



**Daffodil**  
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SoiltoFactory is for selling agricultural goods

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This Project report is submitted in partial fulfillment of the requirements for the Bachelor of Science degree in Software Engineering.

Spring 2024

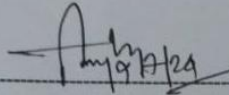
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# Approval

## APPROVAL

This thesis titled on "SoilToFactory is for selling agricultural goods ", submitted by **Md. Antor Ahammed (ID: 201-35-553)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

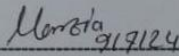
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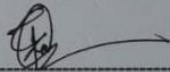
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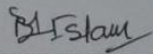
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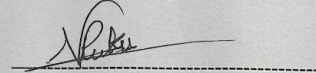
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## Declaration

### DECLARATION

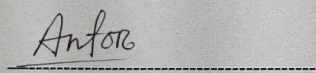
I hereby declare that this thesis report is done by me, **Md. Antor Ahammed** under the supervision of **Ms. Nadira Islam**, Senior Lecturer Department of Software Engineering, Daffodil International University, in fulfillment of my original work for the degree of B.Sc. in Software Engineering. I am also declaring that neither this work nor any part therefore has been submitted elsewhere for the award of B.Sc. degree.

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I also want to express my appreciation to all of my friends, relatives, and coworkers for their constant support in any circumstance.

## **ABSTRACT**

This project aims to bridge the gap between farmers and buyers by eliminating the need for intermediaries, allowing farmers to sell their crops at reasonable prices. The platform facilitates direct transactions between farmers and buyers, ensuring fair pricing and efficient logistics. By leveraging modern web technologies, the platform integrates several key features and functional requirements to create a comprehensive solution for agricultural commerce. The platform features a tracking service for order monitoring, a vehicle management system for logistics, dynamic pricing for fair farmer compensation, related product recommendations, and farming guidelines through videos and blogs. It uses React.js for the front end, Node.js with Express.js for the back end, and MongoDB for the database, ensuring a responsive, scalable, and secure application. Functional requirements include user management for different roles (admin, farmer, buyer), product management, order management, payment processing, delivery management, and content management for farming guidelines. Non-functional requirements focus on performance, scalability, security, reliability, accessibility, and usability, ensuring the system operates efficiently, scales with user demand, secures user data, remains highly available, is accessible across devices, and offers a user-friendly interface.

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

Introducing "Soil-To-Factory," a groundbreaking digital platform poised to revolutionize the agricultural supply chain. SoiltoFactory serves as a transformative intermediary between farmers and buyers, aimed at eradicating the challenges posed by traditional middlemen. By facilitating direct transactions, SoiltoFactory empowers farmers to receive fair prices for their crops while providing buyers with access to high-quality produce. This open-source platform is designed to be accessible to all, fostering collaboration and transparency within the agricultural ecosystem. With SoiltoFactory, users can seamlessly navigate through a wealth of agricultural products, leveraging innovative features such as tracking services, vehicle management, dynamic pricing, and invaluable farming guidelines. Join us on a journey to reshape the future of agriculture, where SoiltoFactory bridges the gap between soil and factory, ushering in a new era of sustainable and equitable commerce.

### **1.2 Motivation**

In pursuit of our primary objective, "SoiltoFactory" endeavors to revolutionize the agricultural landscape by streamlining the process of crop distribution and procurement. Our motivation arises from a deep-seated commitment to address the longstanding challenges faced by farmers, who often contend with unfair pricing and intermediaries that diminish their earnings. By creating a digital marketplace that connects farmers directly with buyers, SoiltoFactory aims to empower farmers to receive fair compensation for their hard work and dedication. Additionally, our platform seeks to enhance transparency and efficiency in the agricultural supply chain, ensuring that buyers have

access to high-quality produce while supporting sustainable farming practices. Through SoiltoFactory, we aspire to foster a thriving agricultural ecosystem where farmers can thrive, buyers can access premium products, and communities can benefit from a more equitable distribution of resources.

### **1.3 Objective**

- ❖ Establish an online platform where farmers and buyers can register and interact directly without intermediaries.
- ❖ Implement a robust system for farmers to upload details about their crops, including quantity, quality, and pricing.
- ❖ Develop a user-friendly interface for buyers to browse available crops, view pricing information, and initiate transactions securely.
- ❖ Enable administrators to oversee the platform's operations, including verifying farmer and buyer registrations and resolving disputes if any.
- ❖ Evaluate the effectiveness and usability of the SoiltoFactory platform through user feedback and performance metrics.

### **1.4 Expected Outcome**

- ❖ **User**
  - Search for farmers using names.
  - View a list of farmers available on the platform.
  - Access detailed profiles of farmers, including their farming practices and available crops.
  - Explore the list of crops available for purchase.
  - View details of individual crops, including pricing and quantity.
  - Access information about the organization behind SoiltoFactory.
  - Learn about the mission and vision of SoiltoFactory.
  - Access frequently asked questions (FAQs) for assistance.

#### ❖ **Farmer**

- Create a personal account on SoiltoFactory.
- Log in to the account securely.
- Reset the account password if needed.
- Access a personalized dashboard upon logging in.
- Update personal profile information, including contact details and farming practices.
- Change the username associated with the account.
- Add or delete information about current farming activities.
- Add or delete educational information relevant to farming.
- Manage public profile information visible to buyers.
- View a list of published crops, add new crop listings, or delete existing ones.
- Log out from the farmer profile securely.

#### ❖ **Administrator**

- Log in to the administrative account with authorized credentials.
- Reset the password for the administrative account as needed.
- Access a comprehensive dashboard upon logging in.
- Manage research categories, including adding, updating, or deleting categories as required.
- View a list of registered farmers and access their complete profiles.
- Manage administrative tasks such as user management and system configurations.
- Access personal account information, including profile details.
- Log out from the administrative account securely.

## **1.5 Goal**

Our primary aspiration with "SoiltoFactory" is to revolutionize the agricultural landscape, establishing a digital marketplace that redefines the way farmers sell their produce and buyers procure agricultural goods. At the core of our mission is the elimination of traditional intermediaries, allowing for direct transactions that prioritize fair pricing and equitable exchange. We envision a platform where farmers are empowered to showcase their crops and farming methods, enabling them to expand their market reach and achieve sustainable profitability. Concurrently, buyers will gain access to a diverse selection of high-quality agricultural products, supported by transparent pricing and detailed product information. By fostering transparency, efficiency, and collaboration within the agricultural ecosystem, we aim to create a more resilient and prosperous future for all stakeholders involved.

Furthermore, our goal extends beyond mere transactional efficiency; we aspire to cultivate a community-centered approach to agriculture through SoiltoFactory. By providing farmers with valuable resources, guidance, and support, we aim to enhance their productivity, sustainability, and resilience in the face of evolving challenges. Likewise, we seek to foster a sense of trust and camaraderie among buyers, farmers, and other participants in the agricultural value chain. Through continuous innovation and collaboration, we are committed to realizing our vision of a more transparent, inclusive, and sustainable agricultural sector that benefits farmers, buyers, and communities alike.

## **1.6 Project Scope**

"SoiltoFactory" will be designed to offer seamless performance across being used. The project will cater to three distinct user roles: Farmers, Buyers, and Administrators.

Farmers will have the ability to create accounts and showcase their crops along with relevant details such as quantity, quality, and pricing. They can update their profile information, add or delete crop listings, and manage their transactions securely.

Buyers will be able to register accounts and browse through the available crops listed by farmers. They can view detailed information about each crop, including pricing and quantity. Buyers will have the option to initiate transactions securely through the platform.

Administrators will have comprehensive control over the platform, including the ability to manage user registrations, verify farmer and buyer profiles, and resolve disputes if any. They can create special categories for crops, approve or reject crop listings, and manage administrative tasks efficiently.

## **1.7 Stakeholders**

- Farmers
- Buyers
- Administrators

## **1.8 Project Schedule**

The development of SoiltoFactory necessitates a meticulously planned schedule to ensure timely completion within the allocated timeframe. The schedule serves as a roadmap for task prioritization and resource allocation, thereby facilitating effective project management and timely delivery. requirements gathering, design, will be meticulously planned and executed according to predetermined timelines and milestones. Regular progress monitoring and adjustment of schedules will be conducted to mitigate risks and address any unforeseen challenges, thereby ensuring the successful and timely completion of the SoiltoFactory.

### 1.8.1 Gantt Chart

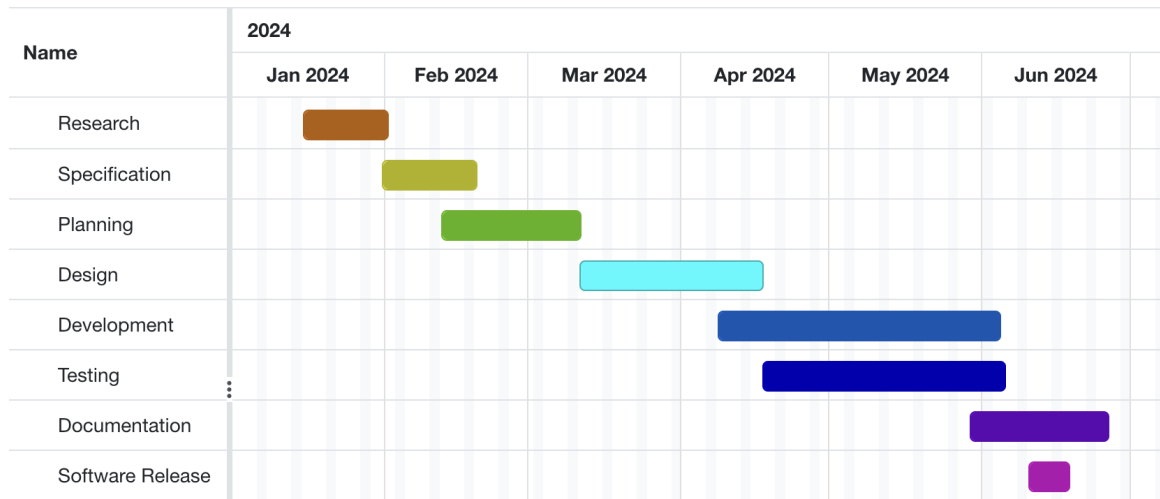


Figure 1.8.1: Gantt

| Activitiess        | time              | Total Week |
|--------------------|-------------------|------------|
| Re-search          | Sprint 1, 2       | 2          |
| Specifications     | Sprint 2, 3, 4    | 3          |
| Planning           | Sprint 3, 4       | 2          |
| Design             | Sprint 4, 5       | 2          |
| Development        | Sprint 4, 5, 6, 7 | 4          |
| Testing Assessment | Sprint 7, 8       | 2          |
| Documentation      | Sprint 10, 11, 12 | 3          |
| Software Release   | Sprint 12         | 1          |

## CHAPTER 2

### 2.1 Functional

- Provide comprehensive login and signup functionality for both buyers and farmers, ensuring secure access to the platform.
- Allow farmers to list, manage, and sell their crops through an intuitive interface designed for ease of use.
- Facilitate the purchasing process for buyers, including businessmen and food companies, enabling them to buy crops efficiently.
- Offer a reliable delivery service that ensures timely transportation of crops from farmers to buyers.
- Implement an order tracking service that allows both buyers and farmers to monitor the status and location of their orders in real-time.
- Display a detailed dashboard equipped with charts and tables for comprehensive business analysis, helping users make informed decisions.
- Manage the fleet of vehicles used for delivery, ensuring optimal allocation and maintenance for efficient transportation.
- Integrate a secure and robust payment system using SSLCommerz to handle transactions smoothly and safely.
- Ensure secure user authentication and authorization processes to protect user accounts and personal data.
- Allow farmers to update their crop listings and availability in real-time, ensuring accurate information for buyers.
- Enable buyers to review and rate farmers based on their transaction experiences, promoting transparency and trust within the platform.
- Notify users of order status updates through multiple channels, including email and SMS, to keep them informed at all times.
- Maintain a comprehensive transaction history for both buyers and farmers, allowing them to review past activities and financial records.

- Implement a feedback system that enables users to report issues or suggest improvements, ensuring continuous platform enhancement.
- Ensure the platform's interface is mobile-responsive, providing a seamless experience on various devices, including smartphones and tablets.

## 2.2 Non-functional Requirements

- **Performance:** The system should handle up to 10,000 concurrent users with a response time of less than 2 seconds for 95% of requests.
- **Scalability:** The platform should be scalable to accommodate increasing numbers of users and transactions without degradation in performance.
- **Reliability:** Ensure an uptime of 99.9%, with robust mechanisms for fault tolerance and quick recovery from system failures.
- **Security:** Implement strong encryption for data transmission and storage, multi-factor authentication, and regular security audits to protect user data.
- **Usability:** The system should have an intuitive and user-friendly interface, accessible to users with varying levels of technical proficiency.
- **Compatibility:** Ensure compatibility across various web browsers and operating systems, including Windows, macOS, Linux, iOS, and Android.
- **Maintainability:** The codebase should be well-documented and modular to facilitate easy updates, bug fixes, and integration of new features.
- **Data Integrity:** Ensure the accuracy and consistency of data across all transactions and processes, with regular data validation and backup procedures.
- **Availability:** The platform should be accessible 24/7, with scheduled maintenance periods minimized and communicated in advance to users.
- **Response Time:** The system should provide feedback to user actions within 1 second for most operations, ensuring a smooth and responsive experience.

## **CHAPTER 3**

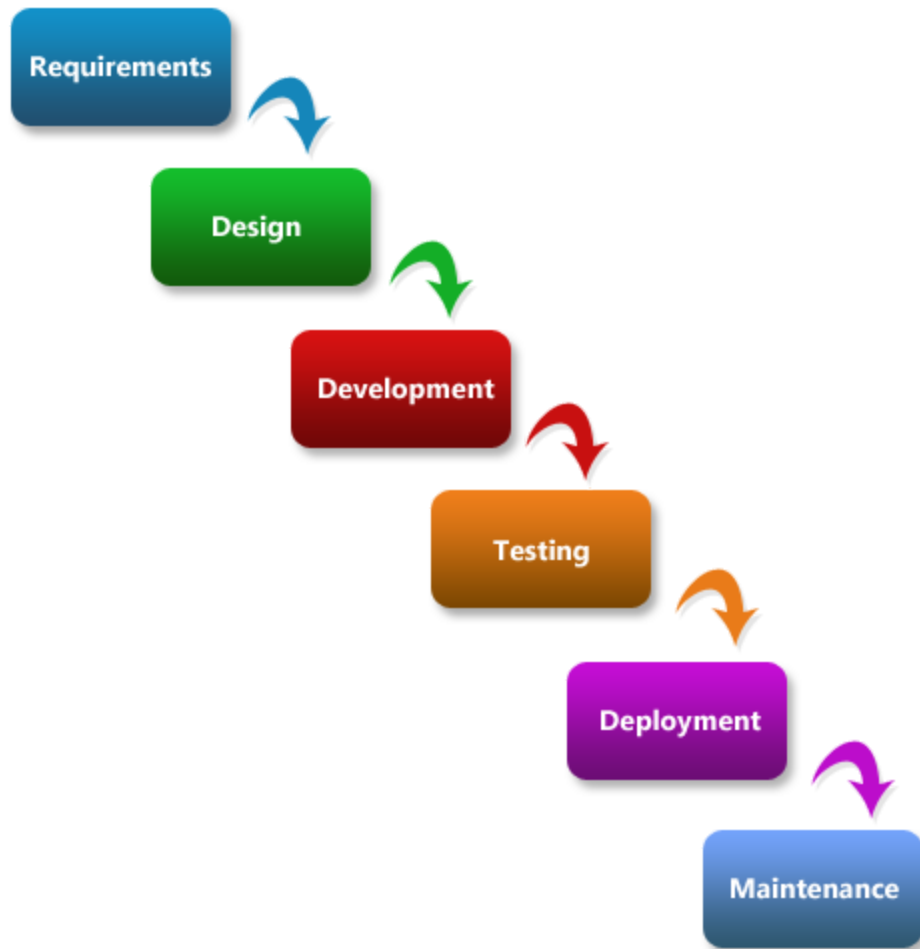
### **3.1 Model**

"SoiltoFactory" project adopts an agile development methodology, aimed at fostering flexibility, collaboration, and rapid iteration throughout the software development lifecycle. Unlike traditional waterfall models, agile methodologies prioritize incremental progress and adaptability to changing requirements.

In particular, the agile approach emphasizes iterative enhancement, where software development occurs in cycles or sprints. Each cycle results in the delivery of a functional increment of the product, allowing for continuous feedback and refinement. This iterative process enables the project team to respond promptly to stakeholder feedback, incorporate new insights, and address evolving needs effectively.

Moreover, the agile development model promotes close collaboration between developers, stakeholders, and end-users, fostering a shared understanding of project goals and requirements. By embracing agility, the SoiltoFactory project aims to deliver high-quality software that meets the evolving needs of its users while maximizing efficiency and innovation throughout the development process.

## Waterfall Methodology



**Figure 3.1: Waterfall Model**

The "SoiltoFactory" project adopts an agile development methodology, aimed at fostering flexibility, collaboration, and rapid iteration throughout the software development lifecycle. Unlike traditional waterfall models, agile methodologies prioritize incremental progress and adaptability to changing requirements.

### 3.2 Use Case Diagram

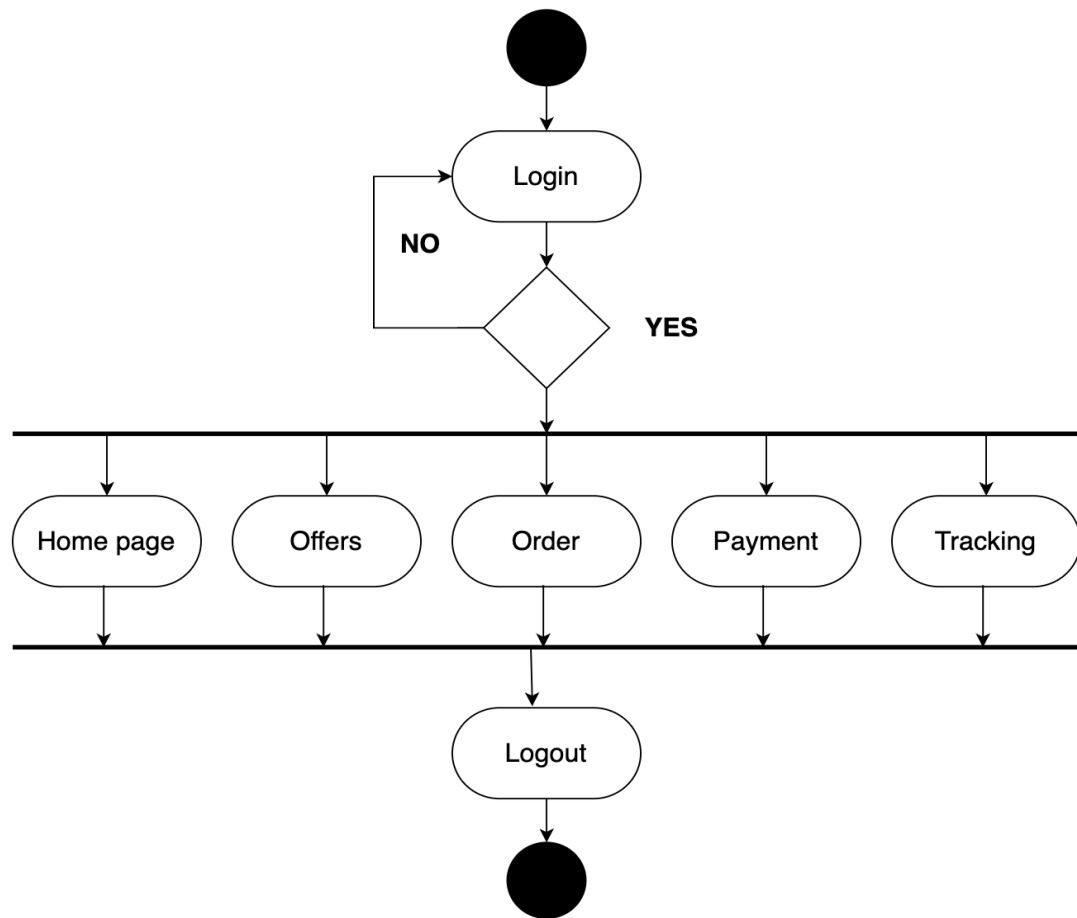
|                     |                                                                                          |
|---------------------|------------------------------------------------------------------------------------------|
| <b>Browse Offer</b> |                                                                                          |
| Description         | Public users and buyers can browse through the list of crops available on SoiltoFactory. |
| Actor               | Public users, Buyers                                                                     |
| Preconditions       | User is logged in.                                                                       |
| Basic Flow          | 1. User navigates to the "Browse Crops" section.                                         |
|                     | 2. System retrieves and displays a list of available crops.                              |
| Alternative Flow    | None                                                                                     |
| Postconditions      | User views the list of crops available for purchase.                                     |

|                           |                                                                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>View Offer Details</b> |                                                                                                                                                                                              |
| Description               | Users can view detailed information about a specific offer, including pricing, quantity, and quality.                                                                                        |
| Actor                     | Public users, Buyers                                                                                                                                                                         |
| Preconditions             | User is logged in and browsing the list of offers.                                                                                                                                           |
| Basic Flow                | 1. User navigates to the "Browse Offers" section.                                                                                                                                            |
|                           | 2. System retrieves and displays a list of available offers.                                                                                                                                 |
|                           | 3. User selects a specific offer from the list by clicking on it.                                                                                                                            |
|                           | 4. System retrieves and displays detailed information about the selected offer, including its name, pricing, quantity available, quality, and any additional details provided by the farmer. |
| Alternative Flow          | None                                                                                                                                                                                         |
| Postconditions            | User views detailed information about the selected offer.                                                                                                                                    |

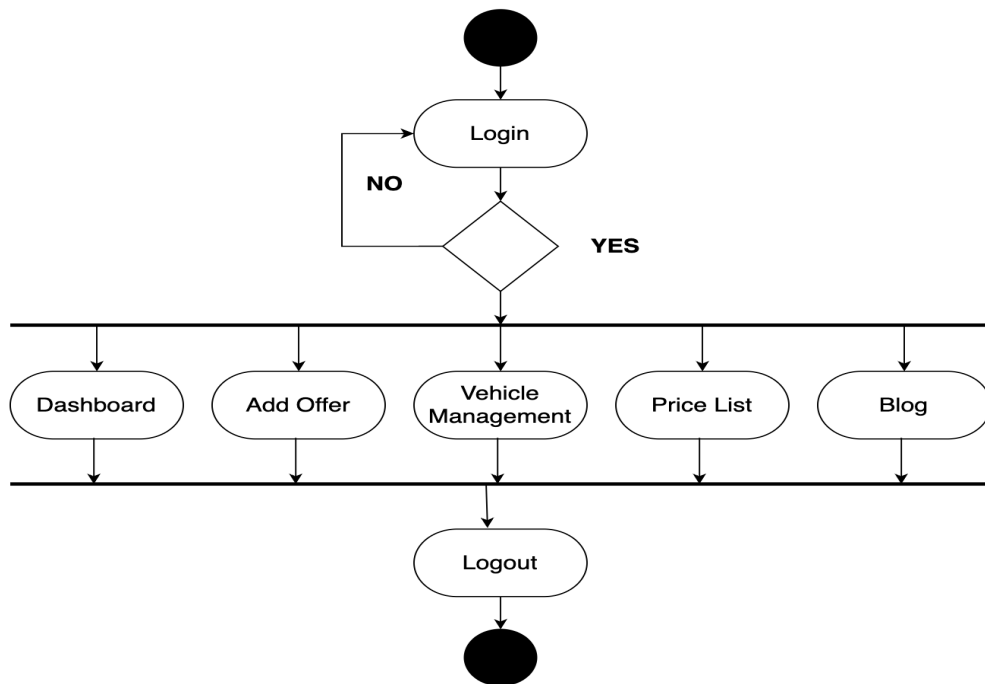
|                          |                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------|
| <b>Add Offer Listing</b> |                                                                                             |
| Description              | Farmers can add a new listing for an offer they want to sell.                               |
| Actor                    | Farmers                                                                                     |
| Preconditions            | User is logged in as a farmer.                                                              |
| Basic Flow               | 1. Farmer navigates to the "Add Offer Listing" section.                                     |
|                          | 2. Farmer provides details about the offer, including name, quantity, quality, and pricing. |
|                          | 3. System validates the provided information.                                               |
|                          | 4. System saves the new offer listing.                                                      |
| Alternative Flow         | If the provided information is incomplete or invalid:                                       |
|                          | 1. The system prompts the farmer to correct the errors.                                     |
| Postconditions           | New offer listing is added to the platform and is visible to buyers.                        |

|                             |                                                                                |
|-----------------------------|--------------------------------------------------------------------------------|
| <b>Initiate Transaction</b> |                                                                                |
| Description                 | Buyers can initiate a transaction to purchase an offer.                        |
| Actor                       | Buyers                                                                         |
| Preconditions               | User is logged in as a buyer and viewing the details of a specific offer.      |
| Basic Flow                  | 1. Buyer selects the option to purchase the offer.                             |
|                             | 2. System prompts the buyer to confirm the purchase.                           |
|                             | 3. Buyer confirms the purchase.                                                |
|                             | 4. System processes the transaction.                                           |
| Alternative Flow            | If the buyer cancels the purchase:                                             |
|                             | 1. The transaction is aborted.                                                 |
| Postconditions              | Transaction is initiated, and the buyer receives confirmation of the purchase. |

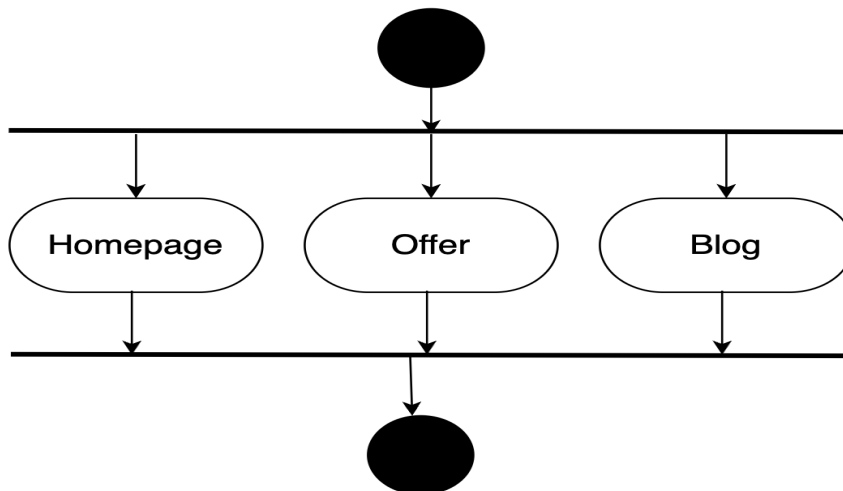
### 3.3 AD



#### 3.3.1: AD Buyer

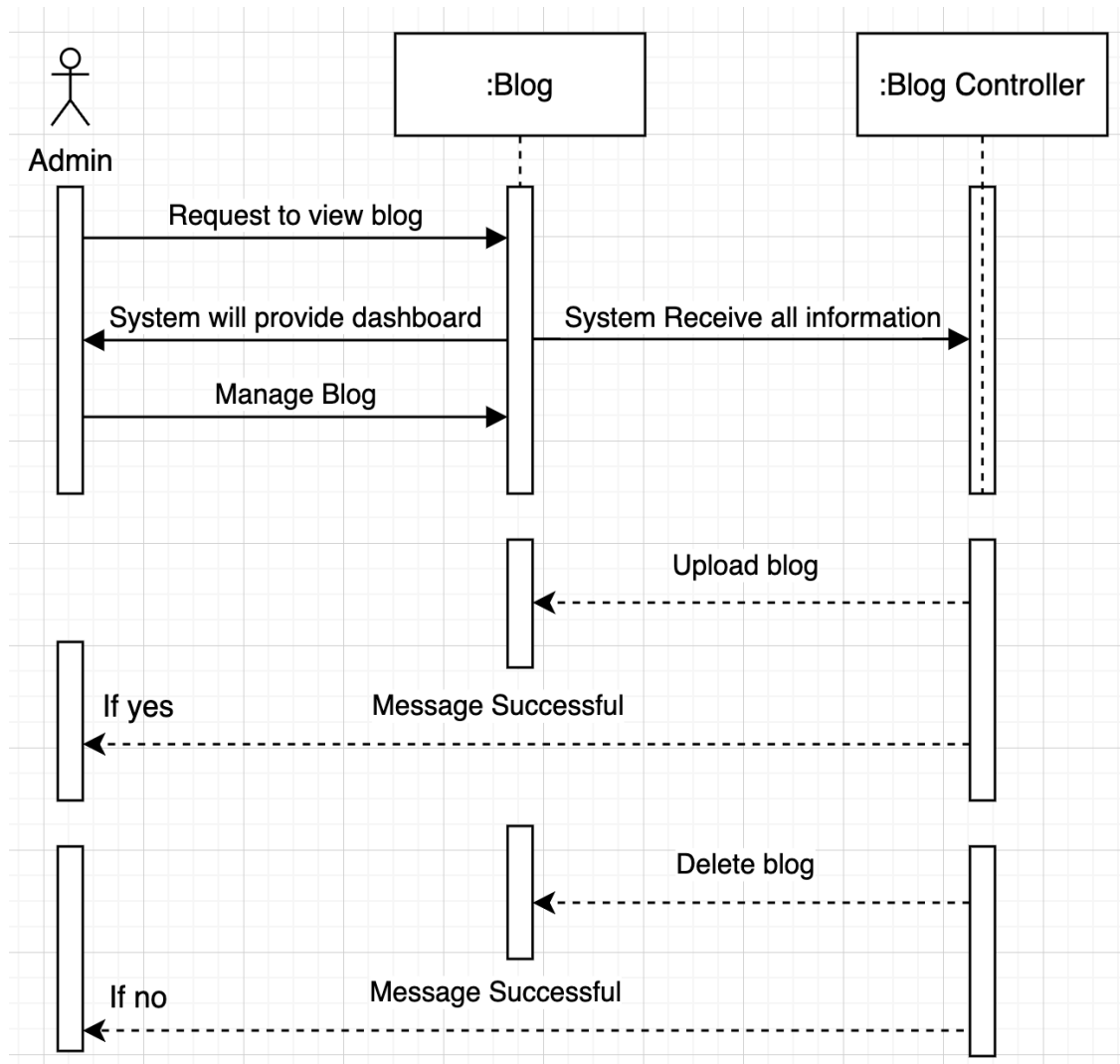


**Figure 3.3.2: AD for Farmer**

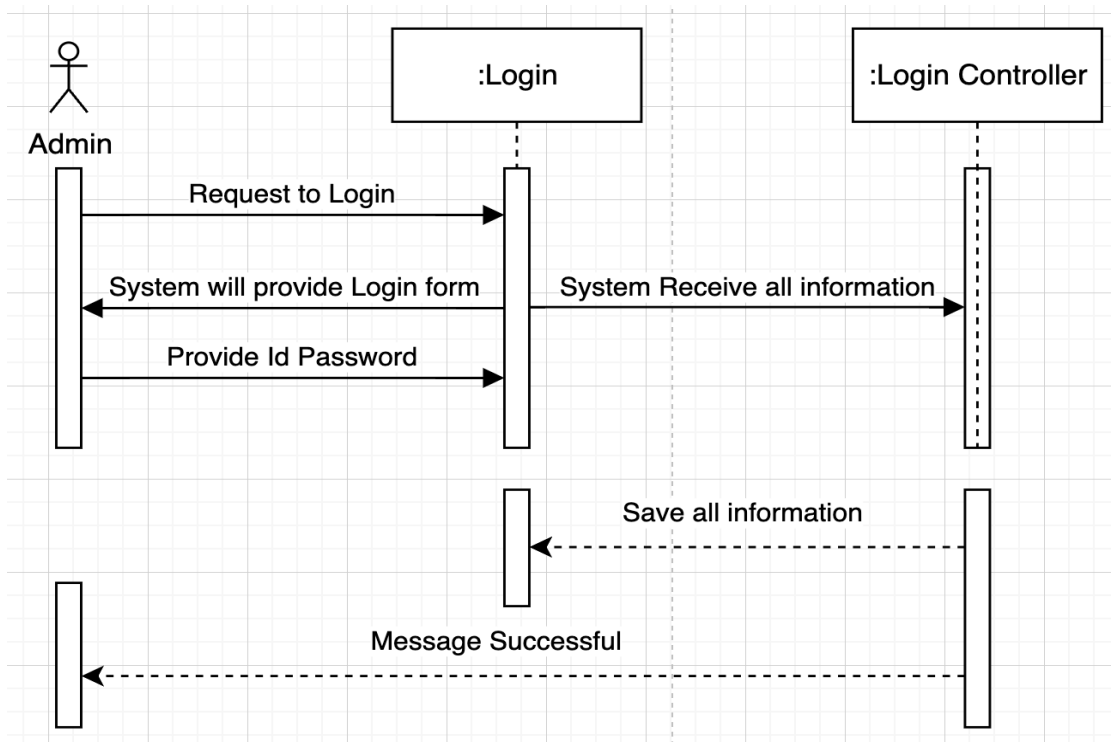


**3.3.3: AD Anonymous User**

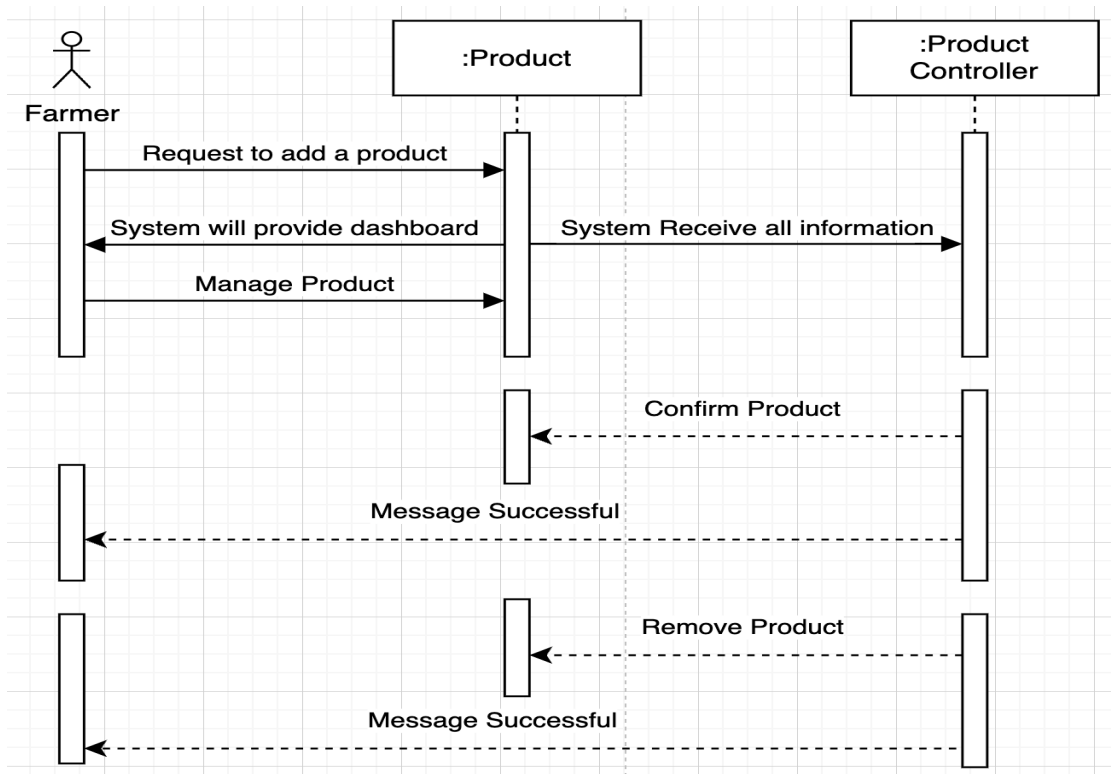
### 3.4 Sequence Diagram



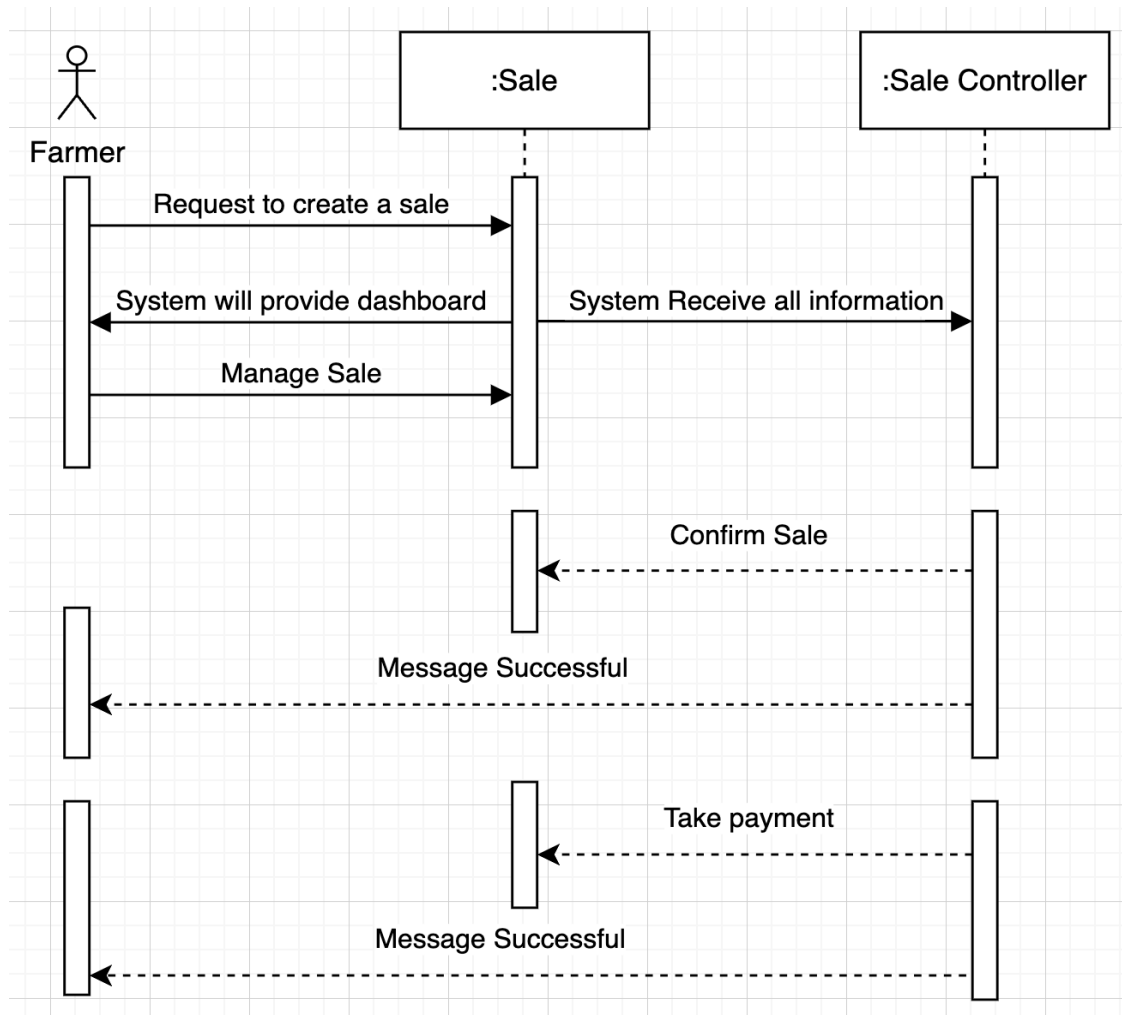
3.4.1: SD Blog Controller



### 3.4.2: SD Login Controller

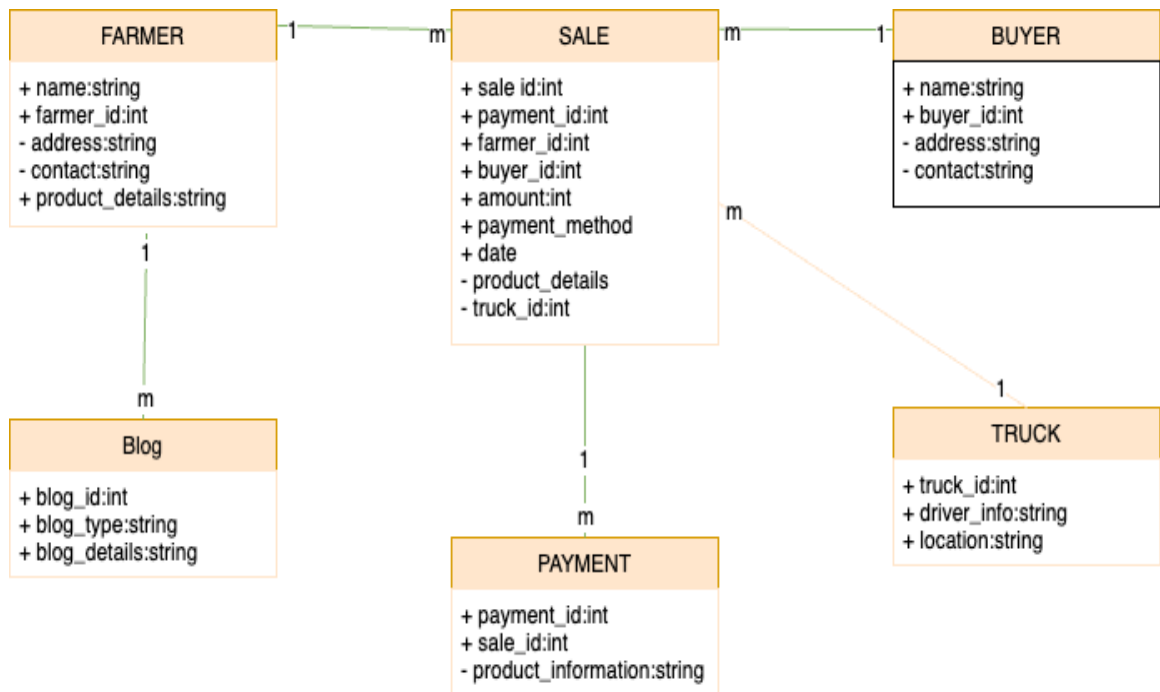


### 3.4.3: SD Product Controller



#### 3.4.4: SD Sale Controller

### 3.5 Entity Relationship Diagram



#### 3.5.1: ERD

## CHAPTER 4

### SYSTEM TESTING

#### 4.1.1 Feature

| Features           | Description                                                                                                                                                      | Priority |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Log in             | This feature encompasses the implementation of a secure and efficient user authentication mechanism, ensuring only authorized users can access the platform.     | High     |
| Log out            | Proper logout functionality is vital for terminating user sessions securely, preventing unauthorized access to user accounts and maintaining platform security.  | High     |
| Registration       | Seamless user registration facilitates the onboarding of new users, granting them access to platform features and services upon successful registration.         | High     |
| Browse Offers      | Enabling users to explore available offers empowers them to make informed decisions regarding their purchases, enhancing user experience and satisfaction.       | High     |
| View Offer Details | Users require detailed information about offers to evaluate their suitability, make informed purchasing decisions, and ensure product quality and quantity.      | High     |
| Add Offer Listing  | This feature allows farmers to list their offers for sale on the platform, ensuring a continuous supply of products and facilitating transactions between users. | High     |

|                      |                                                                                                                                                                    |        |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Initiate Transaction | Facilitating secure and efficient purchase transactions is fundamental to the platform's core functionality, enabling users to acquire desired offers hassle-free. | High   |
| Responsive Design    | Ensuring platform responsiveness across devices enhances user experience and accessibility, contributing to overall satisfaction and usability.                    | Medium |
| Error Handling       | Effective error handling mechanisms guide users through issues, preventing data loss and system errors, thereby enhancing overall user experience.                 | High   |
| Performance          | Platform performance directly impacts user satisfaction and engagement, making it critical for overall success and user retention.                                 | High   |
| Security             | Robust security measures protect user data and foster trust in the platform, playing a pivotal role in user adoption and long-term platform viability.             | High   |
| Compatibility        | While important for user accessibility, ensuring compatibility across browsers and devices may have less immediate impact on functionality.                        | Medium |
| Accessibility        | Ensuring accessibility for users with disabilities is crucial for inclusivity, although its immediate impact on functionality may be less pronounced.              | Medium |
| Reliability          | Platform reliability is paramount for maintaining user trust and satisfaction, making it a top priority for testing and optimization efforts.                      | High   |
| Data Integrity       | Maintaining data integrity is critical for ensuring accurate and reliable platform functionality, warranting rigorous testing and validation procedures.           | High   |

|                     |                                                                                                                                                                       |        |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Scalability         | Ensuring platform scalability is vital for accommodating growth and ensuring long-term success and sustainability of the platform.                                    | High   |
| Documentation       | While important for user guidance and support, documentation may have less immediate impact on platform functionality but is nonetheless crucial for user assistance. | Medium |
| Edit Post           | Allowing users to edit post content enhances user control and flexibility, ensuring they can update and modify their content as needed.                               | High   |
| Delete              | The ability to delete content enables users to remove unwanted material, maintaining platform cleanliness and user satisfaction.                                      | High   |
| Product Management  | This feature facilitates the addition, editing, and removal of crop listings, ensuring an up-to-date inventory and smooth operation of the platform.                  | High   |
| Order Management    | Managing the entire order process ensures smooth transactions and user satisfaction, comprising functions from creation to completion of orders.                      | High   |
| Payment Processing  | Secure payment processing mechanisms are crucial for facilitating purchases and instilling user trust in the platform's financial transactions.                       | High   |
| Delivery Management | Coordinating truck services for crop transportation ensures timely and efficient delivery to buyers, contributing to overall user satisfaction.                       | High   |

## 4.2 Test Strategies

### 4.2.1 Test approach

**Black Box Testing (Functional Testing):** Black box testing focuses solely on the outputs generated in response to specific inputs and execution conditions, without delving into the internal workings of the system or component. Functional testing ensures that the system meets its specified requirements and functions as expected from the end user's perspective. This testing approach verifies the functionality of features such as user authentication, registration, browsing offers, initiating transactions, and managing user accounts.

**White Box Testing (Structural Testing):** White box testing, also known as structural testing or glass box testing, considers the internal workings of the system or component. This testing methodology involves examining the internal structure, code paths, and logic of the software to identify errors, inefficiencies, and vulnerabilities. Structural testing ensures code coverage, evaluates program flows, and validates the implementation of algorithms and business logic. It focuses on aspects such as security vulnerabilities, error-handling mechanisms, data integrity, and performance optimization.

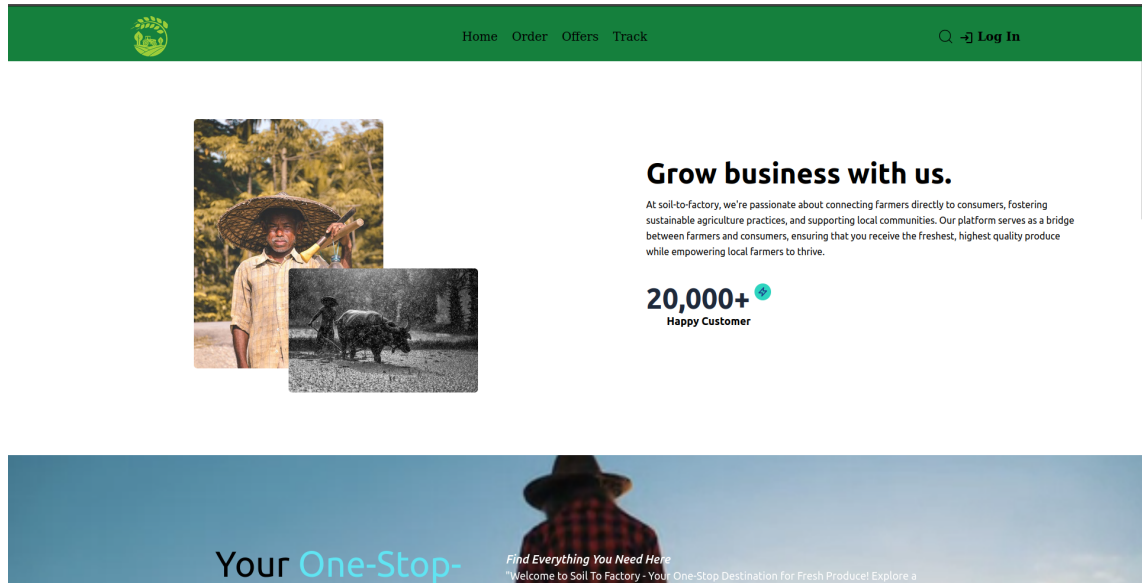
#### 4.2.2 Test Schedule

| Test Phase     | Time    |
|----------------|---------|
| Development TP | 1       |
| UT             | Ongoing |
| CT             | Ongoing |
| TUI            | 1 Week  |
| PT             | 1 Week  |
| AT             | 1 Week  |

## CHAPTER 5

### USER MANUAL

#### 1. Hero Section



#### 2. Signup

### Sign up

Role: ☐ Farmer ☐ Buyer

By signing up, you agree to the [Terms of Service](#) and [Privacy Policy](#)

Create Account

Already have an account ? [LOG IN](#)

### 3. Offers

#### Offer Product



**Potato**  
Total : 60 Kg  
Price : 45 Tk/unit  
[Details](#)



**Bitter gourd**  
Total : 52 Kg  
Price : 50 Tk/unit  
[Details](#)



**cabbage**  
Total : 60 Kg  
Price : 45 Tk/unit  
[Details](#)



**Crop**  
Total : 25 KG  
Price : 100 Tk/unit  
[Details](#)

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### 4. Offer Details



Home Order Offers Track

Log Out



**Potato**

Total weight: **60 Kg**

**₹-** **45** tk/unit

Total Price : **2700**

**Cash On Delivery : Available**

**Product Owner**  
Izaz Ahmed Tuhin  
01918267179

Please enter your shipping address

Order

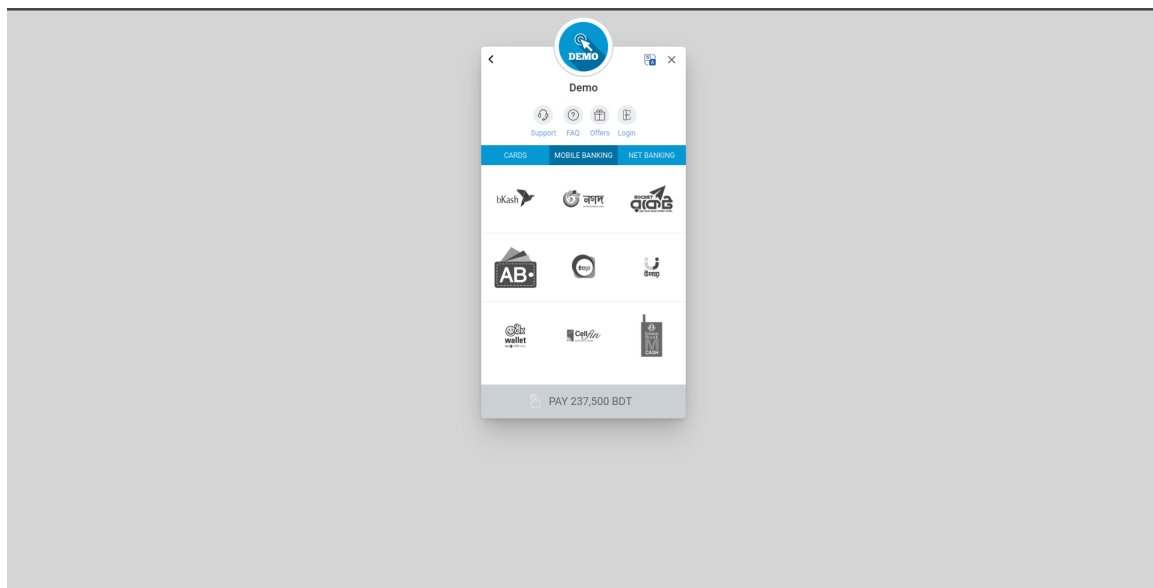
#### Related Offers



## 5. Order List

|  <a href="#">Home</a> <a href="#">Order</a> <a href="#">Offers</a> <a href="#">Track</a> <span>🔍 <a href="#">Log Out</a></span> |              |        |             |                       |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------|-------------|-----------------------|---------|
|                                                                                                                                                                                                                  | Name         | Weight | Total Price | Address               | Payment |
|                                                                                                                                 | Corn         | 100    | 1212        | Dhaka                 | Paid    |
|                                                                                                                                 | Corn         | 100    | 1212        | Dhaka                 | Paid    |
|                                                                                                                                 | Corn         | 250    | 237500      | Ashulia, Savar, Dhaka | Paid    |
|                                                                                                                                 | Tomato       | 78     | 6240        | Ashulia, Savar, Dhaka | Paid    |
|                                                                                                                                 | Tomato       | 78     | 6240        | Ashulia, Savar, Dhaka | Pay     |
|                                                                                                                                 | Radish       | 60     | 2400        | ashulia               | Paid    |
|                                                                                                                                 | Corn         | 250    | 237500      | Dhaka                 | Pay     |
|                                                                                                                                 | Bitter gourd | 52     | 2600        | Dhaka                 | Pay     |

## 6. Payment



## 7. Tracking

[Home](#) [Order](#) [Offers](#) [Track](#) [Dashboard](#)[Log Out](#)



### Effortless Tracking Your Shipment

Track your parcel hassle-free with our intuitive system. Stay updated on its whereabouts and enjoy peace of mind. Enter your unique tracking number for instant access to real-time status. Know the current location and expected delivery time. Our reliable logistics network ensures safe handling and timely delivery. Monitor your packages progress effortlessly. Experience convenience and stay informed throughout the entire journey. Trust us for efficient and stress-free shipping. Start tracking your parcel today and enjoy a worry-free shipping experience.

Order ID:

Delivered by:

Pending 

On The Way 

Delivered 

Return 

Order ID:

Delivered by:

Pending 

On The Way 

Delivered 

Return 

### Order Details

Name:

Location: anywhere

Payment:

Delivery Time: anytime

Delivery Location:

Delivery Man: anybody



Have questions or feedback? Reach out to our friendly team at [soil@gmail.com](mailto:soil@gmail.com). Stay Connected: Follow us on [soil-to-factory](#) team for the latest updates, promotions, and farmer stories.

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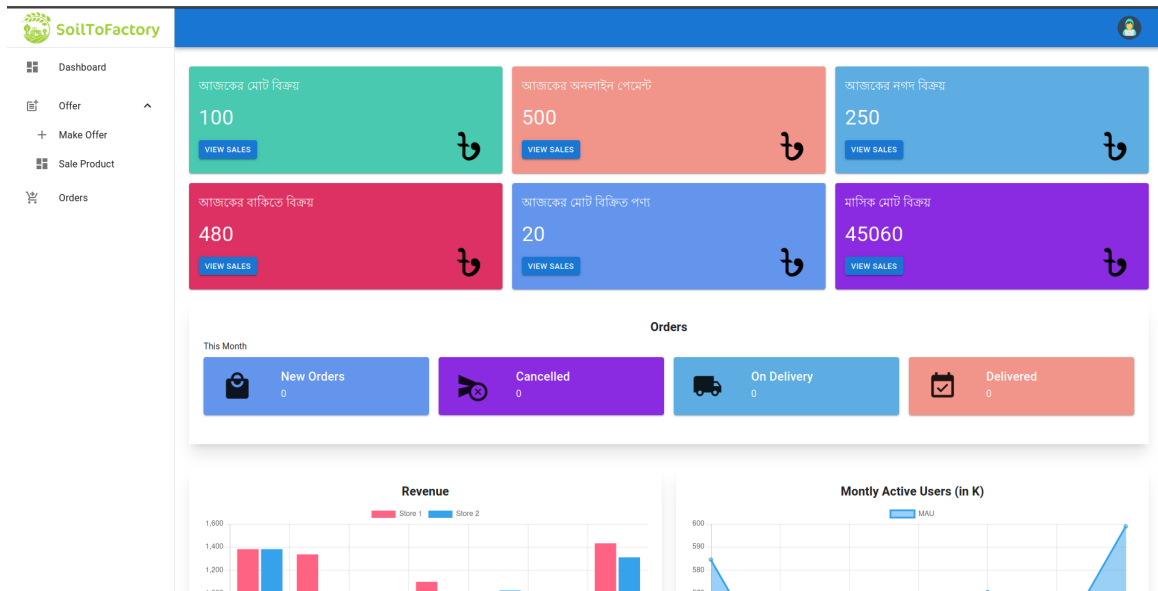
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## 8. Dashboard



## 9. Order Status

The "Order Status" page in the SoilToFactory dashboard displays a table of pending orders. The table includes columns for No, Name, Weight, Price, Vehicle, and Status. Each row represents a pending order with a corresponding "ASSIGN VEHICLE" button.

| No | Name   | Weight | Price | Vehicle | Status         |
|----|--------|--------|-------|---------|----------------|
| 1  | Tomato | 78     | 80    | Vehicle | ASSIGN VEHICLE |
| 2  | Corn   | 250    | 950   | Vehicle | ASSIGN VEHICLE |
| 3  | Tomato | 78     | 80    | Vehicle | ASSIGN VEHICLE |
| 4  | Radish | 60     | 40    | Vehicle | ASSIGN VEHICLE |

## 10. Offer List and New order

 SoilToFactory

Dashboard

Offer

+ Make Offer

Sale Product

Orders

Make Offer

Make An Offer

Offer List

| No | Name         | Unit | Weight | Price |
|----|--------------|------|--------|-------|
| 1  | Corn         | KG   | 100    | 800   |
| 2  | Corn         | KG   | 250    | 950   |
| 3  | Potato       | Kg   | 60     | 45    |
| 4  | Tomato       | Kg   | 78     | 80    |
| 5  | Radish       | Kg   | 60     | 40    |
| 6  | Bitter gourd | Kg   | 52     | 50    |
| 7  | cabbage      | Kg   | 60     | 45    |
| 8  | Crop         | KG   | 25     | 100   |

## **CHAPTER 6**

### **CONCLUSION**

"SoiltoFactory" is an innovative platform aimed at revolutionizing the agricultural industry by bridging the gap between farmers and buyers. In a landscape where farmers often struggle to obtain fair prices for their crops due to intermediaries, SoiltoFactory offers a direct avenue for transactions, empowering farmers to sell their produce at reasonable rates. Key features of the platform include comprehensive tracking services, efficient vehicle management, dynamic pricing mechanisms, personalized product recommendations, and invaluable farming guidelines and tips through multimedia content.

Built using cutting-edge, SoiltoFactory ensures a responsive, scalable, and secure user experience. Functional requirements encompass user management, product listing and management, order processing, secure payment processing, and streamlined delivery management. Non-functional aspects focus on performance optimization, scalability, security fortification, reliability assurance, accessibility enhancement, and usability refinement.

Stakeholders including farmers, buyers, and administrators stand to benefit from SoiltoFactory's innovative approach to agricultural commerce. By facilitating direct transactions and providing valuable resources for farmers, the platform aims to reshape the agricultural ecosystem, empowering farmers while offering buyers transparency and efficiency in their purchasing process. With a clear roadmap for continuous improvement and expansion, SoiltoFactory is poised to make a significant impact on the agricultural landscape, fostering fairer transactions and sustainable growth for all stakeholders involved.

## 6.1 Tools and Platform

### Details of the hard-ware:

|         |           |
|---------|-----------|
| C P U   | 1.6 G H z |
| R A M   | 8 GB      |
| D i s k | 8 GB      |

### Details of the software:

|                                       |                                       |
|---------------------------------------|---------------------------------------|
| O S                                   | Linux (preferable)                    |
| Frontend                              | HTML, TailwindCSS, JS                 |
| Frontend Javascript library/framework | Next js React js                      |
| Backend                               | REST API Node js                      |
| Backend Javascript library/framework  | Express.js                            |
| Compiler                              | V S code                              |
| Database                              | MongoDB                               |
| Browser                               | Chrome                                |
| Server                                | Node server                           |
| Draw                                  | <a href="https://draw.io">Draw.io</a> |

### **6.3 Limitations**

For the SoiltoFactory project, there are certain limitations to consider:

- **Limited Geographic Scope:** The platform's reach may initially be constrained to specific regions or countries, potentially limiting access for farmers and buyers outside of these areas.
- **Language Support:** SoiltoFactory may be initially available only in specific languages, which could pose a barrier to adoption for users who prefer other languages.
- **Technical Requirements:** Users must have access to internet-enabled devices to use SoiltoFactory, which may pose challenges for individuals in areas with limited internet connectivity or technological infrastructure.

### **6.4 Future Scope**

In the future, SoiltoFactory holds great potential for further enhancement and expansion to better serve its users and stakeholders. Some areas of future development include:

- **Automatic Recommendations:** Implementing algorithms to analyze user data and behavior to provide personalized crop recommendations, enhancing the user experience and facilitating informed decision-making.
- **Text-to-Speech Feature:** Introducing a text-to-speech feature to accommodate users with visual impairments or those who prefer auditory information consumption, thereby increasing accessibility and inclusivity.
- **Integration of Emerging Technologies:** Continuously updating the platform to incorporate emerging technologies that improve security, efficiency, and user experience. This could include advancements in blockchain technology for secure transactions or machine learning algorithms for predictive analytics.
- **Enhanced Data Analytics:** Expanding data analytics capabilities to provide farmers and buyers with valuable insights into market trends, crop demand, and pricing dynamics, empowering them to make strategic decisions and optimize their operations.

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