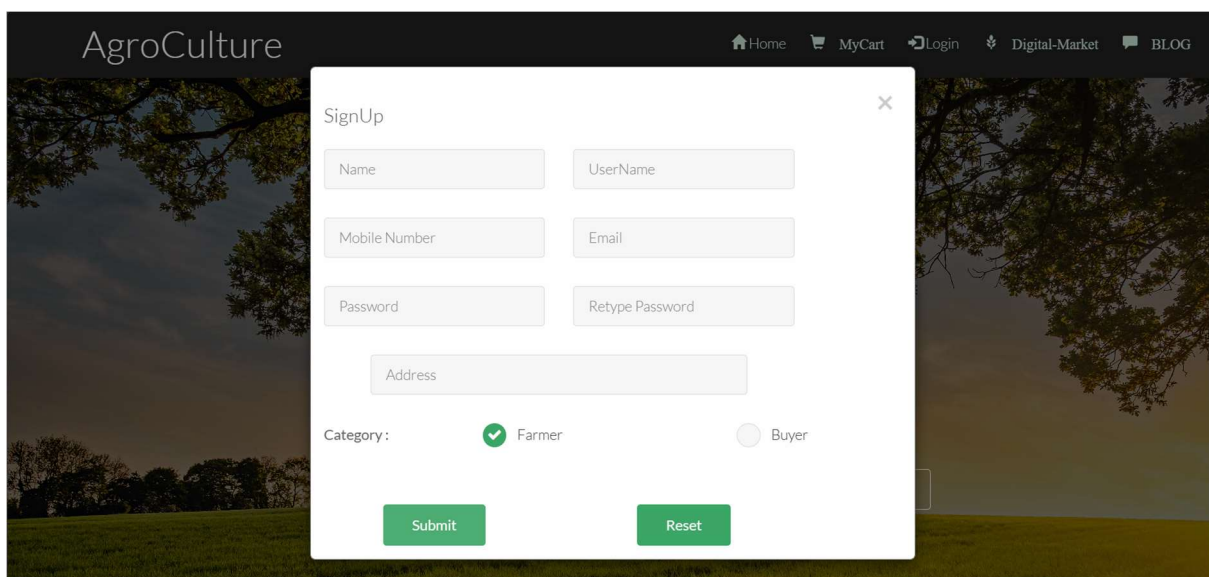


Figure 7: Farmer/Buyer Register Page

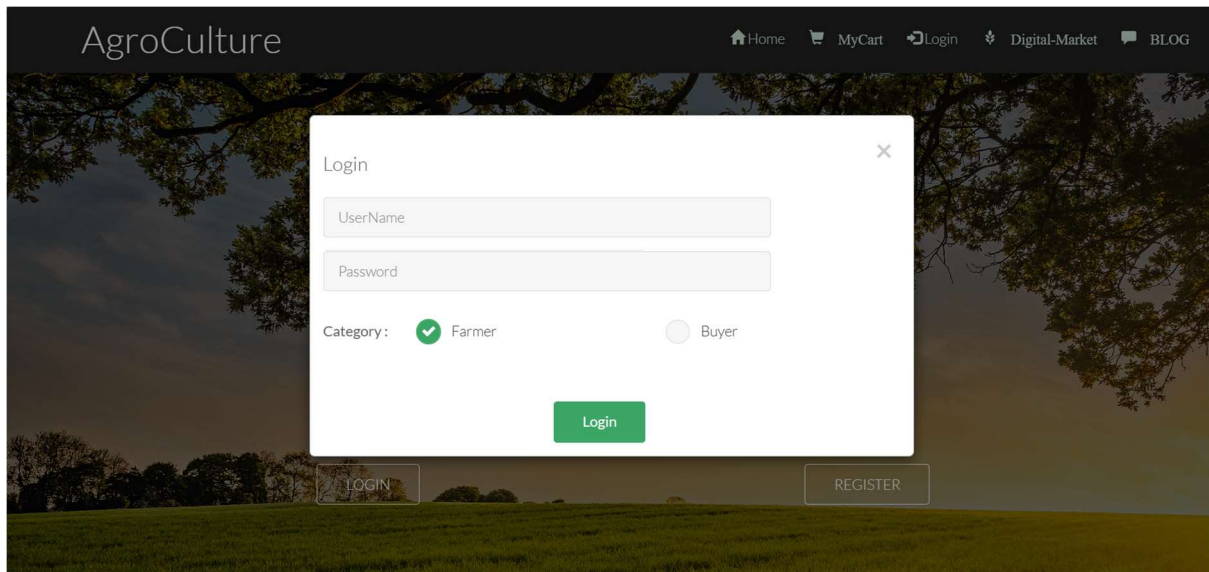


Figure 8: Farmer/Buyer Login Page

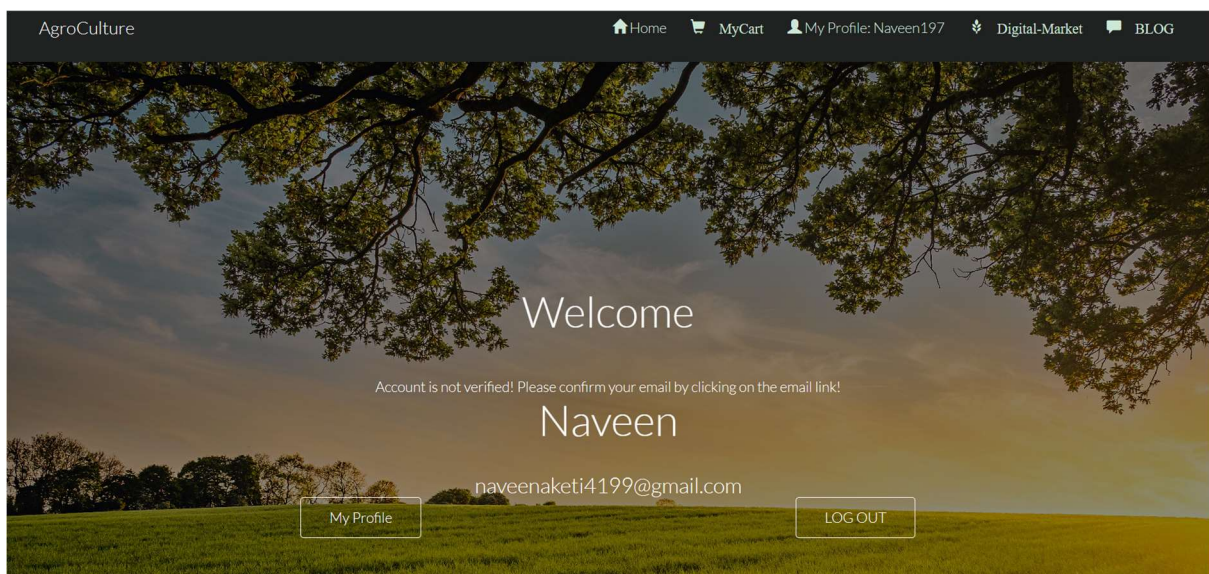


Figure 9: Home Page after Login

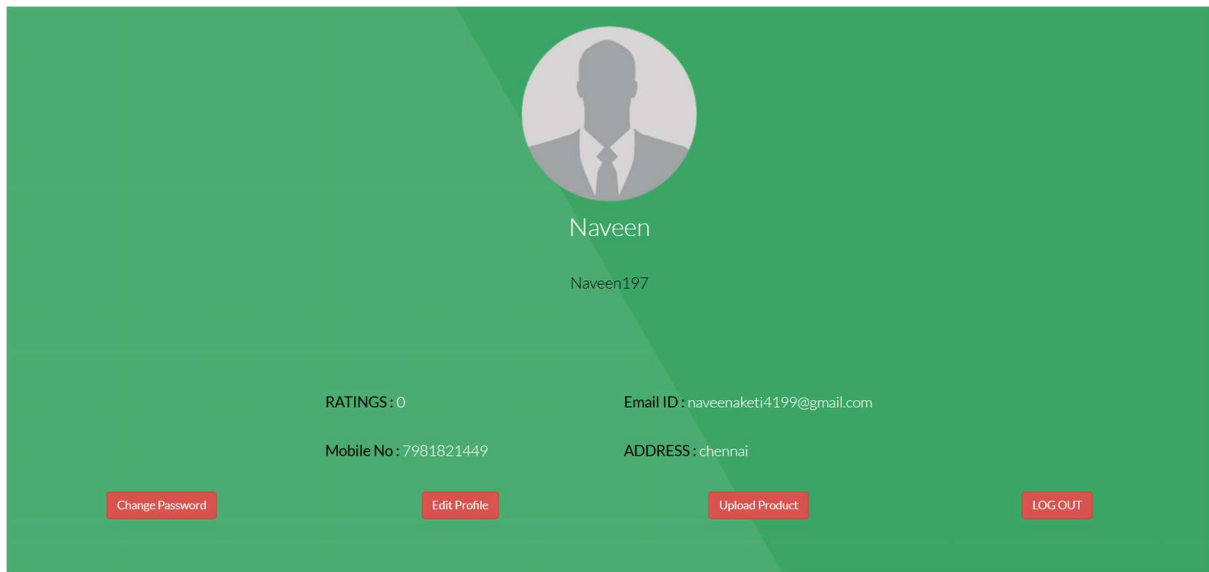


Figure 10: My Profile Page

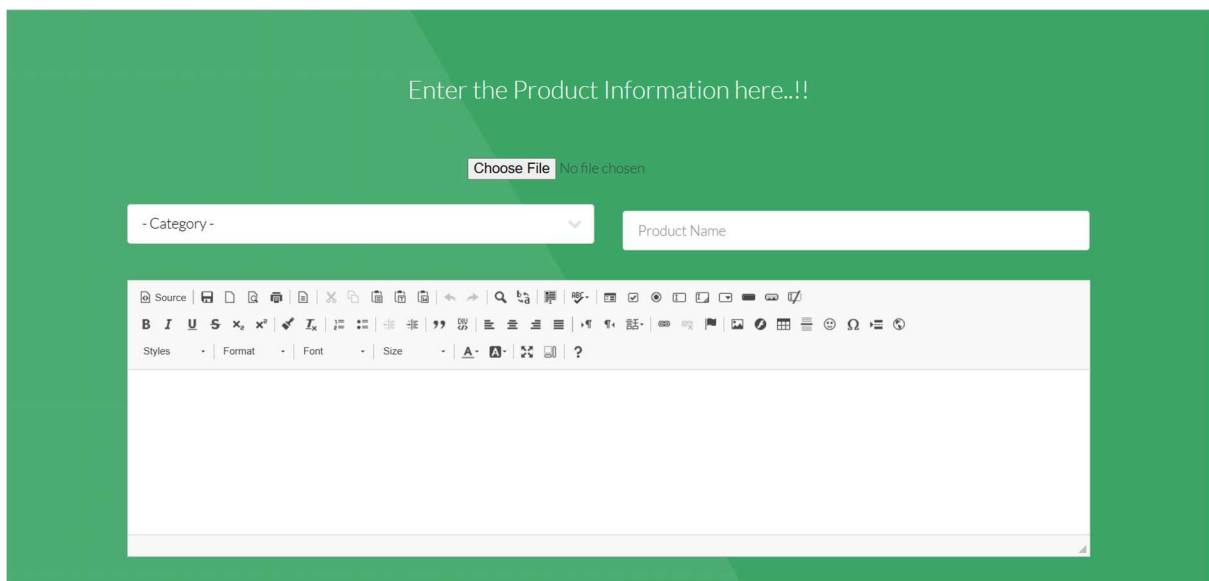


Figure 10: Upload Product Page

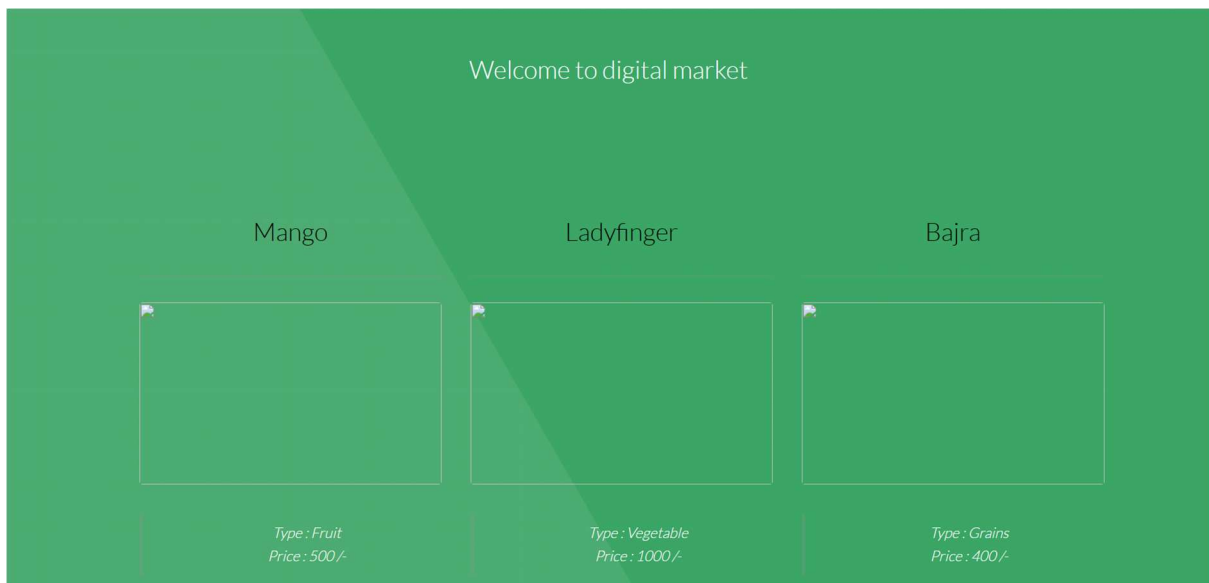


Figure 11: Our Products Page

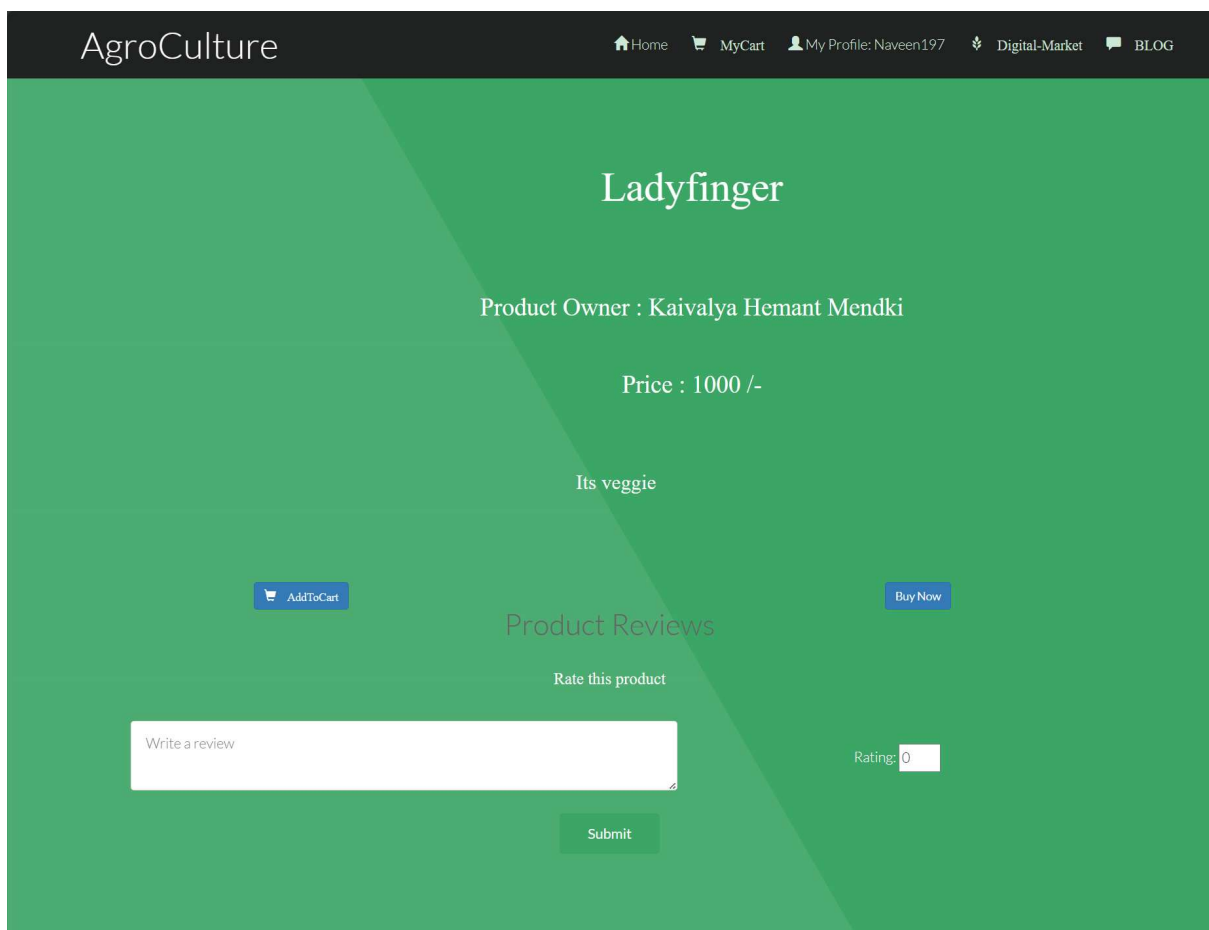


Figure 12: Product Details

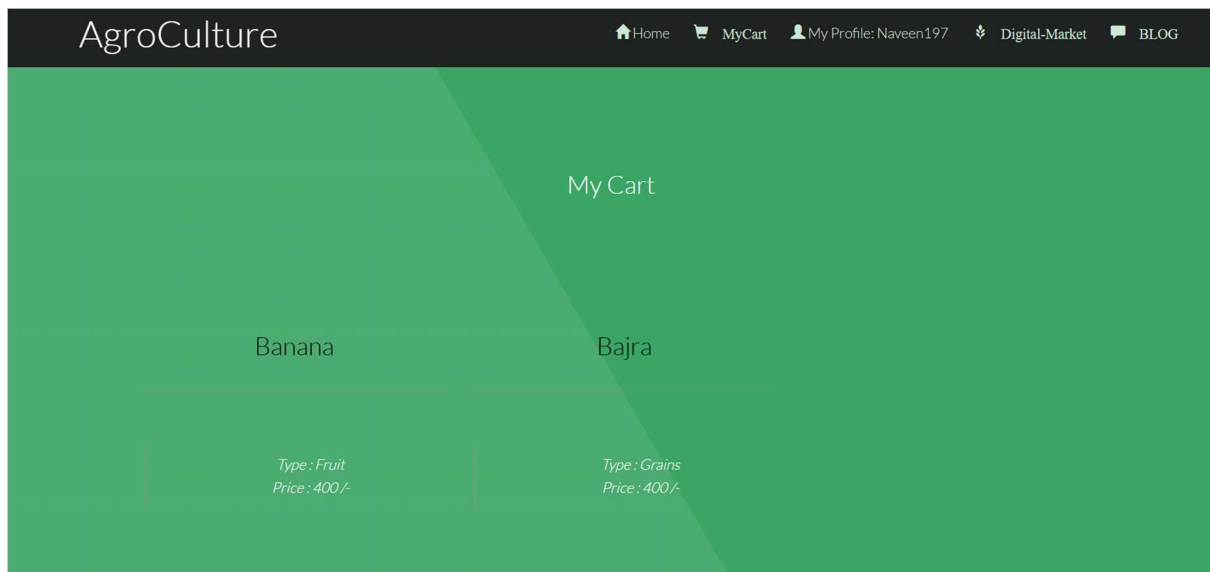


Figure 13: My Cart Page

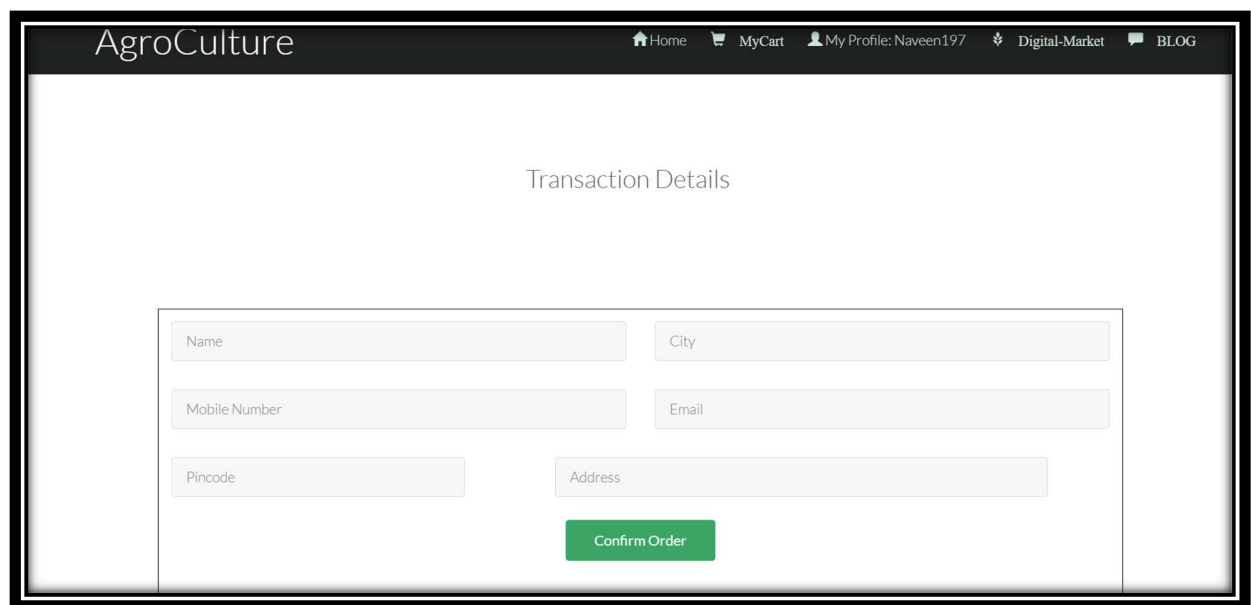


Figure 14: Buy Now Page

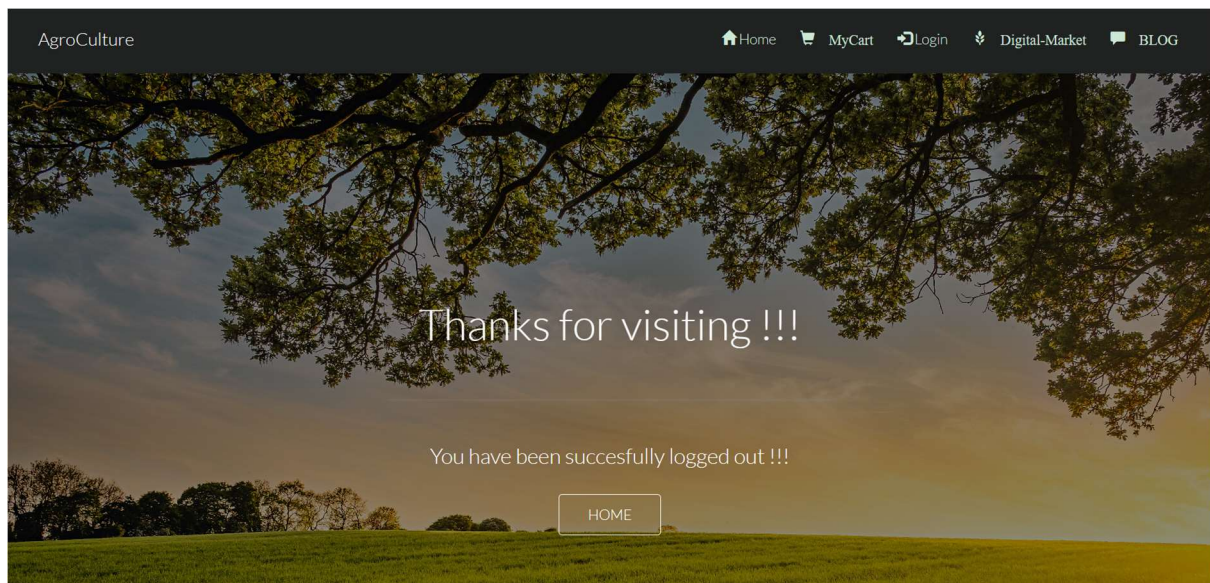


Figure 15: After Logout Page

CHAPTER-6

6. MODULES

- 1. Farmer:** Uploads the products he want to sell.
- 2. Buyer:** Use this medium for purchasing products desired.
- 3. Home:** Contains my profile, my cart, digital market, blogs and details of the website.
- 4. My Profile:** Contains details of the user.
- 5. My Cart:** Contains products added to cart.
- 6. Digital Marketing:** Farmers can upload and sell products here. Buyers can purchase the products here.
- 7. Blogs:** We can write blogs here.

CHAPTER-7

7. APPLICATIONS

1. **Large-Scale Farms:** AFMS can be particularly beneficial for large-scale commercial farms with extensive landholdings and complex operations. These farms often require advanced management tools to optimize resource use, streamline operations, and maximize productivity.

2. **Smallholder Farms:** AFMS can also be adapted for use on smallholder farms, which are prevalent in many developing countries. By providing affordable and user-friendly solutions, AFMS can help smallholder farmers improve their livelihoods, increase yields, and enhance food security.

3. **Specialized Crop Production:** AFMS can be tailored to specific types of crop production, such as row crops (e.g., corn, soybeans), specialty crops (e.g., fruits, vegetables), or high-value crops (e.g., herbs, spices). Different crops may have unique requirements and challenges, and AFMS can be customized accordingly.

4. **Livestock Farming:** AFMS can also be applied to livestock farming operations, including dairy farms, poultry farms, and cattle ranches. In addition to managing crops, AFMS can help farmers track animal health, monitor feed consumption, and optimize breeding programs.

5. **Government and NGO Programs:** AFMS can support government agencies and non-governmental organizations (NGOs) in implementing agricultural development programs, promoting sustainable farming practices, and monitoring compliance with regulations and standards.

CHAPTER-8

8. CONCLUSION

The Agriculture Farm Management System (AFMS) project has been a comprehensive endeavor aimed at revolutionizing agricultural practices through technological innovation. By designing and implementing this system, our primary objectives were to enhance productivity, optimize resource utilization, and facilitate informed decision-making in agricultural operations. Through rigorous research, development, and field testing, we have achieved significant milestones and garnered valuable insights into the potential of AFMS to transform the agricultural landscape.

One of the key findings of our project is the substantial impact of AFMS on improving agricultural efficiency and sustainability. By harnessing data-driven insights, farmers can now make more informed decisions regarding crop management, resource allocation, and risk mitigation. This has resulted in increased yields, reduced input costs, and minimized environmental impact, thereby contributing to the long-term viability of agricultural production systems.

Despite the undeniable benefits of AFMS, our project also encountered certain challenges and limitations along the way. Technical complexities, data integration issues, and resistance to change among stakeholders were among the obstacles we faced during implementation. However, these challenges have provided valuable lessons for future endeavors, highlighting the importance of stakeholder engagement, capacity building, and adaptive management approaches in driving successful technology adoption in agriculture.

In conclusion, the Agriculture Farm Management System project represents a significant step forward in leveraging technology to address the challenges facing modern agriculture. With continued investment, collaboration, and commitment, AFMS has the potential to drive sustainable development, enhance food security, and empower farming communities worldwide.

CHAPTER-9

9. BIBLIOGRAPHY

It has been a matter of immense pleasure, honor and challenge to have this opportunity to take up this project and complete it successfully.

We have obtained information from various resources to design and implement our project. We have acquired most of the knowledge from the Internet.

The following are some of the resources:

- www.w3schools.com
- www.tutorialspoint.com
- Google and Youtube Tutorials.