

**A  
PROJECT REPORT**

**ON**

**INDIGI-KART**

Submitted in partial fulfilment for the award of  
**Post Graduate Diploma in Advance Computing**  
**(PG-DAC) from**

**INSTITUTE OF EMERGING TECHNOLOGIES**

**Authorized Training Centre**



**Under the Guidance of**

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## **CERTIFICATE**

This is to certify that the project report entitled **IndiGI-Kart** is a bonfire work carried out by **Mr. Jagtap Arjun Shrikrishna, Mr. Kharche Pranav Bhagwan, Mr. Lav Yadav, Mr. Shantanu Suhas Ghanwat, Ms. Vaishnavi Gautam Khobragade, Mr. Satkar Sudarshan Kundalik** and submitted in partial fulfilment of the requirement for the C-DAC ACTS, DAC course in Institute of Emerging Technology in the batch of September 2023.

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## Abstract

This project aims to create an e-commerce website for GI (Geographical Indication) products. A Geographical Indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. It will help to establish direct contact between consumer and supplier without the involvement of any middleman thereby benefitting them both in cost as well as qualitative parameters. Consumers would be able to buy products from Government-approved Suppliers.

For this, we planned to create a website with products categorized based on State and end-use. The website will also have a form for adding new suppliers and products which will be approved after verifying their GI certificate number and license from the Government of India (from the Government website). The website will felicitate suppliers with ratings based on consumer experiences.

Customer can shop the products based on their interests by verifying the reviews and adding the products to the cart. Payment will be felicitated both online and offline.

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## 1. Introduction

A Geographical Indication (GI) tag is given to an entrepreneur or a group of businessmen of a particular area/state/country to manufacture goods of good quality.

GI Tagged products can be broadly classified as below:

Sr. No	Base Category	Sub Category
1	Groceries	<ul style="list-style-type: none"><li>• Spices</li><li>• Sweets</li><li>• Cereals and Pulses</li><li>• Fruits</li><li>• Dry Fruits</li><li>• Beverages</li></ul>
2	Textiles and Handlooms	<ul style="list-style-type: none"><li>• Home Textiles</li><li>• Apparels</li><li>• Upholstery</li><li>• Handloom</li></ul>
3	Art and Handicrafts	<ul style="list-style-type: none"><li>• Painting</li><li>• Pottery</li><li>• Metal Craft</li><li>• Wooden Craft</li><li>• Stone Craft</li><li>• Home Decore</li><li>Others....</li></ul>
4	Accessories	<ul style="list-style-type: none"><li>• Leather</li><li>• Jewellery</li><li>• Essential Oils</li><li>• Perfumes</li><li>• Henna</li><li>Other....</li></ul>

GI tags are issued as per the Geographical Indications of Goods (Registration and Protection) Act of 1999. This tag is issued by the Geographical Indication Registry under the Department of Industry Promotion and Internal Trade, Ministry of Commerce and Industry.

Until now around 360 products have been granted with GI Tag and some are as below:

<b>Products</b>	<b>Categories</b>	<b>States</b>
<b>Alphonso mangoes</b>	Agricultural Products	Maharashtra
<b>Darjeeling tea</b>	Agricultural Products	West Bengal
<b>Malabar pepper</b>	Agricultural Products	Kerala
<b>Kashmir saffron</b>	Agricultural Products	Jammu and Kashmir
<b>Nagpur oranges</b>	Agricultural Products	Maharashtra
<b>Sanaur Ghee</b>	Agricultural Products	Rajasthan
<b>Sitaphal</b>	Agricultural Products	Madhya Pradesh
<b>Nilgiri honey</b>	Agricultural Products	Tamil Nadu
<b>Coonoor coffee</b>	Agricultural Products	Tamil Nadu
<b>Dharwad chilies</b>	Agricultural Products	Karnataka
<b>Kullu walnuts</b>	Agricultural Products	Himachal Pradesh
<b>Madhubani paintings</b>	Handicrafts	Bihar
<b>Zari work of Surat</b>	Handicrafts	Gujarat
<b>Kutch embroidery</b>	Handicrafts	Gujarat
<b>Bidri work</b>	Handicrafts	Karnataka
<b>Phulkari</b>	Handicrafts	Punjab



<b>Chanpatia handloom</b>	Handicrafts	West Bengal
<b>Kashmir Shawls</b>	Handicrafts	Jammu and Kashmir
<b>Patan Patola</b>	Handicrafts	Gujarat
<b>Sonepur pottery</b>	Handicrafts	Odisha
<b>Chanderi sarees</b>	Handicrafts	Madhya Pradesh
<b>Salem silk</b>	Handicrafts	Tamil Nadu

## **2. Problem Definition & Scope**

### **2.1 Problem Definition**

A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. As these are Geographical Indicated products these are not available for other parts of the country. If by any means the product is available to other parts of the country it cannot be said that the product has any verified supplier or the product is adulterated.

To supply non-adulterated and verified products to people we have developed an eCommerce Website where any person of the country located in any part of the country can buy the GI Product from a verified supplier within 7 days of span.

### **2.2 Goals & Objectives**

- IndiGI-Kart is a “one-stop store” of celebrated products having geographical origin (GI Tag). Our customers need not travel to a place to buy its renowned products, we market GI Tag products and adhere to the requirements as mentioned in the Geographical Indications registry. Hence our motto is “From the very land to your hand”. Our categories include-
  - Arts & Handicrafts
  - Textiles & Handlooms
  - Accessories
  - Groceries
- Those G.I. products are sold with all sellers being verified by the government certification for G.I. Products.

### **2.3 Major Constraints & Outcomes**

- Ensured Geographical Indicated Origin.
- Unique Qualities from that Origin.
- Zero Tolerance to Adulteration.
- Product Differentiation
- One-stop store

### 3 Software Requirement Specification

#### 3.1 Proposed System

- Digitalize Shopping of G.I. Products
- Individual logins of Admin, Seller and Customer
- Admin can approve and authorize verified Sellers and can add or delete product
- Seller can register/login in his/her profile
- Seller can add/edit product details
- Customer can register/login into the profile
- Customer can select/add/buy varieties of GI Products
- Shop by category
- More Varieties of one product
- Safe logout

There are three main modules:

Admin	Seller	Customer
1. Home	1. Home	1. Home
2. Product Category	2. Product Category	2. All Product
3. Profile	3. Profile	3. View
4. Sellers & Customers	4. Add Products & Banner	4. Profile
5. Orders	5. Products	5. My Orders
6. Log Out	6. Log Out	6. Log Out

#### 3.2 Scope

- It will help the purchase of geographically indicated items.
- G.I. Products with Certification.
- Verified Sellers
- Shop by category
- Multiple supplier options for a product.

## 4 System Modules

- **Registration:** New Customers can sign up by creating an email ID and password. New suppliers can register by providing the email ID, password, and GI certificate no which will be later verified by the admin.
- **Login:** After supplier registration verification only, the suppliers will get his/her login details and will be able to add products that he/she wish to sell.
- **View and edit Own Details:** Customers can view/edit their details, payment details, and details about orders. **Suppliers can edit/view the product details, product images, availability of the product and prices.**
- **Giving Feedback to Customer Care:** Can give reviews to the product 24/7. Customer Care Service is available from 9 am to 5 pm.
- **Logout:** Customers can log out of the site after viewing or purchasing products.
- This system will be accessible to customers, suppliers, and shippers only.
- The users will be accessible for viewing their data.

### **Supplier:**

- Supplier can add new products with details such as title, description, images, price, and quantity.
- Supplier can edit or remove existing products.
- Supplier can view order details including customer information and products ordered.
- Supplier can customer reviews and ratings.
- Supplier can edit the details like price, images, new varieties and availability (stock) of the product.

**Customer:**

- A customer will be able to visit the website and view the products without registration.
- Customers will be able to see the products according to categorization and should be able to view all suppliers offering a particular product.
- Customer will be able to see the ratings and feedback of the particular supplier before purchasing a product.
- Customer will be able to add or delete the products from the cart.
- Customer will be able to save personal details like name, email, phone and address at the time of order placement and should be able to choose or change the payment options.
- Customer will be able to track the shipment and cancel the order if he/she wishes to.
- Customer will be able to review and rate the product and service.

**Admin:**

- Admin will authenticate and authorize the access to admin dashboard.
- Admin will be able to allow export and import data from the website.
- Admin will manage the overall operation of the website, such as adding or removing website features, configuring security settings, or updating software versions.
- Admin will create, modify, or delete supplier and customer accounts and verify the suppliers by GI certificate number.
- Admin will design a dashboard to be scalable and capable of handling a large number of users or a high volume of data.
- Admin will implement robust security measures, such as encryption and secure communication protocols, to protect the website and its users.

**Shipper**

- The Shipper is a user role within the system responsible for handling the shipment and delivery of products to customers.
- Shippers should be able to pack and ship the goods as per suppliers' requirements.

- Shippers will be able to track the shipment and provide that information to the supplier. Suppliers then will update this information on the website including marking them as shipped and providing tracking information to customers.

**Customer Care:**

- Getting Feedback from the Customers: Responsible for receiving complaints, queries, and feedback from the customers.
- Providing Solutions to Customers: Provide feasible solutions to the customers on their complaints and queries.

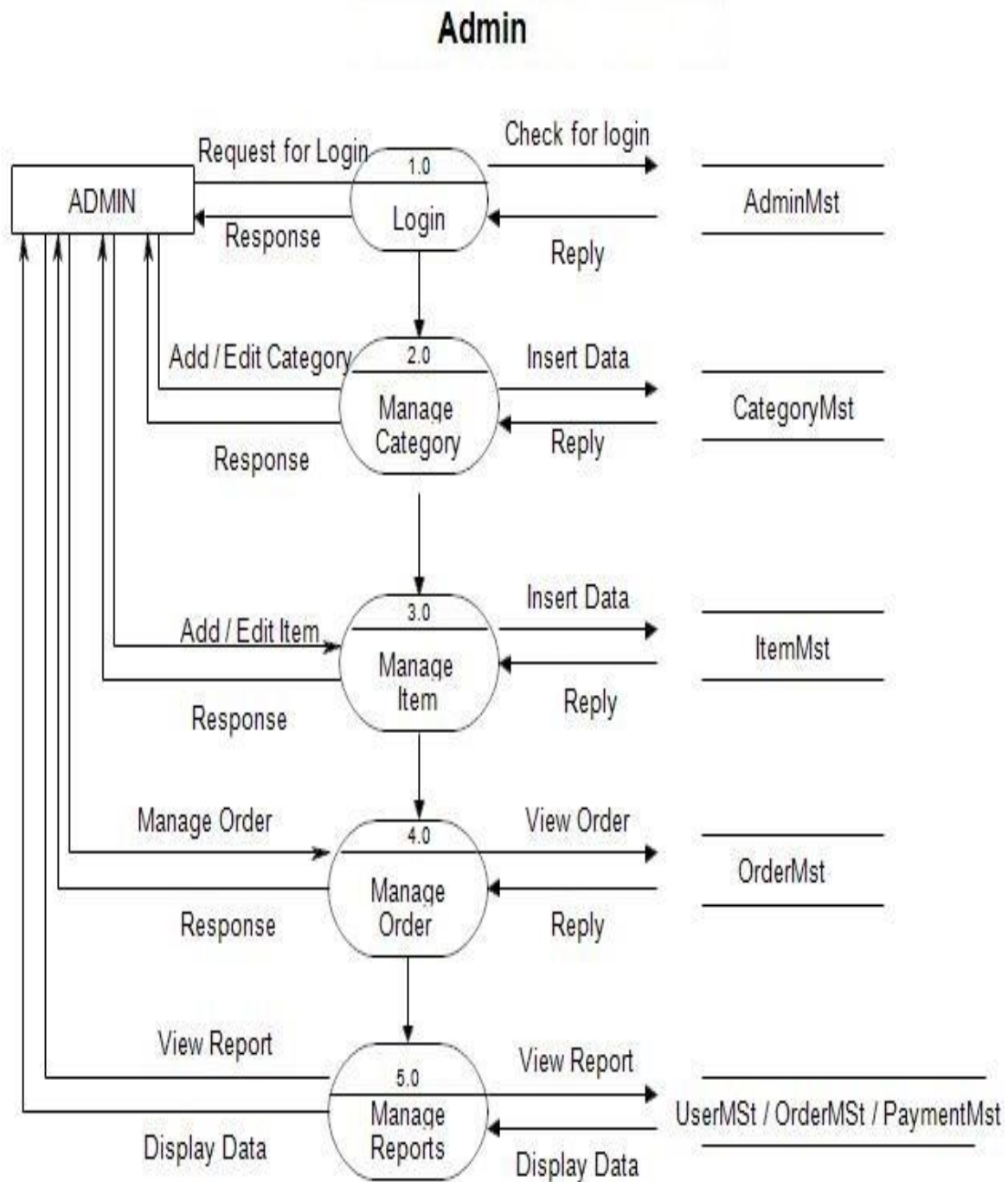
## 5 Performance-Requirements

### 5.1 Hardware Requirements & Software Requirements

- Hardware Requirements:
  1. Intel i3 processor 3rd generation or later / AMD Ryzen 200 2nd generation or later
  2. 4GB RAM.
  3. Windows 7 Home edition or later.
  4. 200 GB data HDD Space
  5. Data Connection 200 kbps
- Software Requirements:
  1. Spring Boot
  2. MySQL
  3. Visual Studio Code
  4. ReactJS Library
  5. Bootstrap Library
  6. Hibernate

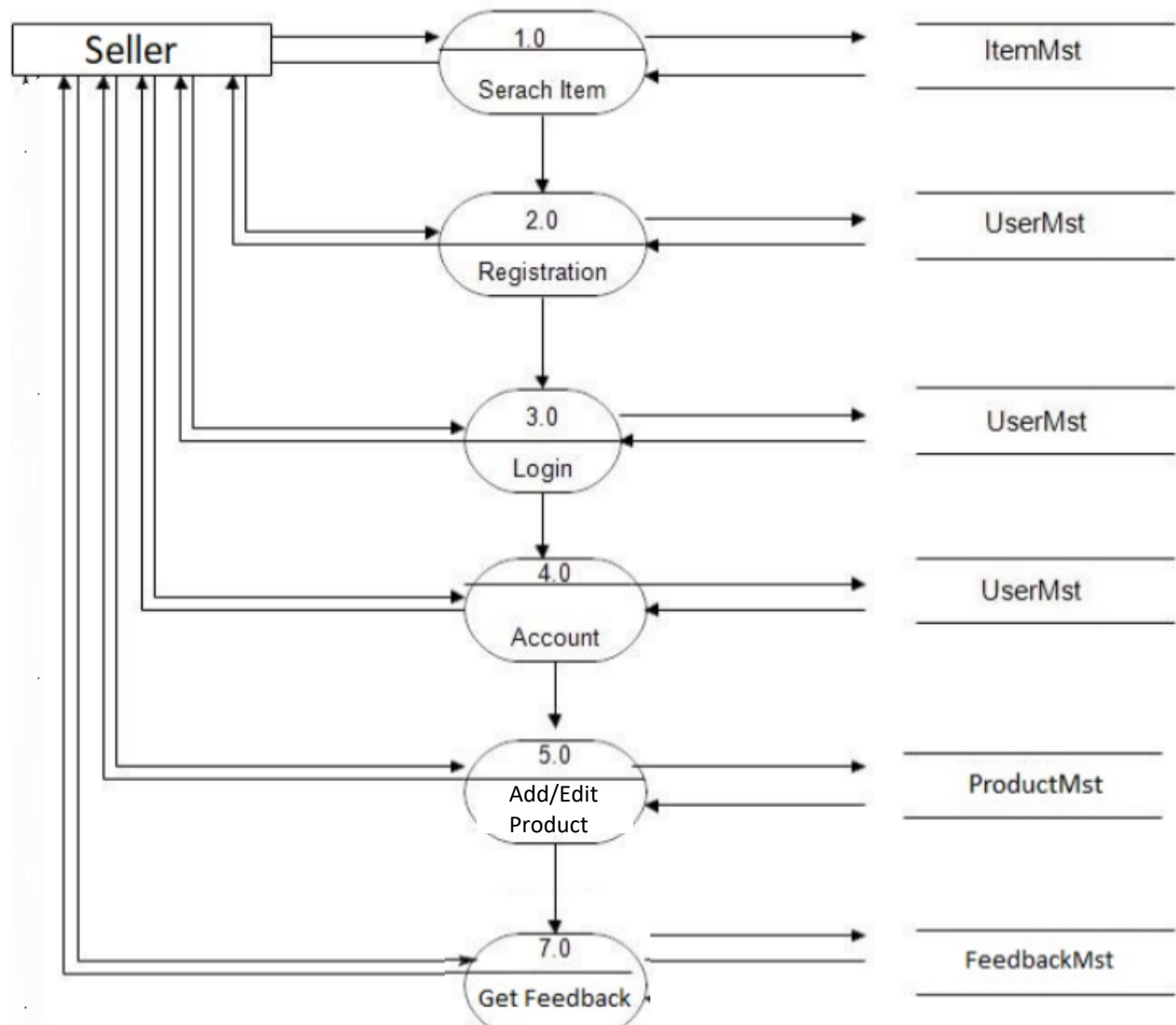
## 6 UML Diagram

### 6.1 Data Flow Diagrams

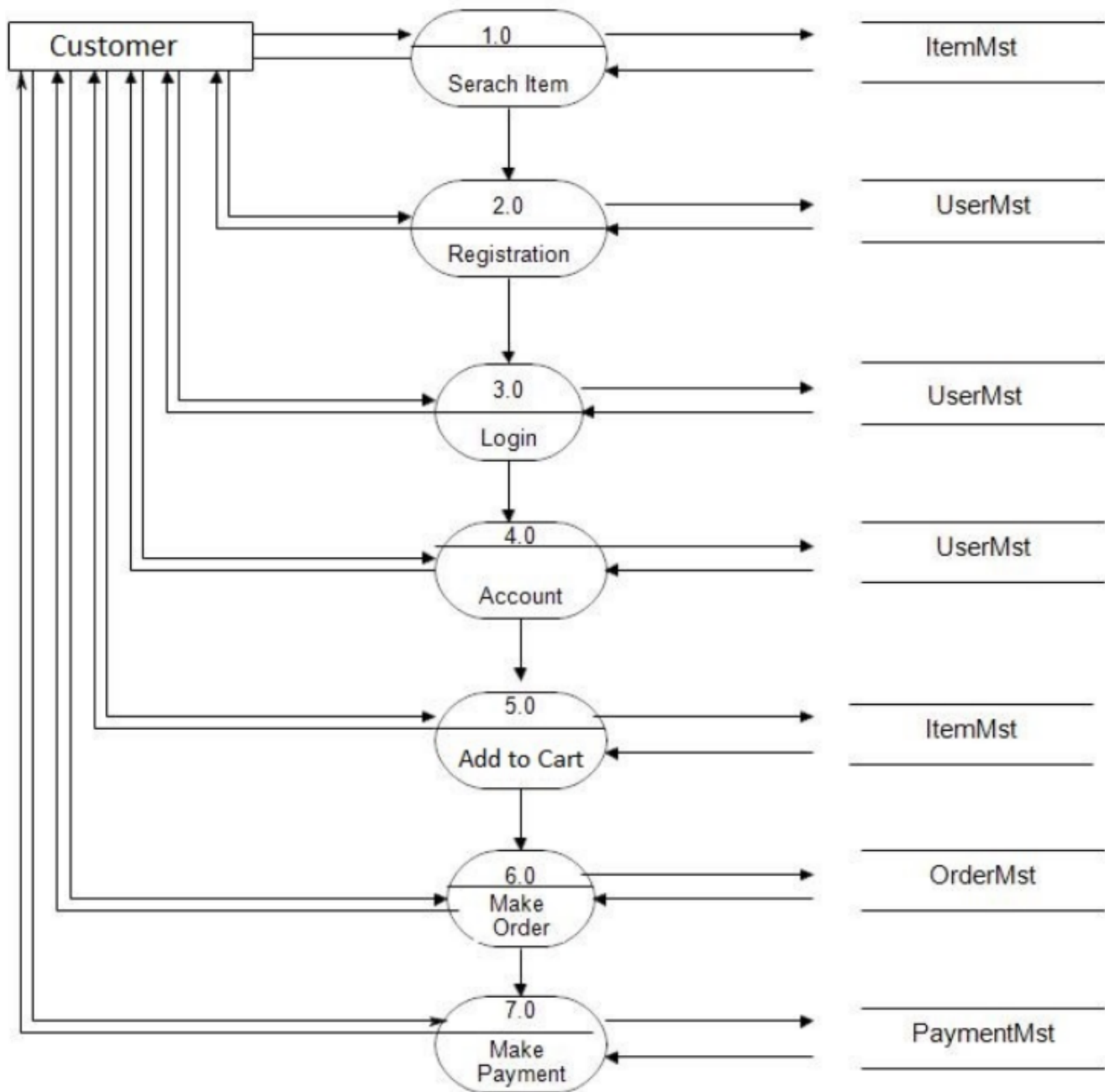




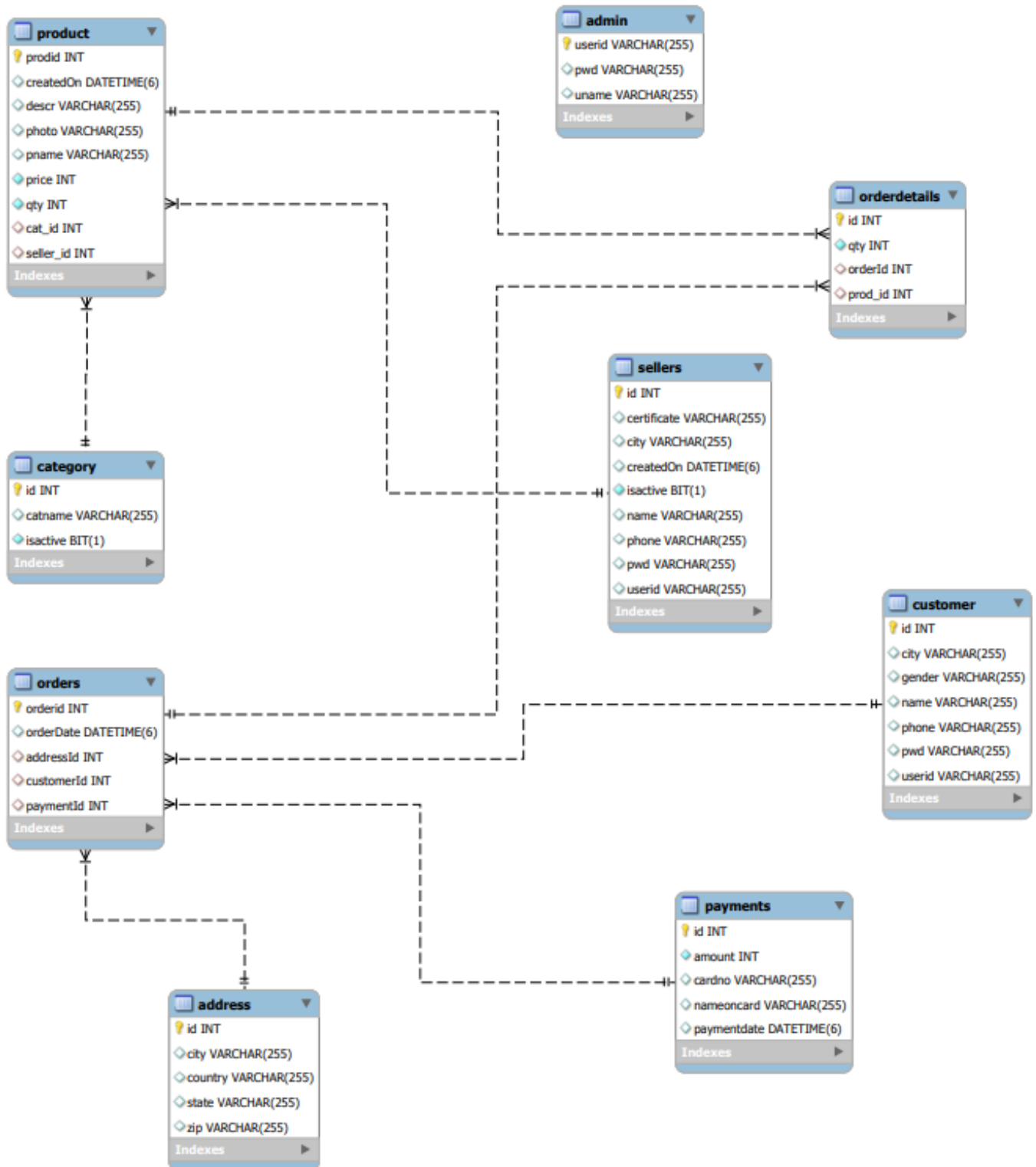
## Seller



## Customer



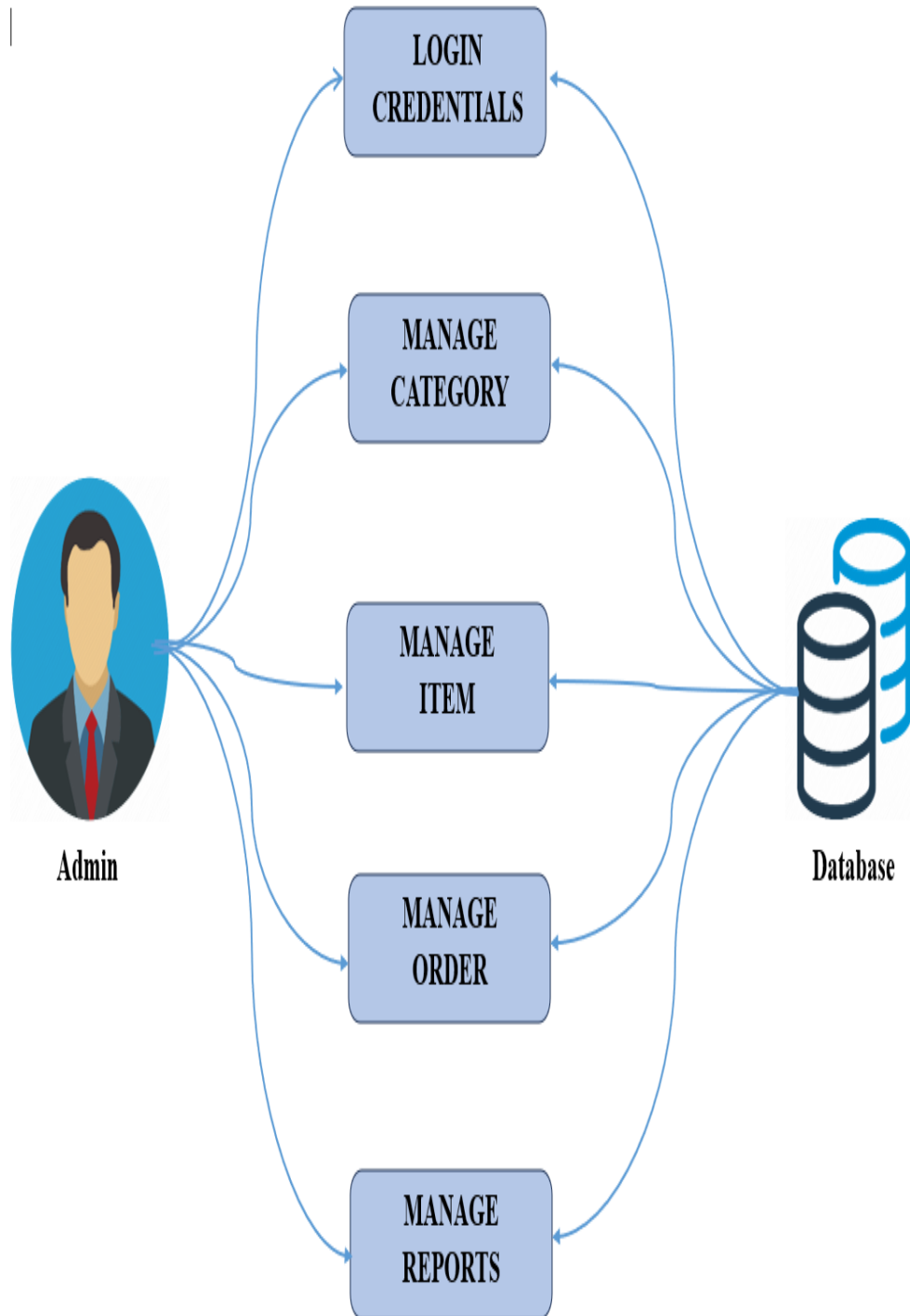
## 6.2 ERD



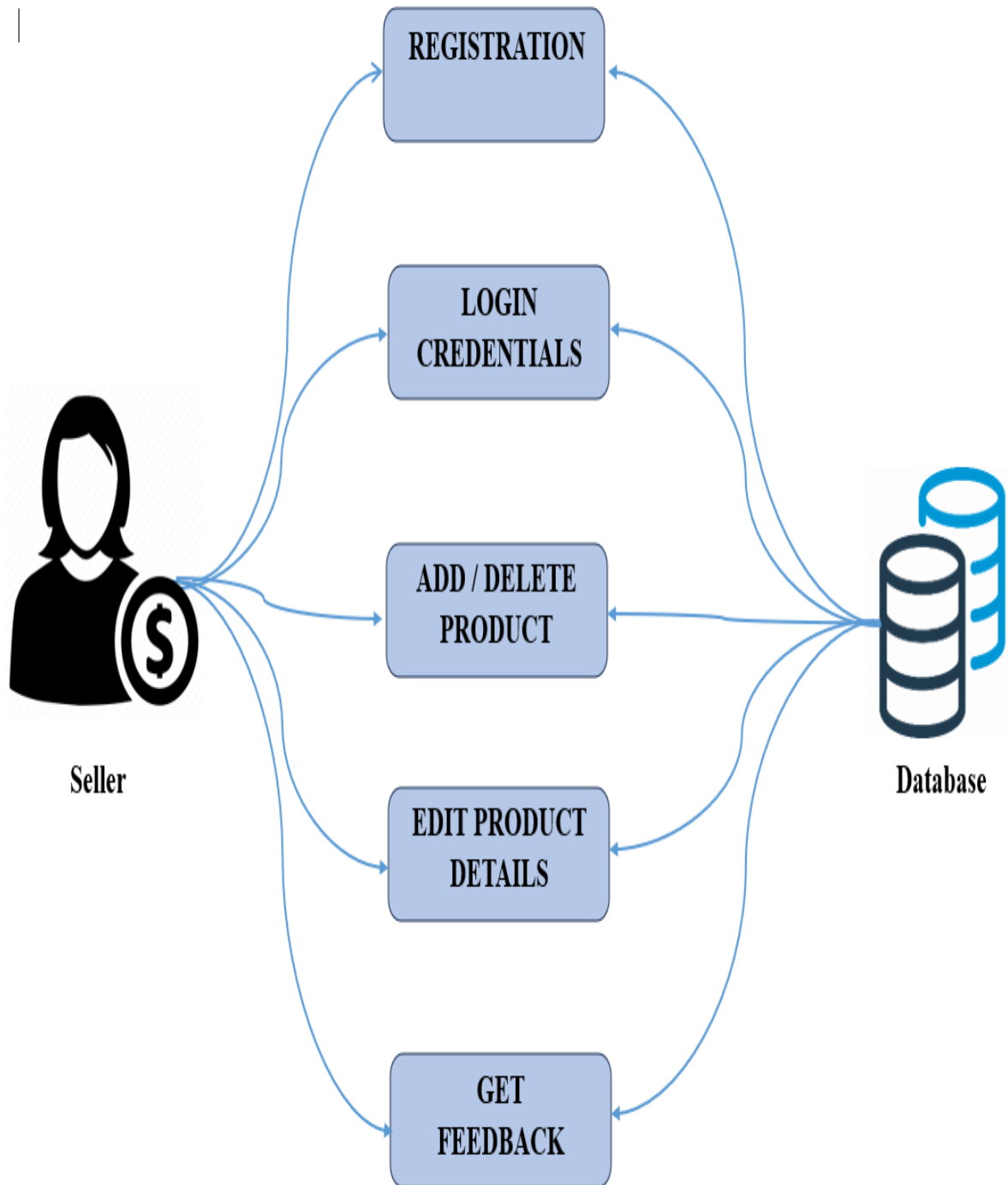
of 1

### 6.3 Use case diagram

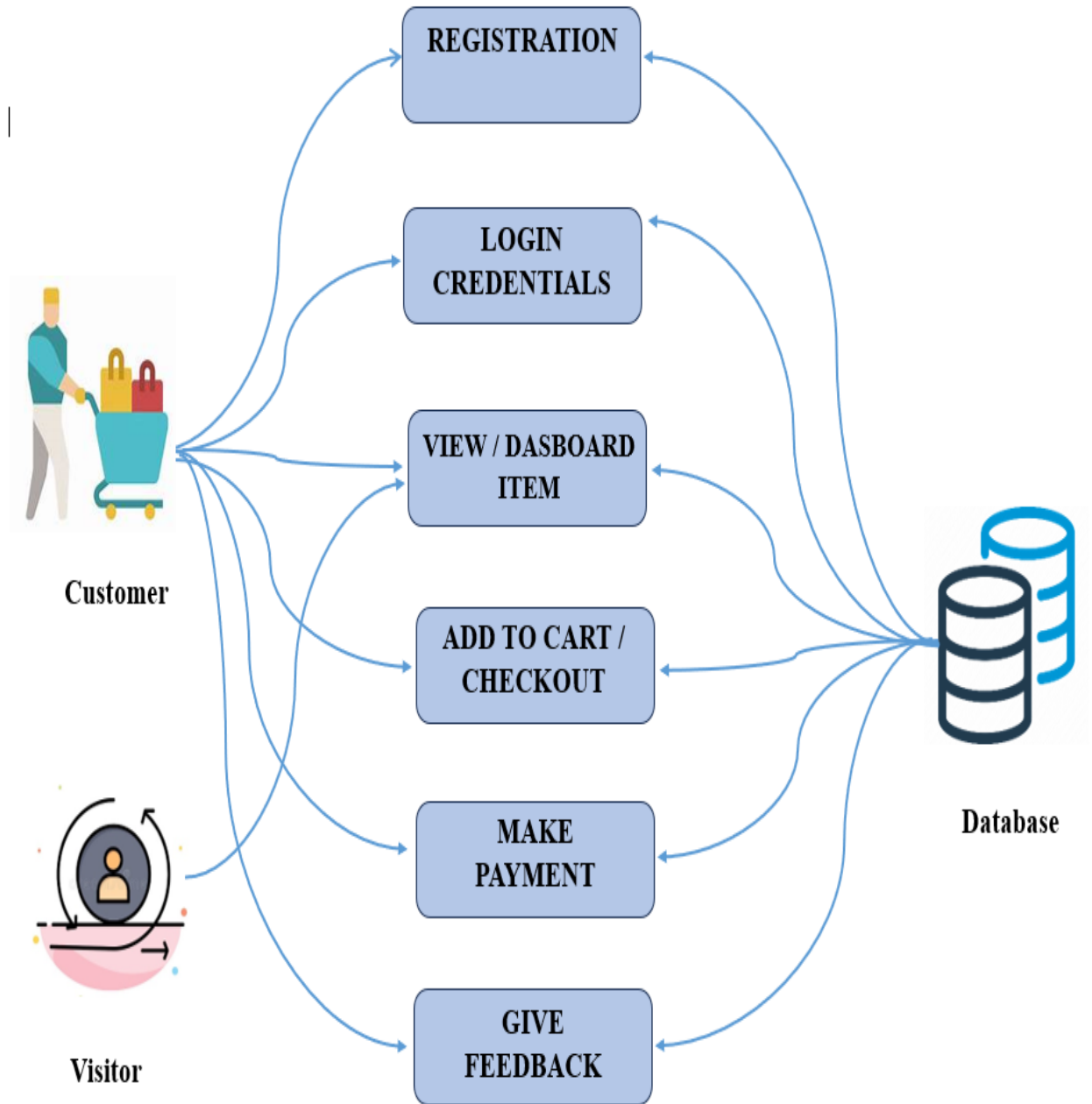
Admin:



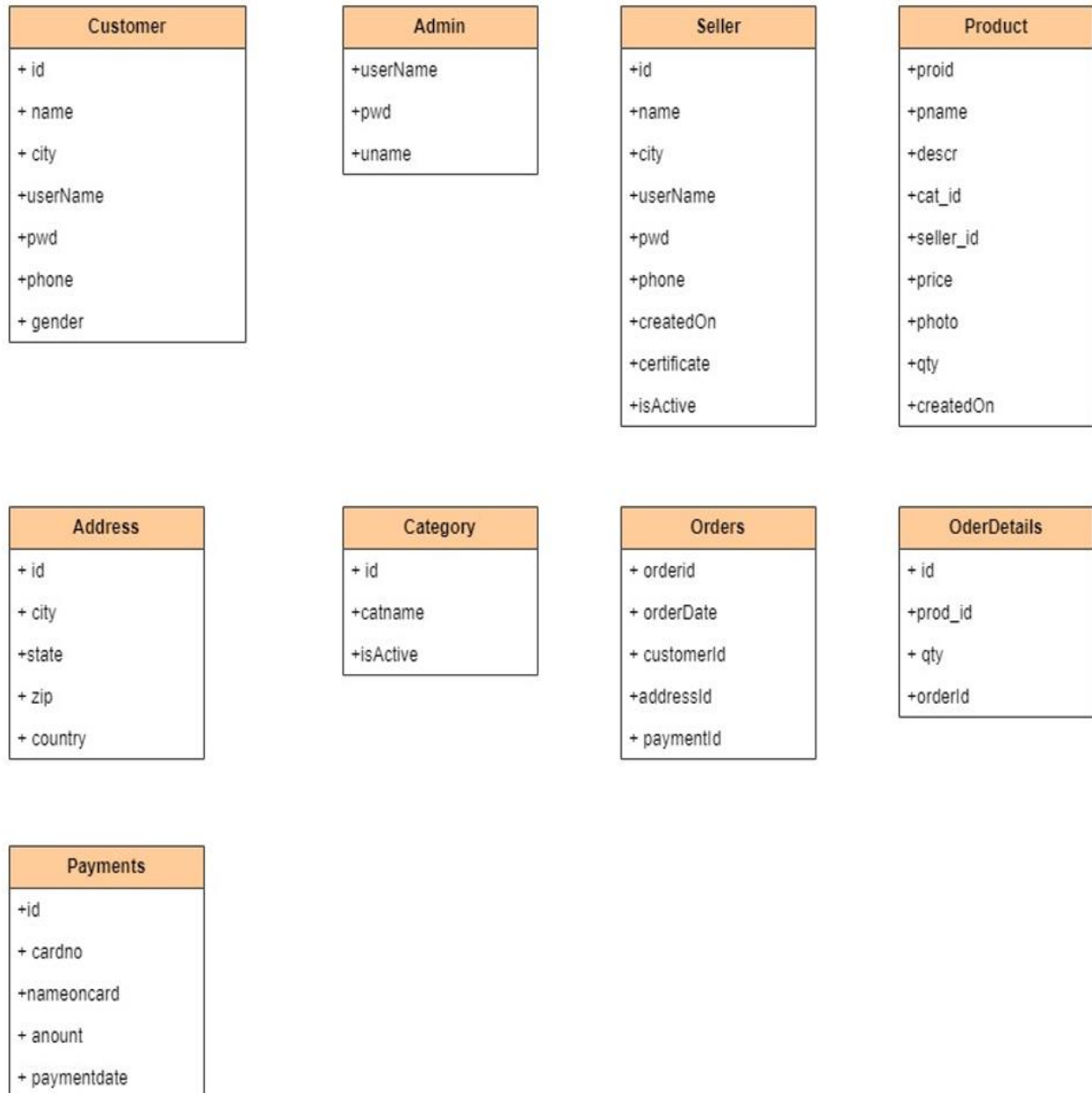
**Seller:**



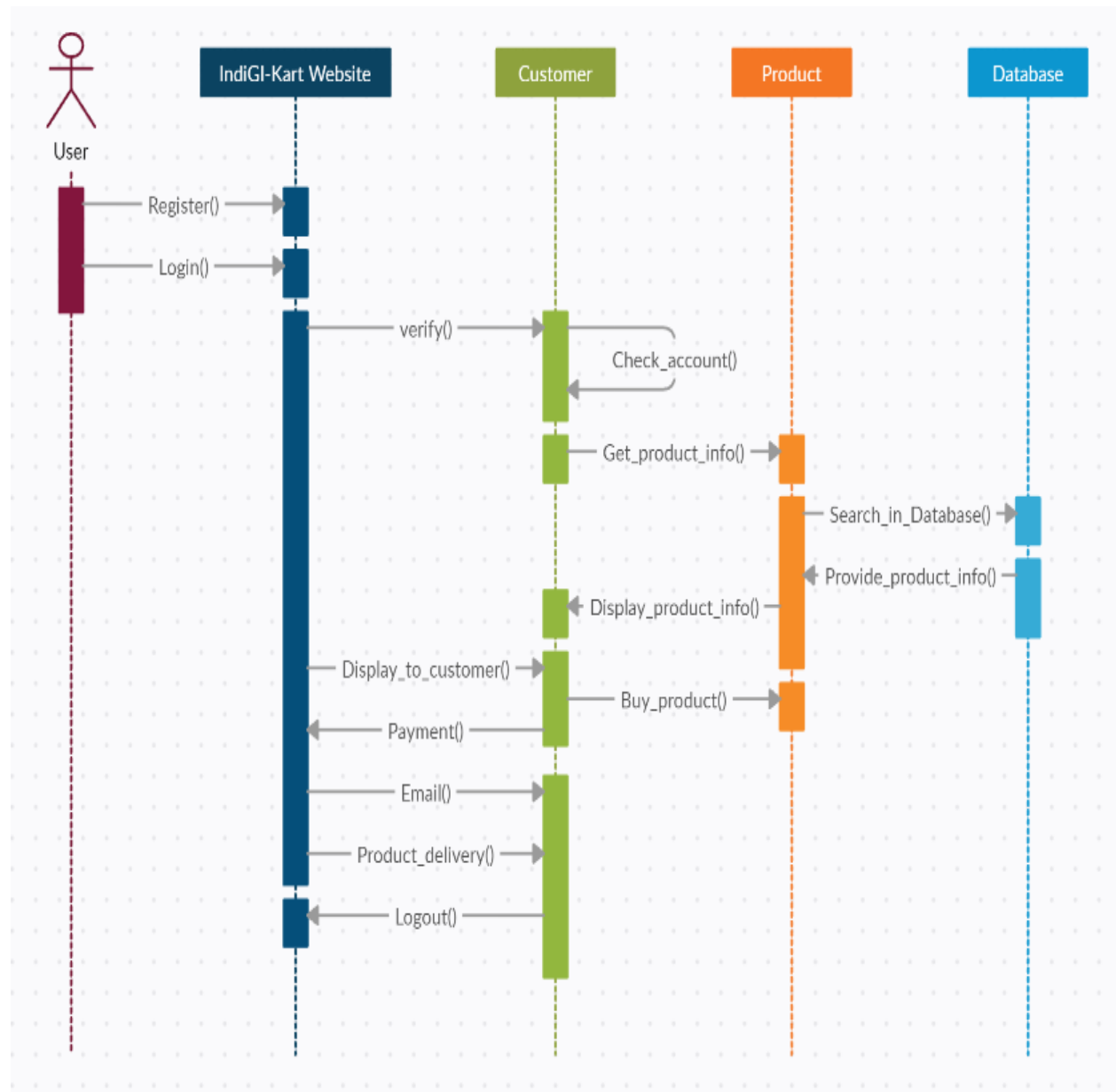
**Customer:**



## 6.4 Class Diagram

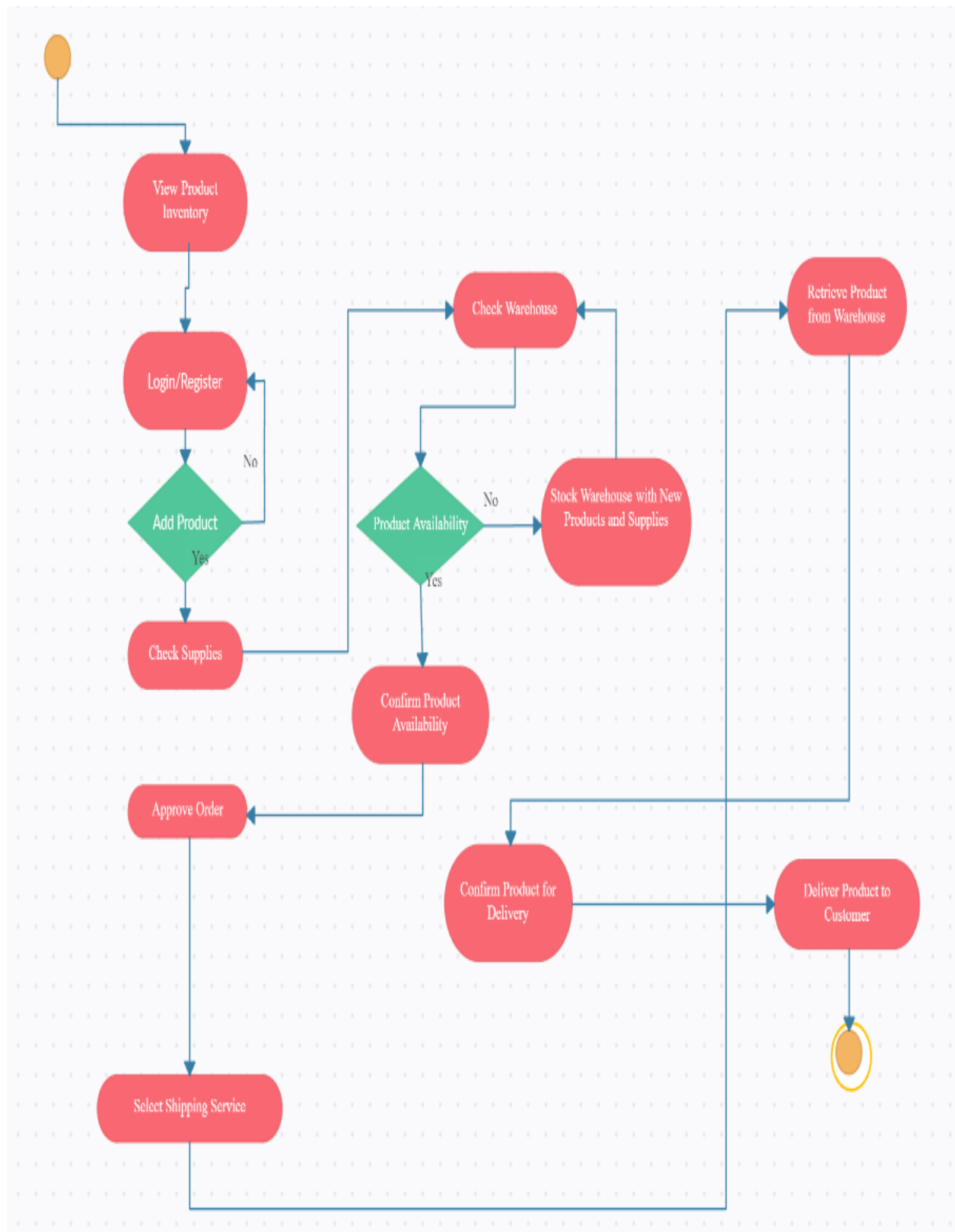


## 6.5 Sequence diagram

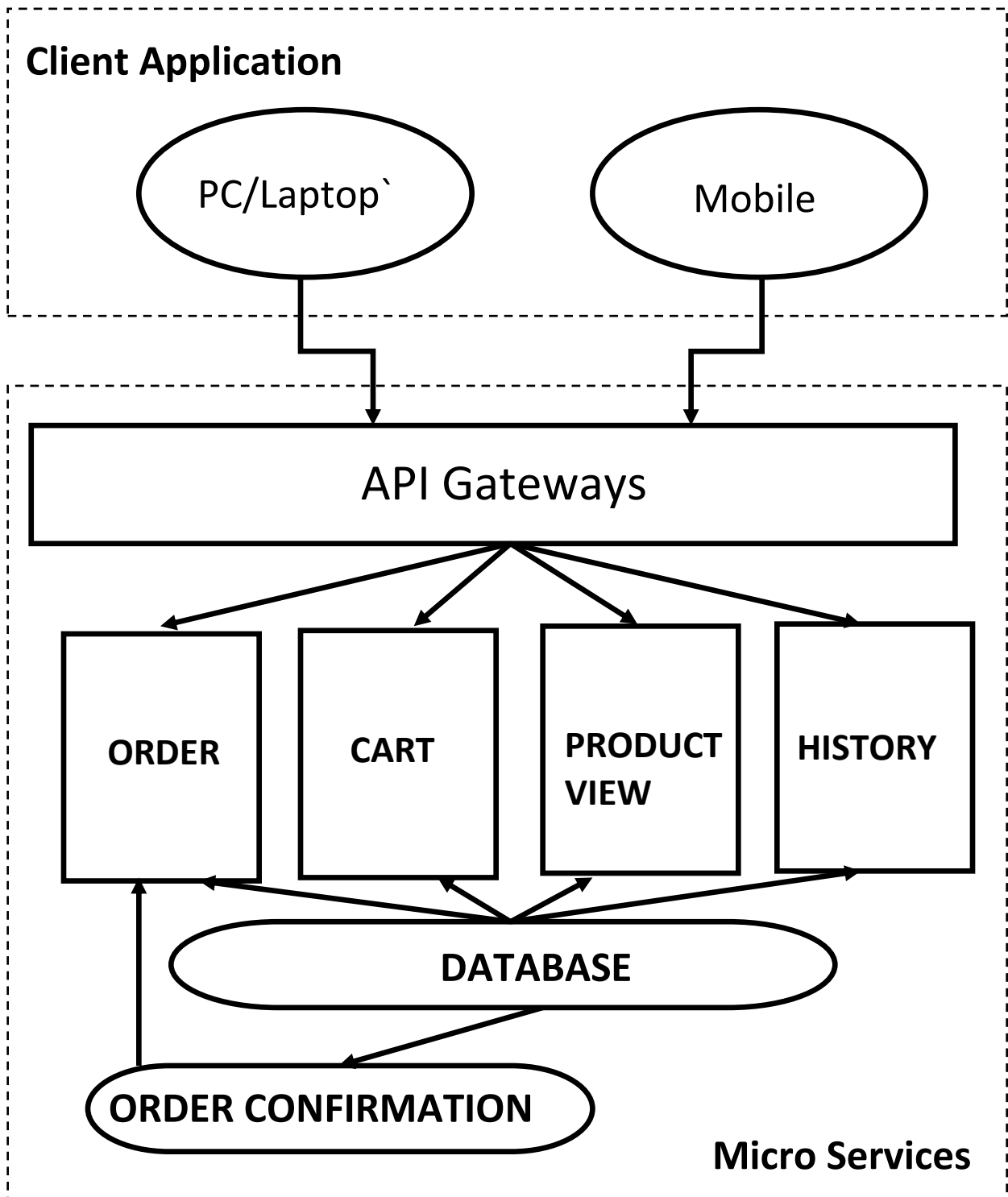




## 6.6 Activity Diagram

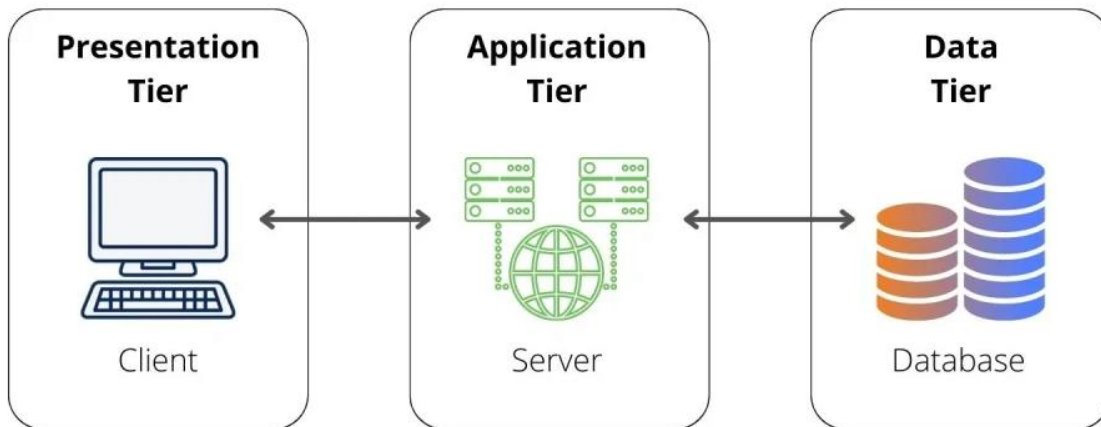


## 6.7 Deployment diagram



## 6.8 System Architecture

### **A three-layer ecommerce architecture**



#### Presentation layer

The presentation layer is the part that is presented to the customer. It is the user interface and communication layer of the architecture, where the customer interacts with the website on the frontend, and the application collects data and processes requests from the backend.

The presentation layer is often developed using HTML, CSS or JavaScript, but, depending on the ecommerce platform, desktop applications may be written in multiple different languages.

#### Business layer

The business layer, also known as the application or service layer, is at the center of the application. It uses business logic, a specific set of business rules, to gather and process information, and it can also add, delete or change information in the data layer.

For example, the business layer would be in charge of tracking user preferences as customers navigate the website, view products and make purchases. So, the next time the customer logs into the website, the business layer has already saved the user's preferred shipping and payment methods so they don't have to re-enter them in the future.

#### Data layer

The data tier, also known as the database layer, is the final layer used to store data and process requests. This information may be stored using a relational database management system such as LINQ or SQL.

## 7 Test Cases

### 7.1 Functional Test Cases

- Verify that the homepage loads successfully.
- Test the functionality of the "Sign In" button on the homepage.
- Ensure that the "Sign Up" button works as expected.
- Verify that product categories are correctly displayed on the homepage.
- Test the sorting options on the product listing page.
- Check if the product details page opens when a product is clicked.
- Verify that the "Add to Cart" button adds products to the shopping cart.
- Test the functionality of the shopping cart icon.
- Ensure the "Remove" button in the shopping cart works.
- Verify that product reviews and ratings are displayed correctly.

### 7.2 Login Test Cases

- Verify successful login with valid credentials.
- Test login with an incorrect password.
- Check login with an incorrect username/email.
- Test login using social media account credentials.
- Check for case sensitivity in usernames and passwords.
- Test login with special characters in the password.
- Test login with a blank username and password fields.
- Test the "Logout" functionality.

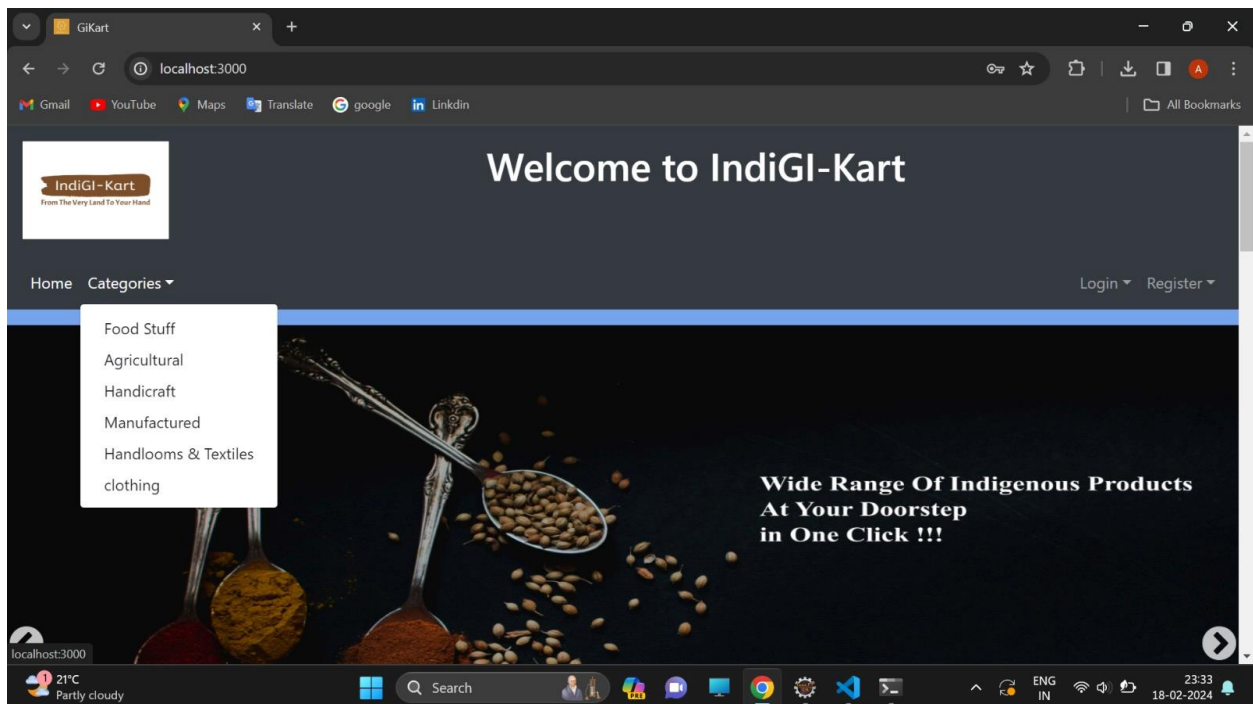
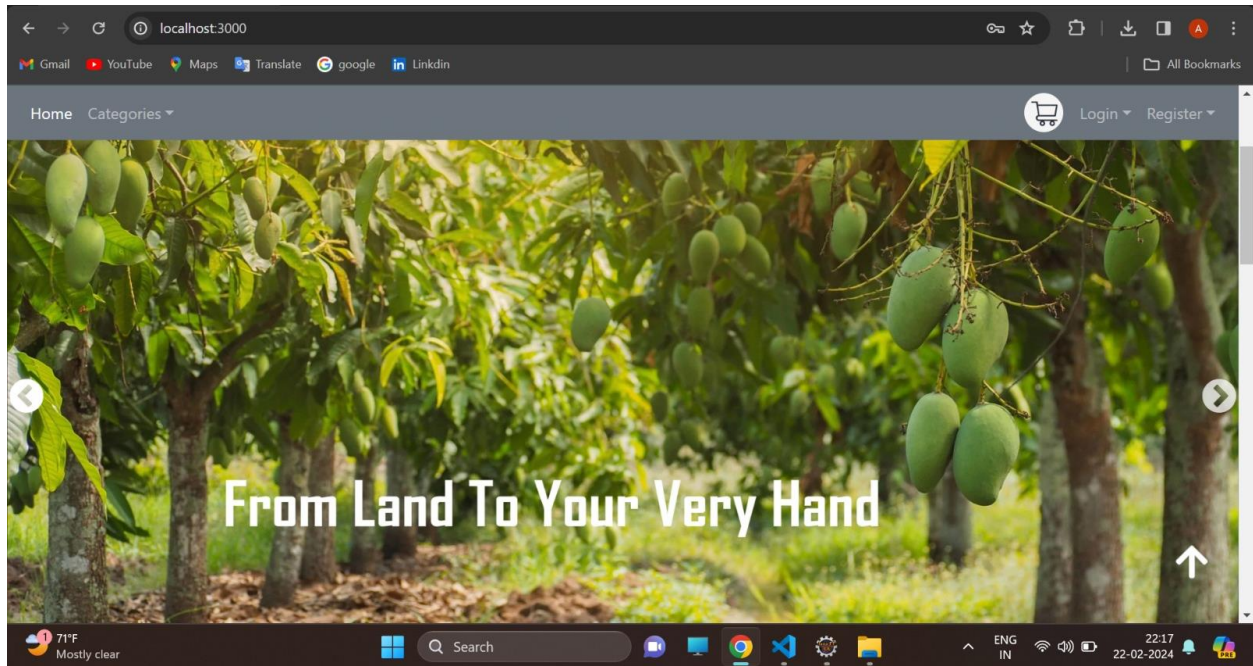
### 7.3 Product listing and details:

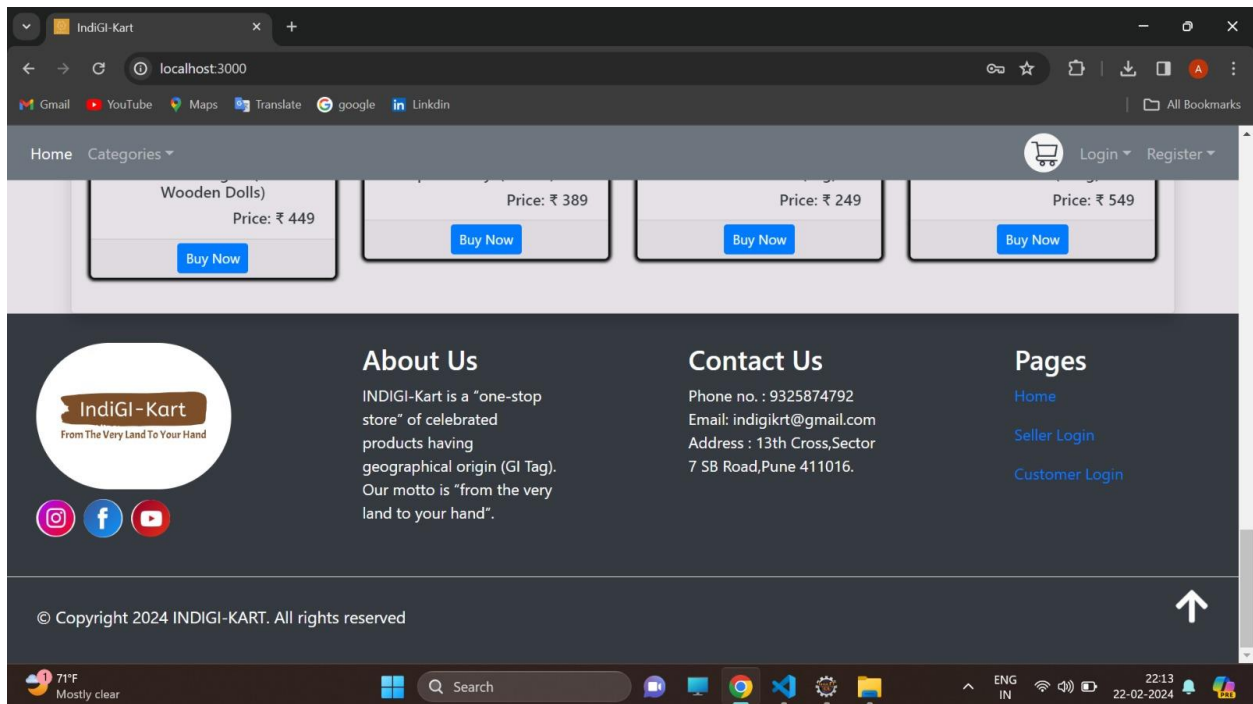
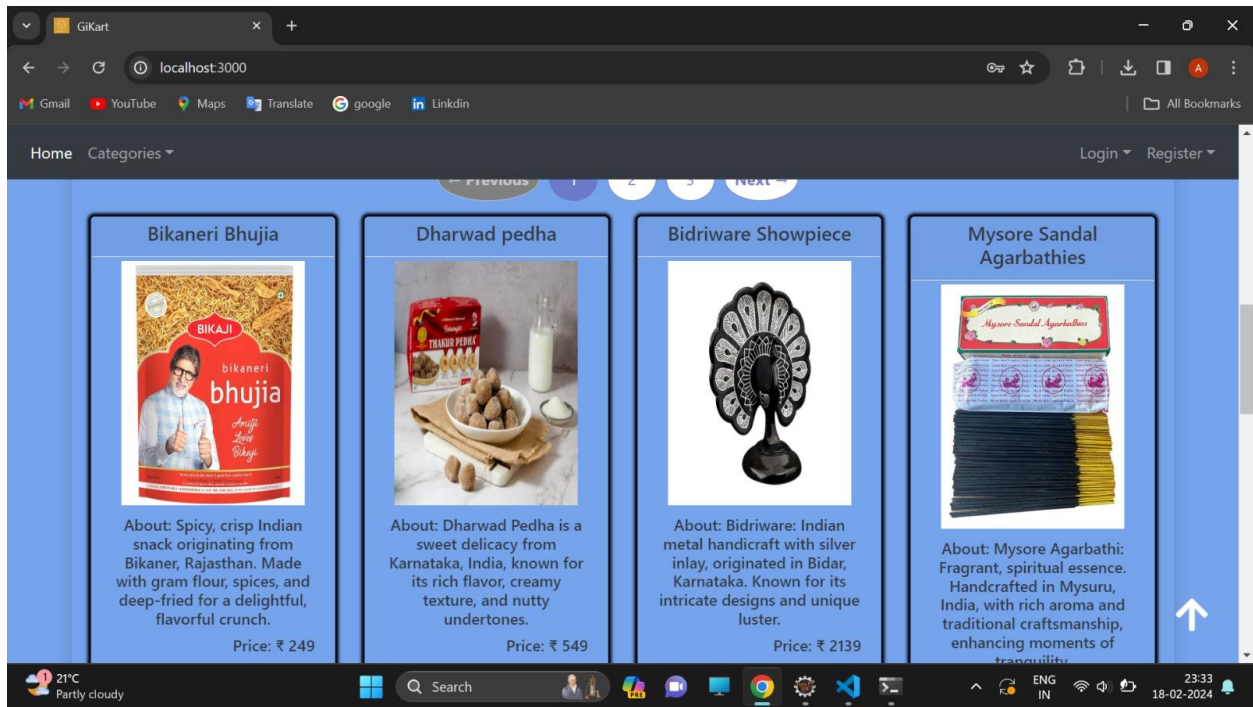
- Verify that the product listing page displays all the necessary information such as product name, price, image etc.
- Verify that the user can sort and filter the product listing.
- Verify that the user can view the product details page.
- Verify that the product details page displays all the necessary information such as product description, specifications, etc.

### 7.4 Add to cart and checkout:

- Verify that the user can add a product to the cart.
- Verify that the cart displays the correct number of items and the total price.
- Verify that the user can remove an item from the cart.
- Verify that the user can proceed to checkout.
- Verify that the user can enter their shipping and billing information.
- Verify that the user is able to review their order before submitting it.

## 8 Screenshots







Supplier Registration Form

Supplier Name

City

Phone

Certificate  No file chosen

User Name

Password

Confirm Password

Customer Registration Form

Customer Name

City

Gender

User Id

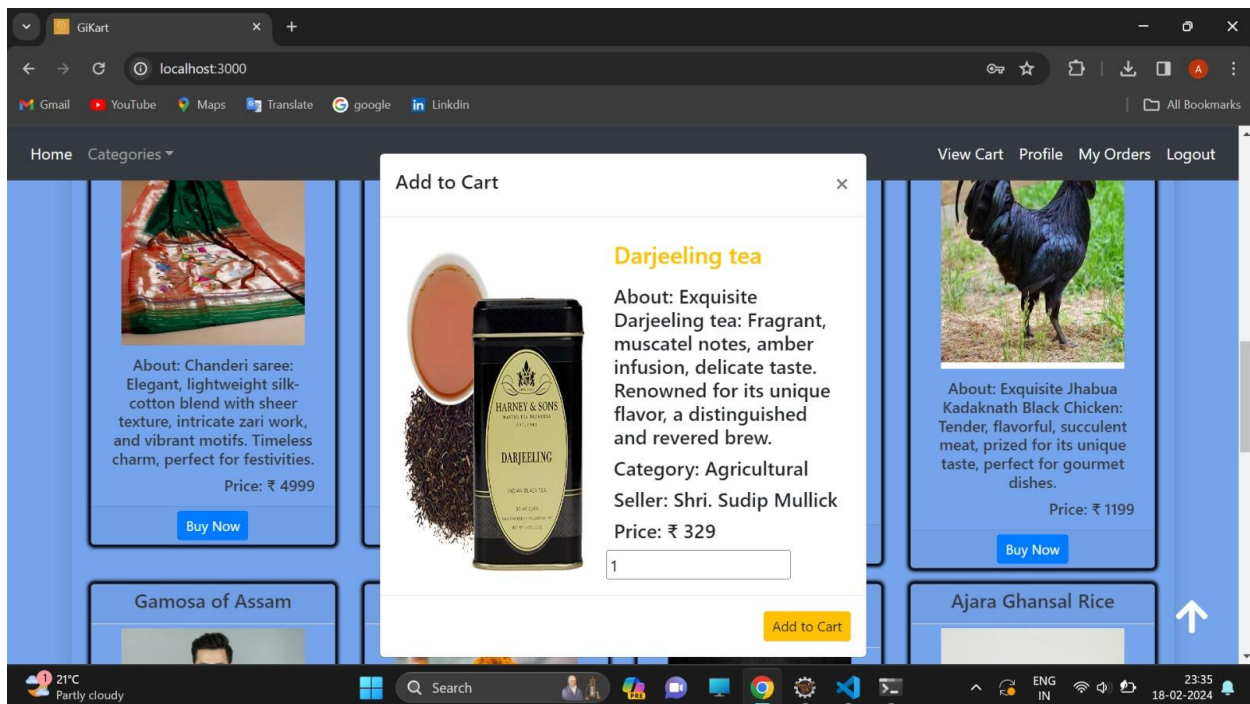
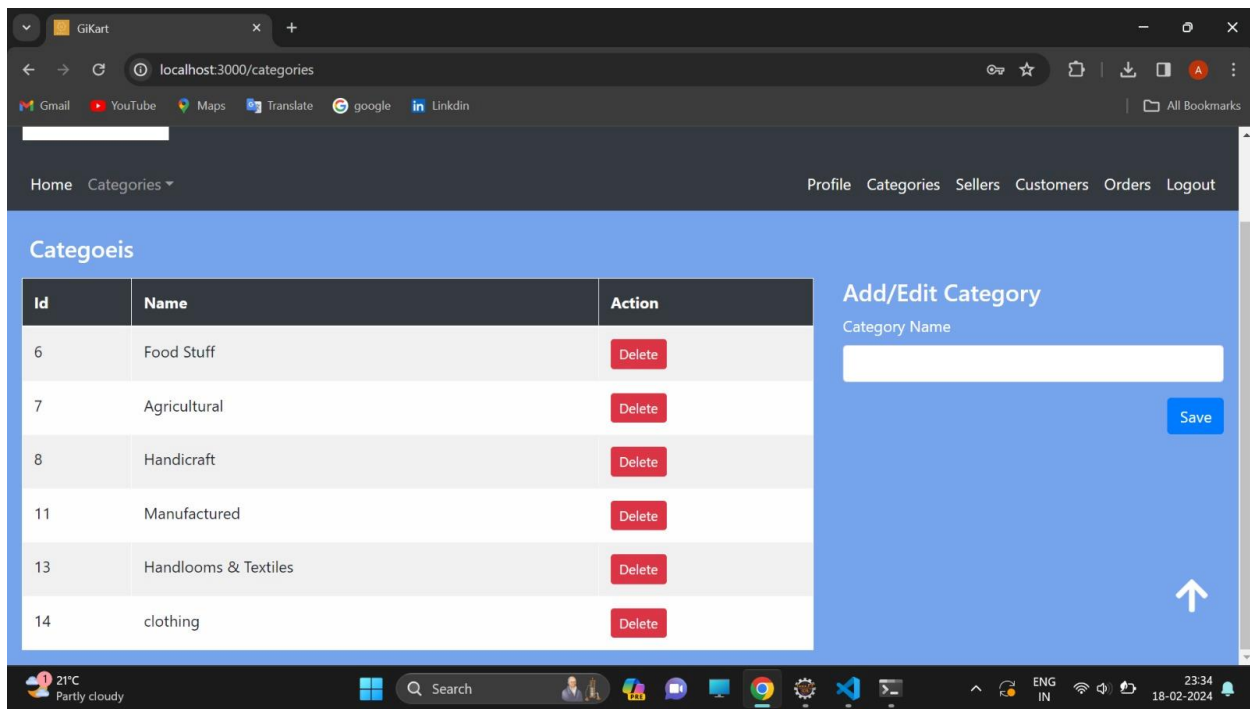
Phone

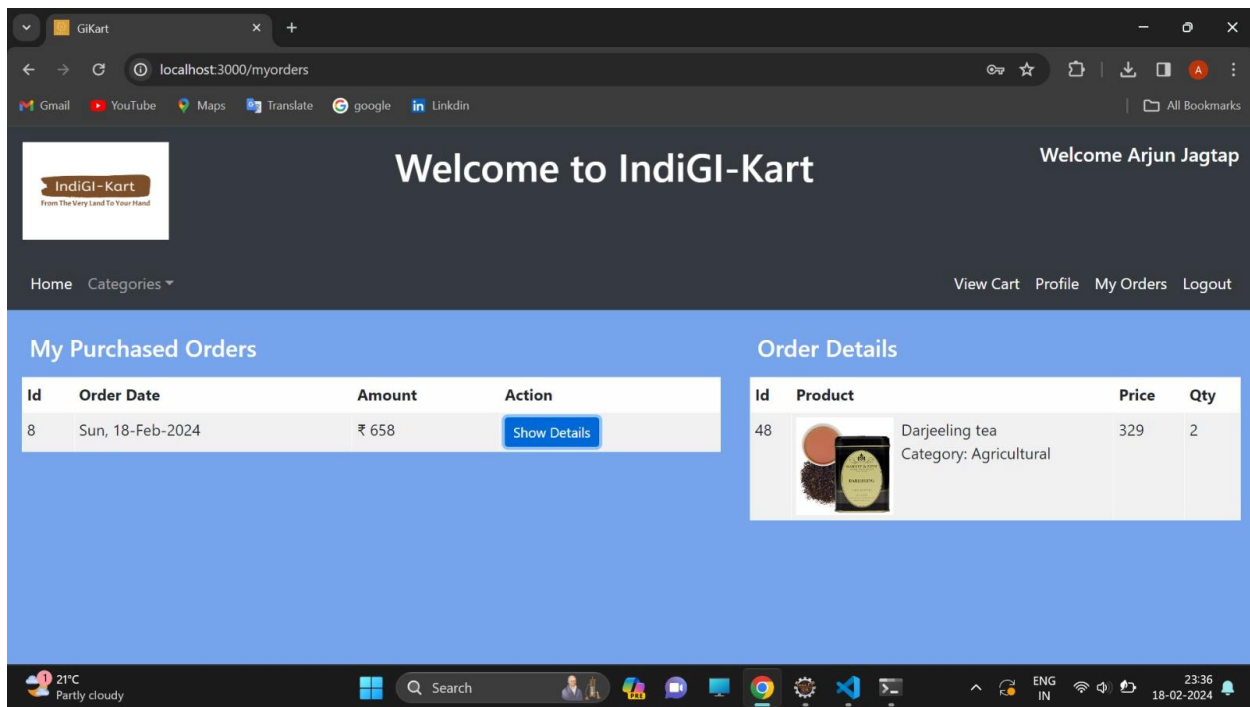
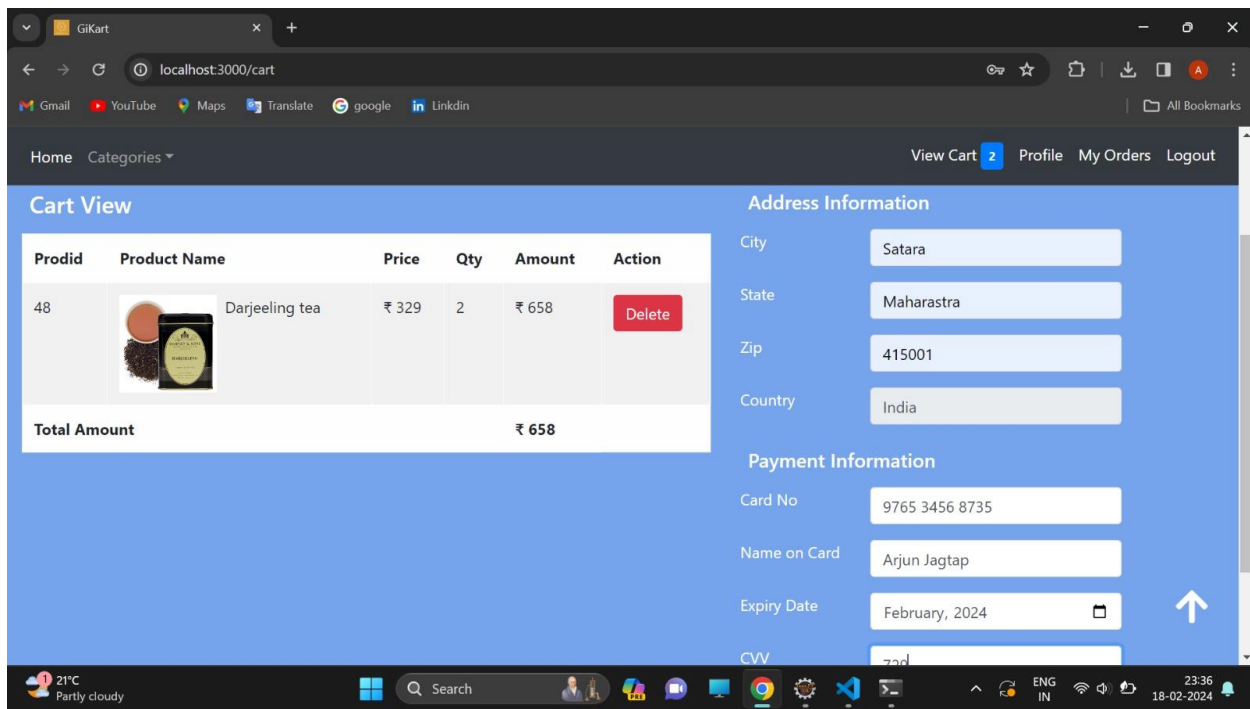
Password

Confirm Password









## 9 References

- <https://www.gitagged.com/>
- <https://search.ipindia.gov.in/GIRPublic/>
- <https://ipindia.gov.in/the-registration-process-gi.html>