



# INSTITUTE FOR ADVANCED COMPUTING AND SOFTWARE DEVELOPMENT, AKURDI, PUNE

## "AGRI-MART"

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Submitted By:

Group No: 100


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Centre Coordinator

# ABSTRACT

The Business to Consumer Model has come a long way ever since it time of inception. While it has expanded into multiple types of goods, there is still a section of market that remains untapped: Fresh goods. As the current generation of consumers is becoming more and more health conscious, and with current trends of organic food, Fresh foods can become the next big thing in e-commerce. This project deals with developing an e-commerce website for online fresh foods product sale. It provides list of farmers that offer fresh fruits and vegetables, and products page
for each farmer's offerings. It also provides a cart for ease of remembering the choices selected by user. The user can also view their order history to go back to the farmer from whom they purchased the last batch of products.
Two main technologies were used in this project: Java and React. Java was used for backend. React is used for client side rendering of the page, which offloads the load of rendering views to the client, and provides a fluid single page experience. MySQL has been used as database to store list of users, farmers and their products.
This project has been designed and implemented in multilevel architecture so as to have minimum coupling and maximum cohesion.

# ACKNOWLEDGEMENT

The project "AGRI-MART" was a great learning experience for us and we are submitting this work to INSTITUTE FOR ADVANCED COMPUTING AND SOFTWARE DEVELOPMENT (IACSD) .

We are very glad to mention the name of Mr. Prithviraj for his valuable guidance to work on this project.

Our heartfelt thanks go to Mr. Rohit Puranik (Center Coordinator, ), who provided us with all the required support and coordination to complete the project and throughout the course, up to the last day.

We would like to express our sincere gratitude towards our faculty for J2SE and J2EE, who was always there for us. There guidance and support throughout the course helped us to overcome various obstacles and intricacies during the course of our project work. Without there tremendous support, guidance, and efforts, this project would not have been possible.

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# 1. INTRODUCTION

Fresh produce industries across the world are facing a roller-coaster ride of new developments and trends. Although there might be a few tight turns and steep slopes, the latest trends paint an inspirational picture of what lies ahead in the next five to 10 years.

In the fresh produce sector, technology and retail innovations abound. From futuristic hi-tech grocery stores, the rise of e-commerce opportunities, culinary innovation centers and revolutionary robotics technology to vertical farming and plant-based food innovations like cauliflower pizza and vegetable steaks.

Online Shopping of Fresh Food opens up a new world of options. Users won't have to go from store to store to hunt for fresh food. They won't have to worry about wondering whether their food is organic or inorganic. They will be able to refill their fridges in just one click, all while sitting at home.

Our system offers one stop solution to all fresh food needs. Users can log into their accounts and then they will be taken to produces offered by the farmer.

Customer can pick what foods they want to order and add to the cart. Once they are done selecting what they require, after reviewing cart summary they can simply click on check out button to pay bill and they will get an order details pdf on their registered email for the same. Their cart will be delivered to their houses.

This can be done from any place, at any time all from the internet, thus making it easy to get your daily need of fresh foods.

## 1. Admin Role

a. Login & Logout – Similar to customers, admins can login & logout to access their account.

b. Add / Update Farmers –Only admin is responsible for adding and updating the details of farmer.

c. Delete Farmer –The admins can delete a farmer account if they need to for any purpose.

d. Add New Category – Admins can add category.

e. Delete Category – Admins can remove category.

f. Add New Products – Admin can add new product with details as stock, price, name, quantity, image, category, etc.

g. Manage Products– Admin can update the product details.

h. View Users – Admin can view all registered users.

i. Delete User – Admin can delete a user if need arises.

j. View order details – Admin can view order details for all users.

## 2. Customer Role

k. Browse – Customers can browse the homepage to explore the entire products available.

l. Register, Login & Logout – New customers can register on the site. Existing customers can then login to access their account information and logout when the account is not in use.

m. View & Update Profile – When logged in, customers can view their profile and update their details.

n. Update Delivery Address – When purchasing listed items, a customer can update delivery addresses which they can associate with their account.

o. Add to Cart & Place Orders – If customers finds the food item of their choice they can save the item in the cart until they decide to purchase it.If at any point they want to cancel certain item they can simply remove it from the cart on one click. When they wish to purchase it, they can place orders for those items by selecting a delivery address on their account and pay the bill.

p. View Order History – Every customer can view their order history in order to get an idea about their past spending. Also the customer will get email notification for respective order data

## 2. PRODUCT OVERVIEW AND SUMMARY

2.1. **PURPOSE:** The AGRI-MART, as the name Suggested is about farmers and their showcased merchandise. It is about connecting farmers directly to the customers, thereby cutting the middle man. This ensure that customers get fresh foods at a very cheap price. This also ensure that all the farmers get a fair chance at gaining customers so that they don't have to rely on any middle man.

2.2. **SCOPE:** "AGRI-MART" aims to deliver a web-based application that hosts a wide collection of the food-items that users can browse through. Users can place orders and make payment. They can update their profile, add delivery address .They can view their order history as well. Admins can manage various product details like stock, price, adding new products, and categories etc. Only admin can add farmers. Admins can even delete users and/or farmers, if the need arises. This project does not support the actual logistics and delivery of food items and actual payment logic. We are assuming that the organization that implements it will be using third-party payment API which can easily be integrated in our application if needed. AGRI-MART is only an interface for both customers (for browsing and shopping for food items) and admins (for managing products, farmers, users listing).

## B. FEATURES PROVIDED

### i. FOR ADMINS

a. Login & Logout – Similar to customers, admins can login & logout to access their account.
b. Add / Update Farmers –Only admin is responsible for adding and updating the details of farmer.
c. Delete Farmer –The admins can delete a farmer account if they need to for any purpose.
d. Add New Category – Admins can add category.
e. Delete Category – Admins can remove category.
f. Add New Products – Admin can add new product with details as stock, price, name, quantity, image, category, etc.
g. Manage Products– Admin can update the product details.
h. View Users – Admin can view all registered users.
i. Delete User – Admin can delete a user if need arises.
j. View order details – Admin can view order details for all users.

### ii. FOR CUSTOMERS

a. Browse – Customers can browse the homepage to explore the entire products available.
b. Register, Login & Logout – New customers can register on the site. Existing customers can then login to access their account information and logout when the account is not in use.
c. View & Update Profile – When logged in, customers can view their profile and update their details.
d. Update Delivery Address – When purchasing listed items, a customer can update delivery addresses which they can associate with their account.
e. Add to Cart & Place Orders – If customers finds the food item of their choice they can save the item in the cart until they decide to purchase it.If at any point they want to cancel certain item they can simply remove it from the cart on one click. When they wish to purchase it, they can place orders for those items by selecting a delivery address on their account and pay the bill.
f. View Order History – Every customer can view their order history in order to get an idea about their past spending. Also the customer will get email notification for respective order details

# 2 . SOFTWARE REQUIREMENTS SPECIFICATION

## 2.1. FUNCTIONAL REQUIREMENTS

Following are the functional requirements fulfilled by our project:

- Similar to customers, admins can login & logout to access their account.
- Only admin is responsible for adding and updating the details of farmer.
- The admins can delete a farmer account if they need to, for any purpose.
- Admins can add and remove category.
- Admin can add new product with details as stock, price, name, quantity, image, category and update and remove them.
- Admin can view all registered users, delete a user if need arises
- Admin can view order details for all users.
- Customers can browse the homepage to explore the entire products available.
- When logged in, customers can view their profile and update their details.
- If customers finds the food item of their choice they can save the item in the cart until they decide to purchase it. If at any point they want to cancel certain item they can simply remove it from the cart on one click. When they wish to purchase it, they can place orders for those items by selecting a delivery address on their account and pay the bill.
- Every customer can view their order history in order to get an idea about their past spending. Also the customer will get email notification for respective order details.

## 2.2. NON-FUNCTIONAL REQUIREMENTS

Following are the non-functional requirements fulfilled by our project:
Since the application uses lightweight and established software components that are also cross-platform, it is remarkably performant and has good support for every operating system.
The use of React for front end and Spring Boot, Spring Data JPA and Hibernate for back end delivers quick response times to admins and customers alike.
Card-style UI and well-known icons and symbols used throughout the application provides a consistent theme and user-friendly interface that anyone can grasp easily, even without a technical background.

### Purpose

The AGRI-MART, as the name Suggested is about farmers and their showcased merchandise. It is about connecting farmers directly to the customers, thereby cutting the middle man. This ensure that customers get fresh foods at a very cheap price. This also ensure that all the farmers get a fair chance at gaining customers so that they don’t have to rely on any middle man

## Scope

"AGRI-MART" aims to deliver a web-based application that hosts a wide collection of the food-items that users can browse through. Users can place orders and make payment. They can update their profile, add delivery address .They can view their order history as well.

Admins can manage various product details like stock, price, adding new products, and categories etc. Only admin can add farmers. Admins can even delete users and/or farmers, if the need arises.

This project does not support the actual logistics and delivery of food items and actual payment logic. We are assuming that the organization that implements it will be using third-party payment API which can easily be integrated in our application if needed. AGRI-MART is only an interface for both customers (for browsing and shopping for food items) and admins (for managing products, farmers, users listing).

## 2.3 OTHER REQUIREMENTS

**TECHNOLOGIES USED**

i. FRONT END
- HTML5
- CSS
- JavaScript
- React 19.0
- Axios

ii. BACK END
- Spring Boot
- Spring Data JPA
- Hibernate

iii. DATABASE MANAGEMENT SYSTEM
- MySQL 8.0

iv. Tools Used
- STS 4.0
- VS Code 1.97
- Postman 10

# 3 PROJECT DESIGN

## 3.1 DATA MODEL

The following tables depict the database design used for "Wordsworth" application:

A. Tables Related to User Details

a. Users Table

```
mysql> desc user;
+-----------+--------------+------+-----+---------+----------------+
| Field     | Type         | Null | Key | Default | Extra          |
+-----------+--------------+------+-----+---------+----------------+
| user_id   | int          | NO   | PRI | NULL    | auto_increment |
| address   | varchar(200) | YES  |     | NULL    |                |
| email     | varchar(50)  | YES  | UNI | NULL    |                |
| firstname | varchar(20)  | YES  |     | NULL    |                |
| is_admin  | bit(1)       | YES  |     | NULL    |                |
| lastname  | varchar(20)  | YES  |     | NULL    |                |
| password  | varchar(30)  | YES  |     | NULL    |                |
| phone_no  | varchar(15)  | YES  |     | NULL    |                |
+-----------+--------------+------+-----+---------+----------------+
8 rows in set (0.00 sec)
```

b. Farmers Table

```
mysql> desc farmer;
+-----------+--------------+------+-----+---------+----------------+
| Field     | Type         | Null | Key | Default | Extra          |
+-----------+--------------+------+-----+---------+----------------+
| farmer_id | int          | NO   | PRI | NULL    | auto_increment |
| address   | varchar(200) | YES  |     | NULL    |                |
| email     | varchar(50)  | YES  |     | NULL    |                |
| firstname | varchar(20)  | YES  |     | NULL    |                |
| lastname  | varchar(20)  | YES  |     | NULL    |                |
| phone_no  | varchar(15)  | YES  | UNI | NULL    |                |
+-----------+--------------+------+-----+---------+----------------+
6 rows in set (0.00 sec)
```

A. Tables Related to Orders

Stock Details Table

```
mysql> desc stock_details;
+----------------+--------------+------+-----+---------+----------------+
| Field          | Type         | Null | Key | Default | Extra          |
+----------------+--------------+------+-----+---------+----------------+
| product_id     | int          | NO   | PRI | NULL    | auto_increment |
| product_image  | varchar(400) | YES  |     | NULL    |                |
| price_per_unit | float        | YES  |     | NULL    |                |
| quantity       | int          | NO   |     | NULL    |                |
| stock_item     | varchar(50)  | NO   | UNI | NULL    |                |
| category_id    | int          | YES  | MUL | NULL    |                |
| farmer_id      | int          | YES  | MUL | NULL    |                |
+----------------+--------------+------+-----+---------+----------------+
7 rows in set (0.01 sec)
```

a. Orders Table

```
mysql> desc orders;
+------------------+--------+------+-----+---------+----------------+
| Field            | Type   | Null | Key | Default | Extra          |
+------------------+--------+------+-----+---------+----------------+
| order_id         | int    | NO   | PRI | NULL    | auto_increment |
| delivery_date    | date   | YES  |     | NULL    |                |
| delivery_status  | bit(1) | YES  |     | NULL    |                |
| payment_status   | bit(1) | YES  |     | NULL    |                |
| place_order_date | date   | YES  |     | NULL    |                |
| user_id          | int    | NO   | MUL | NULL    |                |
+------------------+--------+------+-----+---------+----------------+
6 rows in set (0.00 sec)
```

a. Order Details Table

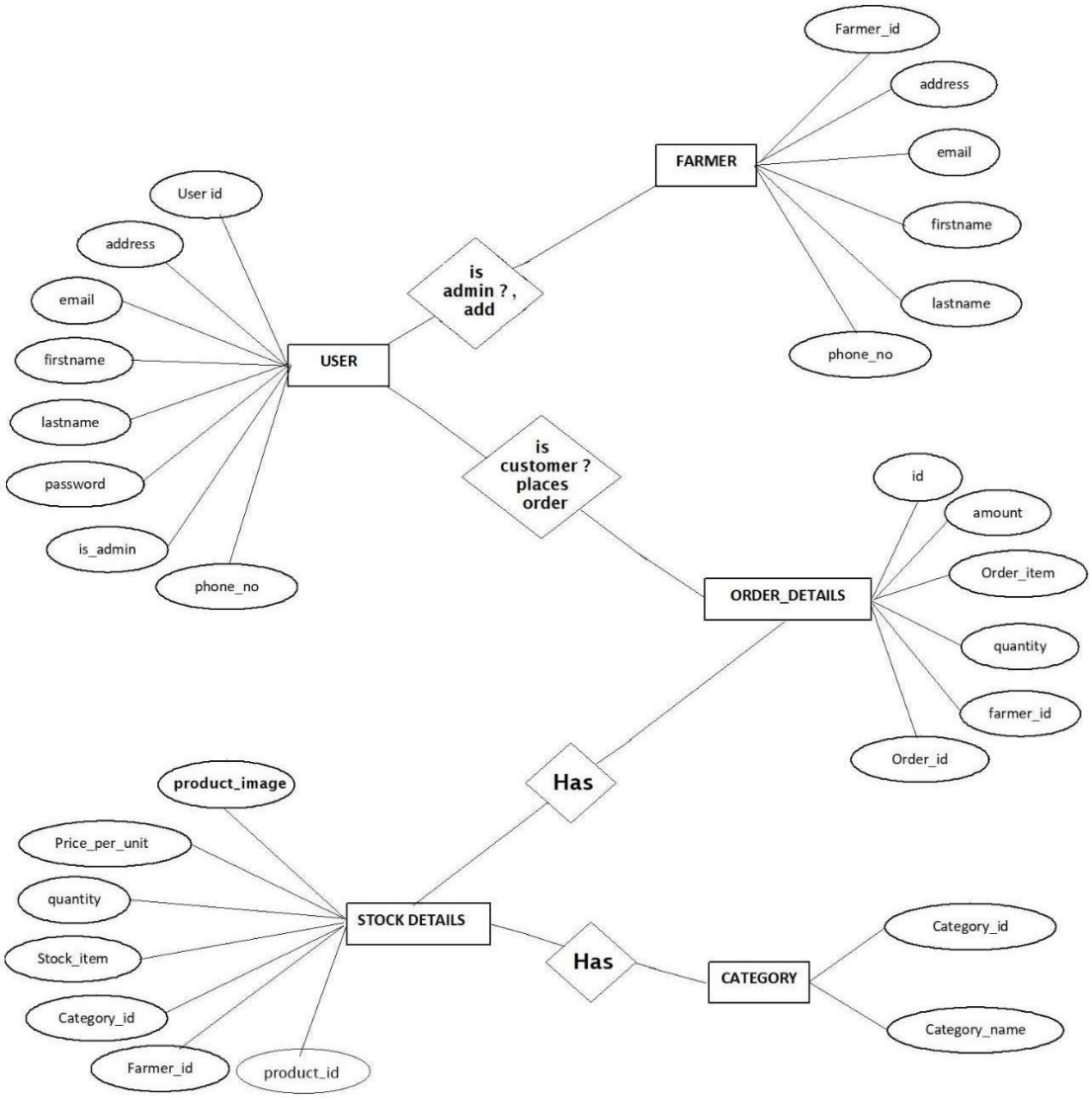
```
mysql> desc order_details;
+------------+-------------+------+-----+---------+----------------+
| Field      | Type        | Null | Key | Default | Extra          |
+------------+-------------+------+-----+---------+----------------+
| id         | int         | NO   | PRI | NULL    | auto_increment |
| amount     | double      | NO   |     | NULL    |                |
| order_item | varchar(20) | NO   |     | NULL    |                |
| quantity   | int         | NO   |     | NULL    |                |
| farmer_id  | int         | YES  | MUL | NULL    |                |
| order_id   | int         | NO   | MUL | NULL    |                |
+------------+-------------+------+-----+---------+----------------+
6 rows in set (0.00 sec)
```

b. Category Table

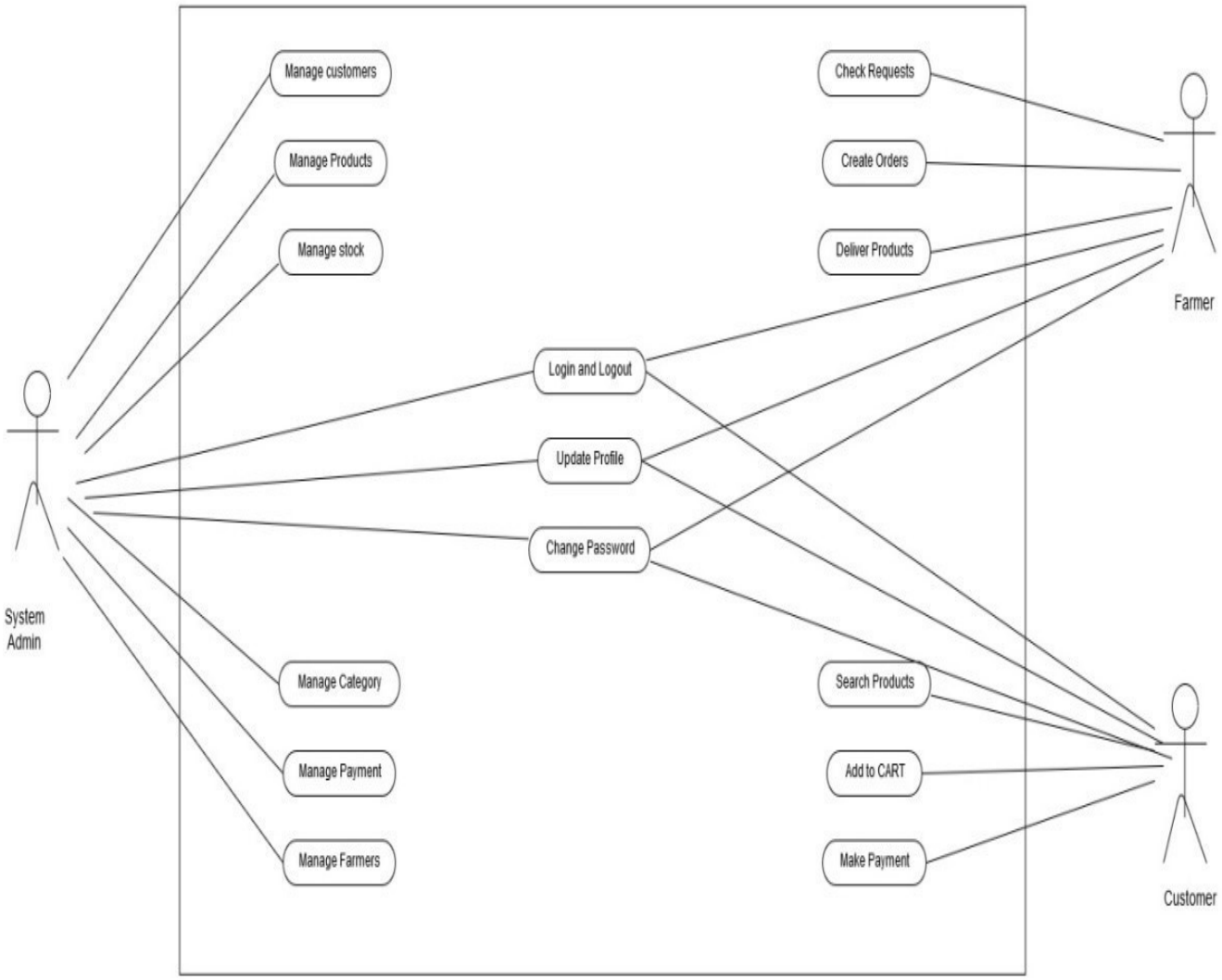
```
mysql> desc category;
+---------------+--------------+------+-----+---------+----------------+
| Field         | Type         | Null | Key | Default | Extra          |
+---------------+--------------+------+-----+---------+----------------+
| category_id   | int          | NO   | PRI | NULL    | auto_increment |
| category_name | varchar(255) | YES  | UNI | NULL    |                |
+---------------+--------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)
```

# 4 DIAGRAM

## 4.1 ER DIAGRAM



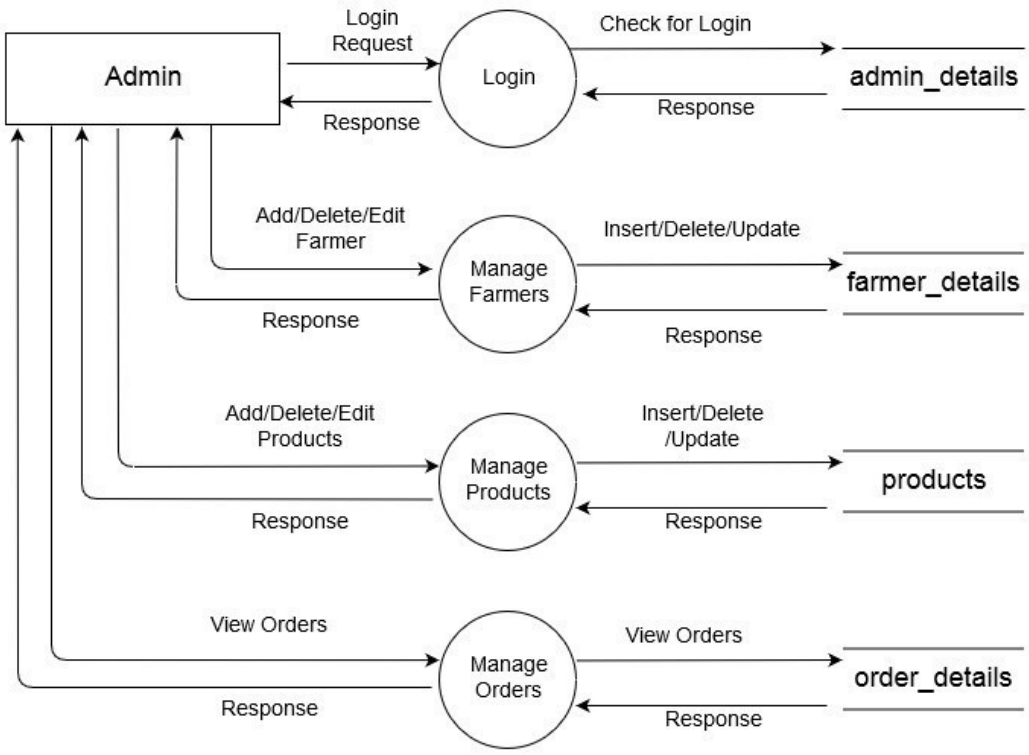
## 4.2 USE CASE DIAGRAM




Use case Diagram

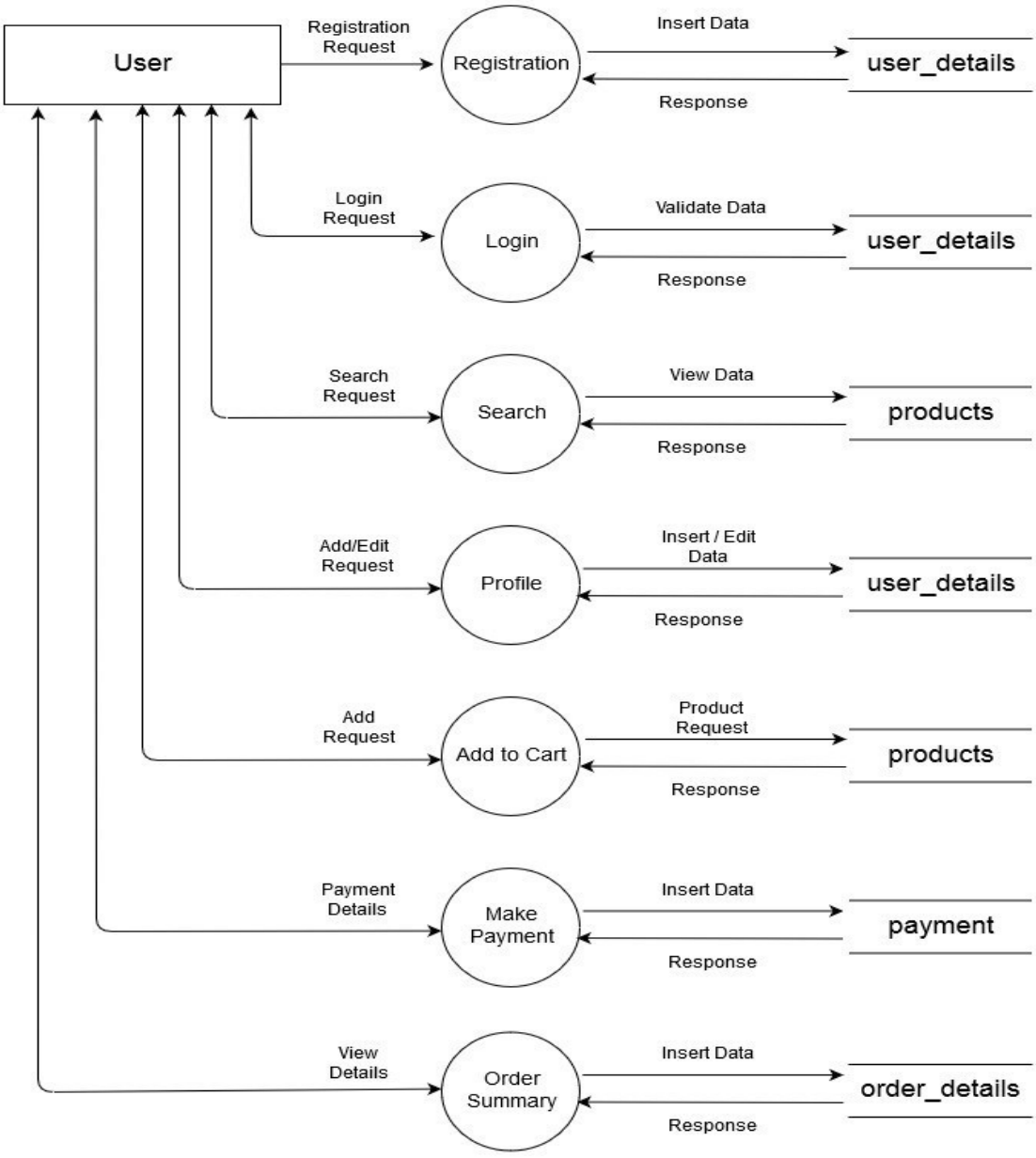
## 4.3 FUNCTIONAL DECOMPOSITION DIAGRAM

### A. Admin Side DFD




**Admin Side DFD**

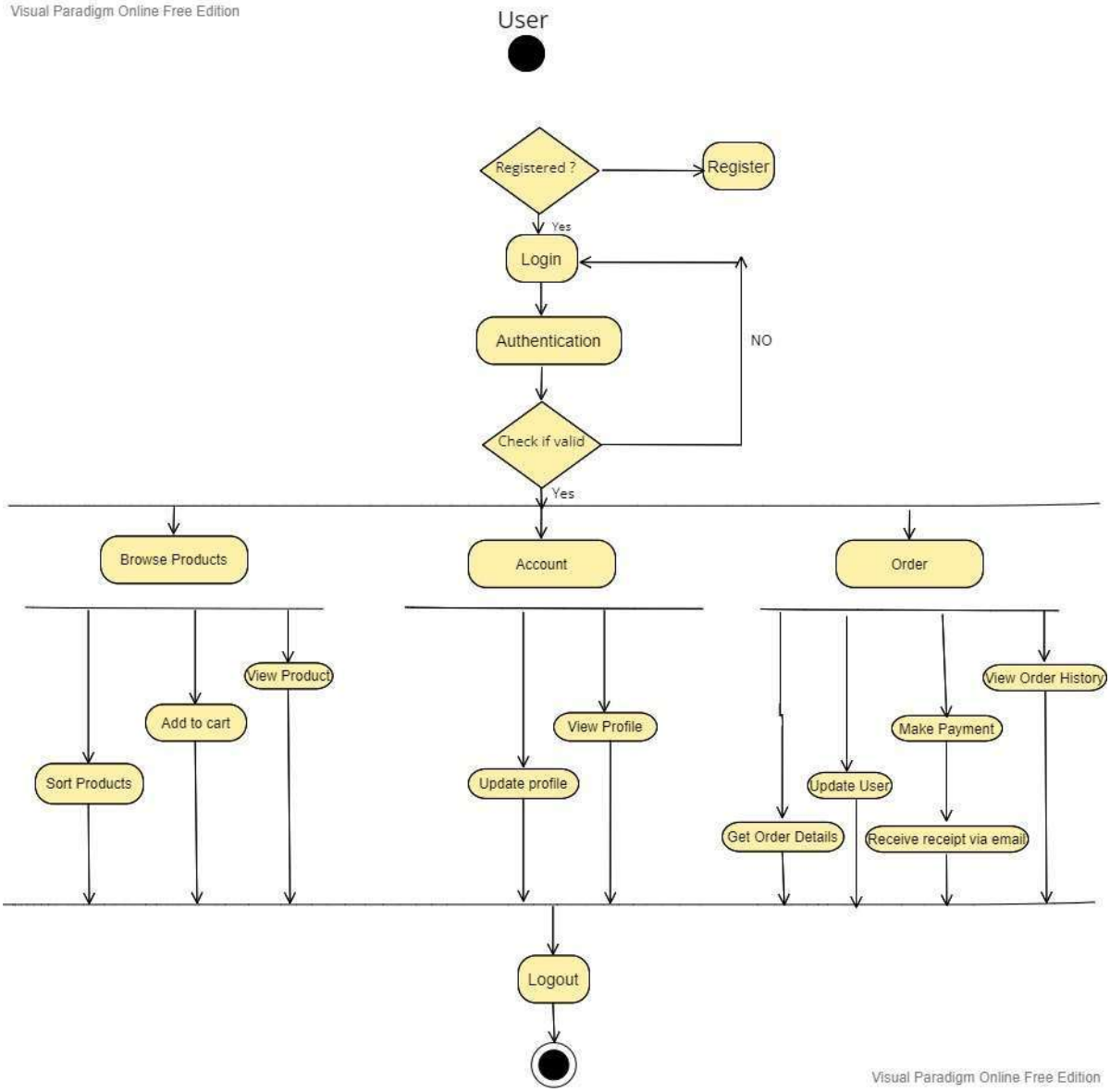
## B. User Side DFD



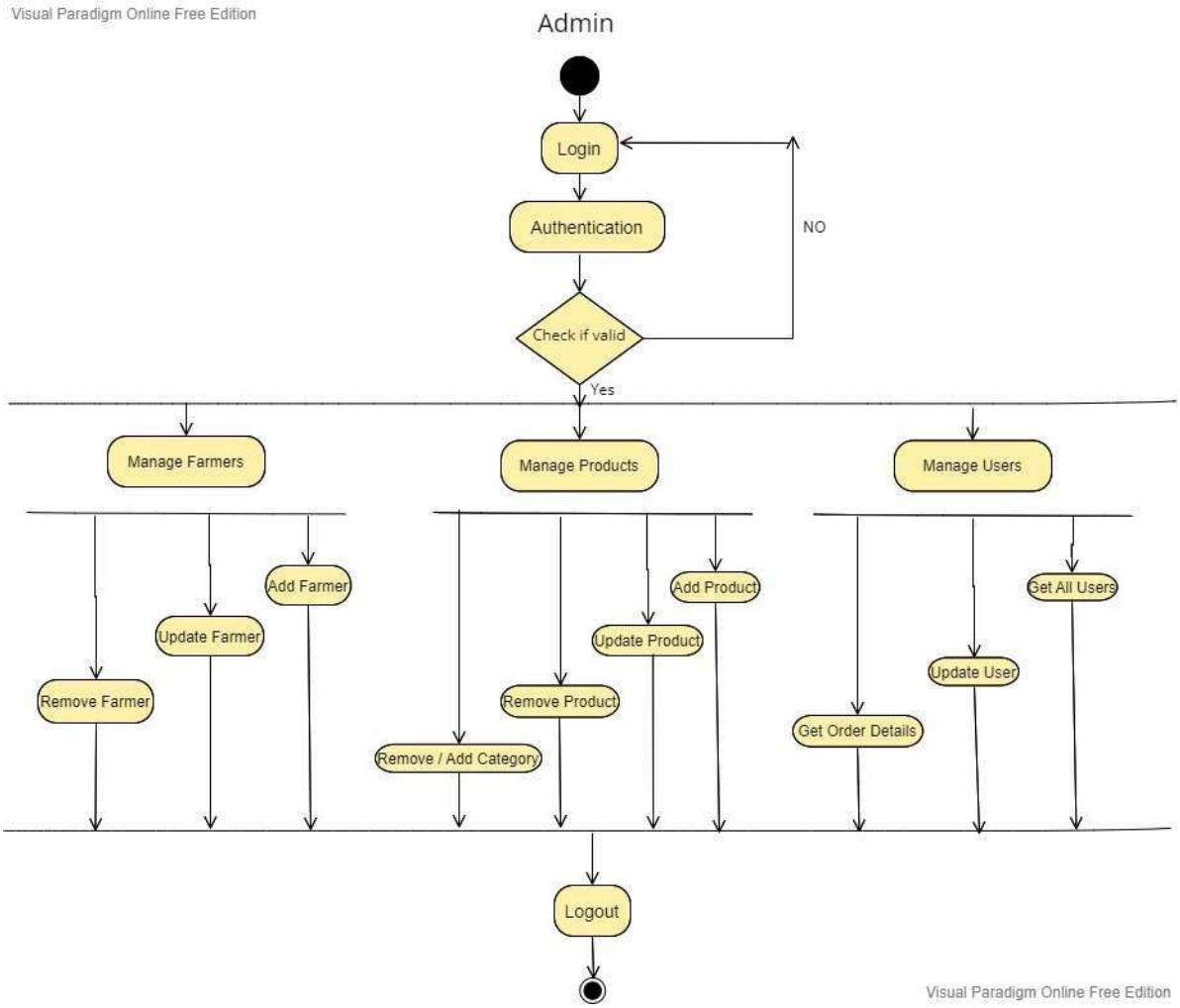

**User Side DFD**

# 4.4 ACTIVITY DIAGRAM

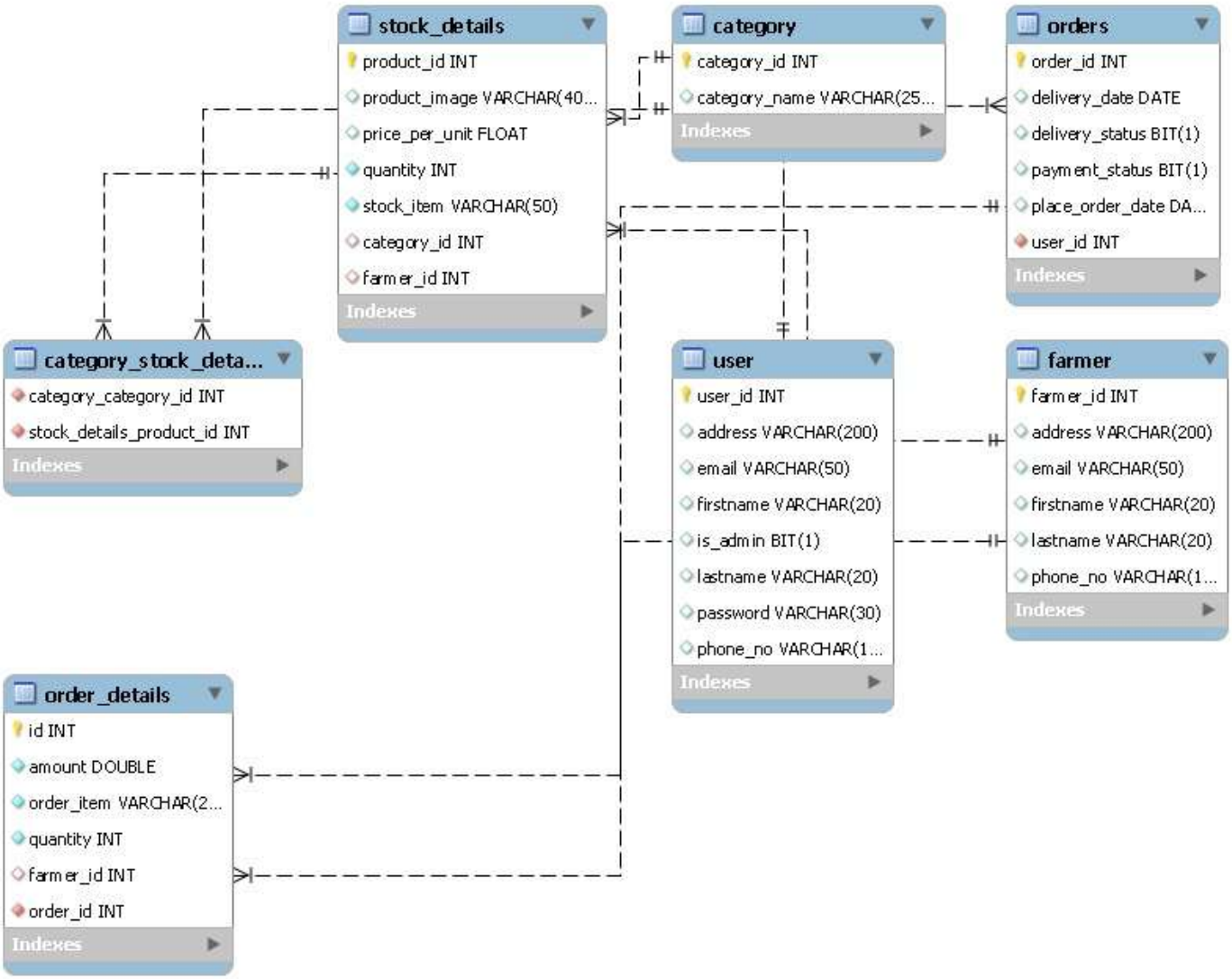
## A. User



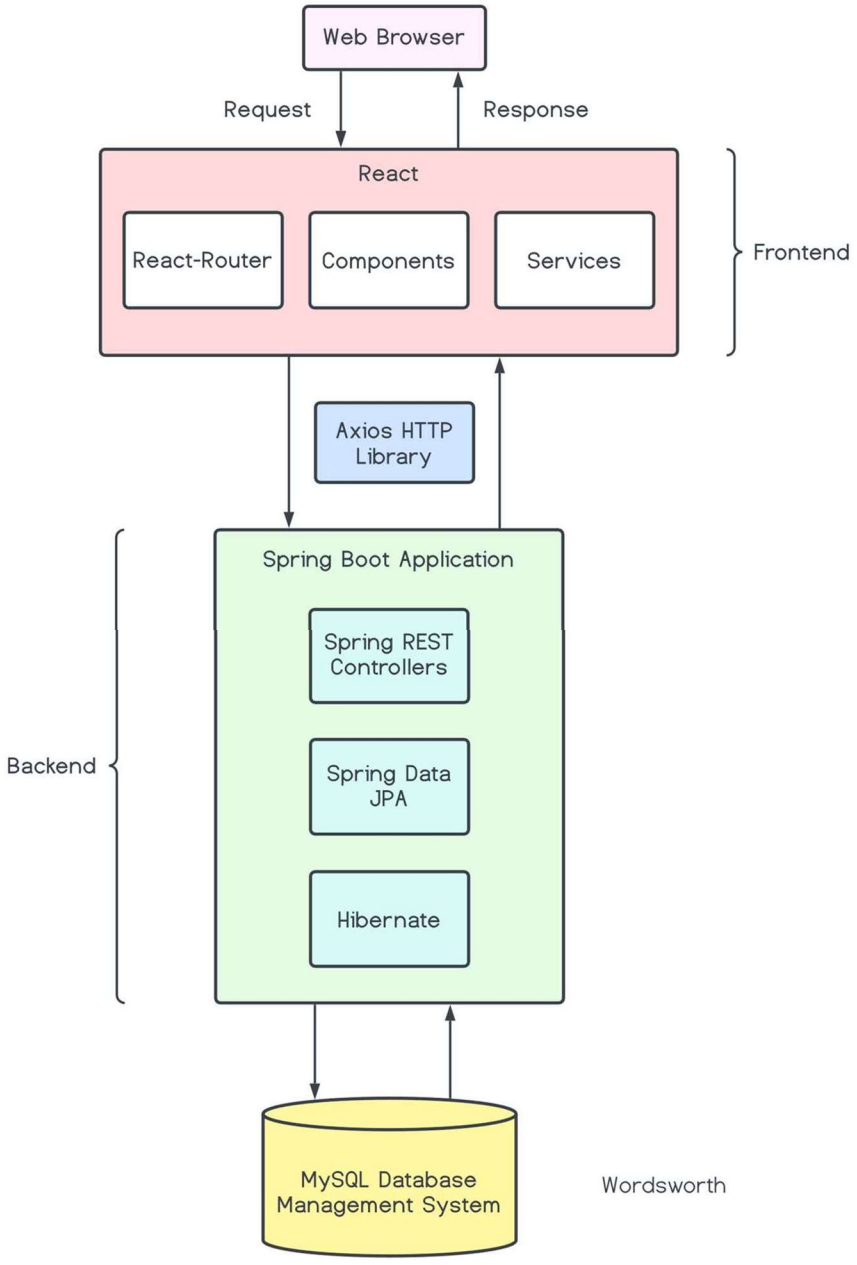
## B. ADMIN


Visual Paradigm Online Free Edition
Admin
Login
Authentication
NO
Check if valid
Yes
Manage Farmers
Manage Products
Manage Users
Add Farmer
Update Farmer
Remove Farmer
Add Product
Update Product
Remove Product
Remove / Add Category
Get All Users
Update User
Get Order Details
Logout
Visual Paradigm Online Free Edition

# 5 DATABASE DESIGN

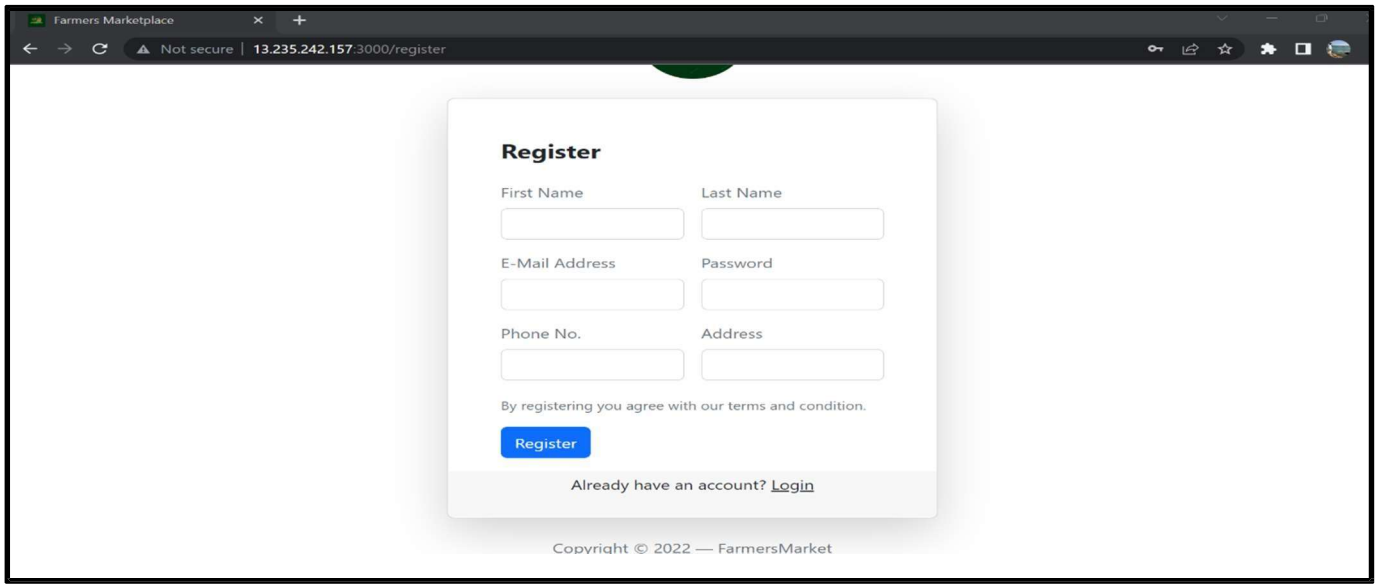


# 6 PROJECT ARCHITECTURE

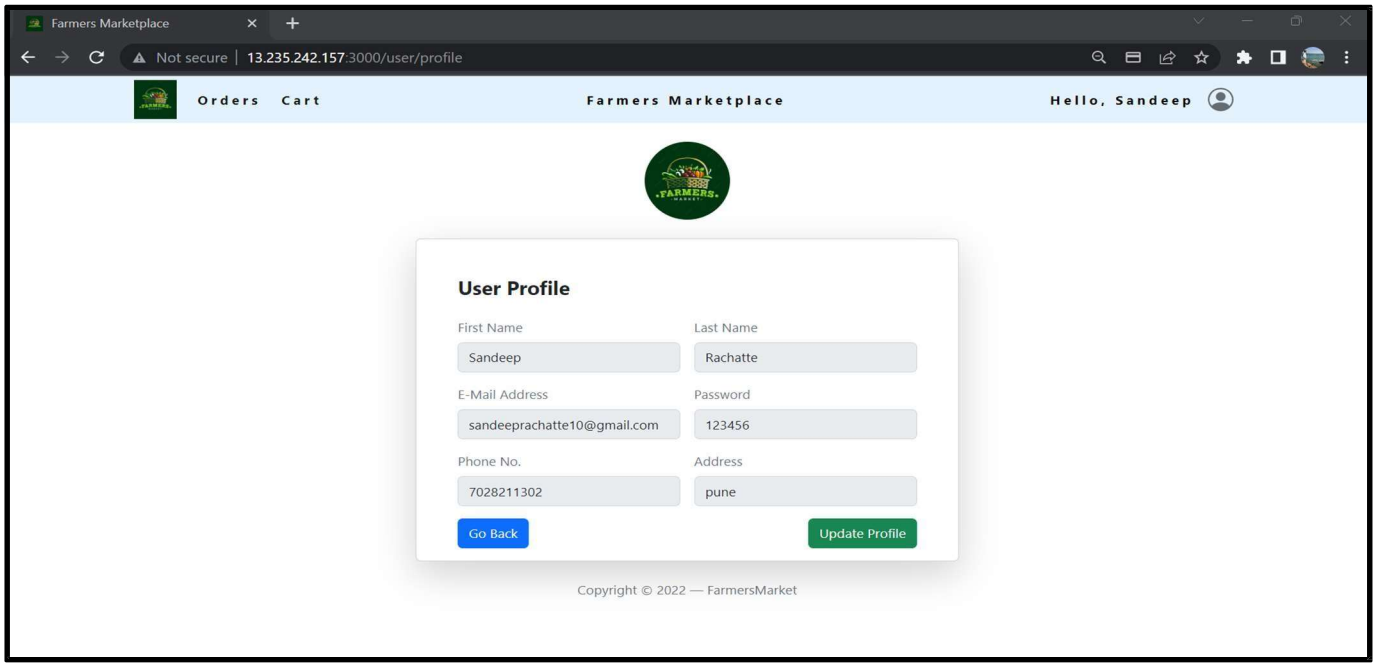


# 7 PROJECT SCREENSHOTS

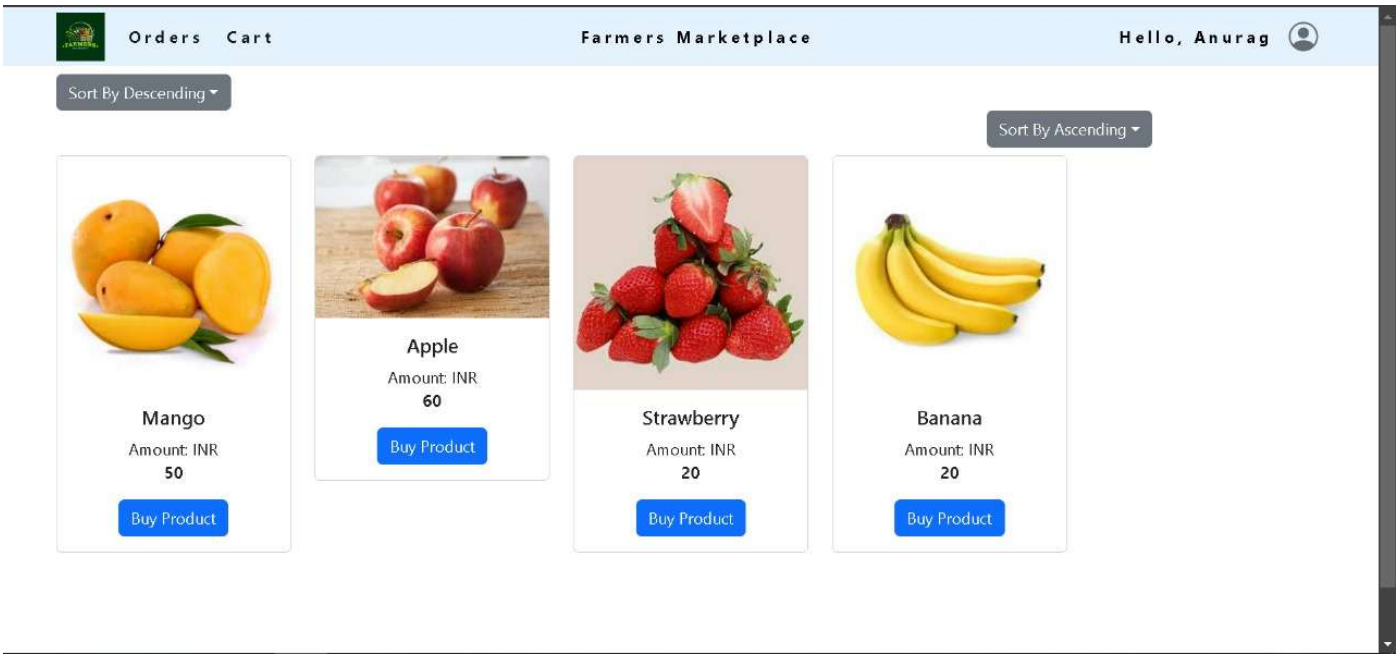
## 2.3. USER



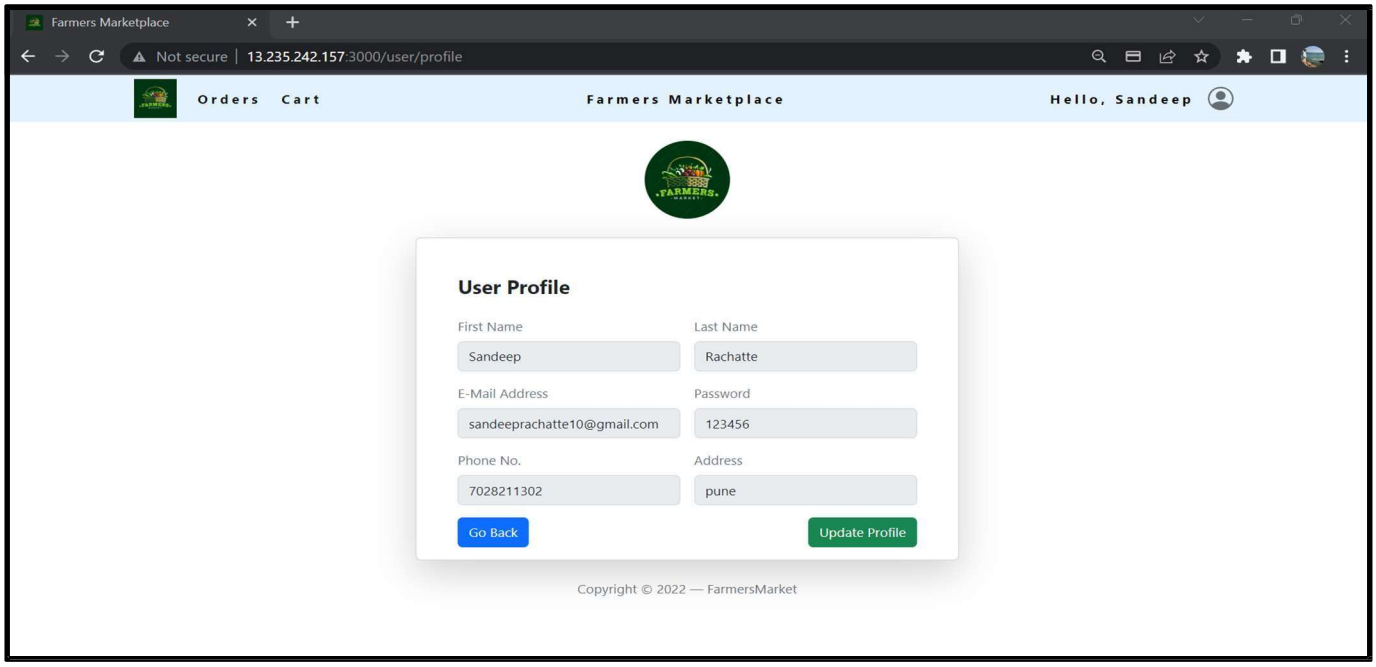

Register



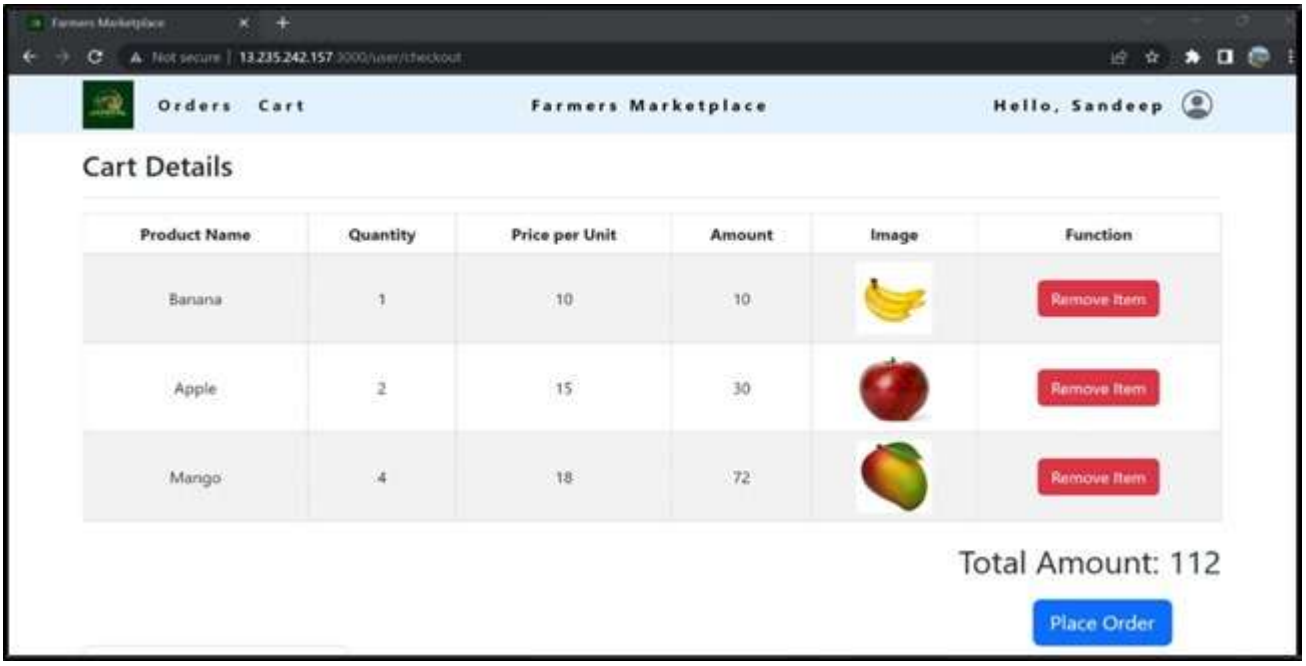

Login



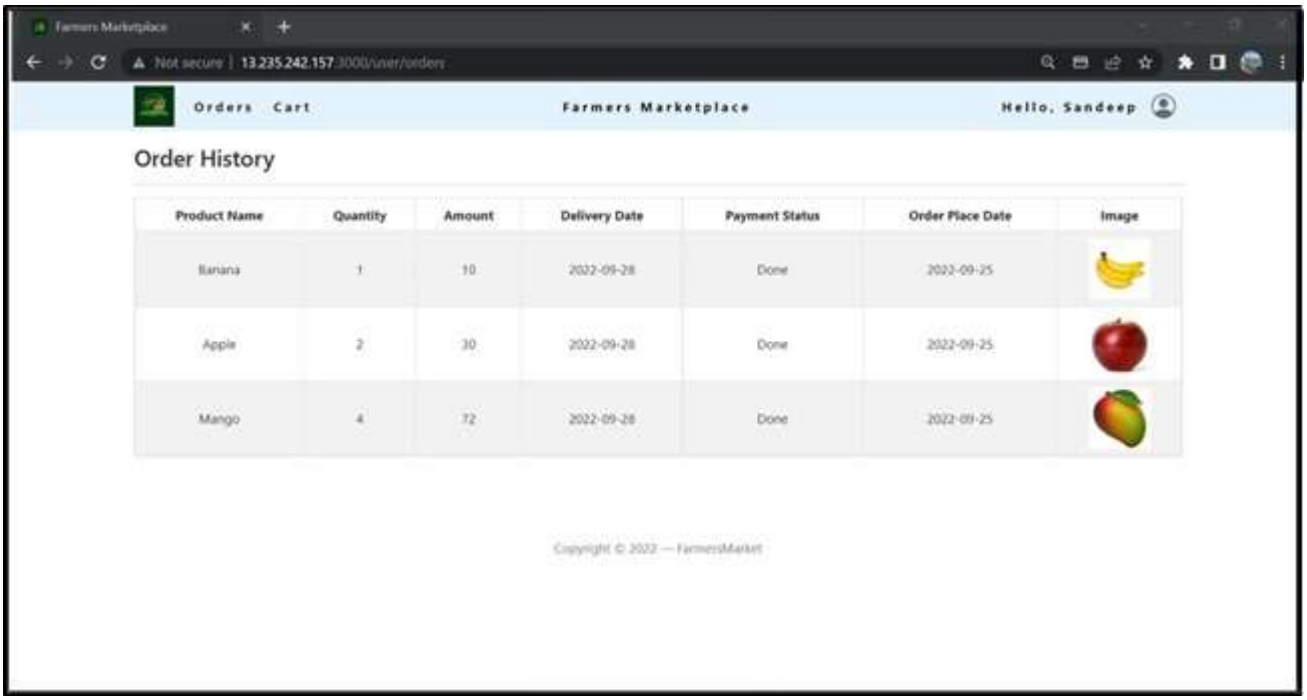

Homepage



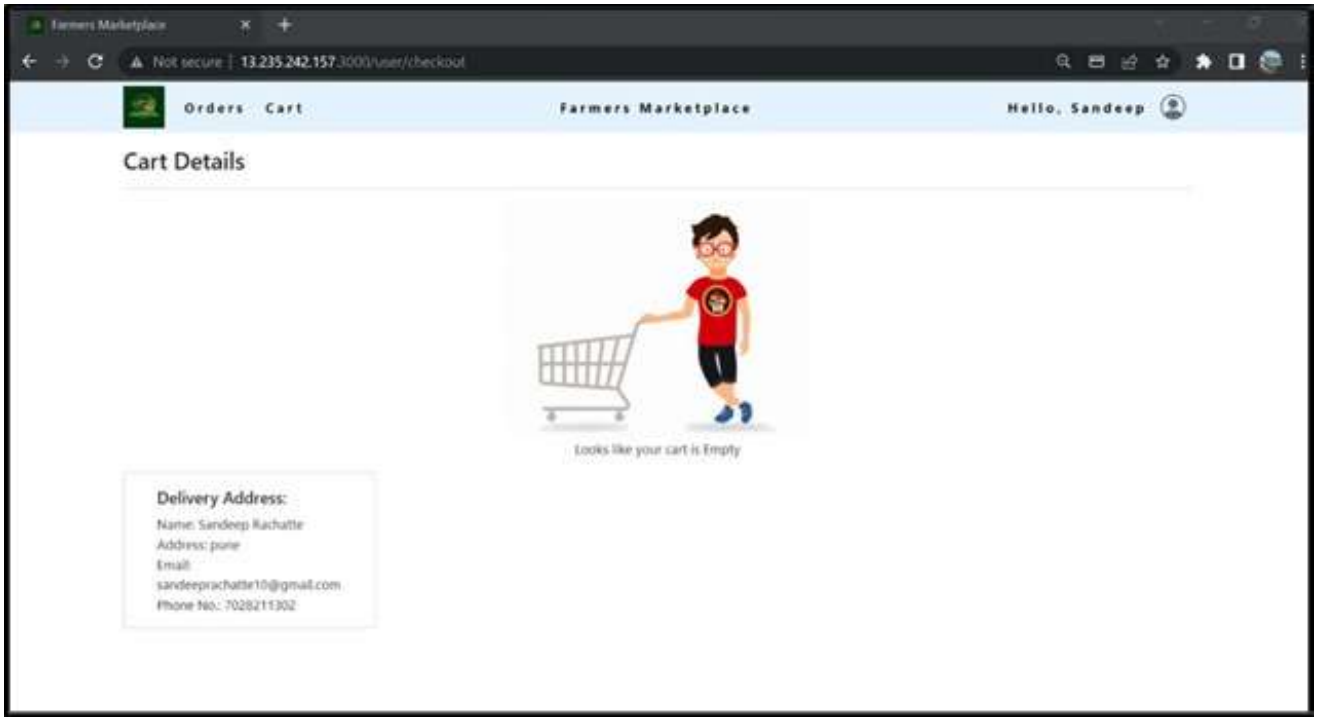

User Profile



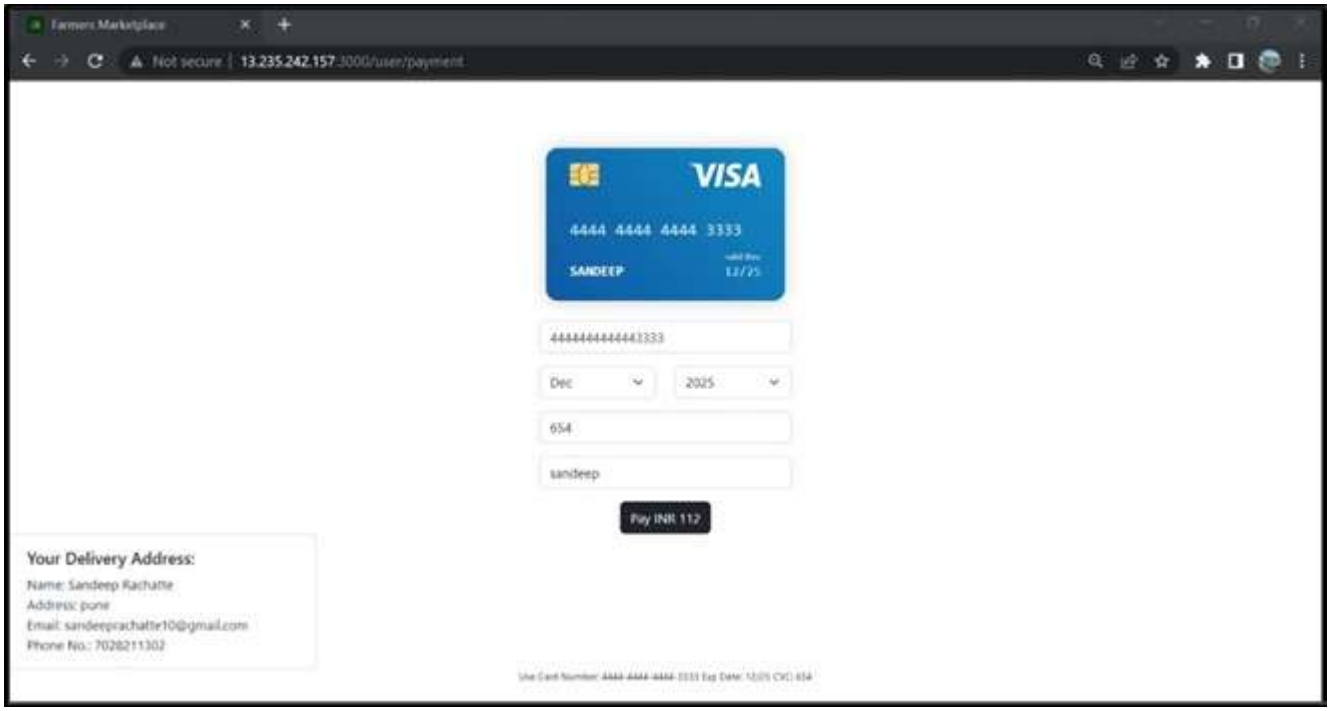

User Cart



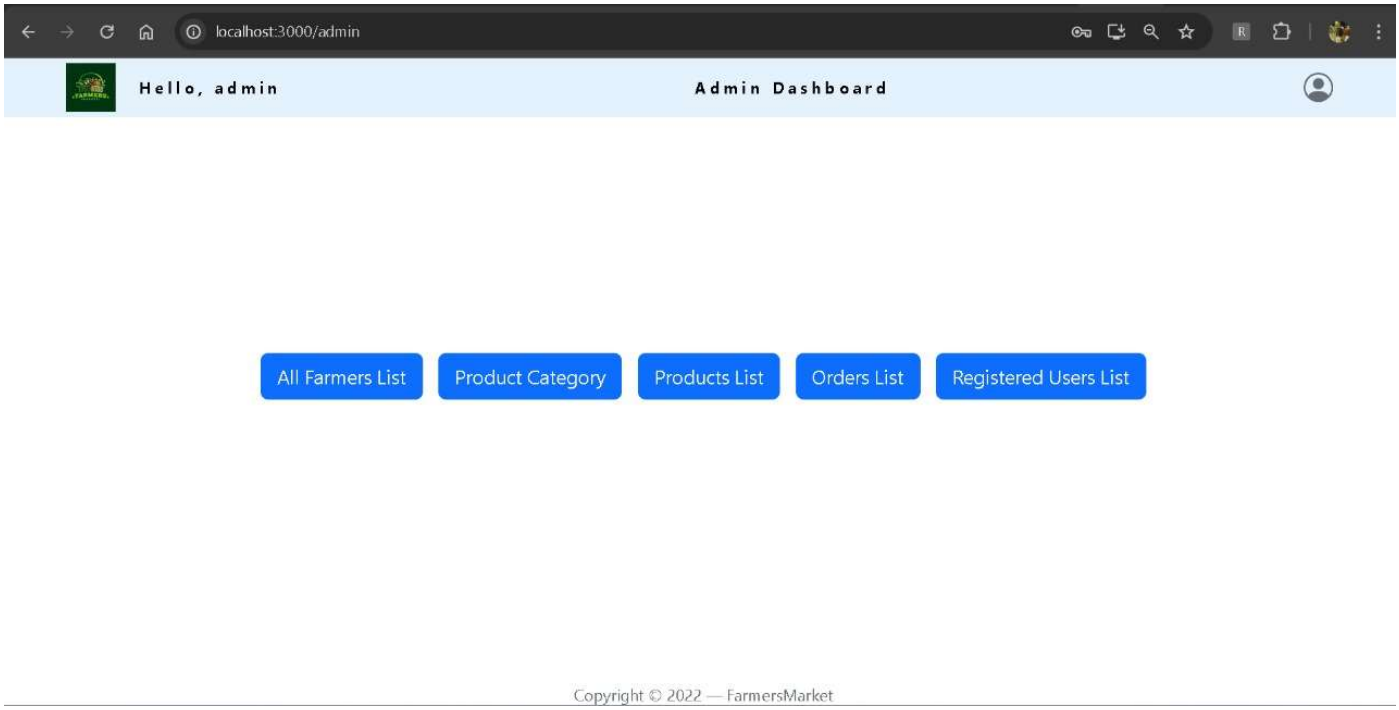

Order History




Empty Cart




Payment Gateway




Admin Dashboard

# 8 FUTURE SCOPE

Using whatever we have learnt over the duration of this course, we tried to make our project as user-friendly and gave it as many features as possible in the limited time allotted for the project work. That said, there are certainly more features that can be added to our application. Some of those are mentioned below:

1. The most purchased and/or sponsored products can be highlighted as customer favorites to promote merchandise further.
2. Rating chart for Farmers and Products.
3. Product Display based on Categories, distributing Farmers and respective ratings.
4. Discounts can be given on a per-user basis depending on the customer's purchase history as well as how many products they buy at the same time.
5. Customers can upvote/downvote/report feedbacks.
6. Additional payment means can be added other than cards.
7. In case the user forgets the password, a 'reset password' functionality can be added.
8. CAPTCHA can be added to login page

# 9 CONCLUSION

"AGRI-MART", an online Grocery store application, was developed by our project team to simplify the online sale and purchase of Fresh-organic merchandise.

We tried using the latest technologies that are cross-platform and robust. Each and every software we used was open-source in nature, which keeps the cost of production at a minimum.

We were also meticulous about the user experience aspect of our application so that navigating our website is an easy and seamless experience.

In conclusion, "AGRI-MART" is an application would definitely be a good choice for any fresh-food merchandise trading Farmers that wishes to enter the online market. At the same time, it provides one-stop platform for Customers to purchase their daily need of merchandise directly from authenticated Farmers.

We are confident that the numerous features and visually appealing look of application will certainly give a big boost to the Farmers.

# 10 REFERENCES

Following is the list of websites we referred during the course of our project:

https://getbootstrap.com/docs/5.1/getting-started/introduction/
https://reactjs.org/docs/getting-started.html
https://www.baeldung.com/
https://www.w3schools.com/
https://docs.spring.io/spring- data/jpa/docs/current/reference/html/#reference
https://javaee.github.io/javaee-spec/javadocs/
https://javadoc.io/doc/org.springframework.data/spring-data- jpa/latest/index.html
https://github.com/amaroteam/react-credit-cards