A

PROJECT REPORT ON

QUICK MART

(An Online Grocery Store)

SUBMITTED IN PARTIAL

FULFILLMENT OF

DIPLOMA IN ADVANCE COMPUTING (PG-DAC)

CENTER FOR DEVELOPMENT OF
ADVANCED COMPUTING

UNDER THE GUIDANCE OF

MRS. ANU MEHRA MAM

PRESENTED BY

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Darshan Gade	**220320520046**

AT

CENTRE FOR DEVELOPMENT OF ADVANCE COMPUTING

(CDAC), NOIDA.

ACKNOWLEDGEMENT

This project **"QUICK MART (ONLINE GROCERY STORE)"** was truly a great learning experience for us and we are submitting this work to CDAC NOIDA. We are very glad to mention Mrs. Anu Mehra Mam for her valuable guidance to work on this project. Her guidance and support helped us to overcome various obstacles and intricacies during the course of project work.

We are highly grateful to Mr. Ravi Payal Sir, Manager and Course Coordinator of CDAC NOIDA, for his guidance and support whenever necessary during the course of our journey to acquire PG-Diploma in Advanced Computing (PG- DAC) through CDAC NOIDA. Our heartfelt thanks go to all the Teachers who gave all the required support and kind coordination to provide all the necessities.

From

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ABSTRACT

This project named as Quick Mart (An Online Grocery Store) is a web-based application in which one can order various daily household groceries items from a particular Super Mart through the use of internet, just by sitting at home or any place, and the order is delivered to the told location.

The Online Grocery Store is project developed using HTML, CSS, JavaScript, JSP, MySQL, Spring Boot MVC. The project contains an Admin and the User side. All the management like editing site contents, updating items, adding new items, and checking order status can be managed from the admin side.

For the User section, the users can go through the Homepage and add items in the cart to order. In order to order some items, the user has to Sign-up or Log-In.

This project is an attempt to provide the advantages of online shopping to customers of a real shop. It helps buying the products in the shop anywhere through internet by using an android device. Thus, the customer will get the service of online shopping and home delivery from his favorite shop. This system can be implemented to any shop in the locality or to multinational branded shops having retail outlet chains.

1. INTRODUCTION:

Online Grocery Store is a web-based online grocery shopping system for an existing shop. Online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. This project is an attempt to provide the advantages of online shopping to customers of a real shop. It helps buying the products in the shop anywhere through internet by using a web application. Thus, the customer will get the service of online shopping and home delivery from his favourite shop.

The Online Grocery Store is project developed using HTML, CSS, JavaScript, JSP, MySQL, Spring Boot MVC. The project contains an Admin and the User side. All the management like editing site contents, updating items, adding new items, and checking order status can be managed from the admin side.

For the User section, the users can go through the Homepage and add items in the cart to order. In order to order some items, the user has to Sign-up or Log-In.

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2. PROJECT OVERVIEW:

OBJECTIVE:

The objective of the project is to make a web-based application to purchase items in an existing shop. In order to build such an application complete web support, need to be provided. A complete and efficient web application which can provide the online shopping experience is the basic objective of the project. The web application can be implemented in the form of a web-based application with web view.

SCOPE:

This system can be implemented to any shop in the locality or to multinational branded shops having retail outlet chains. The system recommends a facility to accept the orders 24/7 and a home delivery system which can make customers happy. If shops are providing an online portal where their customers can enjoy easy shopping from anywhere, the shops won't be losing any more customers to the trending online shops.

OVERVIEW:

The central concept of the application is to allow the customer to shop virtually using the Internet and allow customers to buy the items and articles of their desire from the store. The information pertaining to the products are stored on an RDBMS at the server side (store). The Server process the customers and the items are shipped to the address submitted by them. The application was designed into two modules first is for the customers who wish to buy the articles. Second is for the storekeepers who maintains and updates the information pertaining to the articles and those of the customers. The end user of this product is a departmental store where the application is hosted on the web and the administrator maintains the database. The application which is deployed at the customer database, the details of the items are brought forward from the database for the customer view based on the selection through the menu and the database of all the products are updated at the end of each transaction. Data entry into the application can be done through various screens designed for various levels of users. Once the authorized personnel feed the relevant data into the system, several reports could be generated as per the security.

FEASIBILITY STUDY:

Feasibility is determination of whether a projects worth doing or not. Before actually recommending the new system, it is important to investigate if it is feasible to develop the new system. Before developing and implementing a system we have sure that our system is feasible in the following ways:

1. Technical Feasibility.

2. Operational Feasibility.

3. Economic Feasibility

Technical Feasibility: In the type of feasibility study, the system analyst has to check whether it is possible or not to develop the requested system with availability of manpower, software etc. The system which we run on Windows is suitable for clients.

Operational Feasibility: In this type of feasibility study the operation implementation of the system is considered. Checking is done regarding whether it is feasible for the user department to use the website. Thus, the proposed system is said to be operationally feasible only if the clients are able to understand the system clearly and correctly and can use the system with ease.

Economic Feasibility: In this type of feasibility study, the benefits of the system to the organization are considered by taking into consideration the cost-benefit analysis. The basic software, which is required for the implementation of the system, is Windows and Linux which easily available. Thus, this website is feasible for the organization and loading Linux/Windows and the proposed website is economically feasible for the user.

3. PROJECT DESCRIPTION:

SYSTEM FEATURES:

The main feature of this system is that customers can buy grocery products online via cash on delivery or card payment. The system shows the details of that customer and customer can also update his profile and also, he can view the order details. The customer must be a registered before he uses this online grocery store system. The customer can see his order and payment history.

TECHNOLOGY USED:

BACK END:

1. **Framework:** Spring Boot MVC, Spring Data JPA
2. **ORM Tool:** Hibernate
3. **Database:** MySQL
4. **Build Tool:** Maven
5. **Language:** Java

FRONT END:

1. **HTML**
2. **CSS**
3. **JavaScript**
4. **Bootstrap**

FUNCTIONALITY:

The system after careful analysis has been identified to be presented with the following modules and roles. The modules involved are:

1. **Admin**
2. **User**

ADMIN:

The administrator is the super user of this application. Only admin have access into this admin page. Admin may be the owner of the shop. The administrator has all the information about all the users and about all products. This module is divided into different sub-modules.

1. **Manage Products**
2. **Manage Category & Brands**
3. **Manage Orders**

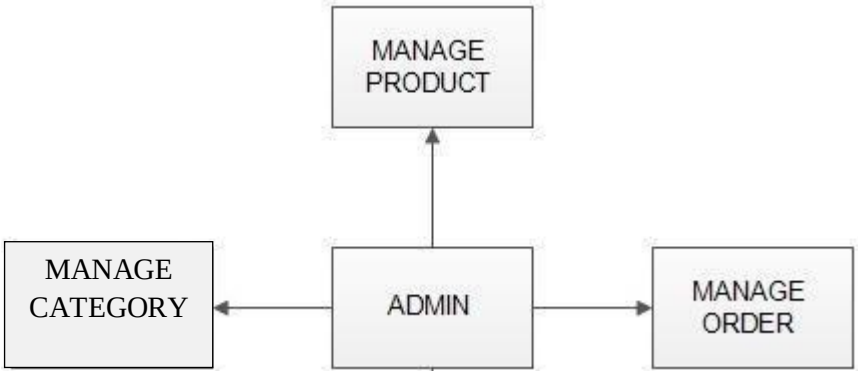


Fig. Admin module

Manage Products:

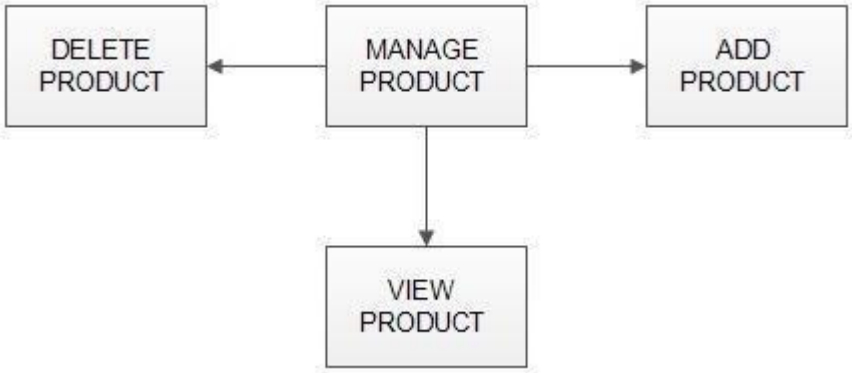


Fig. Manage Products.

Add Products:

The shopping cart project contains different kind of products. The products can be classified into different categories by name. Admin can add new products into the existing system with all its details including an image.

Delete Products:

Administrator can delete the products based on the stock of that particular product.

Search Products:

Admin will have a list view of all the existing products. He can also search for a particular product by name.

Manage Category & Brands:

Add Category:

The admin will be able to add a new categories of grocery item with their description.

All Categories:

Admin has privileges to view list of all the categories of grocery items with their details.

Add Brands:

Admin will have privilege to add new brand of a grocery product.

All Brands:

Admin will have privilege to view all brands of grocery items.

Manage Orders

Fig. Manage Orders.

View Order:

Administrator can view the Orders which is generated by the users. He can verify the details of the purchase.

Delete Order:

Admin can delete order from the orders list when the product is taken for delivery.

USER:

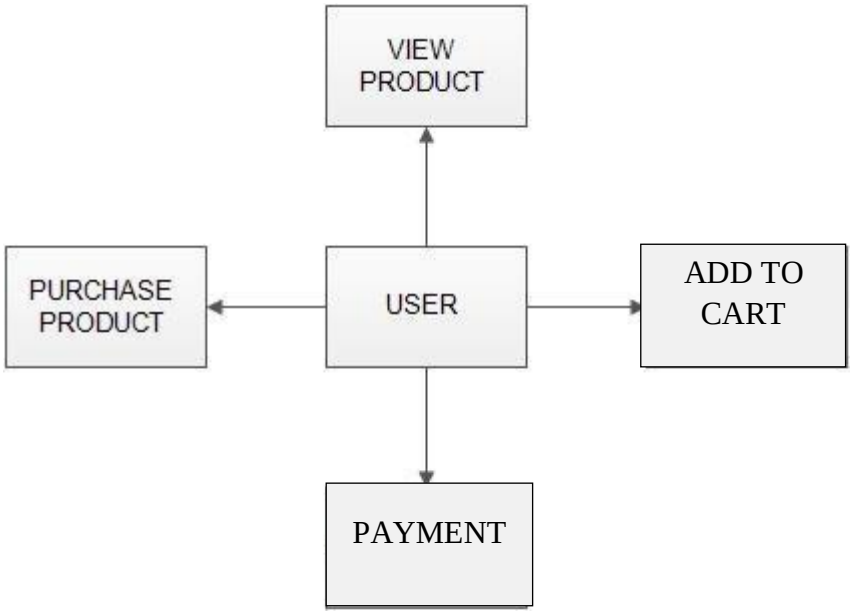


Fig. User Module

Registration:

A new user will have to register in the system by providing essential details in order to view the products in the system. The admin must accepta new user by unblocking him.

Login:

A user must login with his user's name and password to the system after registration.

View Products:

User can view the list of products based on their names after successful login. A detailed description of a particular product with product name, products details, product image, price can be viewed by users.

Add to cart:

The user can add the desired product into his cart by clicking add to cart option on the product. He can view his cart by clicking on the cart button. All products added by cart can be viewed in the cart. User can remove an item from the cart by clicking remove.

Submit cart:

After confirming the items in the cart, the user can submit the cart by providing a delivery address. On successful submitting the cart will becomeempty.

4. PROJECT DESIGN:

System design is the solution for the creation of a new system. This phase focuses on the detailed implementation of the feasible system. It emphasis on translating design. Specifications to performance specification. System design has two phases of development Logical design and Physical design.

During logical design phase the analyst describes inputs (sources), output s(destinations), databases (data sores) and procedures (data flows) all in a format that meets the user requirements. The analyst also specifies the needs of the user at a level that virtually determines the information flow in and out of the system and the data resources. Here the logical design is done through data flow diagrams and database design.

The physical design is followed by physical design or coding. Physical design produces the working system by defining the design specifications, which specify exactly what the candidate system must do. The programmers write the necessary programs that accept input from the user, perform necessary processing on accepted data and produce the required report on a hard copy or display it on the screen.

INPUT AND OUTPUT DESIGN

INPUT DESIGN:

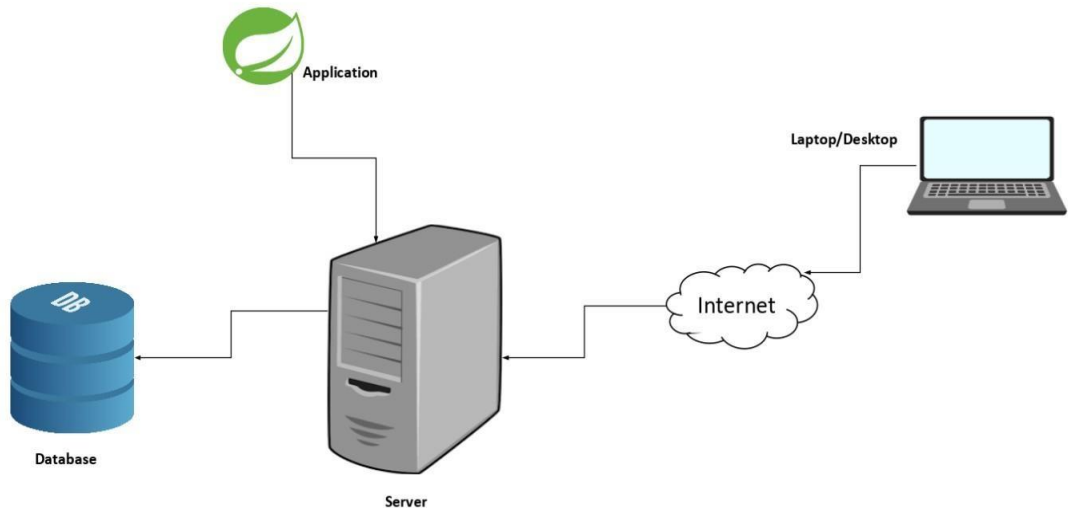
Input design is the link that ties the information system into the world of its users. The input design involves determining the inputs, validating the data, minimizing the data entry and provides a multi-user facility. Inaccurate inputs are the most common cause of errors in data processing. Errors entered by the data entry operators can be controlled by input design. The user-originated inputs are converted to a computer-based format in the input design. Input data are collected and organized into groups of similar data. Once identified, the appropriate input media are selected for processing. All the input data are validated and if any data violates any conditions, the user is warned by a message. If the data satisfies all the conditions, it is transferred to the appropriate tables in the database. In this project the student details are to be entered at the time of registration. A page is designed for this purpose which is user friendly and easy to use. The design is done such that users get appropriate messages when exceptions occur.

OUTPUT DESIGN:

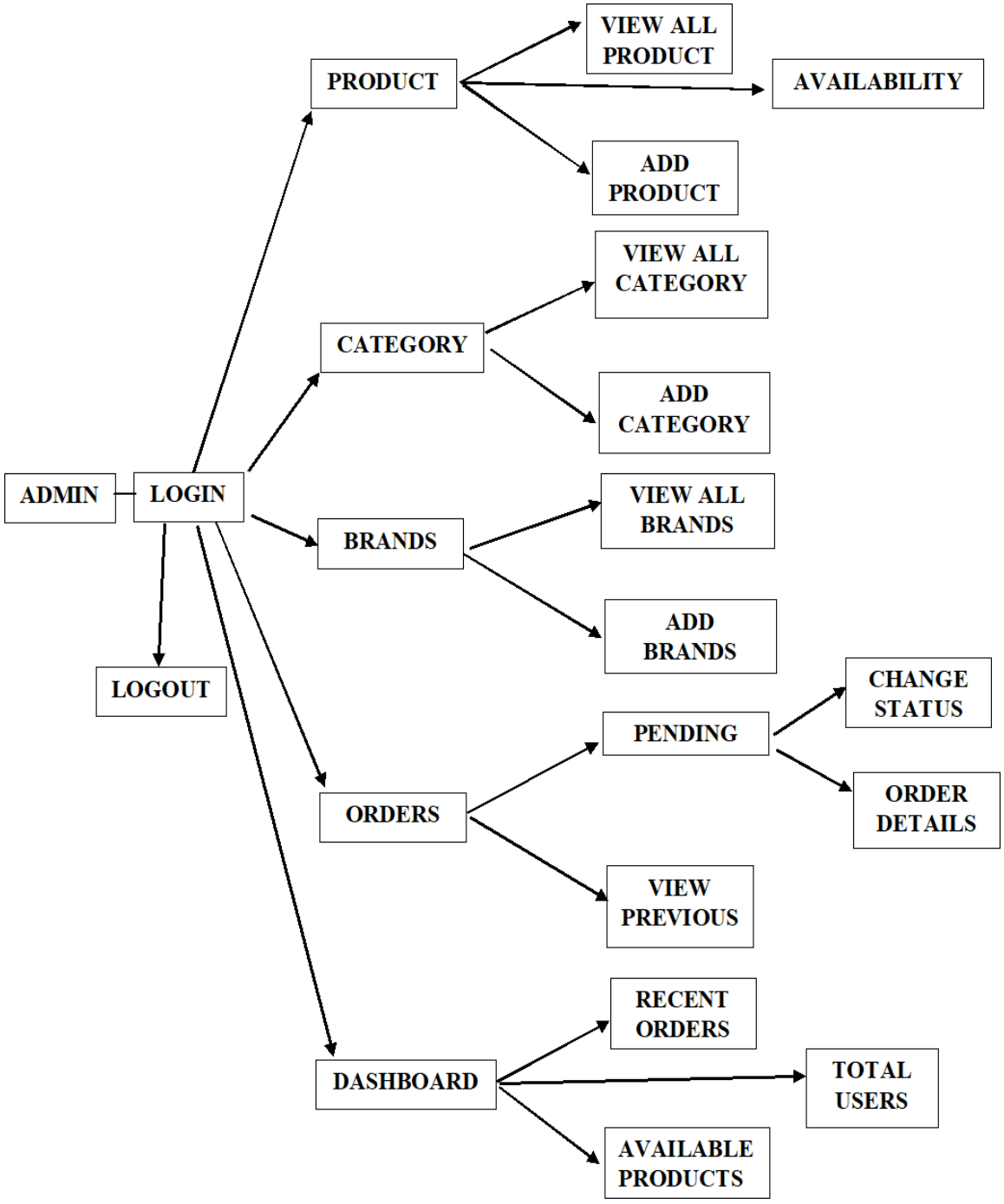
Computer output is the most important and direct source of information to the user. Output design is a very important phase since the output needs to be in an efficient manner. Efficient and intelligible output design improves the system relationship with the user and helps in decision making. Allowing the user to view the sample screen is important because the user is the ultimate judge of the quality of output. The output module of this system is the selected notifications.

FUNCTIONAL DIAGRAMS:

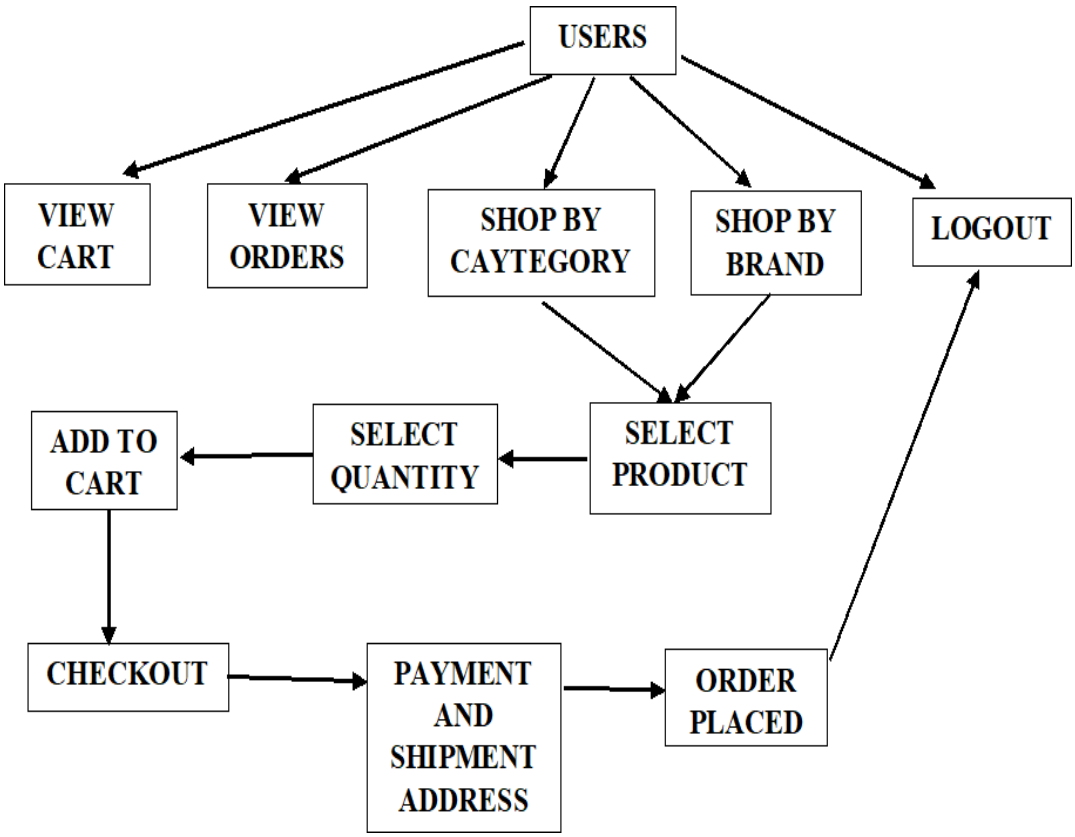
Architecture Diagram:



Admin Flow Diagram:



User Flow Diagram:

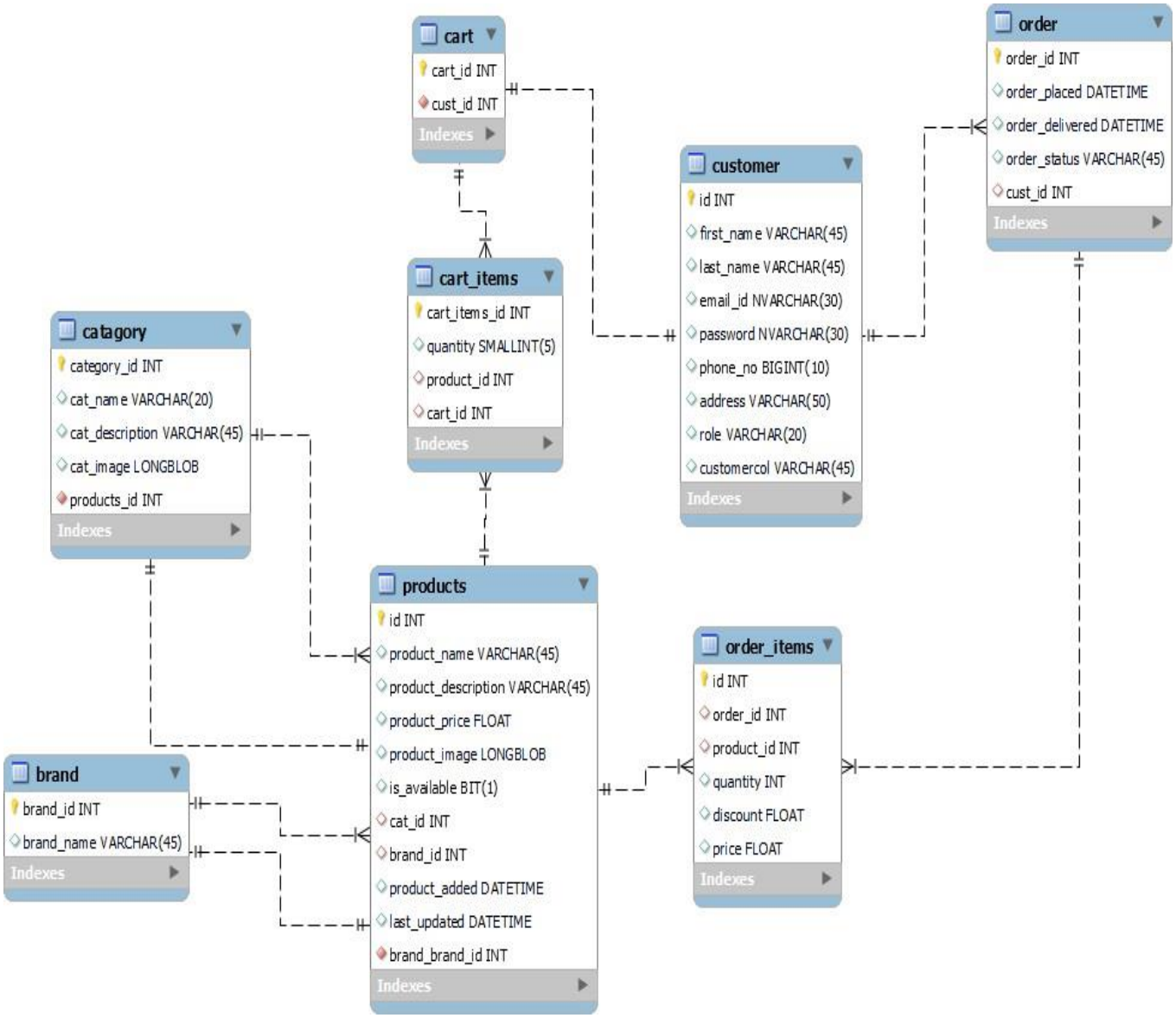


ER Diagram:

ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships.

ER Diagrams contain different symbols that use rectangles to represent entities, ovals to define attributes and diamond shapes to represent relationships.

At first look, an ER diagram looks very similar to the flowchart. However, ER Diagram includes many specialized symbols, and its meanings make this model unique. The purpose of ER Diagram is to represent the entity framework infrastructure.



DATABASE DESIGN:

Databases are the storehouses of data used in the software systems. The data is stored in tables inside the database. Several tables are created for the manipulation of the data for the system. Two essential for a database are

Primary key - the field that is unique for all the record occurrences.

Foreign key -the field used to set relation between tables. Normalization is a technique to avoid redundancy in the tables.

DATABASE TABLES:

1. Customer Table:

Field	Type	Null	Key	Default	Extra
customer_id	int	NO	PRI	NULL	auto_increment
Address	varchar(255)	YES		NULL	
City	varchar(255)	YES		NULL	
Email	varchar(255)	YES		NULL	
first_name	varchar(255)	YES		NULL	
last_name	varchar(255)	YES		NULL	
phone_number	varchar(255)	YES	UNI	NULL	
Password	varchar(255)	YES		NULL	
pin_code	varchar(255)	YES		NULL	
Role	varchar(255)	YES		NULL	
State	varchar(255)	YES		NULL	

2. Products Table:

Field	Type	Null	Key	Default	Extra
product_id	Int	NO	PRI	NULL	auto_increment
added_time	datetime(6)	YES		NULL	
Description	varchar(255)	YES		NULL	
Image	varchar(255)	YES		NULL	
in_stock	bit(1)	NO		NULL	
last_modified	datetime(6)	YES		NULL	
Name	varchar(255)	YES		NULL	
Price	double	NO		NULL	
brand_id	Int	NO	MUL	NULL	
category_id	Int	NO	MUL	NULL	

3. Brand Table:

Field	Type	Null	Key	Default	Extra
brand_id	Int	NO	PRI	NULL	auto_increment
brand_name	varchar (255)	YES	UNI	NULL	

4. Category Table:

Field	Type	Null	Key	Default	Extra
category_id	Int	NO	PRI	NULL	auto_increment
Description	varchar(255)	YES		NULL	
Image	varchar(255)	YES		NULL	
Name	varchar(255)	YES	UNI	NULL	

5. Order Table:

Field	Type	Null	Key	Default	Extra
order_id	int	NO	PRI	NULL	auto_increment
order_date	datetime(6)	YES		NULL	
delivered_date	datetime(6)	YES		NULL	
Status	varchar(255)	YES		NULL	
customer_id	int	NO	MUL	NULL	

6. Order_items Table:

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
discount	double	NO		NULL	
price	double	NO		NULL	
quantity	bigint	NO		NULL	
order_id	int	NO	MUL	NULL	
product_id	int	NO	MUL	NULL	

7. Cart Table:

Field	Type	Null	Key	Default	Extra
cart_id	int	NO	PRI	NULL	auto_increment
customer_id	int	YES	UNI	NULL	

8. Cart_items Table:

Field	Type	Null	Key	Default	Extra
cart_items_id	Int	NO	PRI	NULL	auto_increment
Quantity	Bigint	NO		NULL	
cart_id	Int	NO	MUL	NULL	
product_id	Int	NO	MUL	NULL	

SYSTEM TOOLS:

The various system tools that have been used in developing both the front end and the back end of the project are being discussed in this chapter.

4.4.1. FRONT END:

JSP, HTML, CSS, JAVA SCRIPT, ANDROID are utilized to implement the frontend.

Java Server Pages (JSP):

Different pages in the applications are designed using jsp. A Java Server Pages component is a type of Java servlet that is designed to fulfil the role of a user interface for a Java web application. Web developers write JSPs as text files that combine HTML or XHTML code, XML elements, and embedded JSP actions and commands. Using JSP, one can collect input from users through web page.

HTML (Hyper Text Markup Language):

HTML is a syntax used to format a text document on the web.

CSS (Cascading Style Sheets):

CSS is a style sheet language used for describing the look and formatting of a document written in a markup language.

Java Script:

JS is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. Java Script is used to create popup windows displaying different alerts in the system like “User registered successfully”,” Product added to cart” etc.

4.4.2 BACK END:

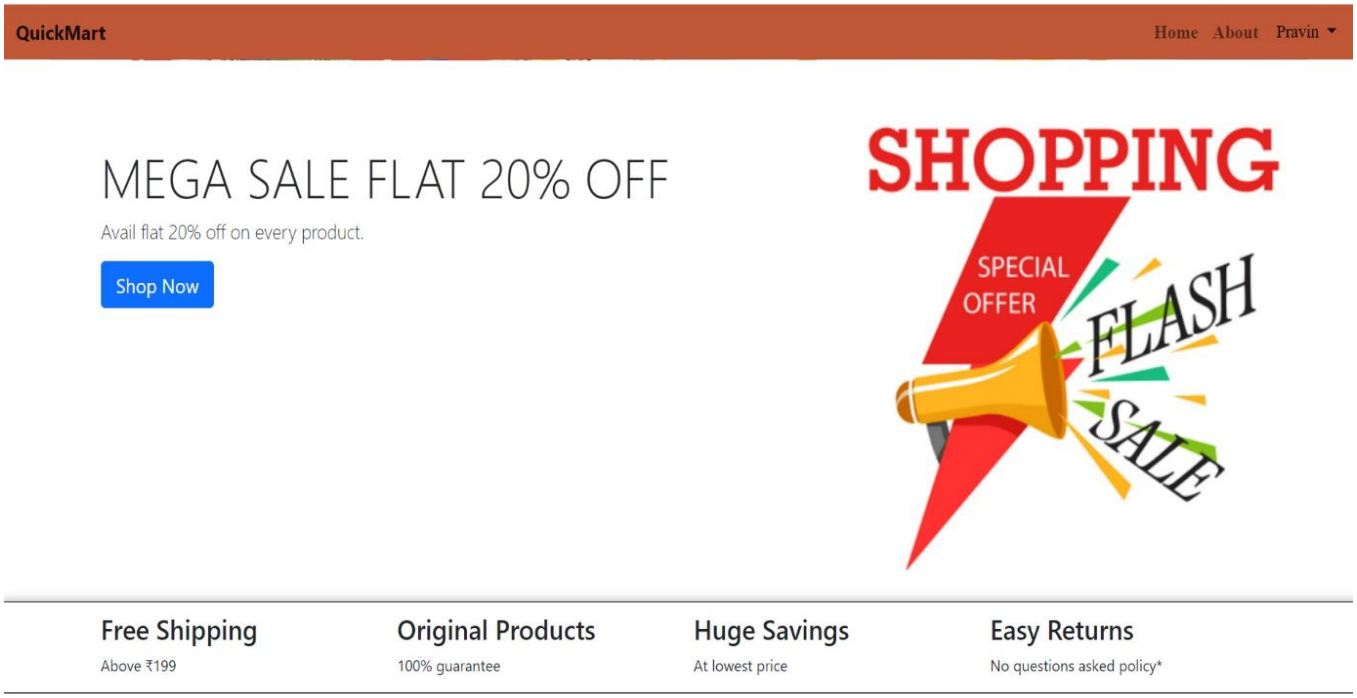
The back end is implemented using MySQL which is used to design the databases.

MySQL:

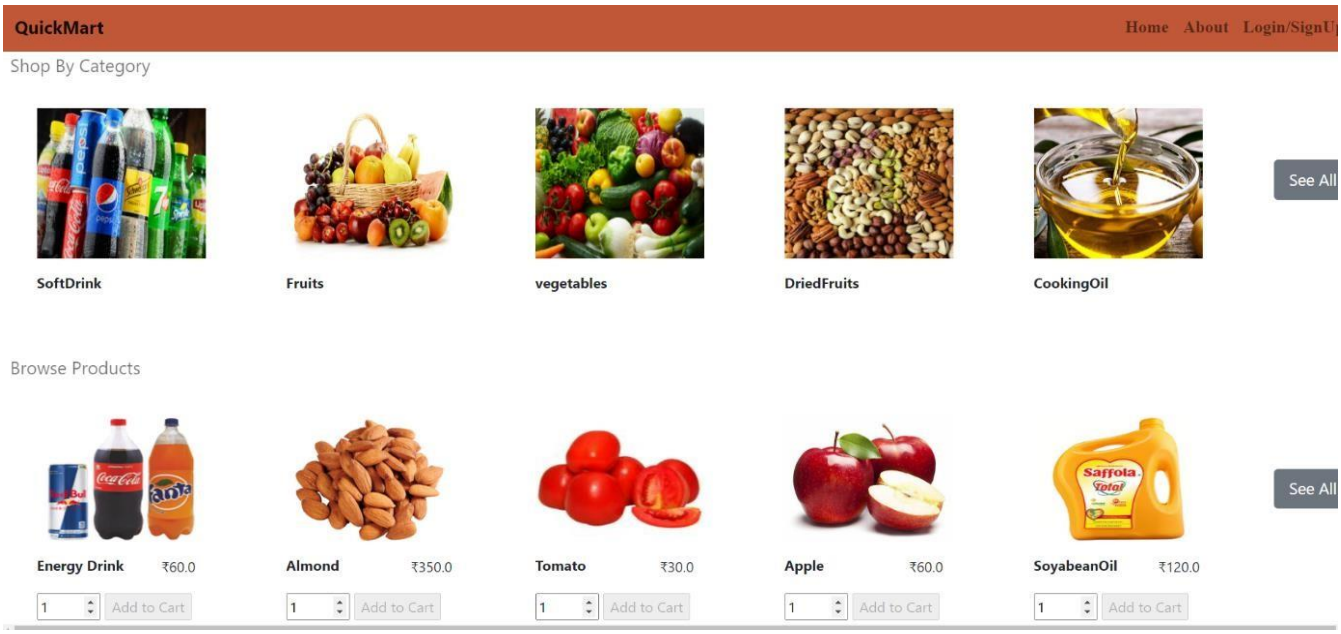
MySQL is the world's second most widely used open-source relational database management system (RDBMS). The SQL phrase stands for Structured Query Language.

5. WORKING SCREENSHOTS:

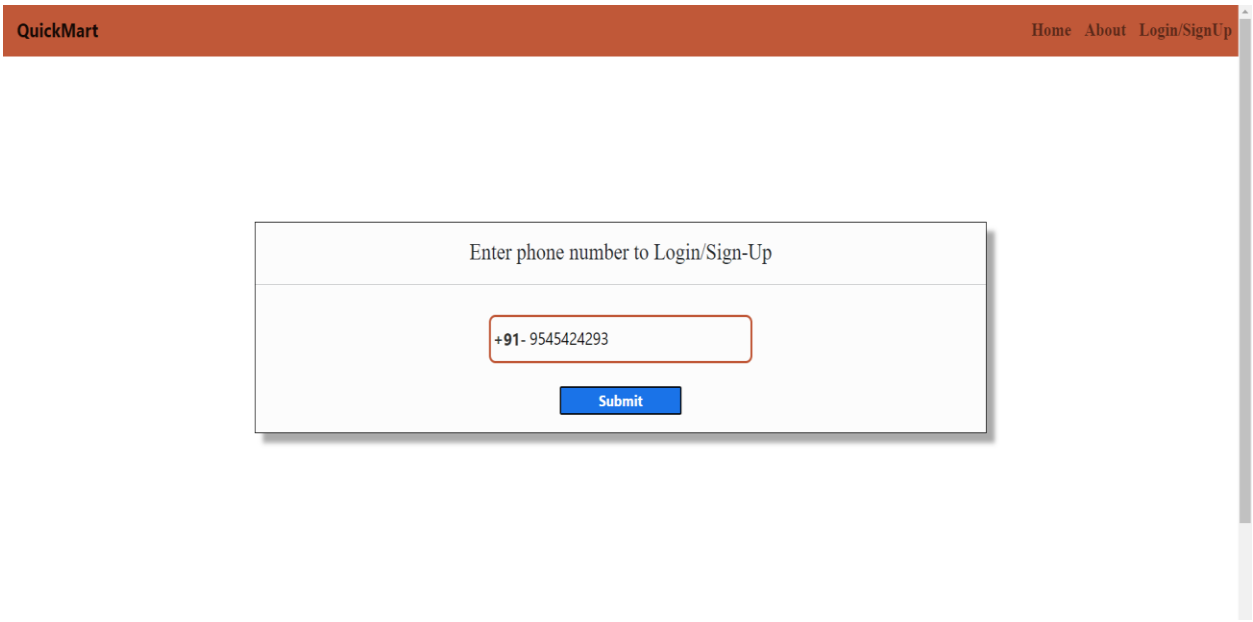
Home Page:

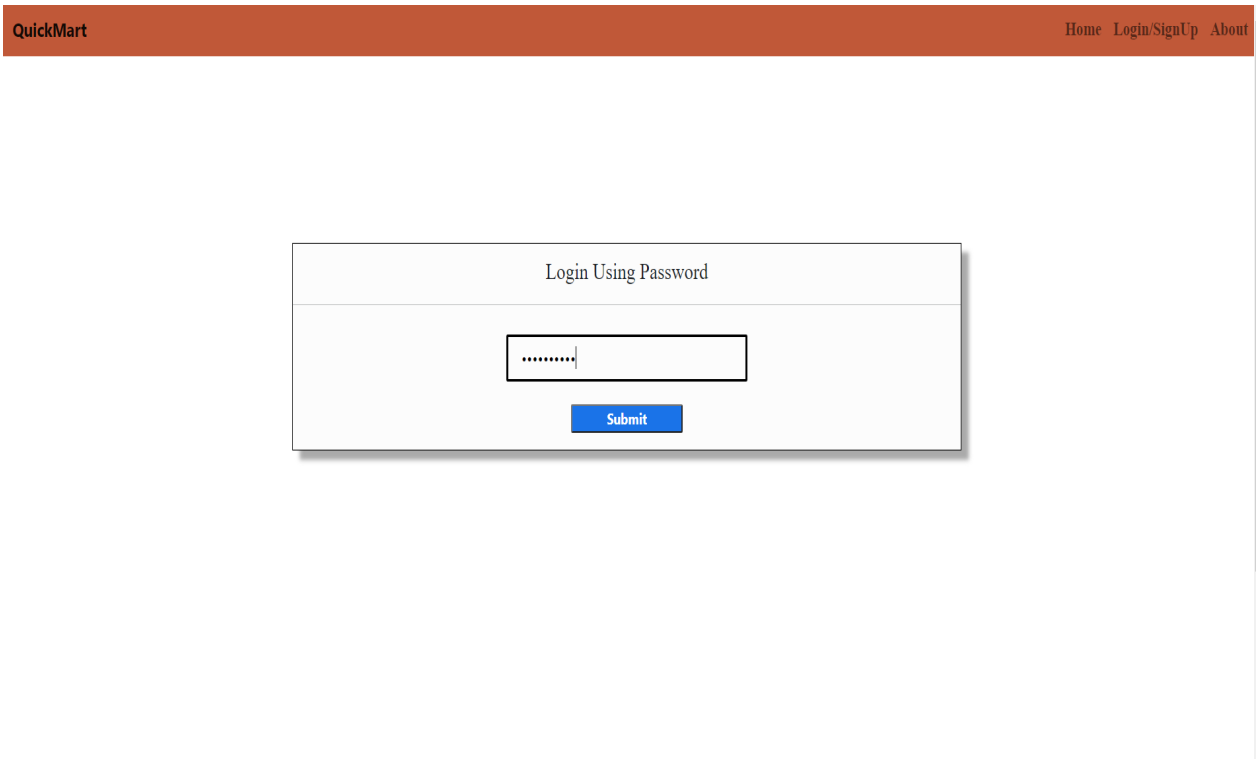


Home Page Products

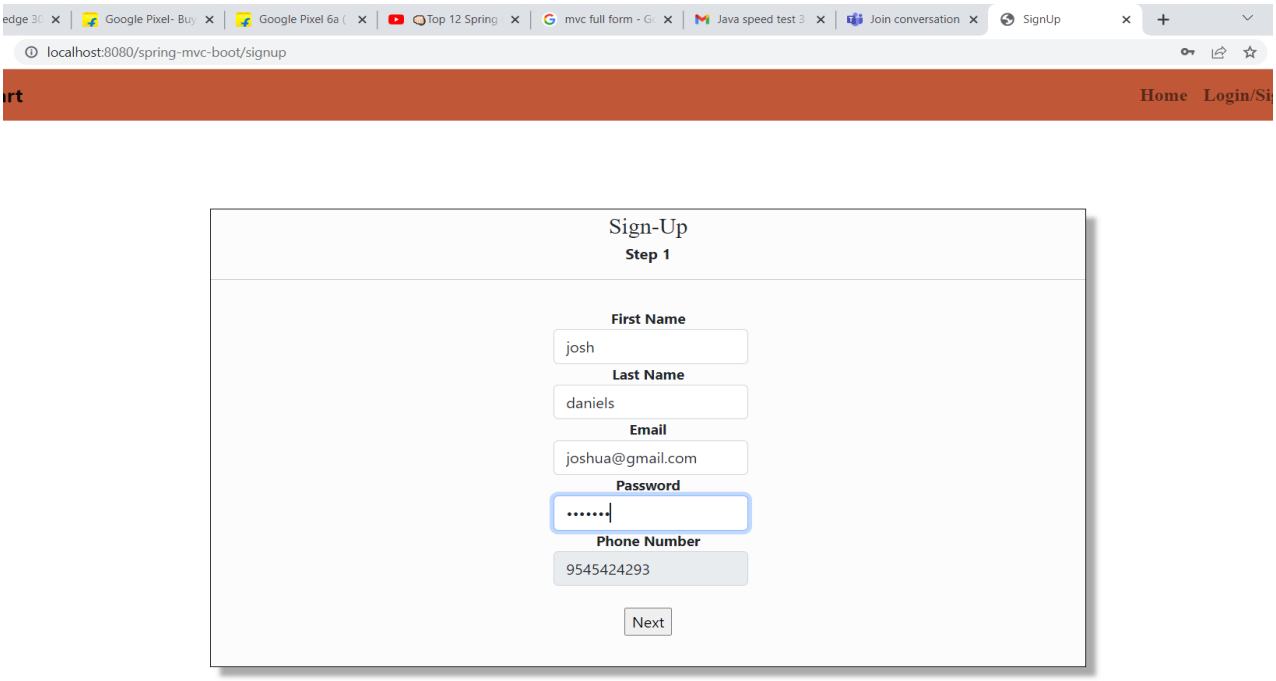


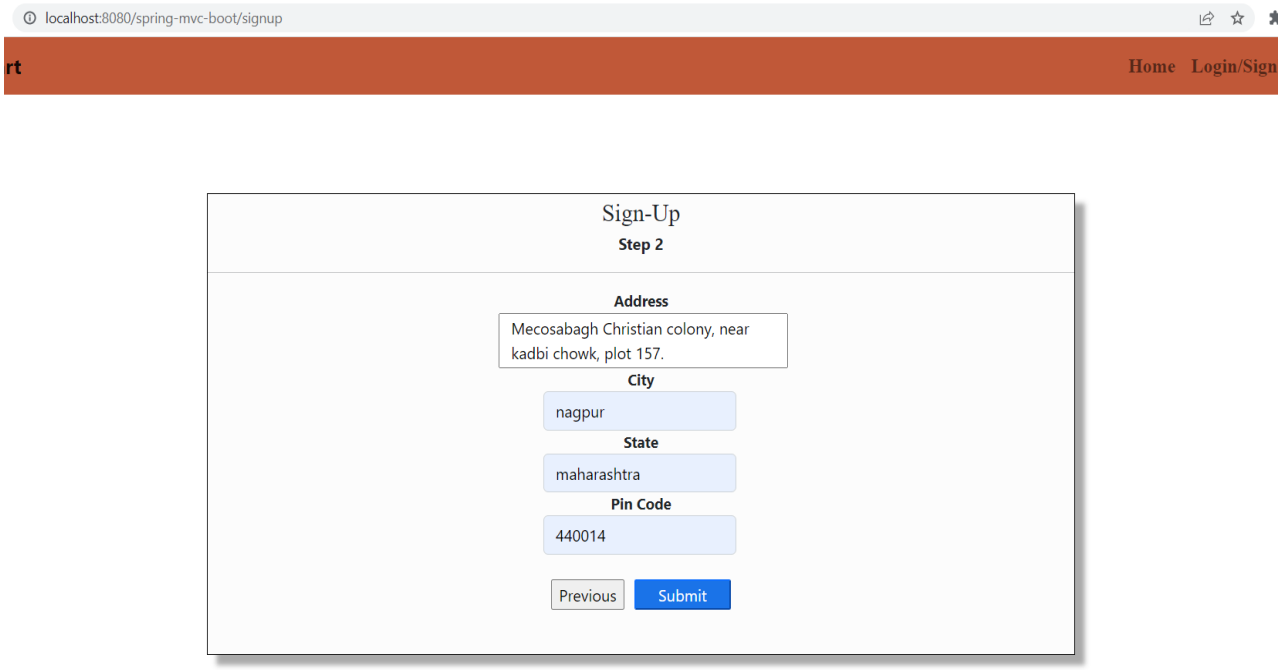
Login (Phone number & password)



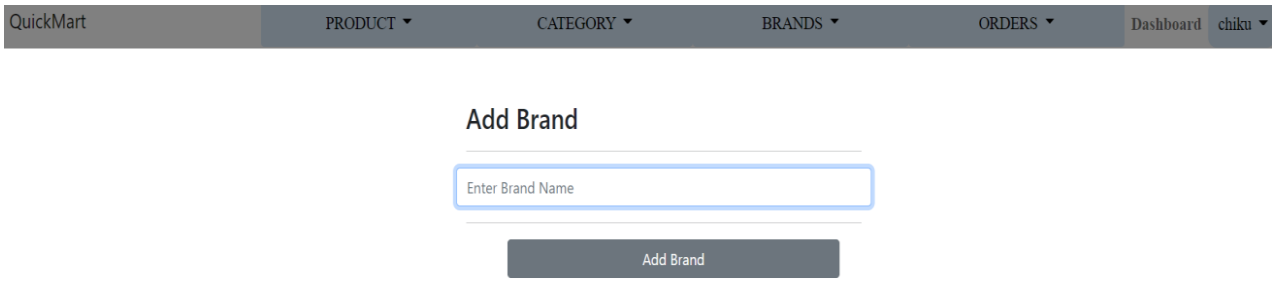

QuickMart
Home
Login/SignUp
About
Login Using Password
Submit

Sign-Up

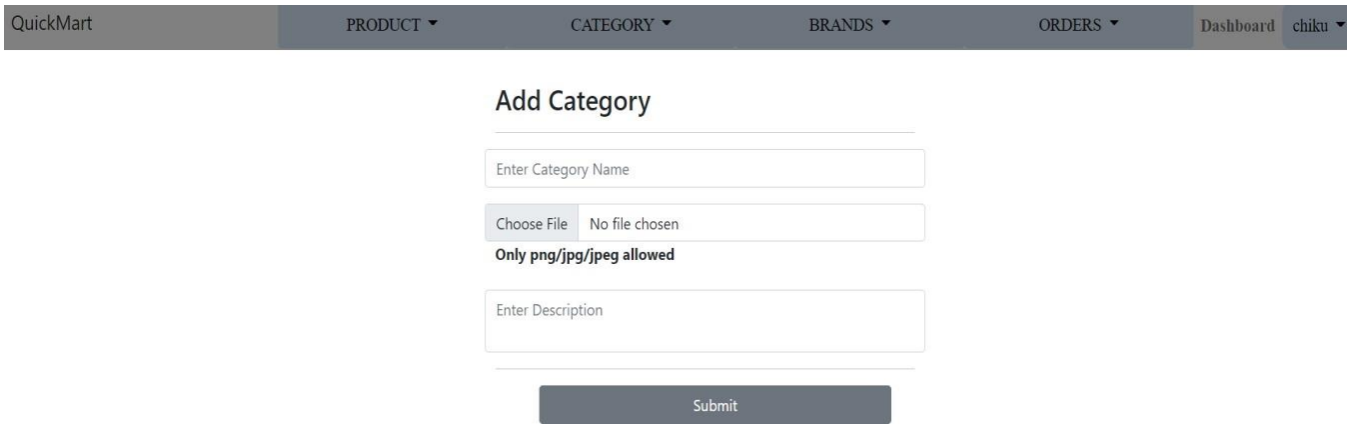

Google Pixel- Buy
Google Pixel 6a
Top 12 Spring
mvc full form - G
Java speed test 3
Join conversation
SignUp
localhost:8080/spring-mvc-boot/signup
Home
Login/Si
Sign-Up
Step 1
First Name
josh
Last Name
daniels
Email
joshua@gmail.com
Password
Phone Number
9545424293
Next



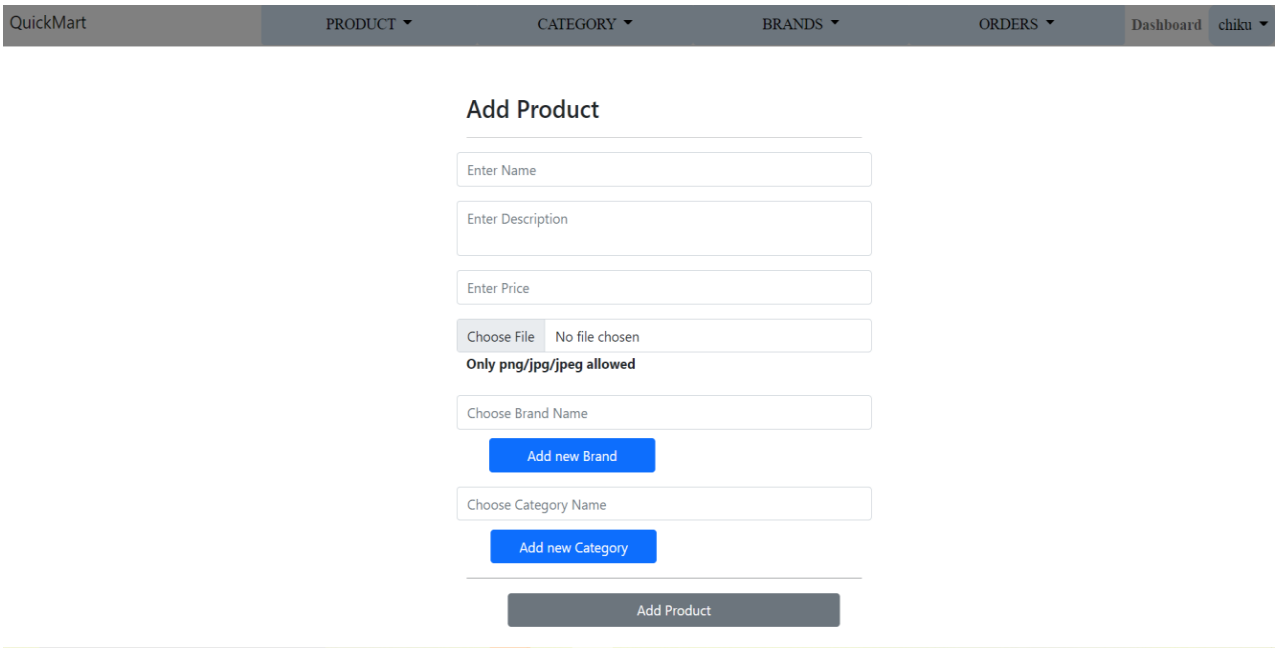
Add Brand (Admin)



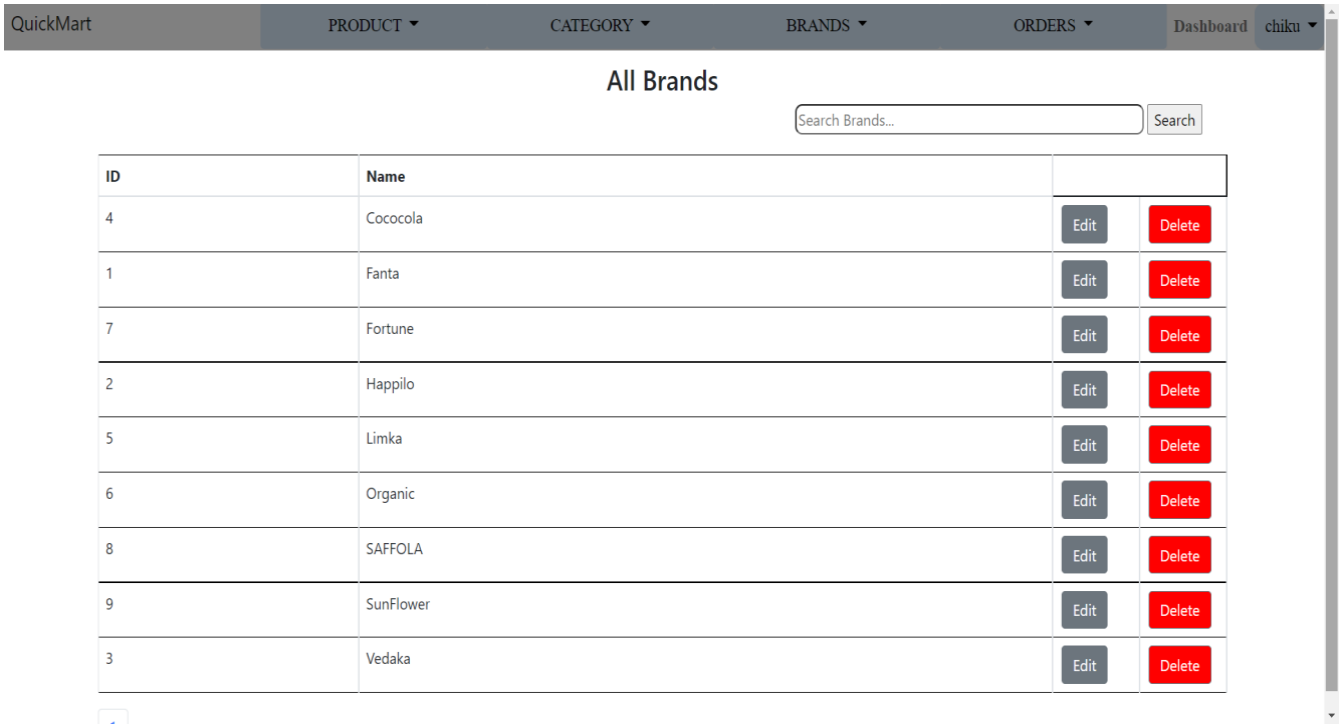
Add Category (Admin)



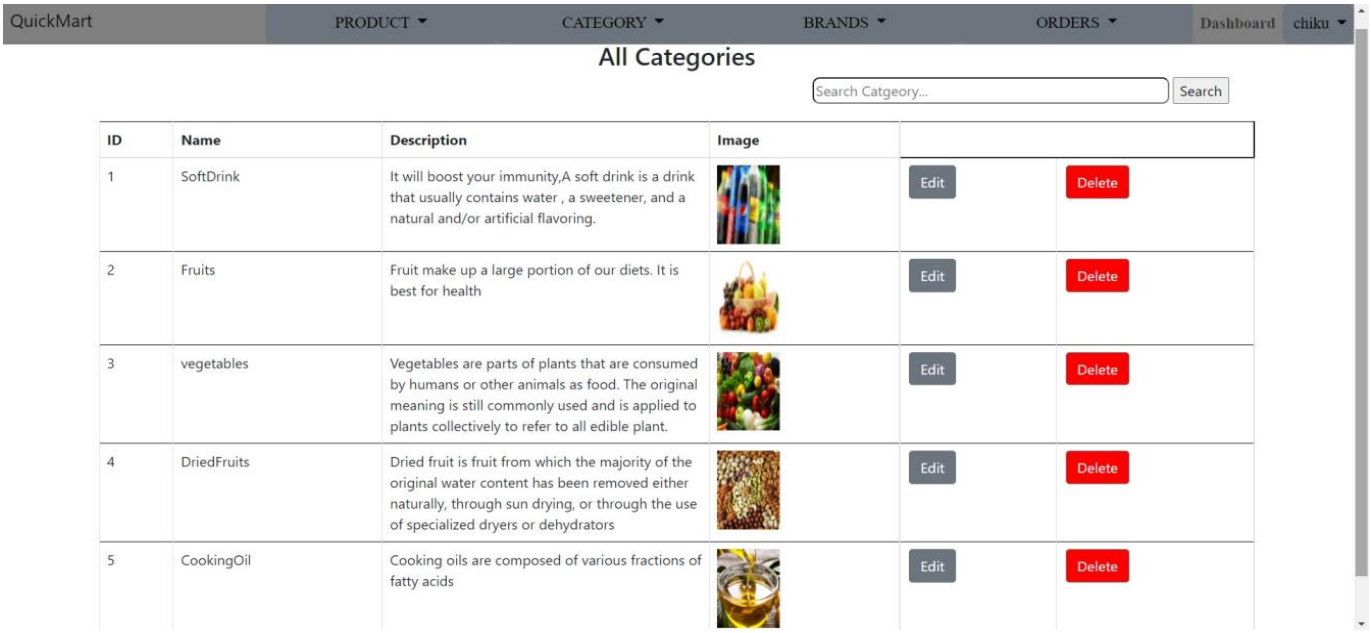
Add Product (Admin)



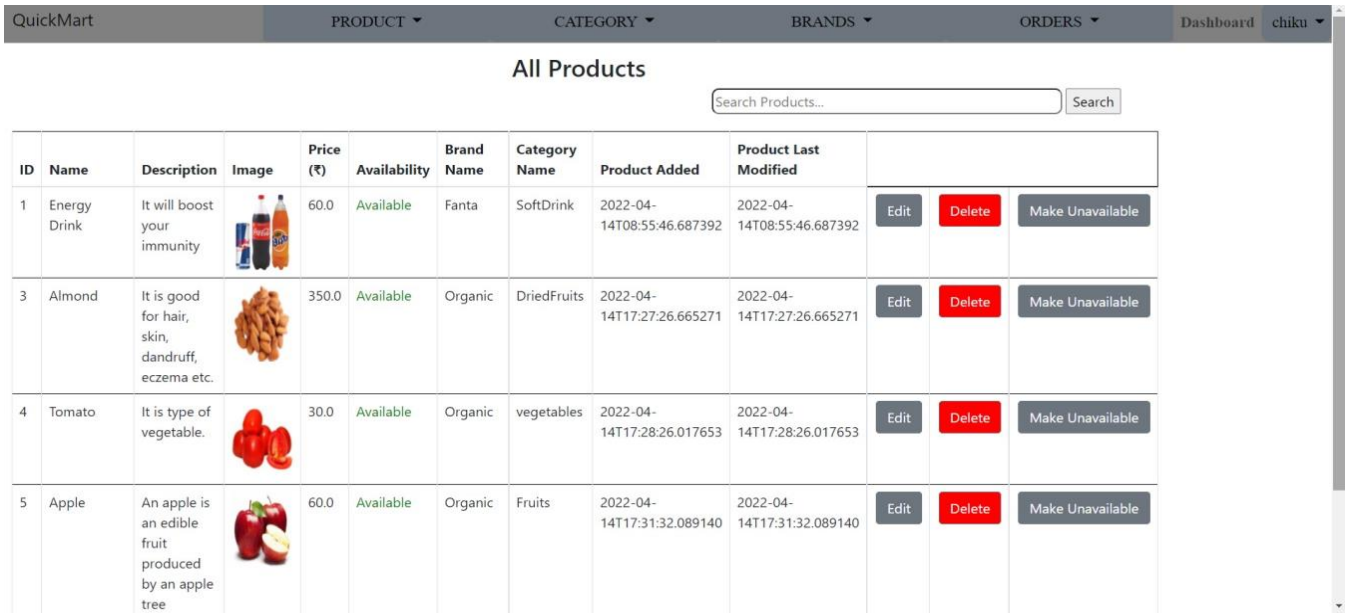
All Brands (Admin)



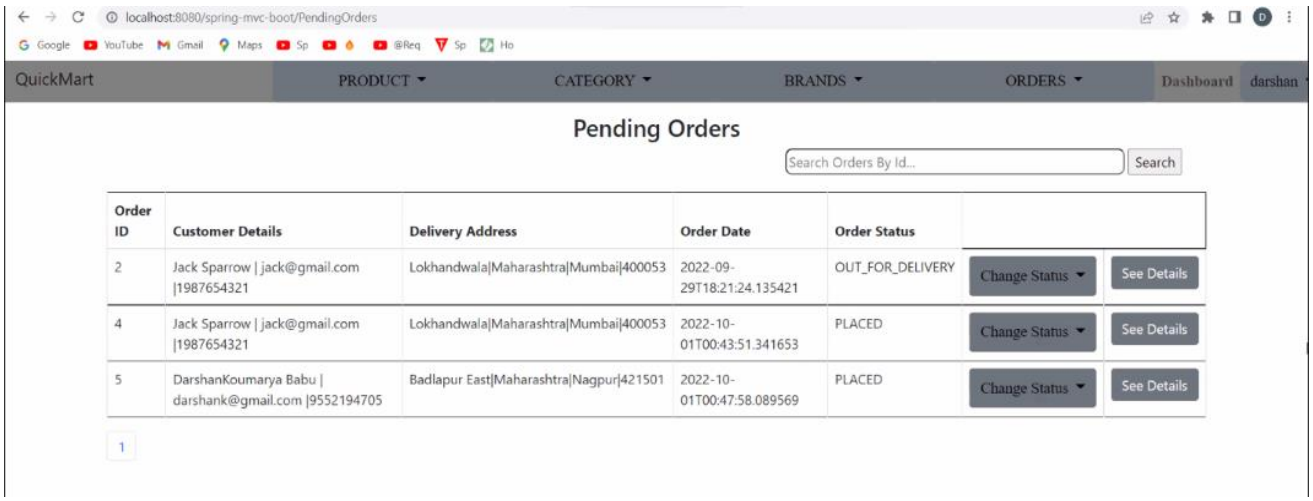
All Categories (Admin)



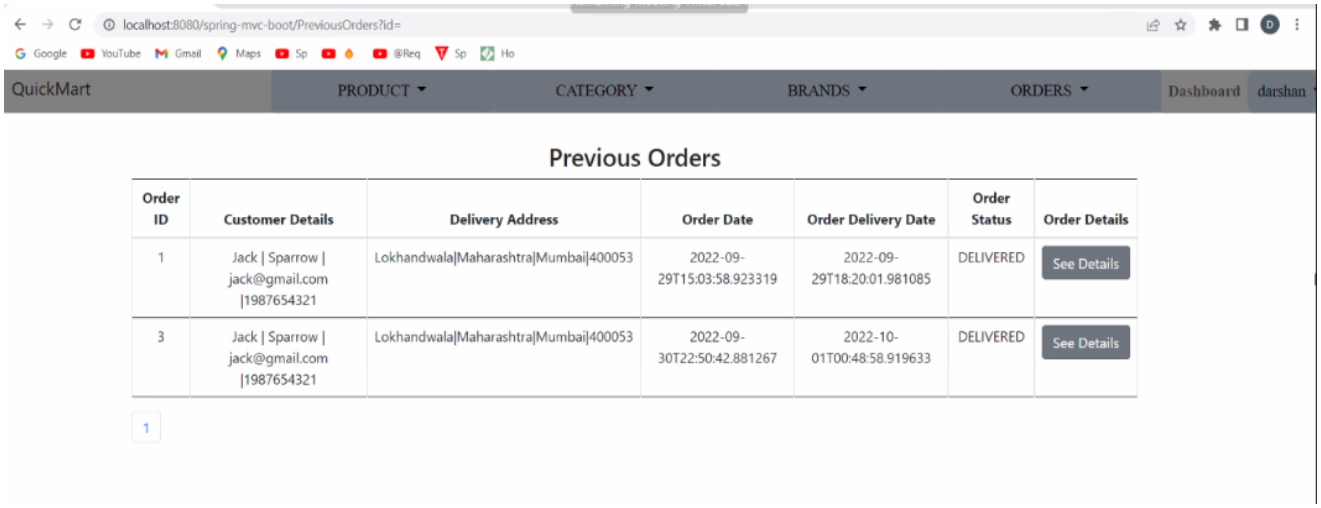
All Products (Admin)



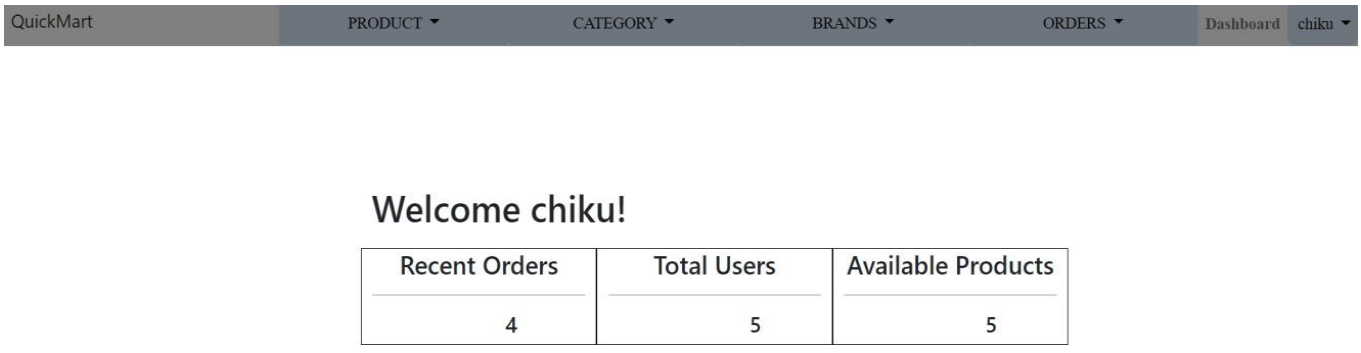
Pending Orders (Admin)



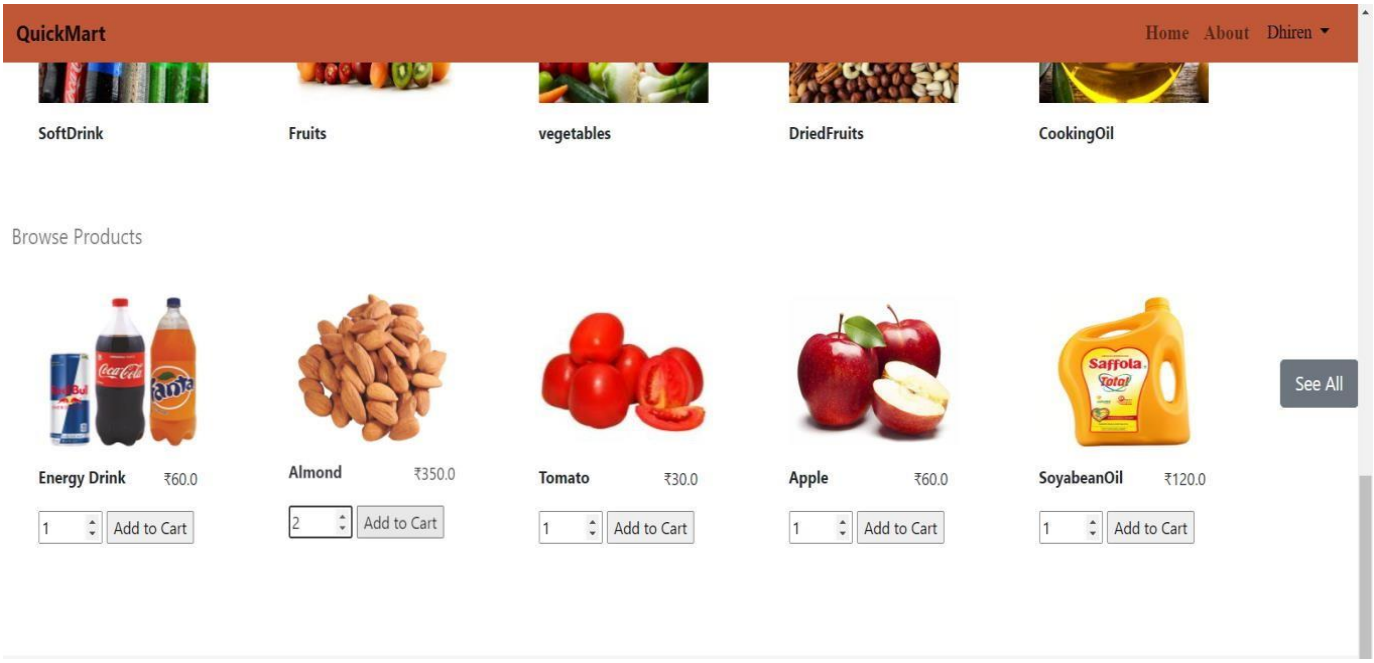
Previous Orders (Admin)



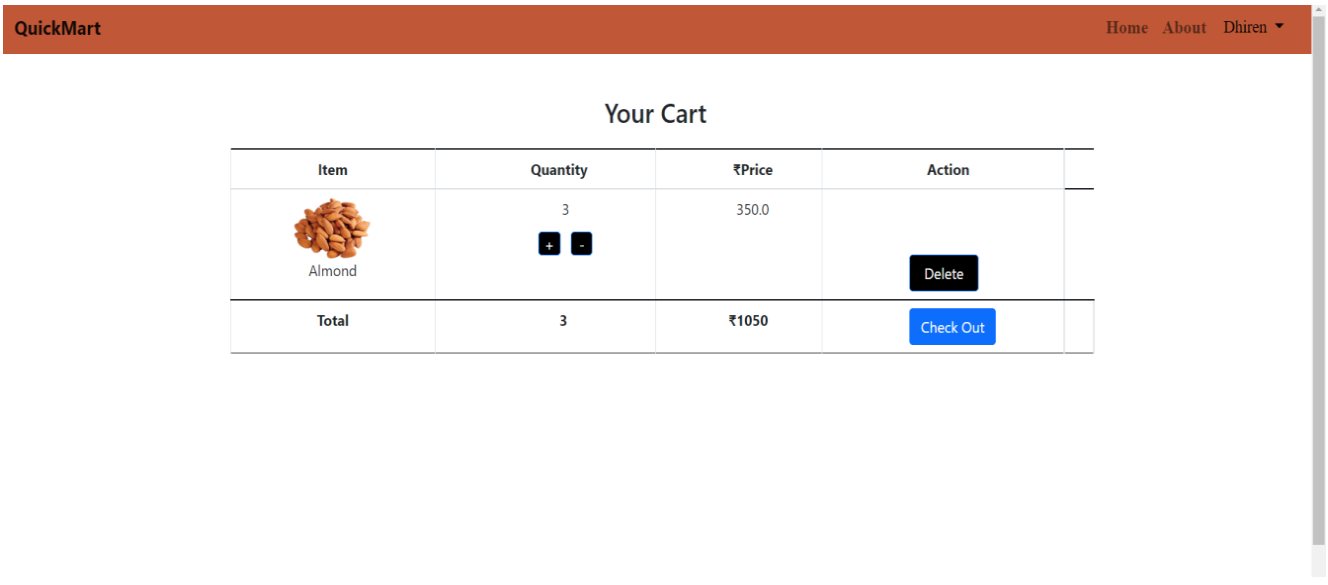
Dashboard (Admin)



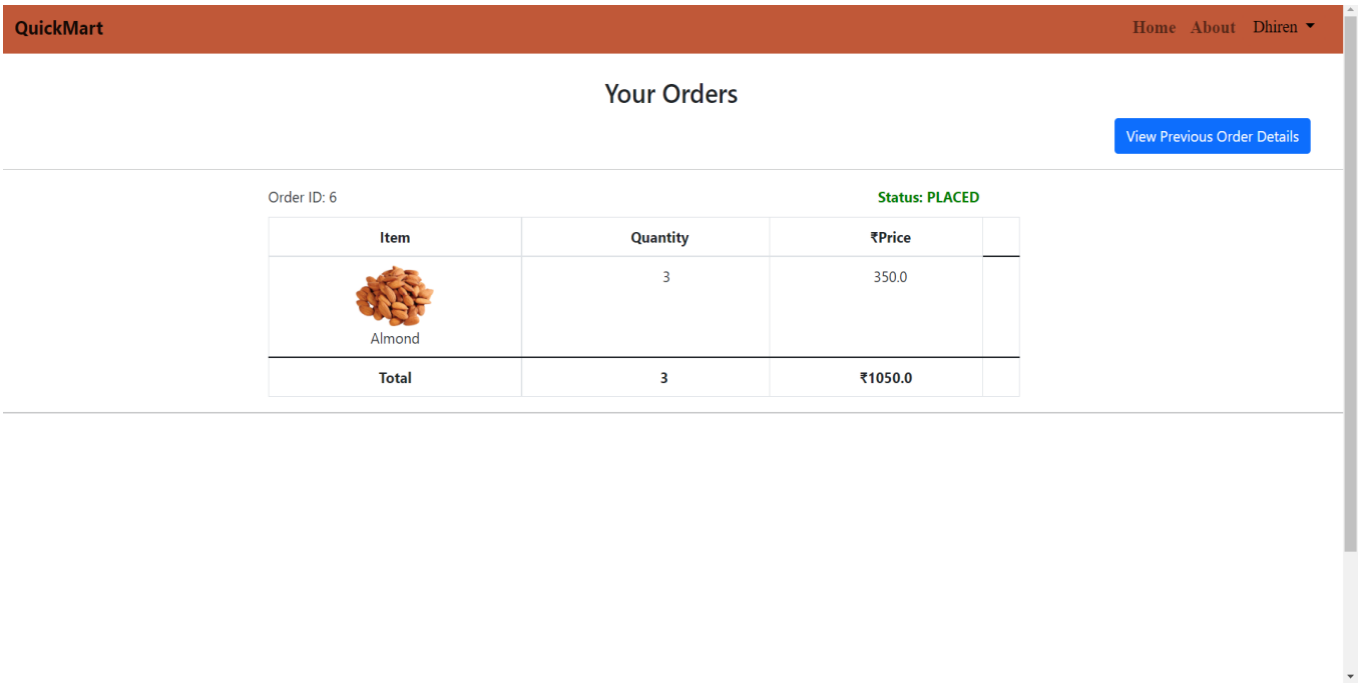
Add to Cart (User)



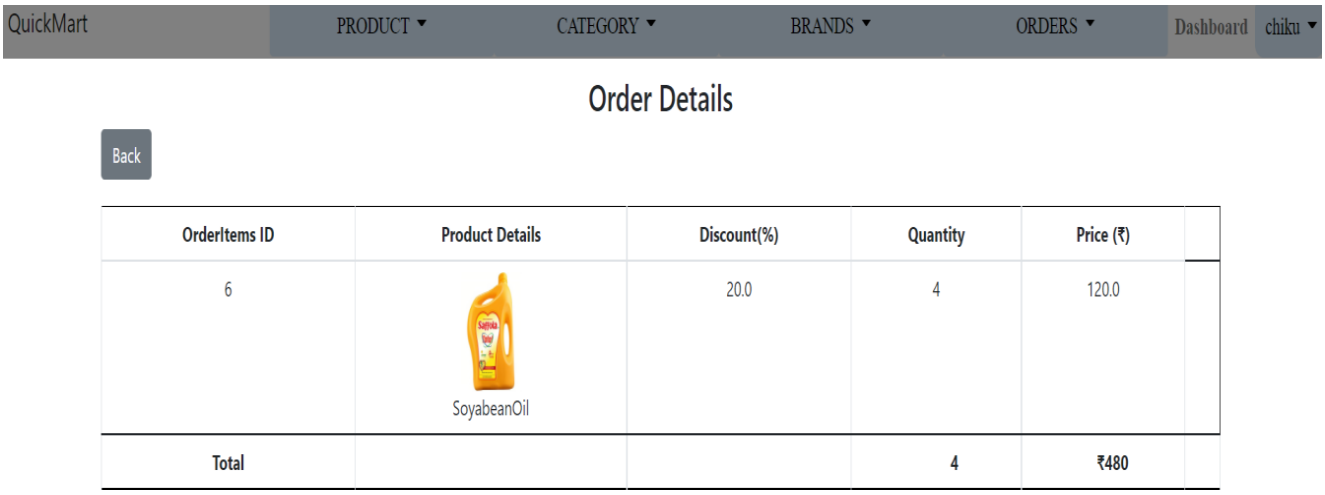
Cart with Product (User)



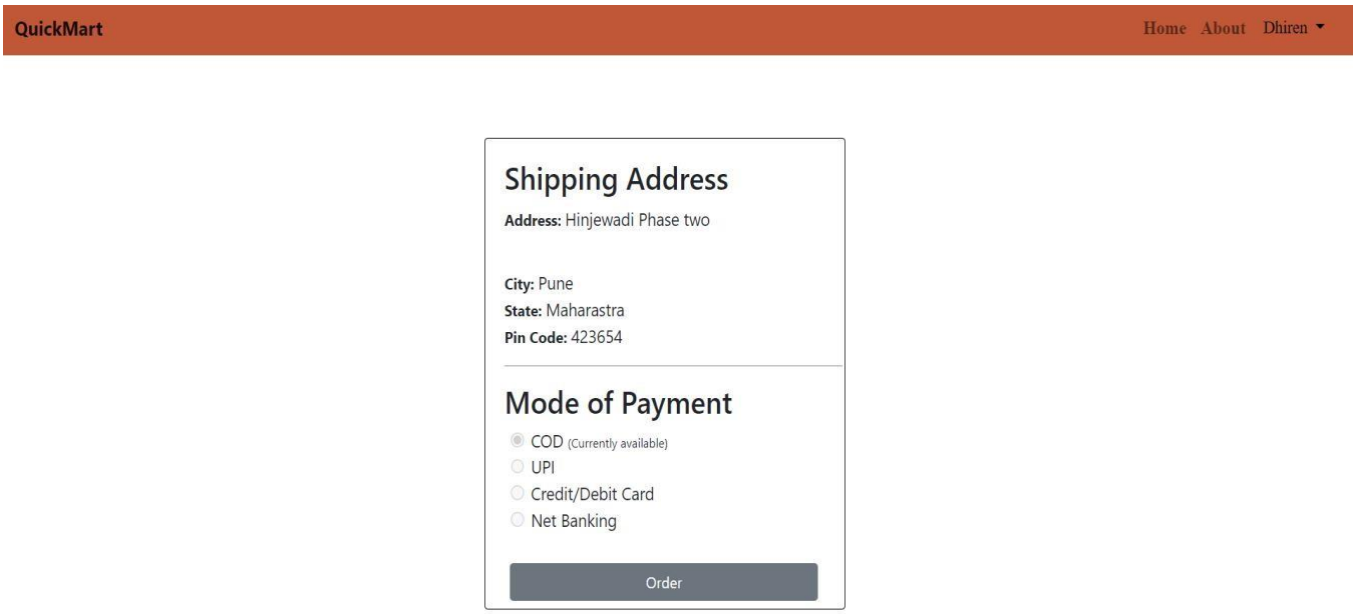
Your Order (User)



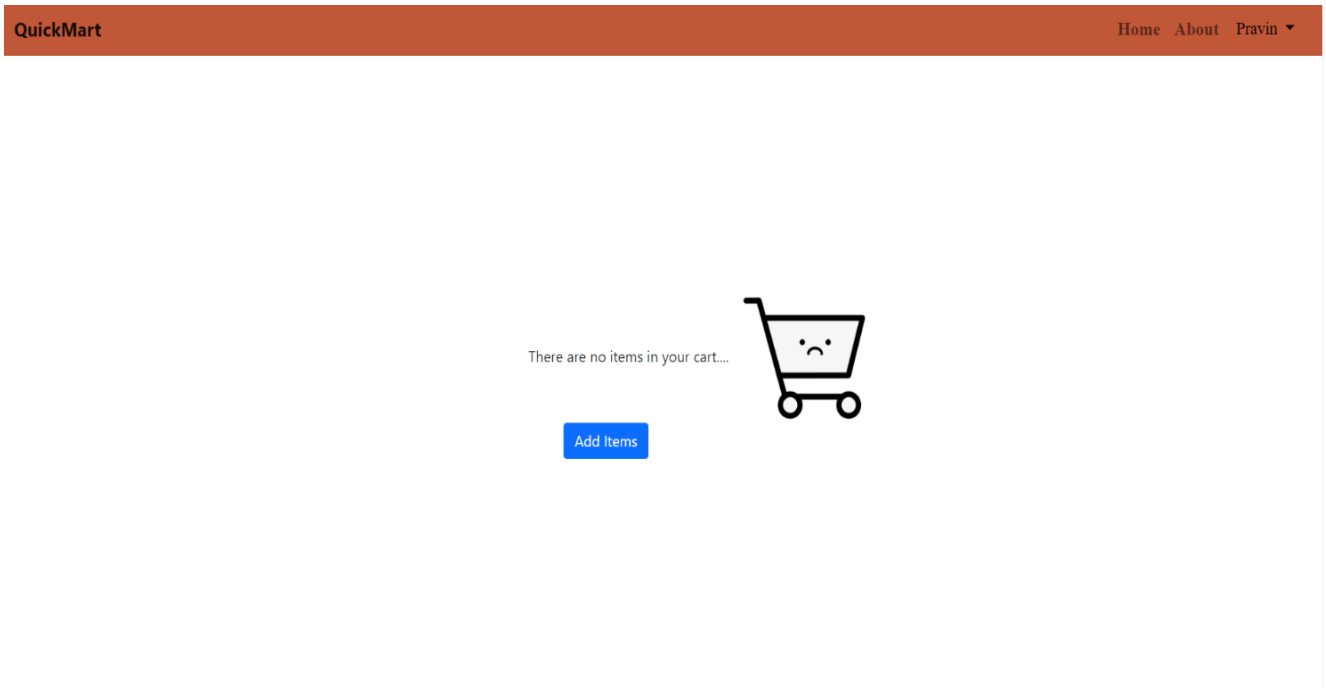
Order Details (User)



Shipment Address & Payment (User)



Empty Cart (User)



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QuickMart is an online delivery platform allowing users to get fresh groceries delivered instantly.
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6. FUTURE SCOPE:

- We can give more advance software for online grocery store including more facilities.
- To provide bill generation successful payment and directly send them on their email.
- To provide the item rating as per the product review.
- To provide product price comparing option with other brands.
- To provide direct chat message option to interested customer to interact with the shop owner.
- To provide security to the software.
- To provide a feedback option for customers.
- To enhance overall ui experience with the help of user feedback.

7. CONCLUSION:

The project entitled **Online Grocery Store** was completed successfully. The system has been developed with much care and free of errors and at the same time it is efficient and less time consuming. The purpose of this project was to develop a web-based application for purchasing items from a shop.

This project helped us in gaining valuable information and practical knowledge on several topics like designing web pages using html & CSS, usage of responsive templates and management of database using MySQL. The project helped us understanding about the development phases of a project and software development life cycle. We learned how to test different features of a project.

This project has given us great satisfaction in having designed an application which can be implemented to any nearby shops or branded shops selling various kinds of products by simple modifications.

There is a scope for further development in our project to a great extent.A number of features can be added to this system in future like we wished to implement was providing classes for customers so that different offers can be given to each class. System may keep track of history of purchases of each customer and provide suggestions based on their history. These features could have implemented unless the time did not limit us.

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