



# INSTITUTE FOR ADVANCED COMPUTING AND SOFTWARE DEVELOPMENT AKURDI, PUNE

Documentation On

# "ShopMe" - ECommerce Website

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**Project Guide** 

### **ABSTRACT**

The project objective is to deliver the online shopping application into web platform.

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 website 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.

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 such as Flipkart or e-bay. Since this application is available in the it is easily accessible and always available.

# **ACKNOWLEDGEMENT**

I take this occasion to thank God, almighty for blessing us with his grace and taking our endeavor to a successful culmination. I extend my sincere and heartfelt thanks to our esteemed guide, Mr. Narendra Pawar for providing me with the right guidance and advice at the crucial juncture sand for showing me the right way. I extend my sincere thanks to our respected Centre Co-Ordinator Mr. Prashant Karhale, for allowing us to use the facilities available. I would like to thank the other faculty members also, at this occasion. Last but not the least, I would like to thank my friends and family for the support and encouragement they have given me during the course of our work.

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#### INTRODUCTION

ShopMe is an Ecommerce Website A user can select a particular item to view the details, choose the number of items and fill in details like Name, Address, etc. to buy a product .The project objective is to deliver the online shopping application into web platform. 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 attempts 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 internet. The Products are divided into various categories like Books, Mobiles, Fashion, etc.

Thus, the customer will get the service of online shopping and home delivery.

The objective of the project is to make an ShopMe is to purchase items easily from home. 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.

#### Features: -

- Customers can search for the product according to the specified criteria.
- Customers can add and delete products from the shopping cart.
- Customers can order the products in the shopping cart.
- Customers can change their password and view their orders.
- Vendor can add or modify a product.
- Admin can add category and subcategory of product.
- Admin can view all users.

#### 1.1 PROJECT OBJECTIVE

"ShopMe" is a Business to Consumer online E-commerce application designed to create a smart online shopping opportunity for consumers. This shopping platform has a lot of features for consumers. It helps Customers who want to buy their necessary products in a user-friendly manner. The customers can simply visit the system, choose products from any category, register for an order, log into their accounts, and finally customers can edit their order list before order confirmation. It provides 24x7 support.. The shopping website includes a range of electronic items, books, and other necessary products that consumers require daily. This online E-commerce system may be a complete solution for a customer which provides a flexible, safe, and user-friendly environment. A complete and efficient website which can provide the online shopping experience is the basic objective of the project.

#### 1.2 PROJECT OVERVIEW

The central concept of the application is to allow the customer to shop virtually using the internet and allow customers to buy the products of their desire from the store. The information pertaining to the products are stores on an RDBMS at the server side (store).

The server processes the customers, and the items are shipped to the address submitted by them. The application was designed into modules first is for the customers who wish to buy the articles. Second is for the vendors who maintains and updates the information pertaining to the articles and those 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 deploy 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 personal feed the relevant data into the system, several reports could be generated as per the security.

#### 1.3 PROJECT 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 24X7 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 such as FlipKart or eBay. Since the application is available and always available.

#### 1.4 STUDY OF THE SYSTEM

#### **1.4.1 MODULES:**

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

- O Administrator
- O Vendors
- O Customer

#### 1.4.1.1 Administrator:

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 the users and about all products. This module is divided into different sub modules.

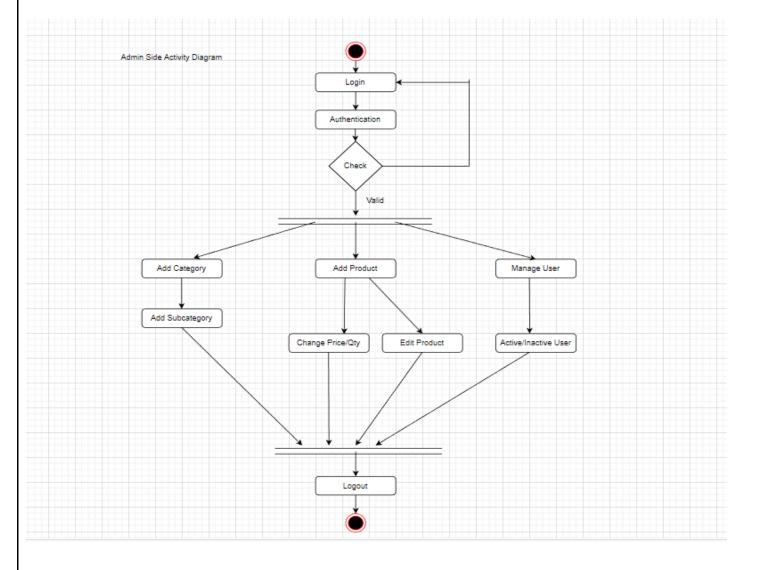


Figure 1 Admin Activity Diagram

### **O** Add Category

The shopping cart contains different kinds of products of different category. The products can be classified into different categories by name. Admin can add new category into the existing system.

### O Add Subcategory

Administrator can also add the products subcategory based on the category of that particular product.

#### **O** Search Products

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

### O View Users

Admin will have a list view of all the existing Users in the system.

### 1.4.1.2 Vendor:

Vendor would be able to add, remove, update product and can also edit product informations .

Vendor would be able to view feedback, reviews shared by customers for thier products promoted in Product Catalog.

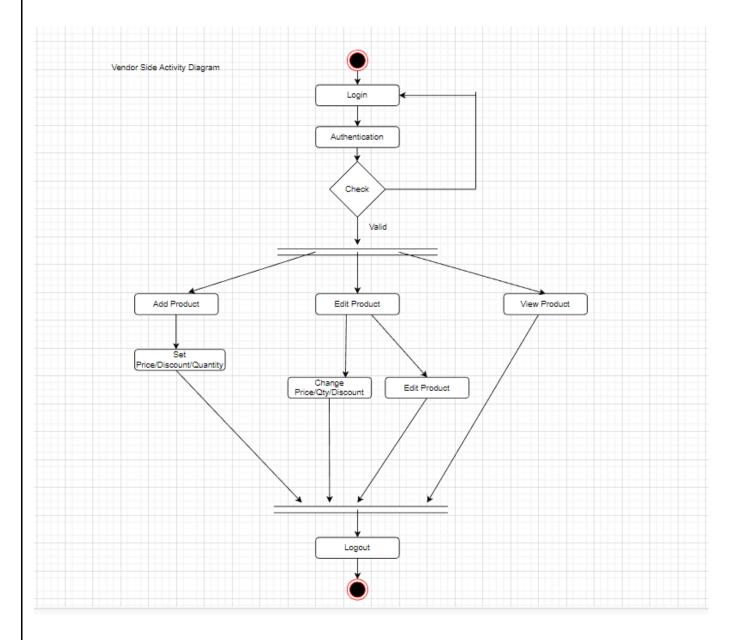


Figure 2 Vendors Activity Diagram

#### O Add Product

Vendor can add products.

**O Set Discounts** Vendor can set discounts to the products.

### **O** Update Products

Vendor can update details of the product.

#### **O** View Products Details

Vendor can view details of the product that is how many products sold etc.

| IACSD |   |   |           |
|-------|---|---|-----------|
|       | 0 | Add Company Details   |           |
|       |   | Vendor can add company details like company name, address etc |           |
|       |   |   |           |
|       |   |   |           |
|       |   |   |           |
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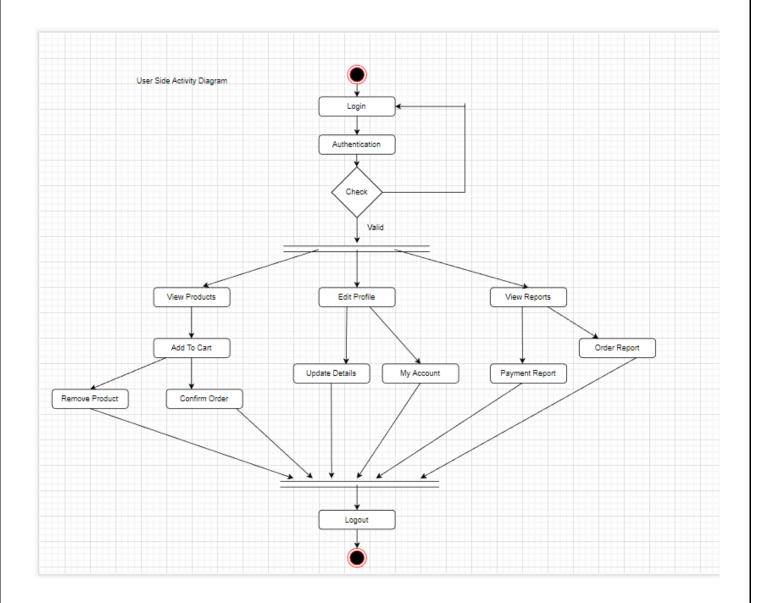


Figure 3 Customer Activity Diagram

#### 1.4.1.3: Customer: .

This project is attempts provide the advantages of online shopping to customers of a real shop. Thus, the customer will get the service of online shopping and home delivery from his favorite shop.

#### O Customer sign in, sign out, create account

This feature is provided to customer so he can sign in, sign out and create account for new customer.

**O** Search Product Customer can search the product as per his wish in specific category.

- **O** Add to Cart Customer can add products to cart which he wants to buy the products.
- O Feedback

Customer can write a feedback about the product.

- **O** Order Details Customer have a privilege to his order he can see his order details.
- **O Buy Product** Customers can buy product from his cart by doing payment.
- **O** Rating Customer can give the rating of the product.
- **O** Reset Password Users can reset their password in case of forgetting early password.

#### SYSTEM ANALYSIS

System analysis is the process of gathering and interpreting facts, diagnosing problems, and using the information to recommend improvements on the system. System analysis is a problem-solving activity that requires intensive communication between the system users and system developers.

System analysis or study is an important phase of any system development process. The system is viewed as a whole, the inputs are identified, and the system is subjected to close study to identify the problem areas. The solutions are given as a proposal. The proposal is reviewed on user request and suitable changes are made. This loop ends as soon as the user is satisfied with the proposal.

#### 2.1 EXISTING SYSTEM

The current system for shopping is to visit the shop manually and from the available product choose the item customer want and buying the item by payment of the price of the item.

It is less user-friendly.

User must go to shop and select products.

It is difficult to identify the required product.

Description of the product limited.

It is a time-consuming process

Not in reach of distant users.

#### 2.2 PROPOSED SYSTEM

In the proposed system customer need not go to the shop for buying the products. He can order the product he wish to buy through the website in his computer. Admin can add category and subcategory of the products. Vendors can manage the products by adding or updating products.

# 2.3 SYSTEM REQUIREMENT SPECIFICATION

#### 2.3.1 GENERAL DESCRIPTION

#### **Product Description:**

A web application which can provide the online shopping service for the customer to access the web service from his System. Web application should be able to help the customer for selecting his item and to help the owner in managing the orders from the customers.

#### **Problem Statement:**

As online shopping became a trend nowadays the regular shops are losing their customers to online brands. Customers have effortless shopping experience and saving time through shopping online. For competing with those online brands, if shops are providing an online portal where their customers can shop through internet and get the products at their doors it will increase the number of customers.

#### 2.3.2 SYSTEM OBJECTIVES

• To provide a Website for online shopping of products.

#### 2.3.3 SYSTEM REQUIREMENTS

#### 2.3.3.1 NON-FUNCTIONAL REQUIREMENTS

#### i. EFFICIENCY REQUIREMENT

When an ShopMe-Ecommerce Website implemented customer can purchase product in an efficient manner.

#### ii. RELIABILITY REQUIREMENT

The system should provide a reliable environment to both customers and owner.

#### iii. USABILITY REQUIREMENT

The Web application is designed for user friendly environment and ease of use.

#### iv. IMPLEMENTATION REQUIREMENT

Implementation of the system using React in front end with Spring Boot as back end and it will be used for database connectivity. And the database part is developed by MySQL. Responsive web designing is used for making the website compatible for any type of screen.

#### v. DELIVERY REQUIREMENT

The whole system is expected to be delivered in one months of time with a weekly Evaluation by the project guide.

#### 2.3.3.2 FUNCTIONAL REQUIREMENTS

#### USER

#### O USER LOGIN

#### **Description of feature**

This feature used by the user to login into system. A user must login with his username and password to the system after registration. If they are invalid, the user not allowed to enter the system.

#### **Functional Requirement**

- Username and password will be provided after user registration is confirmed.
- Password should be hidden from others while typing it in the field

#### **O** REGISTER NEW

#### **USER Description of feature**

A new user will have to register in the system by providing essential details in order to view the products in the system.

#### **Functional Requirement**

- System must be able to verify and validate information.
- The system must encrypt the password of the customer to provide security.

#### O PURCHASING AN ITEM

#### **Description of feature**

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

# **Functional Requirement**

• System must ensure that, only a registered customer can purchase items.

#### **SOFTWARE REQUIREMENT:**

- Front end: React JS, HTML, CSS
- Back end: MySQL, Spring Boot

#### **OPERATING ENVIRONMENT:**

- 4 GB ram
- 1.2 GHz processor
- Intel i5
- Windows 10
- RAM: minimum 2GB

#### **DESIGN AND IMPLEMENTATION CONSTRAINTS**

- The application will use React, java and css as main web technologies.
- Several types of validations make this web application a secured one and SQL Injections can also be prevented.
- Since ShopMe is a web-based application, internet connection must be established.
- The ShopMe will be used on PCs and will function via internet or intranet in any web browser.

#### REQUIREMENT SPECIFCATION

#### EXTERNAL INTERFACE REQUIREMENTS

#### **Application Interfaces:**

OS: Windows 10, Linux

#### Web Browser:

- The system is a web-based application; clients need a modern web browser such as Mozilla Firebox, Internet Explorer, Opera, and Chrome.
- The computer must have an Internet connection in order to be able to access the system.

#### **Communications Interfaces:**

- This system uses communication resources which includes but not limited to, HTTP protocol for communication with the web browser and web server and TCP/IP network protocol with HTTP protocol.
- This application will communicate with the database that holds all the booking information. Users can contact with server side through HTTP protocol by means of a function that is called HTTP Service. This function allows the application to use the data retrieved by server to fulfil the request fired by the user.

#### DATABASE DESIGN

#### 3.2 DATABASE

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 settings 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

#### 3.3 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.

#### **3.3.1 FRONT END:**

React is a library which is developed by Facebook are utilized to implement the frontend. React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces or UI components. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single page or mobile applications. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality.

#### **3.3.2 BACKEND:**

The back end is implemented using MySQL which is used to design 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. An application software called Navicert was used to design the tables in MySQL.

#### **Spring-Boot:**

This is used to connect MYSQL and fetch data from database and store the data in database. The Spring Framework is an application framework and inversion of control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions for building web applications on top of the Java EE (Enterprise Edition) platform. Although the framework does not impose any specific programming model, it has become popular

in the Java community as an addition to the Enterprise JavaBeans (EJB) model. The Spring Framework is Open-source Framework.

### 1 Level DFD for ADMIN

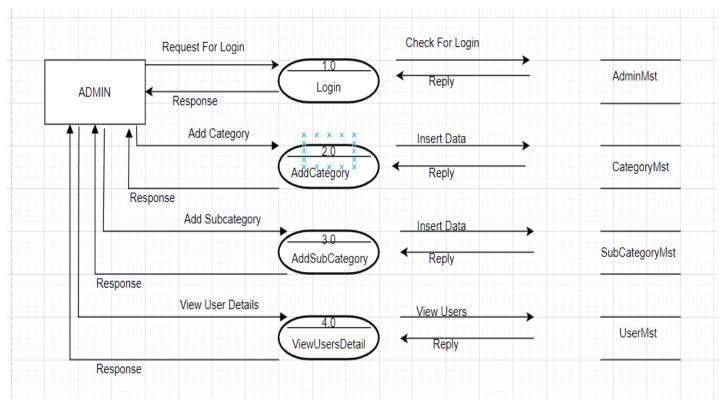


Figure 5 1 Level DFD for ADMIN

# 1 Level DFD for Vendor

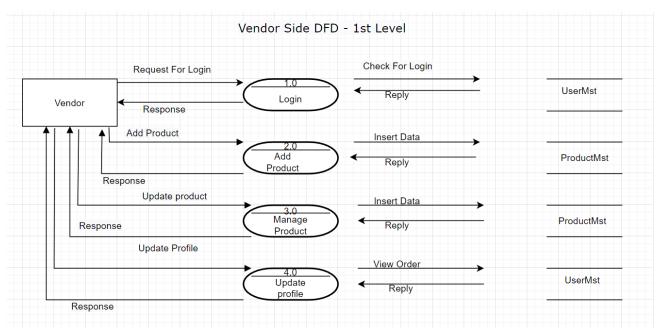
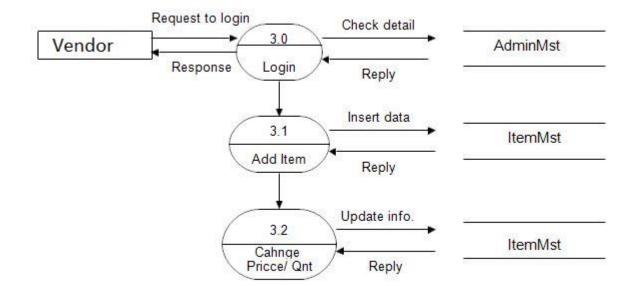


Figure 5 1 Level DFD for VENDOR

# 2<sup>nd</sup> Level DFD for Vendor

# 2nd LevelVendor DFD - (3.0)



# 1 Level DFD for CUSTOMER

### 1st Level User side DFD

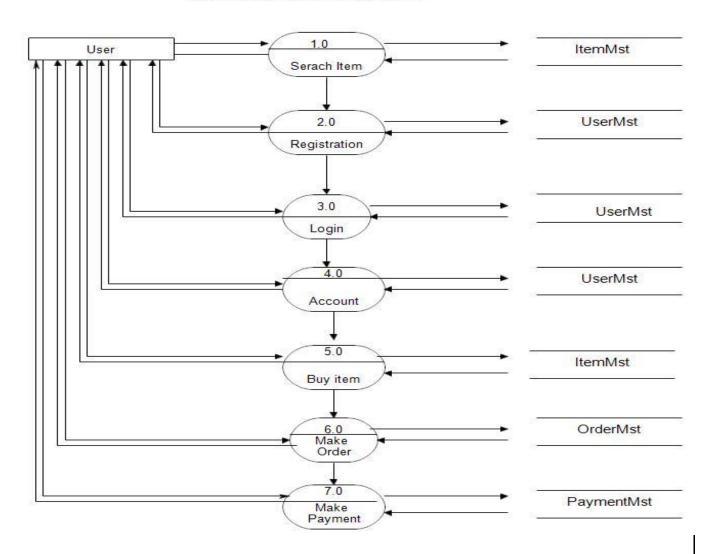


Figure 6 1 Level DFD for CUSTOMER

# 2st Level User DFD - (4.0)

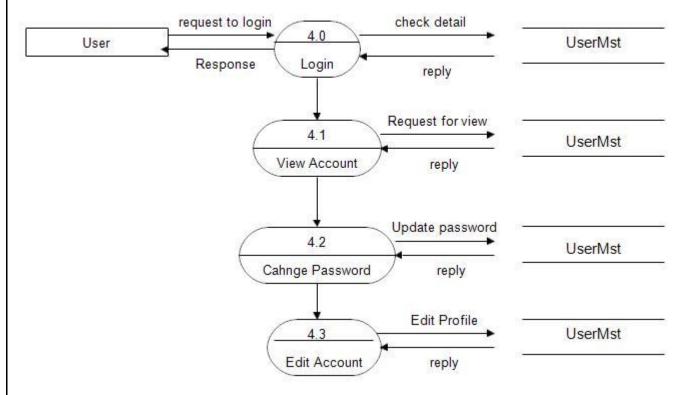


Figure 6 2 Level DFD for CUSTOMER

# 2st Level User DFD - (5.0)

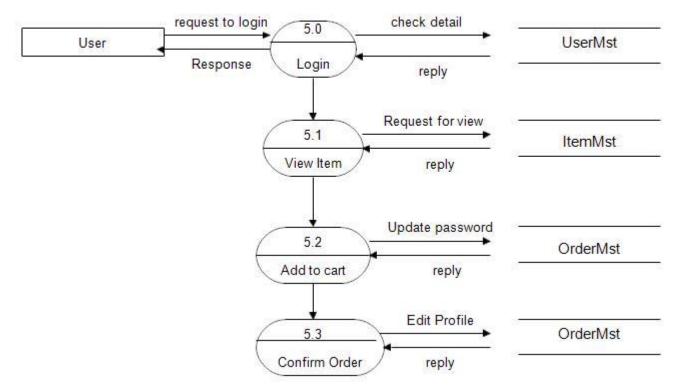


Figure 6 3 Level DFD for CUSTOMER

# E-R Diagram:

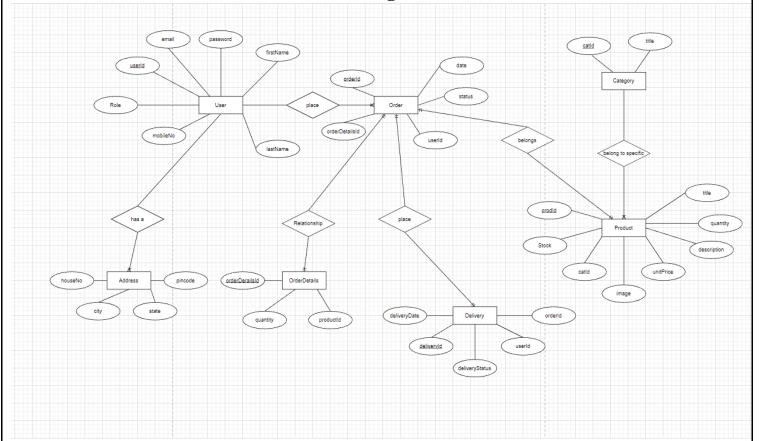


Figure 7 E-R Diagram

# **Class Diagram**

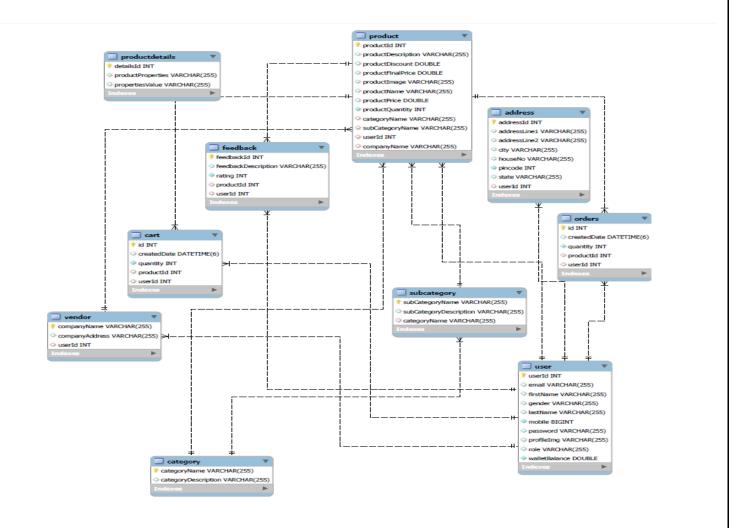


Figure 8 Class Diagram

# **TABLE STRUCTURE:**

# **Tables:**

### **Address:**

| Field        | Type         | Null | Key | Default | Extra          |
|--------------|--------------|------|-----|---------|----------------|
| addressId    | int          | NO   | PRI | NULL    | auto_increment |
| addressLine1 | varchar(255) | YES  |     | NULL    |                |
| addressLine2 | varchar(255) | YES  |     | NULL    |                |
| city         | varchar(255) | YES  |     | NULL    |                |
| houseNo      | varchar(255) | YES  |     | NULL    |                |
| pincode      | int          | NO   |     | NULL    |                |
| state        | varchar(255) | YES  |     | NULL    |                |
| userId       | int          | YES  | MUL | NULL    |                |

### **Cart:**

| id | mysql> desc can<br>+<br>  Field                              | <del></del>                                     |                         |                         | Default                      | ++<br>  Extra |
|----|--|---|-------------------------|-------------------------|------------------------------|---------------|
| ++ | id<br>  createdDate<br>  quantity<br>  productId<br>  userId | int<br>  datetime(6)<br>  int<br>  int<br>  int | YES<br>NO<br>YES<br>YES | <br> <br>  MUL<br>  MUL | NULL<br>NULL<br>NULL<br>NULL |               |

# **Category:**

| nysql> desc category;               |                              | +    |     |              | ++    |
|-------------------------------------|------------------------------|------|-----|--------------|-------|
| Field                               | Type                         | Null | Key | Default      | Extra |
| categoryName<br>categoryDescription | varchar(255)<br>varchar(255) |      | PRI | NULL<br>NULL |       |
| 2 rows in set (0.01 sec             | ·)                           | •    |     |              |       |

# **SubCategory:**

| ysql> desc subcategory;<br>                 | +                            | + | +        |              | ++     |
|---|------------------------------|---|----------|--------------|--------|
| Field<br>+                                  |                              |   |          | Default      |        |
| subCategoryName<br>  subCategoryDescription | varchar(255)<br>varchar(255) |   | PRI      | NULL<br>NULL |        |
| categoryName<br>+                           | varchar(255)<br>+            |   | MUL<br>+ |              | <br>++ |
| 3 rows in set (0.00 sec)                    |                              |   |          |              |        |

# **ProductDetails:**

| mysql> desc productde                                 | etails;                                 |            |        |                      |                      |
|---|---|------------|--------|----------------------|----------------------|
| Field   | Туре                                    | Null       | Key    | Default              | Extra                |
| detailsId<br>  productProperties<br>  propertiesValue | int<br>  varchar(255)<br>  varchar(255) | YES<br>YES | i<br>I | NULL<br>NULL<br>NULL | auto_increment  <br> |
| 3 rows in set (0.00                                   |   | +          | +      | +                    | ++                   |

# **Orders:**

| ysql> desc or  | ders;   | +                     | +                                    | <b>+</b>                 | ·     |
|--|---|-----------------------|--------------------------------------|--------------------------|-------|
| Field  |   | Null                  | Key                                  | Default                  | Extra |
| id<br>createdDate<br>quantity<br>productId<br>userId | int<br>  datetime(6)<br>  int<br>  int<br>  int | NO YES NO YES YES YES | PRI<br> <br> <br> <br>  MUL<br>  MUL | NULL NULL NULL NULL NULL |       |
| 5 rows in set  | +<br>(0.00 sec)                                 | +                     | +                                    | +                        | +     |

# **Products:**

| Field  | Туре   | Null  | Key   | Default                                 | Extra          |
|--|--|---|---|---|----------------|
| productId productDescription productDiscount productFinalPrice productImage productName productPrice productPuantity categoryName subCategoryName userId companyName | int varchar(255) double double varchar(255) varchar(255) double int varchar(255) varchar(255) varchar(255) | NO YES YES YES YES YES YES NO YES YES YES YES YES | PRI     PRI                         MUL     MUL | NULL NULL NULL NULL NULL NULL NULL NULL | auto_increment |

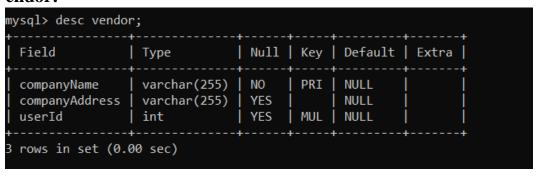
# User:

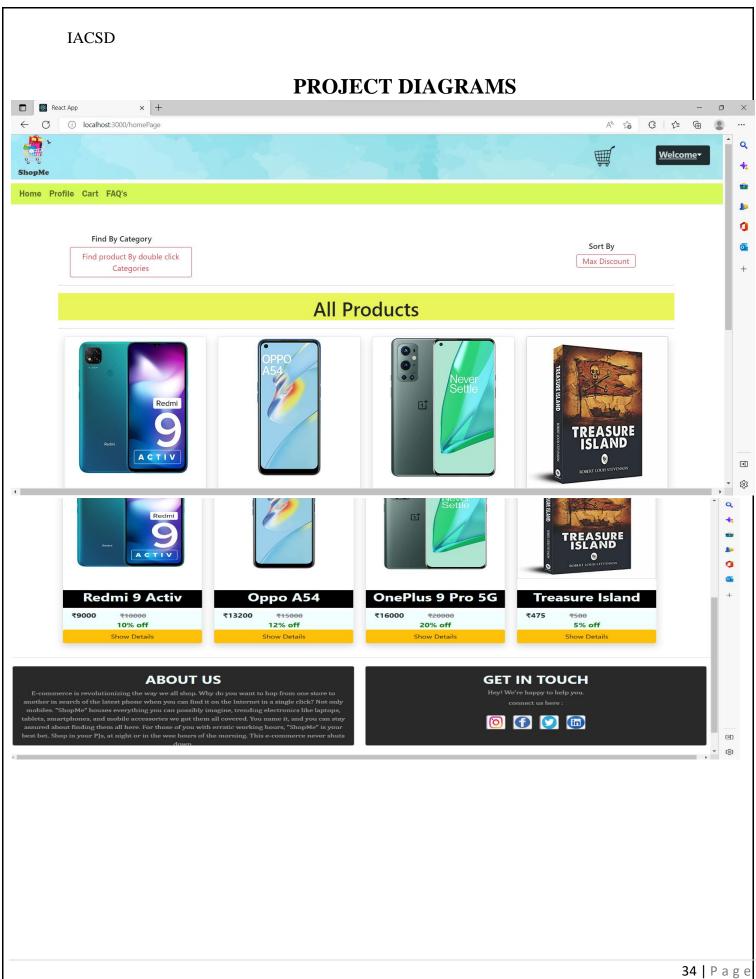
| Field         | Type         | Null | Key | Default | Extra          |   |
|---------------|--------------|------|-----|---------|----------------|---|
| userId        | int          | NO   | PRI | NULL    | auto_increment | Ť |
| email         | varchar(255) | YES  | 1   | NULL    | 1              | 1 |
| firstName     | varchar(255) | YES  | 1   | NULL    | 1              |   |
| gender        | varchar(255) | YES  | 1   | NULL    | 1              | 1 |
| lastName      | varchar(255) | YES  | 1   | NULL    | 1              |   |
| mobile        | bigint       | NO   | 1   | NULL    | 1              | 1 |
| password      | varchar(255) | YES  | 1   | NULL    | 1              |   |
| profileImg    | varchar(255) | YES  | 1 1 | NULL    | 1              | 1 |
| role          | varchar(255) | YES  |     | NULL    |                |   |
| walletBalance | double       | NO   |     | NULL    | 1              | 1 |

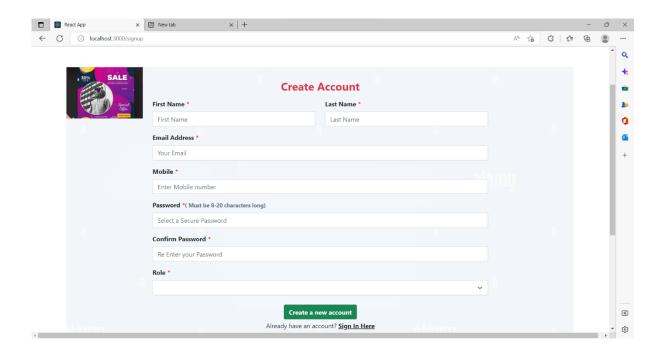
# Feedback:

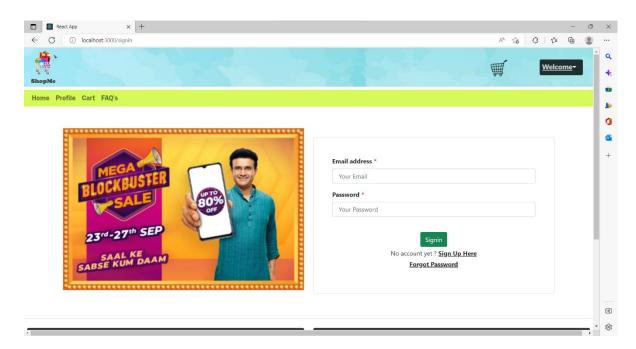
| nysql> desc feedback;  | +                 | +                             | +                  | <b></b>                              | ++             |  |  |  |
|--|-------------------|-------------------------------|--------------------|--------------------------------------|----------------|--|--|--|
| Field  | Туре              | Null                          | Key                | Default                              | Extra          |  |  |  |
| feedbackId<br>feedbackDescription<br>rating<br>productId<br>userId | int<br>int<br>int | NO<br>YES<br>NO<br>YES<br>YES | <br>  MUL<br>  MUL | NULL<br>NULL<br>NULL<br>NULL<br>NULL | auto_increment |  |  |  |
| rows in set (0.00 sec)   |                   |                               |                    |                                      |                |  |  |  |

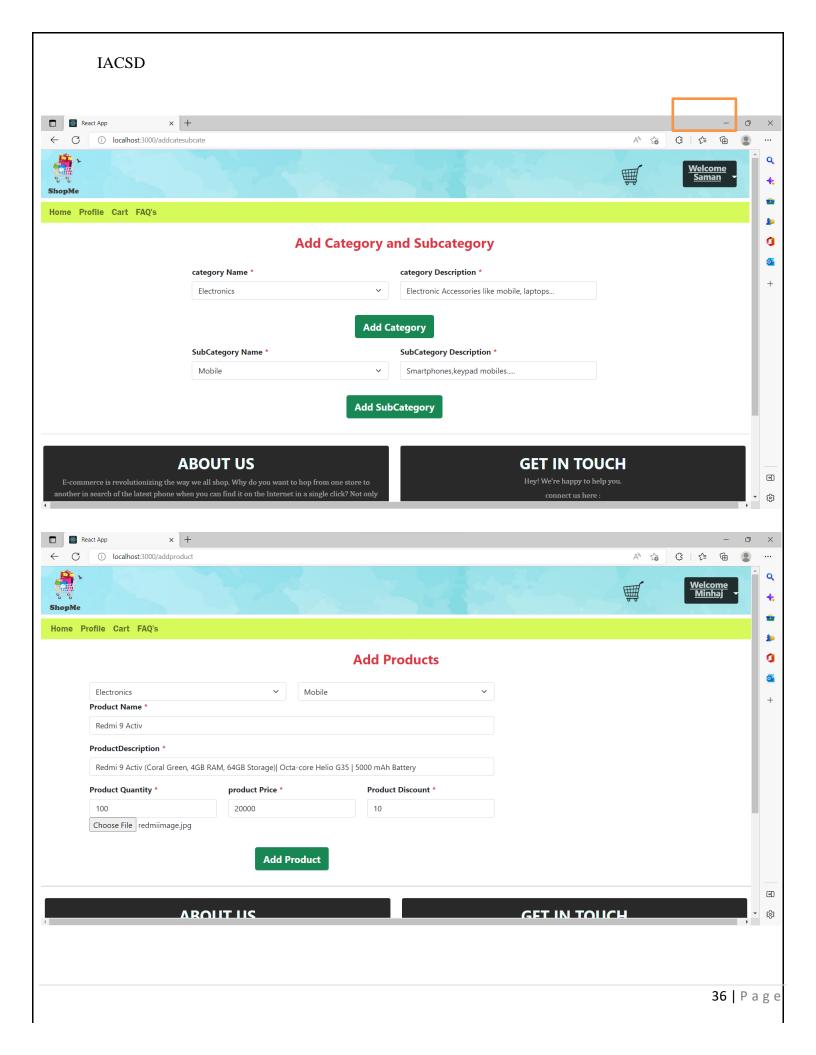
### Vendor:

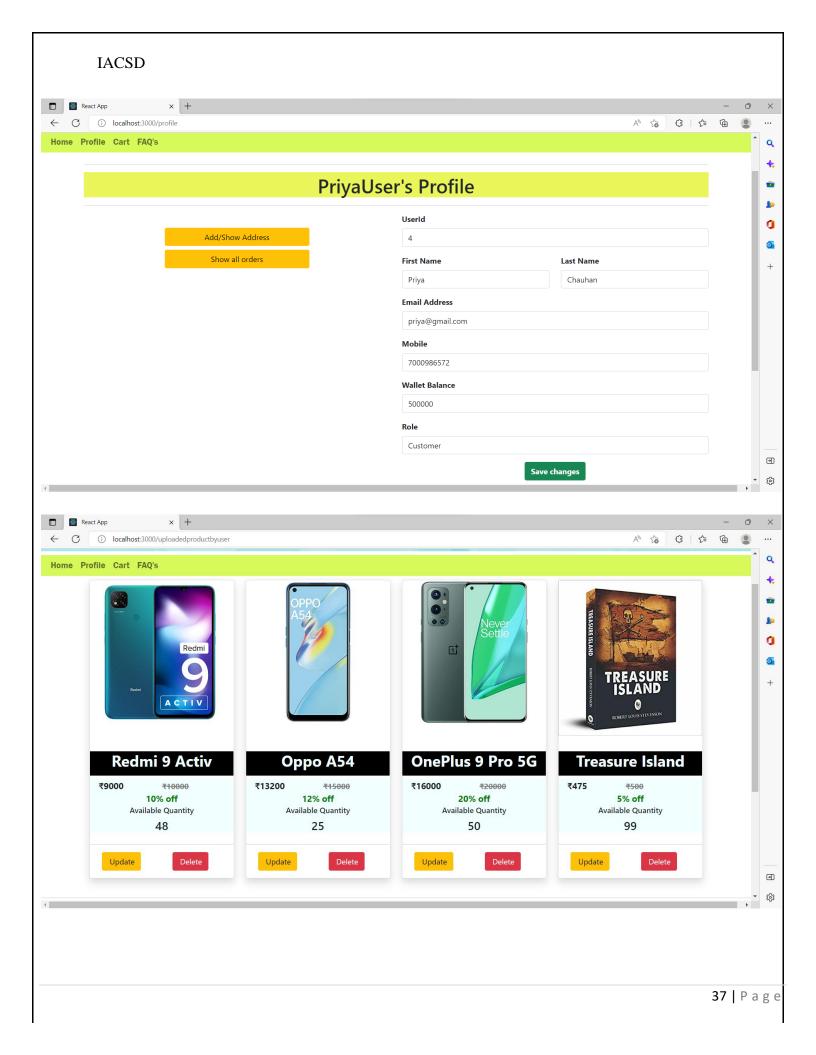


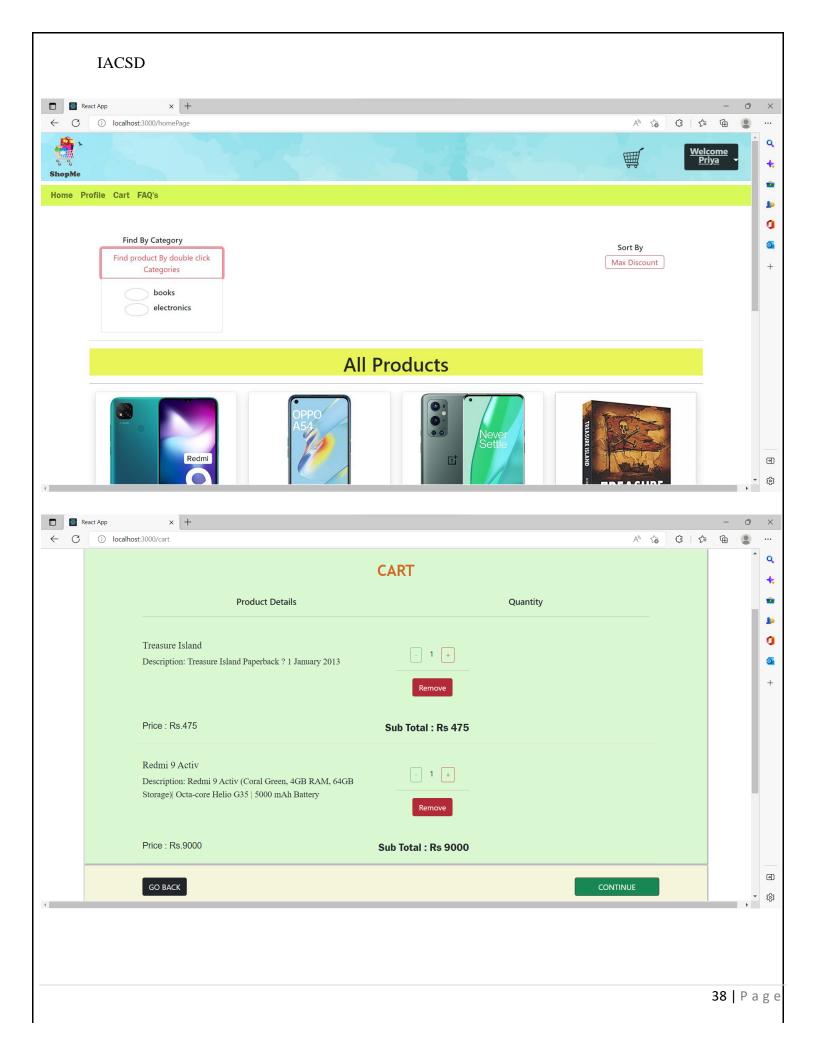


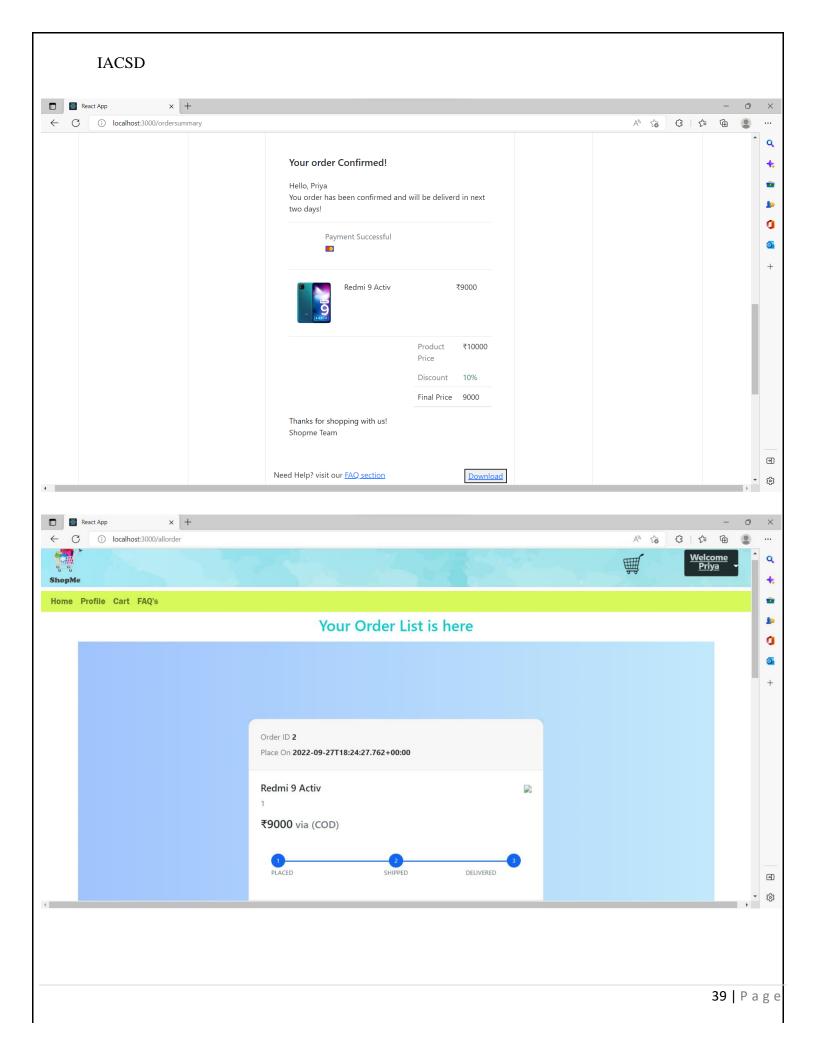


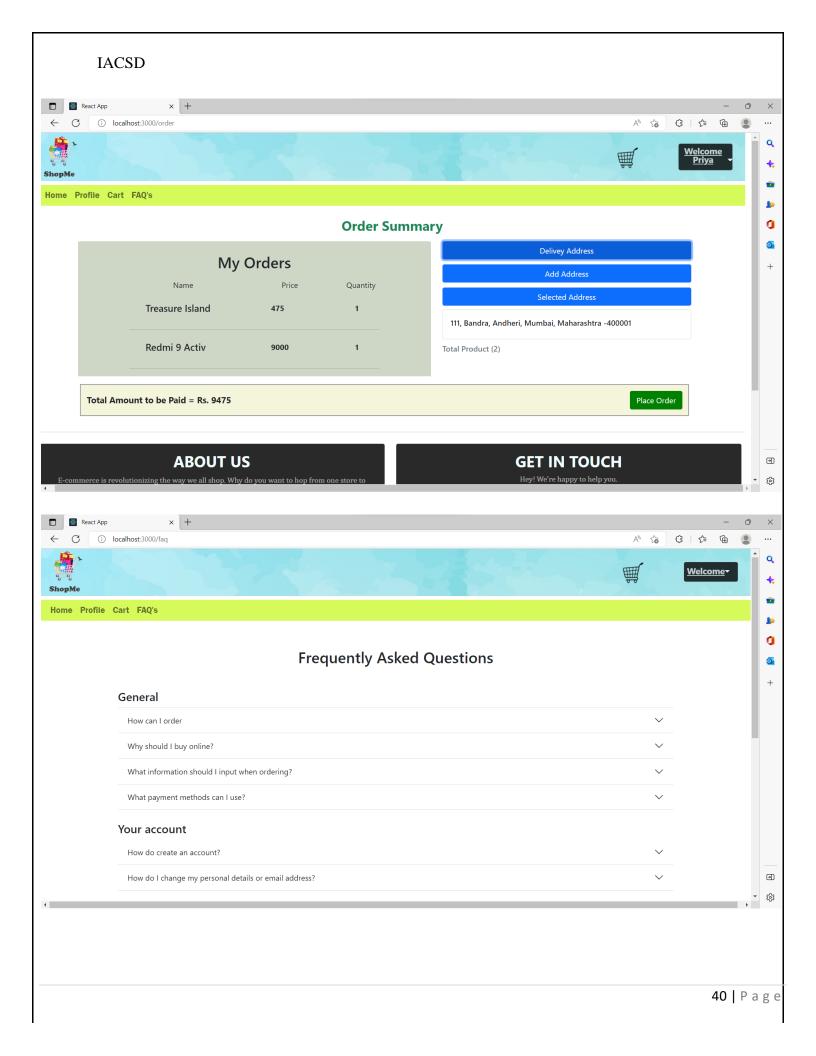


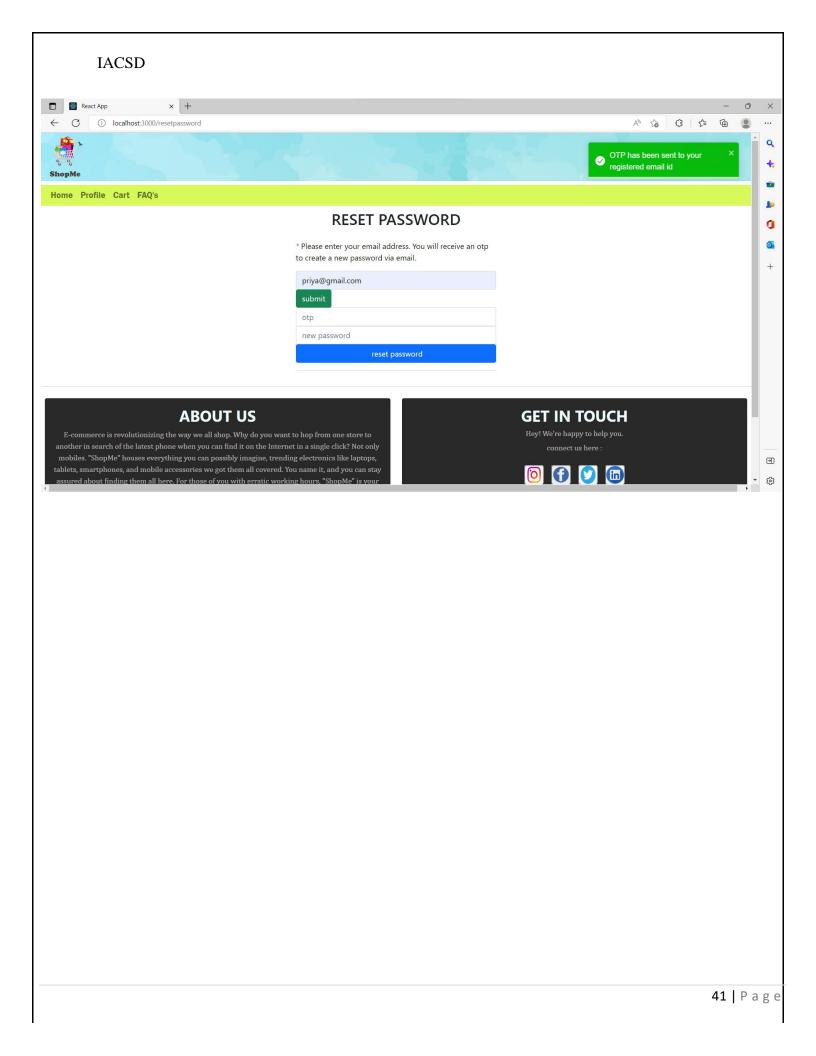












#### **CONCLUSION**

The project entitled **ShopMe** 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 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 React.js, usage of responsive templates, and management of database using MySQL. The entire system is secured. Also, 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.

#### REFERENCES

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