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1 Introduction

1.1 System Introduction

The purpose of this project is to offer locals in Pakistan who want to start their business online an opportunity to sell their products on our website as our website will be like a wholesale market where locals will sell their own products and it will be easy for customers to compare products prices among Local markets so that they can get a good product on their hands at a good price and our system will make sure that no scammers will be allowed to sell their products. As the purchasing of the product will be through our system like how fiverr manages.

1.2 Background of the System

Pre-existing websites like Facebook pages and their markets they aren't very trustworthy when buying products from them as mostly sellers are selling either fake products or are scamming the customers in to believing that a rare, good product is available for sale at a very cheap price, so our idea overcomes those hassle in the system which will make it easy for customers to buy their products without any worries. And the idea of Wholesale market in Pakistan is what lead us to idea of this project

1.3 Objectives of the System

The following objectives of the Pakistan Local E-Market system is mentioned down below:

- ❖ Customers can have their own accounts
- ❖ Seller can create their own account
- ❖ Customers will be able to buy products from different markets
- ❖ Customers can add their choice of products in shopping cart
- ❖ A single system will handle the purchasing of markets
- ❖ Admin can check details of Seller
- ❖ Any local Market within Pakistan can register his store
- ❖ The seller will be verified to ensure no scammer is involved
- ❖ An image verification and email with OTP can be included
- ❖ A search bar will be used to search products easily with respect to shops
- ❖ Products will be Categorized.

1.4 Significance of the System

This website will help customers by saving their time and reducing long queues at the physical wholesale markets also ensuring that the seller will be 100% trustworthy and no scamming would be involved as many websites as possible like E-bay also scam people with their fake products. Practically in real world it works like a wholesale market just the difference will come in making easier for people to instead of going out their way to buy any new product they can order their product at the comfort of their home and customers can easily buy products from variety shops also with price meter as a feature to facilitate them in comparing prices.

2 Overall Description

2.1 Product Perspective

Pakistan Local E-Market is an online website which supports several functions for both the customer and seller management. The website is available to anyone using the World Wide Web. There are no hardware or software requirements beyond these including, but not limited to, memory or specific software packages that need to be utilized nor software packages that need not be utilized. This website provides an easy solution for customers to buy products and for sellers to register their products and start selling online. This website can be used by any naive users, and it does not require any educational level, experience or technical expertise in computer field but it will be of good use if user has good knowledge of how to operate a computer.

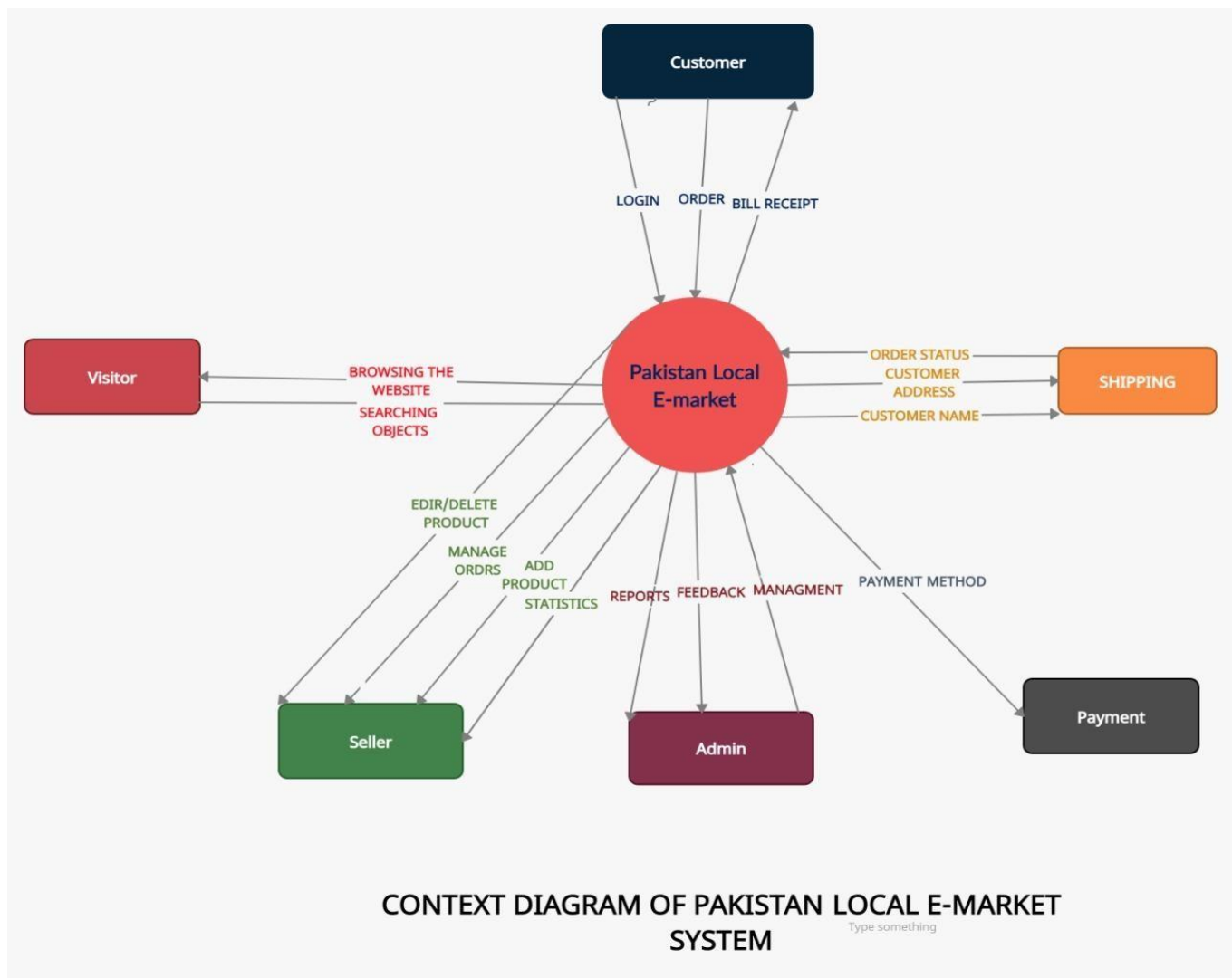


Figure 1.1 Context Diagram

2.2 Product Scope

The Website being produced is called Pakistan Local E-Market designed to provide “Wholesale Market System” for the process of buying products from trustworthy shops and satisfying our customers’ needs so that they won’t have any doubts from the system. For facilitating the actual sale of the physical shop. The Website will allow any user to create an account to become a customer. The system will allow customers to browse, search, select and buy products. The website also allows a seller to manage his shop with create, retrieve, update, and delete (CRUD) functionality. The website system will have numerous constraints on what it can do. It will not allow admin to be customers. The admin will be a hard-coded user and only a single admin will exist. And the admin will only have details of the Whole markets’ shops and the seller’s information.

2.3 Product Functionality

- ❖ Sellers can signup in our system through a working email to start selling products.
- ❖ Buyers can signup in our system through a working email to start buying.
- ❖ A category bar will be provided for the customer to search and buy products from the shops
- ❖ A Price Meter will be available to compare product price between different shops
- ❖ Sellers can check statistics of the shops to know how their business is going.
- ❖ Customer’s feedback will be provided to the seller and the admin can also check feedbacks
- ❖ A Refund policy may also be provided for the return of a product.
- ❖ After the order is placed the system will provide its own delivery service.
- ❖ Admin will see all the activities and can take any action against buyer and seller.
- ❖ Customer and sellers can contact admin and give feedback.

2.4 Users and Characteristics

The typical website user is simply anyone that has access to the Internet and a web browser. It is assumed that the user is familiar enough with a computer to operate the browser, keyboard and mouse and is capable of browsing to, from and within simple websites and is familiar with terms like Buying and selling on a E-commerce website. The user classes that are targeted to use this product are those people who live in remote areas or rural areas with a simple internet connection.

- **Customer**

A user who will interact with the system to buy products from different shops and can easily Compare prices.

- **Seller**

Any person who wants to start his own business and has products to sell can sign up and start selling under the provision of the system

- **Admin**

An admin has access to both customer and seller information he can reset/recover their passwords add/remove user and get reports of the sellers list

2.5 Operating Environment

The website will be deployed on the world wide web and will be available to access 24/7 to facilitate the physical shop. It will be accessible in any operating environment or operating system that can access the internet via browser. To access the features of the website and the user must acquire an internet connection with good or optimal speed.

2.5.1 Operating System

- ❖ Windows 7,8,10
- ❖ Linux
- ❖ Mac

2.5.2 Hardware Specification

- ❖ Any Intel or AMD Processor
- ❖ Ram Minimum 2 GB
- ❖ Hard Drive Storage minimum 32 GB

2.5.2.1 Hardware We are Using

- ❖ Intel Core i7 7th Generation
- ❖ Hard Disk 1 TB
- ❖ Ram 12 GB DDR5

2.5.3 Development Tools

- ❖ VS Code
- ❖ XAMPP
- ❖ Visual Studio 9
- ❖ Php MyAdmin

2.5.4 Development Languages

- ❖ HTML
- ❖ CSS
- ❖ Bootstrap
- ❖ JavaScript
- ❖ Node JS
- ❖ Laravel (Optional)

3 Specific Requirements

3.1 Functional Requirements

This section includes the requirements that specify all the fundamental actions of the software system.

3.1.1 Customer

3.1.1.1 Signup/Login

- To use our system customer and seller must have to register.
- Users have to sign-up using Gmail account.
- A verification email will be sent to given Email account.
- After verification, his account will be created, and user will be redirected to login page where user can login with registered Gmail and password.
- User can logout of the system.
- If the user forgot their account's password, user could reset their account's password on their registered email. User can get their password recovery on their email to reset their password.

3.1.1.2 Searching Products

- Buyers can search products.
- Type the name of the product which you want to search.
- When the user enters the name of the product, system will find all the sellers having the same products.
- If product will be found by the system, it will display results
- If system does not find any product it will give message "Product not Found".

3.1.1.3 My Order

- User can view the information about his order
- It will consist of two options.
- One will be the order he made to be delivered
- The other will be the cart in which his order will be placed before buying.

3.1.2 Seller

3.1.2.1 Add Product

- Seller can add their products based on the category they provided.
- Sellers must give all needed information like Name, description, and image of the product.
- System will authenticate the given information and add to database.
- A message of product successfully added will be displayed.

3.1.2.2 Delete Product

- Seller can delete a product.
- Product id will be used to delete the product
- The System processes the command and deletes the product.
- It will display "Successfully Deleted" after the process is completed.

3.1.2.3 Update Product

- Seller can update a products name, description, quantity etc.
- We will choose name along with field that you want to update.
- System will process the requested field and update it.
- It will display “Successfully Updated” after the process is completed.

3.1.2.4 Feedback

- Customer can give review on the website about his experience.
- Customer can give review of the seller and describe the quality of product.
- Seller can give response about Customer’s feedback.

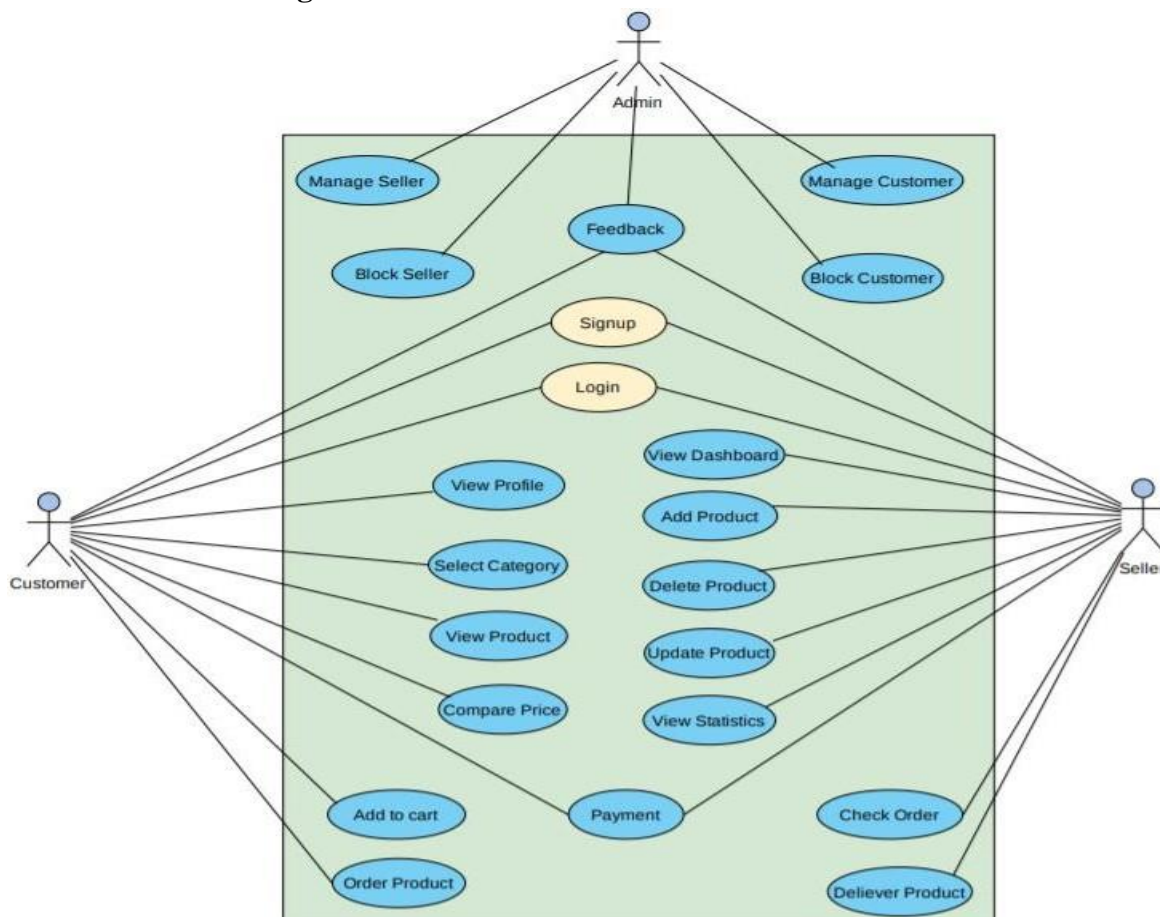
3.1.3 Our Team

- This functionality describes all the detail related to this website. User can get information when and where uses it first and its achievements.
- When user select this option then system display Our team page
- Website will display the page successfully.

3.1.4 Admin

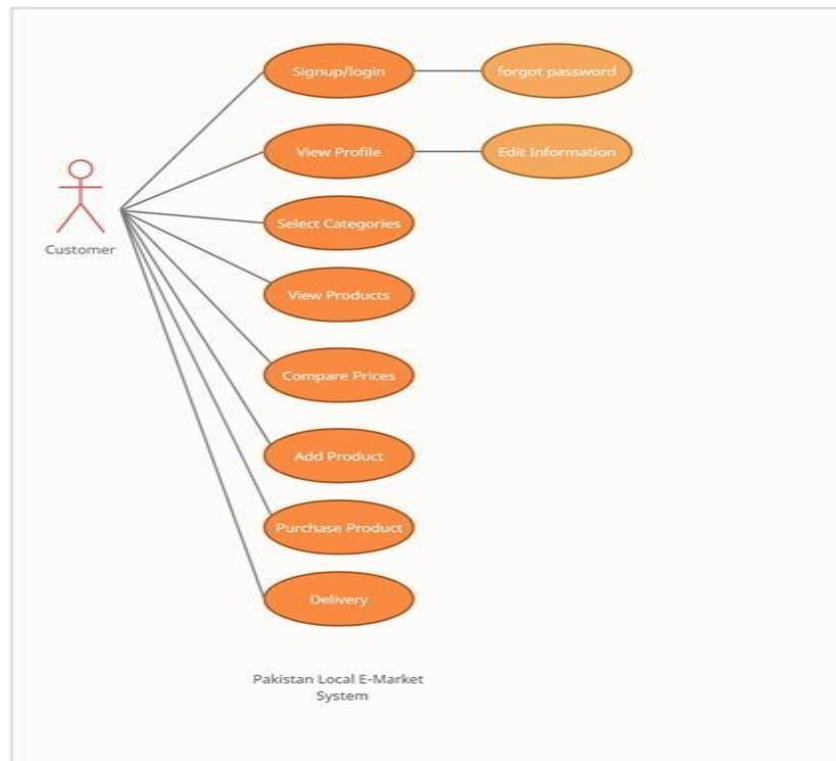
- Admin can access all records on the website
- Admin could delete a customer/Seller if any illegal activity reported
- Admin can access data of the seller for verification
- Behaviour Requirements

3.1.5 Use Case Diagram



3.1.6 Fully Dressed Use Case

3.1.6.1 Customer



Use Case Name	Register/Signup for the Website
Use Case Overview	To register for the application and provide a logon id and password.
Actor(s)	Users, Database, Hosting site
Preconditions	Website is available, Database is available, Internet
Post Conditions	1. Personal details are entered into the user database table 2. New user is created 3. Message is sent back to the screen stating a new user has been created

Use Case Name	Retrieve Username or Password
Use Case Overview	Retrieval of a Username or/and password if it forgotten or lost.
Actor(s)	Users, Database
Preconditions	Website is available, Database is available, Internet
Post Conditions	1. Username is emailed to the user. 2. Password is emailed to the user.

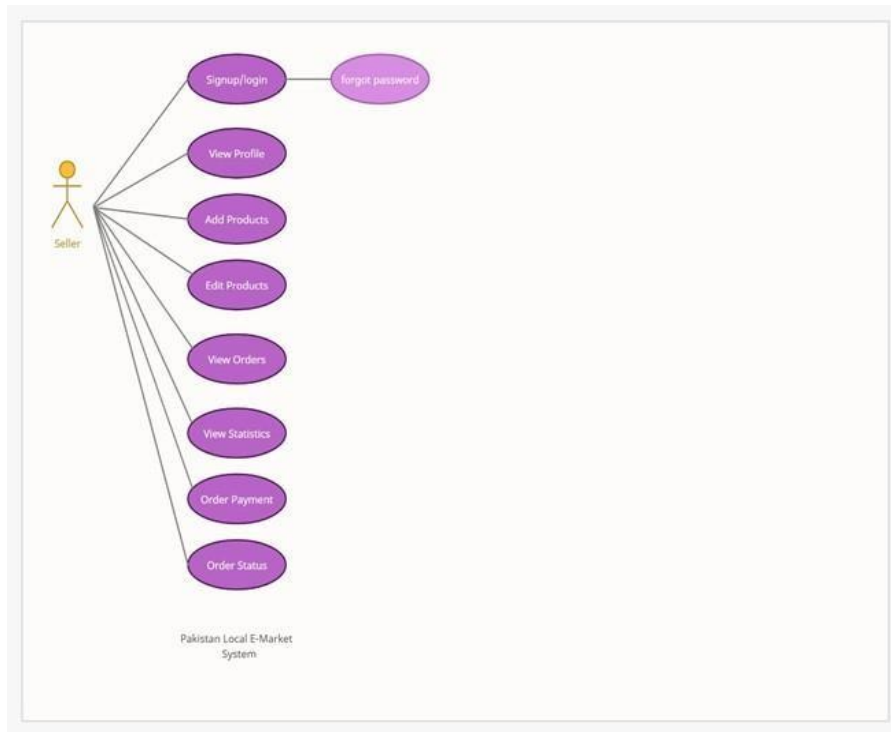
Use Case Name	Login to system
Use Case Overview	Provides a login access point to the system
Actor(s)	User, login page
Preconditions	Website is available, Database is available, Internet
Post Conditions	1. User is logged into personal area

Use Case Name	View product details
Use Case Overview	A user wishes to view the Details for product in Pakistan local E-market.
Actor(s)	Users, Database
Preconditions	User has a registered account, has logged onto website with it .
Post Conditions	Product information has been displayed to the user, including the add option to add he item to the shopping cart.

Use Case Name	Add item to shopping cart
Use Case Overview	To add item in shopping cart.
Actor(s)	Users, Database
Preconditions	User has a registered
Post Conditions	Items have been added to the user's cart

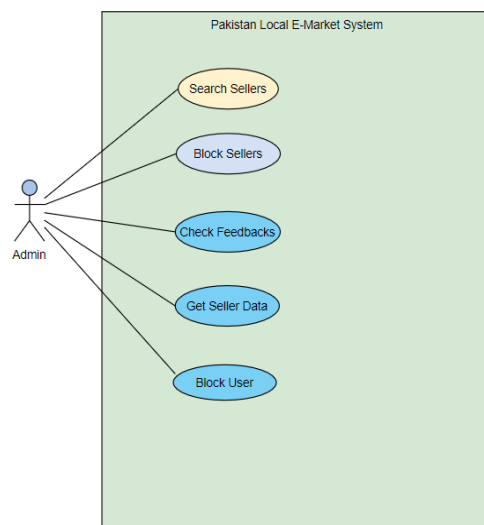
Use Case Name	Finalize order.
Use Case Overview	Purchasing the product.
Actor(s)	Users, Database
Preconditions	The User has a registered account in the system and has logged on to the website
Post Conditions	The user has made and processed and purchased order for the desire item

3.1.6.2 Seller



Use Case Name	Seller Login
Use Case Overview	This use case is started when the Seller elects to add, edit, or delete a category.
Actor(s)	Seller
Preconditions	Seller must have registered before
Post Conditions	<ul style="list-style-type: none">• View, edit and delete own data of products.• Can take feedback of customer

3.1.6.3 Admin



Use Case Name	Admin Login
Use Case Overview	Through this administration can change the data.
Actor(s)	Admin
Preconditions	Admin must have registered before
Post Conditions	<ul style="list-style-type: none"> • View, edit and delete the data. • Can take feedback of seller and customer.

3.2 External Interface Requirements

3.2.1 User Interfaces

New customers can visit landing page and view various items. However, for request item or to sell an item they need to information exchange on the framework.

After Signup they will get a check email to enact their record. After confirmation client of the framework whether he/she is purchaser or merchant he/she will login in their record by giving their right email and secret phrase through the interface given by the framework. The framework will give answer promptly on their solicitation. After login to the framework the clients will offer the work or profit the work.

3.2.2 Hardware Interfaces

Our Pakistan local E-Market system does not have any specific hardware involved or attached through any protocol without our software interface but the hardware we are using to interact with the software is mentioned below:

- ❖ Intel Core i7 7th Generation
- ❖ Hard Disk 1 TB
- ❖ Ram 12 GB DDR5

3.2.3 Software Interfaces

For Our system, the software interfaces which we will be using for Front end will be HTML, CSS, JavaScript, Bootstrap for a cool and modern web interface and it will very user friendly so that the user can enjoy interacting with the site for our backend web server we might be using Node JS as it is a very powerful and modern backend Framework which professionals use, and it helps in developer in maintaining backend server. As for our database we will be using Php MySQL to store all our data and for the application for that we will be using XAMPP. Api's such as Google, Easypaisa might be used in our interface. Further Software interfaces in which we will be developing our website is mentioned below:

- ❖ VS Code
- ❖ MySQL

3.2.4 Communications Interfaces

The Communication protocol between the client and server will be using HTTP (Hyper Text Transfer Protocol)

to ensure better communication between both sides and FTP (File transfer Protocol) will also be used in transferring files over the internet. *GET and POST methods will be used.*

4 Other Non-functional Requirements

4.1 Performance Requirements

Responses to user actions shall not take enough time to load onto the screen after the user submits the action. As our project is web-based performance of the application will depend on the

internet i.e., if internet is slow then the speed will also minimize and vice versa. And as it is mentioned in our project that it is a Online website so the user must have a good internet speed for a good response time from the server the faster the internet the better the performance.

4.2 Safety and Security Requirements

1. The website Security protocols will be strong due to our backend Node Js Framework
2. All transactions will be held will full security assurance
3. Maintenance will be delivered if any flaw in the system if found
4. The framework's back-end workers will just be open to Admin.
5. The users can only read data on website no modification can be made except profile data

4.3 Software Quality Attributes.

4.3.1 Security

In this system the username and password of all the authorized users shall be unique. If an authorized user forgets the password, the admin shall recover the password.

4.3.2 Binary Compatibility

The website of the system will be compatible with all the search engines, i.e., chrome, Firefox, internet explorer etc. The mobile application of the system should be compatible with any smart phone.

4.3.3 Reliability

The website remains online if the hosting servers are functional. The system will be more reliable, accurate, organized, and secure. This website is more likely to reliable for buyer not for seller because the seller will not be able to manage his inventory.

4.3.4 Maintainability

The system can go under changing and updating process in the future. There will be evaluations of the system on quarterly basis and severe performance enhancement measure will be inducted.

4.3.5 Portability

The website should be accessible on all the compatible web-browsers with an internet connection.

4.3.6 Extensibility

The system can be extended later with other functionalities required.

4.3.7 Reusability

The website's homepage shall provide an efficient and simple layout that can be used as a foundation for any future changes to the website. The changes may add other features which in future may make the system better organized

4.3.8 Application Compatibility

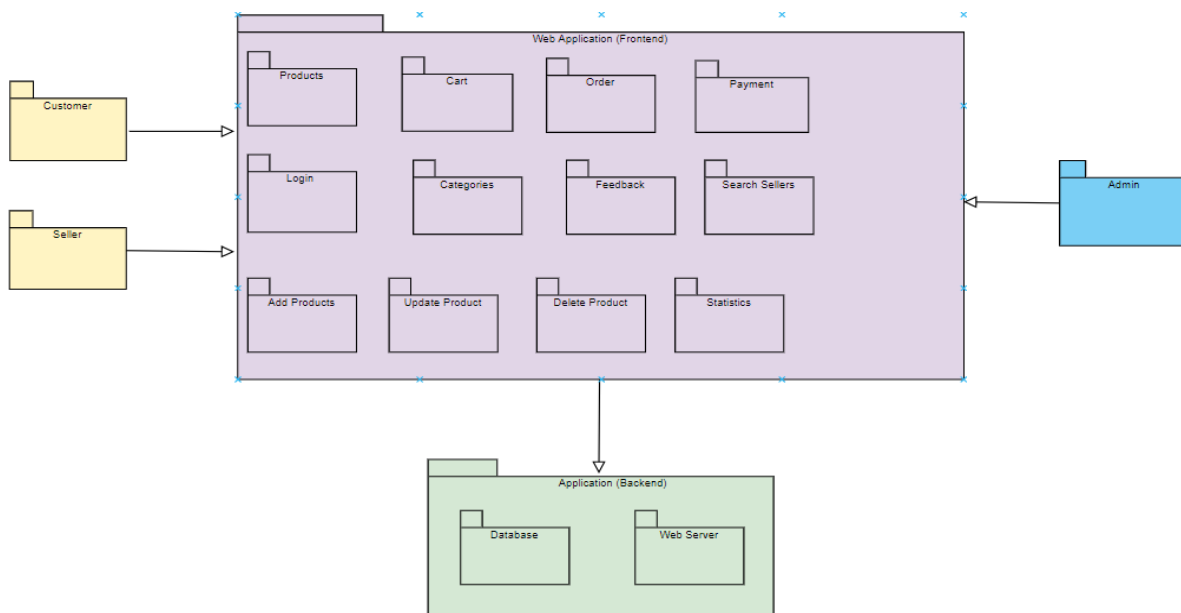
This system's website compatible with all types of Web devices i.e., all browsers.

4.3.9 Serviceability

The admin will be capable of managing the users and sellers in maintaining the website.

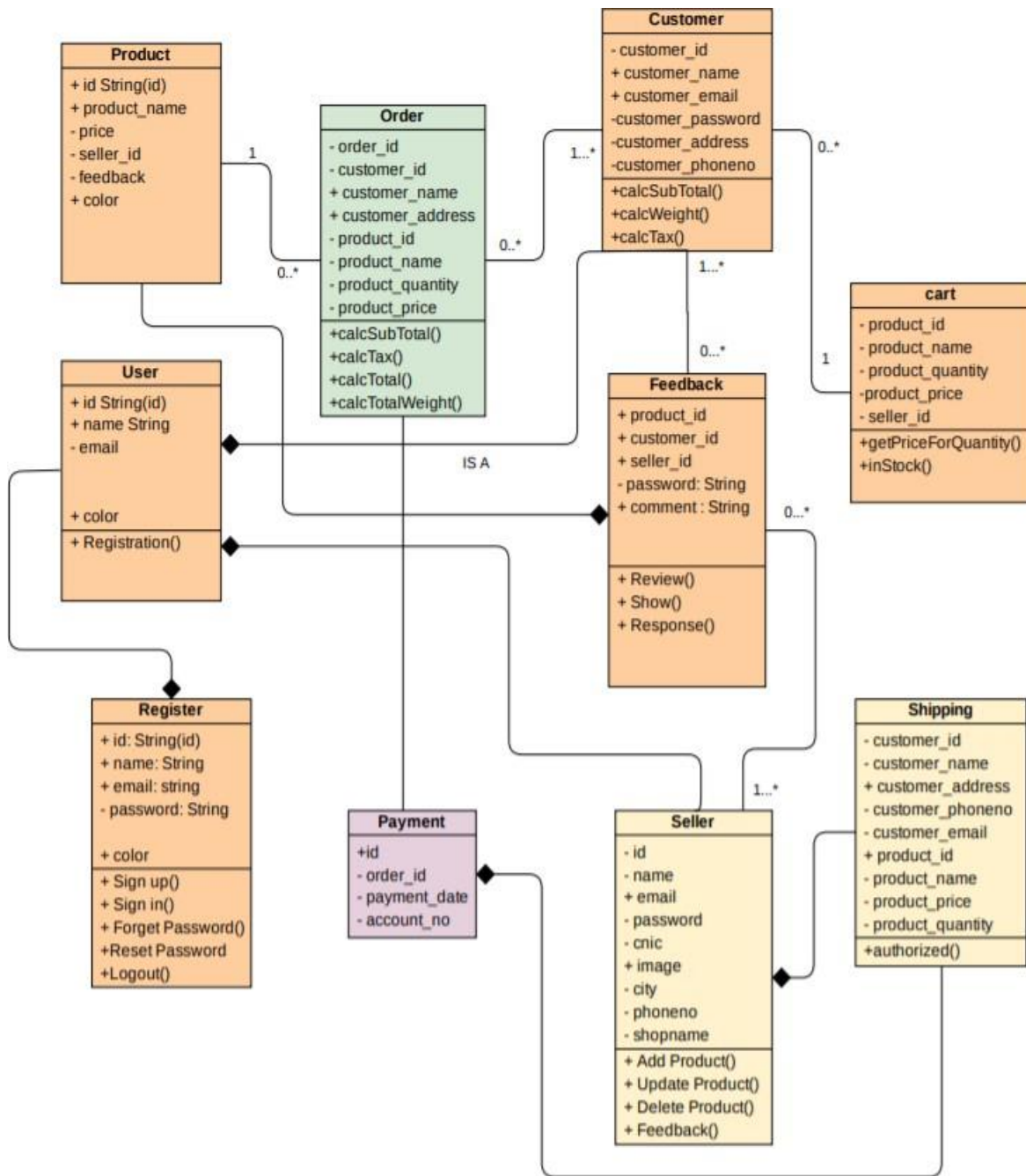
5 Design Description

5.1 Composite Viewpoint



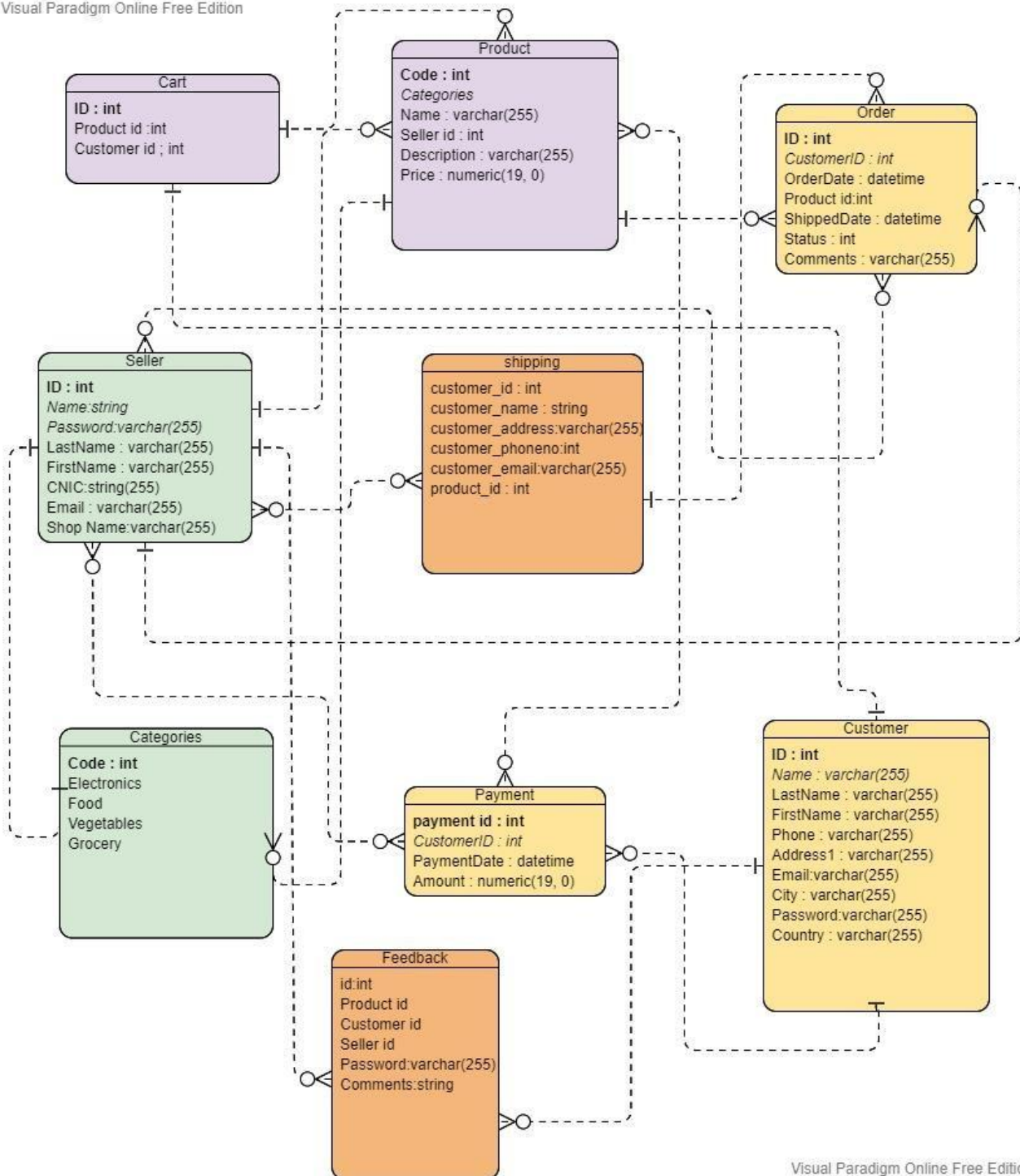
Pakistan Local E-Market (Package Diagram)

5.2 Logical Viewpoint



5.3 Information Viewpoint

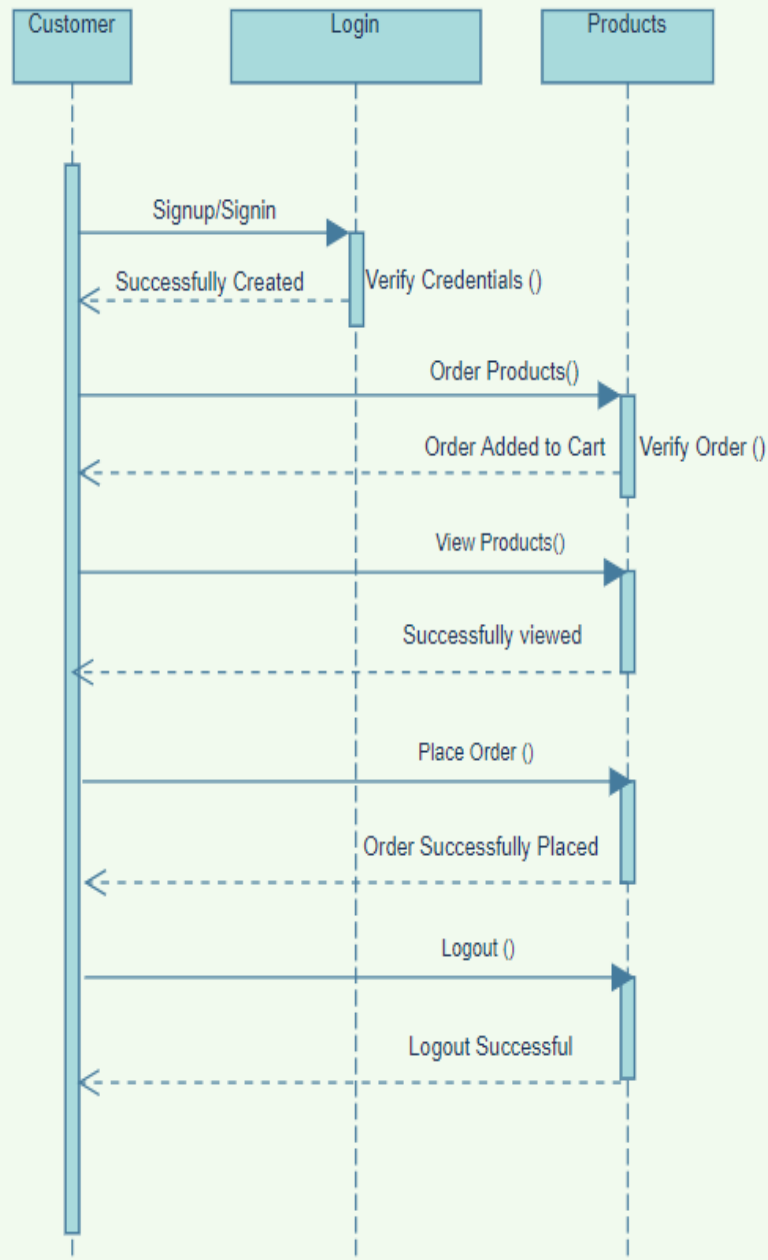
Visual Paradigm Online Free Edition



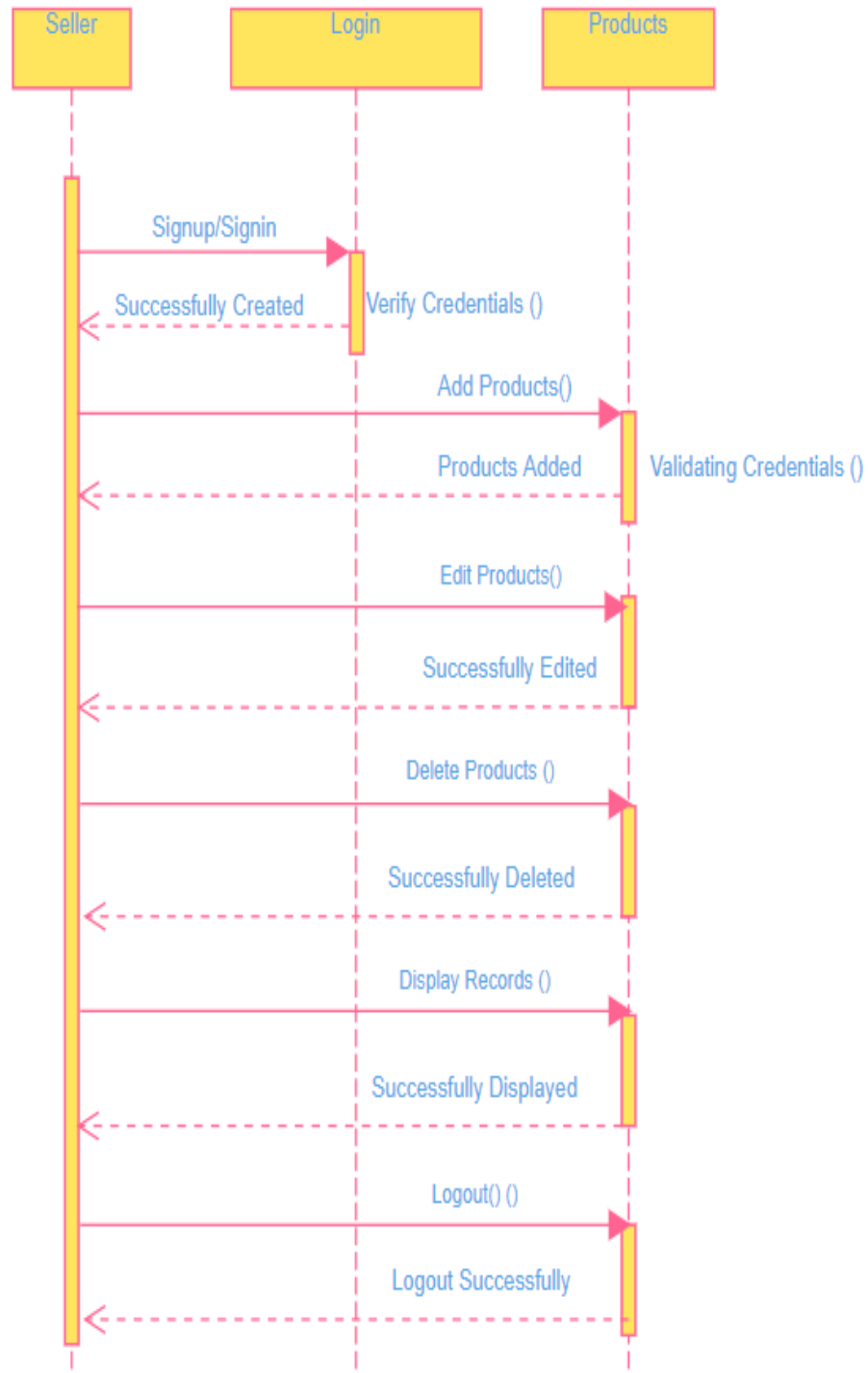
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5.4 Interaction Viewpoint

5.4.1 Customer Sequence Diagram



5.4.2 Seller Sequence Diagram



5.5 State Dynamics Viewpoint

5.5.1 Seller Composite Diagram

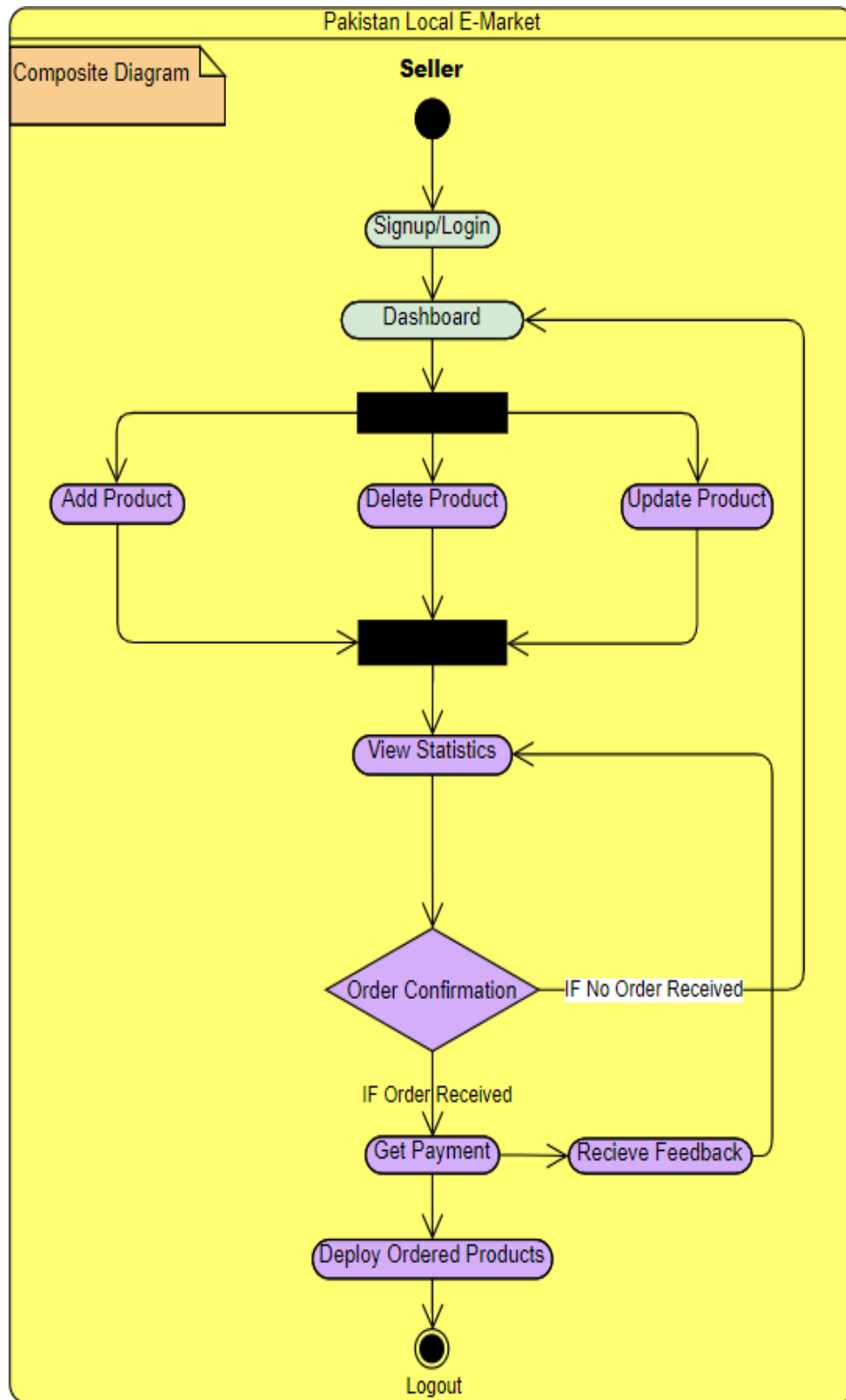


Fig. State Machine Diagram

5.5.2 Customer Composite Diagram

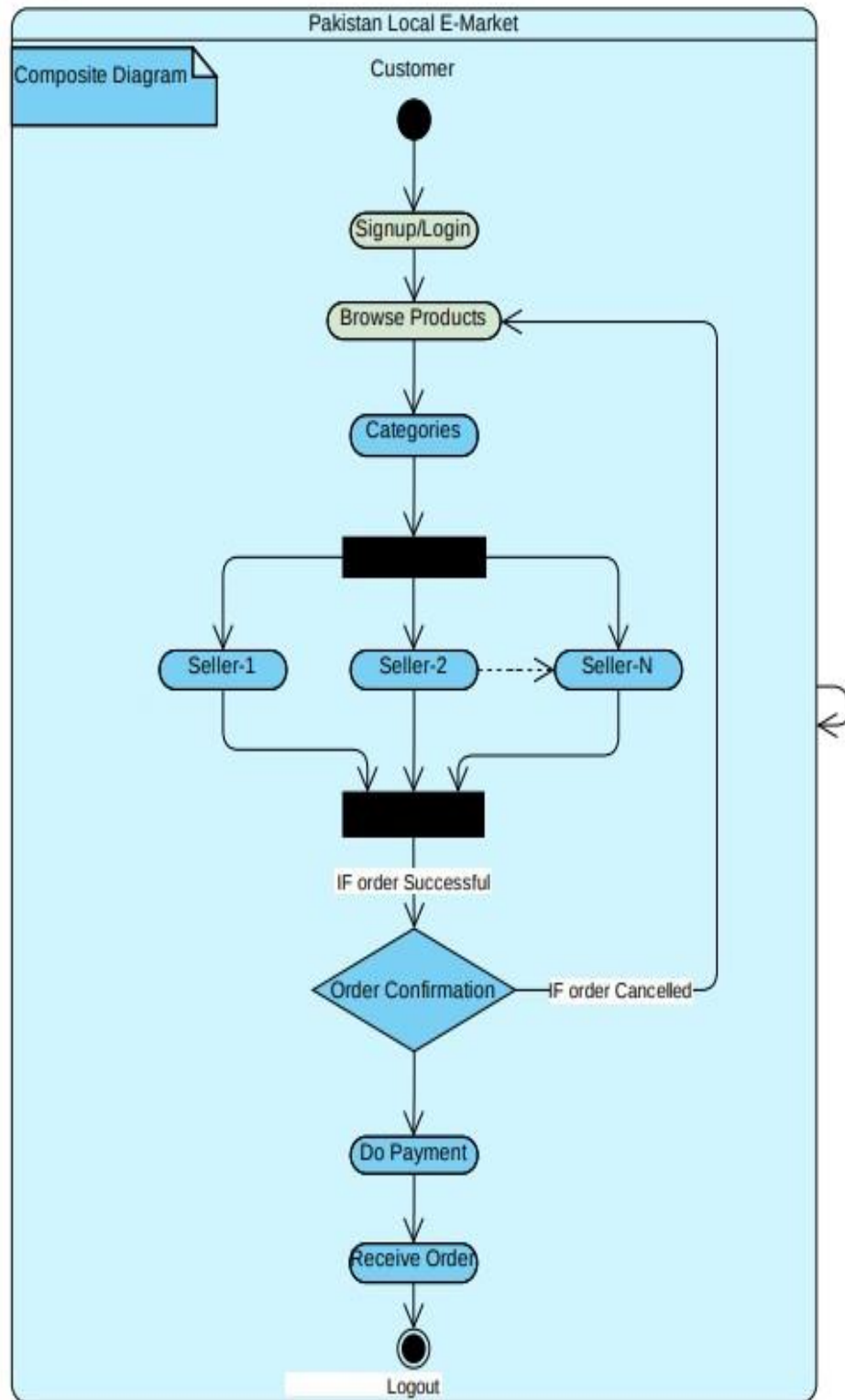


Fig. State Machine Diagram

5.6 Algorithm Viewpoint

5.6.1 Customer

Conditions	Rules							
Forget Password	N	N	N	N	Y	Y	Y	Y
Cart is Empty	N	N	Y	Y	N	N	Y	Y
Payment	N	Y	N	Y	N	Y	N	Y
Actions								
Recovering Password					X	X	X	X
Adding product to cart			X	X				
Buying Product			X	X				
Displaying my orders		X		X		X		X

5.6.2 Seller

Conditions	Rules							
Forget Password	N	N	N	N	Y	Y	Y	Y
If Algorithm Fails	N	N	Y	Y	N	N	Y	Y
View records	N	Y	N	Y	N	Y	N	Y
Actions								
Recovering Password					X	X	X	X
Editing Product			X	X				
Admin to show the Records		X		X		X		X
Save Record in database		X		X		X		X
Checking Feedbacks			X	X				

5.6.3 Admin

Conditions	Rules			
Customer/Seller forget password	N	N	Y	Y
Feedback from Customer/Seller	N	Y	N	Y
Actions				
Verified details			X	X
Save Records		X		
Manage Doctor/patient records		X	X	X

***** End *****