PCET'S

Pimpri Chinchwad College of Engineering, Pune

PBL-II Project Report On

FARM MARKETPLACE

Fresh Finds, Direct from Farms.

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Abstract

The Farm Marketplace project is an innovative online platform that addresses the need for efficient and convenient connections between farmers and customers in the agricultural industry. With the rapid advancement of technology, there is a growing demand for digital solutions that facilitate the buying and selling of farm products. This project report provides an overview of the development process and technologies used in creating the Farm Marketplace application.

By creating a user-friendly and intuitive interface, the Farm Marketplace aims to bridge the gap between farmers and customers, facilitating seamless transactions and enhancing accessibility to high-quality farm products. The application allows farmers to showcase their products and update information, empowering them to reach a broader customer base. For customers, the platform offers a wide range of farm products to choose from, with convenient browsing, cart management, and secure payment options.

The Farm Marketplace project serves as a valuable solution in the agricultural industry, revolutionizing the way farmers and customers connect and transact. With its efficient features and user-friendly design, the application aims to empower farmers, boost customer satisfaction, and contribute to the growth and development of the agricultural sector.

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1. Introduction

The agricultural industry is a vital pillar of the global economy, supplying essential food products to meet the ever-growing demands of the population. However, traditional methods of buying and selling farm products often suffer from inefficiencies and limitations that hinder the potential for growth and profitability. To address these challenges and leverage the power of technology, the Farm Marketplace project was conceived and developed.

The Farm Marketplace is an innovative online platform designed to bridge the gap between farmers and customers, revolutionizing the way farm products are bought and sold. By providing a digital marketplace, the platform aims to streamline the process, enhance accessibility, and create a mutually beneficial environment for both farmers and customers.

In today's fast-paced and digitally connected world, consumers are increasingly turning to online platforms to meet their shopping needs. The Farm Marketplace recognizes this shift in consumer behavior and aims to cater to the rising demand for farm-fresh products delivered conveniently to their doorstep. By offering a wide range of high-quality farm products, customers can now access fresh and locally sourced goods with ease.

For farmers, the Farm Marketplace presents a unique opportunity to expand their market reach and connect with a larger customer base. Traditionally, farmers faced challenges in finding suitable markets for their products, limiting their growth potential. However, through the Farm Marketplace, farmers can now showcase their offerings to a wider audience, overcoming geographical barriers and increasing their sales opportunities.

The core objective of the Farm Marketplace is to provide a user-friendly and efficient platform that benefits both farmers and customers. Customers can explore a diverse range of farm products, conveniently browse through listings, and make informed purchase decisions. Additionally, the platform offers secure payment options and ensures the seamless processing of orders, providing customers with a reliable and satisfactory shopping experience.

Farmers, on the other hand, gain access to a centralized platform where they can create and manage their product listings. This empowers farmers to update product information, monitor inventory levels, and engage directly with customers. The platform serves as a catalyst for farmers to grow their businesses, expand their customer base, and increase profitability.

Throughout this project report, we will delve into the key features and functionalities of the Farm Marketplace, highlighting its significance in addressing the challenges faced by both farmers and customers in the agricultural sector.

2. Software Requirement Specification

The Software Requirement Specification (SRS) is a vital document that outlines the detailed requirements and specifications of the Farm Marketplace project. It serves as a comprehensive guide for the development team, stakeholders, and clients, ensuring a clear understanding of the project's objectives and functionalities.

Functional Requirements:

1. User Registration and Authentication:

   Users should be able to create an account by providing their email and password.The system should authenticate users during login to ensure secure access.

2. Farmer Functionality:

   Farmers can add and manage their products in the marketplace, including essential details such as name, description, quantity, and price, allowing them to effectively showcase their offerings to potential customers.

3. Customer Functionality:

   Customers have a seamless experience on the Farm Marketplace application with various functionalities at their disposal. They can browse and search for farm products based on different criteria, add desired items to their cart for purchase, and easily view and modify the cart contents. Customers can proceed to the checkout process, providing necessary shipping and payment information, and receive a detailed receipt after completing the purchase. They also have the ability to view their order history, including past purchases and order statuses, for convenient reference and tracking.

4. Order Management:

   - The system should maintain a record of customer orders, including order details, timestamps, and payment information.
   - Customers should be able to view their order history, including past purchases and order statuses.

5. Account Management:

   - Users should have the ability to update their account information, including personal details and contact information.
   - Users should be able to change their password and recover their account in case of a forgotten password.

Non-Functional Requirements:

1. Performance: The system should deliver fast response times and handle a high volume of concurrent users, ensuring smooth browsing, product selection, and checkout processes.

2. Security: The application should implement robust security measures, including encryption of sensitive data, secure user authentication, and protection against common web vulnerabilities.

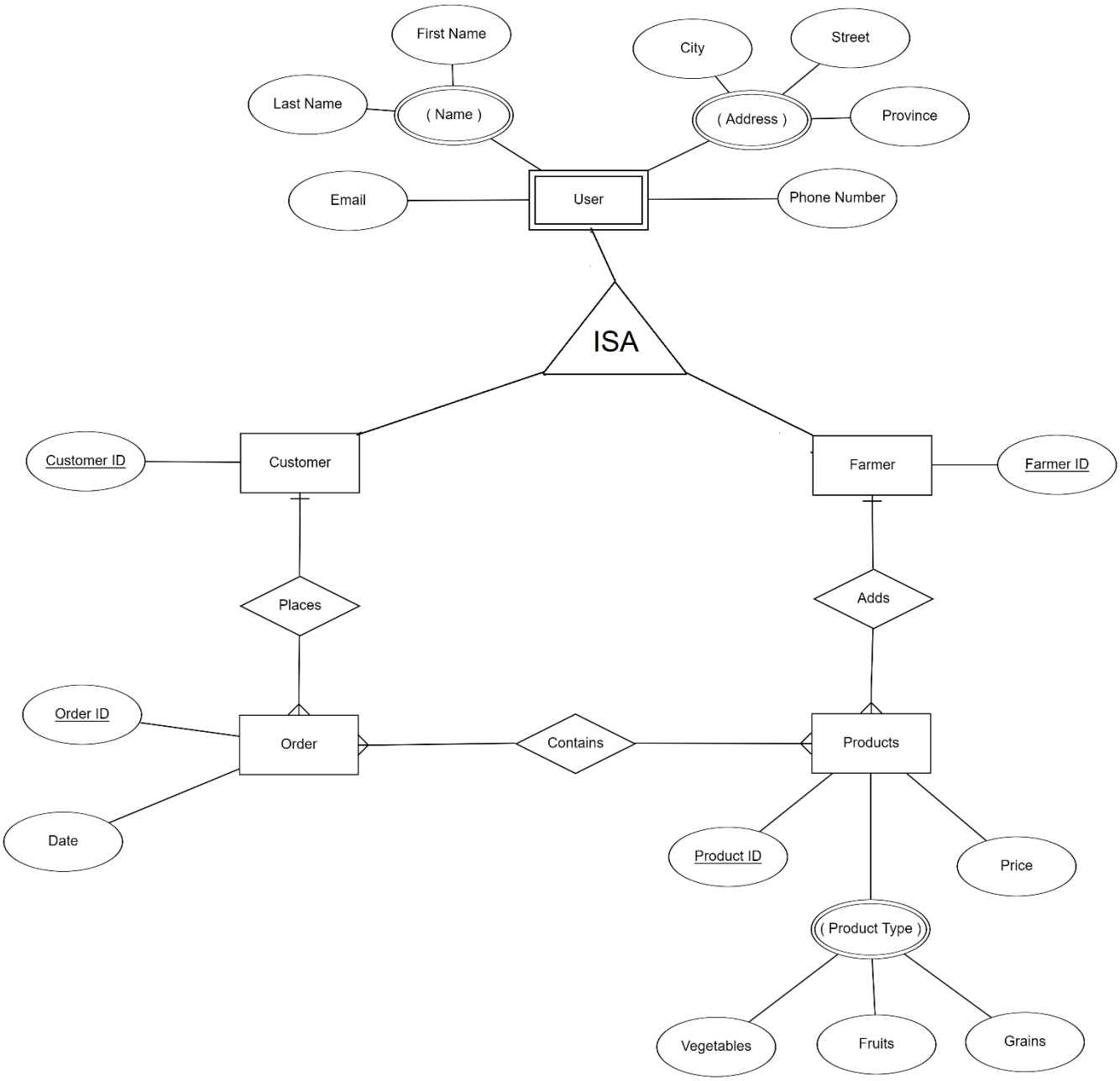
3. Usability: The user interface should be intuitive, visually appealing, and provide clear instructions and error messages, ensuring a seamless and user-friendly experience for both farmers and customers.

4. Compatibility: The system should be compatible with major web browsers and responsive across different devices, ensuring consistent functionality and visual presentation.

5. Scalability: The architecture should support the system's ability to handle increased user traffic and accommodate future growth by allowing for easy scaling and resource allocation as the user base expands.

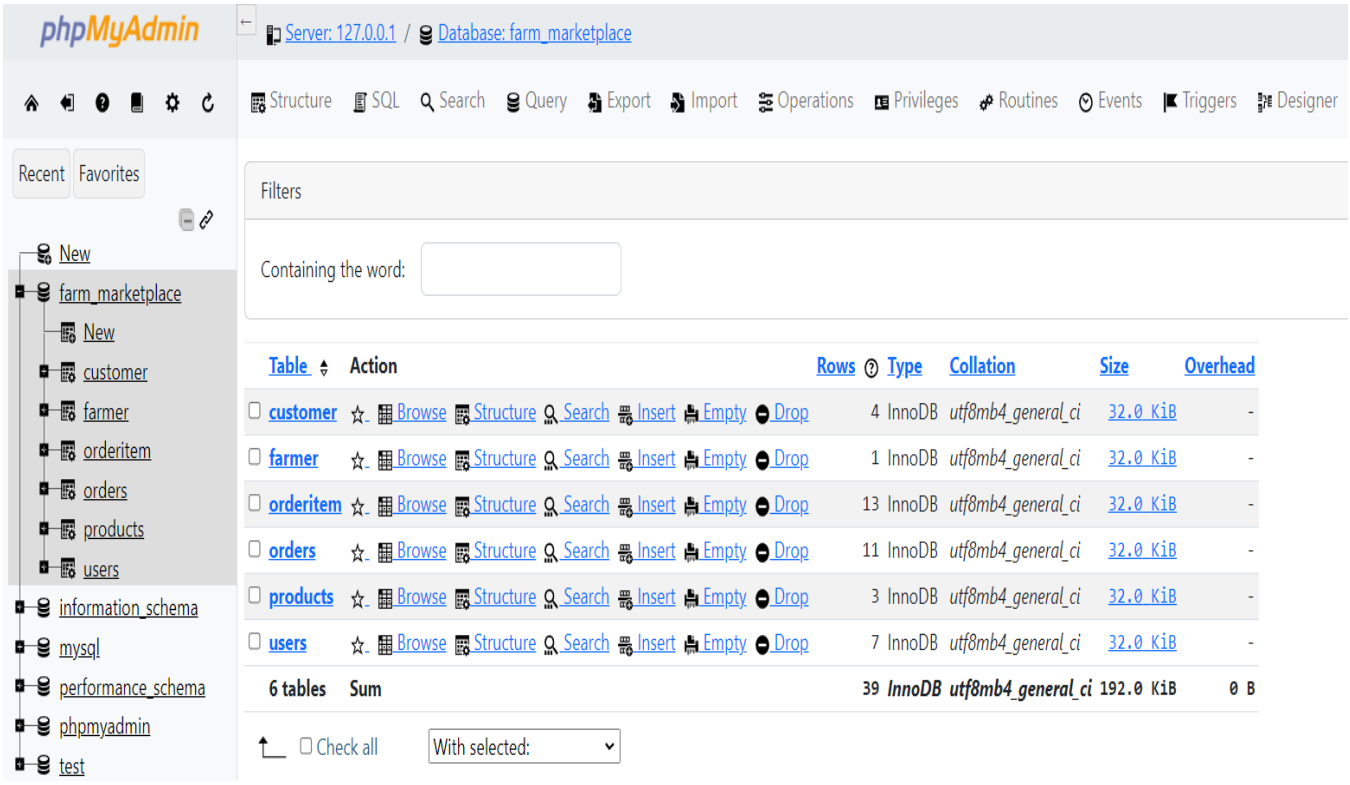
6. Database Management: The system should efficiently manage data using MySQL, including proper indexing, optimization of queries, and ensuring data integrity and consistency for reliable and efficient data storage and retrieval.

3. Conceptual Design using ER features

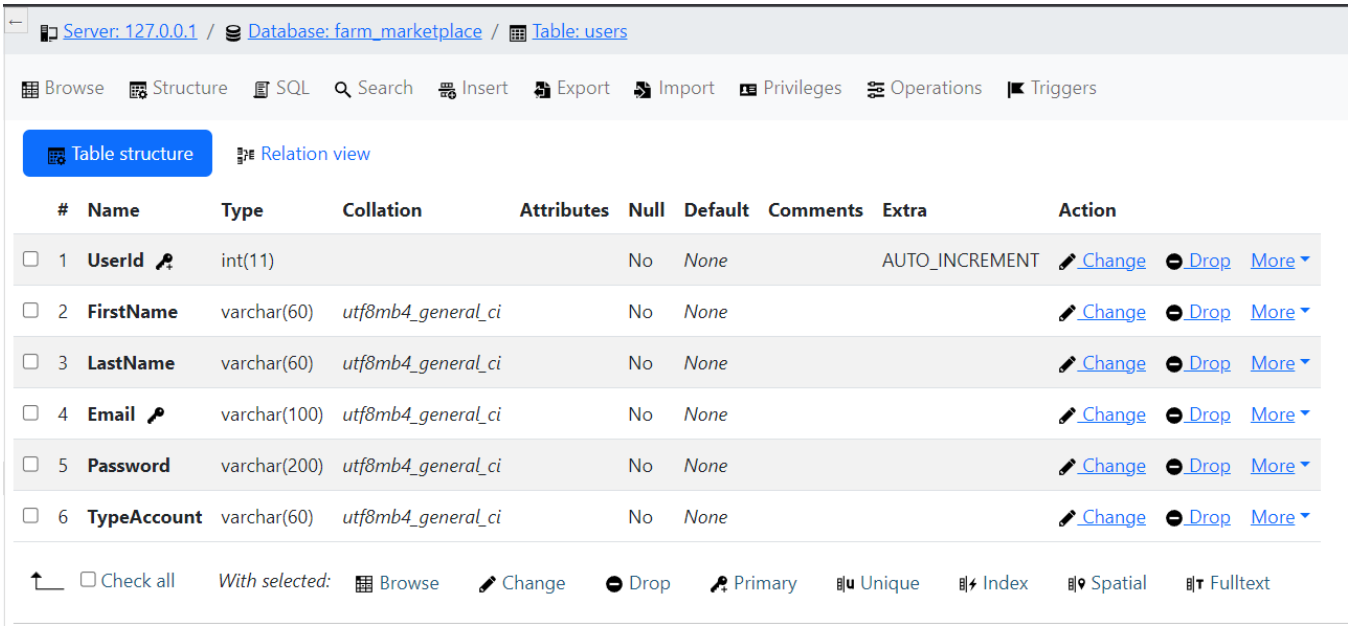


4. Relational Model in appropriate Normalize Form

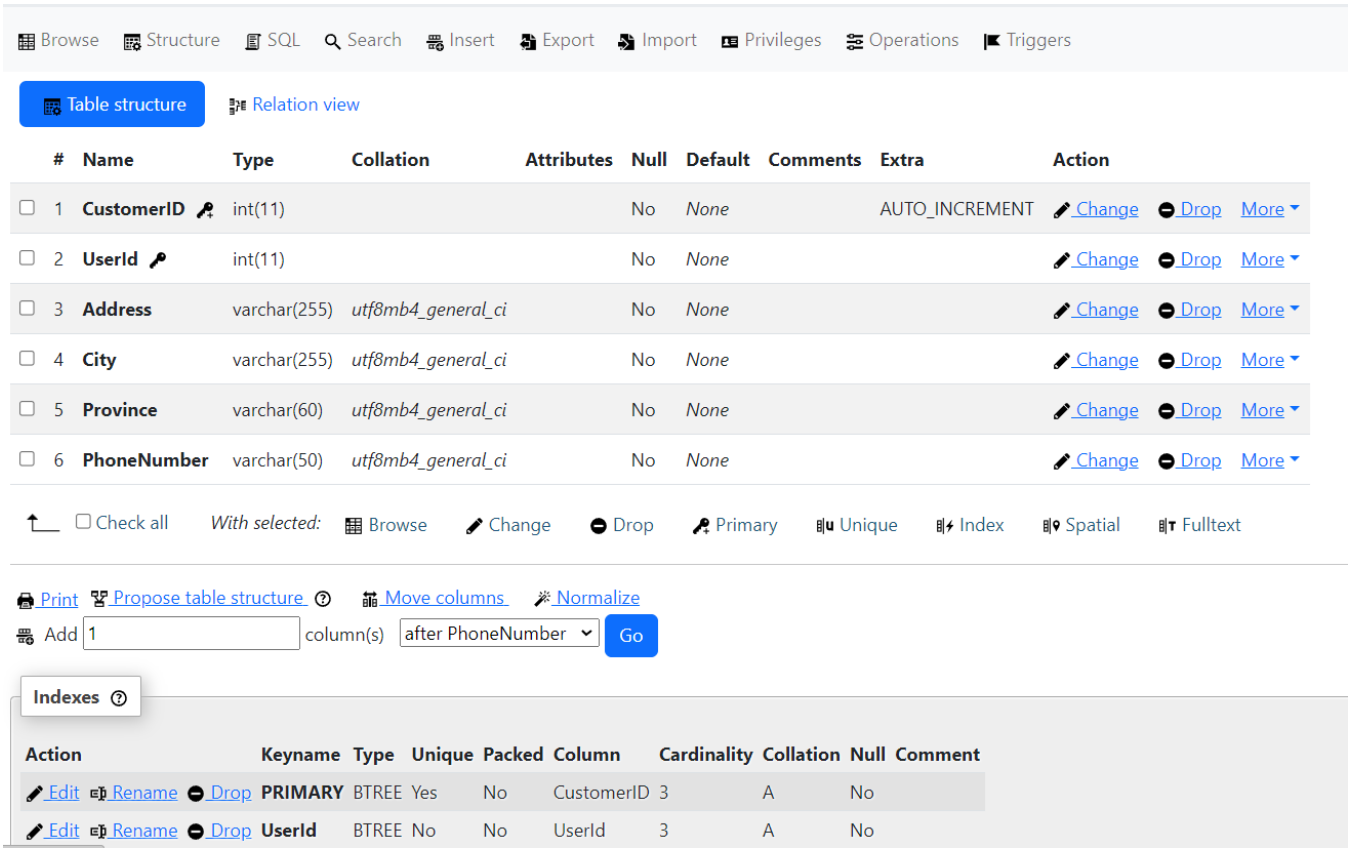
Farm Marketplace Database Schema:



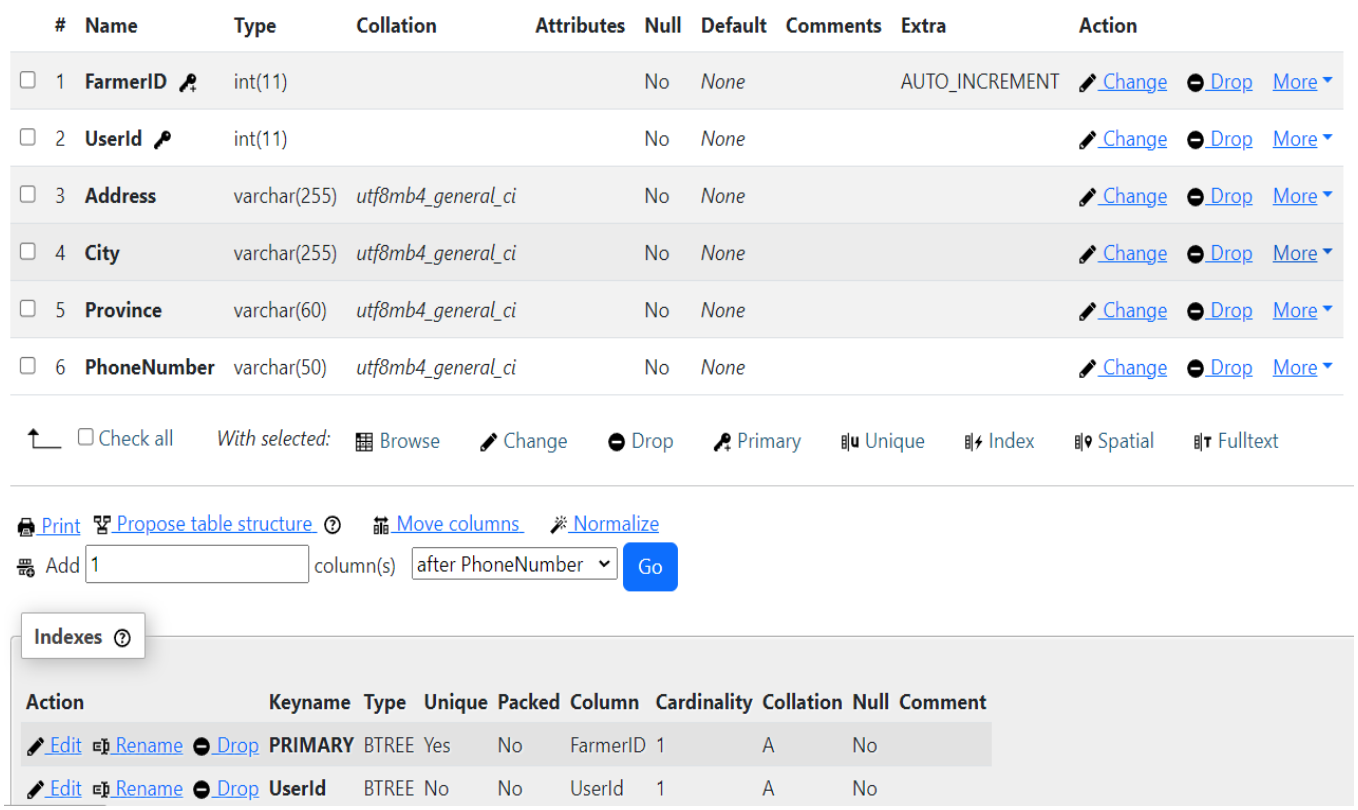
Users:



Customer:



Farmer:



Order Item:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**OrderItemId**	int(11)			No	*None*		AUTO_INCREMENT	Change Drop More
2	**OrderId**	int(11)			No	*None*			Change Drop More
3	**ItemName**	varchar(69)	*utf8mb4_general_ci*		No	*None*			Change Drop More
4	**ItemQuantity**	int(11)			No	*None*			Change Drop More
5	**ItemPrice**	decimal(10,2)			No	*None*			Change Drop More

Check all *With selected:* Browse Change Drop Primary Unique Index Spatial Fulltext

Print Propose table structure Move columns Normalize

Add 1 column(s) after ItemPrice Go

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Rename Drop	**PRIMARY**	BTREE	Yes	No	OrderItemId	13	A	No	
Edit Rename Drop	**FK_OrderItem_Orders**	BTREE	No	No	OrderId	13	A	No	

Orders:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**OrderId**	int(11)			No	*None*		AUTO_INCREMENT	Change Drop More
2	**UserId**	int(11)			Yes	*NULL*			Change Drop More
3	**OrderDate**	date			Yes	*NULL*			Change Drop More
4	**Tax**	decimal(10,2)			Yes	*NULL*			Change Drop More
5	**SubTotal**	decimal(10,2)			Yes	*NULL*			Change Drop More
6	**TotalPrice**	decimal(10,2)			Yes	*NULL*			Change Drop More

Check all *With selected:* Browse Change Drop Primary Unique Index Spatial Fulltext

Print Propose table structure Move columns Normalize

Add 1 column(s) after TotalPrice Go

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Rename Drop	**PRIMARY**	BTREE	Yes	No	OrderId	7	A	No	
Edit Rename Drop	**UserId**	BTREE	No	No	UserId	7	A	Yes	

Products:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**ProductID**	int(11)			No	*None*		AUTO_INCREMENT	Change Drop More
2	**FarmerID**	int(11)			No	*None*			Change Drop More
3	**ProductName**	varchar(255)	*utf8mb4_general_ci*		No	*None*			Change Drop More
4	**ProductDescription**	varchar(255)	*utf8mb4_general_ci*		No	*None*			Change Drop More
5	**ProductPrice**	decimal(10,2)			Yes	*NULL*			Change Drop More
6	**ProductQuantity**	int(100)			No	*None*			Change Drop More
7	**ProductImageURL**	varchar(255)	*utf8mb4_general_ci*		No	*None*			Change Drop More
8	**ProductCategory**	varchar(255)	*utf8mb4_general_ci*		No	*None*			Change Drop More

Check all *With selected:* Browse Change Drop Primary Unique Index Spatial Fulltext

Print Propose table structure Move columns Normalize

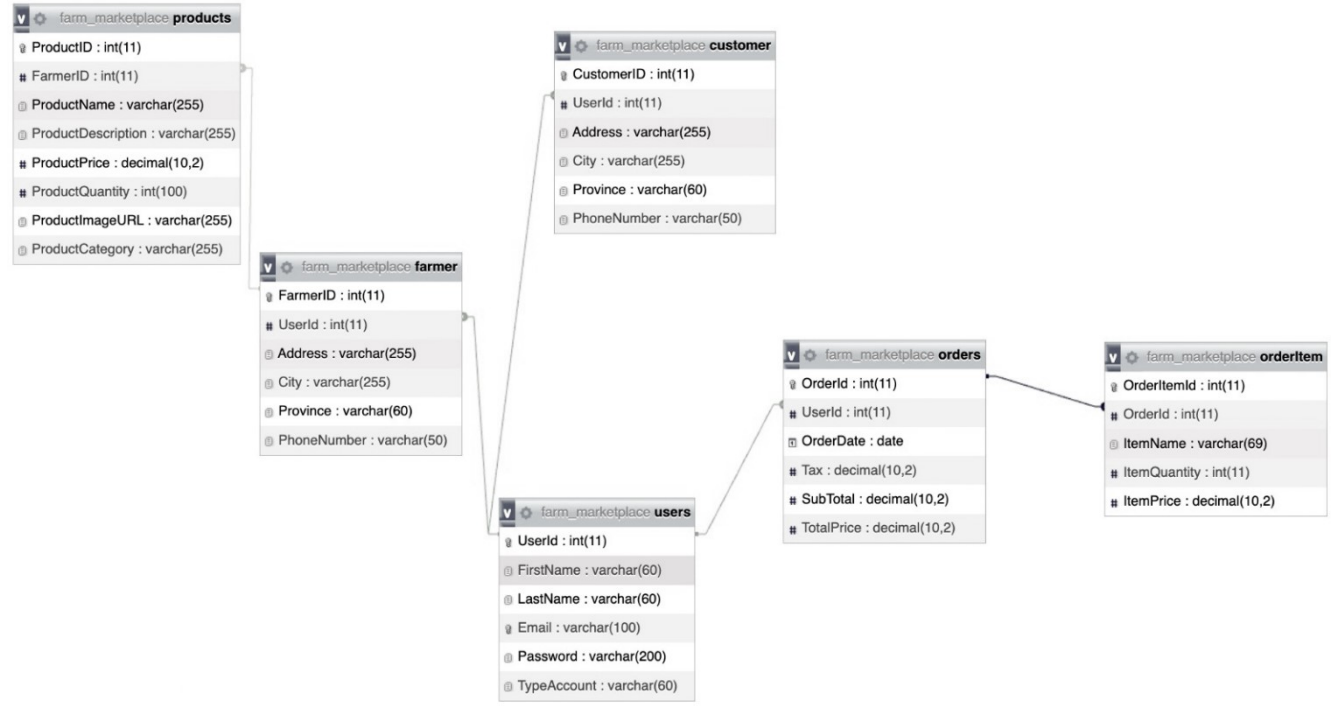
Add 1 column(s) after ProductCategory Go

Indexes

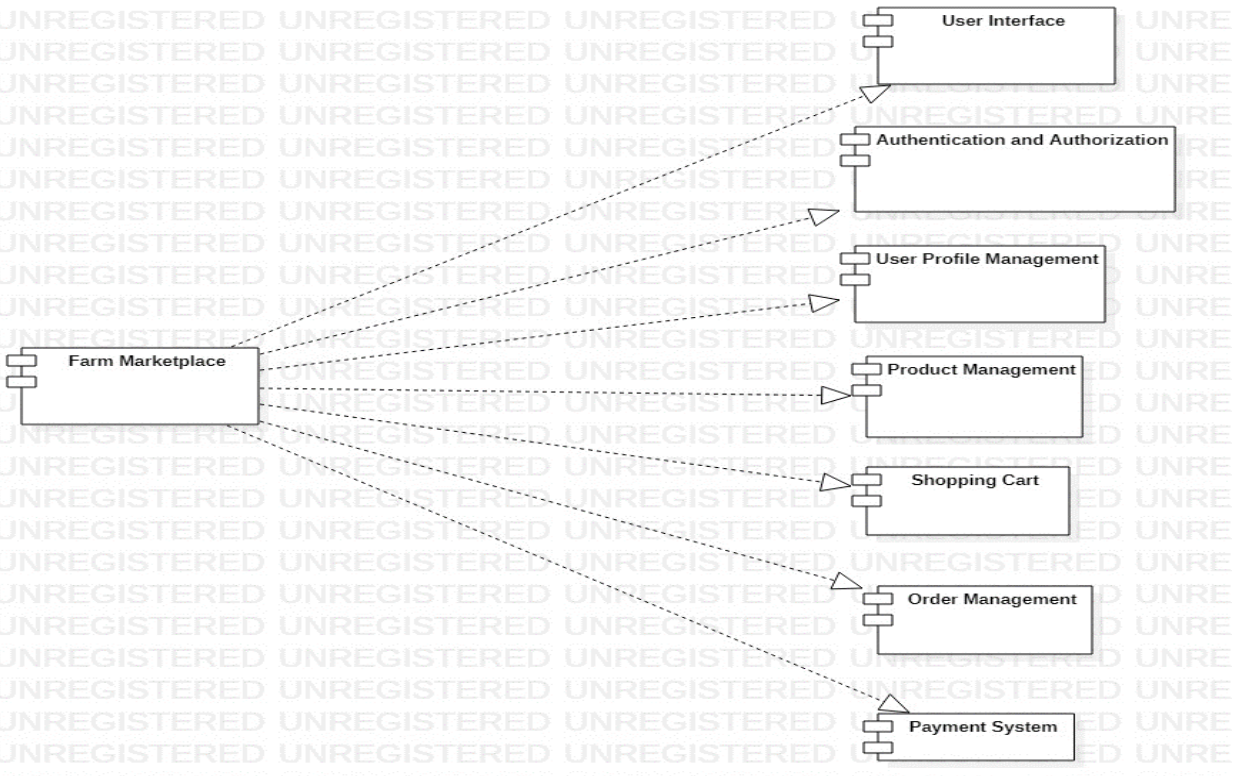
Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Rename Drop	**PRIMARY**	BTREE	Yes	No	ProductID	0	A	No	
Edit Rename Drop	**FarmerID**	BTREE	No	No	FarmerID	0	A	No	

5. UML Design

5.1 Class Diagram

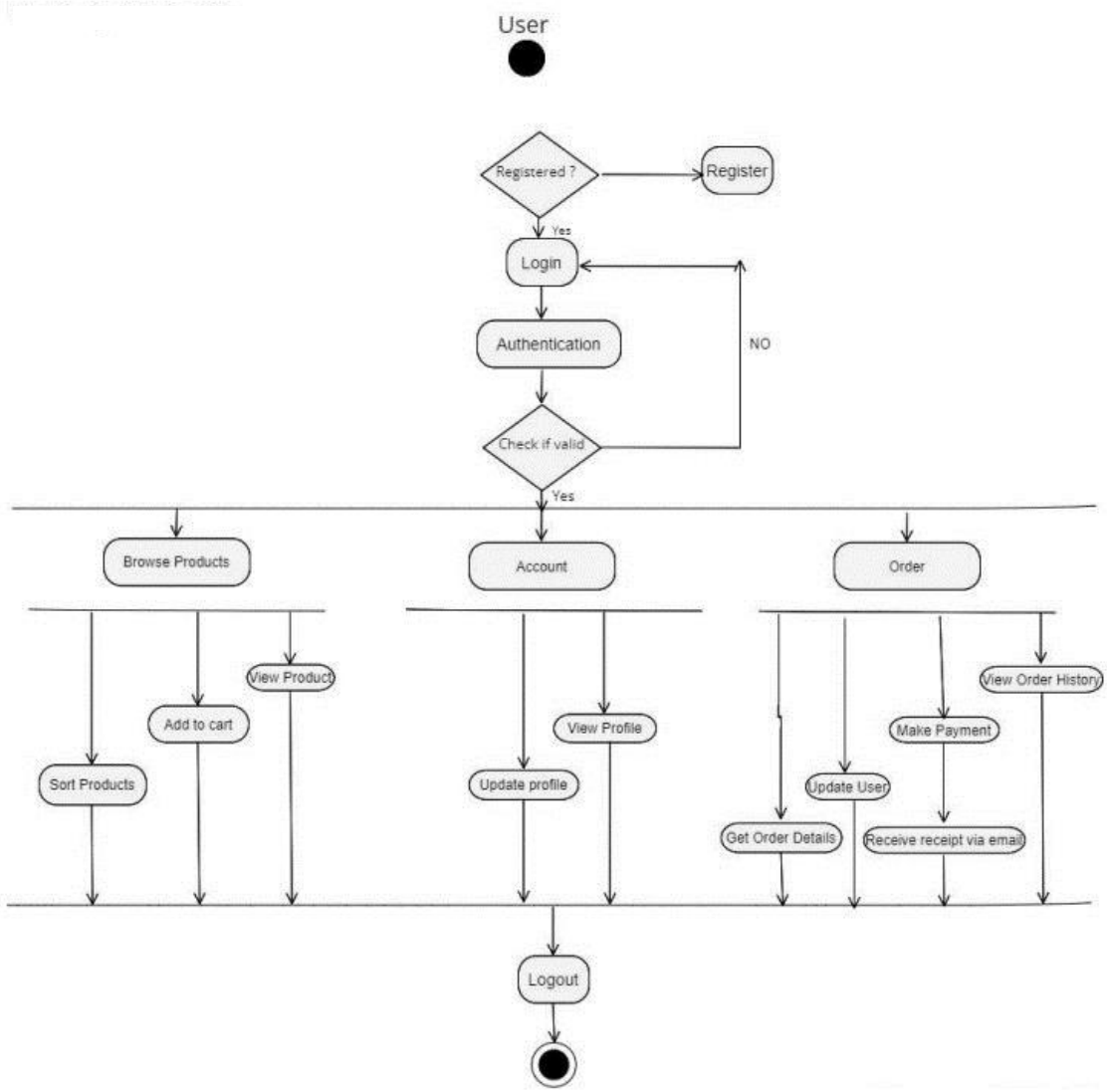


5.2 Component Diagram

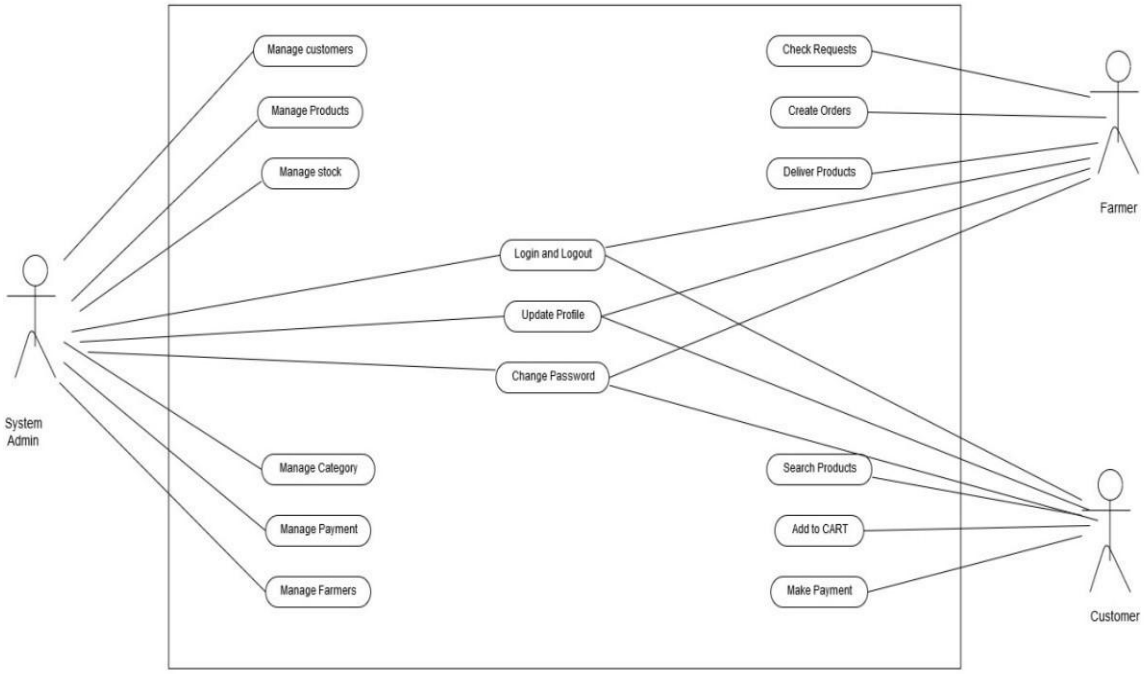


5.3 Activity Diagram

A. User

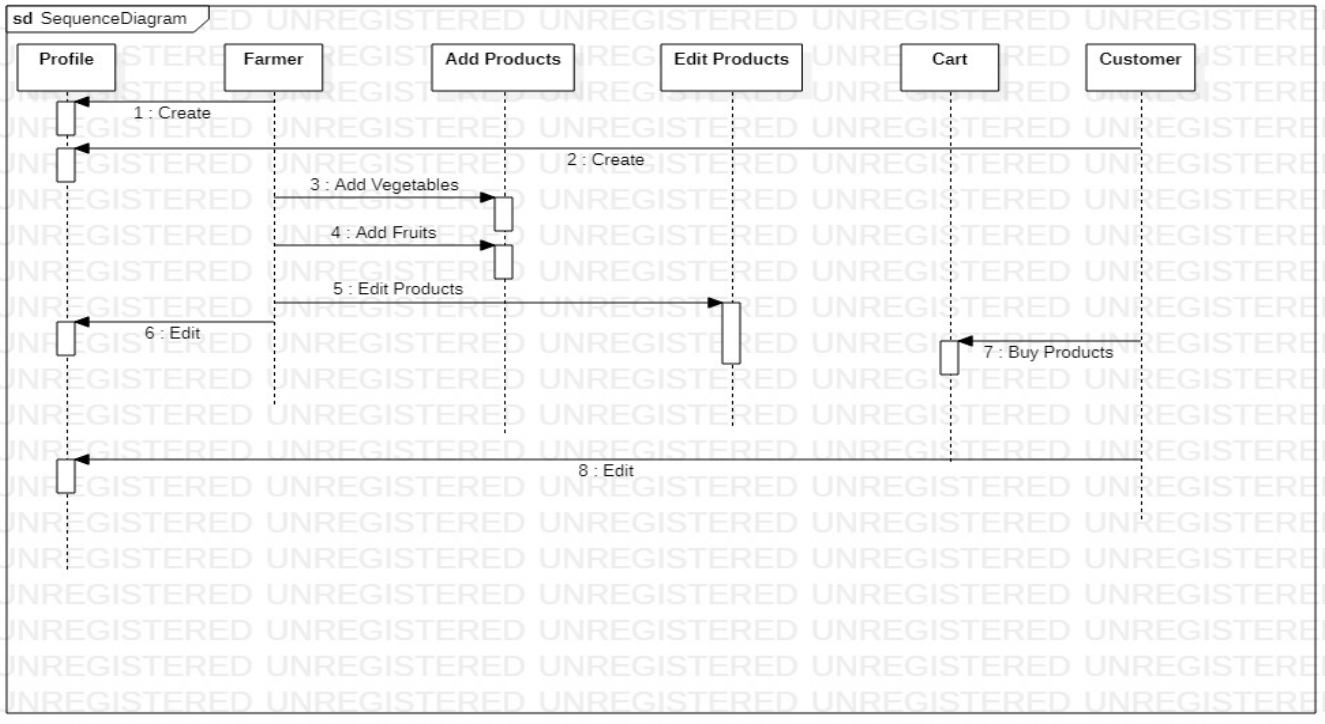


5.4 Use Case Diagram

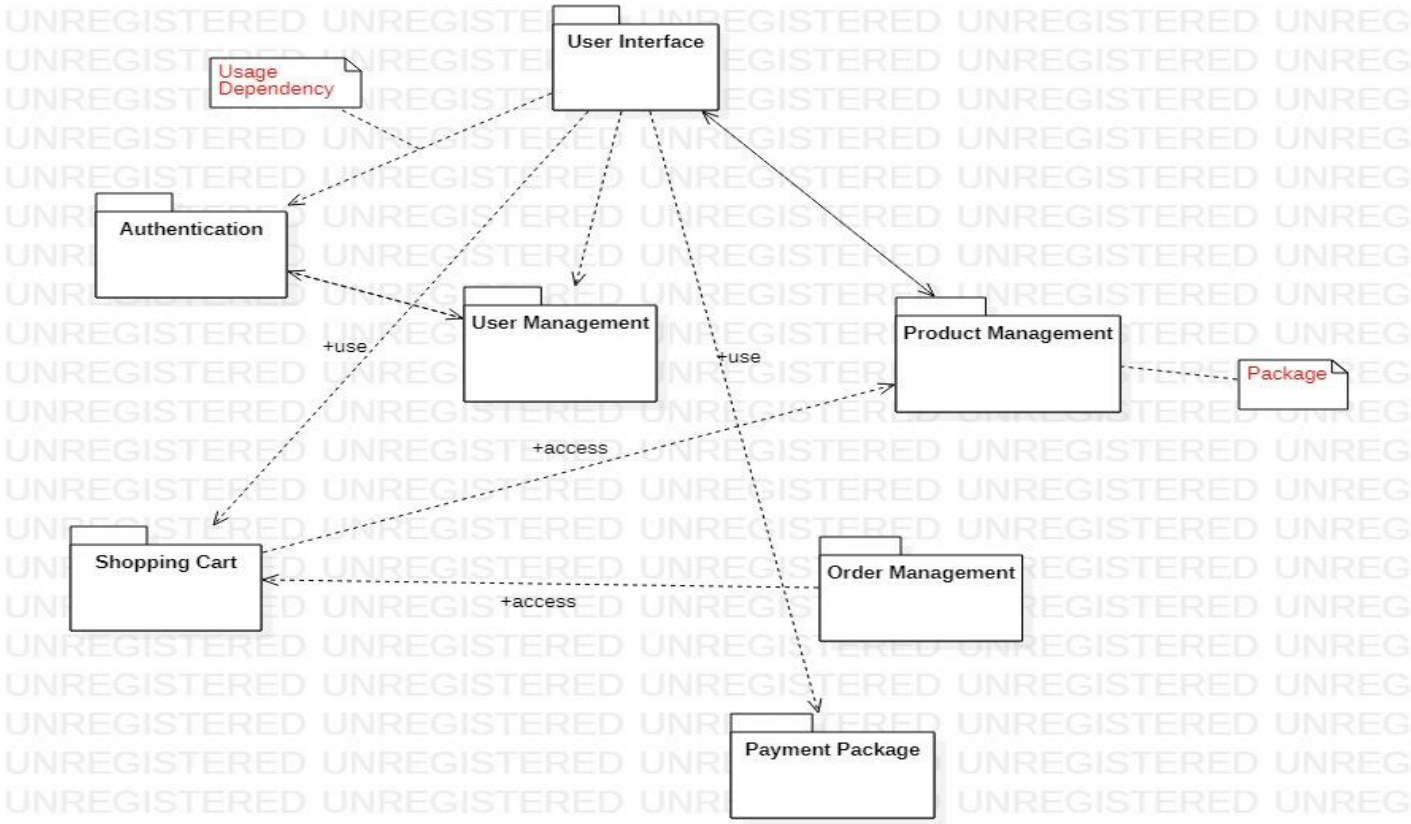


Use case Diagram

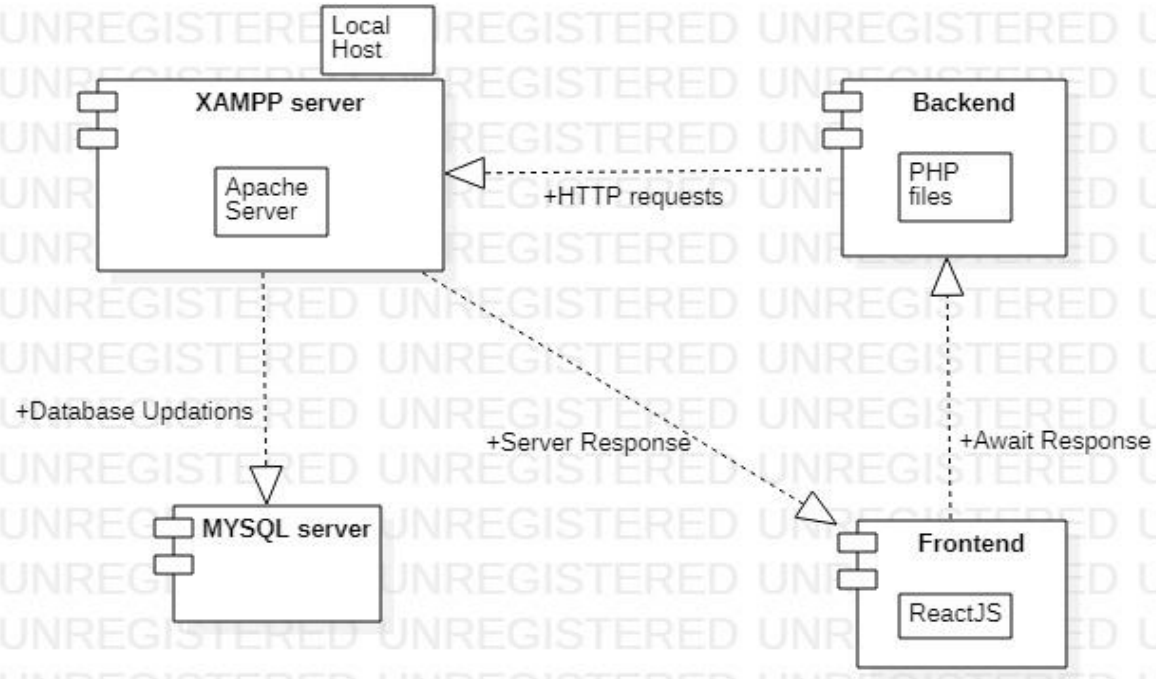
5.5 Sequence Diagram



5.6 Package Diagram

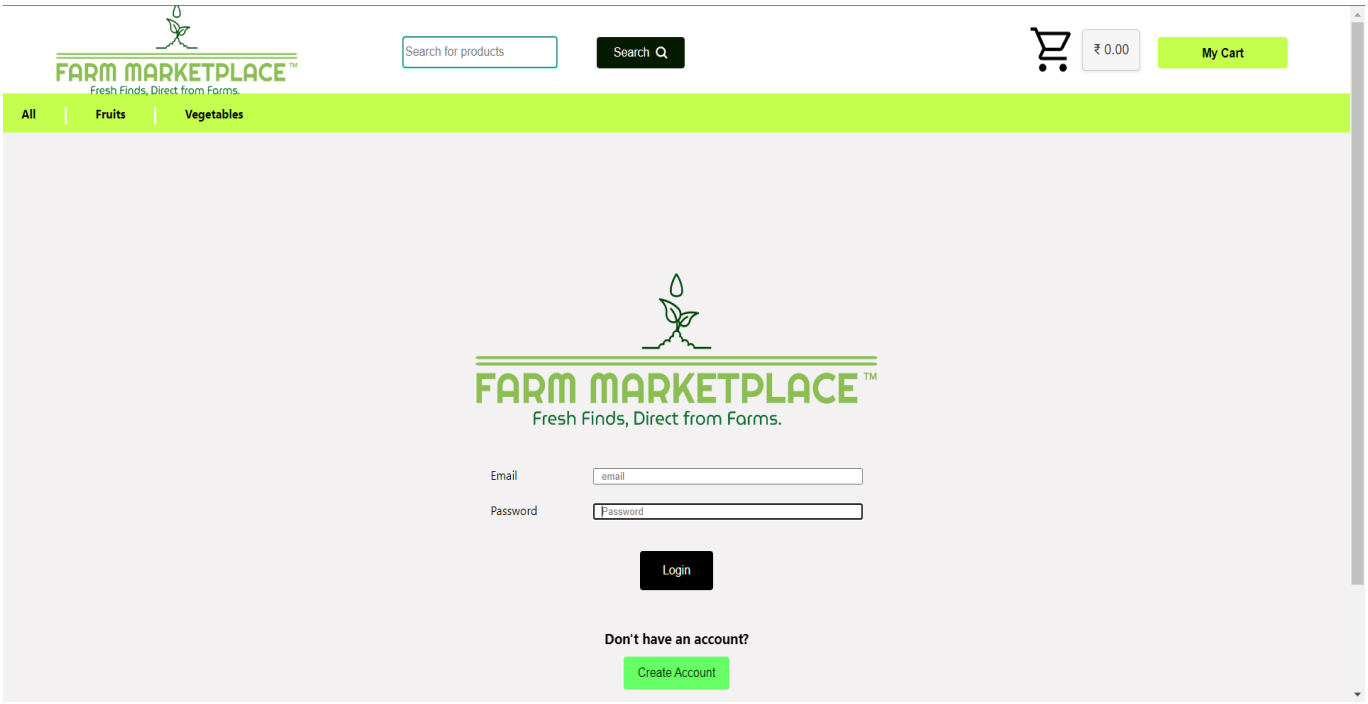


5.7 Deployment Diagram

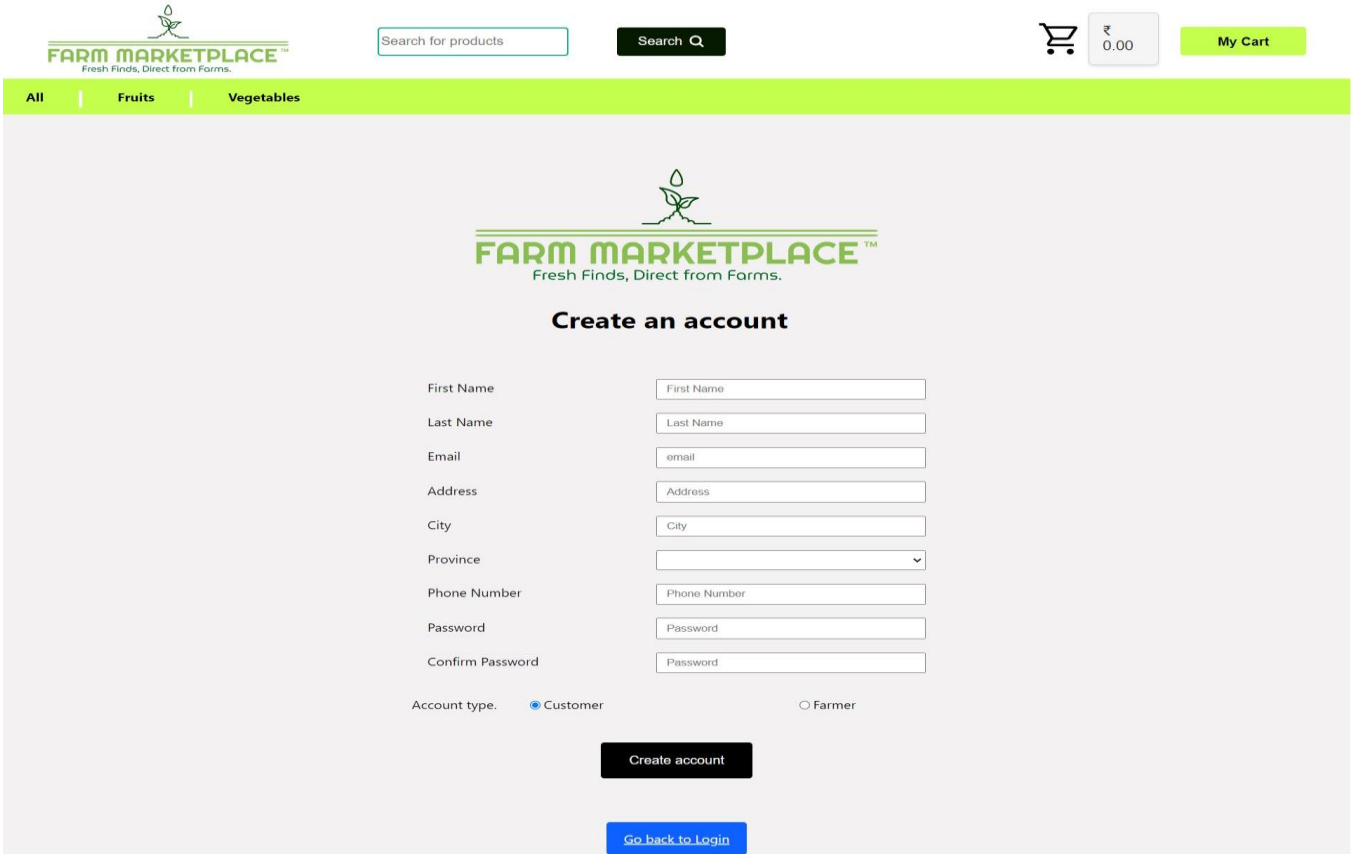


6. Graphical User Interface

6.1 Login Page

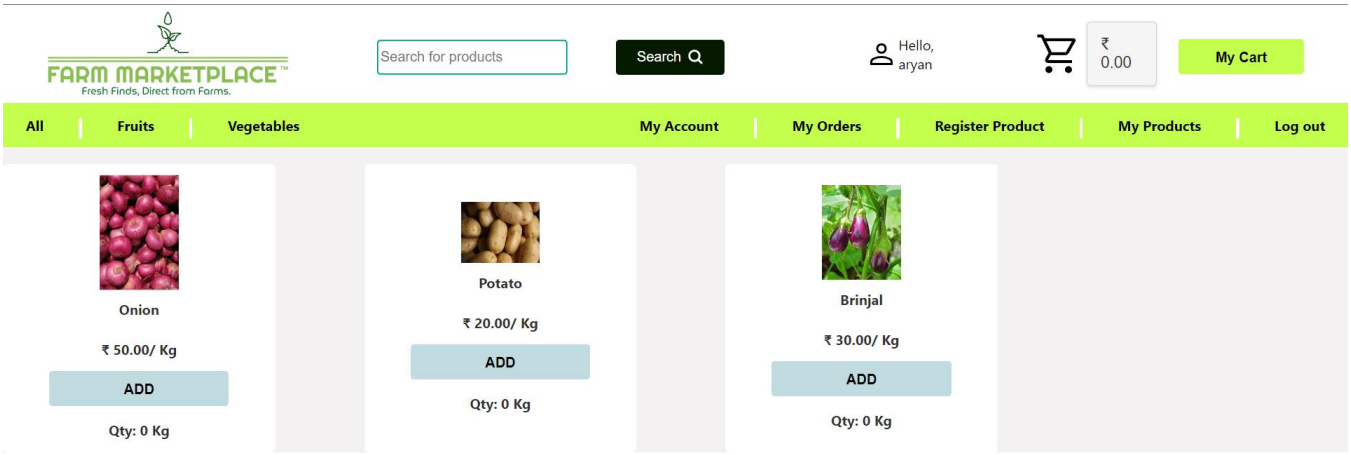


6.2 Create Account Page

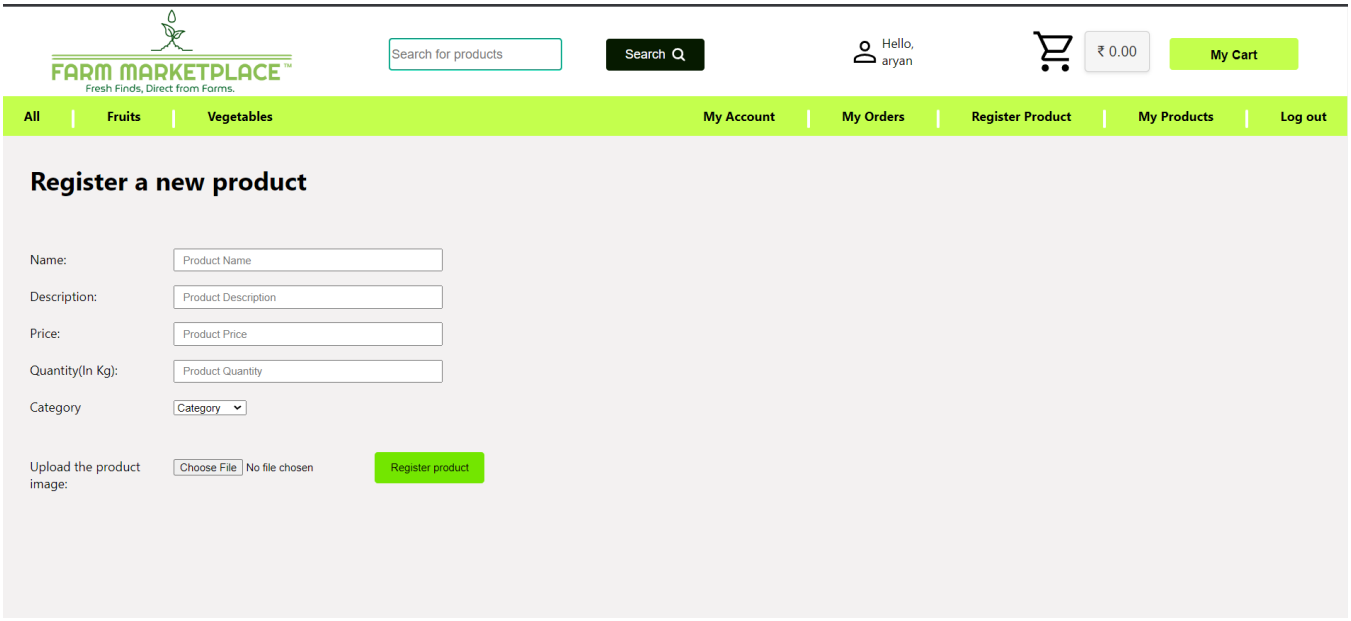


6.3 Interface for Farmer

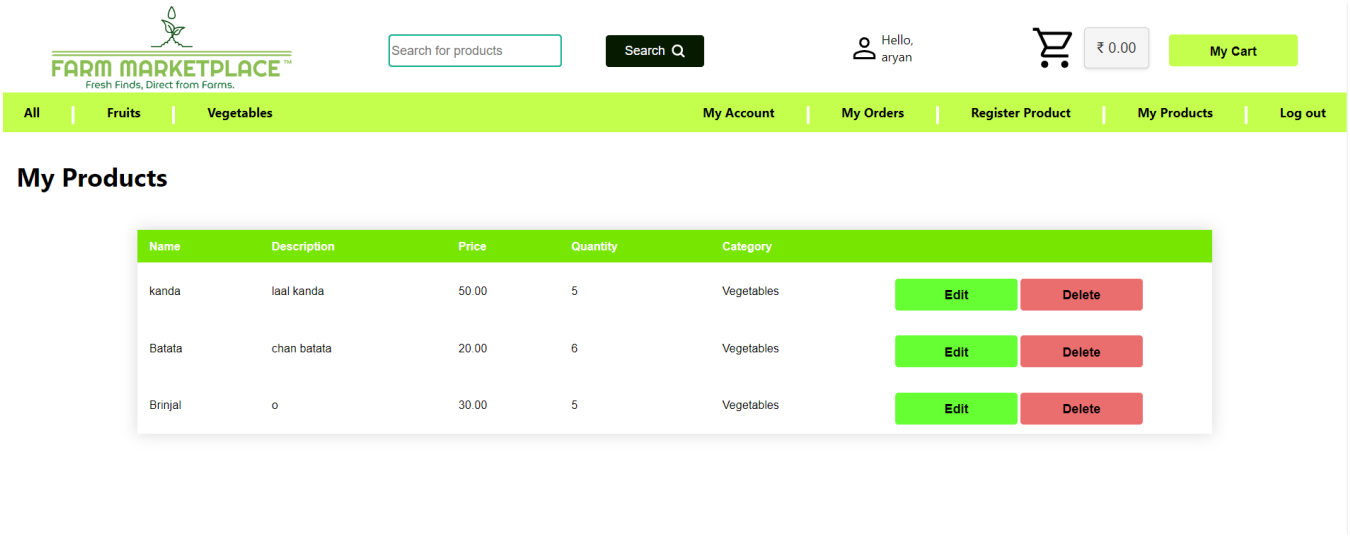
6.3.1 Farmer Home Page



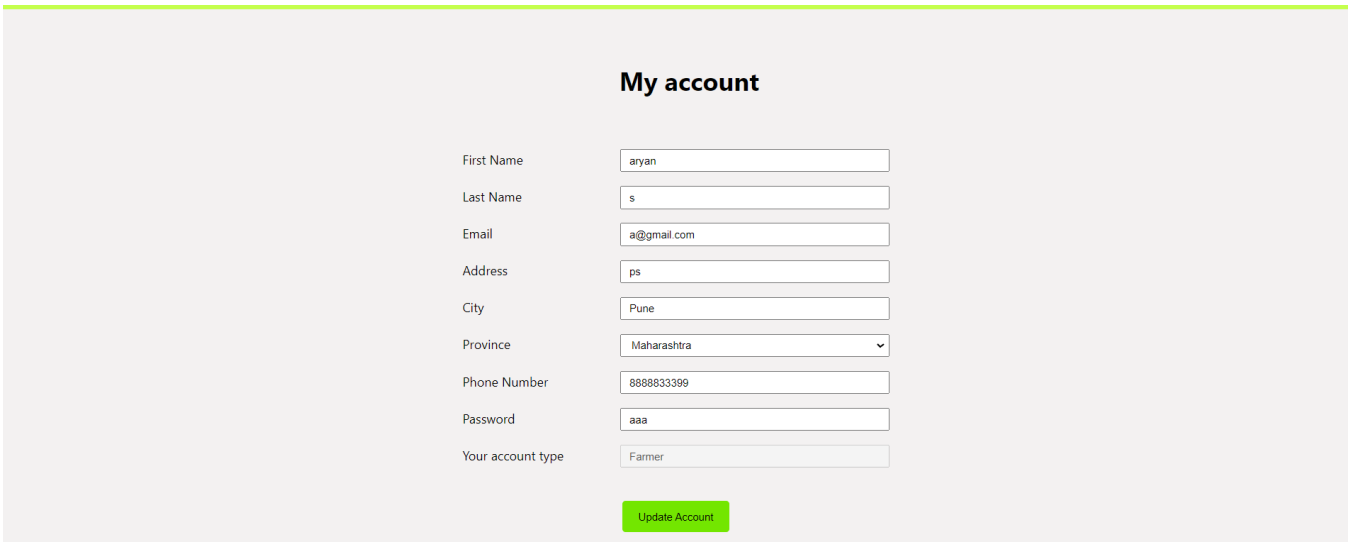
6.3.2 Register New Product



6.3.3 My Products Page

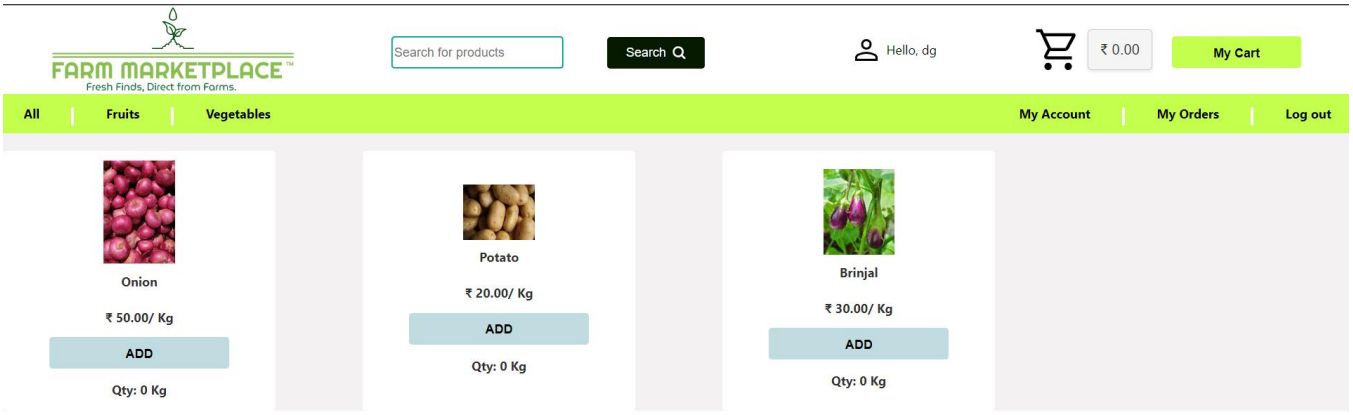


6.3.4 My Account Page

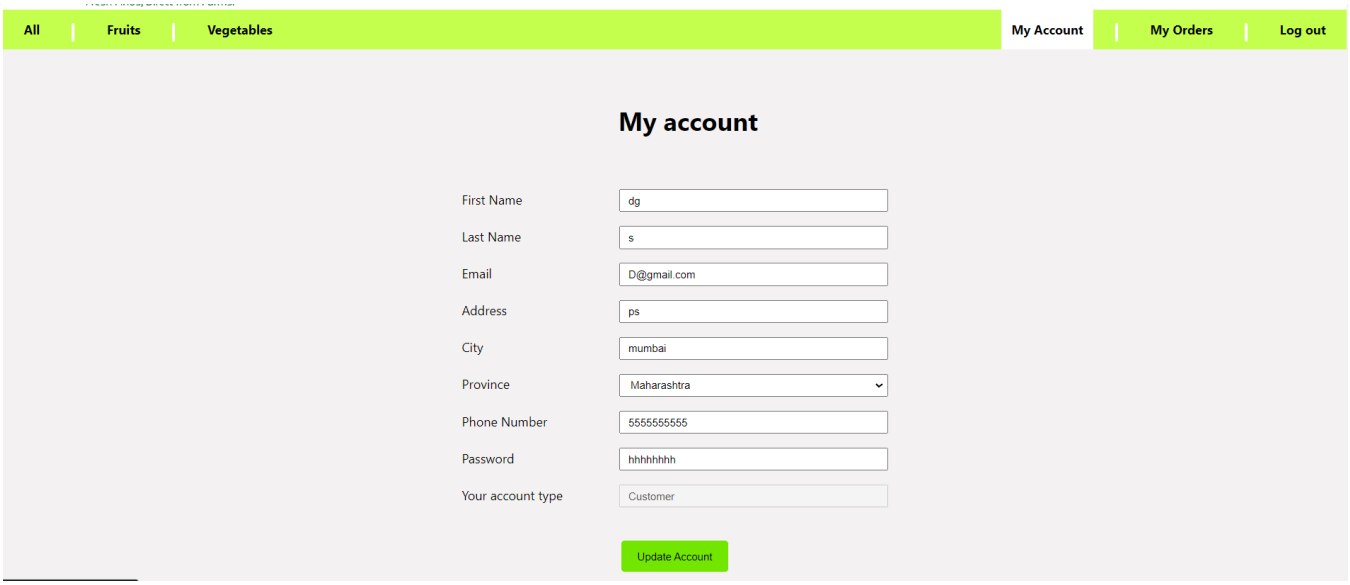


6.4 Customer Interface

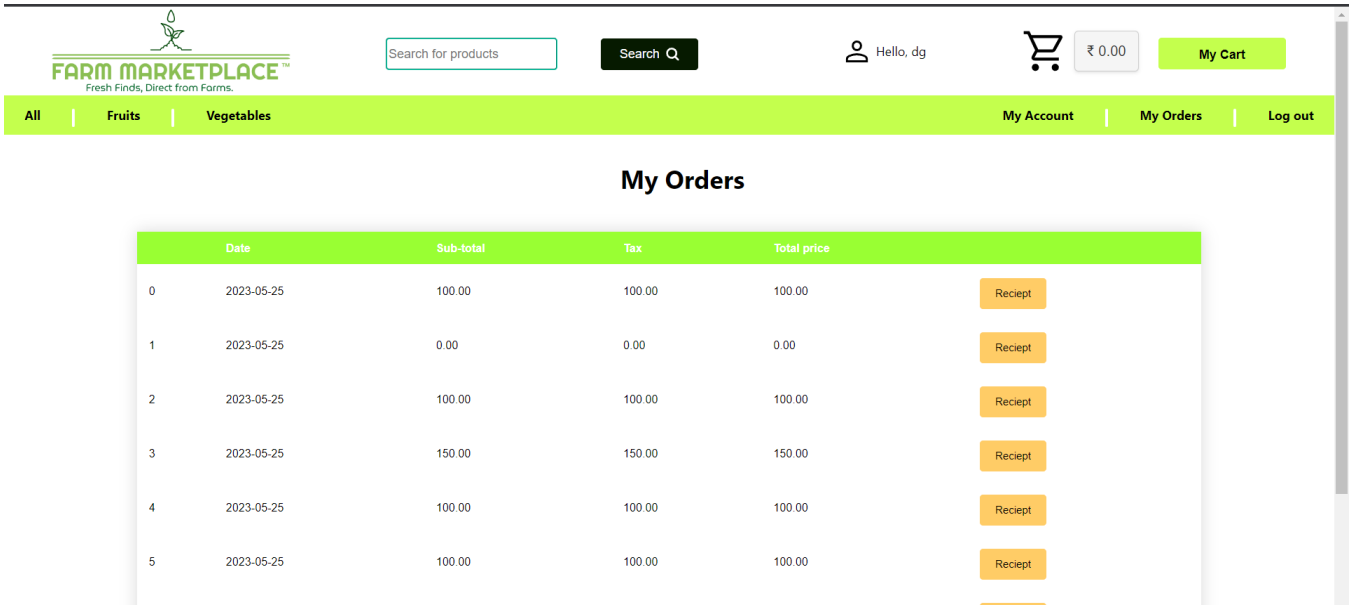
6.4.1 Home page



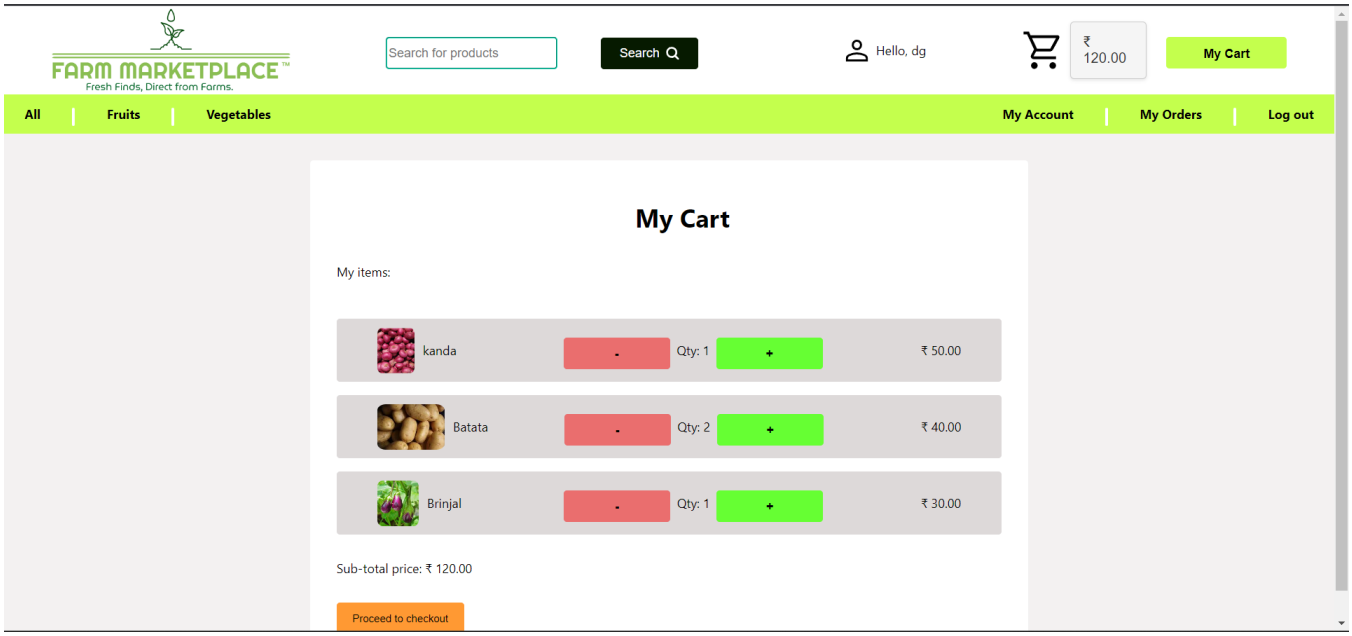
6.4.2 My Account Page



6.4.3 My Orders Page



6.4.4 My Cart Page



7. Source Code

```
import React, {useEffect, useState}from "react";
import { BrowserRouter, Routes, Route } from 'react-router-dom';
import Header from './Header';
import MenuBar from './MenuBar';
// import CustomerListOfProduts from "./CustomerListOfProduts";
import CreateAccount from './CreateAccount';
import MyAccount from './MyAccount'
import Login from './Login';
import AddProduct from "./AddProduct";
import ProductsFeed from "./ProductsFeed";
import { AppContext} from './AppProvider';
import MyProduct from "./MyProduct";
import EditProduct from "./EditProduct";
import MyCart from "./MyCart";
import Receipt from "./Receipt";
import MyOrders from "./MyOrders";
const Home = () => {
     const url = 'http://localhost/backend/';
    const path = 'http://localhost:3000/www/';

    const [user_id,setUserId] = useState('');
    const [userName,setUserName] = useState('');
    const [hasSession,setHasSession] = useState(false);
    const [cart, setCart] = useState({});
    const [cartPrice, setCartPrice] = useState(0);
    const [categoryType,setCategoryType] = useState("All");
    const [typeAccount,setTypeAccount] = useState("");

    useEffect(() => {
        if(sessionStorage.getItem("id")){
             setUserId(sessionStorage.getItem("id"));
             setUserName(sessionStorage.getItem("name"));
             setTypeAccount(sessionStorage.getItem("typeOfAccount"));
             setHasSession(true);
        }
        const newCart = JSON.parse(sessionStorage.getItem("myCart"));
        if(!(newCart === null)){
            setCart(newCart);
        }
        const totalPrice = sessionStorage.getItem("totalPrice");
```

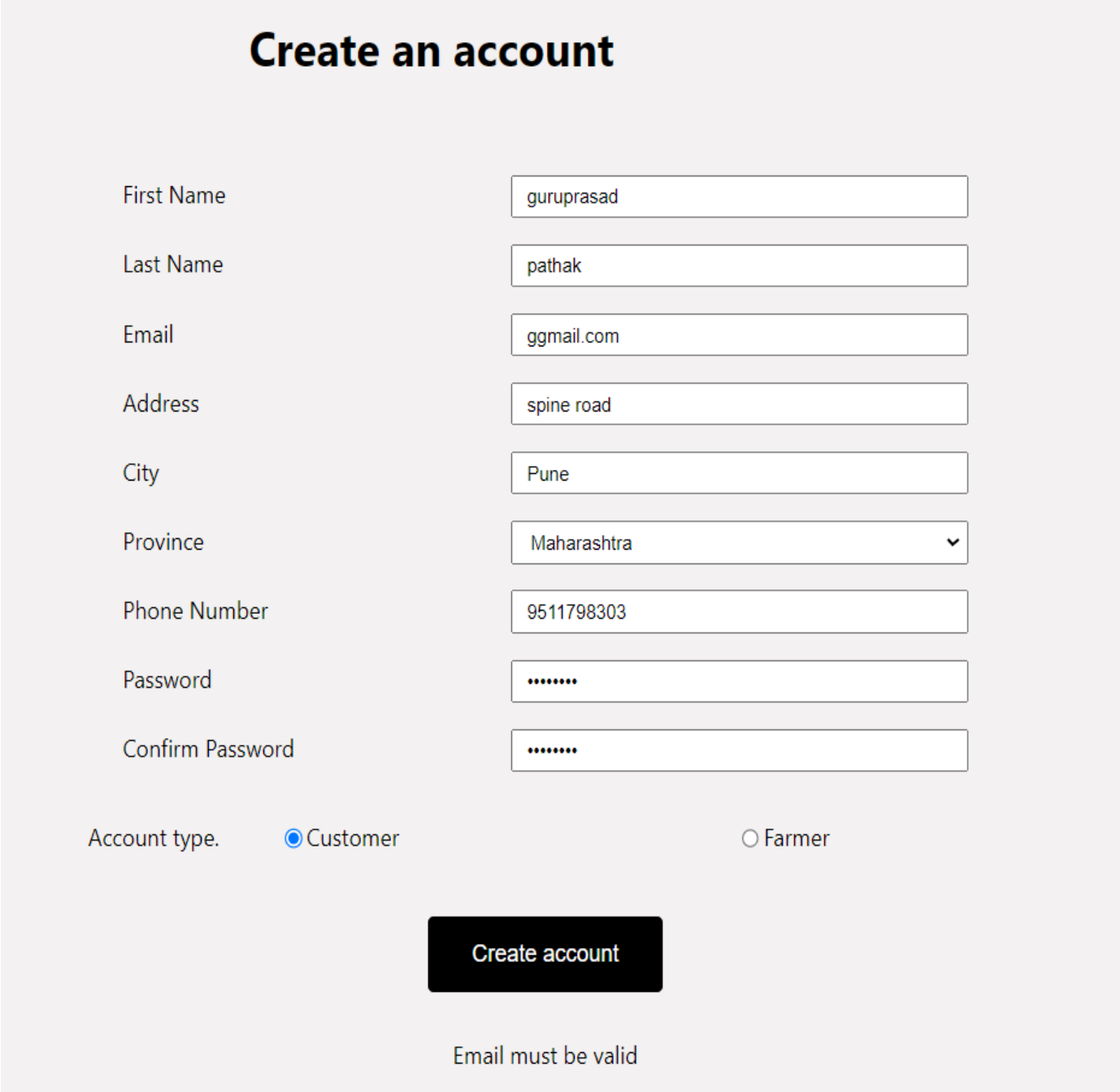
```
        if(!(totalPrice === null)){
            setCartPrice(totalPrice);
        }else{
            sessionStorage.setItem("totalPrice", cartPrice);
        }
    }, [setCart,setCartPrice ,cartPrice]);

    return (
        <>
           <AppContext.Provider value={{url,path,
user_id,cart,setCart,userName, categoryType, typeAccount,
hasSession,setCategoryType , cartPrice, setCartPrice}}>
             <BrowserRouter>
                {/* <Header name = {userName} session = {hasSession}/>
*/}
                <Header/>
                <MenuBar session = {hasSession}/>
                {/* <ProductsFeed /> */}
                <Routes>
                {/* <Route exact path="/" element={<Home />}/> */}
                <Route exact path="/www" element={<Login />}/>
                <Route  path="/login" element={<Login/>} />
                <Route path="/createAccount" element={<CreateAccount
/>} />
                <Route path="/myAccount" element={<MyAccount />} />
                <Route path="/addProduct" element={<AddProduct />} />
                <Route path="/productFeed" element={<ProductsFeed />}
/>
                <Route path="/myProducts" element={<MyProduct />} />
                <Route path="/editProduct" element={<EditProduct />} />
                <Route path="/myCart" element={<MyCart />} />
                <Route path="/receipt" element={<Receipt />} />
                <Route path="/myOrders" element={<MyOrders />} />
                </Routes>
             </BrowserRouter>
             </AppContext.Provider>
         </>
    )
}
export default Home;
```

For Entire Source Code:
https://github.com/grpathak22/pbl2-farm-marketplace

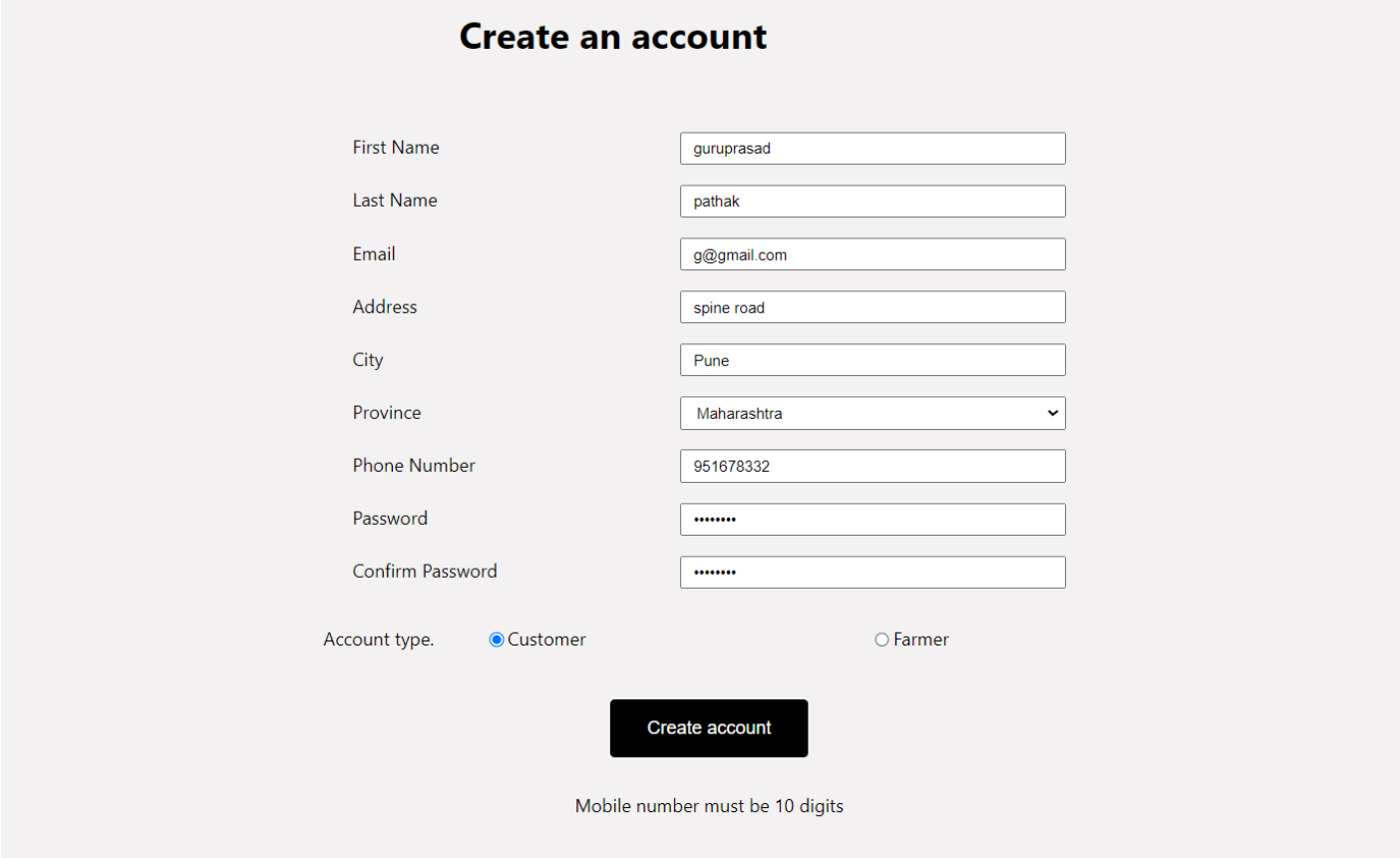
8. Test Cases

8.1 Create Account

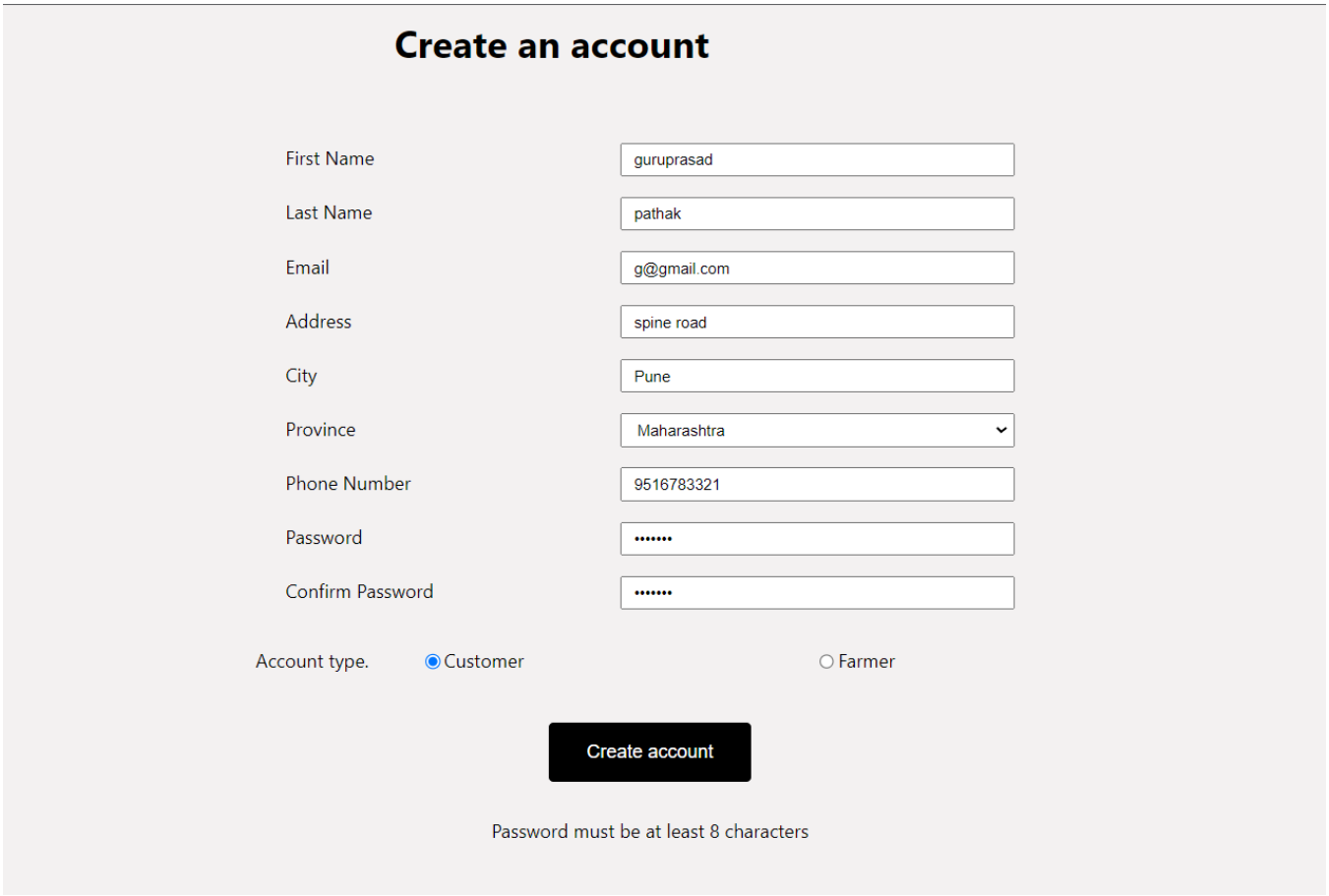
8.1.1 Email Validation:



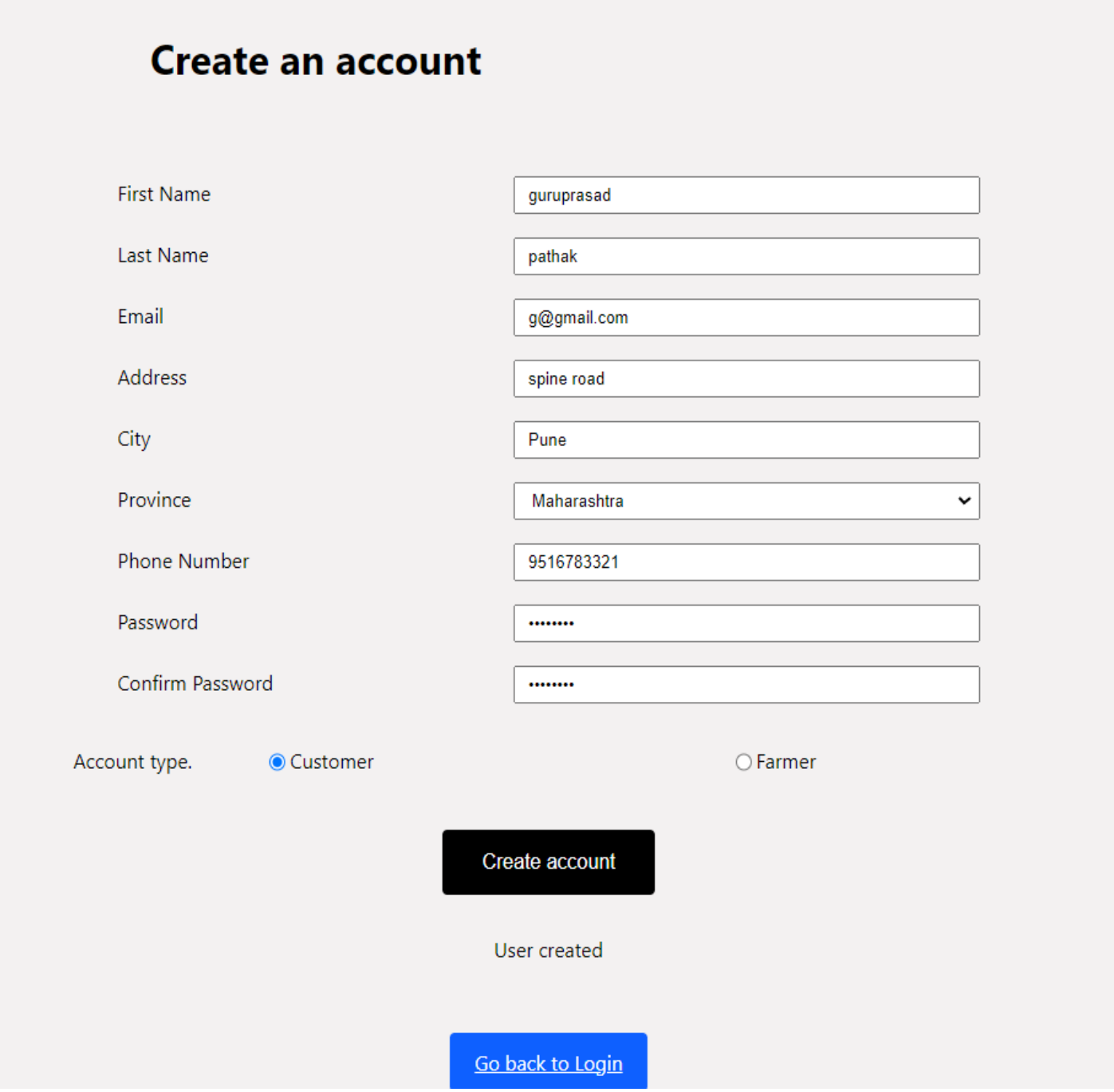
8.1.2 Phone Number Validation



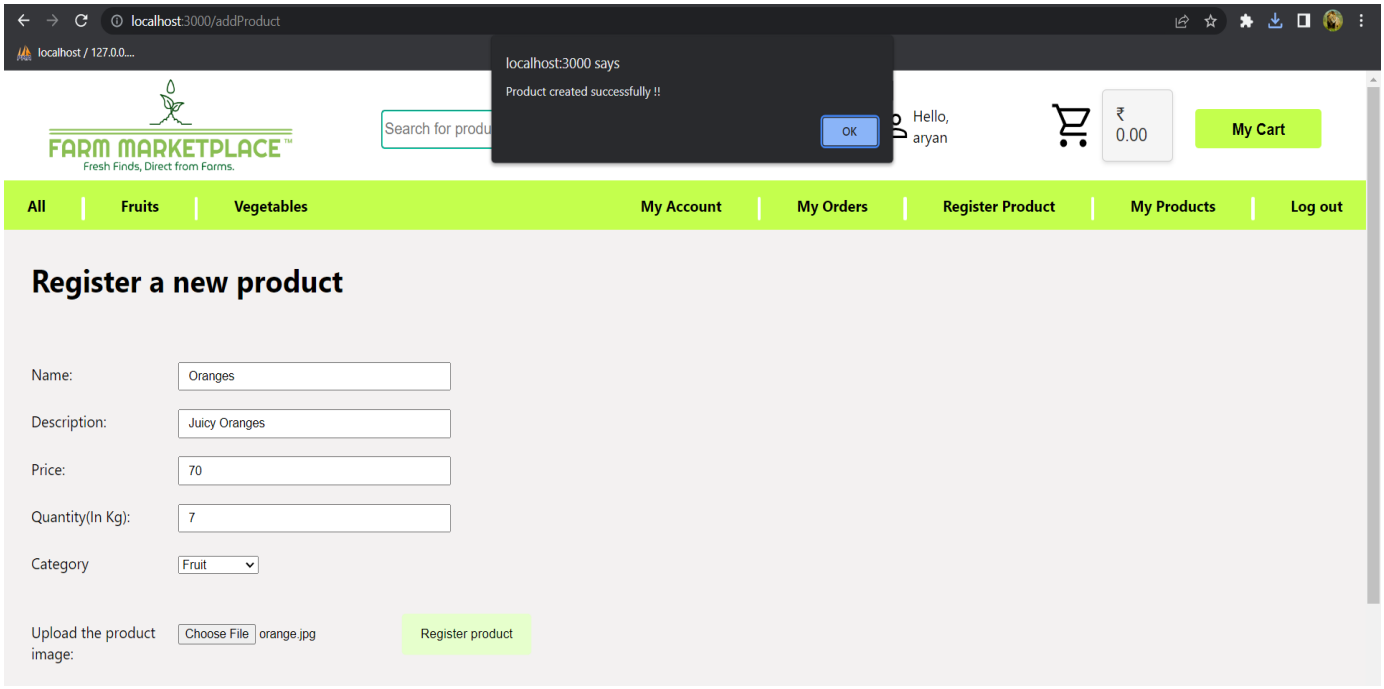
8.1.3 Password Validation

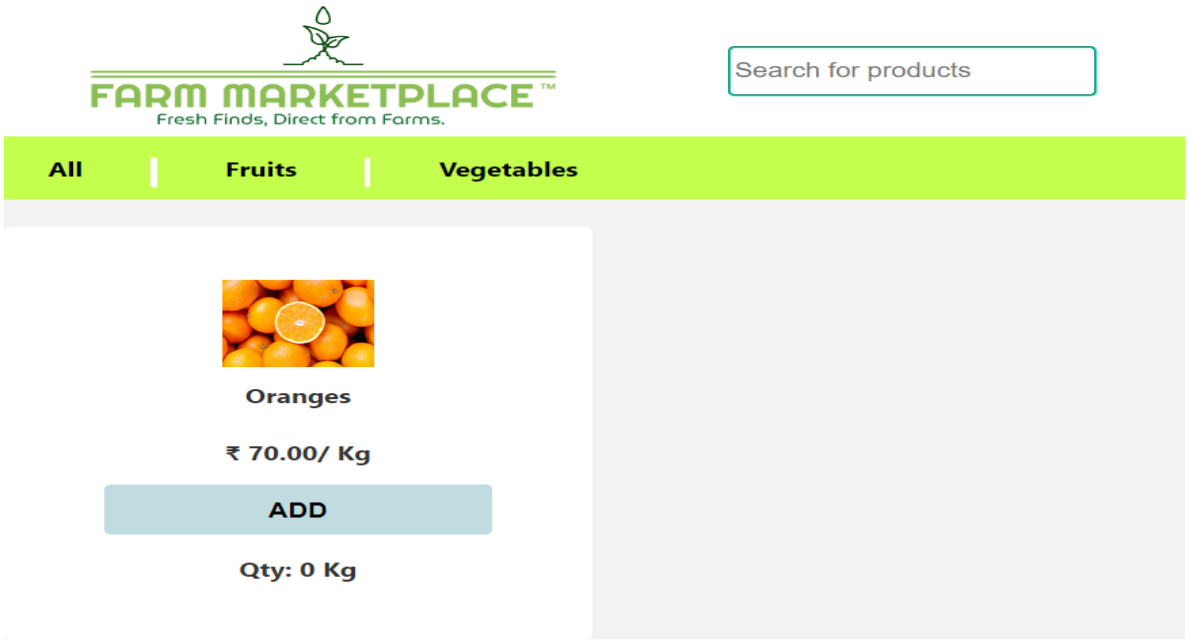


8.1.4 User Created

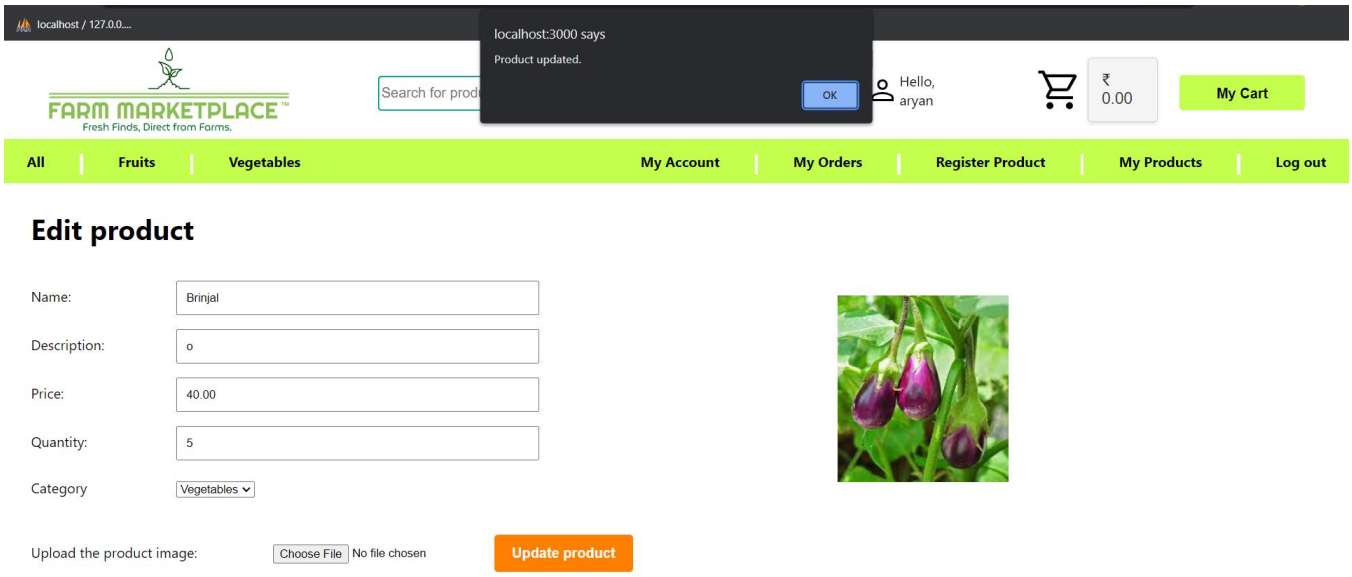


8.2 Register Product



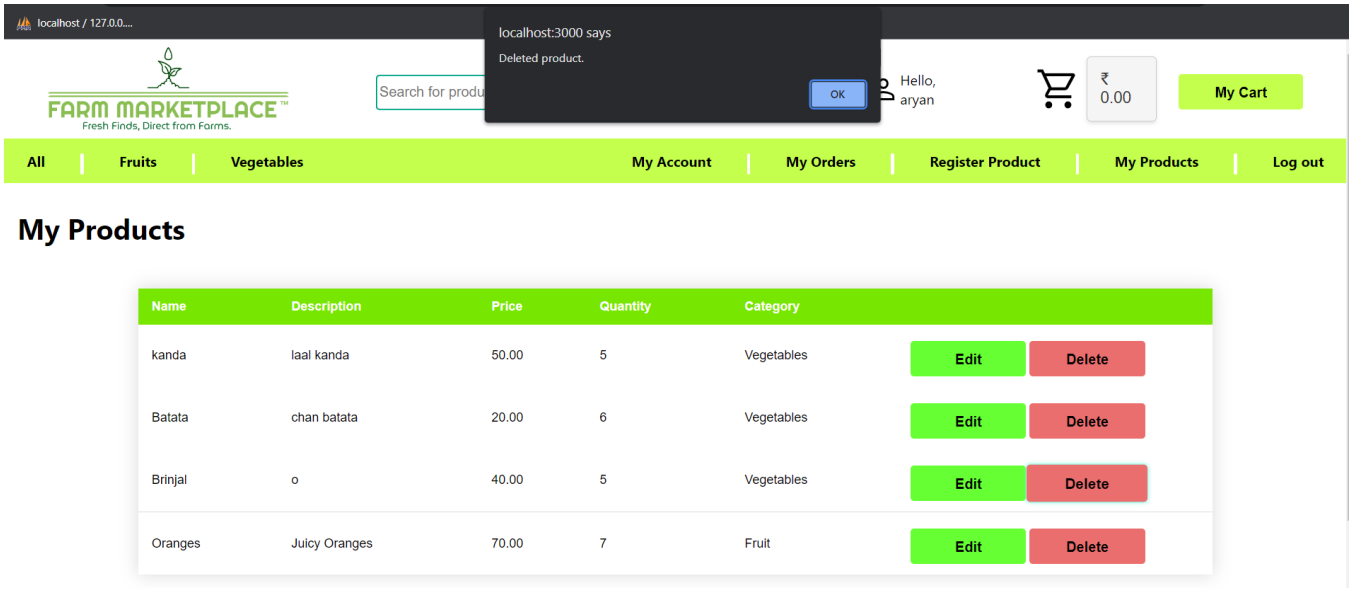


8.2 Edit Product



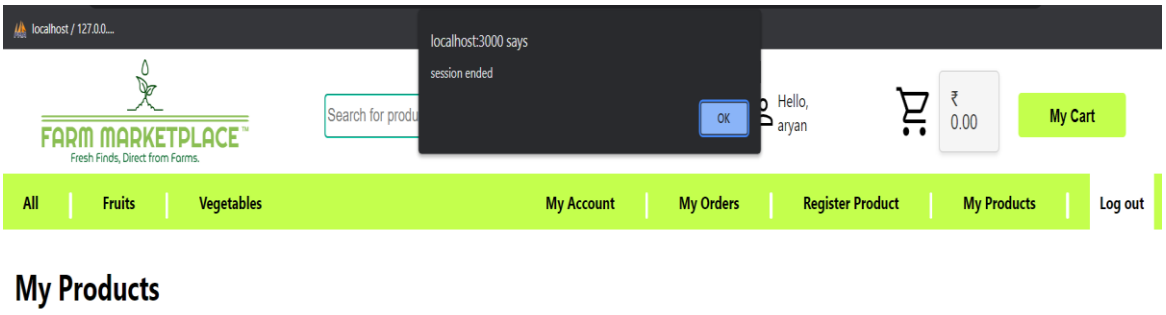
In above test case, Price of the product was changed.

8.3 Delete Product

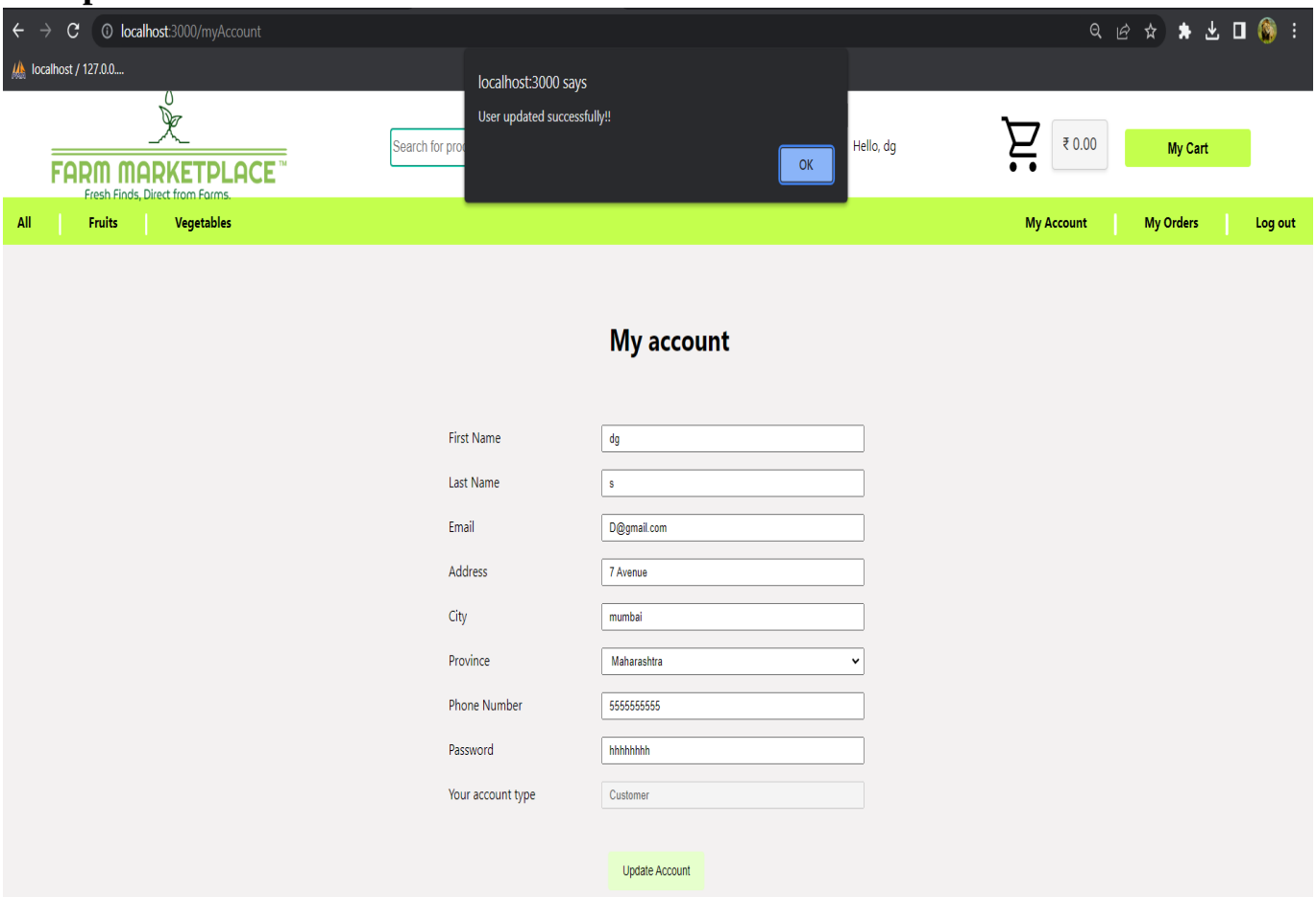


In above test case, Product named Brinjal was deleted.

8.4 Logout

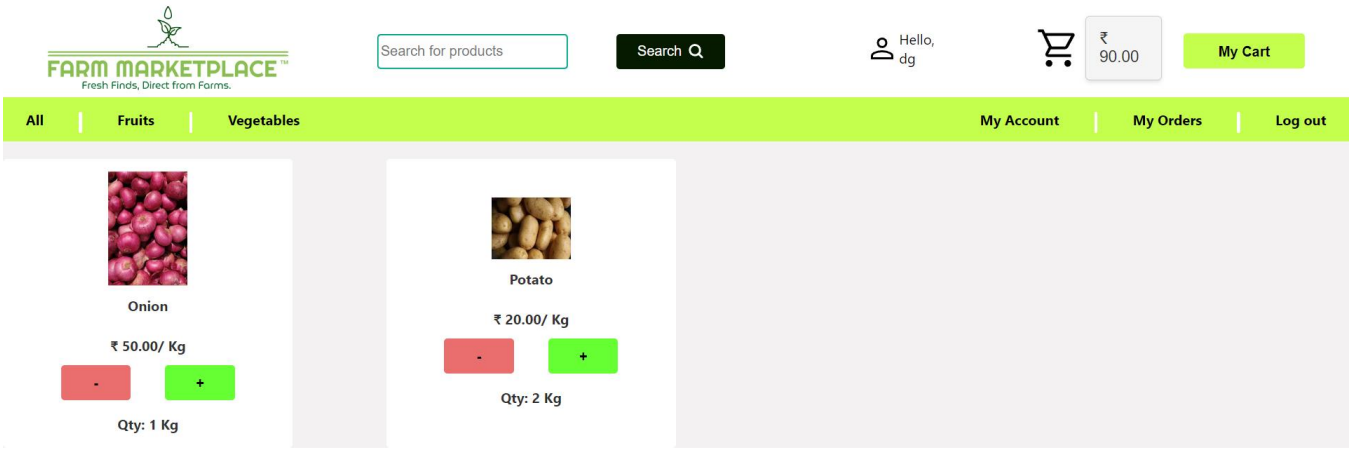


8.5 Update Account

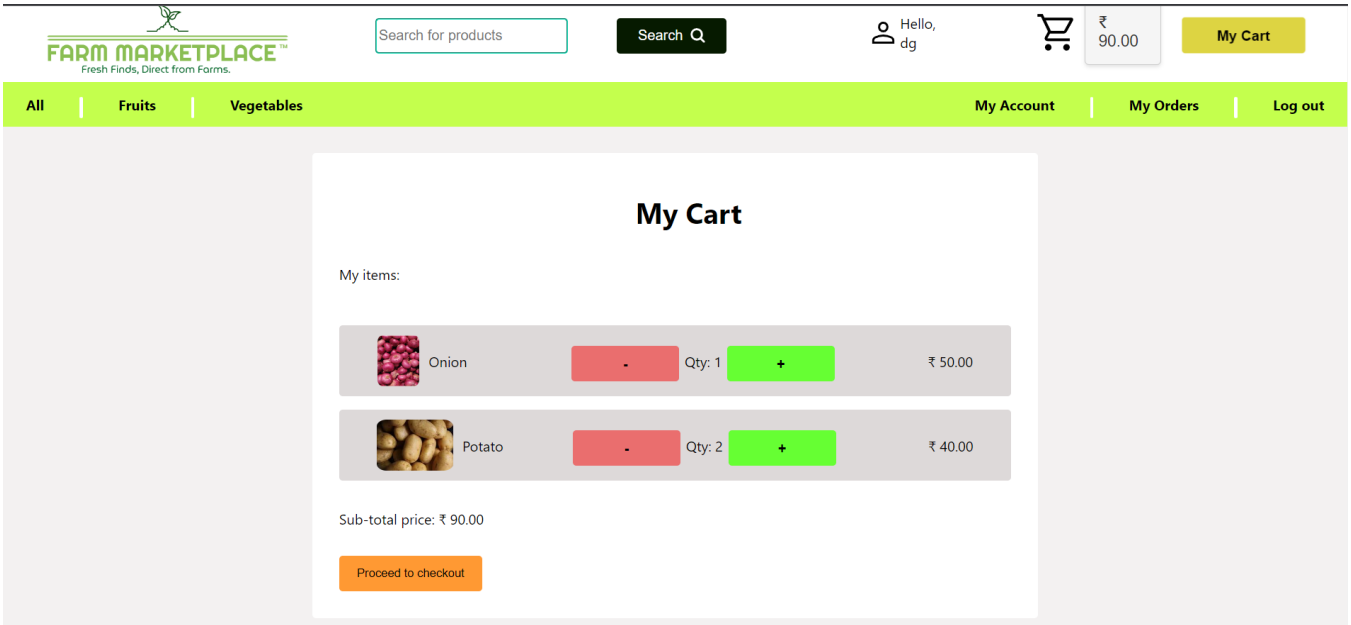


8.6 Customer Ordering Products

8.6.1 Adding to My Cart

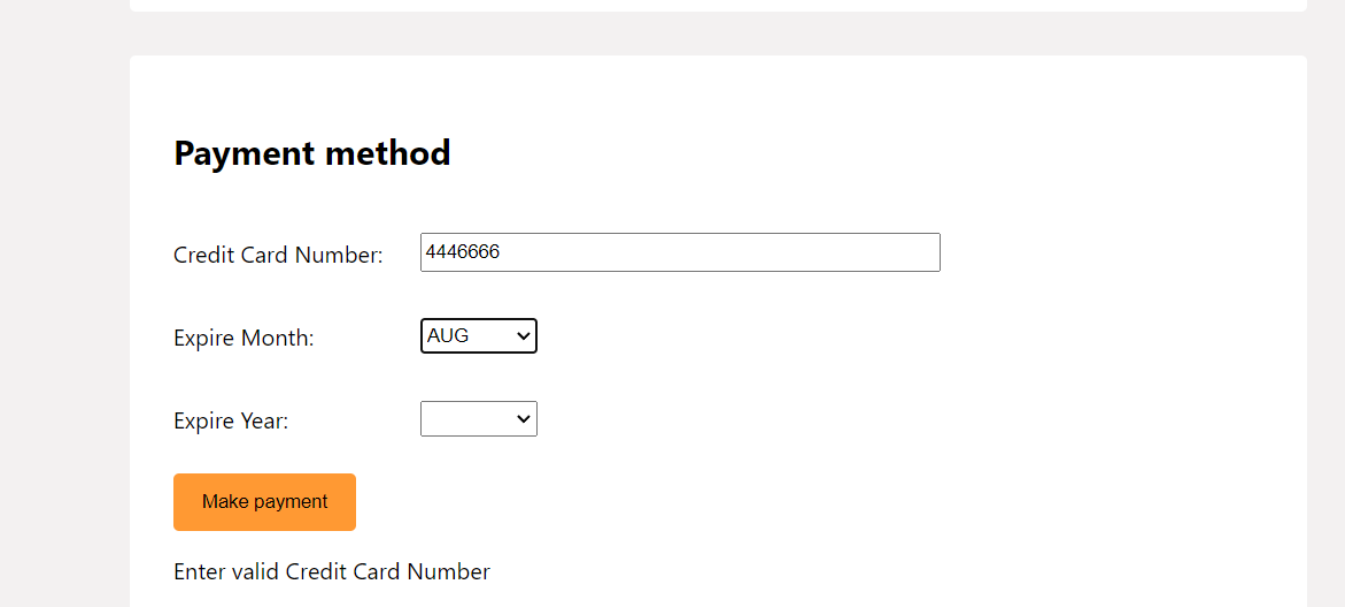


8.6.2 My Cart

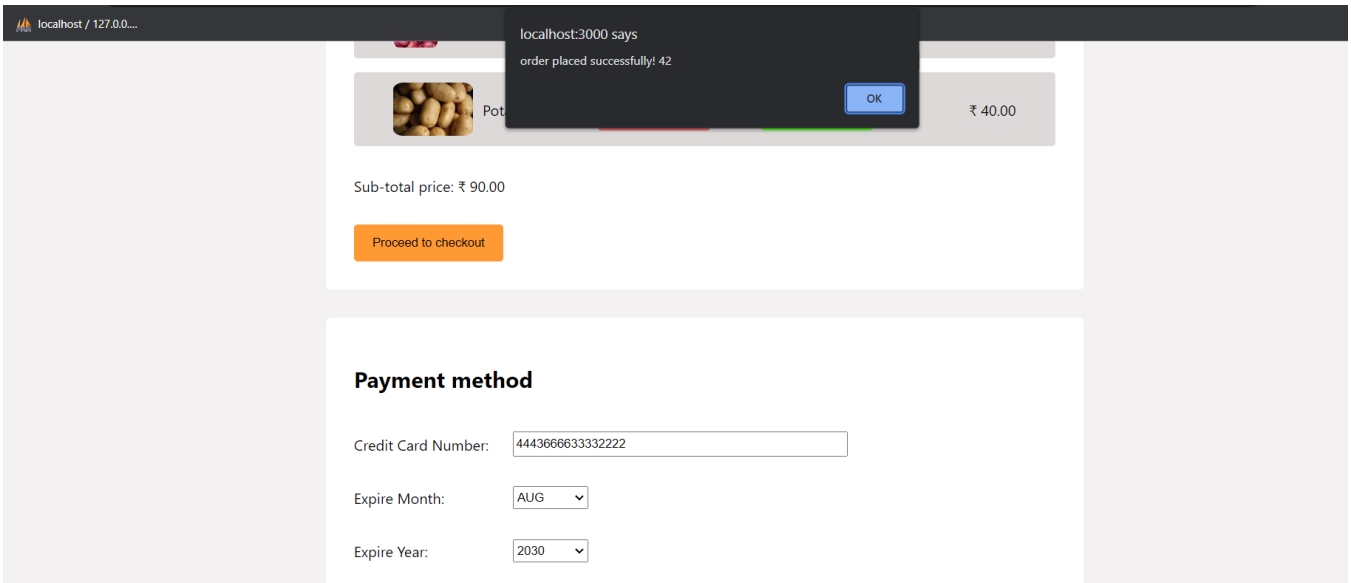


8.6.3 Checkout

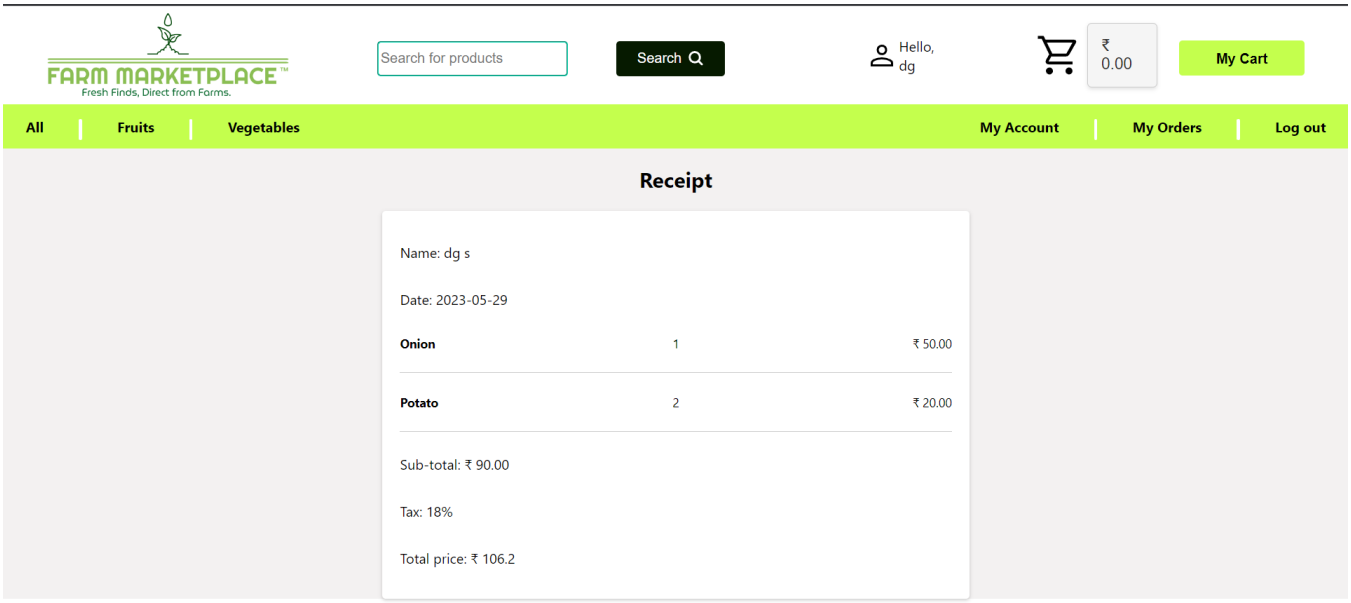
8.6.3.1 Credit Card Validation



8.6.4 Placing Order



8.6.5 Reciept


FARM MARKETPLACE
Fresh Finds, Direct from Farms.
Search for products
Search
Hello,
dg
₹
0.00
My Cart
All
Fruits
Vegetables
My Account
My Orders
Log out
Receipt
Name: dg s
Date: 2023-05-29
Onion 1 ₹ 50.00
Potato 2 ₹ 20.00
Sub-total: ₹ 90.00
Tax: 18%
Total price: ₹ 106.2

9. Conclusion

Farm Marketplace project aims to bridge the gap between farmers and customers, providing a platform for efficient buying and selling of farm products. Through the implementation of various functional requirements, such as user registration, product management, browsing, and order management, the application offers a seamless experience for both farmers and customers. Additionally, the project addresses important non-functional requirements, including performance, security, usability, compatibility, scalability, and efficient database management. By fulfilling these requirements, the Farm Marketplace application can effectively serve its purpose, empowering farmers and providing customers with a convenient and reliable marketplace for their agricultural needs. The application aims to revolutionize the agricultural marketplace, benefiting both farmers and customers alike.