Sri Lanka Institute of Information Technology

Online Pharmaceutical Ordering System for Healthymart Pharmacy

Project Report

Information Technology Project 2021

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Declaration

We declare that this project report or part of it was not a copy of a document done by any organization, university any other institute or a previous student project group at SLIIT and was not copied from the Internet or other sources.

Project Details

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Project ID	ITP2021_S2_B05_G02

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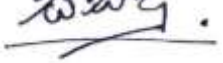
2.	IT20200206	Mallawarachchi S.M.A.	
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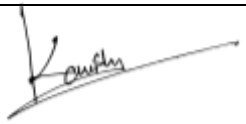
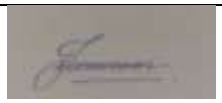
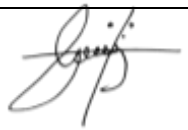
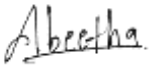
5.	IT20126292	Silva K.V	
6.	IT20124076	Manaram.M.G.T	
7.	IT20129576	Jayawardana J.K.M.D.T	
8.	IT20187132	Asahara G.A	

Abstract

This project is about a web application developed for a pharmacy know as **Healthy-mart Pharmacy** which has 6 branches spread across the country, where the main branch resides in Colombo district. Having difficulties with the management of all branches, lower sales and safety problems with staff members and customers are some of problems project's client is currently facing due to the ongoing pandemic situation.

A web application with eight main functions was developed as a solution for above issues. This report will cover the full development of the project and contain in detailed information about each function.

Acknowledgement

We would like to express our deepest appreciation to everyone who gave us with crucial assistance and guidance in successfully finishing our project.

We would want to express our deepest gratitude to our lecturer in charge of Information Technology Ms.Geethanjali, our group lecturer Ms.Amali Gunasinghe and evaluator Mr.Pubudu Nallaperuma for inspiring us and providing the guidance to successfully prepare for this project.

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List of Acronyms and Abbreviations

Abbreviation	Description
ER	**Entity Relation**
DB	**Database**
UI	**User Interface**
ITP	**Information Technology Project**

1. Introduction

1.1 Problem Statement

Because of the rapid growth of Covid 19 patients in the country, consumerism of medicine in local pharmacies have increased. Because of that it is hard to maintain the social distance among customers. Therefore, there's a huge risk of increasing the chances of virus spreading.

As for the safety reasons the owner of the pharmacy has been decided to limit the employees in each branch therefore the company's service efficiency has reduced. This is negatively affecting company's economy.

As the pharmacy branch network is quite large, there is difficulty in management due to this pandemic situation.

1.1.1 Solutions

Due to these reasons, we are planning to handle pharmacy procedure through a web base application. Therefore, this system will be created concerning the safety of citizens due to the prevailing Covid 19 pandemic in the country, further maintaining and controlling social distance in order to prevent the growth of the virus.

1.1.2 Benefits

- This system will help to ease up the business management and will improve sales that have been dropped.
- Company owner can easily manage every branch through the system, thus reducing the time waste.
- Overall pharmacy activities will be efficient.
- Because this is an online system, whole managing processes can be done by a limited number of employees. Therefore, additional costs will be reduced.
- Customers can safely order their drug items and can be delivered to their doorstep easily.

1.2 Product Scope

As mentioned above, this web application was developed to overcome with the customer's issues. This application containing main 8 system functionalities. That are,

a. Customer handling
b. Admin access
c. Drug stock handling
d. Purchase an item
e. Drug item reservation
f. Access purchase history
g. Item delivery
h. Manage customer inquiries and feedbacks

1.2.1 Customer Handling

In this web application, customers can login to the system after the initial registration. Customers can edit their profile details and a report can be generated based on their profile details. During registration and login process, all customer Inputs are checked and validated by the system. As for admins, they can make changes to users profiles such as update or delete according to users request. Admins can access specific profile info by searching customers name, and report can be generated based on those details.

1.2.2 Admin Access

According to the developed web application, each subbranch has an admin (sub-admin), all subbranches are handle by their head admin (System owner). When head of admin login to the system he/she can add or update sub administrator's profile details to the system and each sub admins can update their activity details from the system (login details, profile details, etc...). Head of admin can generate an admin log report for get information about the login activities and remove sub administrators from the system.

1.2.3 Drug Stock Handling

Drug stock handling function has been developed for the admin side of this web application. Admin can add, Update, delete and search any products withing this function. Also admin can generate two main reports from drug stock handling side. Those are availability report and summary report. Admin can check availability and total details by generating these reports.

1.2.4 Purchase An Item

In this function, a customer can add items to the cart or search items from the system UI. Added Item quantity can be changed, or those items can be completely removed from the cart. Finally, an invoice will be automatically generated for the order by the system.

1.2.5 Drug Item Reservation

If a customer needs to purchase drugs prescribed by the doctor, then for those customers can easily upload their prescriptions to the system. A pharmacy staff member(admin) can access those uploaded prescriptions and send drugs items to those customers. Also, customers can either delete or edit their uploaded prescriptions. Admins can search and view customer's uploaded prescriptions. After inspecting each prescription, admin can mark those prescriptions as faulty or valid. All prescriptions can be sorted out as pending, valid or invalid, and admins can generate a report based on that.

1.2.6 Access Purchase History

Basically, that function is access purchase history. Customers can re-order or add item to the favorite list. Through the favorite list customer can update, remove, search and add that items to the cart. Here also admin can search specific customer details and admin can generate report as a pdf.

1.2.7 Item Delivering

System retrieved customers default location details and order summary to deliver the order. The customer has the ability to add and update optional details. All the optional details of the customers in the admin panel have been retrieved in a table. And also all the orders and location details of the customers are retrieved in a table. The admin has the ability to delete the details of both the optional details and the order table if required. System will generate a finalized customer's location report using order table (used by delivery person).

1.2.8 Manage Customer Inquiries & Feedbacks

In Manage Inquiries and Feedbacks there are two main functions, 1st function is Inquiry and 2nd function is Feedback. In the Inquiry section customers can add inquiries. Those added inquiries can be edited or deleted. In feedback section, customers can add feedbacks according to their satisfaction with the service. As for the admin part admins can see all inquiries and feedbacks on admin's panel and admin can view, Delete inquires and feedback separately. Also, admin can generate inquiry report. In the admin panel, admin can search inquires and feedback separately.

1.3 Project Report Structure

Introduction:

This section is focused on information about client's background. All clients' issues and solutions for those issues are discussed in this section.

Methodology:

This methodology is consisting of four main sub-sections namely,

1. Requirement Analysis
2. Design
3. Implementation
4. Testing

The first phase, Requirement Analysis consists with two diagrams, Use case diagram and Activity diagram. These diagrams show the dynamic behavior of the system. Requirement of the stakeholders for the project is also covered in this phase. The Design phase is consisting of System overview, ER diagram, and User Interfaces which represents the design aspect of the system. Implementation phase describes about implementation of the web application, database information, tools and technology used to develop this project. The Testing phase consists of all the test cases done for each function of the system and outcomes for the test cases.

2. Methodology

2.1 Requirements and Analysis

2.1.1.1 Use Case Diagram for Customer Handling

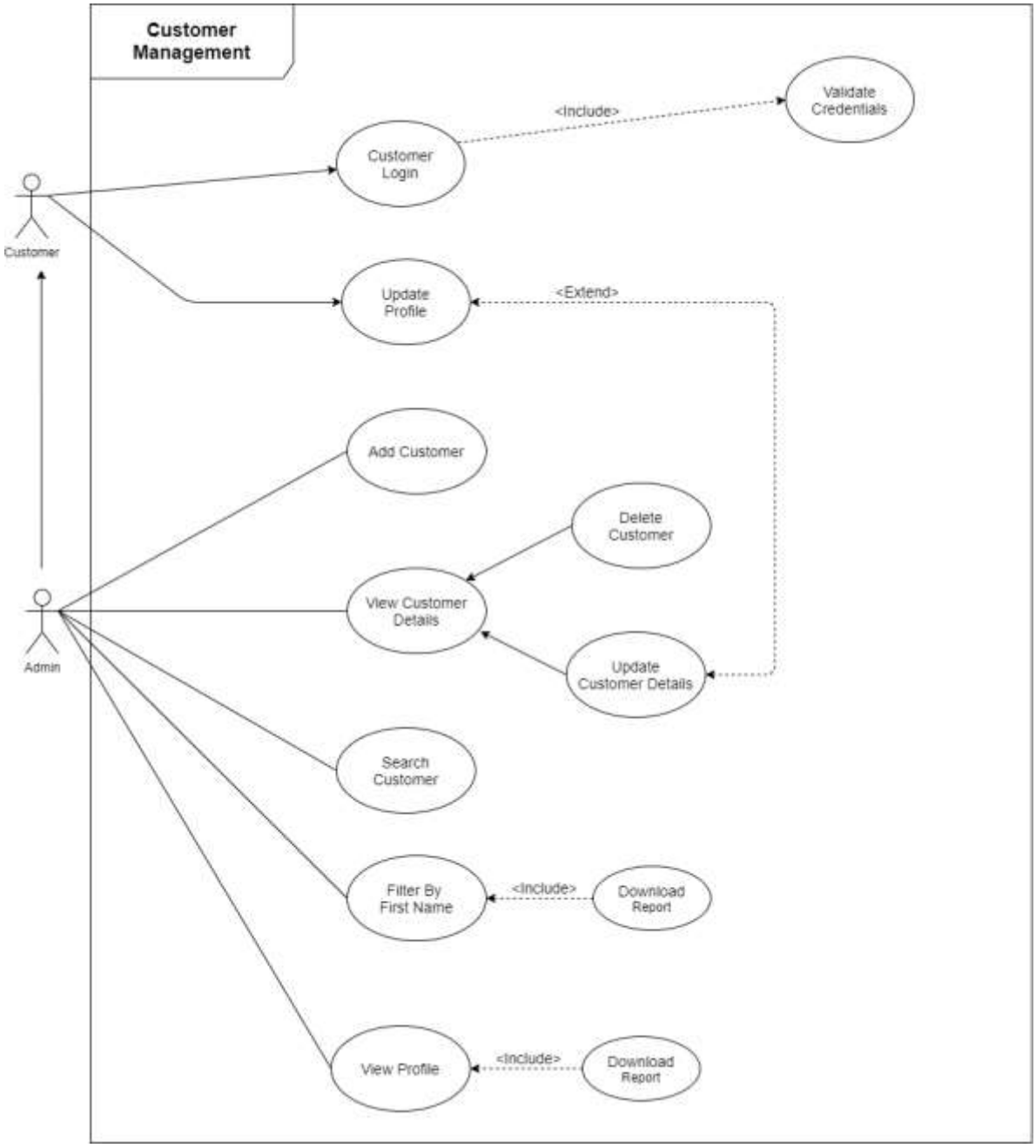


Figure - 2.1.1.1 Use Case Diagram for Customer Handling

2.1.1.2 Use Case Diagram for Admin Access

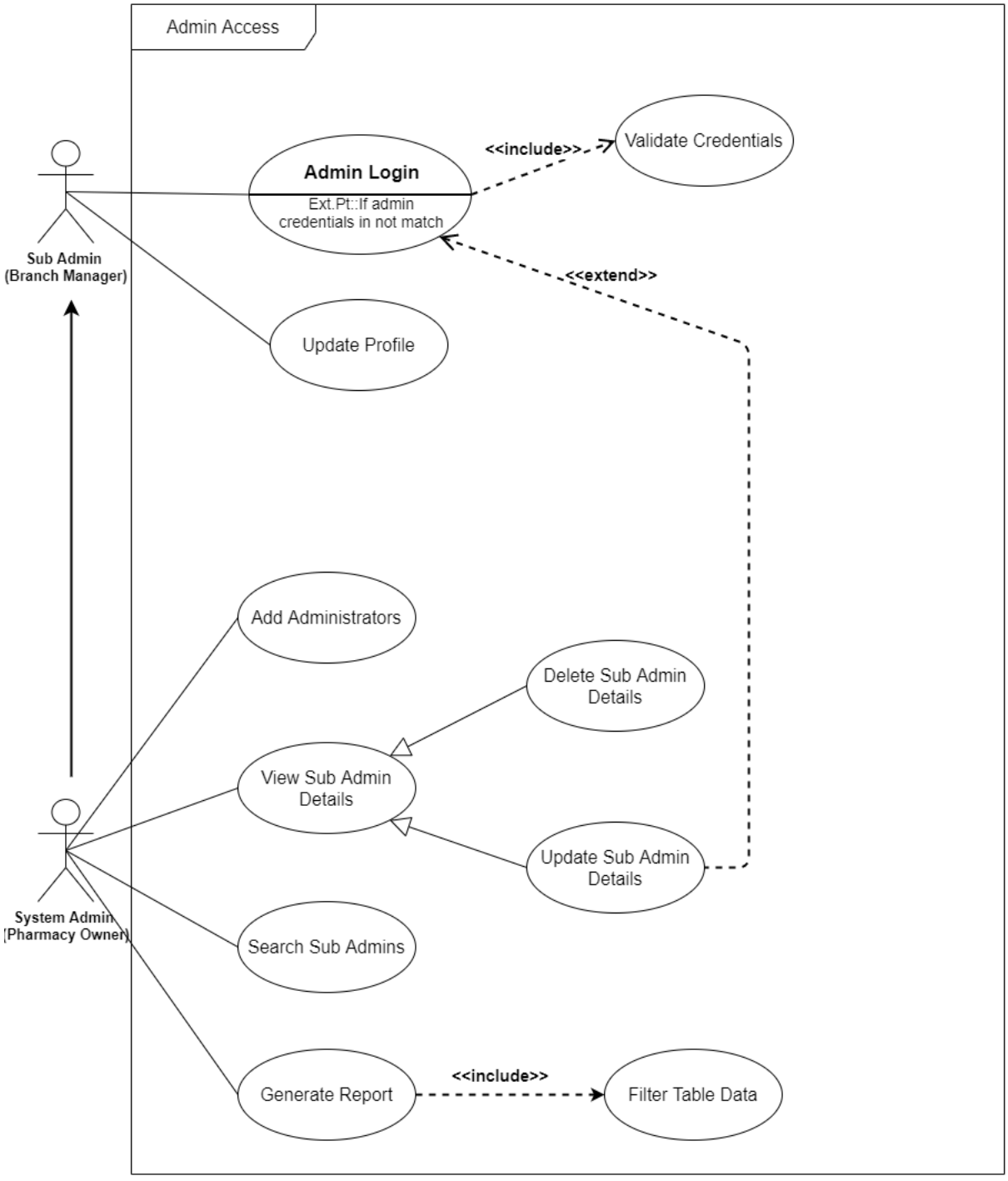


Figure - 2.1.1.2 Use Case Diagram for Admin Access

2.1.1.3 Use Case Diagram for Drug Stock Handling

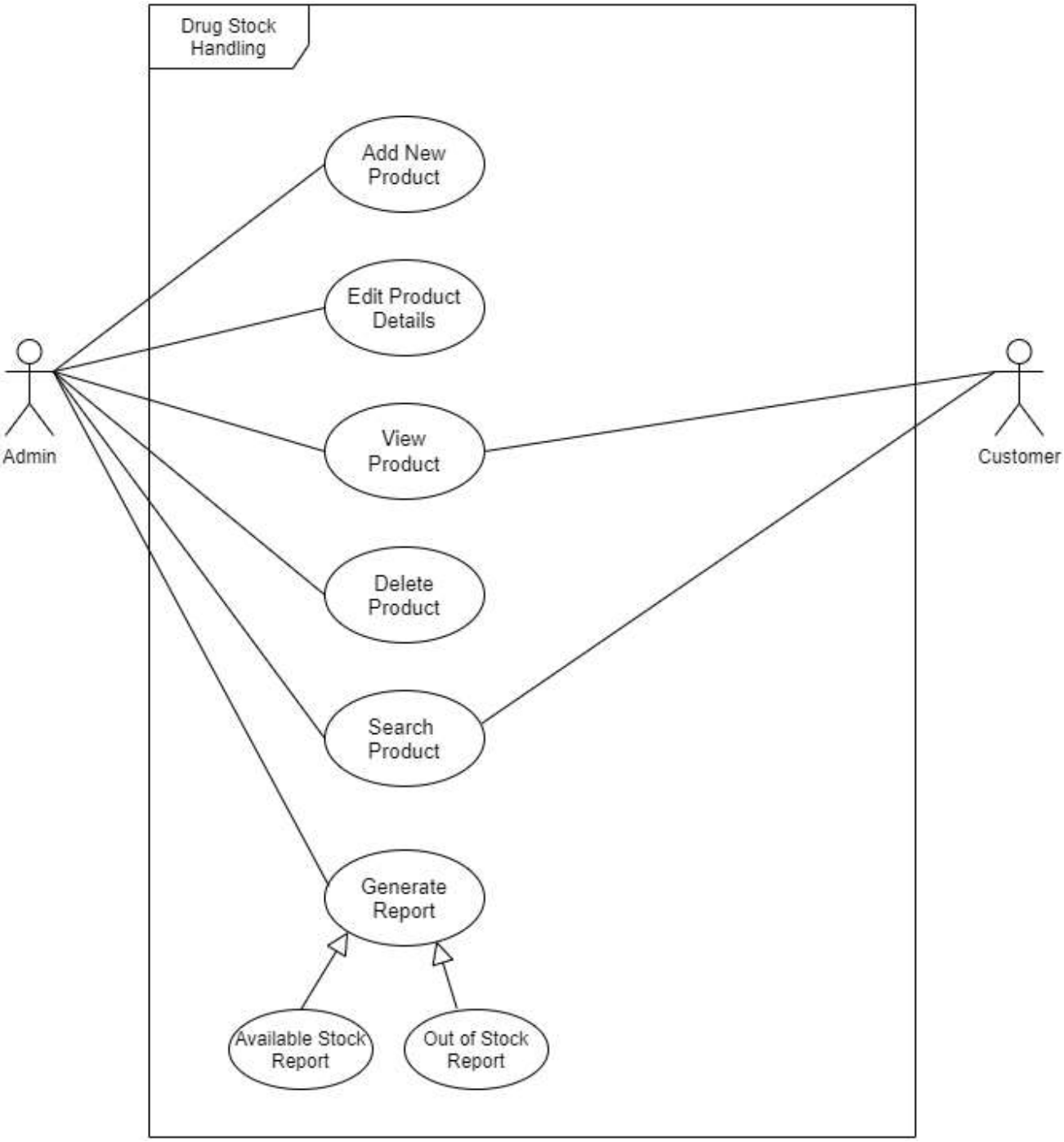


Figure - 2.1.1.3 Use Case Diagram for Drug Stock Handling

2.1.1.4 Use Case Diagram for Purchase an item

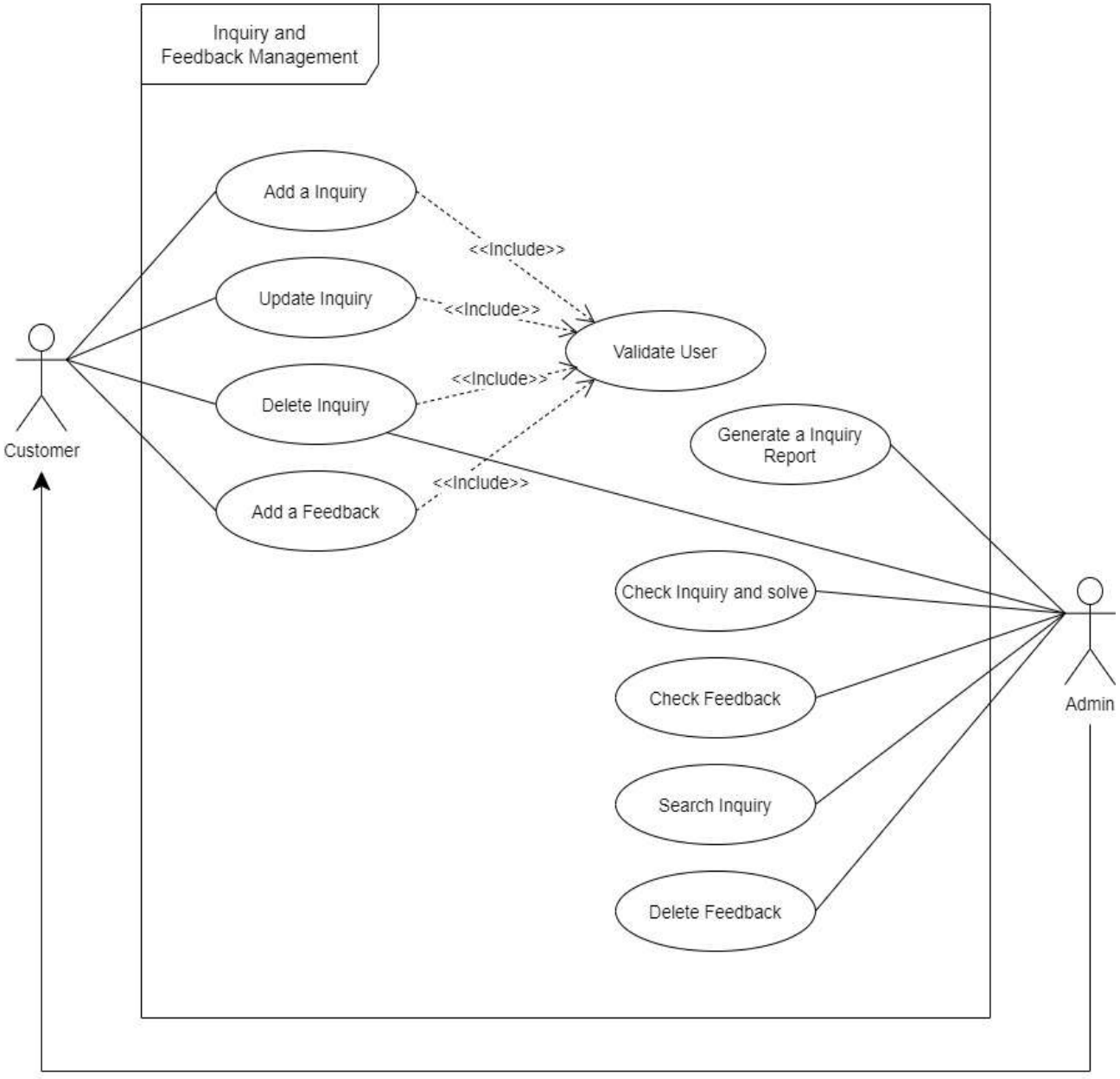


Figure - 2.1.1.4 Use Case Diagram for Purchase an item

2.1.1.5 Use Case Diagram for Drug Item Reservation

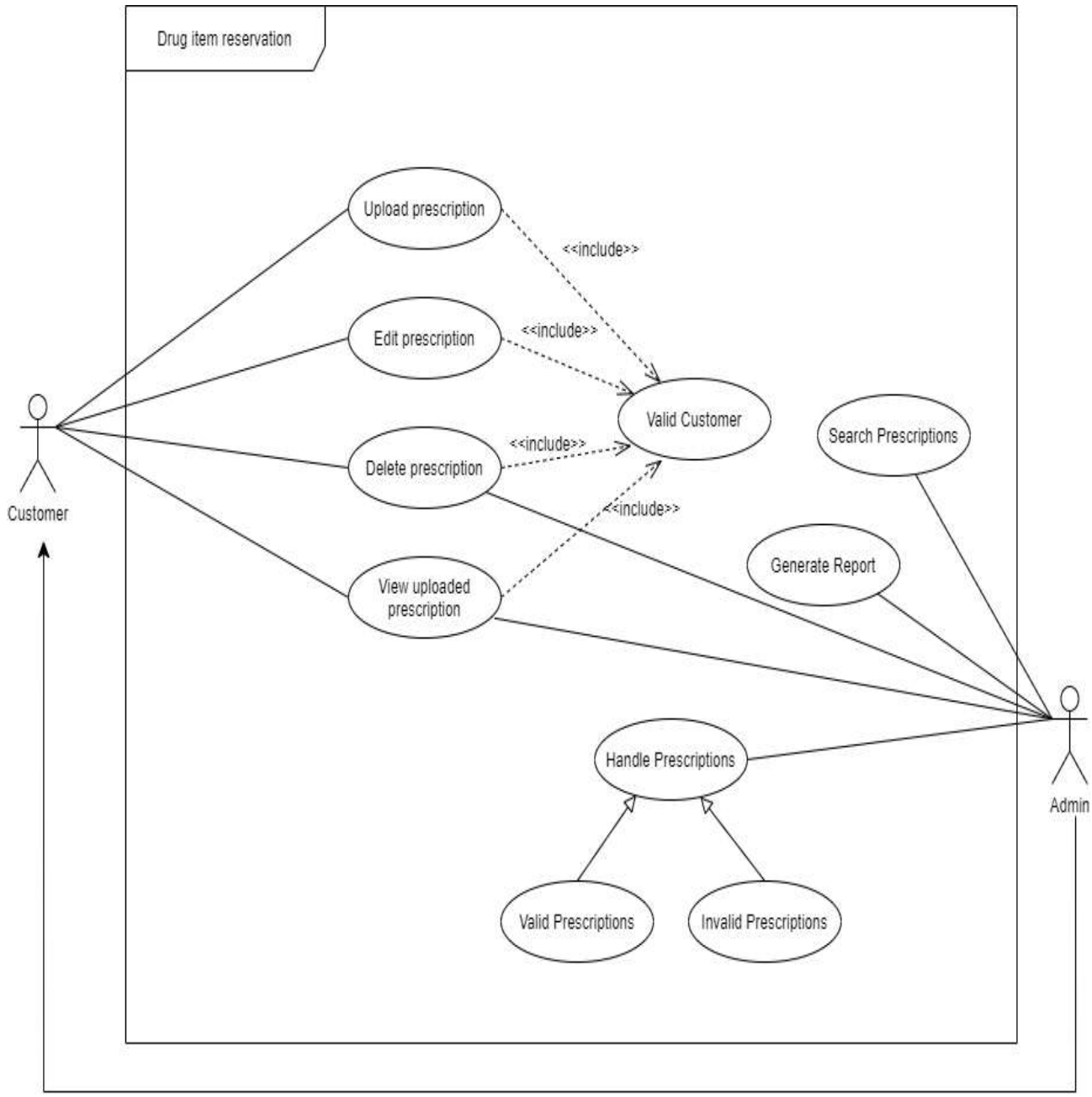


Figure - 2.1.1.5 Use Case Diagram for Drug Item Reservation

2.1.1.6 Use Case Diagram for Access Purchase History

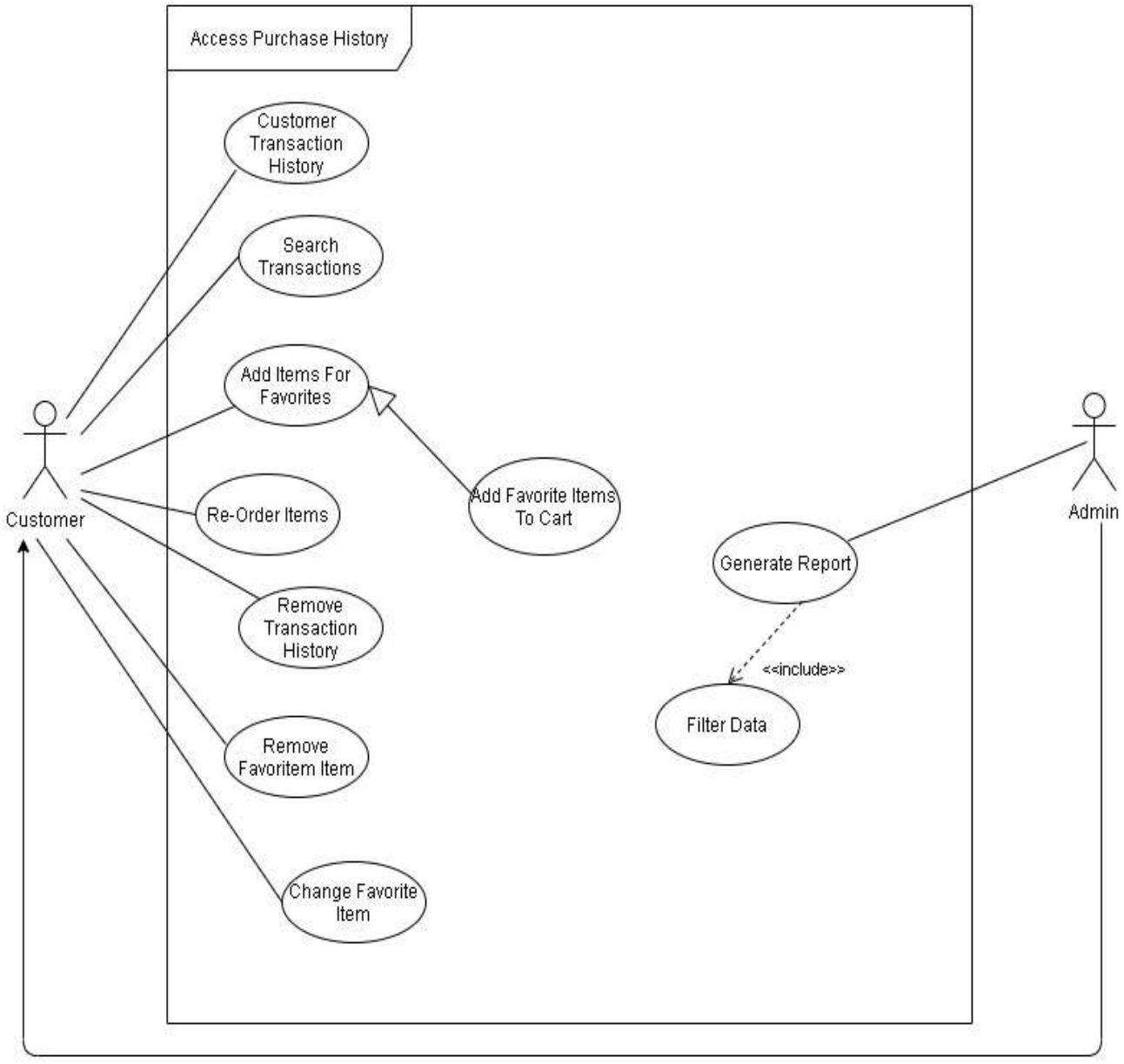


Figure - 2.1.1.6 Use Case Diagram for Access Purchase History

2.1.1.7 Use Case Diagram for Delivery Management

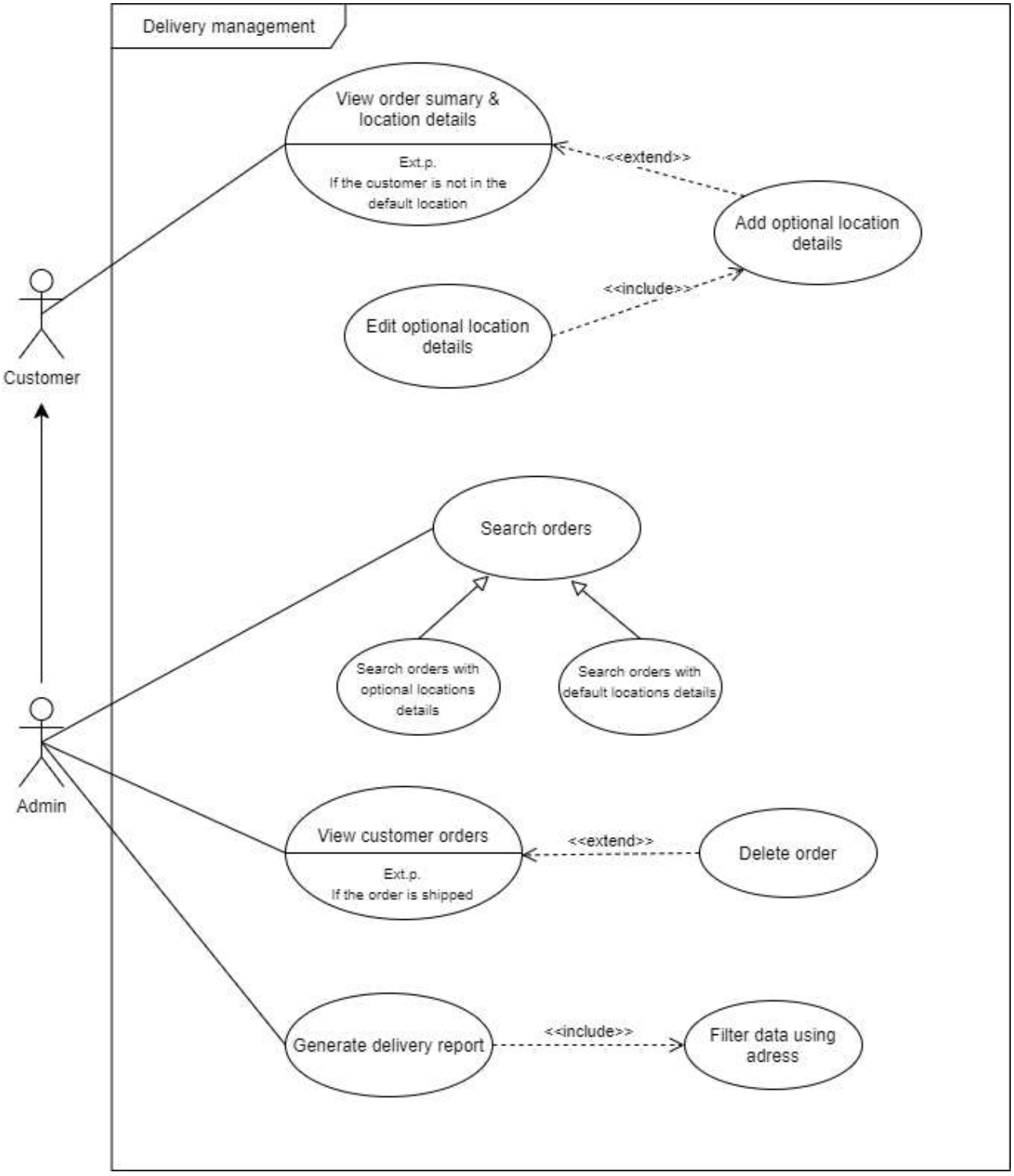


Figure - 2.1.1.7 Use Case Diagram for Delivery Management

2.1.1.8 Use Case Diagram for Manage Customer Inquiries & Feedback

Figure - 2.1.1.8 Use Case Diagram for Manage Customer Inquiries & Feedback

2.1.2.1.a Activity Diagram for Customer Handling (Customer)

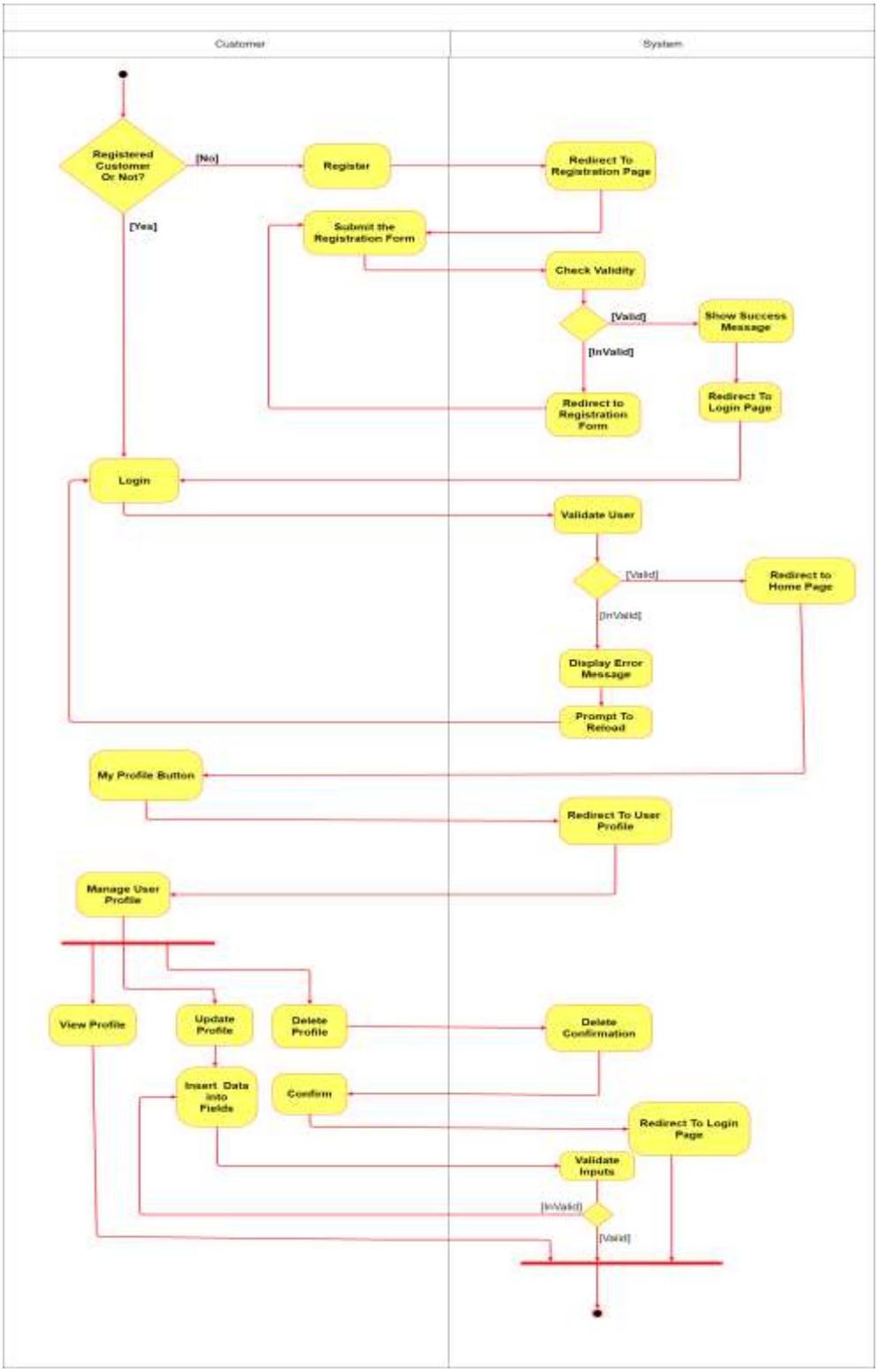


Figure - 2.1.2.1.a Activity Diagram for Customer Handling (Customer)

2.1.2.1.b Activity Diagram for Customer Handling (Admin)

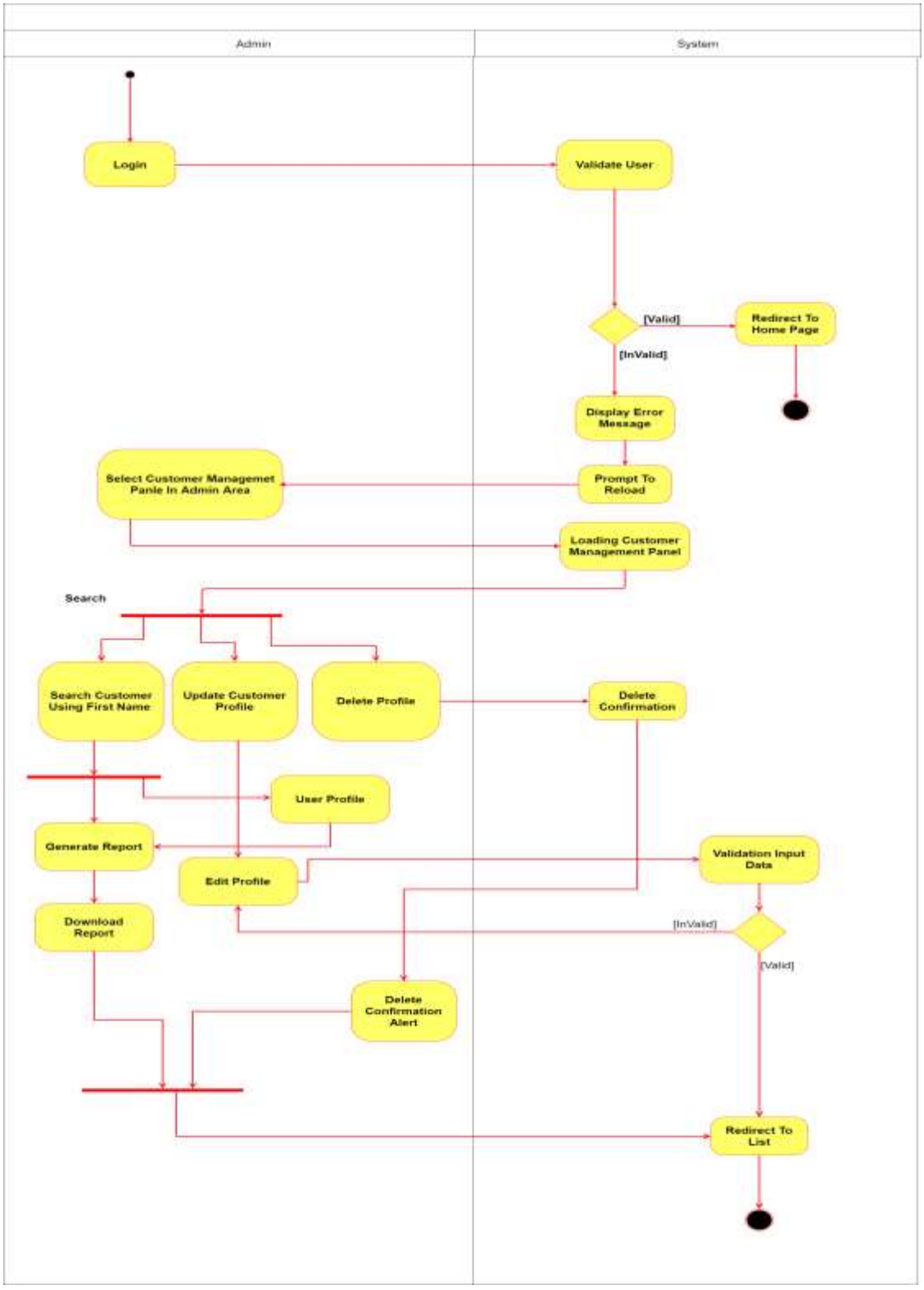


Figure - 2.1.2.1.b Activity Diagram for Customer Handling (Admin)

2.1.2.2 Activity Diagram for Admin Access (Admin)

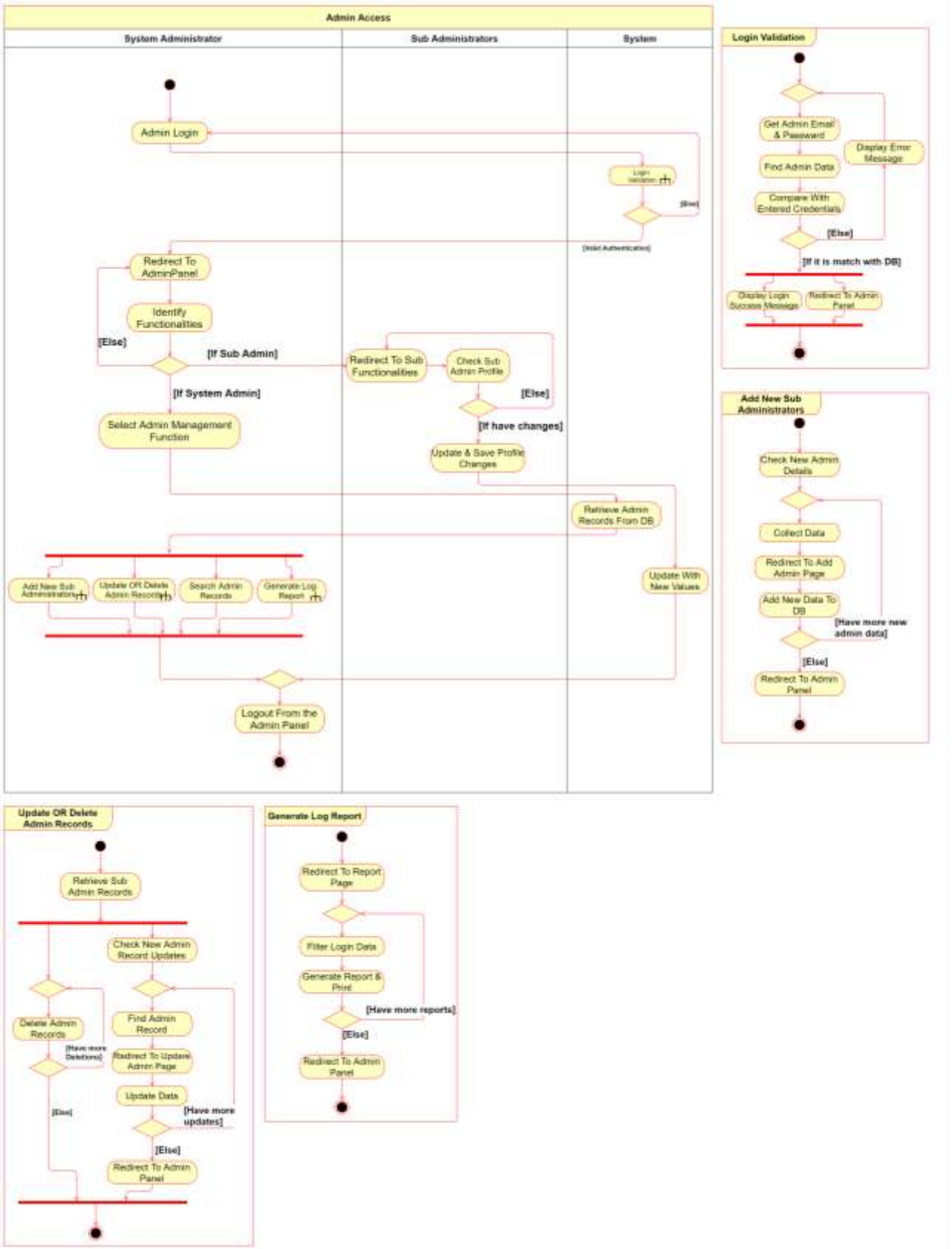


Figure - 2.1.2.2 Activity Diagram for Admin Access (Admin)

2.1.2.3 Activity Diagram for Drug Stock Handling (Admin)

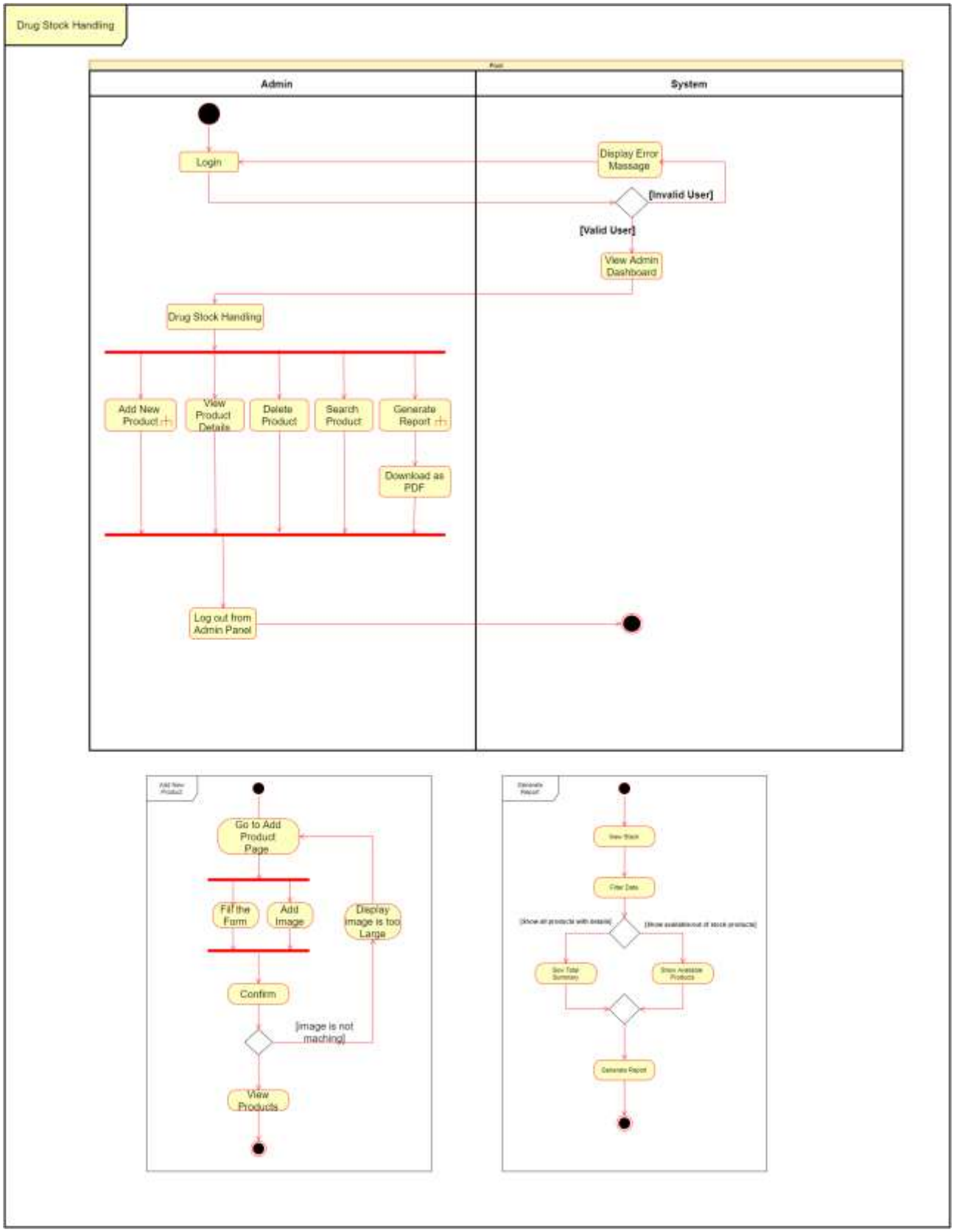


Figure - 2.1.2.3 Activity Diagram for Drug Stock Handling (Admin)

2.1.2.4 Activity Diagram for Purchase An Items (Customer)

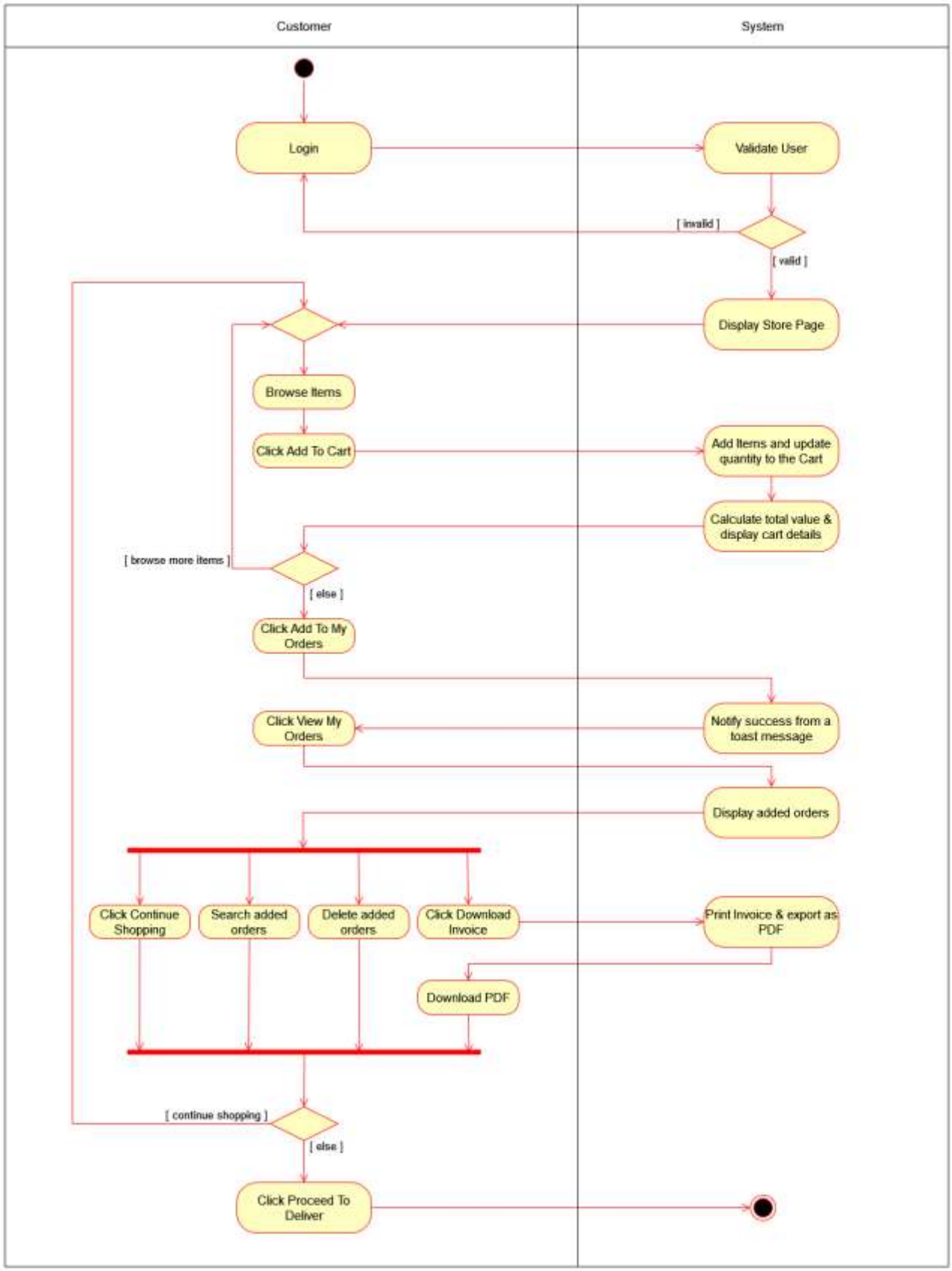


Figure - 2.1.2.4 Activity Diagram for Purchase an Items (Customer)

2.1.2.5.a Activity Diagram for Drug Item Reservation (Customer)

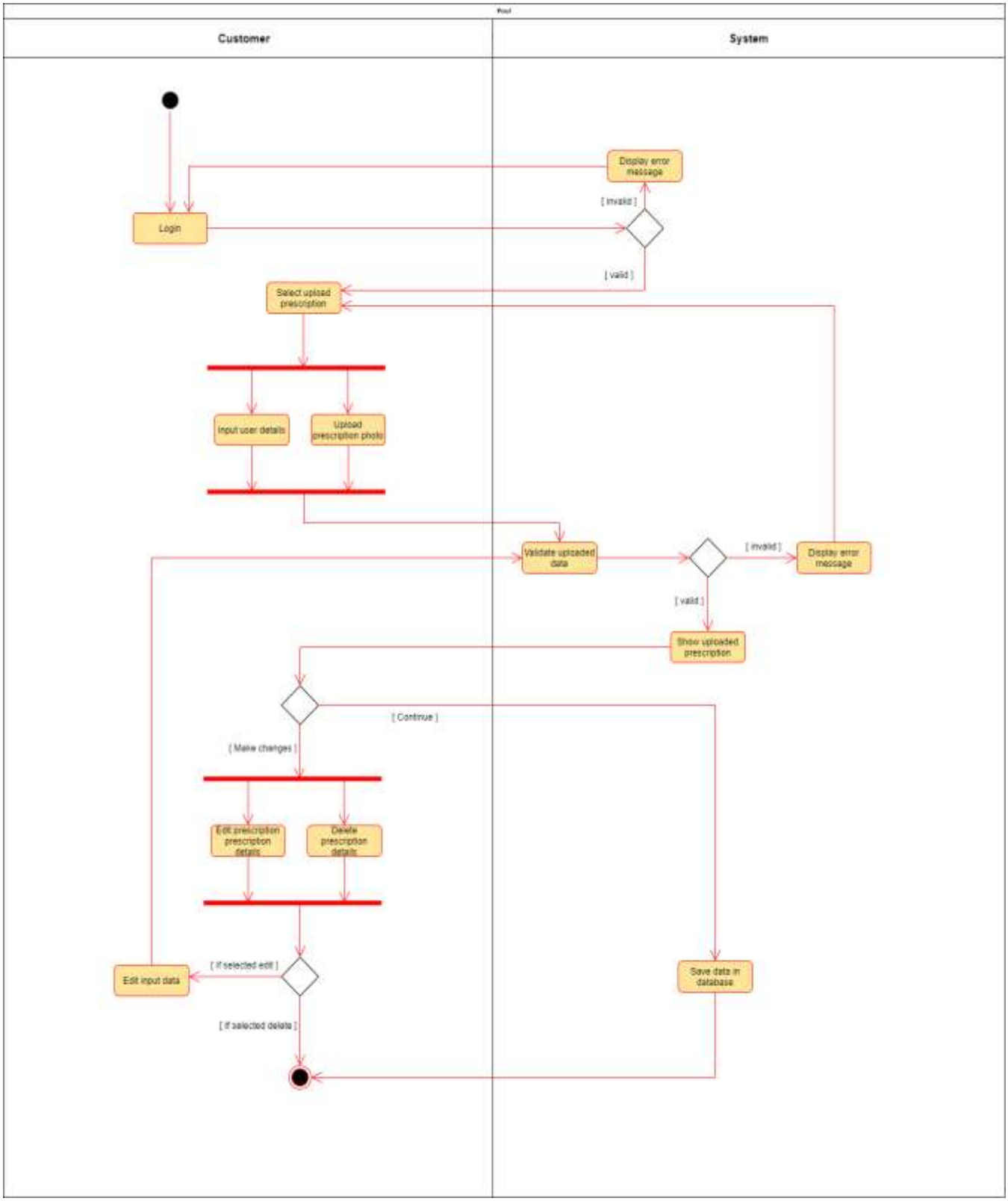


Figure - 2.1.2.5.a Activity Diagram for Drug Item Reservation (Customer)

2.1.2.5.b Activity Diagram for Drug Item Reservation (Admin)

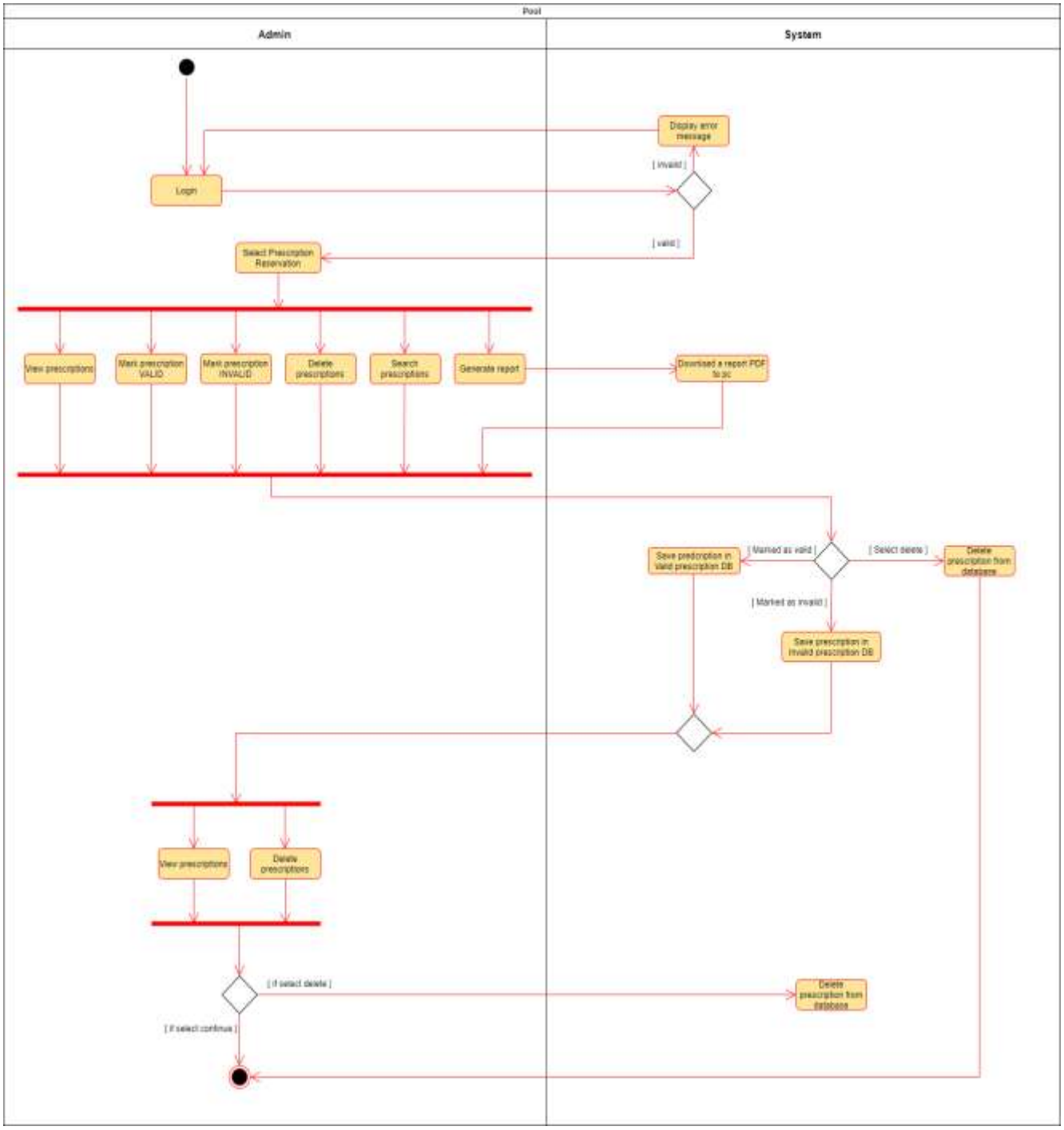


Figure - 2.1.2.5.b Activity Diagram for Drug Item Reservation (Admin)

2.1.2.6.a Activity Diagram for Access Purchase History (Customer)

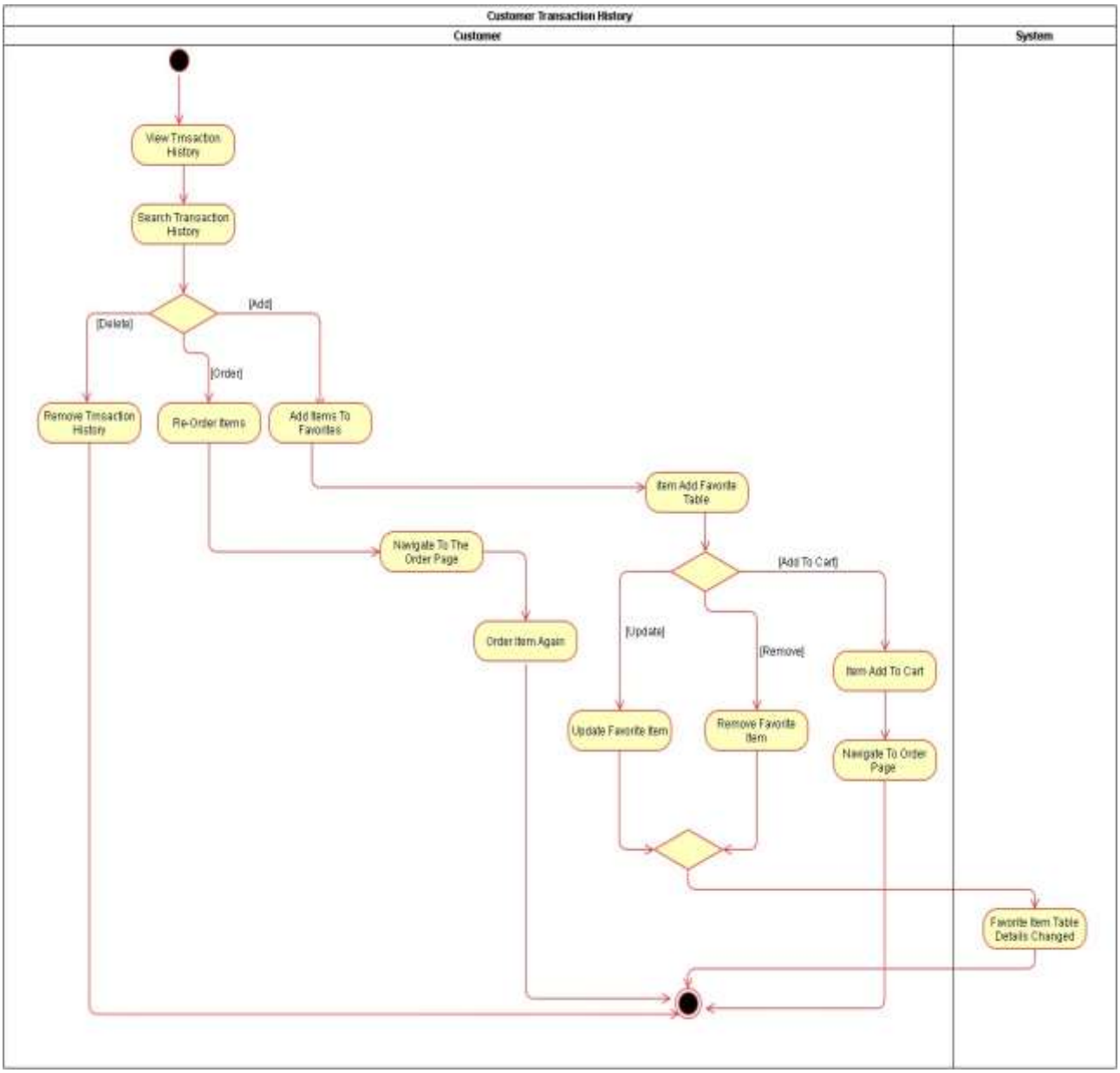


Figure - 2.1.2.6.a Activity Diagram for Access Purchase History (Customer)

2.1.2.6.b Activity Diagram for Access Purchase History (Admin)

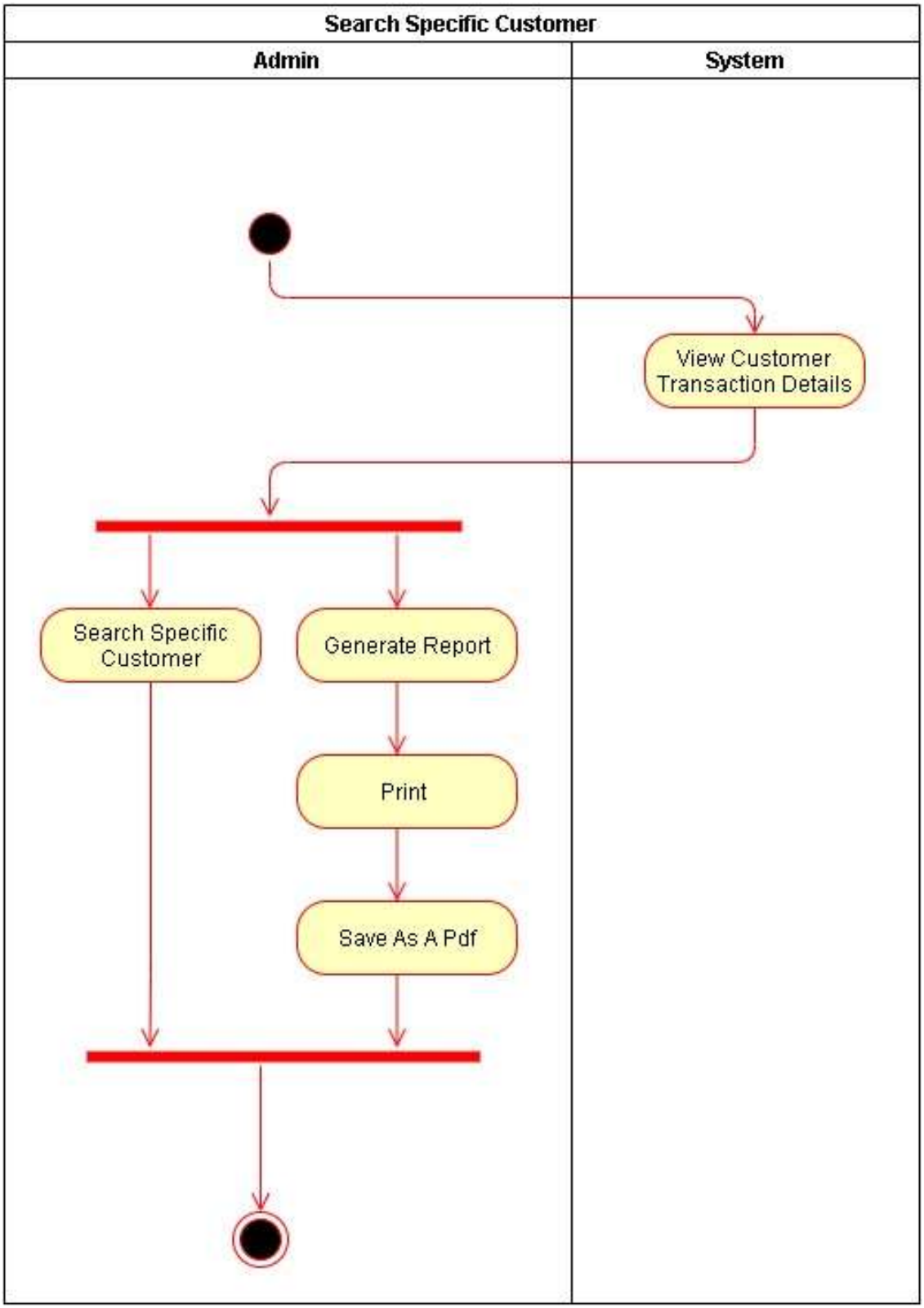
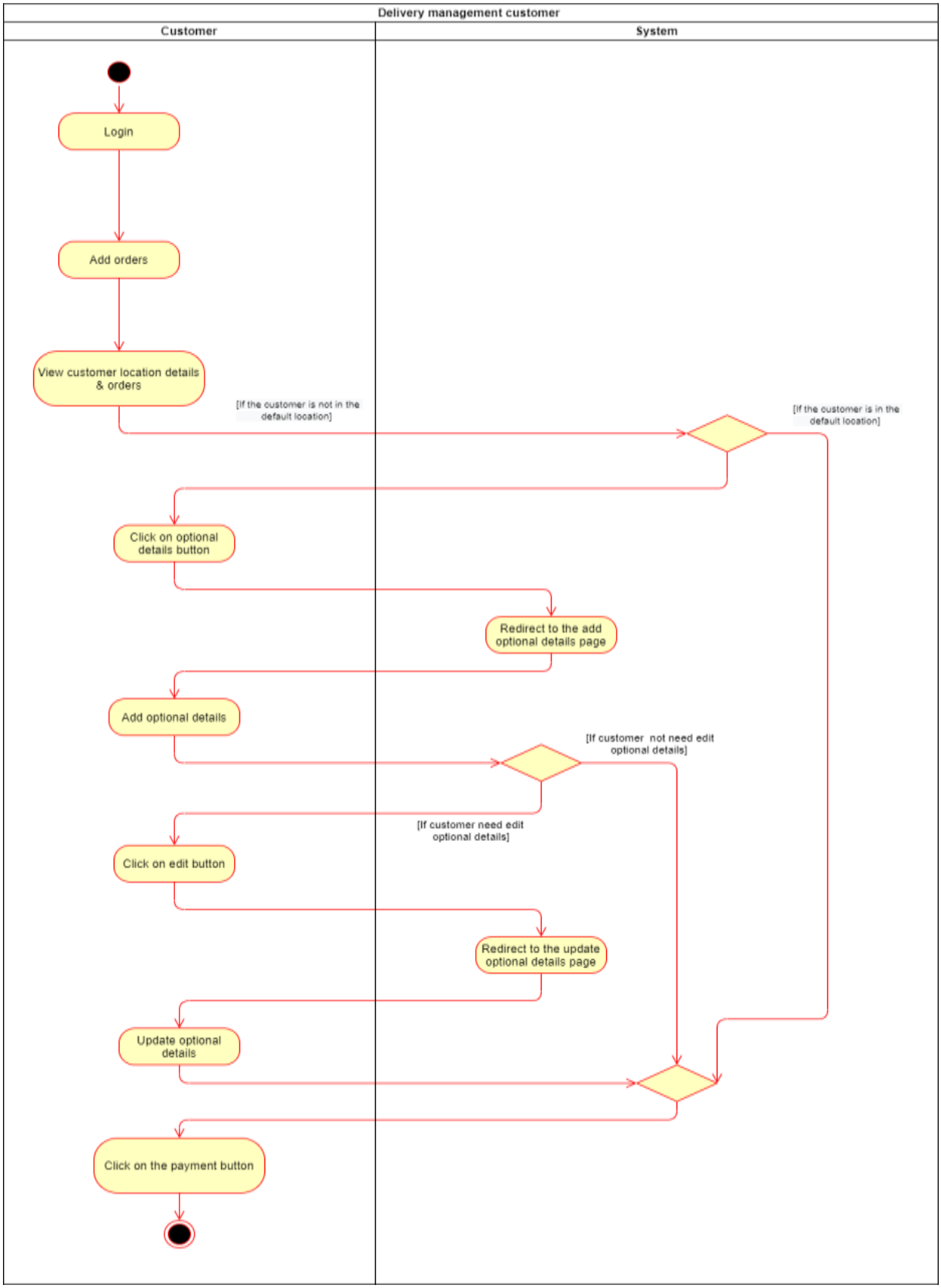


Figure - 2.1.2.6.b Activity Diagram for Access Purchase History (Admin)

2.1.2.7.a Activity Diagram for Delivery Management (Customer)



2.1.2.7.b Activity Diagram for Delivery Management (Admin)

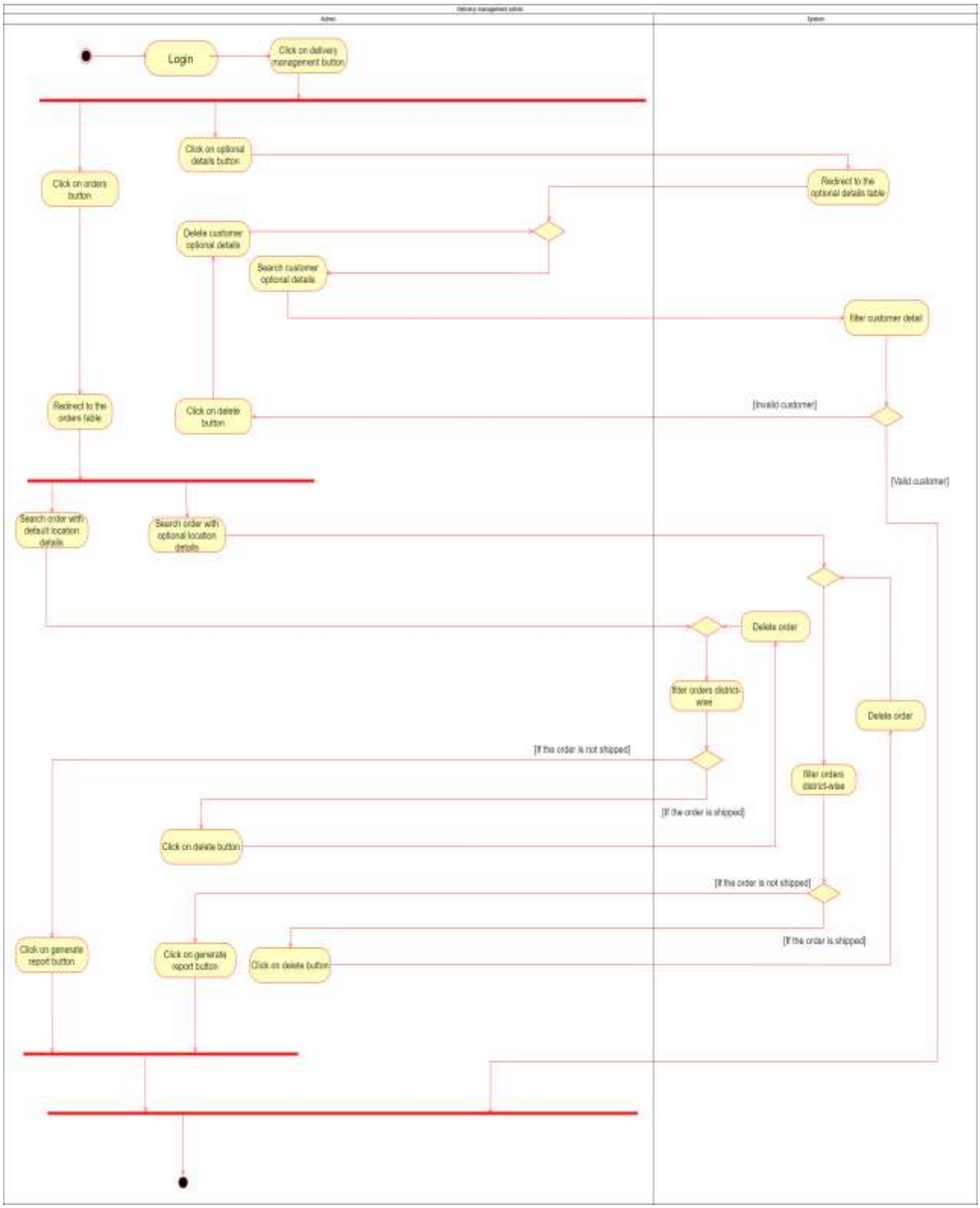


Figure - 2.1.2.7.b Activity Diagram for Delivery Management (Admin)

2.1.2.8.a Activity Diagram for Manage Customer Inquiries and Feedbacks (Customer)

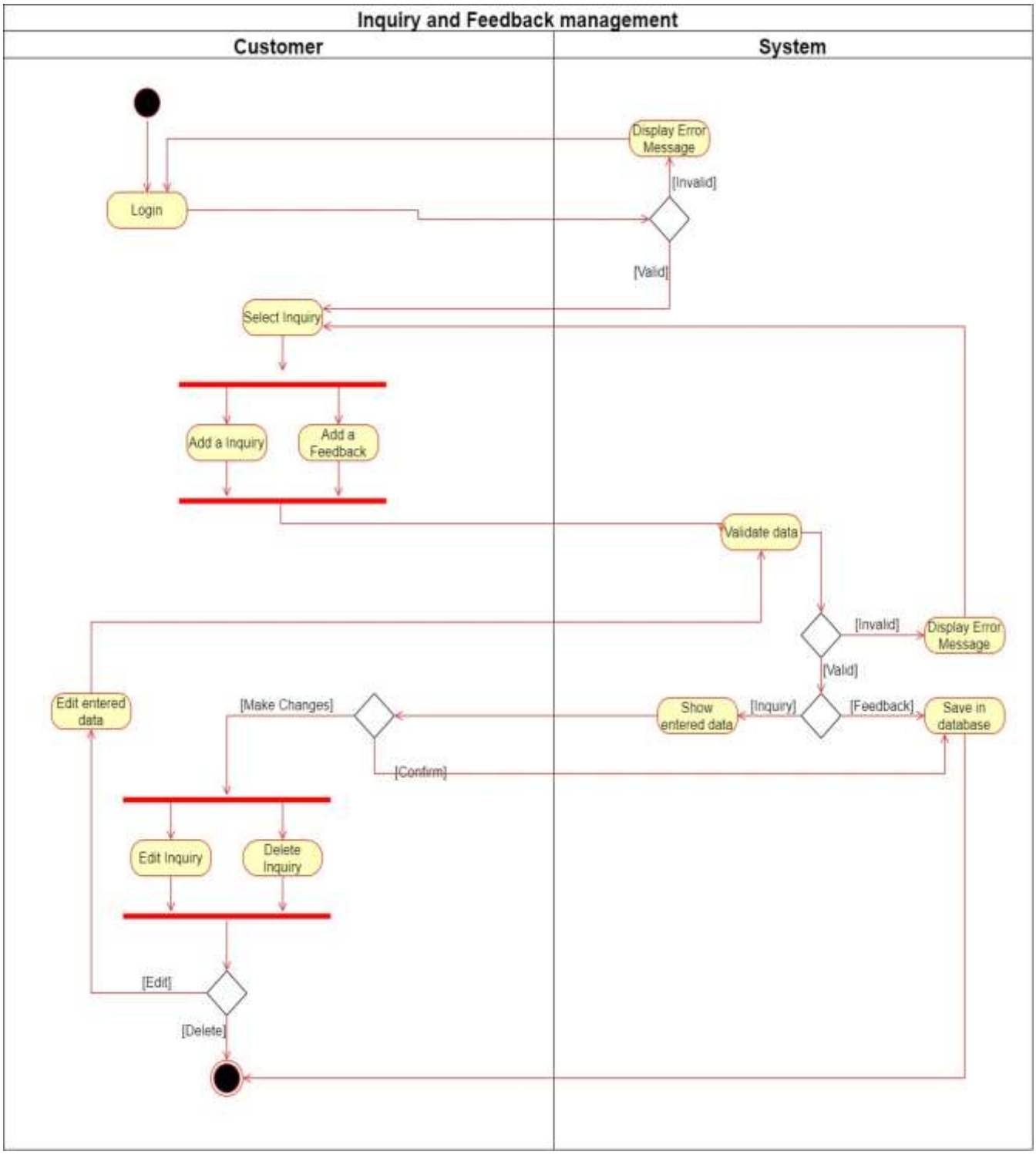


Figure - 2.1.2.8.a Activity Diagram for Manage Customer Inquiries and Feedbacks (Customer)

2.1.2.8.b Activity Diagram for Manage Customer Inquiries and Feedbacks (Admin)

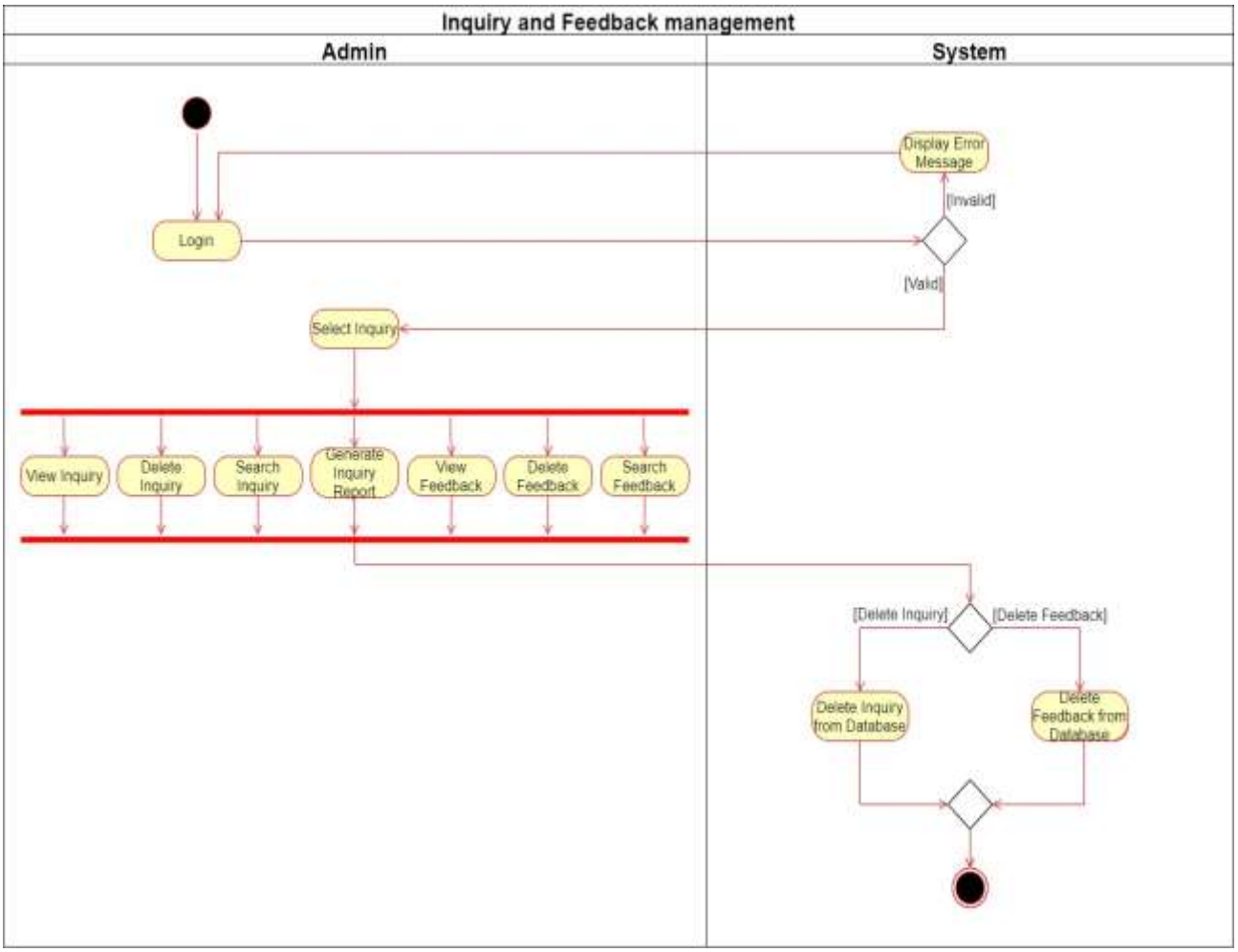


Figure - 2.1.2.8.b Activity Diagram for Manage Customer Inquiries and Feedbacks (Admin)

2.2 Design

2.2.1 High-Level Architecture Diagram

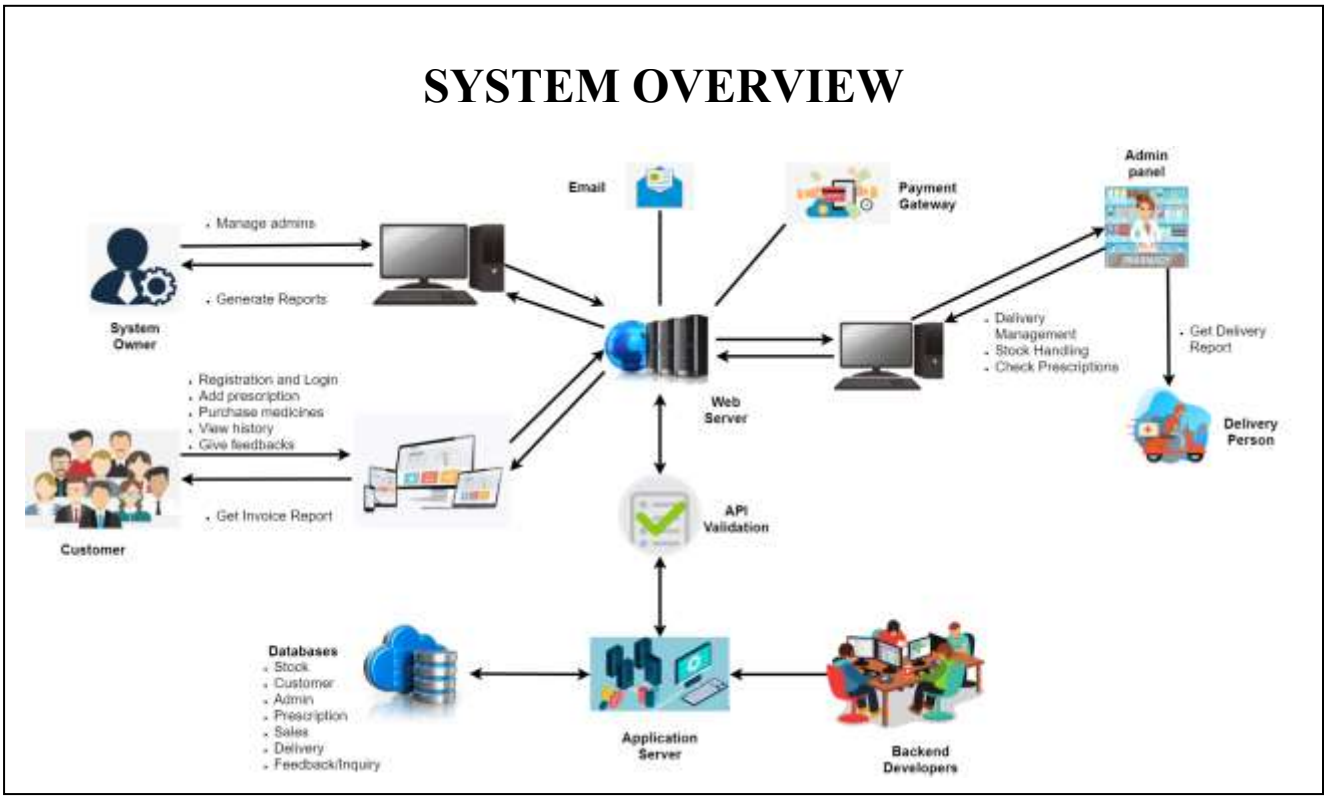


Figure - 2.2.1 High-Level Architecture Diagram

2.2.2 ER Diagram

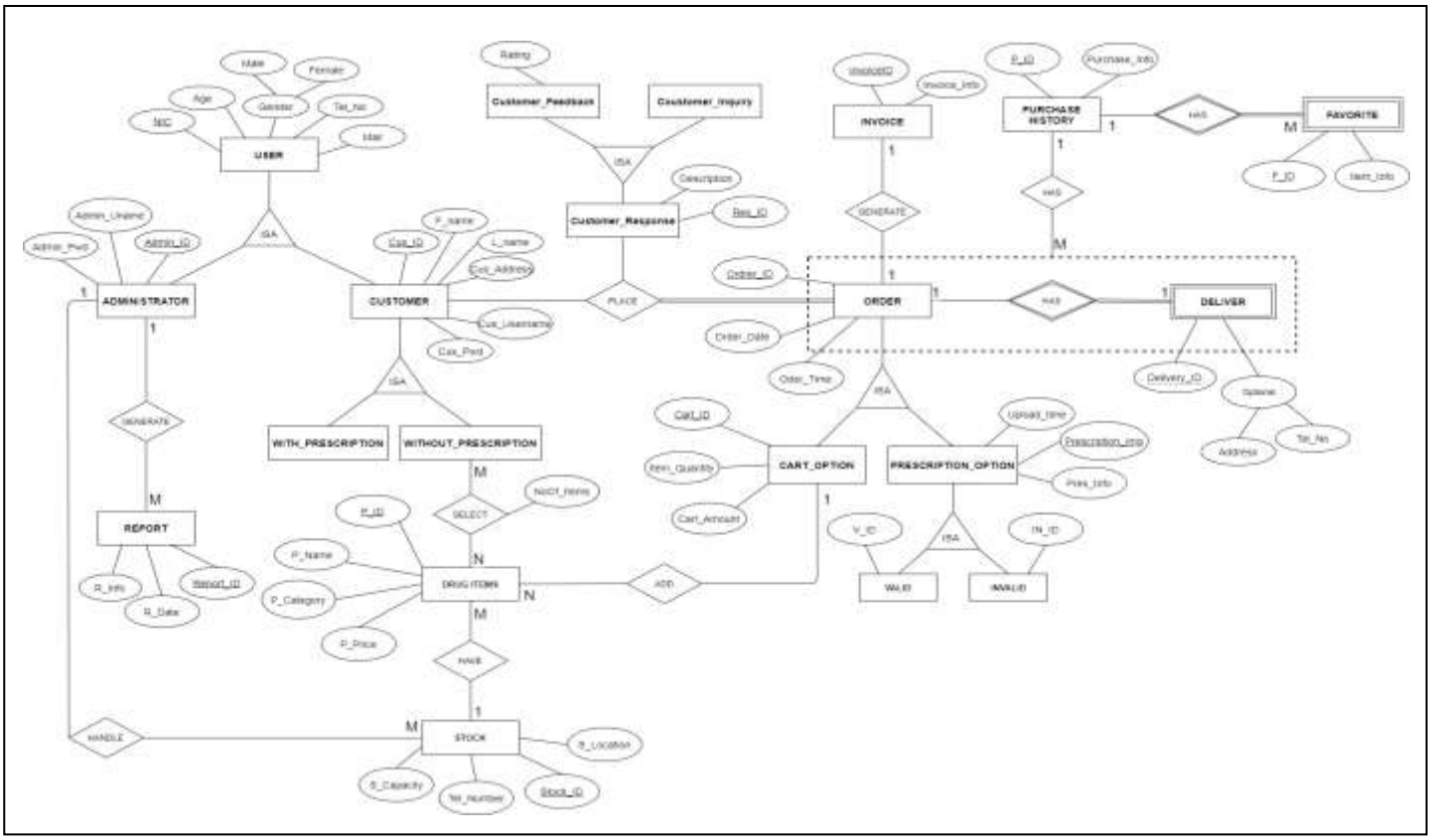


Figure - 2.2.2 ER Diagram

2.2.3 User Interfaces

2.2.3.1 User Interface for Customer Login (Customer)

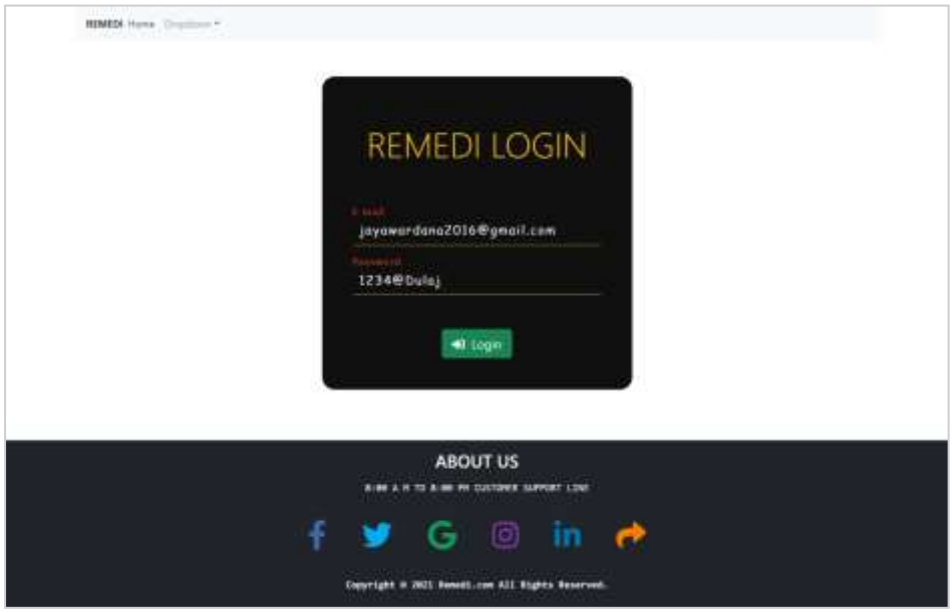


Figure - 2.2.3.1 User Interface For Customer Login (Customer)

2.2.3.2 User Interface for Customer Registration (Customer)

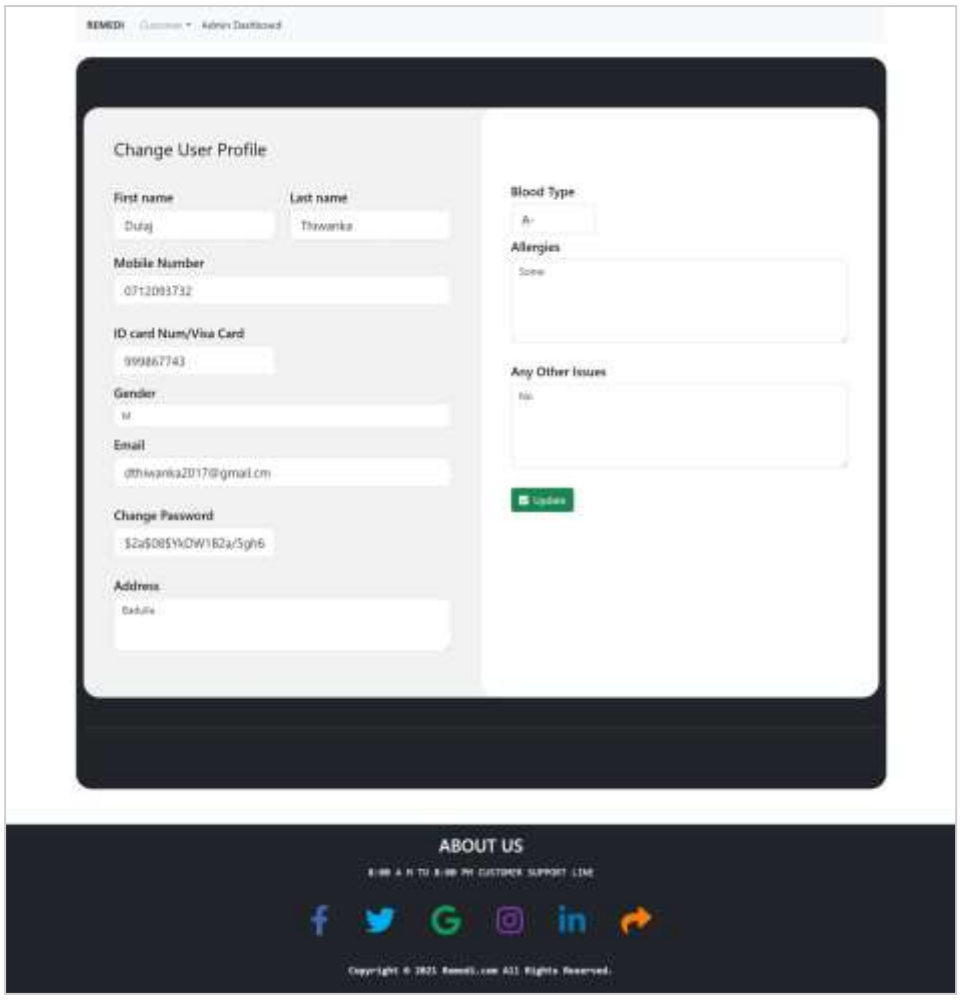


Figure - 2.2.3.2 User Interface For Customer Registration (Customer)

2.2.3.3 User Interface for Customer Edit Profile & Generate Report (Customer)

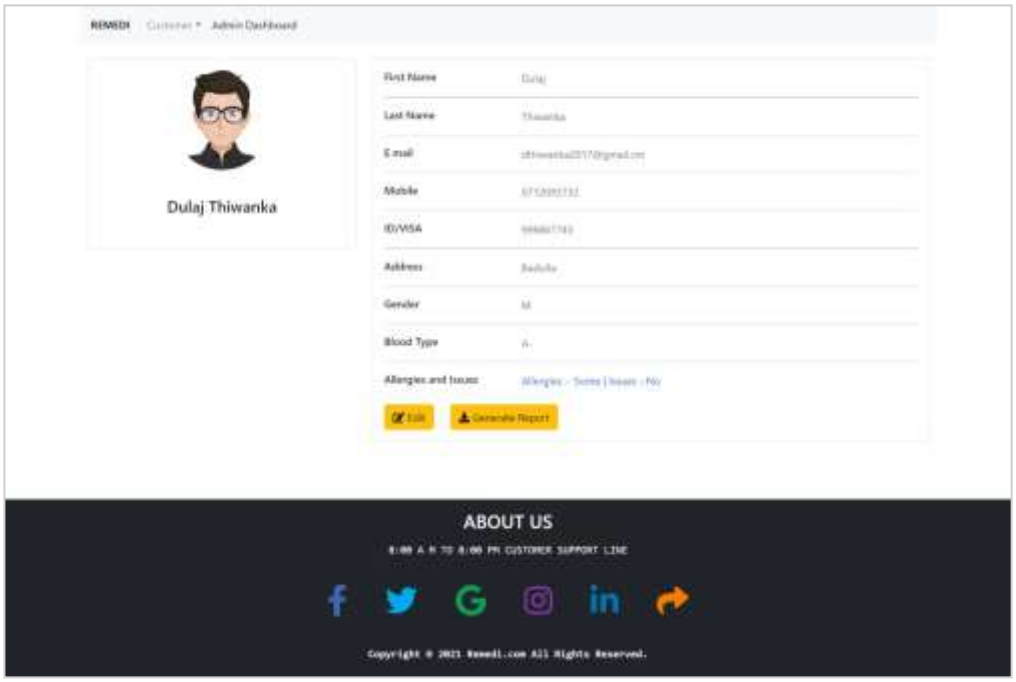


Figure - 2.2.3.3 User Interface for Customer Edit Their Profile & Generate Report (Customer)

2.2.3.4 User Interface for Customer Edit Profile (Customer)

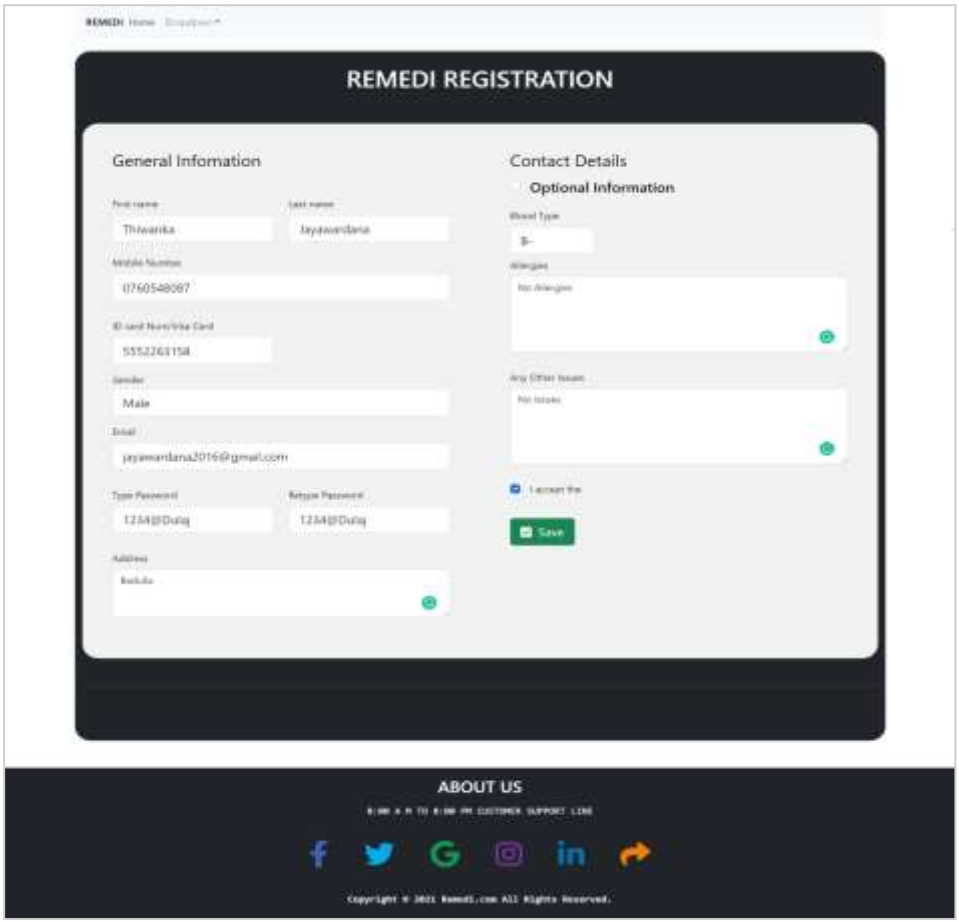


Figure - 2.2.3.4 User Interface for Customer Edit Profile (Customer)

2.2.3.5 User Interface for Retrieve All Registered Customers (Admin)

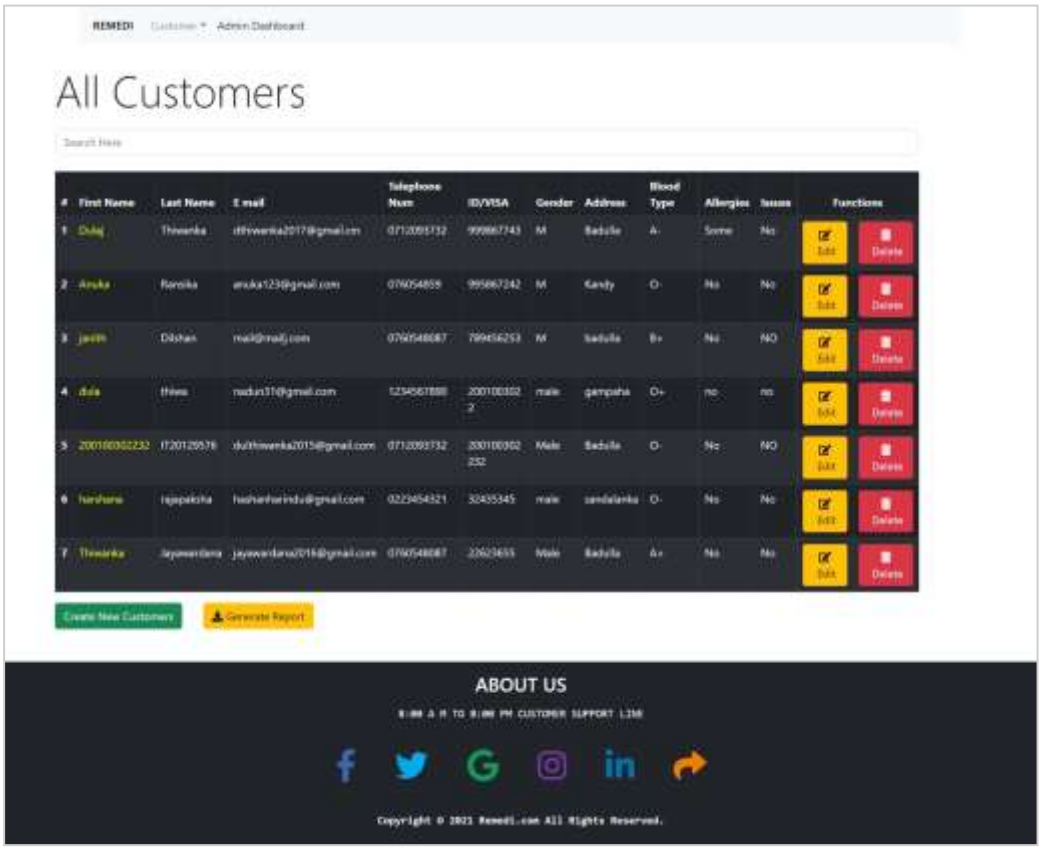


Figure - 2.2.3.5 User Interface for Retrieve All Registration Customers (Admin)

2.2.3.6 User Interface for Generated Report with All Customers (Admin)

Customers

REMEDI
Colombo
Sri Lanka
DATE:- 2021-10-10
TIME:- 22:18:22

fname	lname	email	tpnum	idvisa	address
Dulaj	Thiwanka	dthiwanka2017@gmail.com	0712093732	999867743	Badulla
Anuka	Ranslka	anuka123@gmail.com	076054859	995867242	Kandy
janith	Dilshan	mail@mailj.com	0760548087	789456253	badulla
dula	thiwa	nadun31@gmail.com	1234567890	2001003022	gampaha
200100302232	IT20129576	dulthiwanka2015@gmail.com	0712093732	200100302232	Badulla
harshana	rajapaksha	hashanharindu@gmail.com	0223454321	32435345	sandalanka

Figure - 2.2.3.6 User Interface for Generated Report with All Customer (Admin)

2.2.3.7 User Interface for Customer Generated Report (Customer)

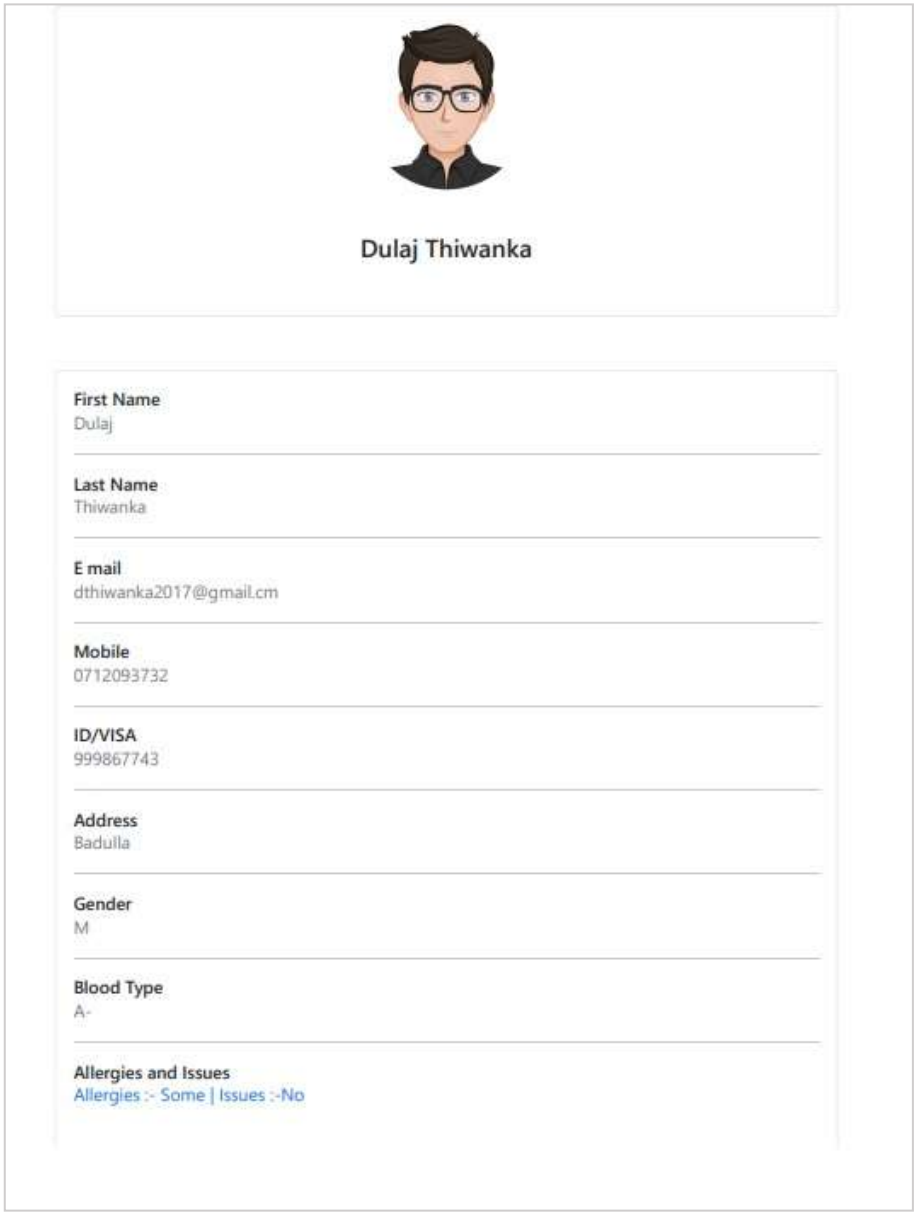


Figure - 2.2.3.7 User Interface for Customer Generated Report (Customer)

Admin Access

2.2.3.8 User Interface for Welcome Page for Administrator's (Admin)

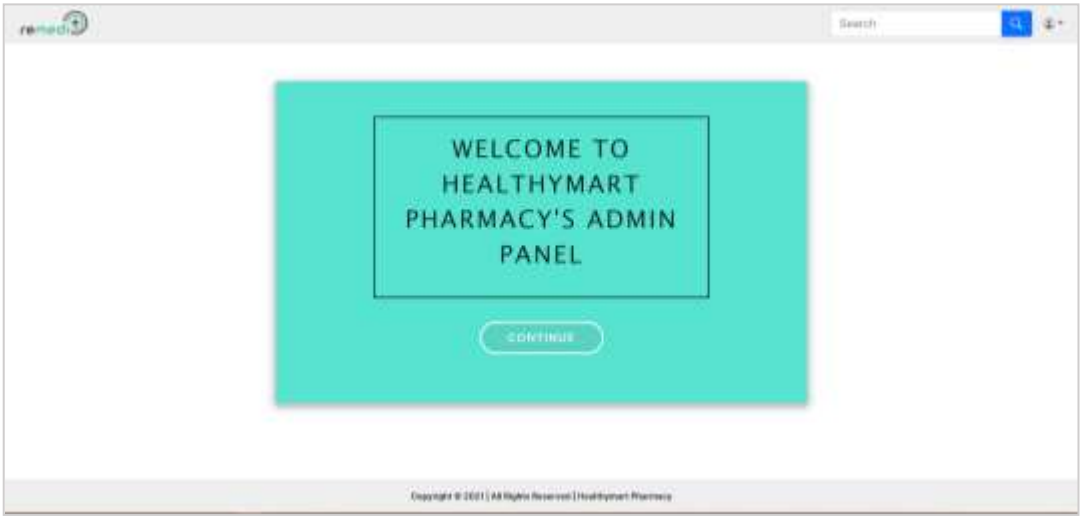


Figure - 2.2.3.8 User Interface for Welcome Page for Administrator's (Admin)

2.2.3.9 User Interface for Admin Login (Admin)

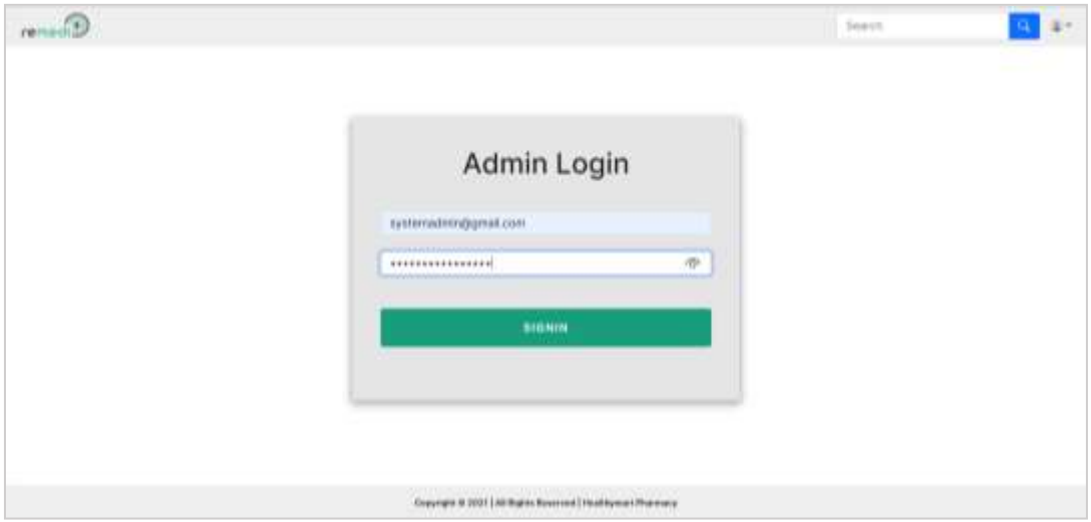


Figure - 2.2.3.9 User Interface for Admin Login (Admin)

2.2.3.10 User Interface for Retrieve All Registered Sub Administrators (Admin)

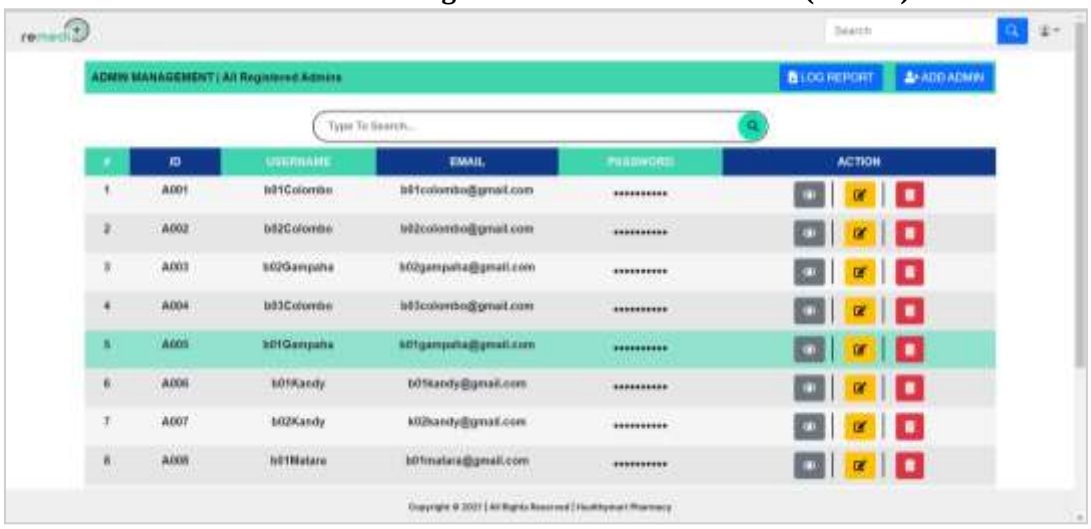


Figure - 2.2.3.10 User Interface for Retrieve All Registered Sub Administrator's (Admin)

2.2.3.11 User Interface for Add Sub Administrator's to the System (Admin)

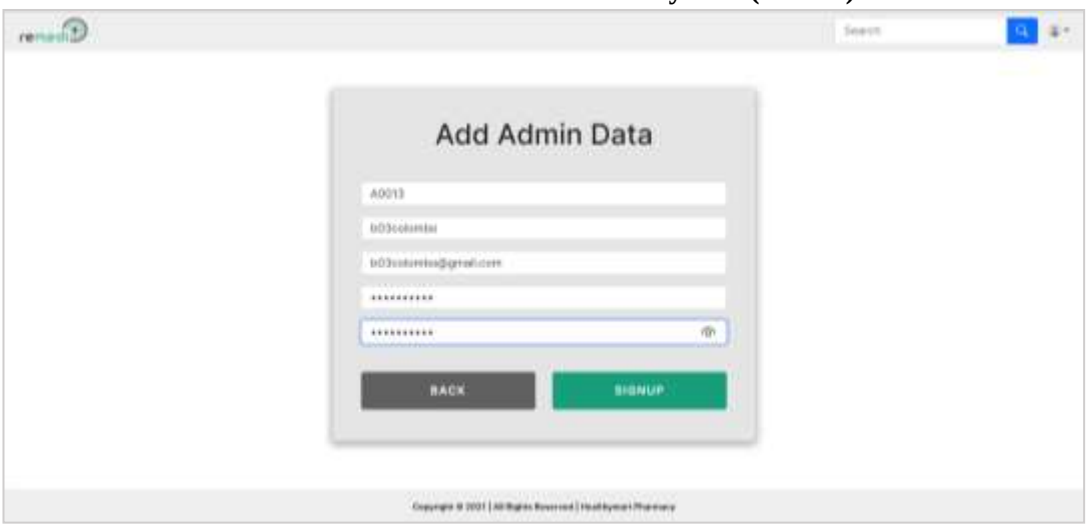


Figure - 2.2.3.11 User Interface for Retrieve All Registered Sub Administrator's (Admin)

2.2.3.12 User Interface for Update Sub Admin Data (Admin)

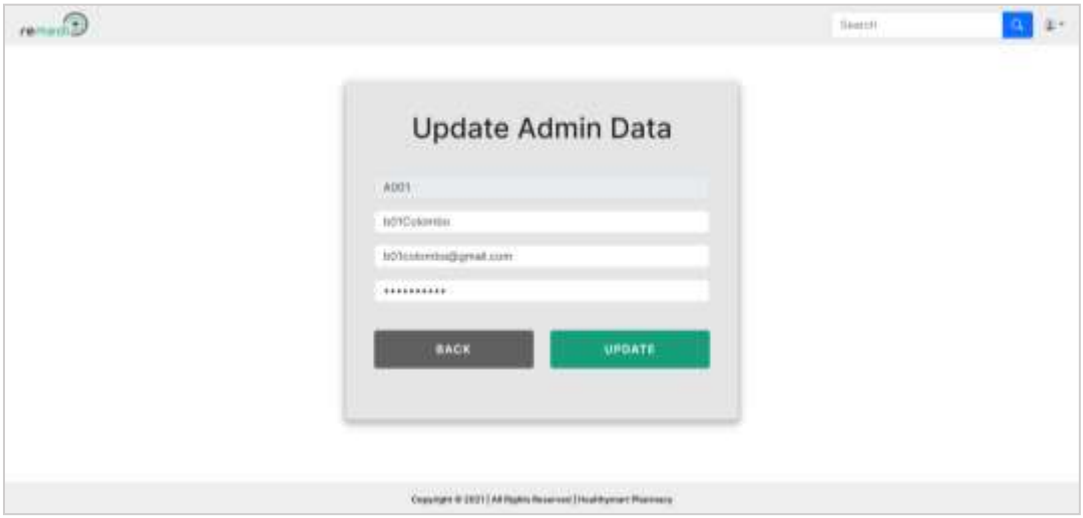


Figure - 2.2.3.12 User Interface for Update Sub Admin Data (Admin)

2.2.3.13 User Interface for Delete Registered Sub Admins from the System (Admin)

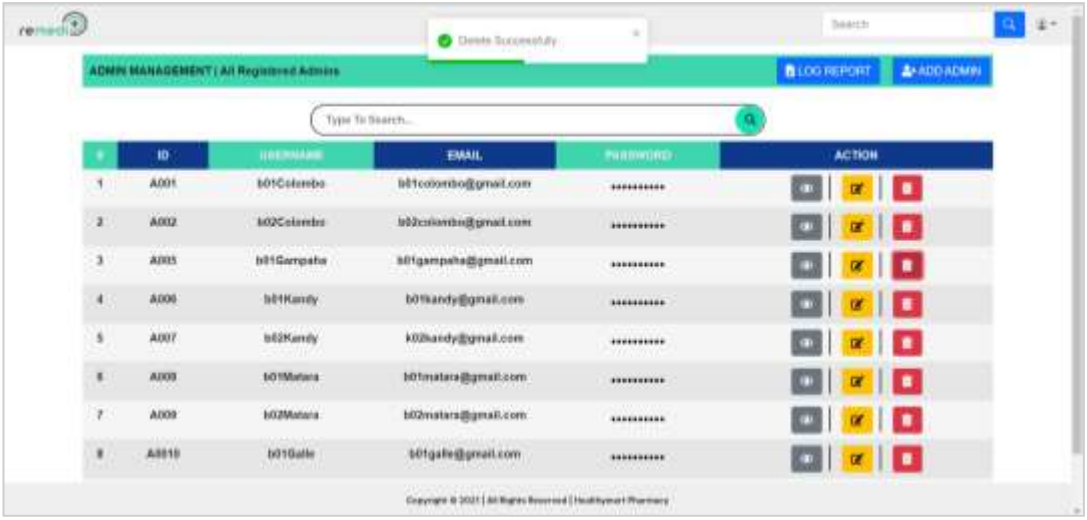


Figure - 2.2.3.13 User Interface for Delete Registered Sub Admins from the System (Admin)

2.2.3.14 User Interface for Search Admins from the System (Admin)

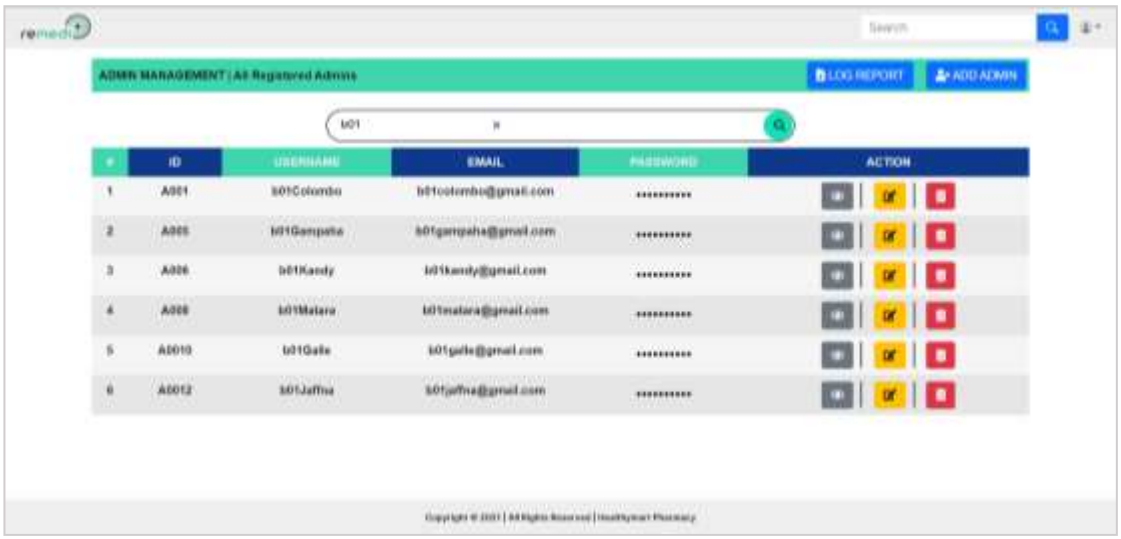


Figure - 2.2.3.14 User Interface for Search Admins from the System (Admin)

2.2.3.15 User Interface for System Admin Profile & System Logout Area (Admin)

Figure - 2.2.3.15 User Interface for System Admin Profile & System Logout Area (Admin)

2.2.3.16 User Interface for Filtering & Generate Log Report (Admin)

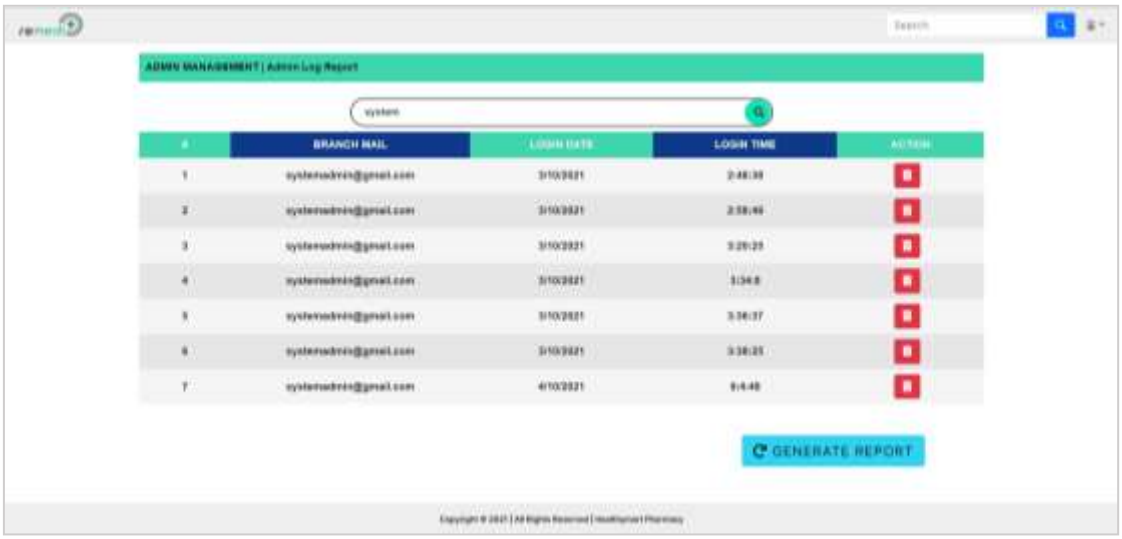


Figure - 2.2.3.16 User Interface for Filtering & Generate Log Report (Admin)

2.2.3.17 User Interface for Generated Log Report (Admin)

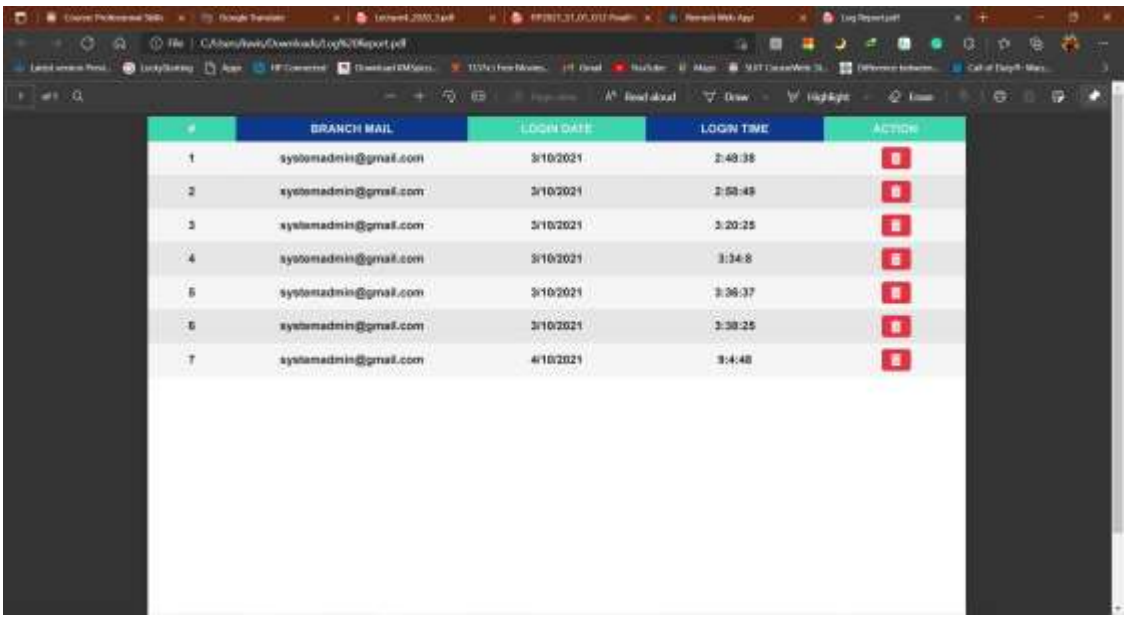


Figure - 2.2.3.17 User Interface for Generated Log Report (Admin)

Drug Stock Handling

2.2.3.18 User Interface for View Drug Stocks (Admin)

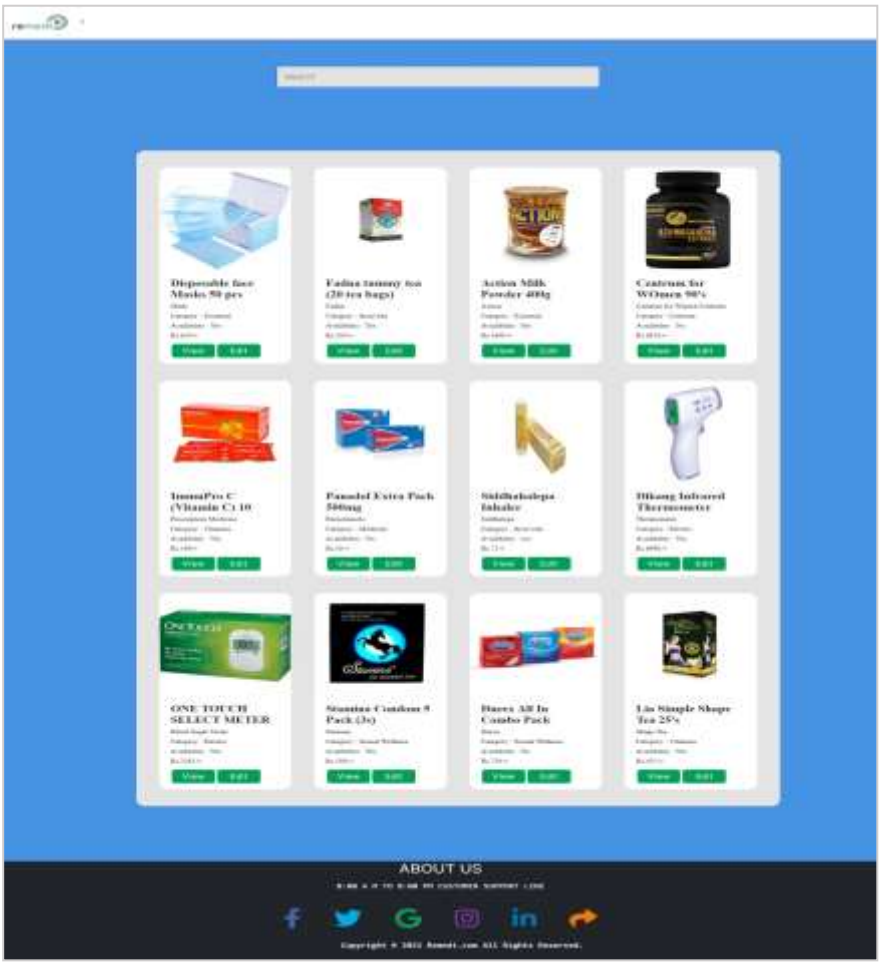


Figure - 2.2.3.18 User Interface for View Drug Stocks (Admin)

2.2.3.19 User Interface for Retrieve All Stocks from the DB & Generate Report (Admin)

Figure - 2.2.3.19 User Interface for Retrieve All Stocks from the DB & Generate Report(Admin)

2.2.3.20 User Interface for Add New Stock Items (Admin)

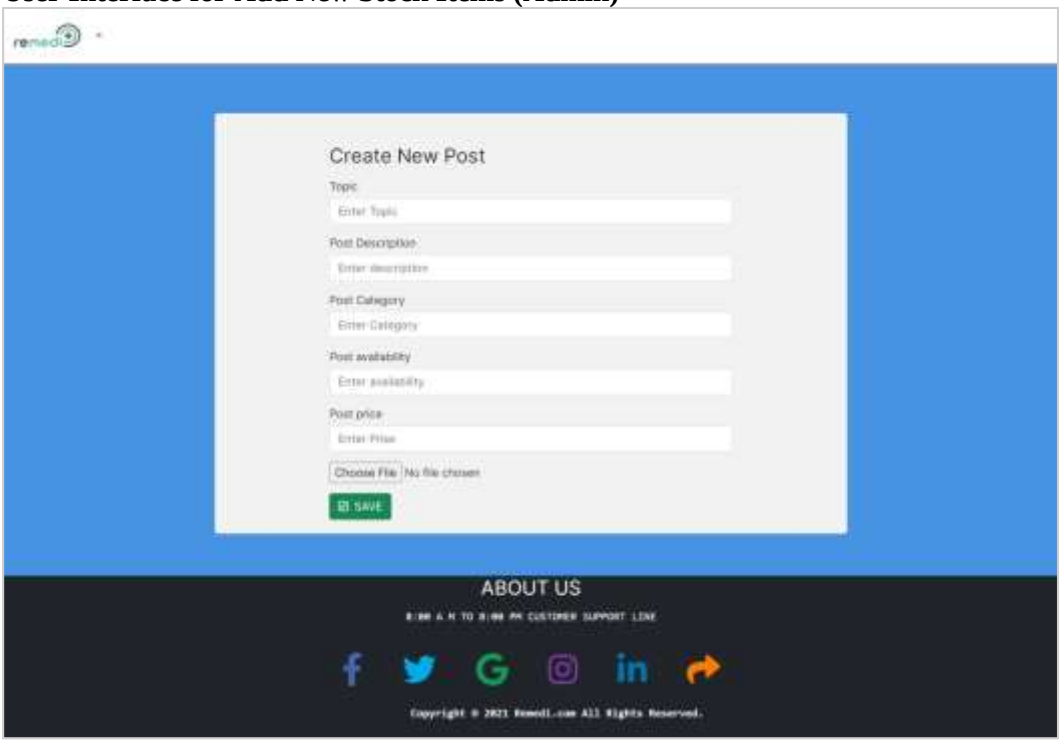


Figure - 2.2.3.20 User Interface for Add New Stock Items (Admin)

2.2.3.21 User Interface for Update Stock Item Details (Admin)

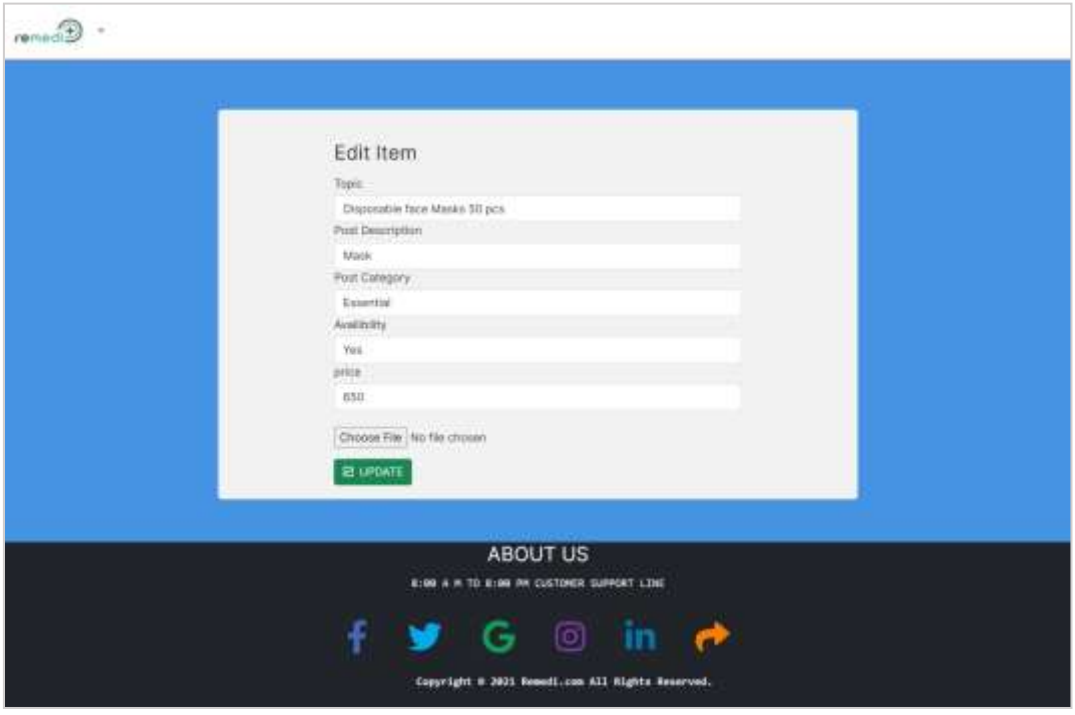


Figure - 2.2.3.21 User Interface for Update Stock Item Details (Admin)

ID/VISA
999867743

Address
Badulla

Gender
M

Blood Type
A-

Drug Stock

REMEDI
Colombo
Sri Lanka
DATE:- 2021-10-11
TIME:- 16:46:55

Product Name	Description	Categorey	Availability	Price
Disposable face Masks 50 pcs	Mask	Essential	Yes	650
Fadna tummy tea (20 tea bags)	Fadna	Ayurveda	Yes	200
Action Milk Powder 400g	Astron	Essential	Yes	1600
Centrum for WOmen 90's	Centrum for Women Centrum	Centrum	No	6850
ImmuPro C (Vitamin C) 10	Prescription Medicine	Vitamins	Yes	190
Panadol Extra Pack 500mg	Parasitomole	Medicine	No	20
Siddhahalepa Inhaler	Siddhalepa	Ayurveda	yes	75
Dikang Infrared Thermometer	Thermometer	Electric	Yes	6990
ONE TOUCH	Blood Sugar	Electric	Yes	2385

Figure - 2.2.3.22 User Interface for Generated Stock Report (Admin)

Purchase An Item

2.2.3.23 User Interface for Add Items to Cart (Customer)

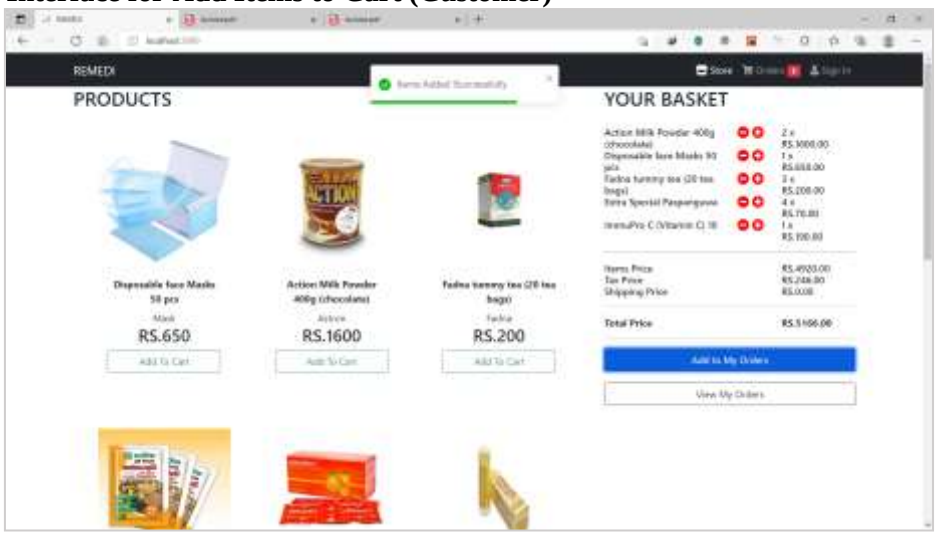


Figure - 2.2.3.23 User Interface for Add Items to Cart (Customer)

2.2.3.24 User Interface for Empty Cart Activity (Customer)

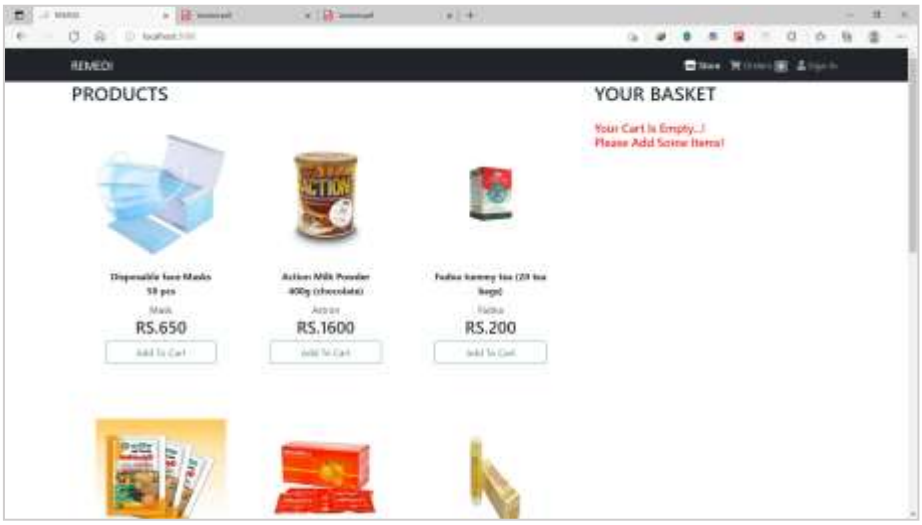


Figure - 2.2.3.24 User Interface for Empty Cart Activity (Customer)

2.2.3.25 User Interface for Customer's Purchase Order List (Customer)

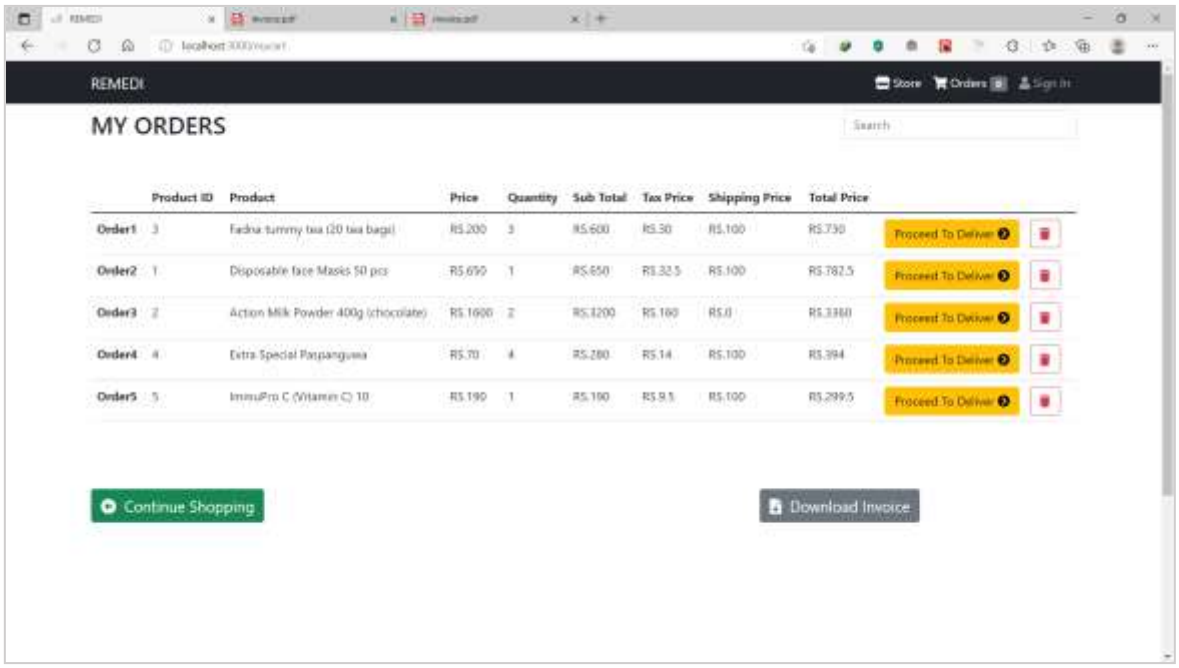


Figure - 2.2.3.25 User Interface for Customer's Purchase Order List (Customer)

2.2.3.26 User Interface for Generated Customer Invoice (Customer)

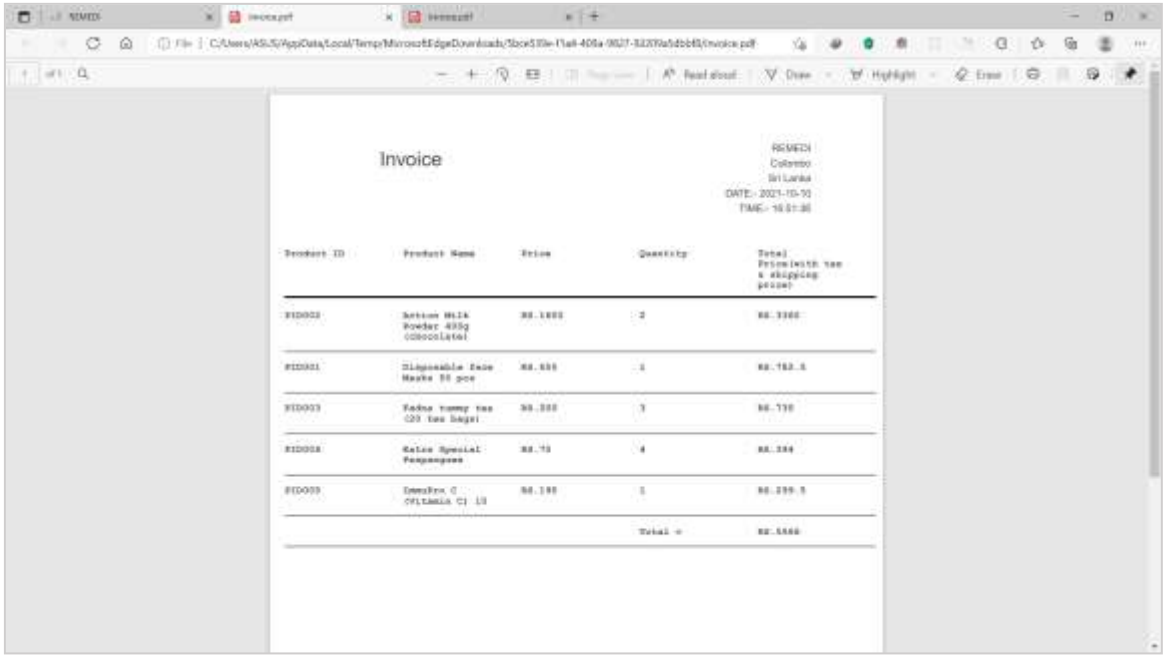


Figure - 2.2.3.26 User Interface for Generated Customer Invoice (Customer)

2.2.3.27 User Interface for Successfully Downloaded Status of the Invoice (Customer)

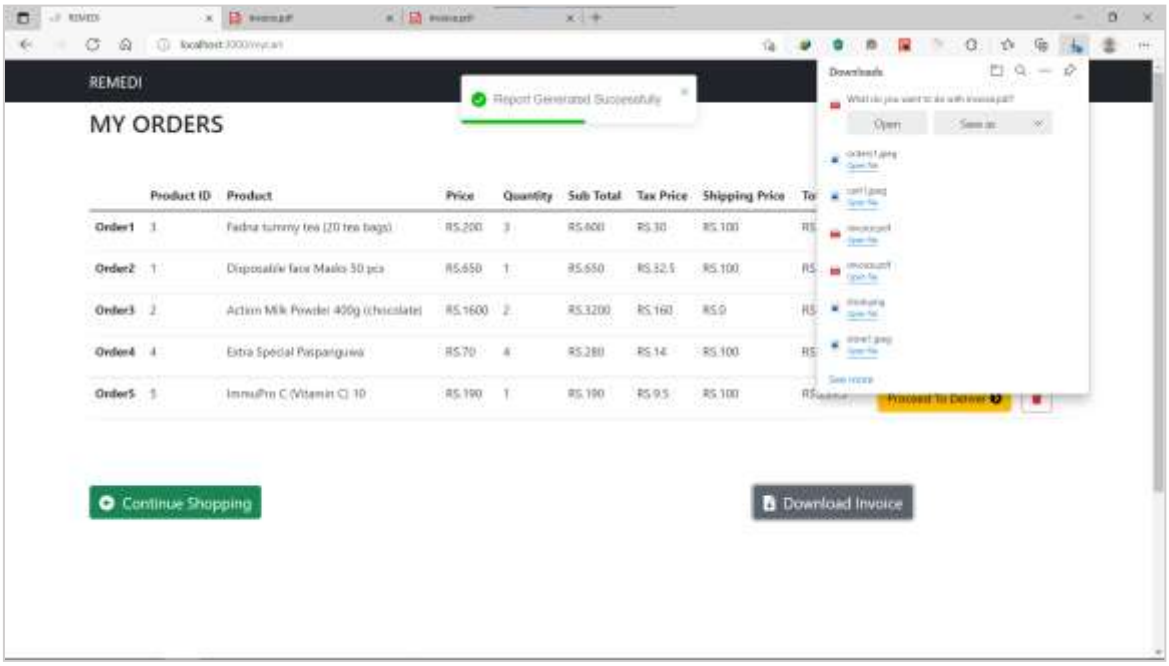


Figure - 2.2.3.27 User Interface for Successfully Downloaded Status of the Invoice (Customer)

Drug Item Reservation

2.2.3.28 User Interface for Upload Prescription (Customer)

Figure - 2.2.3.28 User Interface for Upload Prescription (Customer)

2.2.3.29 User Interface for Upload Prescription Validations (Customer)

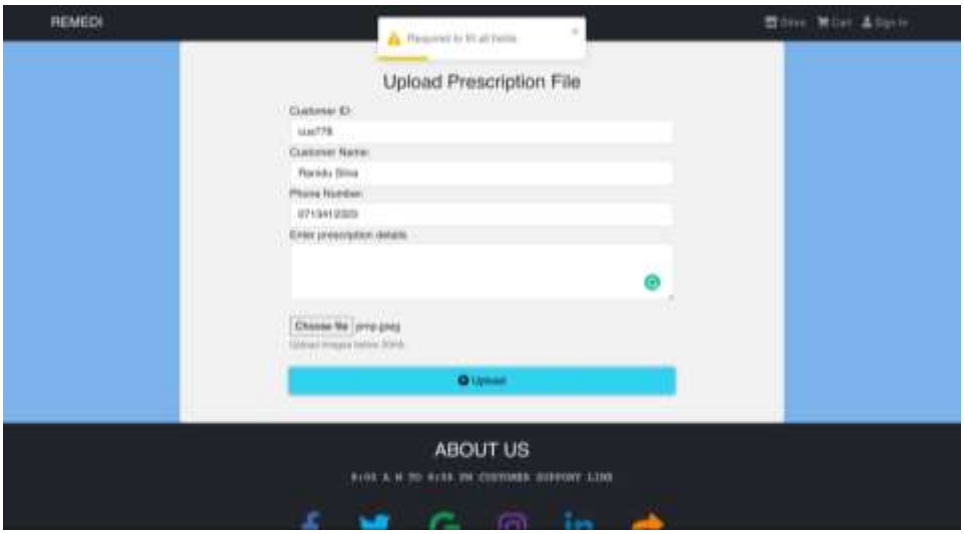


Figure - 2.2.3.29 User Interface for Upload Prescription Validation (Customer)

2.2.3.30 User Interface for Upload Successful Status (Customer)

Figure - 2.2.3.30 User Interface for Upload Successful Status (Customer)

2.2.3.31 User Interface for Change Details of the Uploaded Prescription (Customer)

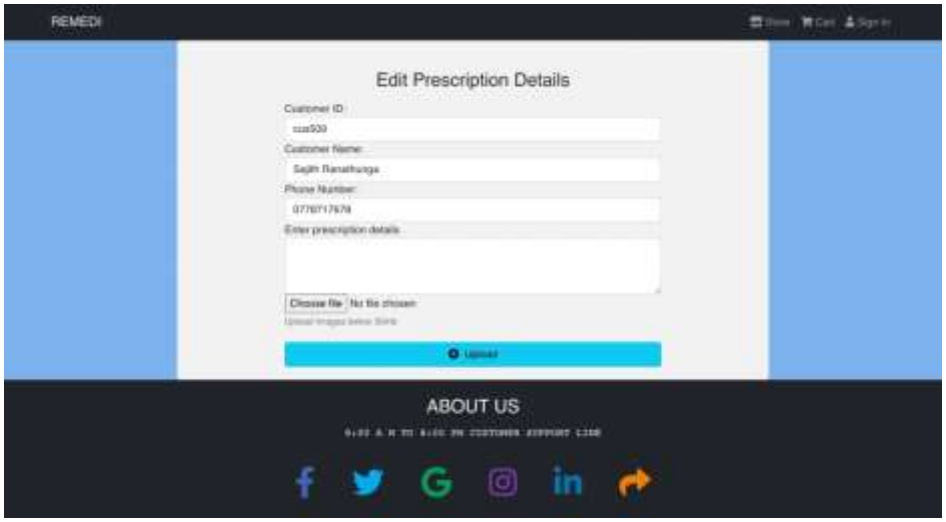


Figure - 2.2.3.31 User Interface for Change Details of the Uploaded Prescription (Customer)

2.2.3.32 User Interface for Retrieve All Uploaded Prescriptions (Admin)

Figure - 2.2.3.32 User Interface for Retrieve All Uploaded Prescriptions (Admin)

2.2.3.33 User Interface for Decide Validation of the Uploaded Prescription (Admin)

Figure - 2.2.3.33 User Interface for Decide Validation of the Uploaded Prescription (Admin)

2.2.3.34 User Interface for Invalid Prescription Table (Admin)

Figure - 2.2.3.34 User Interface for Invalid Prescription Table (Admin)

2.2.3.35 User Interface for Invalid Prescription Details (Admin)

Figure - 2.2.3.35 User Interface for Invalid Prescription Details (Admin)

2.2.3.36 User Interface for Valid Prescription Table (Admin)

Figure - 2.2.3.36 User Interface for Valid Prescription Table (Admin)

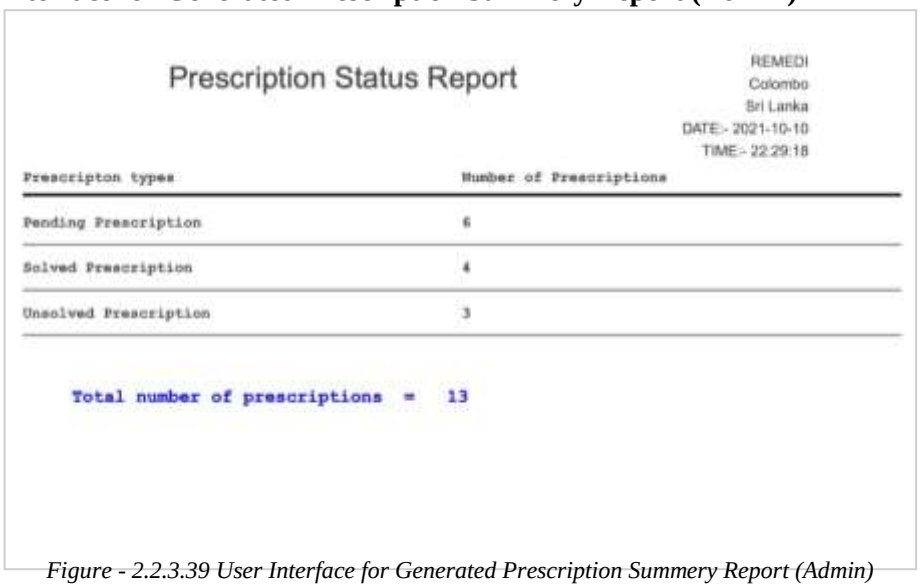
2.2.3.37 User Interface for Valid Prescription Detail (Admin)

Figure - 2.2.3.37 User Interface for Valid Prescription Detail (Admin)

2.2.3.38 User Interface for Generate Report Area (Admin)

Figure - 2.2.3.38 User Interface for Generate Report Area (Admin)

2.2.3.39 User Interface for Generated Prescription Summery Report (Admin)



Prescription Status Report

REMEDI
Colombo
Sri Lanka
DATE:- 2021-10-10
TIME:- 22:29:18

Prescripton types	Number of Prescriptions
Pending Prescription	6
Solved Prescription	4
Unsolved Prescription	3

Total number of prescriptions = 13

Figure - 2.2.3.39 User Interface for Generated Prescription Summery Report (Admin)

Access Purchase History

2.2.3.40 User Interface for Customer Favorite Item List (Customer)

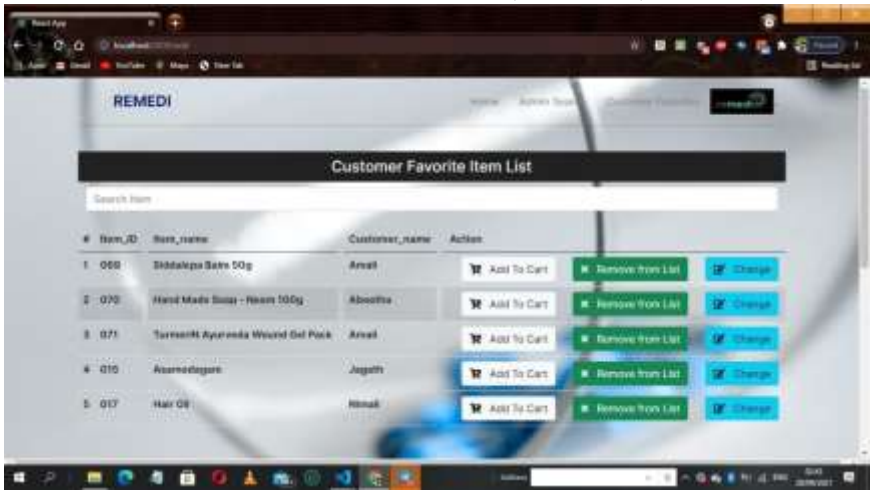


Figure - 2.2.3.40 User Interface for Customer Favorite Item List (Customer)

2.2.3.41 User Interface for Customer Transaction History List (Customer)

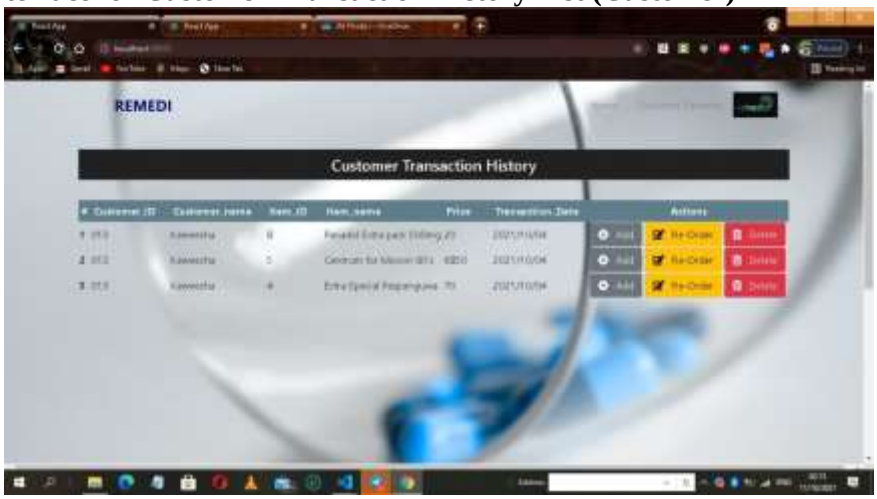


Figure - 2.2.3.41 User Interface for Customer Transaction History List (Customer)

2.2.3.42 User Interface for Search Specific Customers in Admin Panel (Admin)

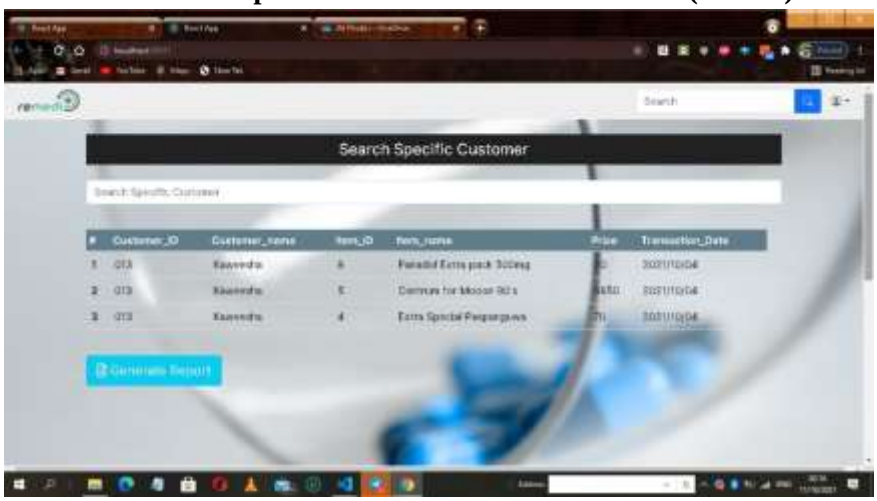
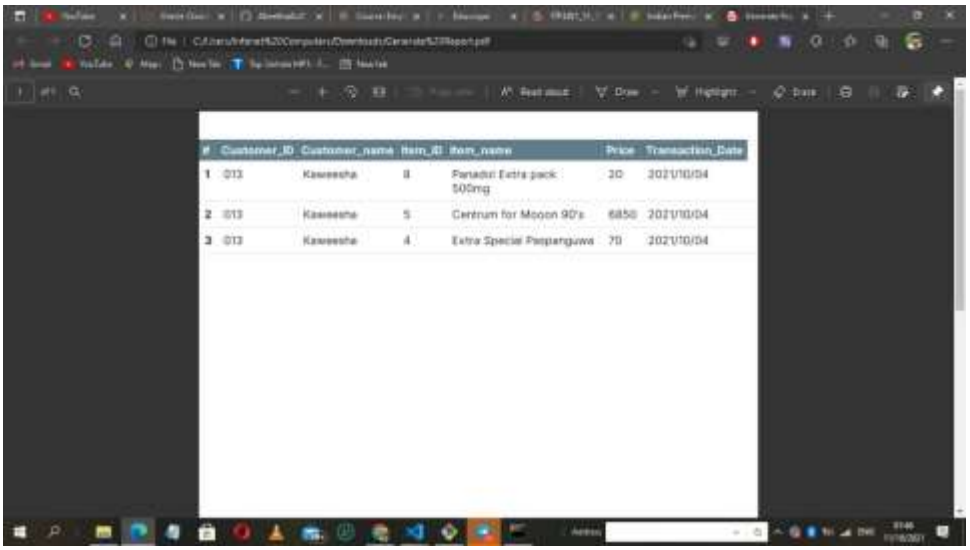


Figure - 2.2.3.42 User Interface for Search Specific Customers in Admin Panel (Admin)

2.2.3.43 User Interface for Generated Customer Transaction History Report (Admin)



#	Customer_ID	Customer_name	Item_ID	Item_name	Price	Transaction_Date
1	013	Kaweesha	8	Panadol Extra pack 500mg	20	2021/10/04
2	013	Kaweesha	5	Centrum for Mooon 90's	6850	2021/10/04
3	013	Kaweesha	4	Extra Special Pepperguwa	70	2021/10/04

Figure - 2.2.3.43 User Interface for Generated Customer Transaction History Report (Admin)

2.2.3.44 User Interface for Generate Report Area (Admin)

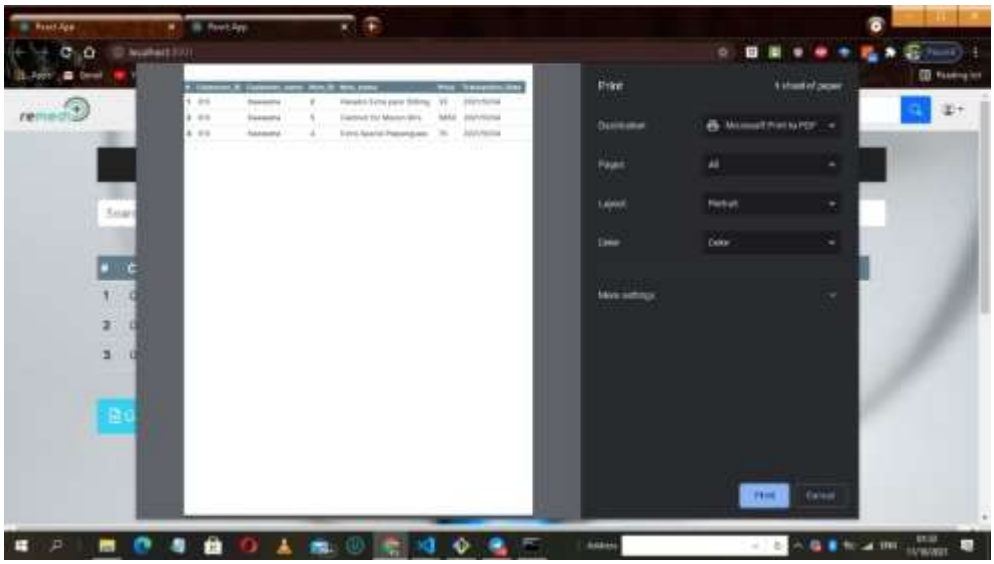


Figure - 2.2.3.44 User Interface for Generate Report Area (Admin)

Item Delivery

2.2.3.45 User Interface for Get Customer Location & Order Detail Summery (Customer)

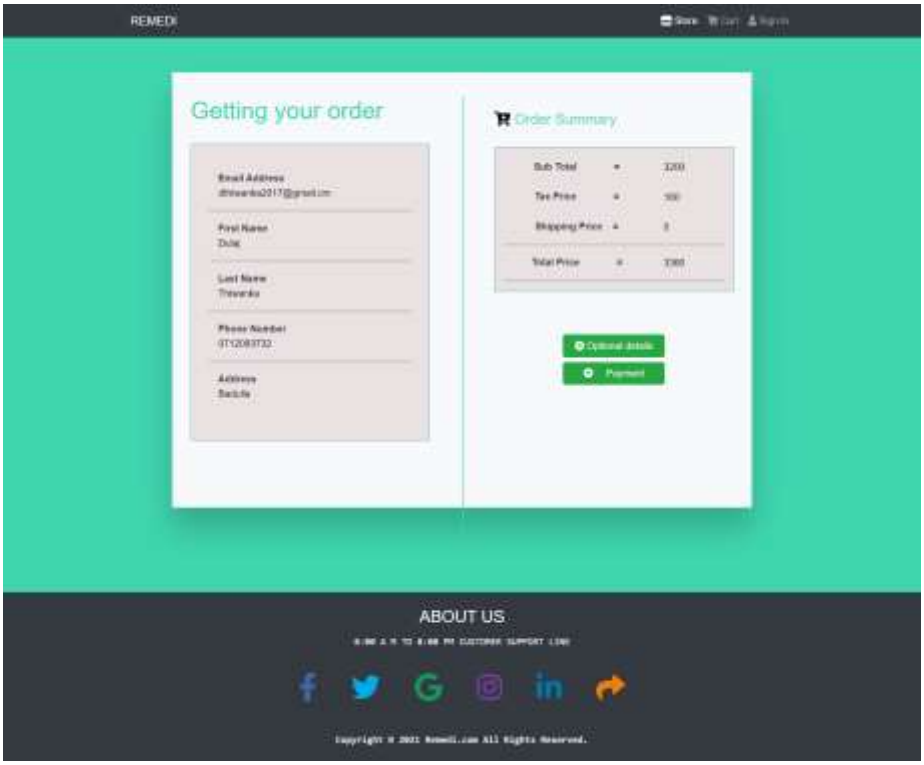


Figure - 2.2.3.45 User Interface for Get Customer Location & Order Detail Summery (Customer)

2.2.3.46 User Interface for Add Optional Location Details (Customer)

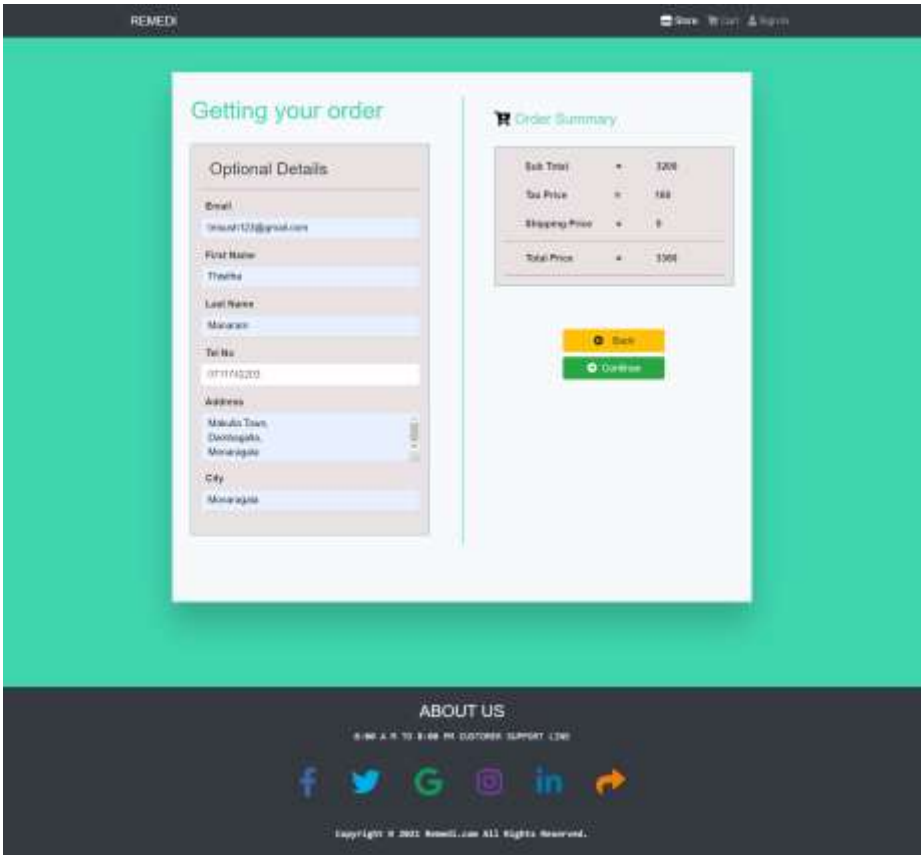


Figure - 2.2.3.46 User Interface for Add Optional Location Details (Customer)

2.2.3.47 User Interface for Update Optional Location Details (Customer)

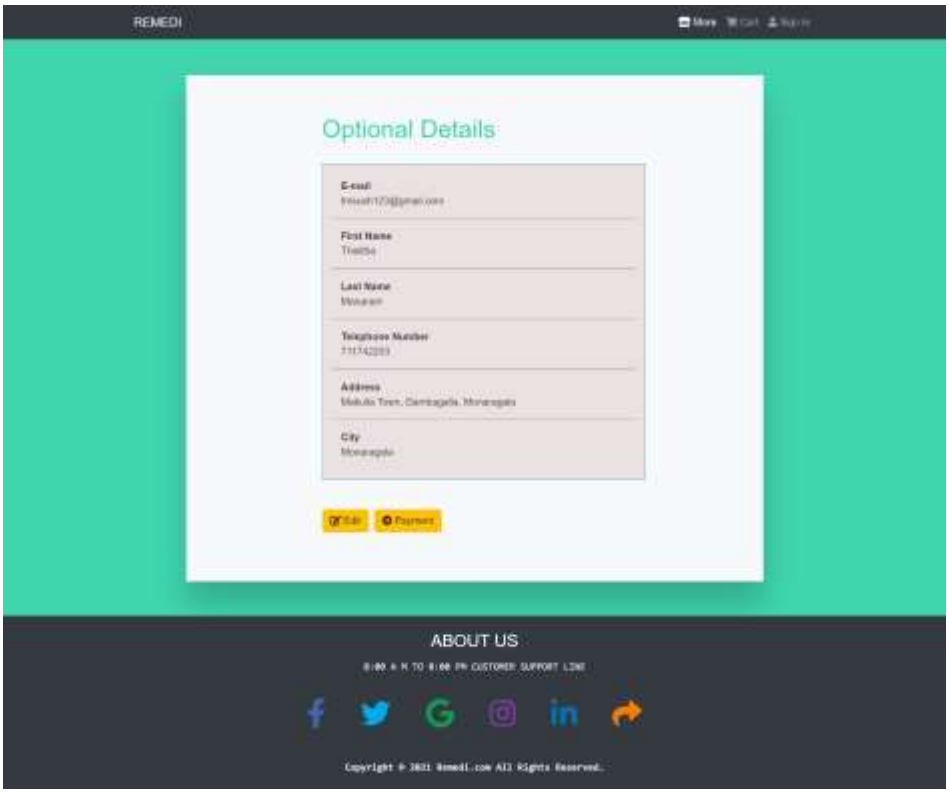


Figure - 2.2.3.47 User Interface for Update Optional Location Details (Customer)

2.2.3.48 User Interface for Update & Comfirm Location Information (Customer)

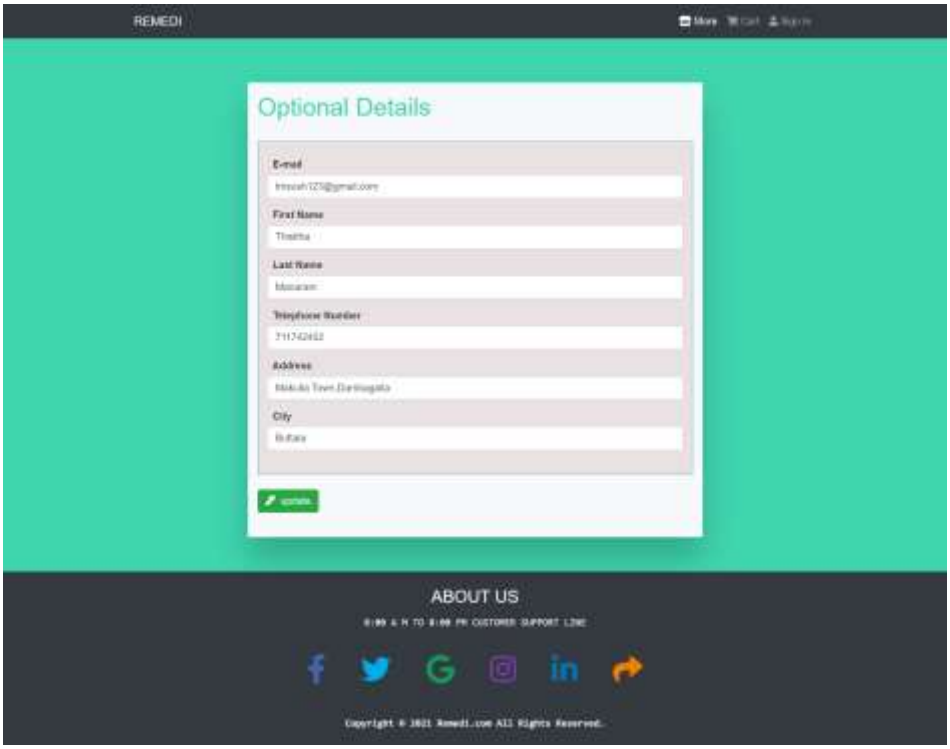


Figure - 2.2.3.48 User Interface for Update & Comfirm Location Information (Customer)

2.2.3.49 User Interface for Retrieve All Customer Order (Admin)

Figure - 2.2.3.49 User Interface for Retrieve All Customer Order (Admin)

2.2.3.50 User Interface for Filter & Generate Report Area (Admin)

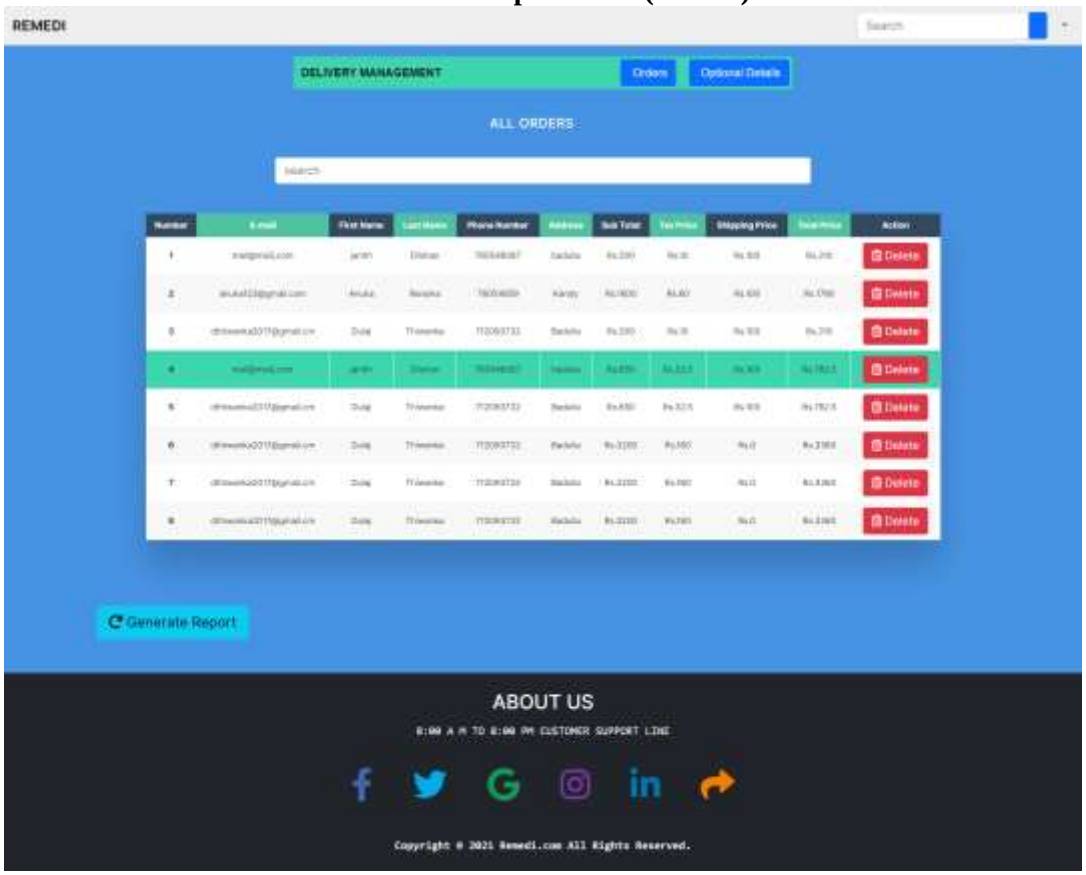


Figure - 2.2.3.50 User Interface for Filter & Generate Report Area (Admin)

2.2.3.51 User Interface for Generate Delivery Report (Admin)

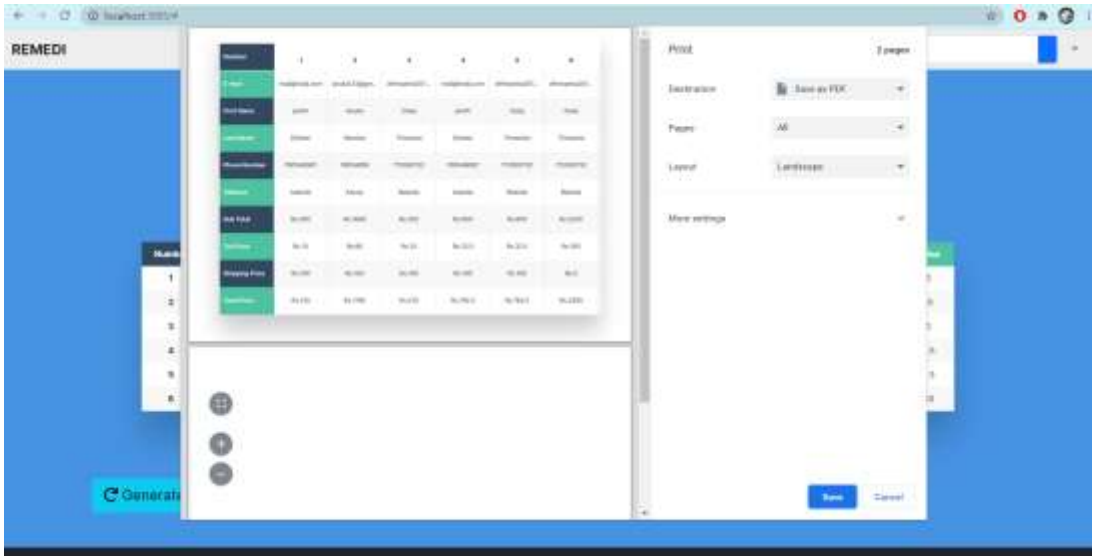


Figure - 2.2.3.51 User Interface for Generate Delivery Report (Admin)

2.2.3.52 User Interface for Generated Delivery Report (Admin)

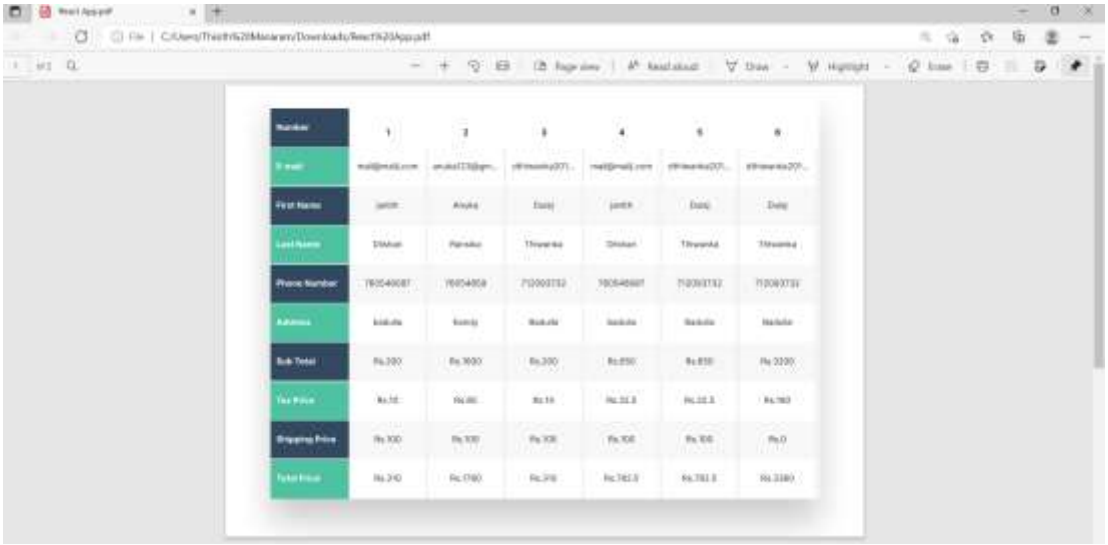


Figure - 2.2.3.52 User Interface for Generated Delivery Report (Admin)

2.2.3.53 User Interface for Add Customer Inquiry (Customer)

Figure - 2.2.3.52 User Interface for Add Customer Inquiry (Customer)

2.2.3.54 User Interface for Add Customer Feedback (Customer)

Figure - 2.2.3.52 User Interface for Add Customer Feedback (Customer)

2.2.3.55 User Interface for Edit & Delete Customer Inquiries (Customer)

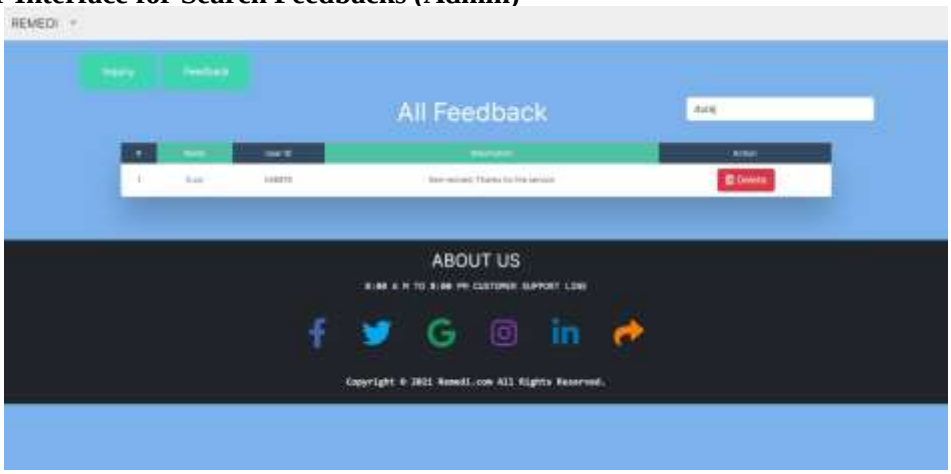
Figure - 2.2.3.52 User Interface for Edit & Delete Customer Inquiries (Customer)

2.2.3.56 User Interface for (Customer)

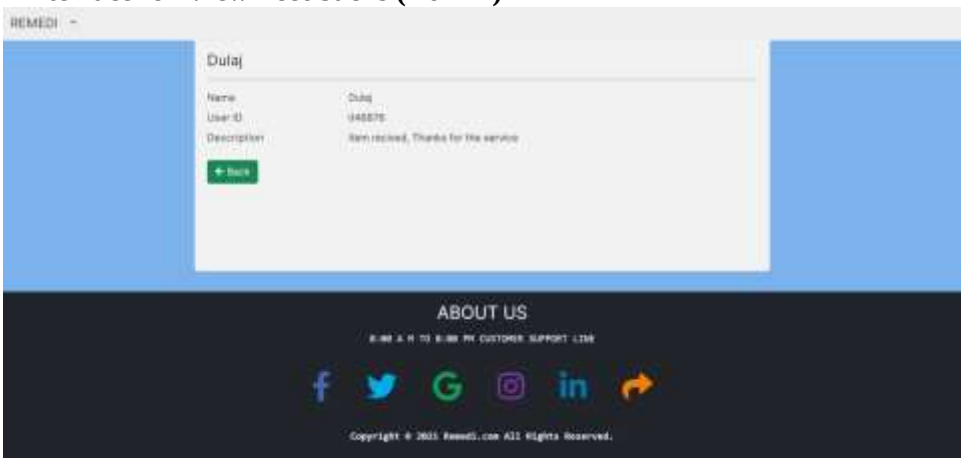
2.2.3.57 User Interface for Display Delete Notification (Customer)

2.2.3.58 User Interface for Retrieve Feedbacks (Admin)

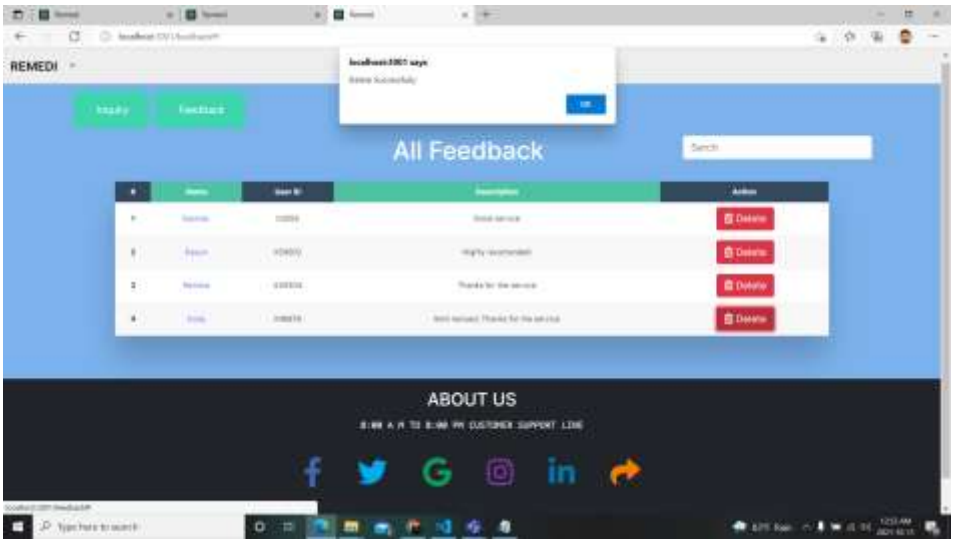
2.2.3.59 User Interface for Search Feedbacks (Admin)



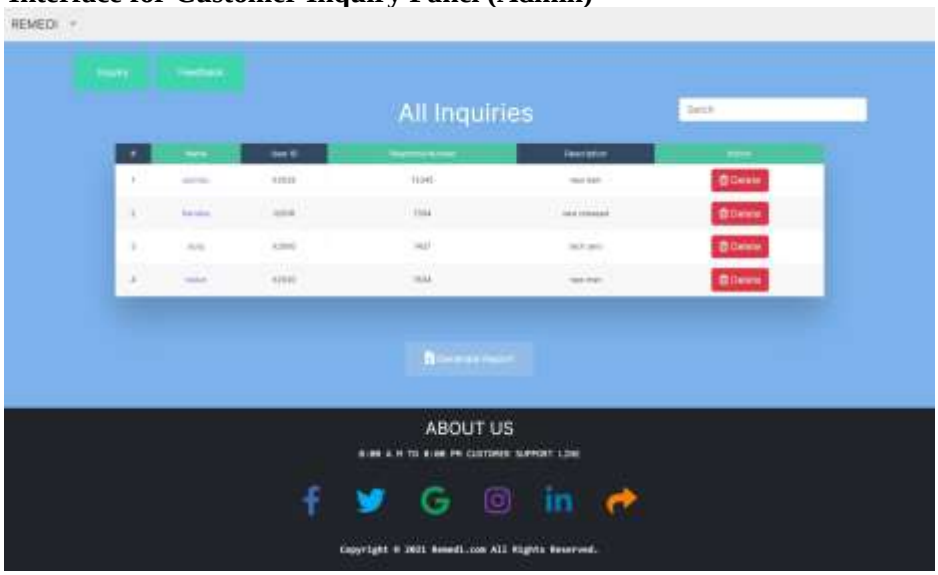
2.2.3.60 User Interface for View Feedbacks (Admin)



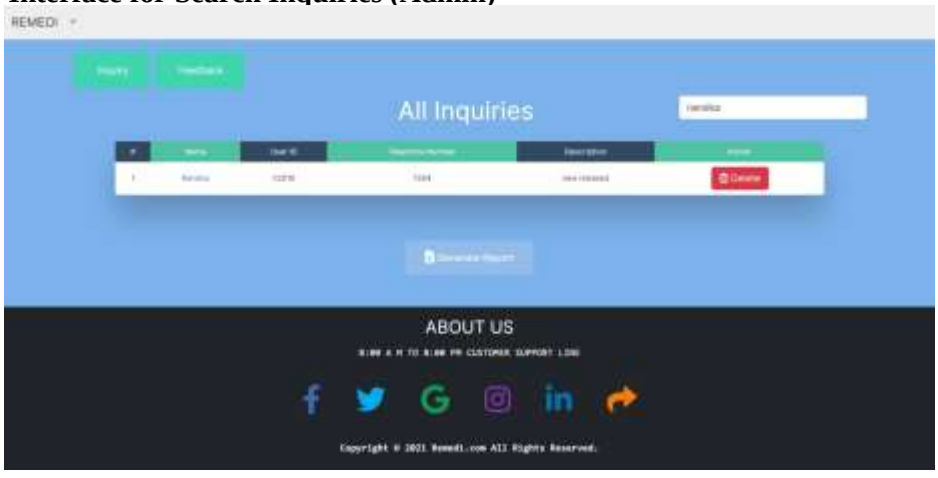
2.2.3.61 User Interface for Delete Feedbacks (Admin)



2.2.3.62 User Interface for Customer Inquiry Panel (Admin)

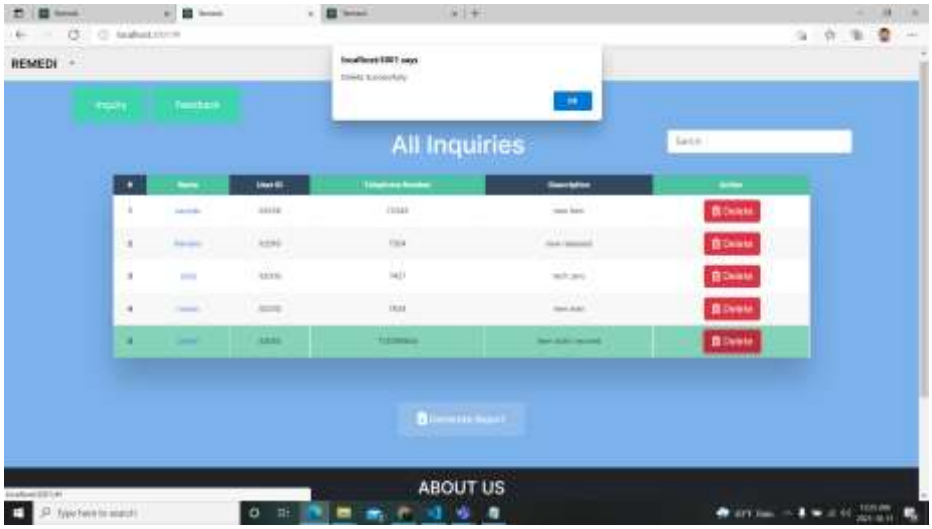


2.2.3.63 User Interface for Search Inquiries (Admin)



2.2.3.64 User Interface for View Customer Inquiry (Admin)

2.2.3.65 User Interface for Delete Customer Inquiry (Admin)



2.2.3.66 User Interface for Generate Inquiry Report (Admin)

2.3 Implementation

The web application of Healthymart pharmacy online pharmaceutical ordering system was developed using MERN Stack technology. The MERN Stack uses four technologies as MongoDB, Express, React and Node. The Implementation environment software is made in Visual code. Visual code provides a user-friendly environment for project development.

Choice of Programming Language

MERN Stack technology has been used. JavaScript and JSON is used in MERN technology and MongoDB is used as a database document.

- The MERN design makes it simple to build a three-tier architecture (frontend, backend, and database) using only JavaScript and JSON.

- The document model in MongoDB is simple to learn and use for developers, while still delivering all of the capabilities needed to handle the most complicated requirements at any scale.

Technology

- MongoDB - document database
- Express(.js) - Node.js web framework
- React(.js) - a client-side JavaScript framework
- Node(.js) - the premier JavaScript web server

2.4 Testing

Customer Handling

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Description
	Fill all the input fields without filling First-Name	Pop up Please fill the First Name warning on first name input field	Pop up Please fill the First Name warning on first name input field	Pass	To Successfully Register to the system customer need to full-fill the Form.
	Enter Numbers as input Fields in Form	Pop-up warning massage to show incorrect input.	Pop-up warning massage to show incorrect input.	Pass	There are no input Fields to Get Numbers as input.
	In the Form User Input 2 different Inputs to Password and Retype Password	The Form Will Pop a Toast Message Password are Incorrect	The Form Will Pop a Toast Message Password are Incorrect	Pass	To successfully Register to the System User Must Enter Same Password to Retype Password Area.
	In the Customer Sie Profile Update Area Customer Input Invalid Inputs to the Form.	Popup, Please Enter Valid Details as an Alert (Toast Message)	Successfully Updated	Fail	To successfully Update The customer Details Customer Must Enter Valid Inputs.
	In the Admin User Update Area Admin Input Invalid Inputs to the Form.	Popup, Please Enter Valid Details as an Alert (Toast Message)	Popup, Please Enter Valid Details as an Alert (Toast Message)	Pass	To successfully Update The customer Details Admin Must Enter Valid Inputs

Admin Access

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Description
OPOS_KA1	**USERNAME:** systemadmin@gmail.com **PASSWORD:** systemadmin@2021	Redirect to admin panel with displaying '**Login Successful**' toast message	Redirect to admin panel with displaying '**Login Successful**' toast message	Pass	Validate System admin login with valid credentials
OPOS_KA2	**USERNAME:** systemadmin@gmail.com **PASSWORD:** systemadmin	Display warning toast message with '**Invalid system admin authentication** ' message	Display warning toast message with '**Invalid system admin authentication**' message	Pass	Validate System admin login with invalid credentials
OPOS_KA3	**USERNAME:** system@gmail.com **PASSWORD:** systemadmin@2021	Display warning toast message with '**Please enter authorized email**' message	Display error toast message with '**Invalid system admin authentication**' message	Fail	Validate System admin login with invalid email
OPOS_KA4	**BRANCH ID:** A0014 **BRANCH USERNAME:** b03jaffna **BRANCH EMAIL:** b03jaffna@gmail.com **PASSWORD:** Branch03@j **COMFIRM PASSWORD:** Branch03@j	System should display success toast message '**New admin data successfully inserted**' with creating a new admin in the DB and redirect to the admin panel	System should display success toast message '**New admin data successfully inserted**' with creating a new admin in the DB and redirect to the admin panel	Pass	Validate new admin create function with inserting valid data
OPOS_KA5	**BRANCH ID:** A0014 **BRANCH USERNAME:** b03jaffna **BRANCH EMAIL:** b03jaffna@gmail.com **PASSWORD:** Branch03@j **COMFIRM PASSWORD:** Branch03j	Display warning toast message called '**Password Mismatch**' and reload same page	Display warning toast message called '**Password Mismatch**' and reload same page	Pass	Validate new admin create function with inserting two different passwords

OPOS_KA6	Submit empty form **BRANCH ID:** **BRANCH USERNAME:** **BRANCH EMAIL:** **PASSWORD:** **COMFIRM PASSWORD:**	Display warning toast message called '**Required to fill all fields**'	Display warning toast message called '**Required to fill all fields**'	Pass	Validate new admin create function with submit empty fields form

Drug Stock Handling

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Description
OPOS_SD1	Fill all input fields without Image uploading	Pop-up warning massage, to upload image	Pop-up warning massage, to upload image	Pass	To check the required fields, all fields should be filled with image.
OPOS_SD2	Enter invalid details to Product name (Fill with numbers)	Pop-up warning massage to show incorrect input.	Successfully added	Fail	To check whether input validations are properly working
OPOS_SD3	Upload Image in different types	Only PNG and JPEG formats images can be uploaded	Only PNG and JPEG formats images can be uploaded	Pass	To check the types of images that are uploaded to the system.
OPOS_SD4	Edit the availability of the product	Successfully updated and display pop-up massage	Successfully updated and display pop-up massage	Pass	To check update function of the product
OPOS_SD5	Add new products more than 30	Successfully uploaded, No any limits	Successfully uploaded	Pass	To check if there is a limit of number of image uploading. (to check Payload too large error)

Purchase an Item

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Description
OPOS_NP1	Add items to the cart	View the added items in right side corner.	View the added items in right side corner.	Pass	Check whether items are adding to the cart successfully.
OPOS_NP2	Click + icon 5 times of the cart item	Cart item quantity & total price is updated successfully.	Cart item quantity & total price is updated successfully.	Pass	Check the success of update item quantity function.
OPOS_NP3	Delete Orders	Notify Order Deleted via a toast message	Notify Order Deleted via a toast message	Pass	Check the success of delete order function.

Drug Item Reservation

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Description
OPOS_RD1	Only upload photo of a prescription without entering customer details	Pop up warning message	Pop up warning message	Pass	To check if the system accepts null input values
OPOS_RD2	Enter invalid details for customer input details	Not accepting invalid details, and a popup message	Customer phone number input field accepts wrong inputs	Fail	To check whether input validations are properly working
OPOS_RD3	Upload photos (for 30 times)	Not having a limit	Upload photo failed when reaching 23rd upload (Payload too large error occurred)	Fail	To check if there's a limit or how many photo uploads can handle by the system
OPOS_RD4	Edit and update details	Successfully edit data and a popup message	Successfully edit data and a popup message	Pass	To check edit function is working properly
OPOS_RD5	Upload deferent format types of photos	Successfully uploading to the data base	Only PNG and JPEG formats can be uploaded to the system	Pass	To check what are the types of image formats accepted by the image uploading function

Access Purchase History

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Description
0P0S GA_01	Add item for favorite table	Item Added Successfully message	Item Added to the favorite table	Pass	Check that given field successfully Added to the favorite item table
0P0S GA_02	Remove Transaction history	Remove successfully message	Remove successfully record	Pass	Check the delete given row of transaction history
0P0S GA_03	Update customer favorite item name	Update favorite item name of the customer	Updated record	Pass	To Check the update function of the favorite item
0P0S GA_04	Search Customer using wrong name	Display empty record	Display empty record	Pass	Check the output of data which are not in the database

Item Delivering

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Description
OPOS_MD1	E-mail : thisitham123@gmail.com First Name : Thisitha Last Name : Manaram Tel No : 0711742203 Address : Makulla town,Dambagalla, Monaragala City : Monaragala	System should save the details,and display successfully message. Redirect to the display optional details page.	Expected output.	Pass	To check the create function working properly (client side)
OPOS_MD2	E-mail : First Name : Thisitha Last Name : Manaram Tel No : Address : Makulla town,Dambagalla, Monaragala City : Monaragala	System should not save the details, and not redirect to the display optional details page.	Expected output.	Pass	To check some validations of create function (client side)
OPOS_MD3	update some of the data above optional details	System should update the only updated details and redirect to the display details page.	Expected output.	Pass	To check the update function working properly (client side)
OPOS_MD4	Search orders using customers address.	The searched address is filtered and displayed.	Expected output.	Pass	To check search orders Function working properly (Admin panel)

OPOS_MD5	Enter the wrong type email address like this manaram.gmail.com	System should not save the details,and display Error message not redirect to any page.	System should save the details,and display successfully message. Redirect to the display optional details page.	Fail	To check the system should check correct type of Email address (Admin panel)
OPOS_MD6	Delete a customer order in order table.	Delete the selected order and display Successfully message.	Expected output.	Pass	To check the delete function is working properly. (Admin panel)

Manage Customer Inquiries & Feedback

Test ID	Test Input	Expected Output	Actual Output	Result (Pass/Fail)	Description
OPOS_JI1	Skip enter some data in customer inquiry and customer feedback function	Pop up warning message	Pop up warning message	Pass	To check if the system accepts null input values
OPOS_JI2	Enter invalid details for customer Inquiry and Feedback input details	Not accepting invalid details, and a popup message	Customer input field accepts wrong inputs	Fail	To check whether input validations are properly working
OPOS_ JI3	In customer inquiry update page try to update details and redirect to inquiry home page	Update details and redirect to customer inquiry home page	Update details but didn't redirect to inquiry home page	Fail	To check whether redirect in to inquiry page is working after completing the update
OPOS_ JI4	Edit and update details	Successfully edit data and a popup message	Successfully edit data and a popup message	Pass	To check edit function is working properly
OPOS_ JI5	Delete inquiry and feedback in admin page	Successfully delete data from database	Successfully delete data from database	Pass	To check delete function is working properly

3. Conclusion

Healthymart pharmacy is one of the famous pharmacies in Sri lanka. “Remedi” Online Pharmaceutical Ordering web application is our recent implementation to connect with our valuable customers including brand new features. In the future we hope to improve the deliver side, add an online tracking system, add progress bar and further improve the security. One of the fewest mistakes of our system is lack of payment methods and we are planning to introduce more secure and faster payment methods. This project will highly be benefited to Healthymart Pharmacy because the system is very user friendly and highly optimized and many more things. Stay connected with our web application project to improve more and gain more benefits.

4. References

1. **Stack Overflow -** Stack Overflow – Where Developers Learn, Share & Build Careers
2. **You Tube -** YouTube
3. **W3 School -** W3 School Online Web Tutorial
4. **Bootstrap -** Bootstrap 3
5. **GitHub -** GitHub
6. **React -** JavaScript library for building user interfaces
7. **Mongoose -** Mongoose ODM v6.0.10

Appendix A: Design Diagrams

<Include the main UML diagrams in the main text and supplementary design diagrams can be included here>

Appendix B: Test Results

<Additional test result tables and figures can be included here>

Appendix C: Selected Code Listings

<Code of special algorithms implemented can be included here>

Test Case For Admin Access