Re-Wear
(Upgrading Sustainable fashion)

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Final Approval

This is to certify that we have read the report submitted by **Muhammad Talha Masood (SAP Id:29423)**, **Sfwan Ali (SAP Id: 13408)** for the partial fulfillment of the requirements for the degree of the Bachelors of Science in Software Engineering (BSSE). It is our judgment that this report is of sufficient standard to warrant its acceptance by Riphah International University, Islamabad for the degree of Bachelor of Science in Software Engineering (BSSE).

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(Head of Department/chairman)

Declaration

We hereby declare that this document **“Re-Wear (Upgrading Sustainable Fashion)”** neither as a whole nor as a part has been copied out from any source. It is further declared that we have done this project with the accompanied report entirely based on our personal efforts, under the proficient guidance of our teachers especially our supervisor **Engr Ahmad Nawaz**. If any part of the system is proved to be copied out from any source or found to be reproduction of any project from anywhere else, we shall stand by the consequences.

Muhammad Talha Masood
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Dedication

We dedicate this project to Allah Almighty our creator, our strong pillar, our source of inspiration, wisdom, knowledge and understanding. He has been the source of our strength throughout this program. Also, we dedicate our work to our family, friends and teachers. The unrivalled encouragement from our parents and outstanding support from teachers is what lead to success of this project. We also dedicate our work to our supervisor **Engr Ahmad Nawaz** and the faculty members.

Acknowledgement

First of all, we are obliged to Allah Almighty the Merciful, the Beneficent and the source of all Knowledge, for granting us the courage and knowledge to complete this Project.

We are grateful to our supervisor **Engr Ahmad Nawaz** for his enthusiasm, patience, insightful comments, helpful information, practical advice, and unceasing ideas that always helped us tremendously in our project. Without his support and guidance, this project would not have been possible. Also, a special thanks to the rest of the faculty members for their unconditional support

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Abstract

"Re-Wear Upgrading Sustainable Fashion introduces a comprehensive online platform that reimagines consumer engagement with second-hand clothing and tailoring services." The marketplace prioritizes quality and affordability by curating a varied variety of pre-owned clothes products such as wedding gowns, groom dresses, shirts, jeans, sarees, shoes, accessories, and more. Users can benefit from quick tailoring options for customized fits and changes, delivering an excellent purchasing experience. The tailor can also showcase his work and buyers can bid and purchase. Re-Wear improves accessibility by offering installment payment choices, supporting sustainable fashion practices, and providing customers with a smooth and personalized shopping experience. Re-Wear transforms the apparel business by allowing people to make eco-conscious choices while enjoying a personalized shopping experience.

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Chapter 1

INTRODUCTION

In today's fashion industry, sustainability is a major problem. "Re-Wear Upgrading Sustainable Fashion" provides a solution by changing the way buyers interact with secondhand clothes and tailoring services. This introduction emphasizes the platform's creative approach to promote sustainable fashion standards while offering consumers a smooth purchasing experience.

1.1. OPPORTUNITY AND STAKEHOLDER

"Re-Wear Upgrading Sustainable Fashion" is a complete online platform that changes the way people engage with second-hand clothes and tailoring services. The portal provides a wide range of pre-owned clothes goods, carefully selected for quality and cost such as wedding gowns, groom dresses, shirts, pants, sarees, shoes, accessories, and more. Users have access to quick tailoring services, which enable specific fits and alterations to ensure a perfect fit. The tailor can also showcase his work which will allow buyer to bid and purchase that product. The integration of monthly payment alternatives improves client affordability and accessibility. "Re-Wear" strives to promote sustainable fashion practices while also providing customers with a seamless and personalized purchase experience. By putting these products on an accessible platform, "Re-Wear" helps to reduce clothing waste and promote environmental sustainability in the fashion sector.

1.1.1. Stakeholders

1.1.1.1. **Administrators**

They will have the opportunity and authority to manage the user and products.

1.1.1.2. **Buyer**

They are individuals who want to be stylish without harming their pocketbook by searching for affordable, trendy clothing.

1.1.1.3. **Seller**

Users who want to earn money from gently used items can sort through their wardrobes with Re-Wear.

1.1.1.4. **Tailor**

These are the individuals who the site offers to help close the gap between perfectly fitting garments and gently used items.

1.2. Motivation & Challenges

Motivation:

The goal of "Re-Wear Upgrading Sustainable Fashion" is to solve social and environmental difficulties in fashion sector by supporting environmentally friendly practices through an online marketplace that provides superior second-hand clothes and tailoring services.

Challenges:

The hurdles for "Re-Wear Upgrading Sustainable Fashion" include negotiating diverse second-hand marketplaces, assuring access to specialized services, and overcoming ingrained customer preferences for new apparel.

1.3. SOLUTION OVERVIEW

Our Proposed Solution is a Re-Wear Web Application for Upgrading Sustainable Fashion which provides a solution for the following:

- Seeks to create a unique online Buying and Selling platform that reimagines the fashion industry's approach to second-hand clothes and tailoring services.

- The tailoring services that allow clients to modify their clothing based on their unique needs and preferences, resulting in personalized fits and adjustments for increased comfort and style.

- The flexible installment payment alternatives allow customers to manage their purchases based on their budgetary limits and preferences.

1.3.1. Project Scope

Re-Wear have four main modules which are then subdivided into multiple submodules.

Admin Module

Authentication

- Admin can login to the system.
- Admin will also be able to change their passwords through forgot password functionality.

- Admin will be able to block/unblock user's profile.
- Admin should be able to maintain tracking records of buyer's & seller's orders.
- Admin should be able to answer user's queries.

Seller Module

Authentication

- Seller can login to the system.
- Seller will also be able to change their passwords through forgot password functionality.

- Seller will be able to sell products after getting verified.
- Seller will be able to keep track of their selling orders.
- Seller will be able to chat with buyer.

Product Management

Different Product will be managed by the Seller.

Order Management

Number of Order on Panel will be viewed and the reports will be generated by the Seller and Tailor.

Buyer Module

Authentication

- Buyer can login to the system.
- Buyer will also be able to change their passwords through forgot password functionality.

- Buyer will be able to search and filter products/items by their price, time (latest, old).
- Buyer will be able to explore products from different categories.
- Buyer will be able to use tailor service on specific products (event dresses) for alteration by providing their measurements according to product nature.
- Buyer will be able to place order and pay for product, using card or cash on deliver.
- Buyer will be able to pay through instalment plans through credit card.

Tailor Module

Authentication

- Buyer can login to the system.
- Buyer will also be able to change their passwords through forgot password functionality.

- Tailor will be able to receive orders
- Tailor will be able to acknowledge the orders status as taken, completed, can’t take.
- Buyer will be able to call tailor for pricing and timing.
- Tailor will be able to showcase his work and buyer can bid and purchase it.

Profile Management

Buyers, Seller and Tailor profile will be able to manage to their profile details i.e. name, email, picture and password.

Buyer Module

Product Searching

Buyer will be able to search Product.

Product Filtering

Buyer will be able to filtered Product by category.

View Profile

Seller and Tailor profile will be viewed by Buyer.

1.4. REPORT OUTLINE

This report covers the detail of all aspects of the system, for understanding and clarity. This report has been divided into five chapters.

1.4.1. Chapter 1

This chapter introduces our system, it covers the opportunity we are looking for while building the system, Motivation and challenges, overview of the proposed solution and scope of the system.

1.4.2. Chapter 2

This chapter focuses on the current situation of the market including the market survey, and how our system stands out tall from all the other systems.

1.4.3. Chapter 3

This chapter is all about need analysis as it examines the real requirements, problem scenario addressed by the developed system and, quality assurance techniques upon requirements. It also identifies the real user of the system and those affected by the system.

1.4.4. Chapter 4

This chapter provides all the information related to design factor of the developed system by describing the system architecture design consideration, detailed design containing different diagrams that model the working behavior of the system and quality assurance upon design.

1.4.5. Chapter 5

This chapter keeps track of the information related to the actual development of the system by describing the system flow and the environment in which the proposed system was developed.

Chapter 2

Literature/Market Survey

Chapter 2

LITERATURE/MARKET SURVEY

2.1. INTRODUCTION

The existing system encourages the manufacturing and purchase of products such as bicycles, laptop computers, automobiles, and other goods, while placing minimal attention on sustainable clothing methods. Meanwhile, those that do focus on sustainable apparel face several constraints, including high shipping costs and other logistical obstacles. This mismatch highlights a substantial market gap in which sustainable fashion is undervalued and may encounter accessibility and cost challenges. As a result, there is an urgent need for the fashion industry to adopt a more sustainable approach that addresses social concerns and promotes ethical consumer patterns.

2.2. LITERATURE REVIEW/MARKET SURVEY

2.2.1. Online Survey

For this project, we used the Online Survey technique for requirements elicitation. The Survey was designed in such a way so that we get a complete understanding of the project on which is being worked on, the project and the problem to be solved.

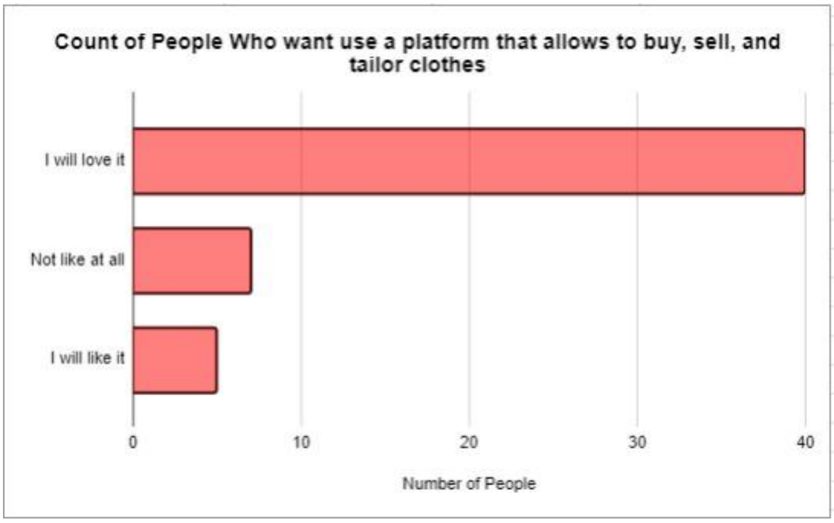


Figure 2.0: Response

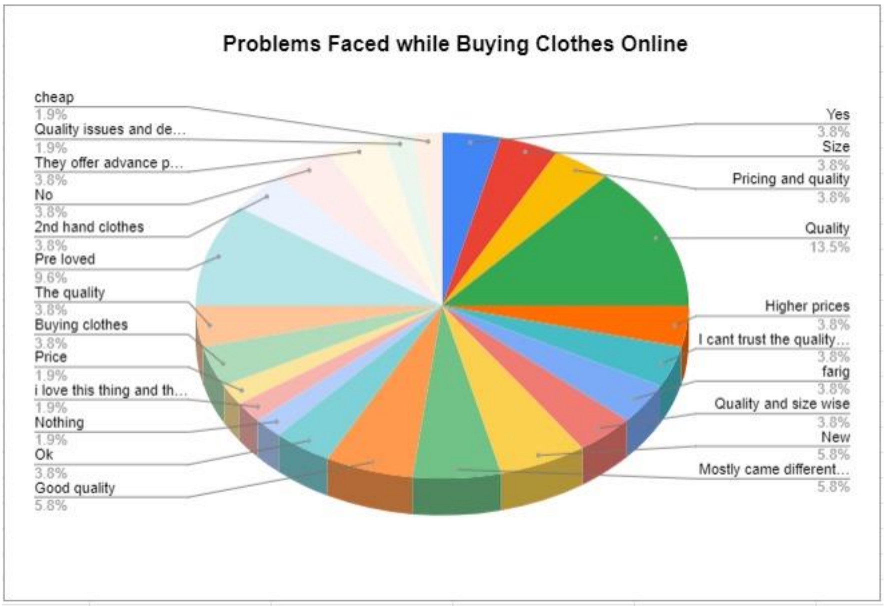


Figure 2.1: Response

2.2.1.1. Reason for Selecting Online Survey Technique

Surveys are an effective way to collect a lot of user data on preferences and buying/selling behaviors. This increases the target audience's comprehension. Deeper investigations are then possible through focused conversations with smaller groups (separate sellers, tailor and existing Market). These in-depth discussions reveal needs, obstacles, and motivations that surveys might miss. This combination offers a comprehensive understanding of user requirements, which is essential for developing an effective Re-Wear platform.

The following portion of this section describes in detail, the Online Survey process which was conducted for requirements elicitation.

2.1.1.1. Important Questions

- What makes you want to sell pre-loved items?
- We only get dresses to fit or stitch for tailors on Eid. Otherwise not, we don't receive enough orders and we are unaware of any apps that would allow us to acquire

enough sales so that we can make a good living?

2.1.1.2. **Current Software**

- What system are used for buying, selling and tailoring?
- Can you describe or give demo of your current workflow?

2.1.1.3. **Key Features**

- What features do you consider essential for a Platform to be effective in your role?

2.1.1.4. **Security and Authentication**

- How concerned are you about the security of your Seller Details within the system?

2.2. BRAINSTORMING

The figure 2.1 represents the major modules like Admin module, Buyer module, Seller module and Tailor module and their sub modules identified after Online Survey and brainstorming. This visual summary serves as a roadmap for the development and organization of our system.

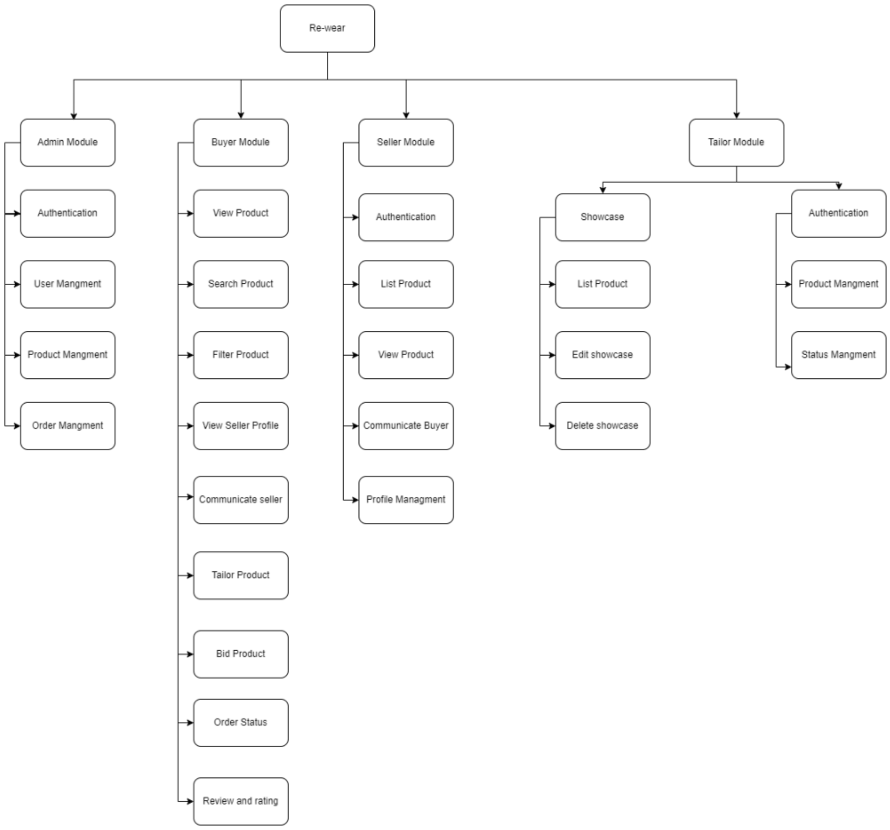


Figure 2.2: Mind Map

2.3. EXISTING SYSTEMS

Table 2.1: Existing Systems

Features/ Services	YBMB	SwagKicks	ThredUp	The RealReal	Depop	OLX	Online Darzi	Sohaay
Platform Fees	×	✓	✓	✓	✓	-	✓	✓
Buying	✓	✓	✓	✓	✓	✓	✓	✓
Selling	×	×	✓	✓	✓	✓	×	×
Installments	×	×	×	×	×	×	×	×
Cash on Delivery	✓	✓	✓	✓	✓	×	✓	✓
Chatting	✓	✓	✓	✓	✓	✓	✓	✓
Return and refund Policies	×	×	✓	-	×	×	×	×
Review & Rating (Seller/Product)	✓	×	×	×	✓	×	✓	✓

2.1. SUMMARY

From the above discussion Re-Wear provides a novel online platform that will alter the fashion business by encouraging sustainability. Re-wear distinguishes itself with cutting-edge features like installment payments and customization services that are unavailable on other platforms. These new capabilities enable consumers to extend their payments over time and modify their items for a perfect fit, therefore improving cost, accessibility, and customer happiness. With its dedication to sustainability and continual innovation, Re-Wear establishes a new benchmark for ethical and ecologically responsible fashion consumption.

Chapter 3
Requirement Analysis

Chapter 3

REQUIREMENT ANALYSIS

3.1. INTRODUCTION

In This chapter will go over the functional and non-functional criteria for our project re-wear. In advance of that, we'll go over all of the issue statements we discovered when researching the project concept. These functional requirements are acquired from the customer using a variety of methodologies, including interviews and brainstorming. The non-functional requirements are collected by monitoring the functional requirements.

3.2. PROBLEM SCENARIOS

3.2.1. Problem Statement

Table 3.0: Problem Statement

Elements	**Description**
The Problem of	Lack of Visibility for New Tailors on online platform
Affects	Tailor
The Result of Which	Amateur tailors find it difficult to draw in customers and make money on Online platforms
Benefits	• Attract customers • Generate income

Elements	**Description**
The Problem of	The cost of traditional wedding gowns and grooms might be exorbitant.
Affects	Buyer
The Result of Which	Due of the high expense, some individuals who cannot afford to attend weddings or other significant cultural and personal events may not be able to fully participate.
Benefits	• Providing an affordable and comprehensive solution • Facilitating easier access to the essential groom and bride attire for formal occasions.

3.3. FUNCTIONAL REQUIREMENTS

3.3.1. Common Functional Requirements

Table 3.1: FR-01-Authentication

ID	**Requirement**	**Priority**
➢ **Authentication**		
FR-01.1	Admin, Buyer, Tailor and Seller shall be able to login in to their account by entering their registered email and password.	High
FR-01.2	Admin, Buyer, Tailor and Seller shall be able to recover their password.	High
➢ **Profile Updating**		

FR-01.3	Admin, Buyer and Seller shall be able to update their profile details i.e. name, password and profile picture.	High

3.3.2. Tailor Module

Table 3.2: FR-02- Tailor Module

ID	**Requirement**	**Priority**
➢ **Show-Case Product**		

FR-02.1	Tailor will be able to showcase their expertise, experience, and service offerings.	High
FR-02.2	Buyer will be able to bid tailor show case	High
FR-02.3	The Tailor shall be able to view his/her Products.	High
FR-02.4	The Tailor shall be able to search his Products.	High
FR-02.5	The Tailor shall be able to upload his/her Products.	High
FR-02.6	The Tailor shall be able to delete his/her Products.	High
FR-02.7	The Tailor shall be able to view last Status of the Products.	Low
FR-02.8	The Tailor shall be able to edit Products Details.	Low
FR-02.9	The Tailor shall be able to delete collection	Medium

➢ **Order Management**		
FR-02.10	Buyers will send garment fitting requests to tailor, including order details, customer information, and garment specifications.	High
FR-02.11	Tailor will be able to communication with Buyer for order exchange.	High

➢ **Edit Profile**		
FR-02.12	Tailor will be able to edit his/her details.	High
FR-02.13	Tailor will be able to view Buyer profile which will show: username, email & Collection.	High
FR-02.14	The Tailor shall be able to set the status of the availability i.e. Active or away.	Medium
➢ **Profile Management**		
FR-02.15	The tailor shall be able to setup his/her profile by providing details i.e. name, profile picture, password, contact number and address	Medium

3.3.3. Buyer Module

Table 3.3: FR-03-Buyer Module

ID	**Requirement**	**Priority**
➢ **Search**		
FR-03.1	The buyers shall be able to search product from the available category.	High
FR-03.2	The buyers shall be able to filter product list by applying filters i.e. Product type, date.	High
➢ **Product**		
FR-03.3	Buyer will be able to view and purchase the Products available for sale on the marketplace.	High

FR-03.4	Buyers will be able to see product condition if the product is used	High
FR-03.5	Buyers will be able to select a Product and view its following details: Id, Location, Status, Size, Description, Price.	High

➢ **View Seller Profile**		
FR-03.6	The buyer shall be able to view the profiles of sellers.	High
FR-03.7	The buyers shall be able to contact sellers via message.	High

➢ **Pricing**		
FR-03.8	The Buyer shall be able to Pay in order to purchase	High
FR-03.9	The Buyer shall be able to Pay in installment from debit card	High
FR-03.10	The Buyer shall be able to proceed order after completing his profile details such as contact number, name, Location	High

3.3.4. Admin Module

Table 3.4: FR-04-Admin Module

ID	**Requirement**	**Priority**
➢ **User Management**		
FR-04.1	The admin shall be able to verify new sellers into the system.	High
FR-04.2	The admin shall be able to view users list.	High

FR-04.3	The admin shall be able to edit existing user’s details.	High
FR-04.4	The admin shall be able to monitor the status of users	High
FR-04.5	The admin shall be able to search specific users from list.	High
➢ **Order Management**		
FR-04.6	The admin shall be able to view orders list.	High
FR-04.7	The admin shall be able to edit existing order details like delivered or processing.	High
FR-04.8	The admin shall be able to update the status of a order i.e. delivered and un-delivered.	High
FR-04.9	The admin shall be able to search order from list	High

3.3.5. Seller Module

Table 3.5: FR-05-Seller Module

➢ **Product**		
FR-05.1	Seller will be able to select from the Product he owns, and Product to sell.	High
FR-05.2	Seller will be able to list his Product which will include Product name, Type, Product material, category, size, Description, Image, Price, Condition and Quantity upload on the marketplace, for a certain price.	High
FR-05.3	Users will be able to select an Product and view its following details: Id, Location, Status, Size, Description, Price.	High
FR-05.4	Seller will be able to delete product from collection	High
FR-05.5	Seller will be able to Sell after getting verified	High

➢ **Communication**		
FR-05.5	Seller will be able to chat with buyer	High

➢ **Edit Profile**		
FR-05.6	Seller will be able to edit details.	High
FR-05.7	Seller will be able to view Buyer profile which will show: username, email.	High

3.4. Non-FUNCTIONAL REQUIREMENTS

➢ **Security in term of authorization**		
FR-05.2 FR-02.15 FR-02.5	Only registered users will be able to sell, buy and tailor like upload product, bid product etc.	High

3.5. SQA ACTIVITIES

3.5.1. Defect Identification through Inspection

3.5.1.1. Technique: Checklist Inspection

Table 3.6: Defect Identification through Inspection

R. ID	**Requirement**	**Checklist Point**	**Defect**	**Corrected Requirement**

FR-02.5	The Tailor shall be able to upload his/her Products.	Is information provided in requirement is complete or incomplete?	Incomplete	The Tailor shall be able to upload his/her Products.by providing product details i.e. name, description, contact, pictures.
FR-05.6 FR-02.12	Seller will be able to edit. Tailor will be able to edit his/her details.	Is information provided in requirement is complete or incomplete?	Incomplete	User will be able to edit his/her details like username, address, contact Number and change password And seller will be able to edit order which will include Product name, Type, Product material, category, size, Description, Image, Price, Condition and Quantity

FR-04.4	The admin shall be able to update the status of users.	Are the requirements stated simply and completely so that they are unambiguous.	Ambiguous	The admin shall be able to update the status of users activate or deactivate
FR-3.8	The Buyer shall be able to Pay in order to purchase	Is information clear or unclear?	Incomplete	The Buyer shall be able to Pay from card or cash on delivery in order to purchase

Table 3.6 represents the defects identified from requirements through checklist inspection technique.

3.5.2. Defect Detection

In this section we will perform defect detection upon requirements through black box testing using techniques like Equivalence Class Partitioning (ECP), Boundary Value Analysis (BVA).

3.5.2.1. List of Test Scenarios

It contains the test data that will be later on used in test cases.

3.5.2.1.1. Test Data Tailor

Table 3.7: Test Data-Register (name)

ID	TD – 01.0
Requirement	FR-01.1
Form	Register
Field	Name
Technique	Equivalence Class Partitioning (ECP)
Valid	• {{a, b, c... z}, {A, B, C…Z}
Invalid	• Is Empty • {0,1,2,3…9} • Arithmetic Symbols {+, -, % …/}

Table 3.8 represents the test data for the Register functionality, focusing on the Name field, and using Equivalence Class Partitioning.

Table 3.8: Test Data-Login (Email)

ID	TD – 01.1
Requirement	FR-01.1
Form	Login/ Register
Field	Email
Technique	Equivalence Class Partitioning (ECP)
Valid	• Format = username@mailserver.com • {{a, b, c... z}, {A, B, C…Z} • {0,1,2,3…9} • Period {.} • At the rate of {@}
Invalid	• Is Empty • Email ∉ Format (doesn't follow this format) • Arithmetic Symbols {+, -, % …/}

Table 3.8 represents the test data for the Login functionality, focusing on the Email field, and using Equivalence Class Partitioning.

Table 3.9: Test Data-Login (Password)

ID	TD – 01.2
Requirement	FR-01.2
Form	Login/ Register
Field	Password
Technique	Equivalence Class Partitioning (ECP)
Valid	• 8 ≤ Password length ≤ 30 • {{a, b, c ...z}, {A, B, C…Z} • {0,1,2,3…9} • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&} • Password ∈ Confirm Password
Invalid	• Is Empty • Password length < 8 • Password length > 30

Table 3.9 represents the test data for the Login functionality, focusing on the Password field, and using Equivalence Class Partitioning.

Table 3.10: Test Data-Show-case Product (Product Name)

ID	TD – 01.3
Requirement	FR-02.1

Form	Show-Case Product
Field	Product Name
Technique	Equivalence Class Partitioning (ECP)
Valid	• {{a, b, c …z}, {A, B, C …Z}} • White spaces {“ ”}
Invalid	• Empty field { } • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&} • Numeric value {0,1 2, 3 …9}

Table 3.10 represents the test data for the Show-Case Product, focusing on the Product Name field, and using Equivalence Class Partitioning.

Table 3.11: Test Data -Show-case Product (Product Description)

ID	TD – 01.4
Requirement	FR-02.1
Form	Show-Case Product
Field	Description
Technique	• Equivalence Class Partitioning (ECP)
Valid	• {{a, b, c …z}, {A, B, C …Z}} • White spaces {“ ”}

	• Numeric value {0,1 2, 3 …} • 20 ≤ Characters ≤ 150
Invalid	• Empty field { } • 20 ≥ Characters ≥150

Table 3.11 represents the test data for the Show-Case Product, focusing on the Description field, and using Equivalence Class Partitioning.

Table 3.12: Test Data-List-Product (Product Type)

ID	TD – 1.6
Requirement	FR-02.1
Form	Create Product
Field	Product Type
Technique	Boundary Value Analysis (BVA)
Valid	Product Type ∈ Valid Product Type • Valid Product Type {Wedding, Shits, Pent, Footwear, Accessories}
Invalid	Product Type ∉ Valid Product Type • Valid Product Type {Wedding, Shits, Pent, Footwear, Accessories}

Table 3.12 represents the test data for the Product type, focusing on the Product Type field, and using Boundary Value Analysis.

Table 3.13: Test Data-Show-case Product (Picture Post)

ID	TD – 01.5
Requirement	FR-02.5
Form	Show-Case Product
Field	Picture Upload
Technique	Boundary Value Analysis (BVA)
Valid	File Type = {PNG, JPG, JPEG }
Invalid	File Type = {RAR, ZIP, PDF, DOCS }

Muhammad I

Table 3.13 represents the test data for the Show-Case Product, focusing on the Picture field, and using Equivalence Class Partitioning.

Table 3.14: Test Data-Pricing (product Bid)

ID	TD – 01.6
Requirement	FR-02.2
Form	Product bid
Field	bid

Technique	Boundary Value Analysis (BVA)
Valid	- Numeric value {0,1 2, 3 …} - Rupee
Invalid	- {{a, b, c …z}, {A, B, C …Z}} - White spaces {" "} - Null

Table 3.14 represents the test data for the bid, focusing on the Image field, and using Boundary Value Analysis.

Table 3.15: Test Data-Add Image from Device (Image)

ID	TD – 01.7
Requirement	FR-05.1
Form	Add Image from device
Field	Image
Technique	Boundary Value Analysis (BVA)
Valid	File Type = {PNG, JPG, JPEG}
Invalid	- File Type! = {PNG, JPG, JPEG} - Is Empty

Table 3.15 represents the test data for the Add Image (from device), focusing on the Image field, and using Boundary Value Analysis.

Table 3.16: Test Data - Order Details (Name)

ID	TD – 01.8
Requirement	FR-03.4
Form	Order details
Field	Name
Technique	Equivalence Class Partitioning (ECP)
Valid	• {{a, b, c …z}, {A, B, C …Z}} • White spaces {“ ”}

Invalid	• Is Empty • Numeric value {0,1 2, 3 …9} • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&}

Table 3.16 represents the test data for the Order details, focusing on the Name field, and using Equivalence Class Partitioning.

Table 3.17: Test Data-Order details (Description)

ID	TD – 01.9
Requirement	FR-03.6
Form	Order details
Field	Description
Technique	Equivalence Class Partitioning (ECP)
Valid	• {{a, b, c …z}, {A, B, C …Z}} • White spaces {" "} • Numeric value {0,1 2, 3 …} • 1 ≤ Characters ≤ 150
Invalid	• Is Empty • Email ∉ Format (doesn't follow this format) • 1 ≥ Characters ≥150 • Arithmetic Symbols {+, -, % …/}

Table 3.17 represents the test data for the Order Details, focusing on the Description field, and using Equivalence Class Partitioning.

Table 3.18: Test Data-Add Order details (Email)

ID	TD – 2.0
Requirement	FR-03.6
Form	Order details
Field	Email
Technique	Equivalence Class Partitioning (ECP)
Valid	• Format = username@mailserver.com • {{a, b, c ... z}, {A, B, C…Z} • {0,1,2,3…9} • Period {.} • At the rate of {@}
Invalid	• Is Empty • Numeric value {0,1 2, 3 …9} • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&}

Table 3.18 represents the test data for the Order Details, focusing on the Email, and using Equivalence Class Partitioning.

Table 3.19: Test Data-Add Order details (Contact no)

ID	TD – 02.1
Requirement	FR-03.6
Form	Order details

Field	Phone no
Technique	Equivalence Class Partitioning (ECP)
Valid	• Country Code, {+92} • Numeric value {0,1 2, 3 …9} • number. Length == 12
Invalid	• Is Empty • Special characters {@, #, …&} • {{a, b, c…z}, {A, B, C…Z} • number. Length > 12 • number. Length < 12

Table 3.19 represents the test data for the Order Details, focusing on the phone no, and using Equivalence Class Partitioning.

Table 3.20: Test Data-Add Order details (Adress)

ID	TD – 02.2
Requirement	FR-03.6
Form	Order details
Field	Location
Technique	Equivalence Class Partitioning (ECP)

Valid	- {City only} - {{a, b, c ... z}, {A, B, C…Z} - {Postal code} - Special characters {@, #, …&}, {street address}
Invalid	- Is Empty - {country} - Arithmetic Symbols {+, -, % …/}

Table 3.20 represents the test data for the Order Details, focusing on the location, and using Equivalence Class Partitioning.

Table 3.21: Test Data-Add Order details (payment)

ID	TD – 2.3
Requirement	FR-02.10, FR-02.10
Form	Order details
Field	card
Technique	Equivalence Class Partitioning (ECP)
Valid	- Pin= {0,1,2,3…9} - CVC == 4 Digit || CVC ==3 Digit - Cash-holder name= {a, b, c z}, {A, B, C…Z} - Expiry date status= {not expired}

Invalid	- Is Empty - Arithmetic Symbols {+, -, % …/} - Special characters {@, #, …&}

Table 3.21 represents the test data for the Order pricing, focusing on the Email, and using Equivalence Class Partitioning.

Table 3.22: Test Data-Buyer, Seller Profile (Name)

ID	TD – 02.3
Requirement	FR-02.14 & FR-5.6
Form	Buyer & Seller Profile
Field	Name
Technique	Equivalence Class Partitioning (ECP)
Valid	- {{a, b, c …z}, {A, B, C …Z}} - White spaces {“ ”}
Invalid	- Empty field { } - Numeric value {0,1 2, 3 …9} - Arithmetic Symbols {+, -, % …/} - Special characters {@, #, …&}

Table 3.22 represents the test data for the buyer and seller profile functionality, focusing on the Name field, and using Equivalence Class Partitioning.

Table 3.23: Test Data-Seller Profile (verification)

ID	TD – 02.4
Requirement	FR-5.5
Form	Seller Verification
Field	Identity
Technique	Equivalence Class Partitioning (ECP)
Valid	• {{Profile picture}} • {ID card front}, {ID card back} • File Type = {PNG, JPG, JPEG}
Invalid	• Empty field { } • File Type =! {PNG, JPG, JPEG}

Table 3.23 represents the test data for the seller verification, focusing on the Verification, and using Equivalence Class Partitioning.

Table 3.24: Test Data-Search Product (Search Bar)

ID	TD – 02.5
Requirement	FR-03.1
Form	Search product
Field	Search Bar

Technique	Equivalence Class Partitioning (ECP)
Valid	• {{a, b, c …z}, {A, B, C …Z} • Numeric value {0,1 2, 3 …9} • White spaces {“ ”} • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&}
Invalid	• Empty field { }

Table 3.24 represents the test data for the Search Product functionality, focusing on the Search Bar field, and using Equivalence Class Partitioning.

Table 3.25: Test Data-List Product (Name)

ID	TD – 02.6
Requirement	FR-5.2
Form	List Product
Field	Product Name
Technique	Equivalence Class Partitioning (ECP)
Valid	• {{a, b, c …z}, {A, B, C …Z}} • White spaces {“ ”}

Invalid	• Is Empty • Numeric value {0,1 2, 3 …9} • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&}

Table 3.25 represents the test data for the Product Name, focusing on the Name field, and using Equivalence Class Partitioning.

Table 3.26: Test Data-List Product (Image)

ID	TD – 02.7
Requirement	FR-5.2
Form	List Product
Field	Image
Technique	Equivalence Class Partitioning (ECP)
Valid	• File Type = {PNG, JPG, JPEG }
Invalid	• Is Empty • File Type =! {PNG, JPG, JPEG }

Table 3.26 represents the test data for the Product Image, focusing on the Image, and using Equivalence Class Partitioning.

Table 3.27: Test Data-List Product (Products type)

ID	TD – 02.8
Requirement	FR-5.2
Form	List Product
Field	Product type
Technique	Equivalence Class Partitioning (ECP)
Valid	• Used • New
Invalid	• Is Empty

Table 3.27 represents the test data for the Product Condition, focusing on the Product Type, and using Equivalence Class Partitioning.

Table 3.28: Test Data-List Product (Category)

ID	TD – 02.9
Requirement	FR-5.2
Form	List Product
Field	Category
Technique	Equivalence Class Partitioning (ECP)

Valid	- “Required = choose"
Invalid	- Is Empty

Table 3.28 represents the test data for the Product Condition, focusing on the Category, and using Equivalence Class Partitioning.

Table 3.29: Test Data-List Product (Material)

ID	TD – 03.0
Requirement	FR-5.2
Form	List Product
Field	Material
Technique	Equivalence Class Partitioning (ECP)
Valid	- {{a, b, c …z}, {A, B, C …Z}} - White spaces {“ ”}
Invalid	- Is Empty - Numeric value {0,1 2, 3 …9} - Arithmetic Symbols {+, -, % …/} - Special characters {@, #, …&}

Table 3.29 represents the test data for the Product Condition, focusing on the Material, and using Equivalence Class Partitioning.

Table 3.30: Test Data-List Product (Size)

ID	TD – 03.1
Requirement	FR-5.2
Form	List Product
Field	Size
Technique	Equivalence Class Partitioning (ECP)
Valid	• Numeric value {0,1 2, 3 …9} • {{a, b, c …z}, {A, B, C …Z}}
Invalid	• Is Empty • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&}

Table 3.30 represents the test data for the Product Condition, focusing on the Size, and using Equivalence Class Partitioning.

Table 3.31: Test Data-List Product (Description)

ID	TD – 03.3
Requirement	FR-5.2
Form	List Product
Field	Description

Technique	Equivalence Class Partitioning (ECP)
Valid	• Numeric value {0,1 2, 3 …9} • {{a, b, c …z}, {A, B, C …Z}} • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&} • 1 ≤ Characters ≤ 150
Invalid	• Is Empty • 1 ≥ Characters ≥150

Table 3.31 represents the test data for the Product Condition, focusing on the Description, and using Equivalence Class Partitioning.

Table 3.32: Test Data-List Product (Price)

ID	TD – 03.4
Requirement	FR-5.2
Form	List Product
Field	Price
Technique	Equivalence Class Partitioning (ECP)
Valid	• Numeric value {0,1 2, 3 …9}
Invalid	• Is Empty • {{a, b, c …z}, {A, B, C …Z}} • Arithmetic Symbols {+, -, % …/}

	• Special characters {@, #, …&}

Table 3.32 represents the test data for the Product Condition, focusing on the Price, and using Equivalence Class Partitioning.

Table 3.33: Test Data-List Product (Quantity)

ID	TD – 03.5
Requirement	FR-5.2
Form	List Product
Field	Quantity
Technique	Equivalence Class Partitioning (ECP)
Valid	• Numeric value {0,1 2, 3 …9}
Invalid	• Is Empty • {{a, b, c …z}, {A, B, C …Z}} • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&}

Table 3.33 represents the test data for the Product Condition, focusing on the Quantity, and using Equivalence Class Partitioning.

Table 3.34: Test Data-List Product (Condition)

ID	TD – 03.6
Requirement	FR-5.2
Form	List Product
Field	Condition
Technique	Equivalence Class Partitioning (ECP)
Valid	• Numeric value {0,1 2, 3 …10}
Invalid	• Is Empty • {{a, b, c …z}, {A, B, C …Z}} • Arithmetic Symbols {+, -, % …/} • Special characters {@, #, …&}

Table 3.34 represents the test data for the Product Condition, focusing on the Condition, and using Equivalence Class Partitioning.

3.1.1. Black Box Test Case Design

Login

Table 3.28: B.B. Test Case - Login

TC.ID	**Input Fields**		**Reference - ECP**	**Expected Output**
	Email	**Password**		
1.1	N/A	N/A	Table 3.8, 3.9	Please fill all fields.
1.2	Talha@gmail.com	Talha@12345	Table 3.8, 3.9	Registered Successfully
1.3	xyz	12345678	Table 3.8, 3.9	Please Enter Valid Email.
1.4	Talha@gmail.com	12345678	Table 3.8, 3.9	Email already Registered.

1.5	sfwan@gmail.com	sfwan@12345	Table 3.8, 3.9	Registered successfully

Create showcase

Table 3.29: B.B. Test Case - Create showcase

	Input Field							
TCID	**Name**	**Description**	**Description Length**	**Product Type**	**Picture**	**Bid**	**Reference-ECP**	**Excepted Output**
1.1	Wedding dress	Wedding Dress with gold water	15	N/A	PDF	**25,000**	Table 3.10-3.14	Product File type is incorrect and product type is not selected
1.2	@! &^	Dress with precious work	15	N/A	N/A	**35,000**	Table 3.10-3.14	Product name not valid. Please enter valid name name.
1.3	N/A	N/A	0	N/A	N/A	N/A	Table 3.10-3.14	Please fill all fields
1.4	Wedding dress	Wedding Dress with gold water	15	Women -wear	PDF	**25,000**	Table 3.10-3.14	Showcase created successfully

Create Order

Table 3.30: B.B. Test Case - Create Order

	Input Field									
TC ID	**Name**	**Description**	**Email**	**Phone no**	**Adress**	**Payment**			**Reference-ECP**	**Excepted Output**
						Exp-date	**Name**	**CVC**		
1.1	Talha	Order will be delivered in 3 days	talhagmail.com	+92315	UK	2019	Sfwan	**201**	Table 3.16-3.21	The Provided field are incorrect
1.2	N/A	Order will be delivered in 3 days	N/A	N/A	N/A	N/A	N/A	N/A	Table 3.16-3.21	Please fill all fields
1.3	Talha	Order will be delivered in 3 days	talha@gmail.com	+92315	isl	2026	Talha	**2013**	Table 3.16-3.21	Order created successfully

Edit Profile

Name

Table 3.31: B.B. Test Case - Name

TC.ID	**Input**	**Reference - ECP**	**Expected Output**
	Name		
1.1	N/A	Table 3.16	Please enter name
1.2	Talha	Table 3.16	Valid
1.3	!$%#^@	Table 3.16	Invalid name. name not updated

Edit Profile

Contact Number

Table 3.32: B.B. Test Case – Contact Number

TC.ID	Input	Reference - ECP	Expected Output
	Number		
1.1	N/A	Table 3.19	Please enter Number
1.2	+923365940220	Table 3.19	Valid
1.3	0322cjdnjc	Table 3.19	Invalid Number.

Edit Profile

Change Password

Table 3.33: B.B. Test Case - Password

TC.ID	Input	Reference - ECP	Expected Output
	Password=confirm password		
1.1	N/A	Table 3.9	Please enter Password
1.2	Talha@123	Table 3.9	Valid

Profile Photo

Table 3.34: B.B. Test Case - Profile Photo

	Input		

TC.ID	Image	Reference - ECP	Expected Output
1.1	N/A	Table 3.13	No pic selected
1.2	Abc.io	Table 2.5	Invalid image format. Image not updated.
1.3	Pic.jpeg	Table 2.5	Valid image format.

Register

Table 3.35: B.B. Test Case - Register

TC.ID	Input Fields			Reference - ECP	Actual Output
	Name	Email	Password		
1.1	Talha Masood	Talha@gmail.com	Talha@12345	Table 3.8, 3.9	Register successful. System redirected user to respective Dashboard.

1.2	Talha	Talhagmail.com	123	Table 3.8, 3.9	Password or email is incorrect
1.3	H20	xyz	12345678	Table 3.8, 3.9	Name and Email is incorrect
1.4	N/A	N/A	N/A	Table 3.8, 3.9	Please fill the field

List Product

Table 3.36: B.B. Test Case - List Product

	Input Field										
TCID	**Name**	**Type**	**Material**	**Category**	**Size**	**Description**	**Image**	**Quantity**	**condition**	**Reference-ECP**	**Expected Output**
1.1	Dress	Used	Silicon	Girl dress	M	Good dress	Pdf	1	3.7	Table 3.25-3.34	Product File type is incorrect
1.2	Dress	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Table 3.25-3.34	Fiel is empty
1.	@1	used	35	Girls dress	2222	N/A	pdf	N/A	N/A	Table 3.25-	Incorrect field

3										3.34	
1.4	Dress	New	Cotten	Girl dress	M	Good dress	jpeg	1	3.7	Table 3.25-3.34	Listed Successfully

Edit Product

Table 3.37: B.B. Test Case - Edit Product

	Input Field										
TCID	**Name**	**Type**	**Material**	**Category**	**Size**	**Description**	**Image**	**Quantity**	**condition**	**Reference-ECP**	**Excepted Output**
1.1	Dress	Used	Silicon	Girl dress	M	Good dress	Pdf	1	3.7	Table 3.25-3.34	Product File type is incorrect
1.2	Dress	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Table 3.25-3.34	Fiel is empty
1.3	@1	used	35	Girls dress	2222	N/A	pdf	N/A	N/A	Table 3.25-3.34	Incorrect field
1.4	Dress	New	Cotten	Girl dress	M	Good dress	jpeg	1	3.7	Table 3.25-3.34	Product Edited Successfully

3.6. Summary

As demonstrated above, we used brainstorming and the current system to write all of the functional requirements. Additionally, after examining the functional requirements of the system, we drafted the non-functional requirements that we felt were essential

Chapter 4

System Design

4.1. INTRODUCTION

The system designer is a role who defines the responsibilities, attributes, operations, and relationships of components of the software and determines how a component should be adopted to conform to the implementation environment. Design is based upon the requirements elicited from the user. In this will chapter, we will show all the design diagrams like architectural design, use case design, and activity design of our project “Re-wear”. We will illustrate use case diagrams as well as detailed use case textual details in a fully dressed format. In all the diagrams we will try to draw out the workflow and technical design of system.

4.2. ARCHITECTURAL DESIGN

4.2.1. Software Architecture Diagram

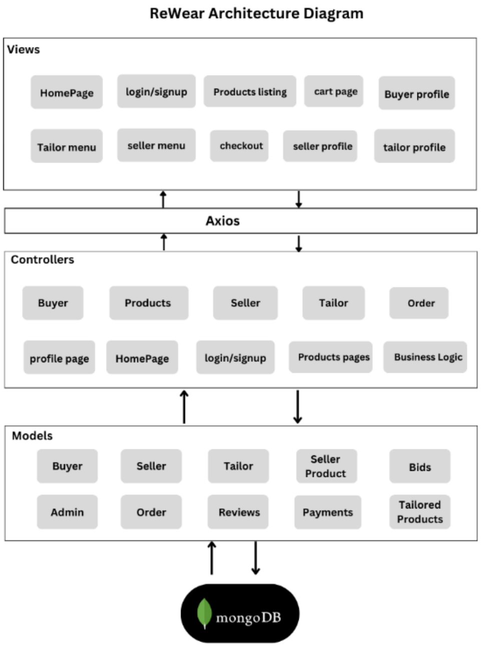


Figure 4.1: Software Architecture Diagram

4.3. DETAILED DESIGN

4.3.1. Use Case Diagrams

4.3.1.1. Use Case Diagram - Admin

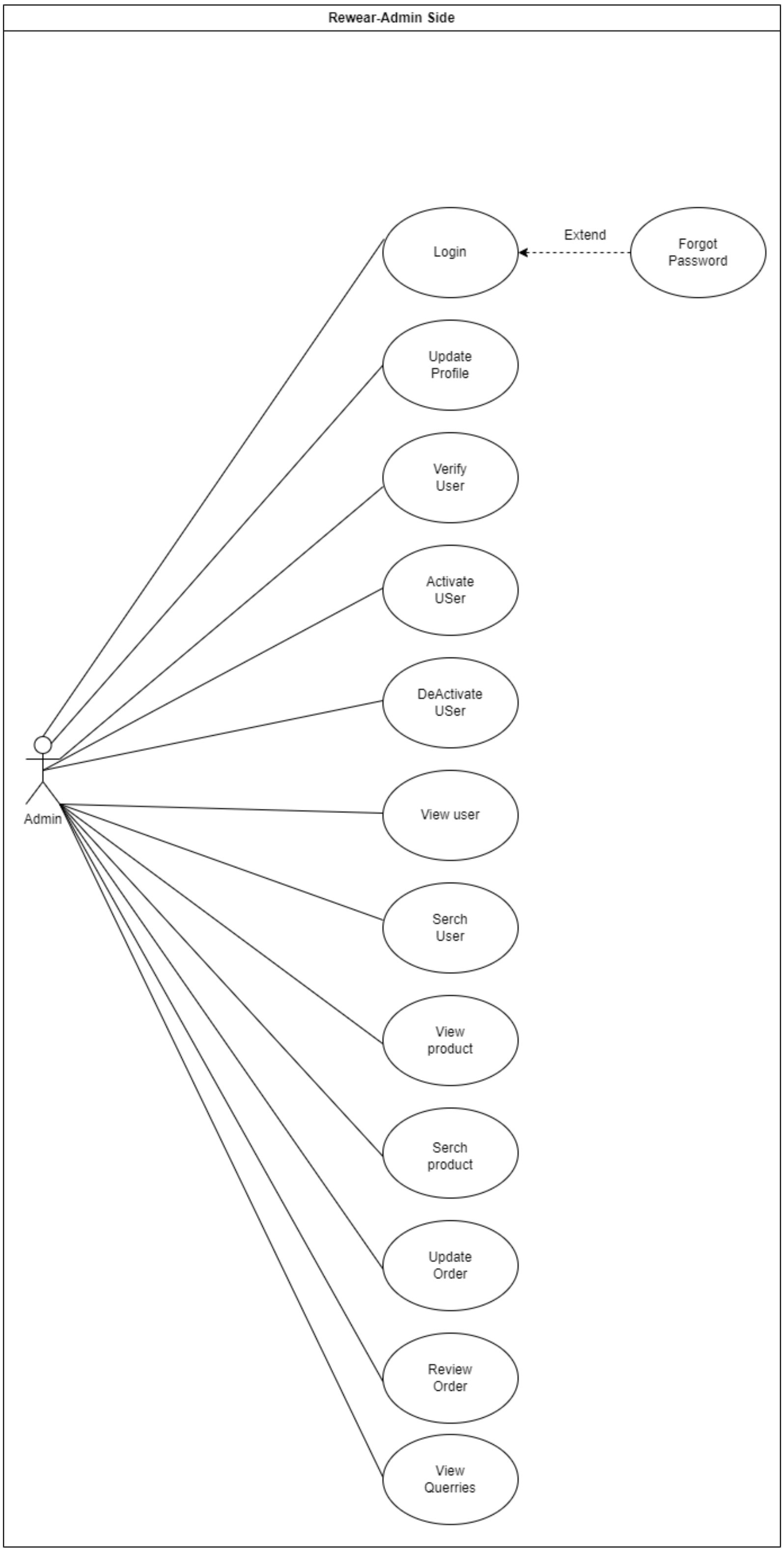


Figure 4.2: Use Case Diagram - Admin

4.3.1.2. Use Case Diagram – Tailor

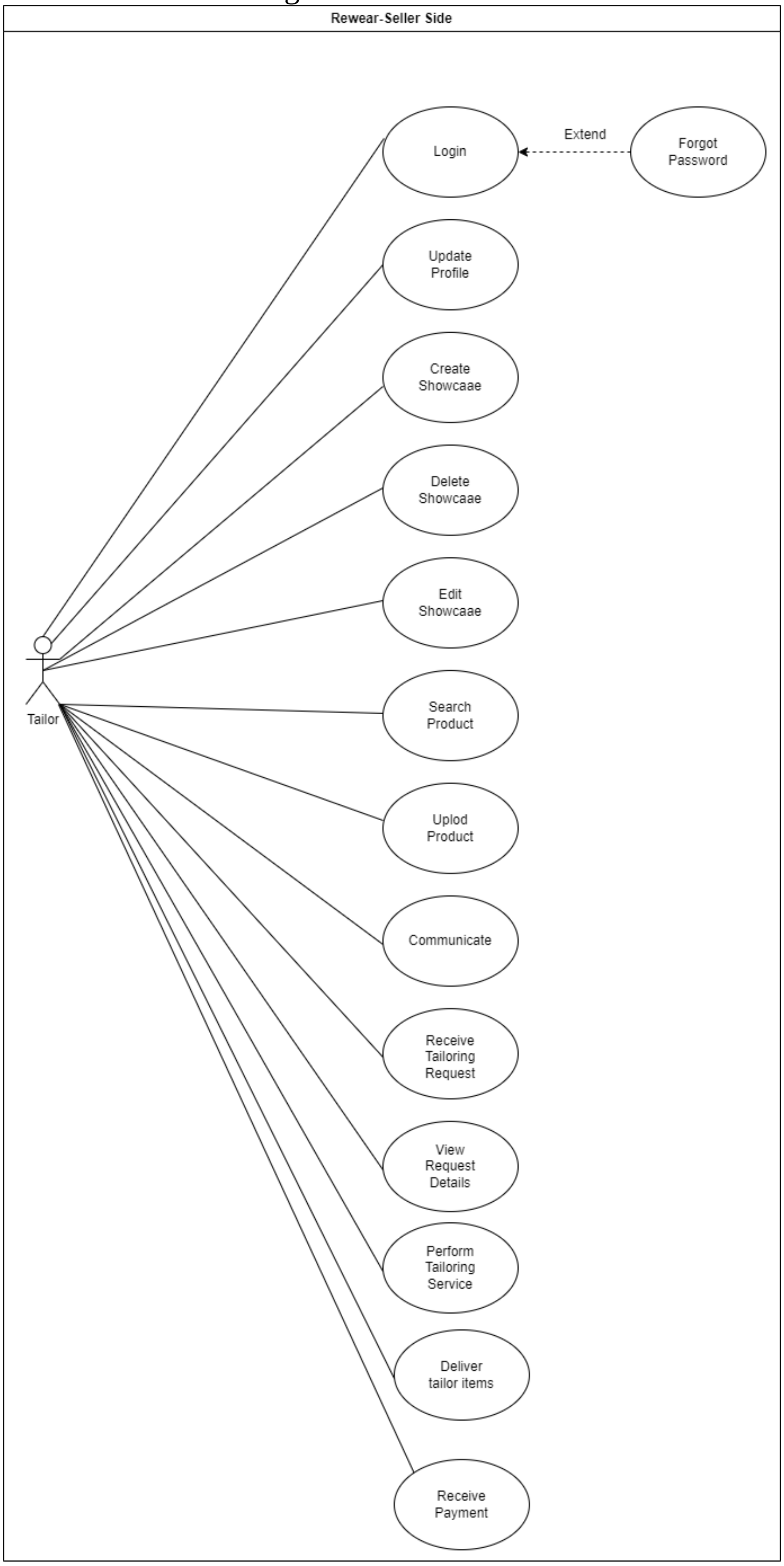


Figure 4.3: Use Case Diagram - Tailor

4.3.1.3. Use Case Diagram – Buyer

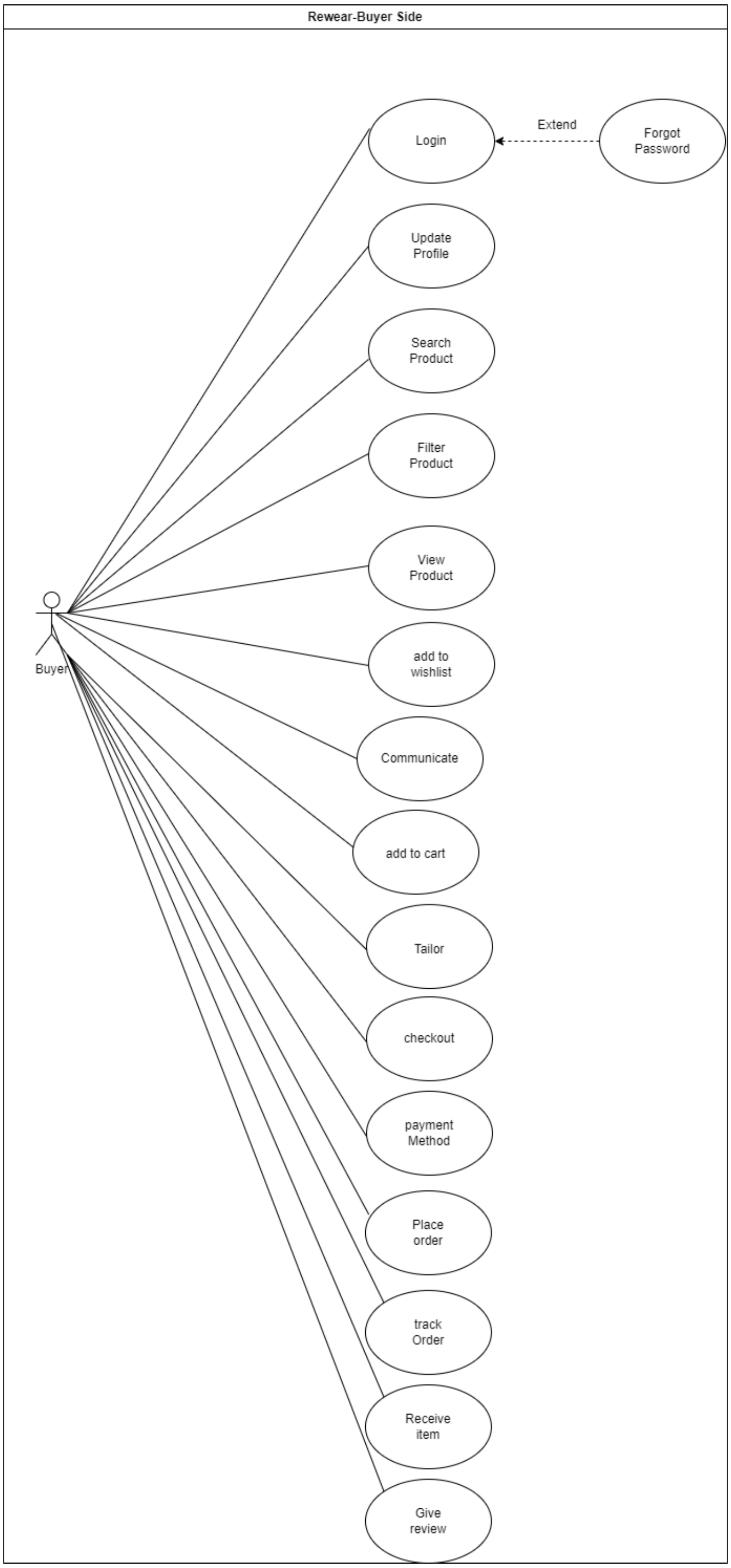


Figure 4.4: Use Case Diagram - Buyer

4.3.1.4. Use Case Diagram – Seller

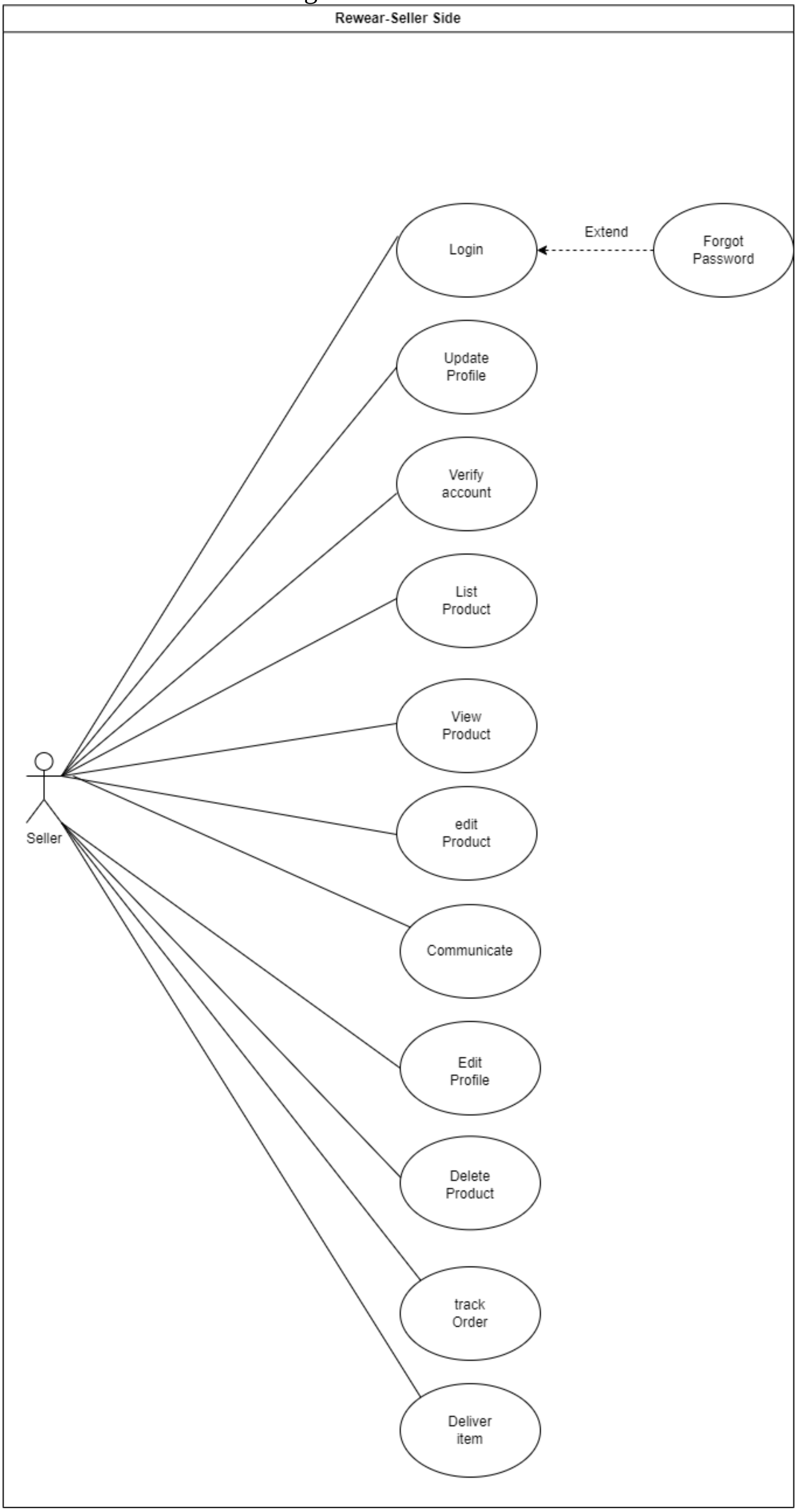


Figure 4.5: Use Case Diagram - Seller

4.1.1. Use Case Fully Dressed Format

Register

Register Account

Table 4.0: Use Case Fully Dressed – Register

Use Case ID	UC-00	
Use Case Name	Register	
Actors	Buyer	
Preconditions	System must be running, and user must have enter name, email, name and password in the system.	
Basic Flow	User will be able to register by entering email, name and password	
Main Success Scenario	**Action**	**Response**
	1. User will enter his/her email, name and password. 2. User presses the "Submit" button.	3. The system validates and authenticates the email, name and password. 4. System will ask user to login into the system
Exceptional Flow	1.1. User enters invalid Email. 1.1.1. System displays error message and ask the user to enter correct email. 1.1.2. User re-enters email and press login. 1.2.User left empty field. 1.2.1. System displays error message and ask the user to fill all fields. 1.2.2. User renters all field and press login. 1.3. User enter password that does not match with confirm password 1.3.1. System displays error message and ask the user to	

	enter correct password 1.4. User enters invalid Name. 1.4.1. System displays error message and ask the user to fill Name. 1.4.2. User renters name field and press login. 1.5. User enter invalid Password 1.5.1. System displays error message and ask the user to fill Password. 1.5.2. User renters Password field and press login.
Post Conditions	User successfully registers.

Login

Table 4.1: Use Case Fully Dressed - Login

Use Case ID	UC-01
Use Case Name	Login
Actors	User

Preconditions	System must be running, and user must have email & password.	
Basic Flow	User will be able to login by entering email and password.	
	Action	**Response**
Main Success Scenario	1. User will enter his/her credentials (Email & Password). 2. User presses the "Login" button.	3. The system validates and authenticates the credentials and displays a Login success message.

Exceptional Flow	1.1. User enters invalid email or password 1.1.1 System displays error message and ask the user to enter correct email or password. 1.1.2 User renter’s email or password and press login.
Post Conditions	User will be re-directed to their respective dashboard.

Forgot Password

Table 4.2: Use Case Fully Dressed - Forgot Password

Use Case ID	UC-02	
Use Case Name	Forgot Password	
Actors	User	
Preconditions	System must be running, and user must have same email which is registered in the system.	
Basic Flow	User will be able to login by entering username and password.	
Main Success Scenario	**Action** 1. User will enter his/her email. 2. User presses the "Submit" button.	**Response** 3. The system validates and authenticates the email. 4. System sends an email to the user to reset his password.
Exceptional Flow	1.1 User enters email. 1.1.1. System displays message No user exists and ask the user to enter correct email. 1.1.2. System will send recovery Email to user.	
Post Conditions	User successfully recover his password.	

Verify User

Table 4.3: Fully Dressed Use Case - Verify User

Use Case ID	UC-03	
Use Case	verify User	
Actors	Admin, Seller	
Preconditions	The admin must be logged into his account and should View Seller profile and verify them.	
Basic Flow	Admin will be able verify seller into the system.	
Main Success Scenario	**Action**	**Response**
	1. Seller will click on "Profile" button. 3. Seller will fill the form fields i.e. Name, front image, back image, face identity, Contact Number, Location. 4. The Seller presses the "Submit" button.	2. System will display the "Seller Verification" form. 5. System Validates the entered information. 6. System will display "verification" success message.
Exceptional Flow	3.1. Seller left empty fields. 3.1.1. System displays error message and ask the seller to fill all empty fields. 3.1.2. Seller fill all the fields and press Submit. 3.2.The Name format for seller identity verification is not supported 3.2.1. Seller will re-enter name again. 3.3.Seller enters invalid Contact Number.	

	3.3.1. System displays error message and ask the user to enter correct Contact no. 3.3.2. Seller renters Contact no. 3.4. Seller enters Name that does not match with CNIC or invalid name. 3.4.1. System will display error message and ask the user to enter Correct name. 3.4.2. Seller will reenter the Name. 3.5.Seller Upload Face identity that does not Match with CNIC 3.5.1. System will display error message that Face dose not match with CNIC 3.5.2. Seller will Upload the Face Identity again.
Post Conditions	The Seller will be successfully Verified and able to sell

Deactivate User

Table 4.4: Fully Dressed Use Case –Deactivate User

Use Case ID	UC-04	
Use Case	Deactivate User	
Actors	Admin	
Preconditions	The admin must be logged into his account and should be on manage user page.	
Basic Flow	Admin will be able to Activate or Deactivate user from the system.	
Main Success Scenario	**Action**	**Response**
	1. Admin presses the “Disable” button against a particular user.	2. System will display a re-confirmation message.
	3. Admin clicks “Confirm” button on re-confirmation message.	4. The system will disable the user.

Alternative Flow	3.1.System will ask Reconfirm deactivation 3.1.1. Admin selects 'Deactivate upon reconfirmation. Use-case ends. 3.1.2. Admin selects 'Cancel' upon reconfirmation. Use-case ends.
Post Conditions	The admin has successfully disabled user from the system.

View User

Table 4.5: Fully Dressed Use Case - View User

Use Case ID	UC-05	
Use Case	View User	
Actors	Admin	
Preconditions	The admin must be logged into his account and should be on home page.	
Basic Flow	Admin will be able to view user's details.	
Main Success Scenario	**Action**	**Response**
	1. Admin will access 'Manage User' page. 2. Admin clicks "Confirm" button on re-confirmation message.	3. System will re-direct user to Manage User' page. 4. System will display the details of that user.
Alternative Flow	1.1. System will Display about User. 1.1.1. System will display that no user exists 1.1.2. System will display all the user details	
Post Conditions	Admin views the User's details.	

User Querry

Table 4.6: Fully Dressed Use Case – User Querry

Use Case ID	UC-06	
Use Case	User Querry	
Actors	Admin	
Preconditions	The admin must be logged into his account and should be on manage user page.	
Basic Flow	Admin will be able to edit user's details.	
Main Success Scenario	**Action**	**Response**
	1 Admin will click 'view button against a particular user. **3** Admin will look into the problem of that user & clicks on "Done" button.	**2** System will display the queries. **4** System will solve issue update the user. System will display "Success" success message.
Exceptional Flow	1.1 System will display View button against user query 1.1.1. System will display notify user if Query is solved 1.1.2. If the query is solved use case will end.	
Post Conditions	Admin successfully address the user's query.	

Search User

Table 4.7: Fully Dressed Use Case - Search User

Use Case ID	UC-07	
Use Case	Search User	
Actors	Admin	
Preconditions	The admin must be logged into his account and should be on manage user page.	
Basic Flow	Admin will be able to search user from the list.	
Main Success Scenario	**Action**	**Response**
	1. Admin will enter query in the search bar and click on search button.	2. System will display result set.
Exceptional Flow	1.1 The user will enter query 1.1.1 The System will display no result found 1.1.2 The system will display search user details	
Post Conditions	Admin successfully searches the user from the list.	

Verify Order

Table 4.8: Fully Dressed Use Case - Verify Order

Use Case ID	UC-08
Use Case	Verify Order
Actors	Admin, Seller, Buyer
Preconditions	The admin must be logged into his account and should View Order and verify.
Basic Flow	Admin will be able verify Order into the system.

	Action	**Response**
Main Success Scenario	1. Admin will click on “view Order” button. 2. Admin will view the form fields i.e. Name, email, Contact No, Location, Product name, Product quantity. 3. The admin presses the “Submit” button.	4. System will display the “Order” form. 5. System Validates the entered information. 6. System will display “verification” success message.
Exceptional Flow	3.6.Seller Enter name 3.6.1. Admin will confirm name and enter correct Name. 3.7.Seller Enter address 3.7.1. Admin will confirm address and enter correct address. 3.8.Seller Enter email 3.8.1. Admin will confirm email and enter correct email. 3.9.Seller Enter Contact 3.9.1. Admin will confirm contact and enter correct location. 3.10. System will show product name 3.10.1. Admin will confirm Product and enter correct Product. 3.11. System will show product quantity 3.11.1. Admin will confirm Product Quantity and enter correct Product Quantity.	
Post Conditions	Admin successfully verify the user	

View Product

Table 4.9: Fully Dressed Use Case - View Product

Use Case ID	UC-9	
Use Case	View Product	
Actors	Admin	
Preconditions	The admin must be logged into his account and should be on manage Product page.	
Basic Flow	Admin will be able to view subject’s information	
Main Success Scenario	**Action**	**Response**
	1. Admin will click on manage Product option.	2. System will display all the Products.
Exceptional Flow	1.1 System will show product exist 1.1.1 System will show no product exist 1.1.2 System will show product details	
Post Conditions	Admin views the Product details.	

Search Product

Table 4.10: Fully Dressed Use Case - Search Product

Use Case ID	UC-10	
Use Case	Search Product	
Actors	Admin	
Preconditions	The admin must be logged into his account and should be on manage Product page.	
Basic Flow	Admin will be able to search Product from the list.	
Main Success Scenario	**Action**	**Response**
	1. Admin will enter query in the search bar and click on search button.	2. System will display result set.
Exceptional Flow	1.2 System will Search product exist 1.2.1 System will show Search product 1.1.2 System will show no Search exist	
Post Conditions	Admin successfully searches the products from the list.	

Filter Product

Table 4.11: Fully Dressed Use Case - Filter Product

Use Case ID	UC-11	
Use Case	Filter Product	
Actors	Buyer	
Preconditions	Buyer must be on website's "view Product" page.	
Basic Flow	Client must be able to filter the Product search result.	
Main Success Scenario	**Action**	**Response**
	1. Client will apply the filters from the given categories i.e. Date, location, Type.	2. System filters & displays the Product list accordingly.

Alternative Flow	1.1. Filtered product 1.1.1. The system will display the filter result 1.1.2. There is no Product against the chosen filters, the system displays a No Product found message.
Post Conditions	Client successfully filtered the Product list from search result.

View Seller Profile

Table 4.12: Fully Dressed Use Case - View Seller Profile

Use Case ID	UC-12	
Use Case	View Seller Profile	
Actors	Buyer	
Preconditions	The Buyer must be on website’s landing page.	
Basic Flow	Buyer will be able to see Seller profile.	
Main Success Scenario	**Action**	**Response**
	1. Client will visit website’s “Landing page”.	2. System will display the list of all the Sellers.

	3. Buyer will click on profile of a particular Seller.	4. System will display the detailed profile of that Seller.
Alternative Flow	3.1. Seller profile 3.1.1. The system will display Message no seller exists. 3.1.2. The system will display Profile of Seller	
Post Conditions	The User can view Profiles of Seller.	

Contact Seller

Table 4.13: Fully Dressed Use Case - Contact Seller

Use Case ID	UC-13	
Use Case	Contact Seller	
Actors	Buyer	
Preconditions	The Buyer must be on website's "Profile" page.	
Basic Flow	Buyer will be able to contact Seller.	
Main Success Scenario	**Action**	**Response**
	1. Buyer will click on profile of a particular Seller.	2. System will display the detailed profile of that Seller.
	3. Buyer will click on "Send Message" button to Seller.	4. System will re-direct Buyer to Message.
Exceptional Flow	3.1. Message Send 3.1.1. System will display message can't be send to a particular user 3.1.2. System will display message send to a particular user	
Post Conditions	The Buyer will successfully contact Seller.	

Create Order

Table 4.14: Fully Dressed Use Case - Create Order

Use Case ID	UC-14
Use Case	Create Order
Actors	Buyer

Preconditions	The Buyer must be logged into his account and should be on dashboard page.
Basic Flow	Buyer will be able to create a order.

	Action	Response
Main Success Scenario	1. Buyer clicks on ‘create Order button.	2. System will re-direct the Buyer to ‘create Order page. 3. System will ask Buyer to select one of the two options i.e. Auto Fill or Write.
	4. Creator selects one of the two options.	5. System displays the Order form according to selected option.
	6. Buyer fills in the form fields i.e. name, description, Email Contact, Tailor(optional), Payment Type and clicks the ‘Proceed Order button’.	7. System validates and create the Order. 8. System re-directs the buyer to the Dashboard.

Alternative Flow	6.1. Buyer has left empty fields 6.1.1. The system will ask the user to fill in all the form fields. 6.2. Invalid Address 6.2.1. System will display error message and ask the user to enter correct Address. 6.3. 'Name' field contains special characters or arithmetic operations 6.3.1. System will display error message. 6.4. Description's length is not in between 1 and 500 6.4.1. System will display error message and ask the user to enter correct Description. 6.5. Invalid email, empty or blank spaces 6.5.1. System will display error message and ask the user to enter correct Description. 6.6. Invalid Contact no, alphabet or special character. 6.6.1. System will display error message and ask the user to enter correct Contact. 6.6.2. Seller renters Contact no. 6.7. Seller chooses payment method 6.7.1. System will display error message and ask the user to Choose Payment method. 6.8. Seller will choose Tailor service
Post Conditions	The Buyer successfully creates a order.

Bid Showcase

Table 4.15: Fully Dressed Use Case - Bid Product

Use Case ID	UC-15
Use Case	Bid Showcase
Actors	Buyer
Preconditions	The Buyer must be logged into his account and should be on Showcase page.
Basic Flow	Buyer will be able to bid a product.

	Action	Response
Main Success Scenario	1. Buyer clicks on ‘Bid Showcase’ button.	7. System will re-direct the Buyer to ‘Bid Showcase’ Page.
		4. System displays the Biding according to Product.
	2. Buyer fills in the form fields i.e. name, Email Contact, Bid Price and clicks the ‘Proceed Bid button’.	5. System validates and create the biding. 6. System re-directs the buyer to the showcase.
Alternative Flow	2.1 Buyer has left empty fields 2.1.1. the system will ask the user to fill in all the form fields. 2.2.‘Name’ field contains special characters or arithmetic operations 2.2.1. system will display error message. 2.3.‘Email field contains Arithmetic operations, empty or blank spaces; system will display error message. 2.4.Number length should not be more than 13 2.4.1. system will display error message 2.5.Biding price should not be less than tailor product price 2.5.1. system will display error message	

Post Conditions	The User will successfully bid a product.

List Product

Table 4.16: Fully Dressed Use Case – List Product

Use Case ID	UC-16
Use Case	List Product
Actors	Seller
Preconditions	The Seller must be logged into his account and should be on dashboard page.
Basic Flow	Seller will be able to List a product.

	Action	**Response**
Main Success Scenario	1. Seller clicks on ‘List Product’ button. 2. Seller fills in the form fields i.e. name, description, Category, Type, Size, Material, Product Picture, Price, Quantity, Condition and clicks the ‘Proceed List button’.	3. System will re-direct the Seller to ‘List Product page. 4. System Validate and create the List. 5. System re-directs the Seller to the Product.

Alternative Flow	2.1 Seller has left empty fields 2.1.1 the system will ask the user to fill in all the form fields. 2.2. 'Name' field contains special characters or arithmetic operations 2.2.1. system will display error message. 2.3. 'Product Material' field contains special characters, Numeric or arithmetic operations 2.3.1. system will display error message 2.4. 'Type' field is required if user does not fill 2.4.1. system will display error message 2.5. 'Category' field is required if user does not fill 2.5.1. system will display error message 2.6. 'Size' field is required if user does not fill 2.6.1. system will display error message 2.7. 'Description' field Length Should be from 1 to 500 if user exceed length. 2.7.1. system will display error message 2.8. 'Image' field Length Should have valid image format 2.8.1. system will display error message 2.9. 'Price' field contains special characters, Alphabet or arithmetic operations 2.9.1. system will display error message 2.10. 'Quantity' field contains special characters, Alphabet or arithmetic operations 2.10.1. system will display error message 2.11. 'Condition' field contains special characters, Alphabet or arithmetic operations 2.11.1. system will display error message
Post Conditions	The Buyer successfully creates an order.

Delete Product

Table 4.17: Fully Dressed Use Case - Delete Product

<table>
<tr><td><b>Use Case ID</b></td><td colspan="2">UC-17</td></tr>
<tr><td><b>Use Case</b></td><td colspan="2">Delete Product</td></tr>
<tr><td><b>Actors</b></td><td colspan="2">Seller</td></tr>
<tr><td><b>Preconditions</b></td><td colspan="2">The Seller must be logged into his account and should be on ‘Product’ section.</td></tr>
<tr><td><b>Basic Flow</b></td><td colspan="2">Seller will be able to delete his Product.</td></tr>
<tr><td rowspan="2"><b>Main Success Scenario</b></td><td><b>Action</b></td><td><b>Response</b></td></tr>
<tr><td>1. Seller on ‘Delete’ button against a particular Product.
3. Creator will re-confirm to delete the Product.</td><td>2. System will ask the Seller to re-confirm.
4. System deletes the respective Product and attached resources.
5. System will display the success message.</td></tr>
<tr><td><b>Exceptional Flow</b></td><td colspan="2">5.1. User will reconfirm Delete Product
5.1.1 User cancel the deletion upon re-confirmation
5.1.2. the showcase will not be deleted</td></tr>
<tr><td><b>Post Conditions</b></td><td colspan="2">The admin successfully deleted the Product.</td></tr>
</table>

Edit Product

Table 4.18: Fully Dressed Use Case - Edit Product

Use Case ID	UC-18
Use Case	Edit Product
Actors	Seller
Preconditions	The Seller must be logged into his account and should be on ‘Products ‘page.
Basic Flow	Seller will be able to edit Product.

Main Success Scenario	**Action** 1. Seller clicks on the respective Product to be edited. 2. Seller will edit the Product.	**Response** 3. System will display the detail view of that Product. 4. System will validate and update the Product accordingly.
Exceptional Flow	2.1 Seller has left empty fields 2.1.1 the system will ask the user to fill in all the form fields. 2.2. ‘Name’ field contains special characters or arithmetic operations 2.2.1. system will display error message. 2.3. ‘Product Material’ field contains special characters, Numeric or arithmetic operations 2.3.1. system will display error message 2.4. ‘Type’ field is required if user does not fill 2.4.1. system will display error message 2.5. ‘Category’ field is required if user does not fill 2.5.1. system will display error message 2.6. ‘Size’ field is required if user does not fill 2.6.1. system will display error message 2.7. ‘Description’ field Length Should be from 1 to 500 if user exceed length. 2.7.1. system will display error message 2.8. ‘Image’ field Length Should have valid image format 2.8.1. system will display error message 2.9. ‘Price’ field contains special characters, Alphabet or arithmetic operations 2.9.1. system will display error message 2.10. ‘Quantity’ field contains special characters, Alphabet or arithmetic operations 2.10.1. system will display error message	

	2.11. ‘Condition’ field contains special characters, Alphabet or arithmetic operations 2.11.1. system will display error message
Post Conditions	Seller successfully edited the Product.

Manage Profile

Table 4.19: Fully Dressed Use Case – Manage Profile

Use Case ID	UC-19	
Use Case	Manage Profile	
Actors	Seller, Buyer, Tailor	
Preconditions	The creator must be logged into his account and should be on homepage.	
Basic Flow	User will be able to manage his profile.	
Main Success Scenario	**Action**	**Response**
	1) User will click on ‘My Profile’ page.	2) System will redirect User to the ‘My Profile’ page.
	3) User can set/ update his details i.e. name, profile photo, contact, address, password. and click on save button.	4) System will update changes in user’ profile.
Exceptional Flow	3.1 Click on save after Edit 3.1.1 System will display the changes have been saved 3.1.2 System will display no changes have been done	
	3.2 New password doesn’t match confirm password field 3.2.1 System will display the error message.	
Post Conditions	User successfully manage and update his profiles details.	

Showcase Product

Table 4.20: Fully Dressed Use Case – Showcase Product

Use Case ID	UC-20
Use Case	Showcase Product
Actors	Tailor
Preconditions	The Tailor must be logged into his account and should be on dashboard page.
Basic Flow	Tailor will be able to showcase a product.

	Action	**Response**
Main Success Scenario	1. Tailor clicks on 'List Product' button. 2. Seller fills in the form fields i.e. name, description, Location, Product Picture, Bidding Price and clicks the 'Proceed List button'.	3. System will re-direct the Seller to 'List Product page. 4. System validates and create the List. 5. System re-directs the Seller to the Product.
Alternative Flow	2.1. Seller has left empty fields 2.1.1 the system will ask the user to fill in all the form fields. 2.2. 'Name' field contains special characters or arithmetic operations 2.2.1. system will display error message. 2.3. 'Product Material' field contains special characters, Numeric or arithmetic operations 2.3.1. system will display error message 2.4. 'Category' field is required if user	

	does not fill 2.4.1. system will display error message 2.5. 'Size' field is required if user does not fill 2.5.1. system will display error message 2.6. 'Description' field Length Should be from 1 to 500 if user exceed length. 2.6.1. system will display error message 2.7. 'Image' field Length Should have valid image format 2.7.1. system will display error message 2.8. 'Price' field contains special characters, Alphabet or arithmetic operations 2.8.1. system will display error message 2.9. 'Quantity' field contains special characters, Alphabet or arithmetic operations 2.9.1. system will display error message
Post Conditions	The Buyer successfully showcases a product.

Delete Showcase

Table 4.21: Fully Dressed Use Case - Delete Showcase

Use Case ID	UC-21
Use Case	Delete Showcase
Actors	Tailor
Preconditions	The Tailor must be logged into his account and should be on 'Product' section.
Basic Flow	Tailor will be able to delete his Product.

	Action	**Response**
Main Success Scenario	1. Tailor on ‘Delete’ button against a particular Product. 5. tailor will re-confirm to delete the Product.	2. System will ask the tailor to re-confirm. 3. System delete the respective Product and attached resources. 4. System will display the success message.
Exceptional Flow	5.2. User will reconfirm Delete showcase 5.1.2 User cancel the deletion upon re-confirmation 5.1.2. the showcase will not be deleted	
Post Conditions	The tailor successfully deleted the showcase.	

Edit showcase

Table 4.22: Fully Dressed Use Case - Edit showcase

Use Case ID	UC-22
Use Case	Edit showcase
Actors	tailor
Preconditions	The tailor must be logged into his account and should be on ‘showcase ‘page.
Basic Flow	Tailor will be able to edit showcase.

	Action	**Response**
Main Success Scenario	1. Tailor clicks on the respective Product to be edited. 2. Tailor will edit the showcase.	3. System will display the detail view of that Showcase. 4. System will validate and update the showcase accordingly.

Exceptional Flow	2.1. Seller has left empty fields 2.1.1 the system will ask the user to fill in all the form fields. 2.2. 'Name' field contains special characters or arithmetic operations 2.2.1. system will display error message. 2.3. 'Product Material' field contains special characters, Numeric or arithmetic operations 2.3.1. system will display error message 2.4. 'Category' field is required if user does not fill 2.4.1. system will display error message 2.5. 'Size' field is required if user does not fill 2.5.1. system will display error message 2.6. 'Description' field Length Should be from 1 to 500 if user exceed length. 2.6.1. system will display error message 2.7. 'Image' field Length Should have valid image format 2.7.1. system will display error message 2.8. 'Price' field contains special characters, Alphabet or arithmetic operations 2.8.1. system will display error message 2.9. 'Quantity' field contains special characters, Alphabet or arithmetic operations 2.9.1. system will display error message
Post Conditions	Tailor successfully edited the Showcase.

Communication

Table 4.23: Fully Dressed Use Case - Communication

Use Case ID	UC-23	
Use Case	Communication	
Actors	Buyer, Tailor	
Preconditions	The tailor must be on website's "Profile" page.	
Basic Flow	Buyer will be able to contact Tailor.	
Main Success Scenario	**Action**	**Response**
	1. Buyer will click on profile of a particular Tailor.	2. System will display the detailed profile of that Seller.
	3. Buyer will click on "Send Message" button to Seller.	4. System will re-direct Buyer to Message.
Exceptional Flow	3.1 Message will be sent 3.1.1 System will display message sending failed 3.1.2 System will display message will be send	
Post Conditions	The Buyer will successfully contact Tailor.	

Tailoring

Table 4.24: Fully Dressed Use Case - Tailoring

Use Case ID	UC-24
Use Case	Tailor
Actors	Buyer, Tailor
Preconditions	The Tailor must be logged into his account and should be on 'Request 'page.
Basic Flow	Buyer will be able to send Tailoring Request.

	Action	**Response**
Main Success Scenario	1. Tailor clicks on the Request to Read	2. System will display the detail view of that Product.
	3. Tailor will Accept tailoring request	4. System will validate and assign the request.
Exceptional Flow	3.1. tailoring request upon re-confirmation 3.2. User will accept the request in given time and budget 3.3. User will delete the tailoring request and use case ended	
Post Conditions	Tailor successfully accepts the request.	

1.1.1. Activity Diagrams

Register

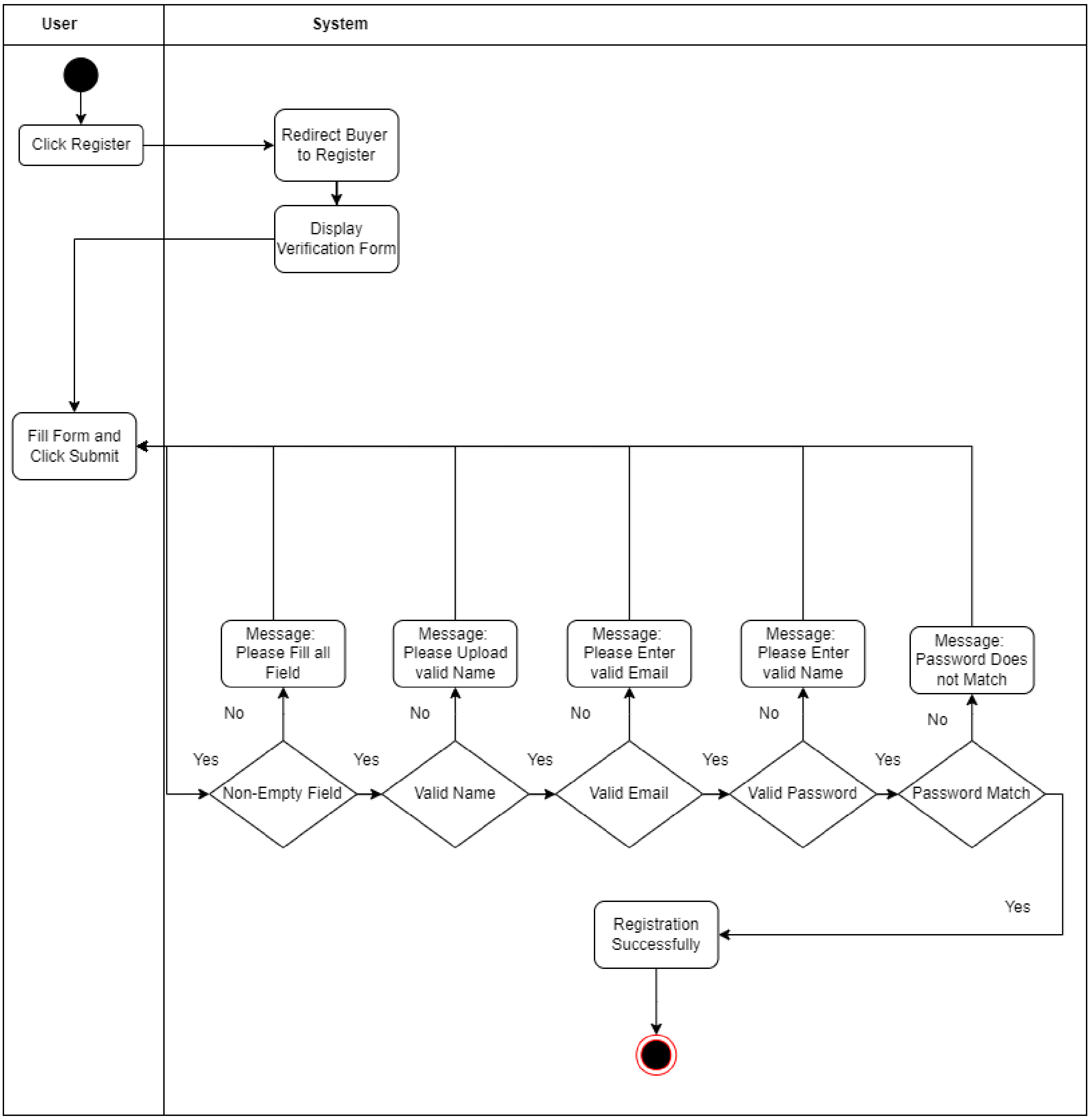

User
System
Click Register
Redirect Buyer to Register
Display Verification Form
Fill Form and Click Submit
Message: Please Fill all Field
Message: Please Upload valid Name
Message: Please Enter valid Email
Message: Please Enter valid Name
Message: Password Does not Match
No
No
No
No
No
Yes
Yes
Yes
Yes
Yes
Non-Empty Field
Valid Name
Valid Email
Valid Password
Password Match
Yes
Registration Successfully

Figure 4.6: Activity Diagram – Register

Login

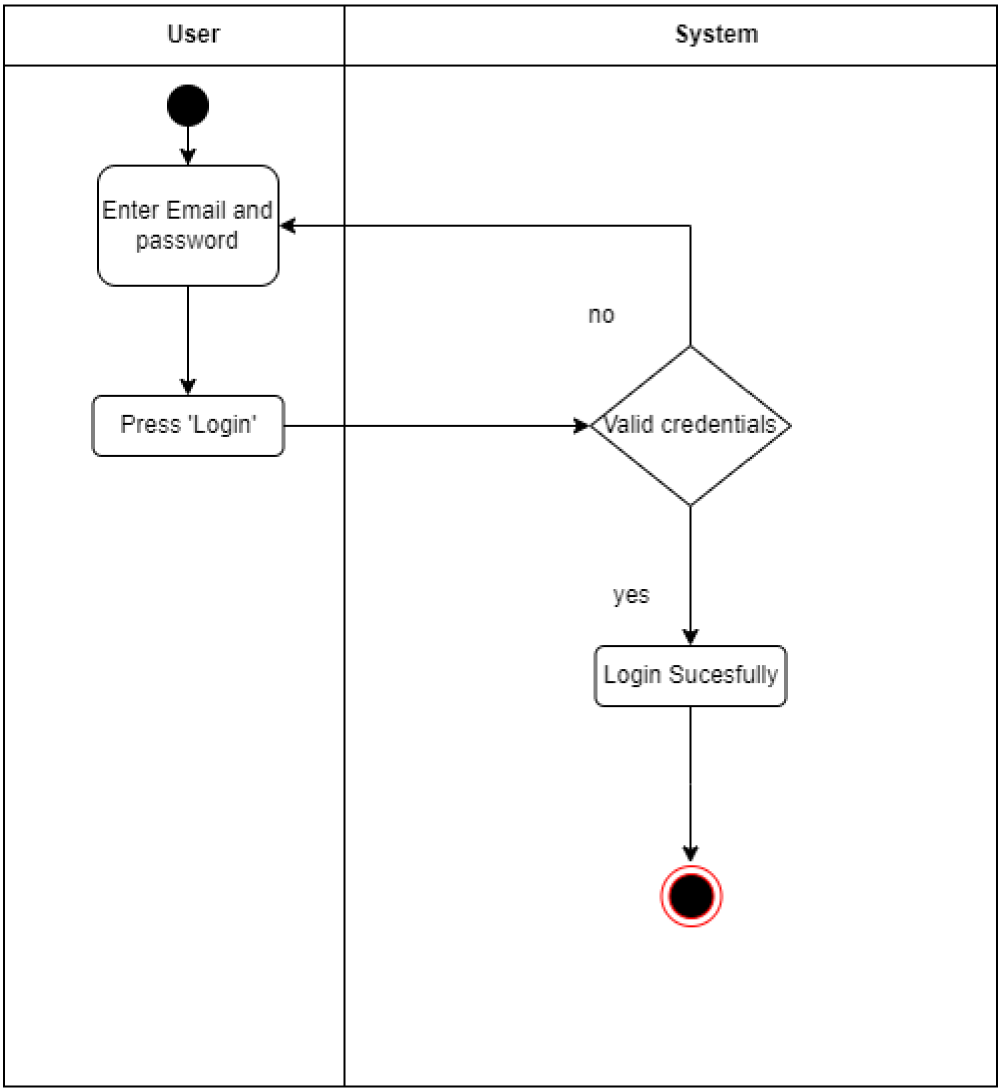


Figure 4.7: Activity Diagram – Login

Forgot Password

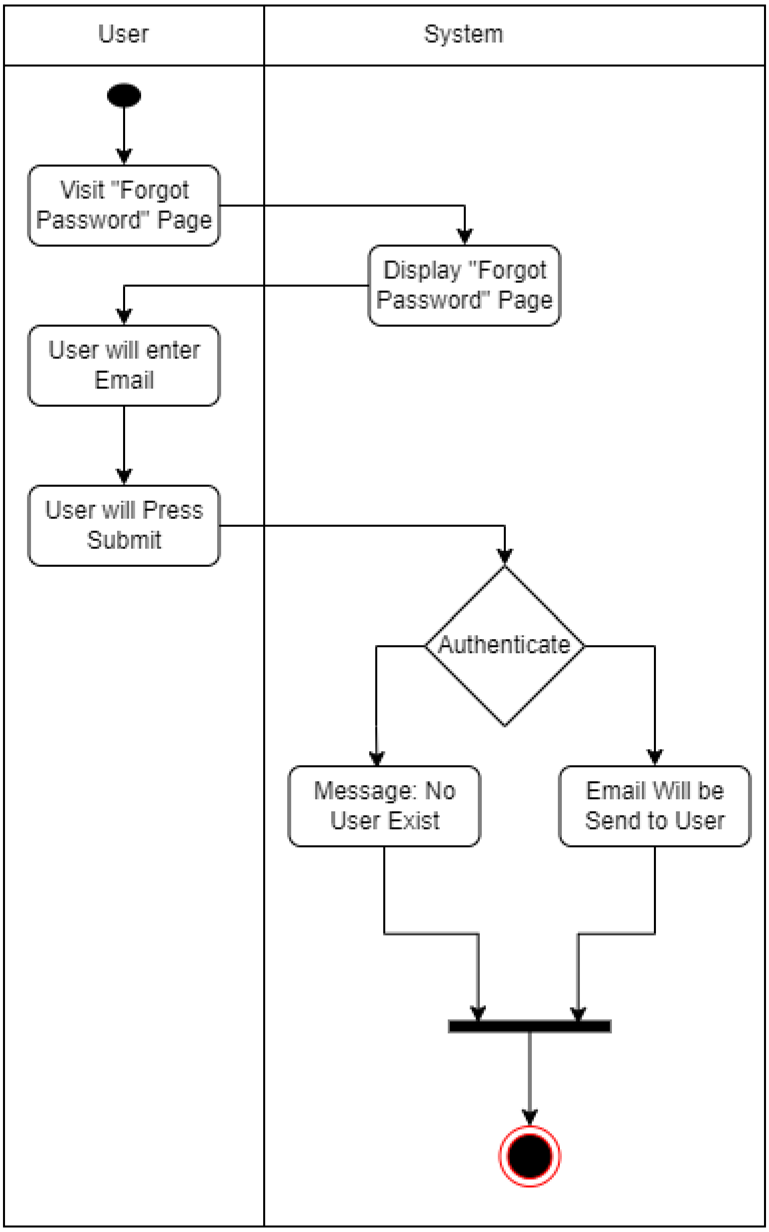


Figure 4.8: Activity Diagram – Forgot Password

Verify User

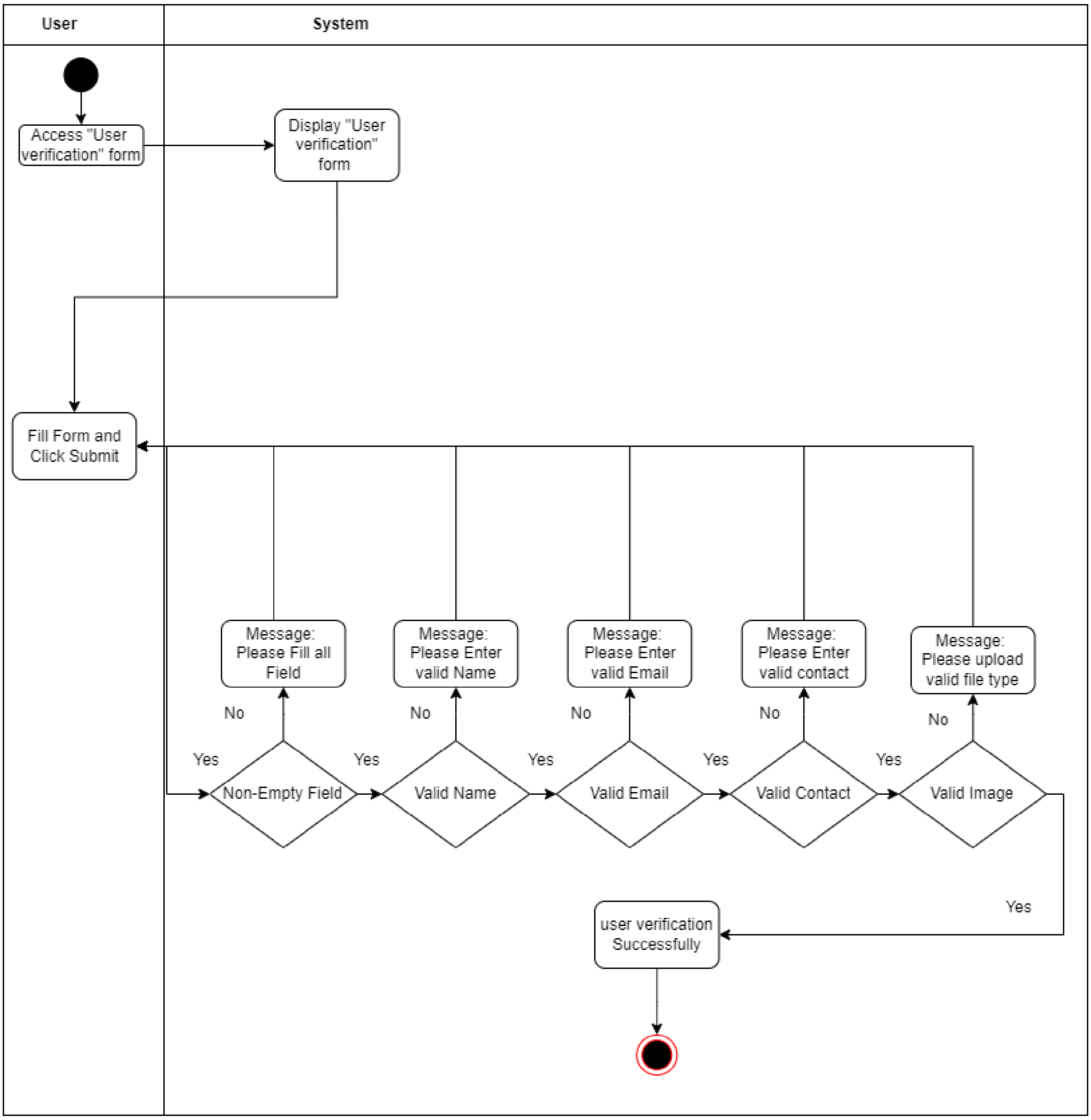

User
System
Access "User verification" form
Display "User verification" form
Fill Form and Click Submit
Message: Please Fill all Field
Message: Please Enter valid Name
Message: Please Enter valid Email
Message: Please Enter valid contact
Message: Please upload valid file type
No
No
No
No
No
Yes
Yes
Yes
Yes
Yes
Non-Empty Field
Valid Name
Valid Email
Valid Contact
Valid Image
Yes
user verification Successfully

Figure 4.9: Activity Diagram – Verify User

Deactivate User

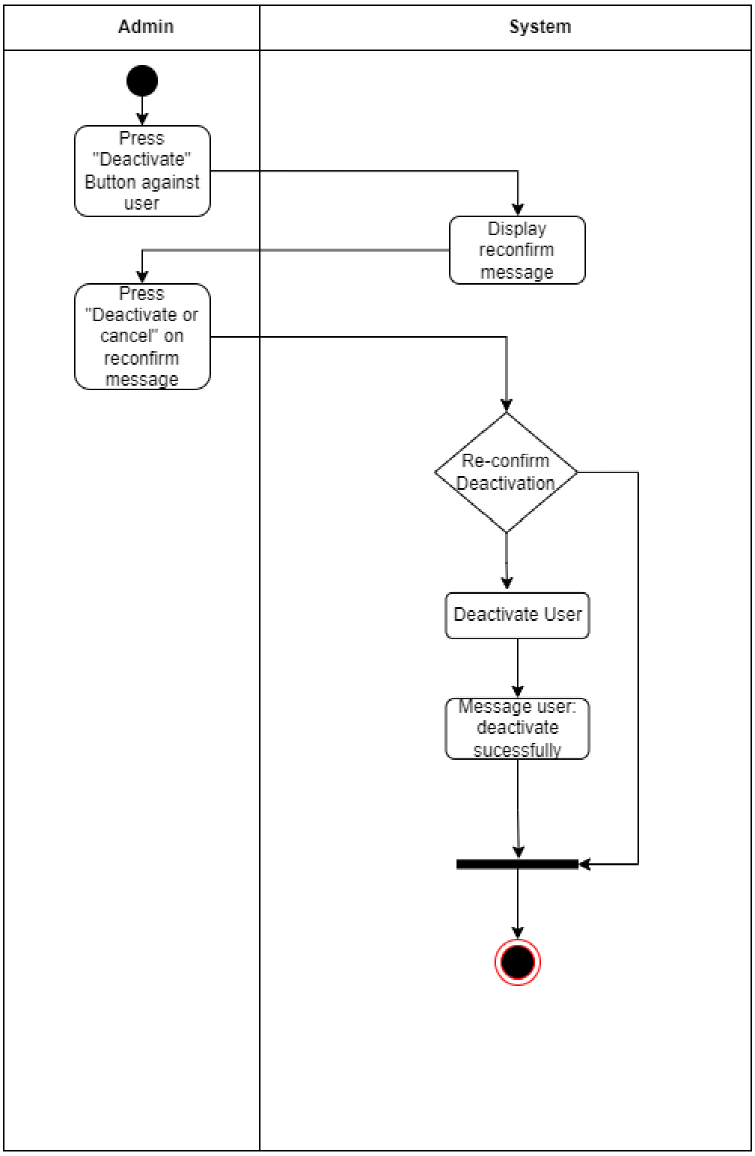

Admin
System
Press "Deactivate" Button against user
Display reconfirm message
Press "Deactivate or cancel" on reconfirm message
Re-confirm Deactivation
Deactivate User
Message user: deactivate sucessfully

Figure 4.10: Activity Diagram - Deactivate User

View User

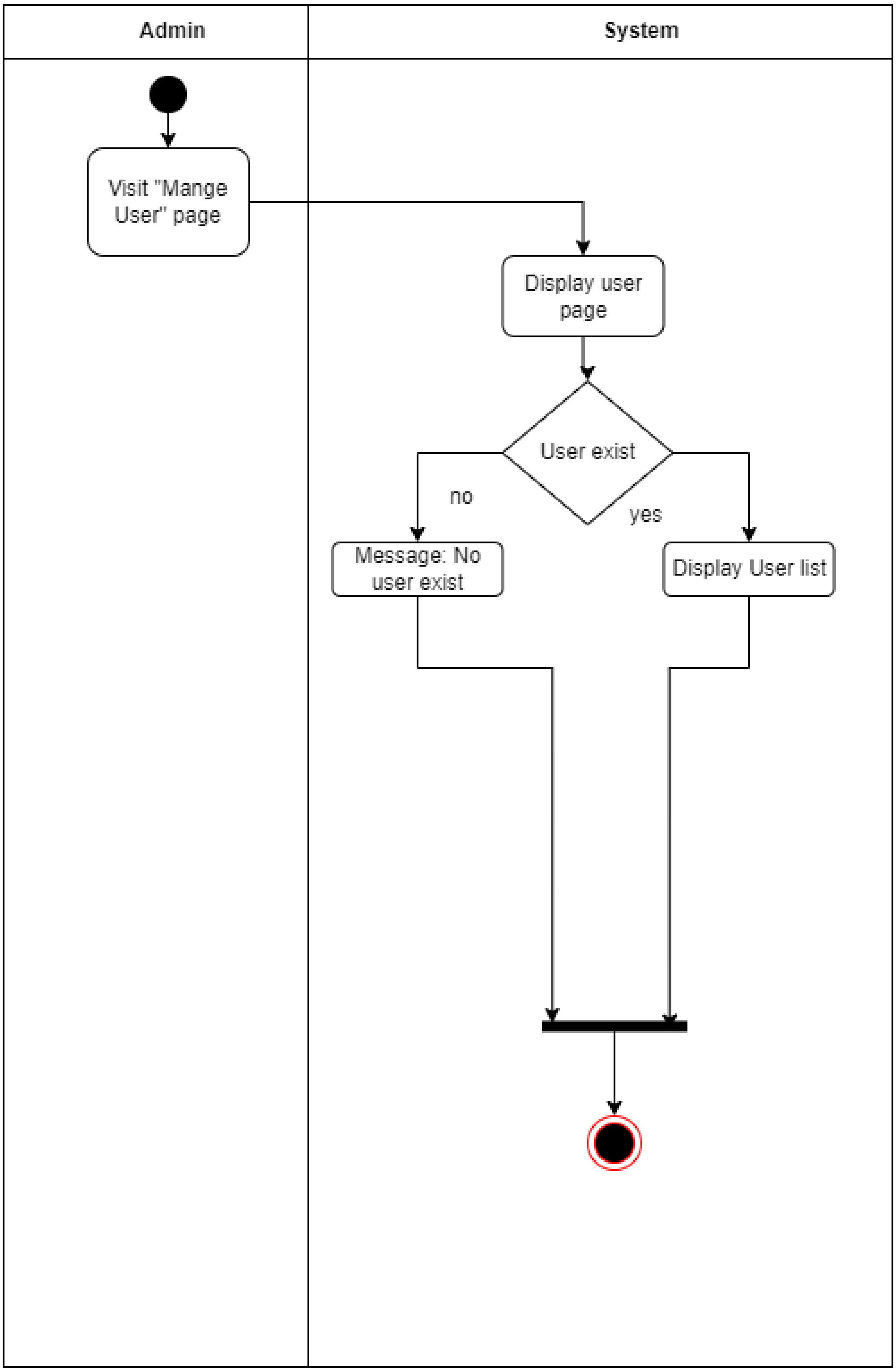


Figure 4.11: Activity Diagram – View User

User Querry

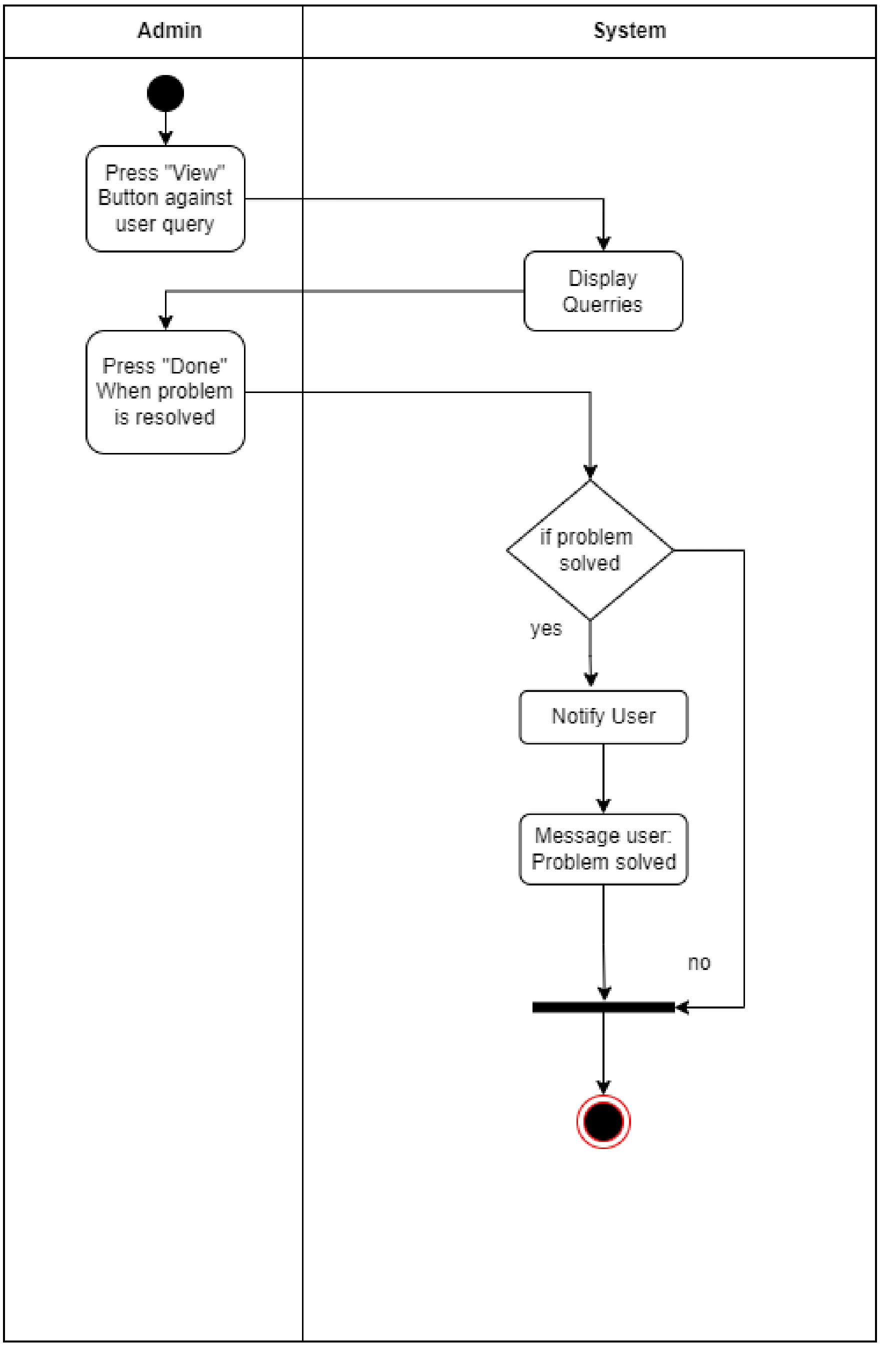

Admin
System
Press "View" Button against user query
Display Querries
Press "Done" When problem is resolved
if problem solved
yes
Notify User
Message user: Problem solved
no

Figure 4.12: Activity Diagram – User query

Search User

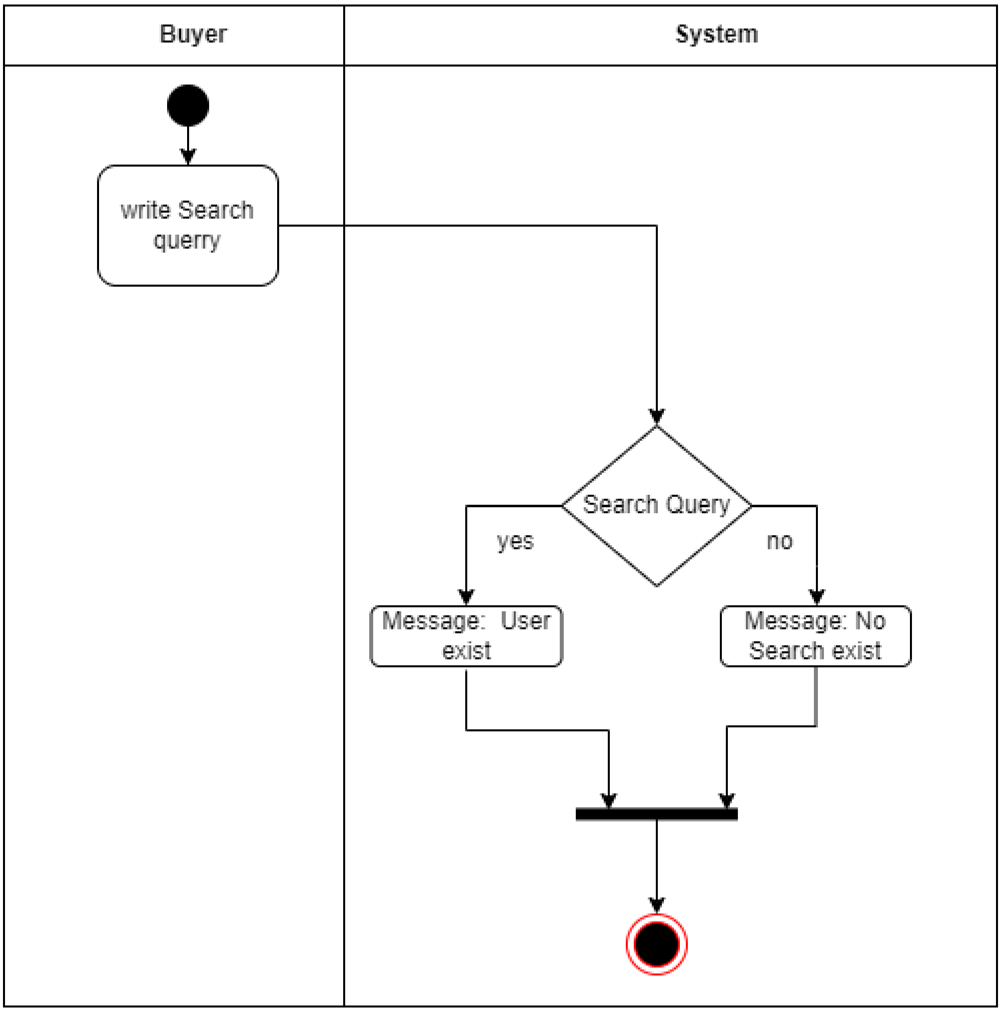


Figure 4.13: Activity Diagram – Search User

Verify order

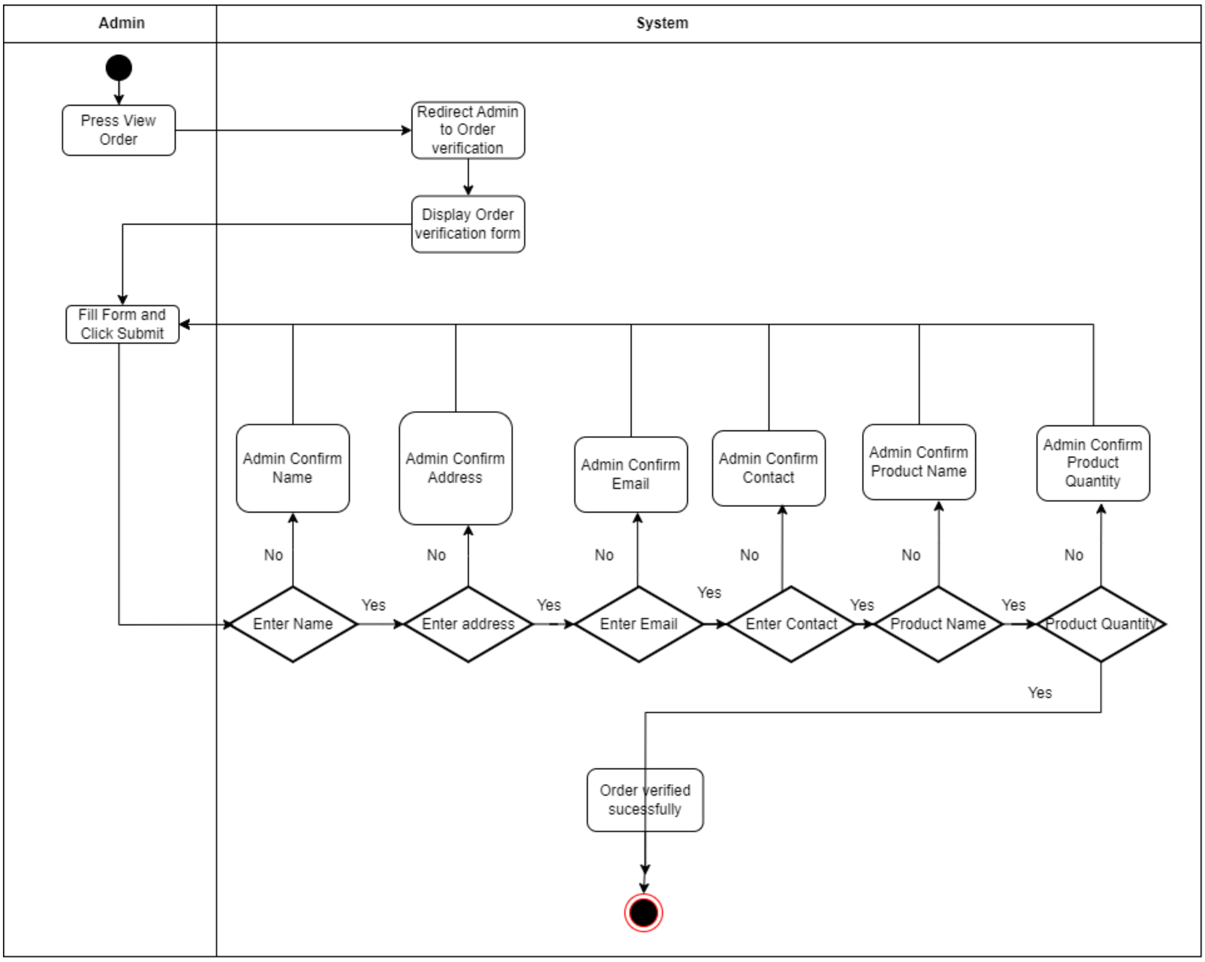


Figure 4.14: Activity Diagram – verify User

View product

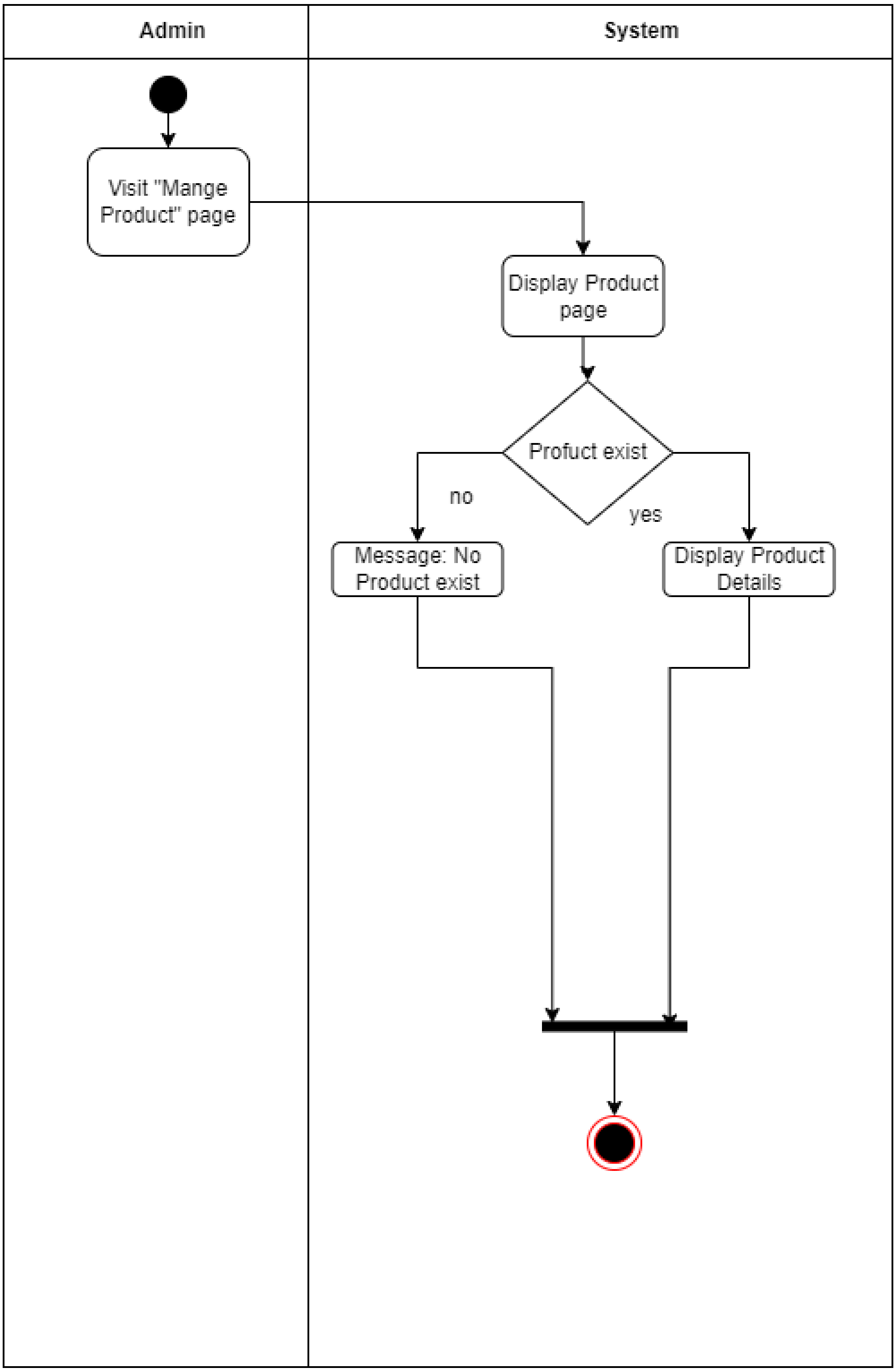


Figure 4.15: Activity Diagram – View product

Search Product

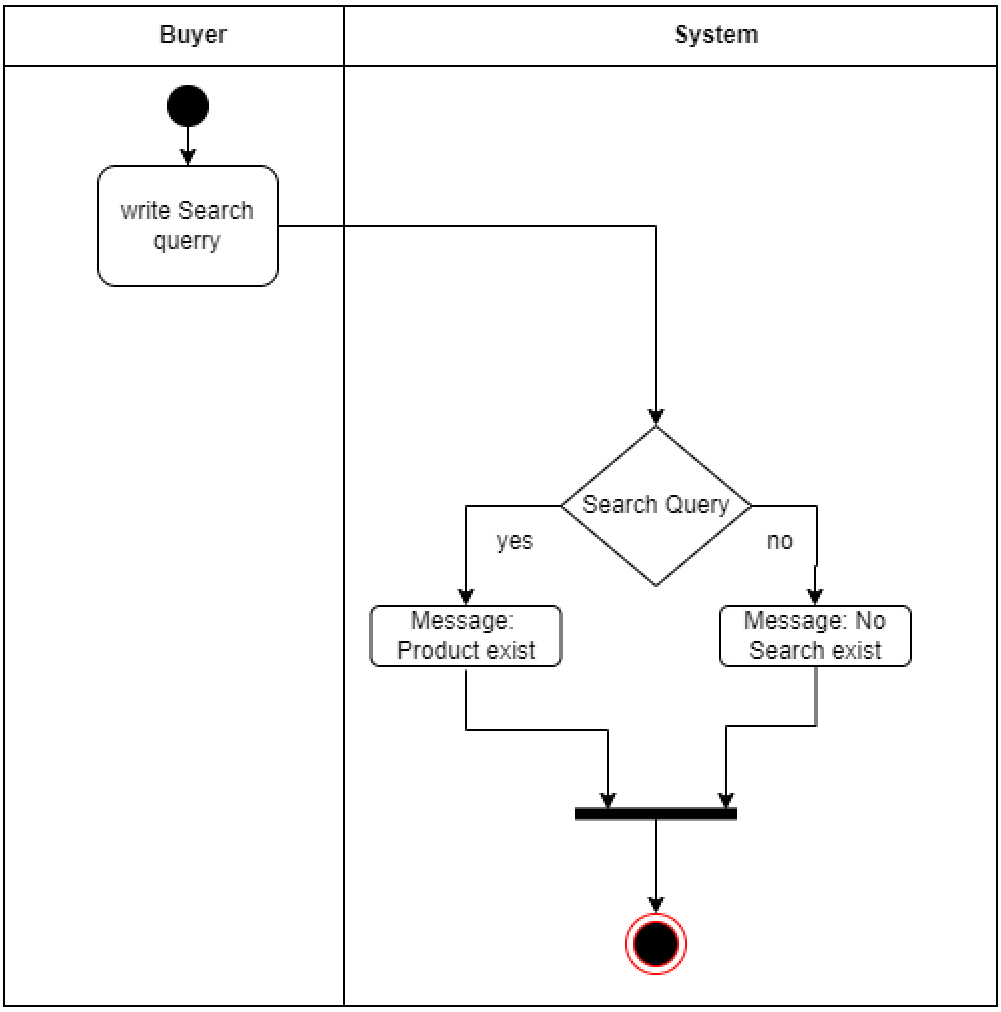


Figure 4.16: Activity Diagram – Search Product

Filter Product

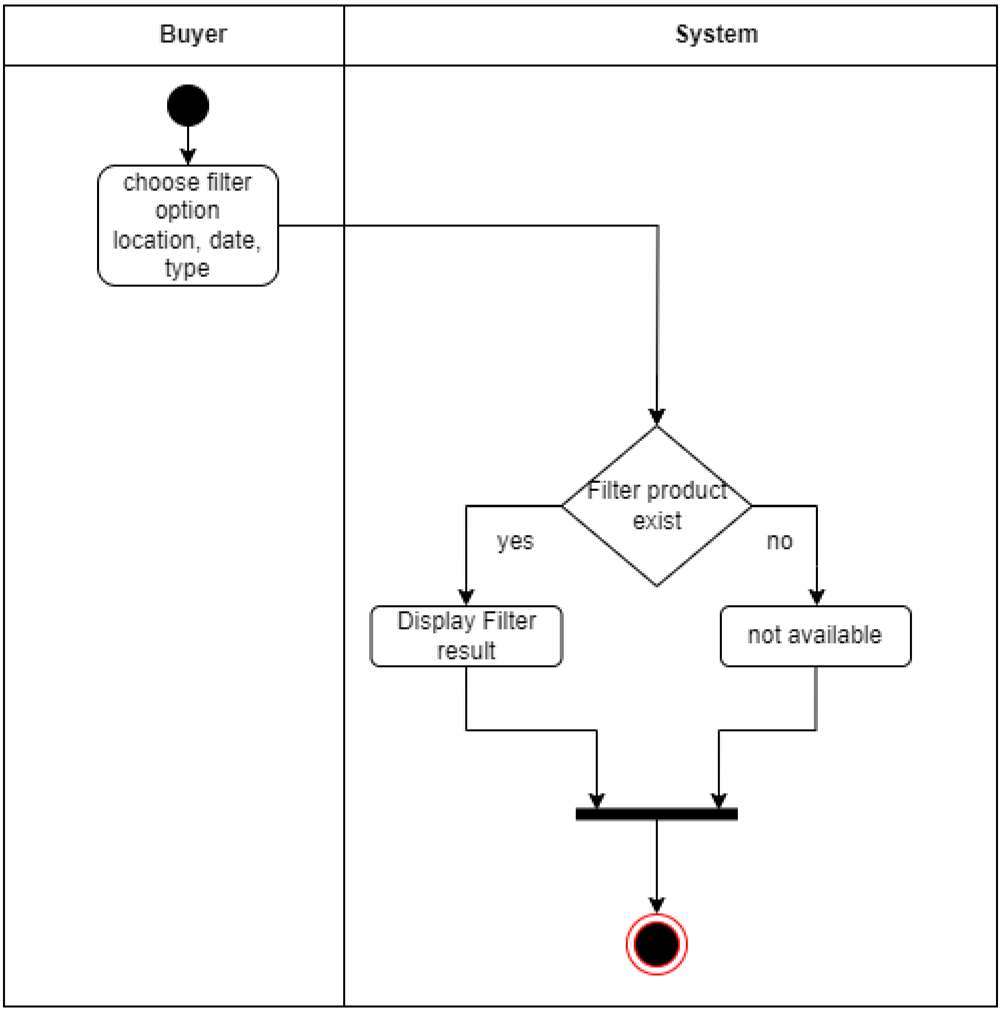


Figure 4.17: Activity Diagram – Filter Product

View Seller Profile

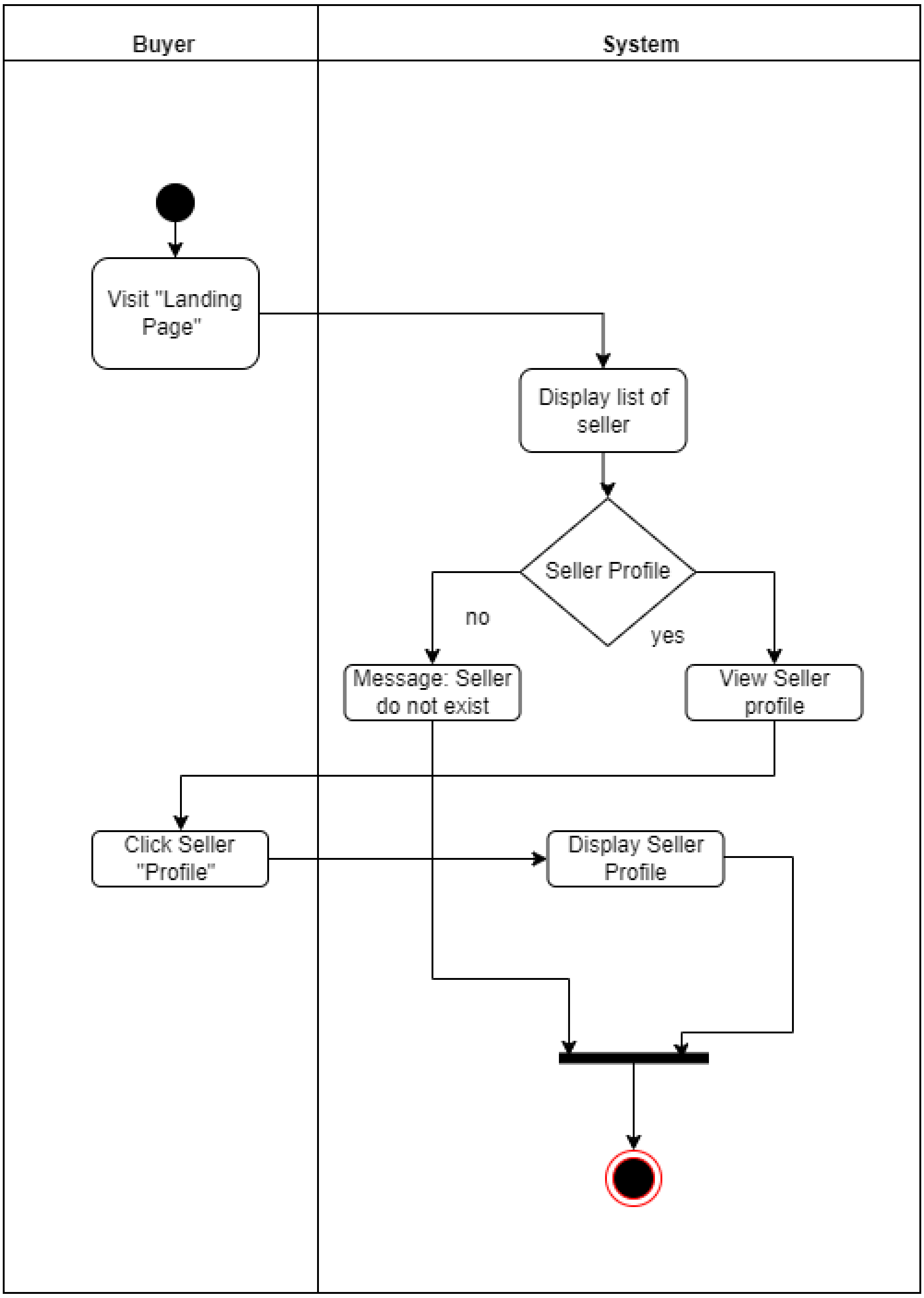


Figure 4.18: Activity Diagram – View Seller

Contact Seller

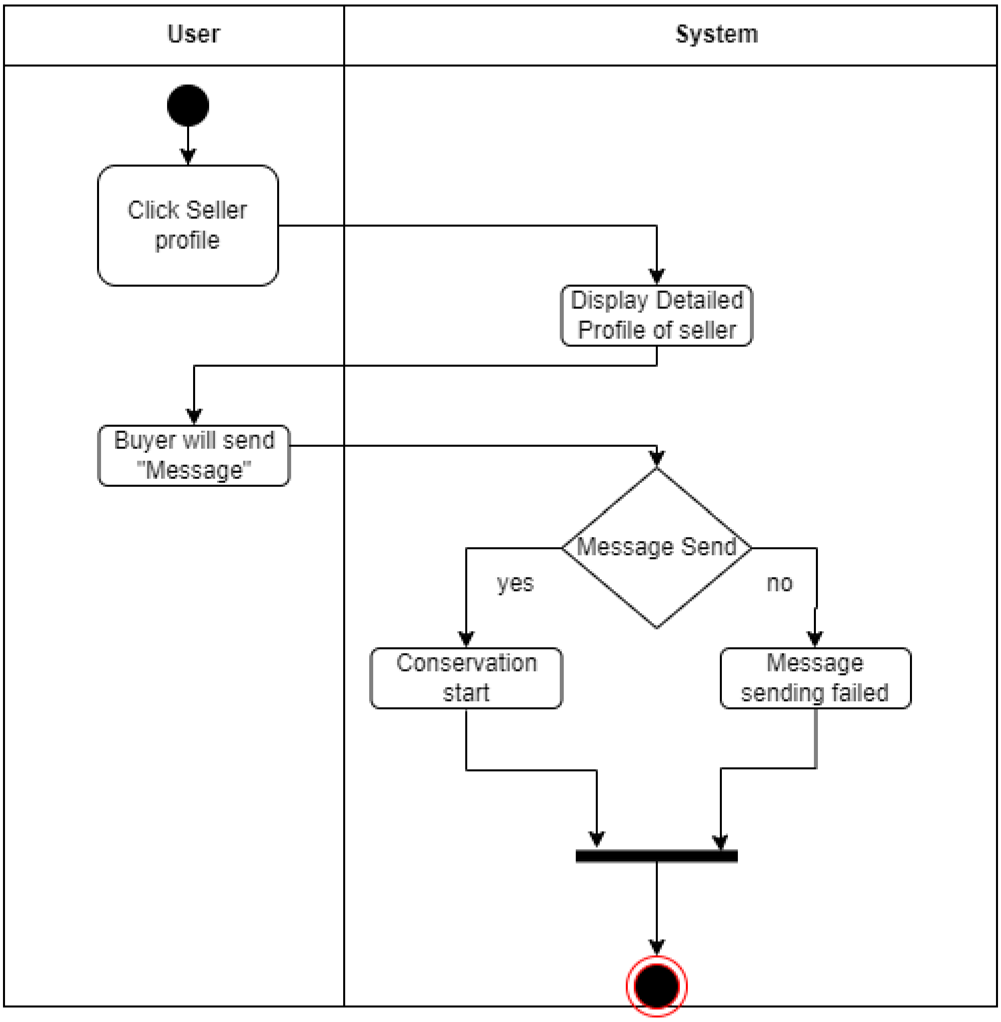


Figure 4.19: Activity Diagram – Contact Seller

Create Order

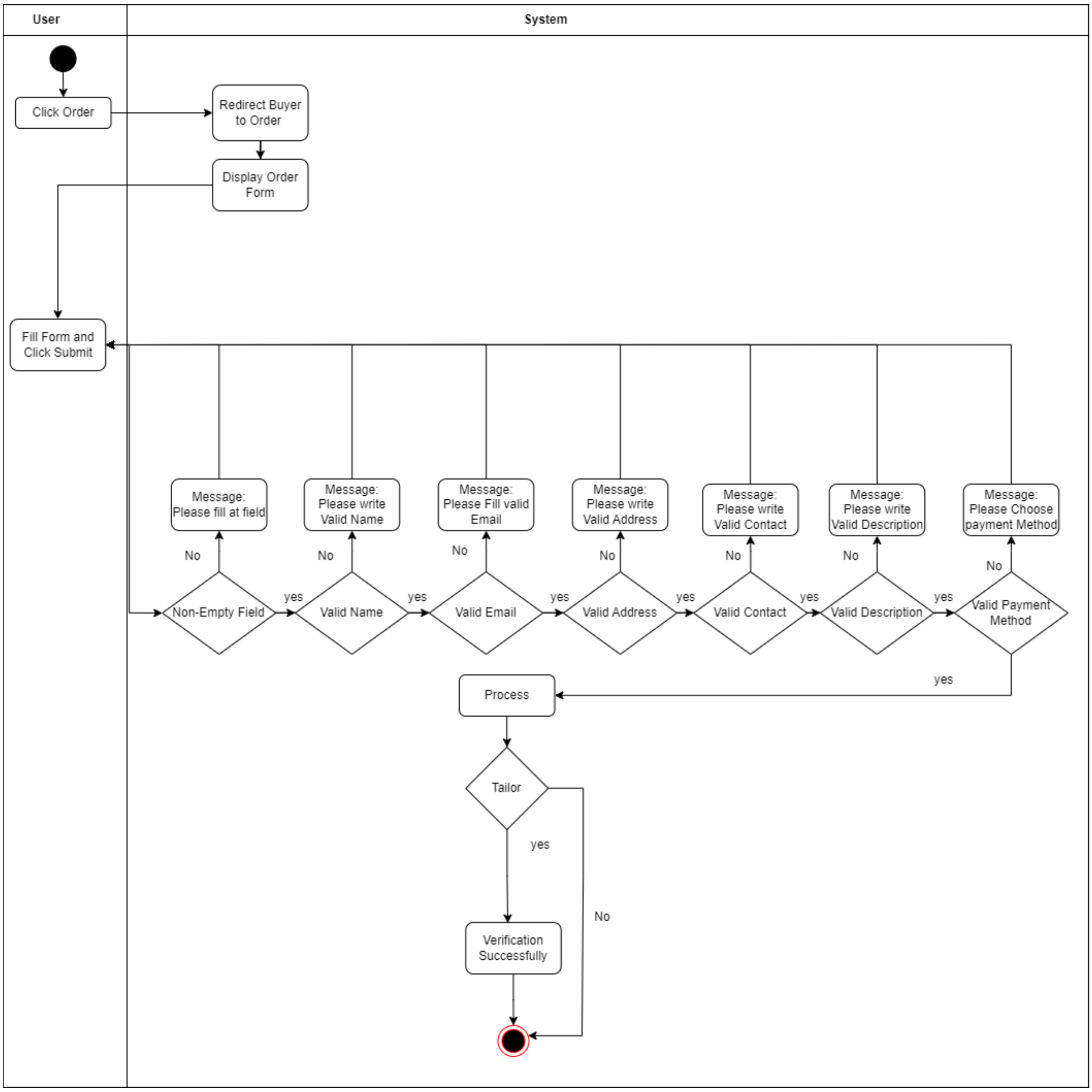

User
System
Click Order
Redirect Buyer to Order
Display Order Form
Fill Form and Click Submit
Message: Please fill at field
Message: Please write Valid Name
Message: Please Fill valid Email
Message: Please write Valid Address
Message: Please write Valid Contact
Message: Please write Valid Description
Message: Please Choose payment Method
No
No
No
No
No
No
No
Non-Empty Field
yes
Valid Name
yes
Valid Email
yes
Valid Address
yes
Valid Contact
yes
Valid Description
yes
Valid Payment Method
yes
Process
Tailor
yes
No
Verification Successfully

Figure 4.20: Activity Diagram – Create Order

Bid Showcase

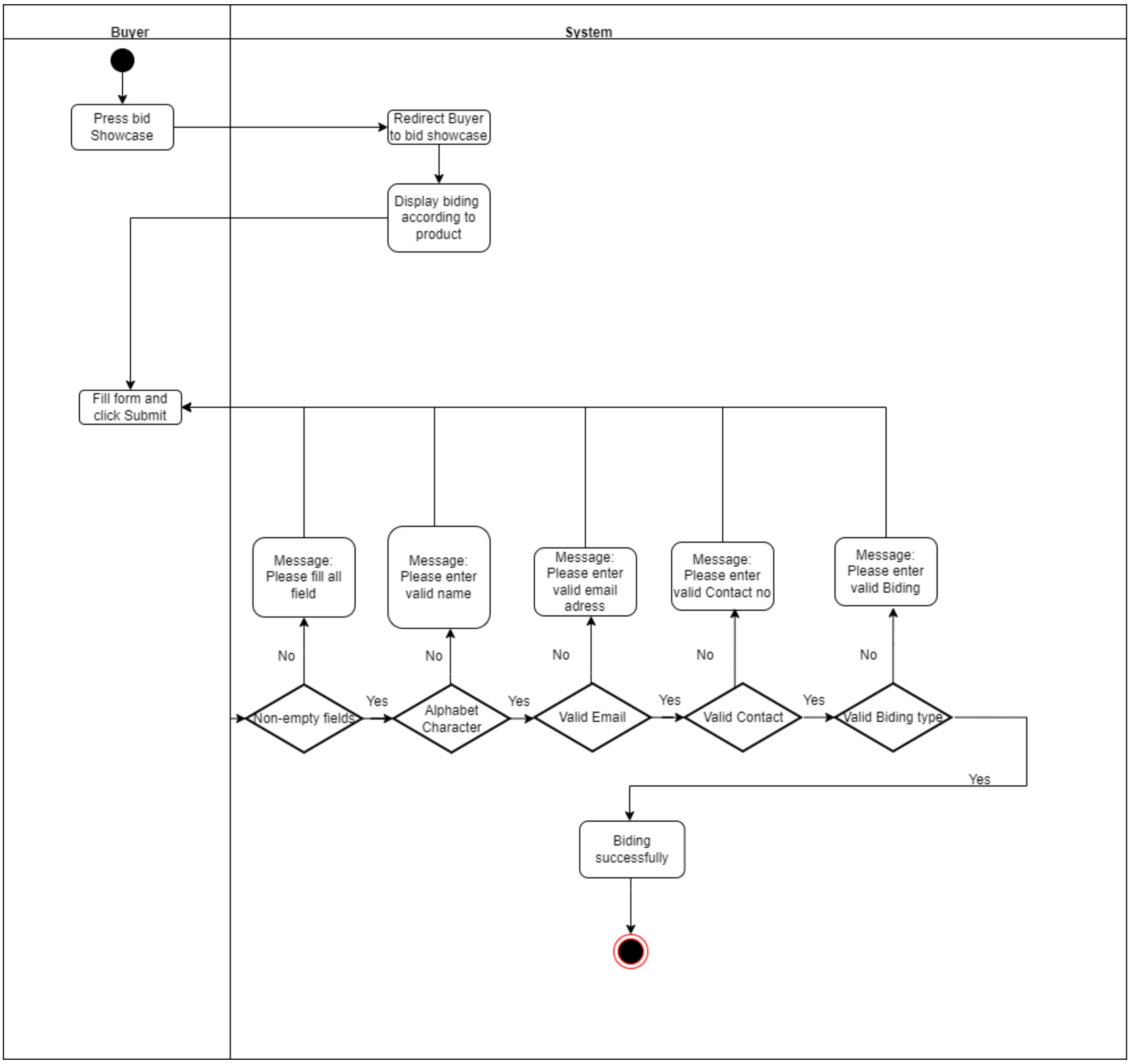

Buyer
System
Press bid Showcase
Redirect Buyer to bid showcase
Display biding according to product
Fill form and click Submit
Message: Please fill all field
Message: Please enter valid name
Message: Please enter valid email adress
Message: Please enter valid Contact no
Message: Please enter valid Biding
No
No
No
No
No
Non-empty fields
Yes
Alphabet Character
Yes
Valid Email
Yes
Valid Contact
Yes
Valid Biding type
Yes
Biding successfully

Figure 4.21: Activity Diagram – Bid Product

List Product

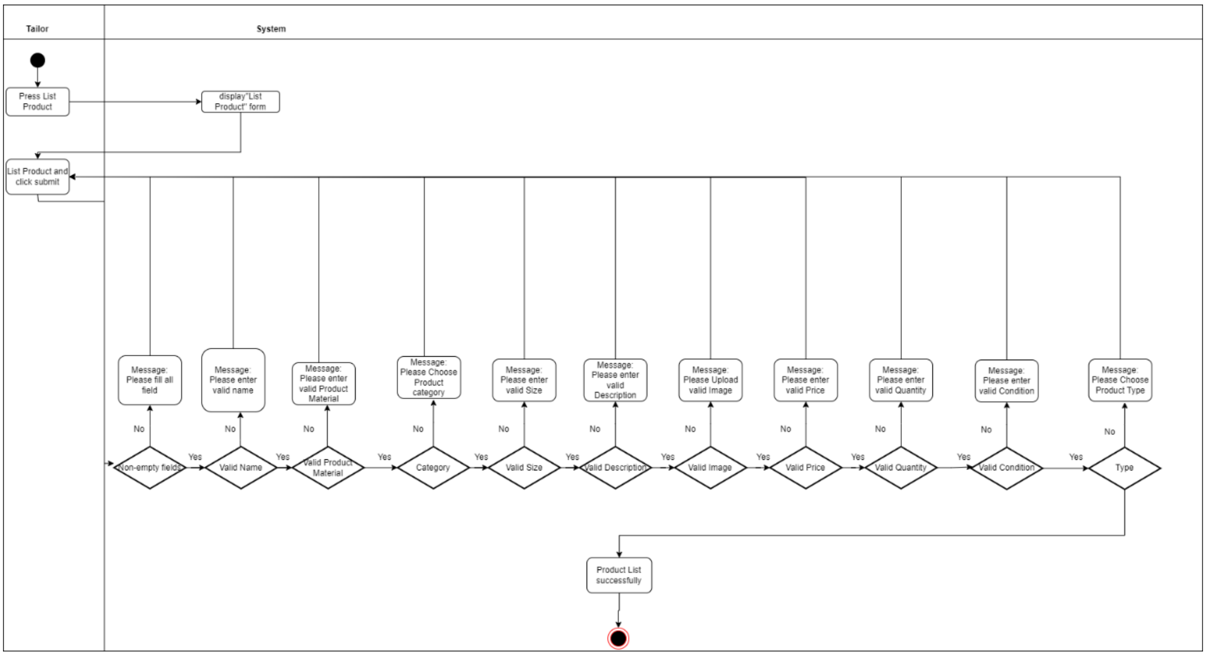

Tailor
System
Press List Product
display"List Product" form
List Product and click submit
Non-empty fields
Valid Name
Valid Product Material
Category
Valid Size
Valid Description
Valid Image
Valid Price
Valid Quantity
Valid Condition
Type
Yes
No
Message: Please fill all field
Message: Please enter valid name
Message: Please enter valid Product Material
Message: Please Choose Product category
Message: Please enter valid Size
Message: Please enter valid Description
Message: Please Upload valid Image
Message: Please enter valid Price
Message: Please enter valid Quantity
Message: Please enter valid Condition
Message: Please Choose Product Type
Product List successfully

Figure 4.22: Activity Diagram – List Product

Delete Product

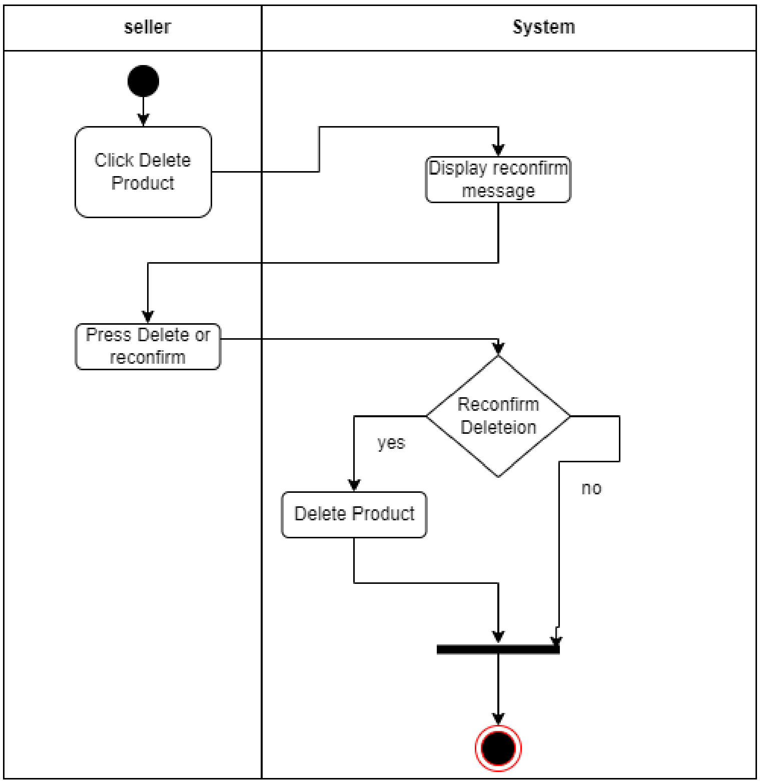


Figure 4.23: Activity Diagram –Delete product

Edit Product

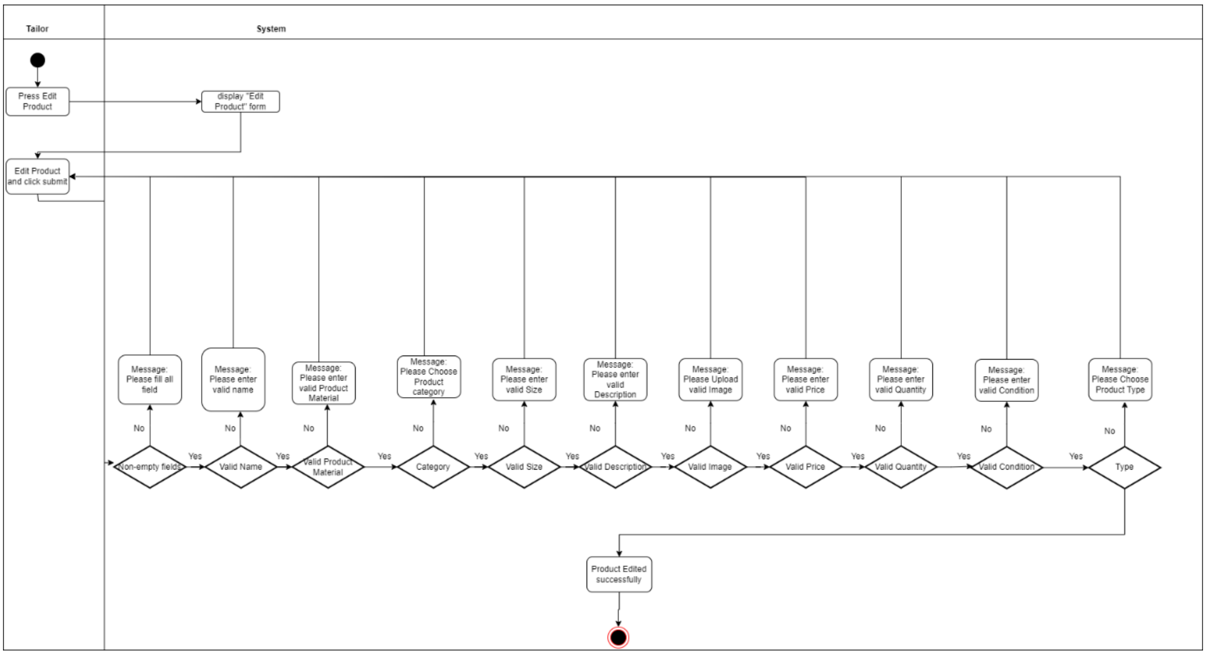

Tailor
System
Press Edit Product
display "Edit Product" form
Edit Product and click submit
Message: Please fill all field
Message: Please enter valid name
Message: Please enter valid Product Material
Message: Please Choose Product category
Message: Please enter valid Size
Message: Please enter valid Description
Message: Please Upload valid Image
Message: Please enter valid Price
Message: Please enter valid Quantity
Message: Please enter valid Condition
Message: Please Choose Product Type
No
Yes
Non-empty fields
Valid Name
Valid Product Material
Category
Valid Size
Valid Description
Valid Image
Valid Price
Valid Quantity
Valid Condition
Type
Product Edited successfully

Figure 4.24: Activity Diagram –Edit product

Showcase Product

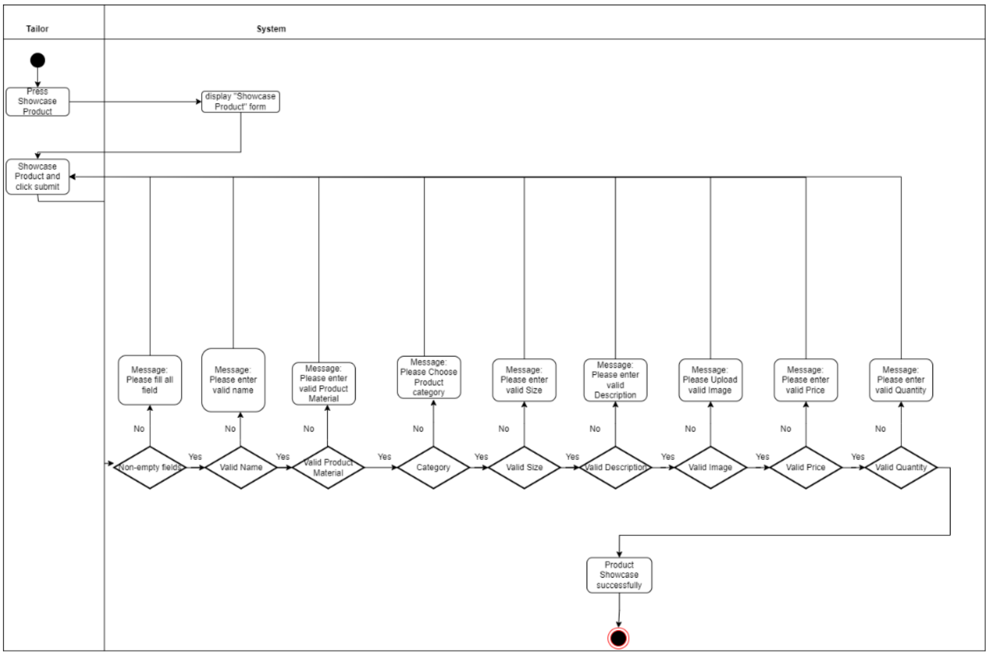

Tailor
System
Press Showcase Product
display "Showcase Product" form
Showcase Product and click submit
Message: Please fill all field
Message: Please enter valid name
Message: Please enter valid Product Material
Message: Please Choose Product category
Message: Please enter valid Size
Message: Please enter valid Description
Message: Please Upload valid Image
Message: Please enter valid Price
Message: Please enter valid Quantity
No
No
No
No
No
No
No
No
No
Non-empty fields
Yes
Valid Name
Yes
Valid Product Material
Yes
Category
Yes
Valid Size
Yes
Valid Description
Yes
Valid Image
Yes
Valid Price
Yes
Valid Quantity
Product Showcase successfully

Figure 4.25: Activity Diagram –Showcase product

Delete Showcase

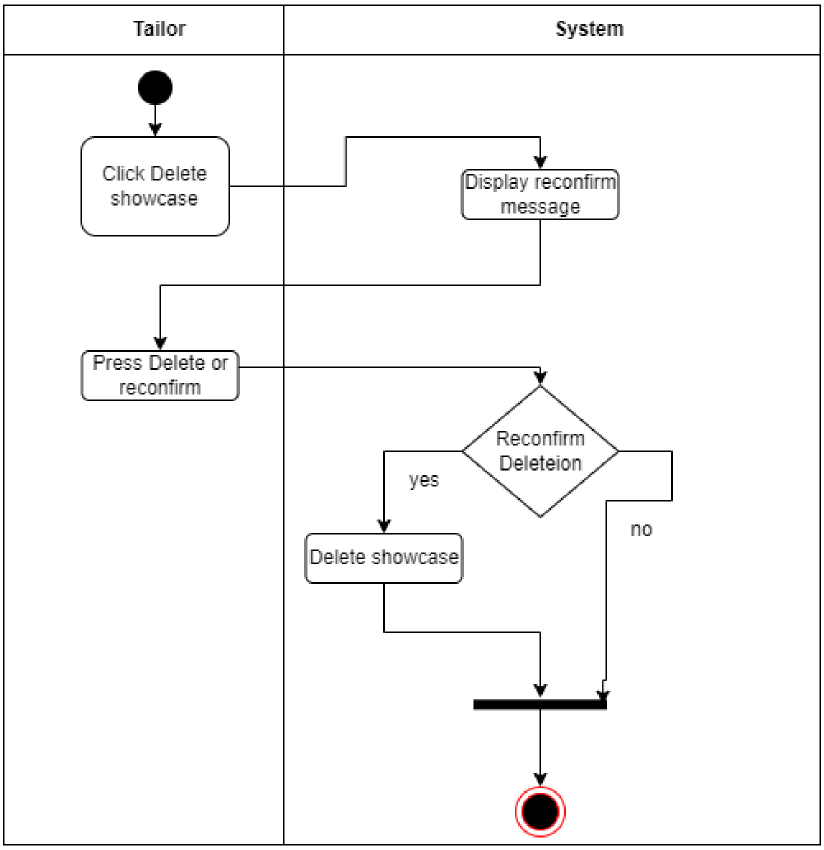


Figure 4.26: Activity Diagram – Delete Showcase

Edit **Showcase**

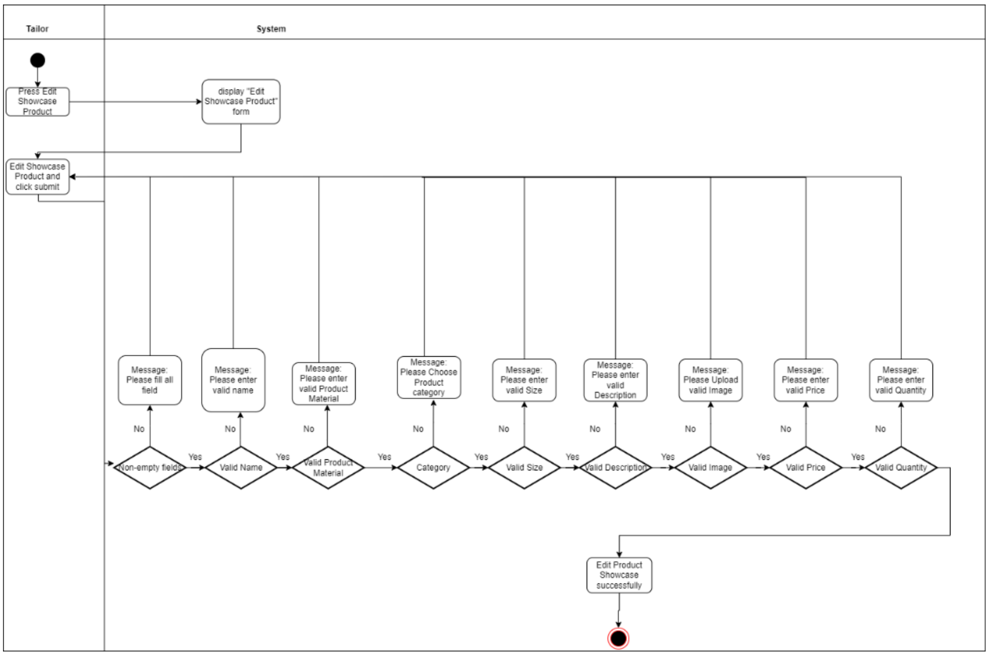

Tailor
System
Press Edit Showcase Product
display "Edit Showcase Product" form
Edit Showcase Product and click submit
Message: Please fill all field
Message: Please enter valid name
Message: Please enter valid Product Material
Message: Please Choose Product category
Message: Please enter valid Size
Message: Please enter valid Description
Message: Please Upload valid Image
Message: Please enter valid Price
Message: Please enter valid Quantity
No
No
No
No
No
No
No
No
No
Non-empty fields
Yes
Valid Name
Yes
Valid Product Material
Yes
Category
Yes
Valid Size
Yes
Valid Description
Yes
Valid Image
Yes
Valid Price
Yes
Valid Quantity
Edit Product Showcase successfully

Figure 4.27: Activity Diagram – Edit Showcase

Communication

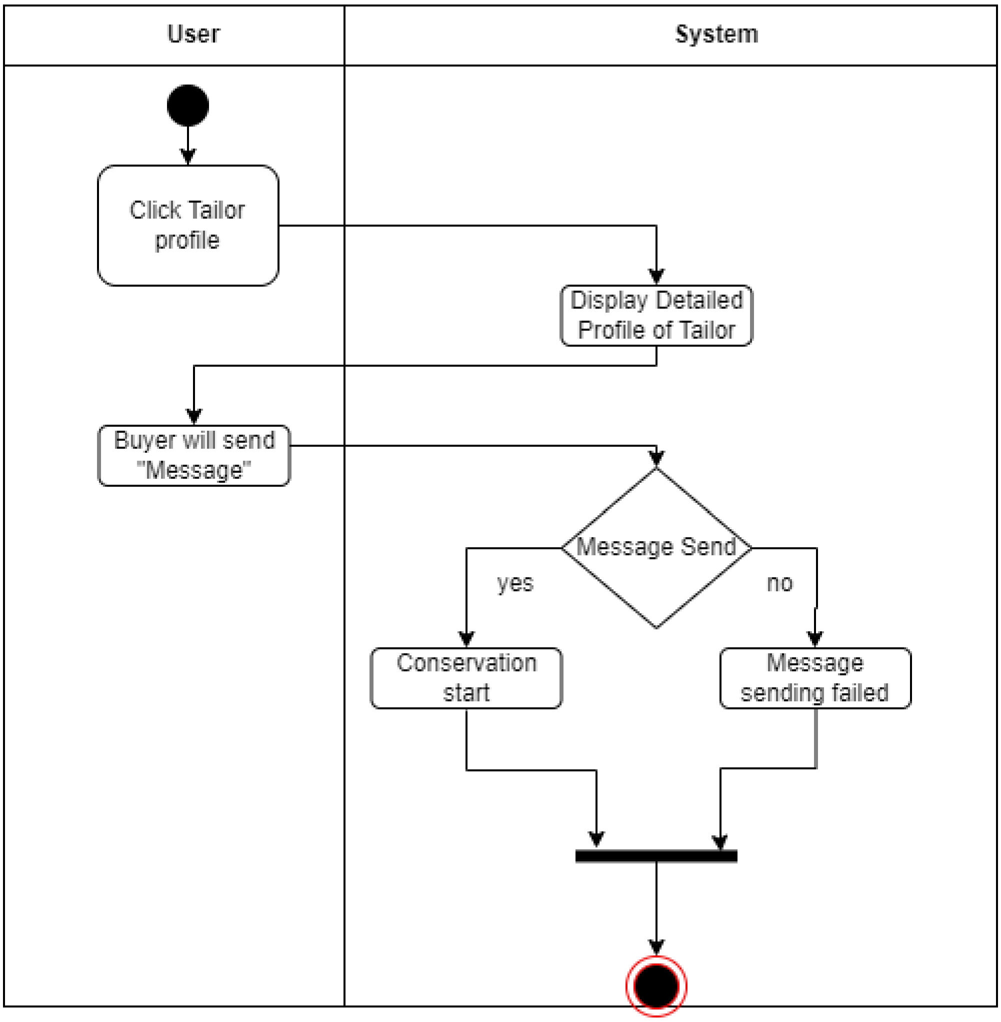


Figure 4.28: Activity Diagram – Communication

Tailoring

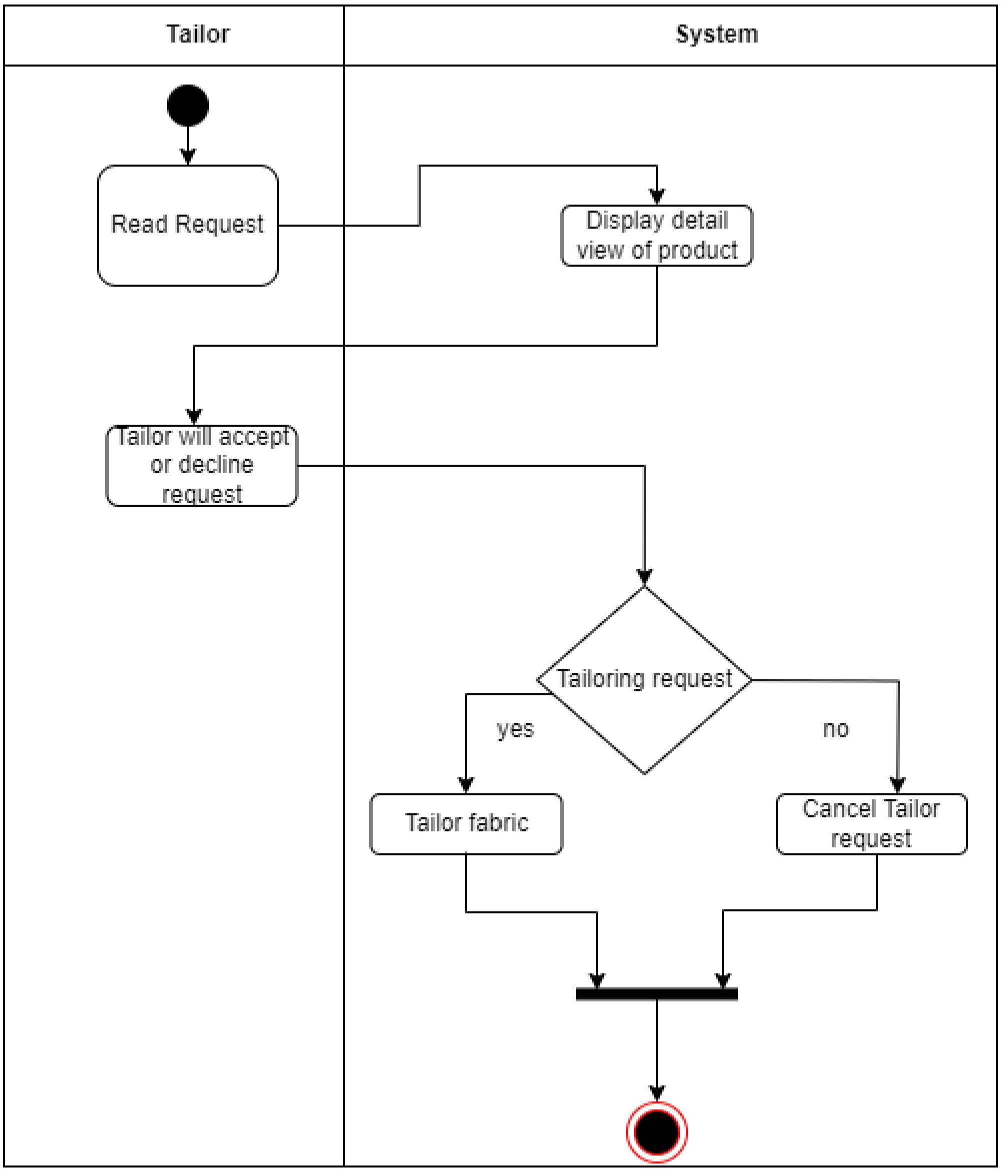


Figure 4.29: Activity Diagram – Tailoring

Manage Profile

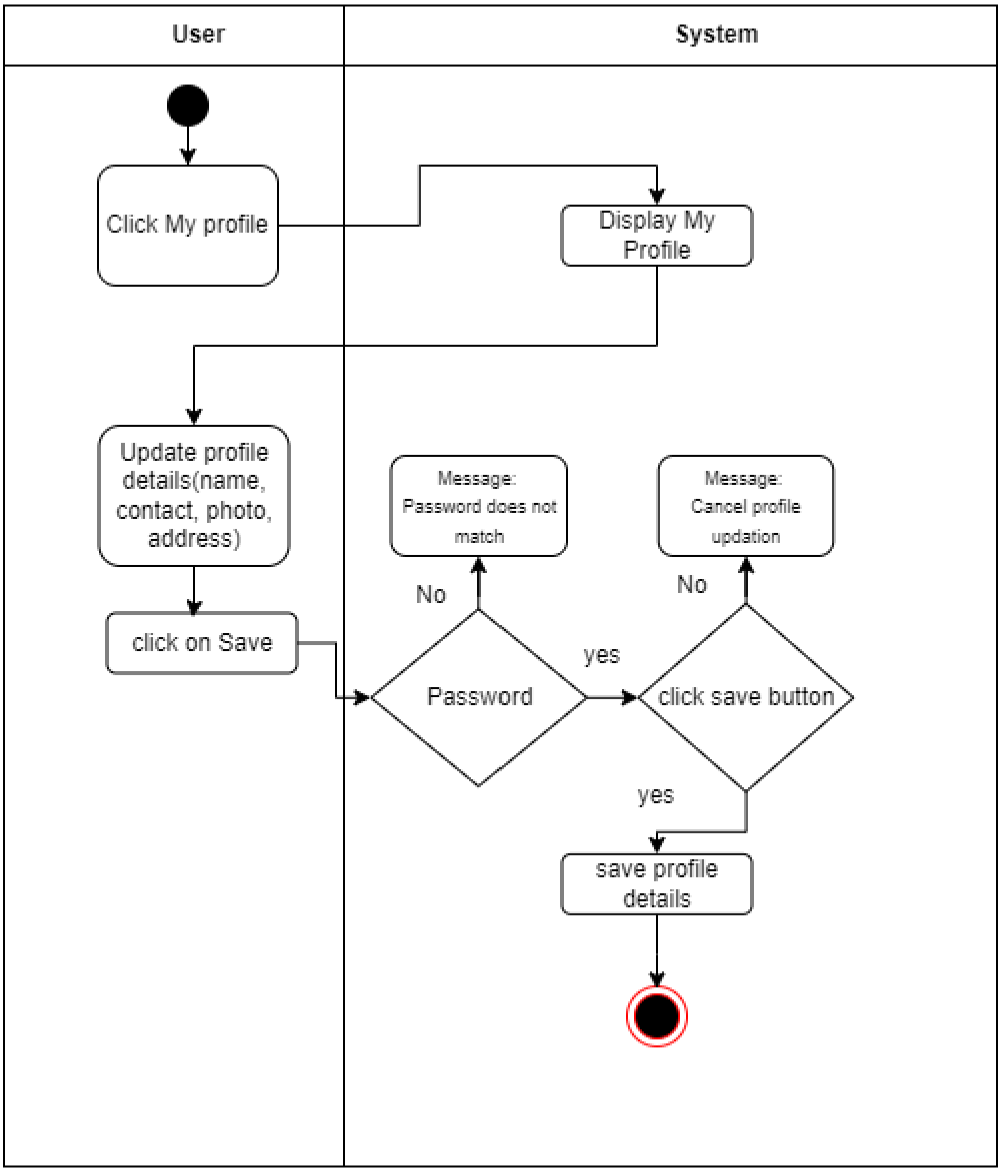
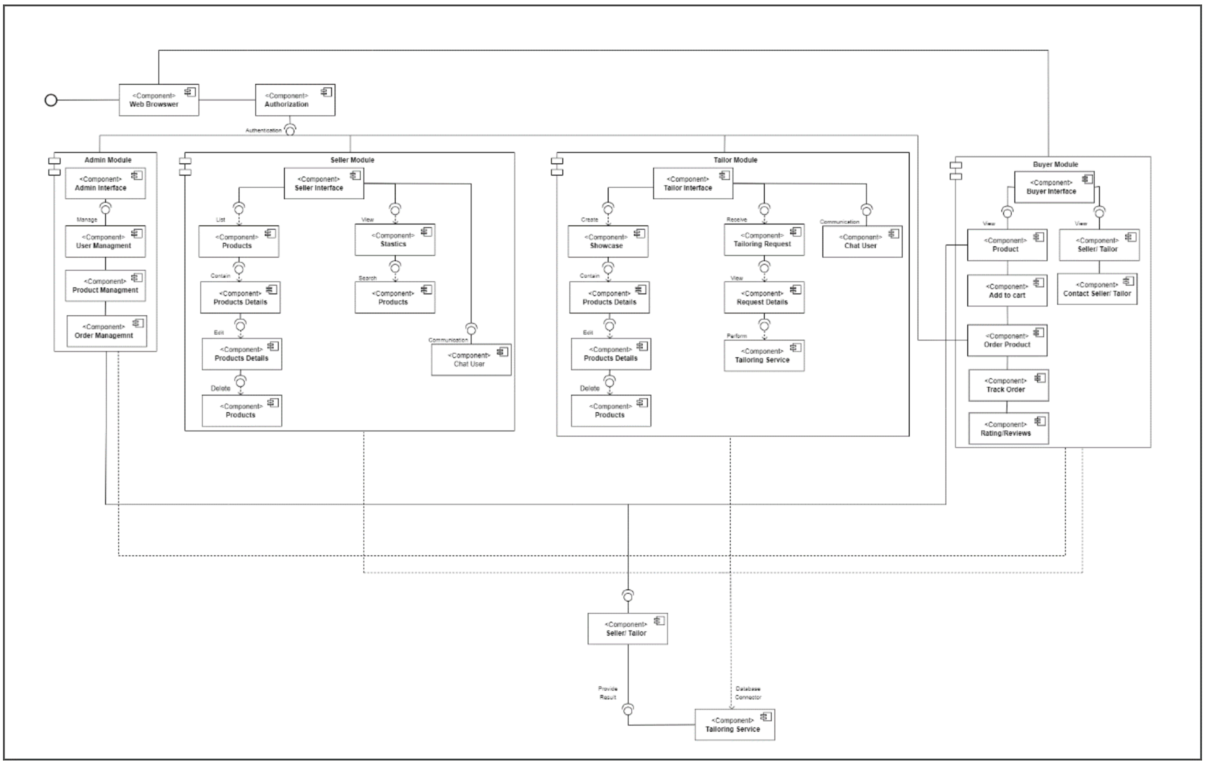

User
System
Click My profile
Display My Profile
Update profile details(name, contact, photo, address)
click on Save
Message: Password does not match
Message: Cancel profile updation
No
No
Password
yes
click save button
yes
save profile details

Figure 4.30: Activity Diagram – Manage Profile

1.1.2. Component Diagram



<Component> Web Browswer
<Component> Authorization
Authentication
Admin Module
<Component> Admin Interface
Manage
<Component> User Managment
<Component> Product Managment
<Component> Order Managemnt
Seller Module
<Component> Seller Interface
List
<Component> Products
Contain
<Component> Products Details
Edit
<Component> Products Details
Delete
<Component> Products
View
<Component> Stastics
Search
<Component> Products
Communication
<Component> Chat User
Tailor Module
<Component> Tailor Interface
Create
<Component> Showcase
Contain
<Component> Products Details
Edit
<Component> Products Details
Delete
<Component> Products
Receive
<Component> Tailoring Request
View
<Component> Request Details
Perform
<Component> Tailoring Service
Communication
<Component> Chat User
Buyer Module
<Component> Buyer Interface
View
<Component> Product
<Component> Add to cart
<Component> Order Product
<Component> Track Order
<Component> Rating/Reviews
View
<Component> Seller/ Tailor
<Component> Contact Seller/ Tailor
<Component> Seller/ Tailor
Provide Result
Database Connector
<Component> Tailoring Service

Figure 4.31: Component Diagram of the System

1.2. Schema Diagram

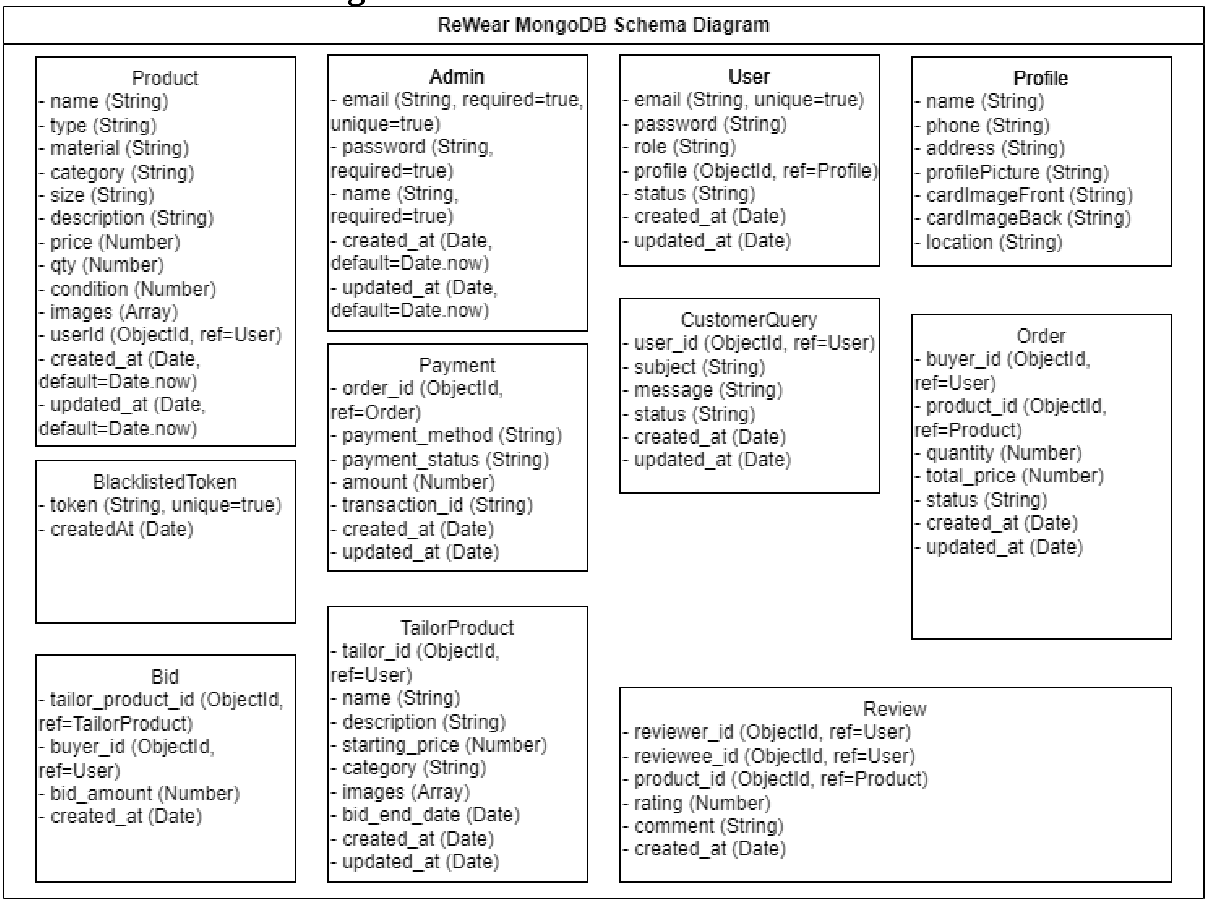


Figure 4.32: Schema Diagram of the System

4.1. SQA ACTIVITIES

4.1.1. Usability Testing through Heuristic Evaluation

4.1.1.1. Introduction

We used Jakob Nielson's 10 requirements to test the usability of the website. A collection of usability guidelines known as Jakob Nielsen's heuristics are used to assess user interface designs with an emphasis on frequent usability problems. We were able to provide instructions for more intuitive and effective digital encounters with the aid of this strategy. The following are these heuristics:

4.1.1.1.1. Visibility of System Status

It states that "The design should always keep users informed about what is going on, through appropriate feedback within a reasonable amount of time."

4.1.1.1.2. Match Between the System and the Real World

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.

4.1.1.1.3. User Control and Freedom

Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action without having to go through an extended process.

4.1.1.1.4. Consistency and Standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform and industry conventions.

4.1.1.1.5. Error Prevention

Good error messages are important, but the best designs carefully prevent problems from occurring in the first place. Either eliminate error-prone conditions, or check for them and present users with a confirmation option before they commit to the action.

4.1.1.1.6. Recognition Rather than Recall

Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.

4.1.1.1.7. Help Users Recognize, Diagnose, and Recover from Errors

Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.

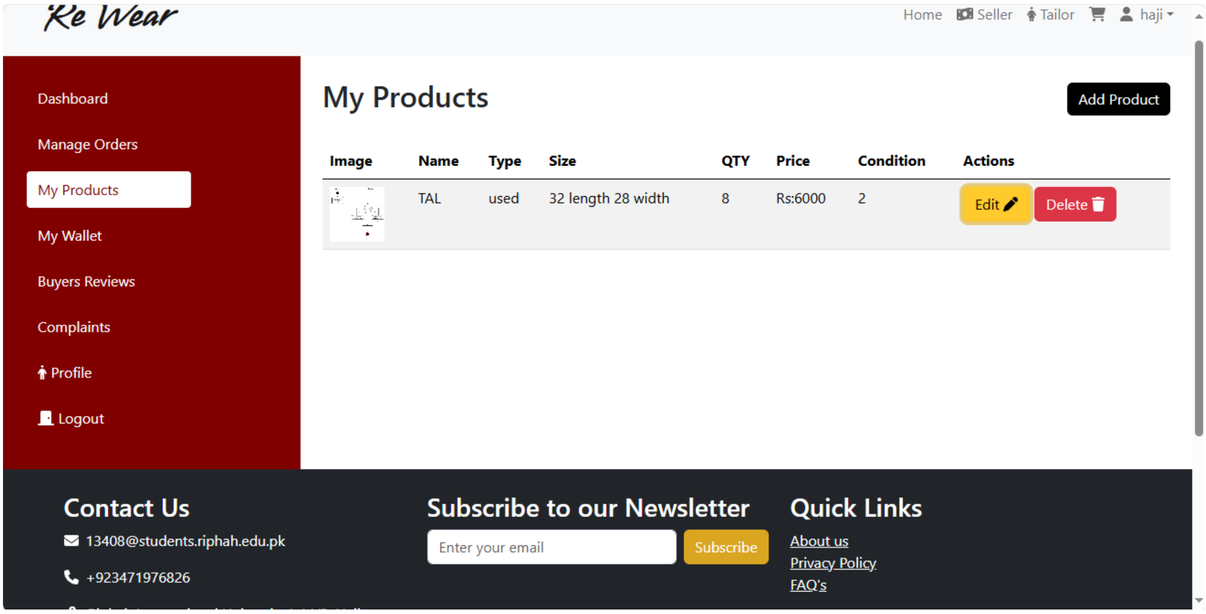
4.1.1.2. Why Heuristics Evaluation?

Here are reasons why heuristic evaluation is a good approach and why it can be considered better in certain contexts: Cost-effective and Time-efficient, Early Identification of Issues, Standardized Guidelines, Flexible and Adaptable Complements Other Methods.

4.1.1.3. Heuristic Violations

Table 4.25: Heuristic Violation -01

Heuristic Violations ID	**Violated Heuristic**	**Issue**	**Solution**
01	Visibility of System Status.	When user clicks on the “Save Changes” button no message was shown to him/her.	To address this heuristic, we have added information messages that represent the current state of system, which were missing initially.



My Products

Image	Name	Type	Size	QTY	Price	Condition	Actions
	TAL	used	32 length 28 width	8	Rs:6000	2	Edit Delete

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+923471976826

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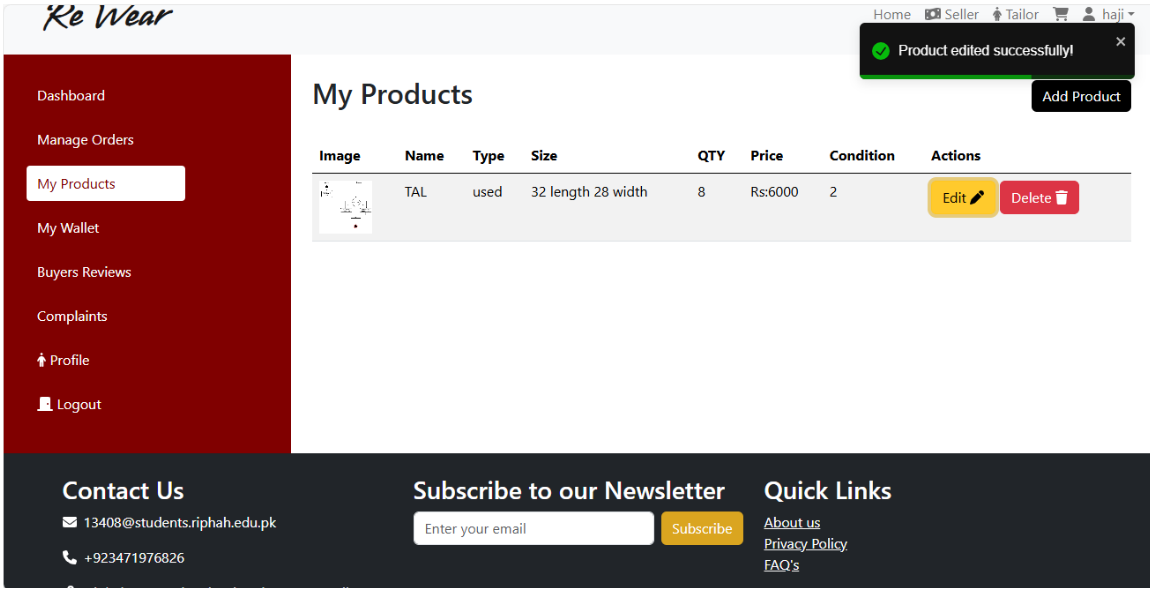
Figure 4.33: Heuristic Violation - 01



Product edited successfully!

My Products

Image	Name	Type	Size	QTY	Price	Condition	Actions
	TAL	used	32 length 28 width	8	Rs:6000	2	Edit Delete

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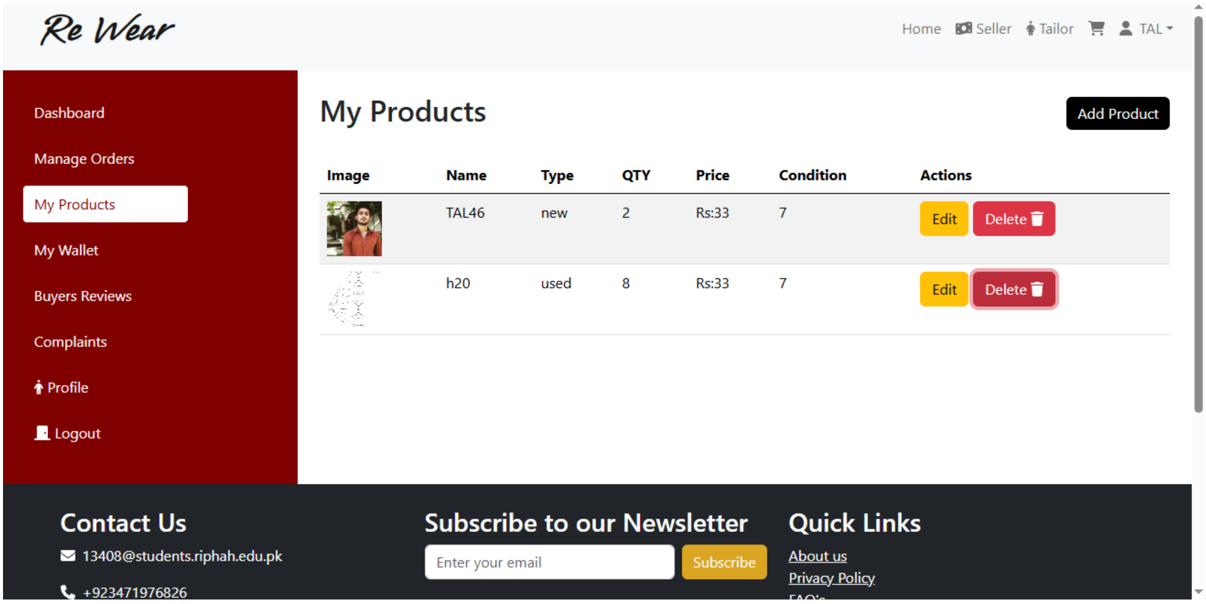
Figure 4.34: Solution of Heuristic Violation – 01 (A)

Table 4.26: Heuristic Violation - 02

Heuristic Violations ID	Violated Heuristic	Issue	Solution
02	Error Prevention.	When user clicks on “Delete” icon, the Products gets directly deleted without any reconfirmation.	To address this heuristic, we have added re confirmation message, so that any inconvenience could be avoided.



My Products

Image	Name	Type	QTY	Price	Condition	Actions
	TAL46	new	2	Rs:33	7	Edit Delete
	h20	used	8	Rs:33	7	Edit Delete

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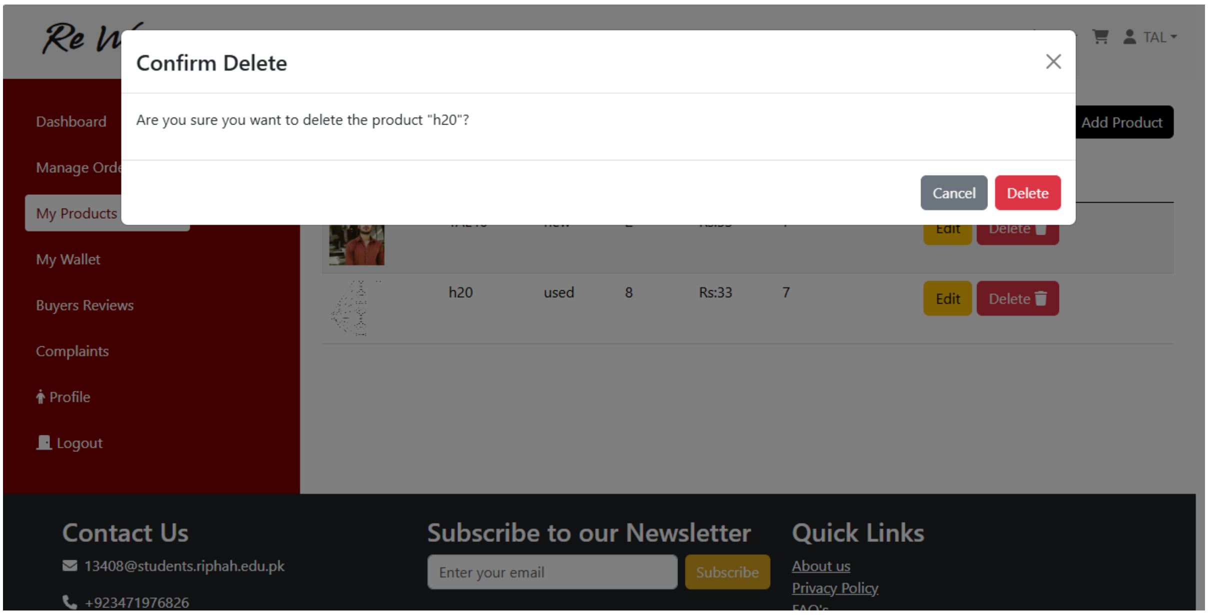
Figure 4.35: Heuristic Violation – 02 (A)


Confirm Delete

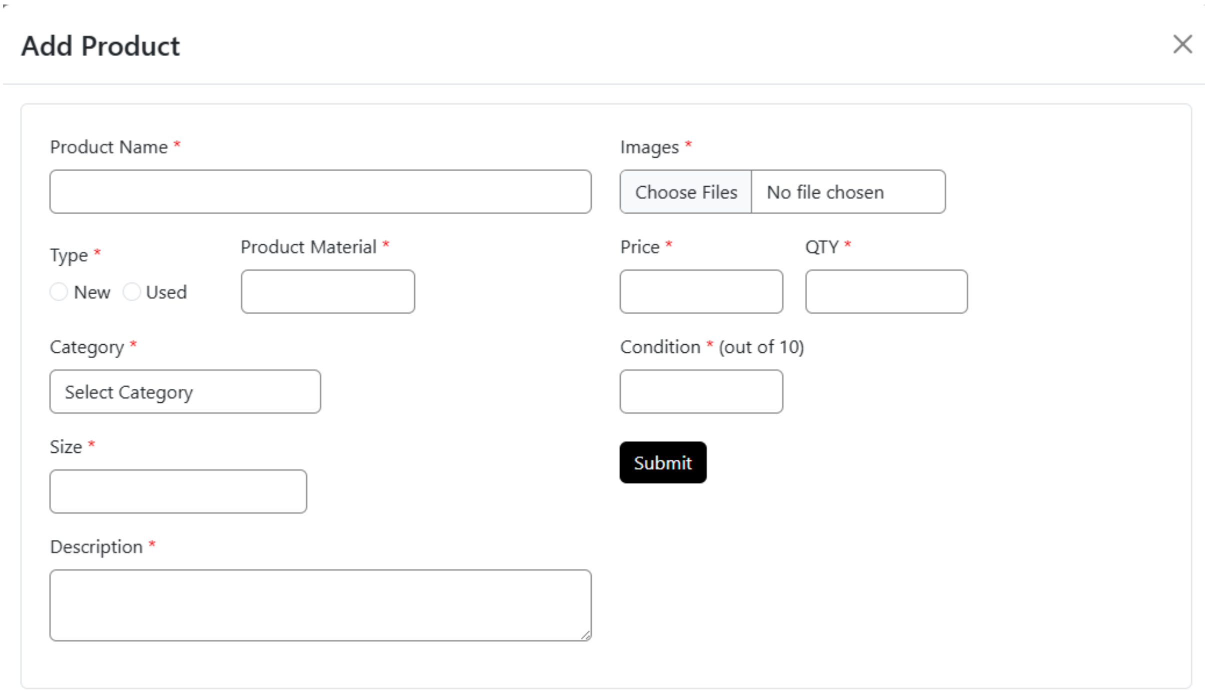
Are you sure you want to delete the product "h20"?

h20	used	8	Rs:33	7	Edit Delete

Figure 4.36: Solution of Heuristic Violation – 02 (B)

Table 4.27: Heuristic Violation - 03

Heuristic Violations ID	Violated Heuristic	Issue	Solution
03	Help Users Recognize, Diagnose, and Recover from Errors	Validation was missing, when user clicks on "List" button, because of Node validation at the backend, Register wasn't created but because of lack of frontend validation nothing happens on screen and it remains still.	To address this heuristic, we have added proper input validation messages so that user doesn't get confused.


Add Product

Product Name *

Images *

Choose Files No file chosen

Type *

○ New ○ Used

Product Material *

Price *

QTY *

Category *

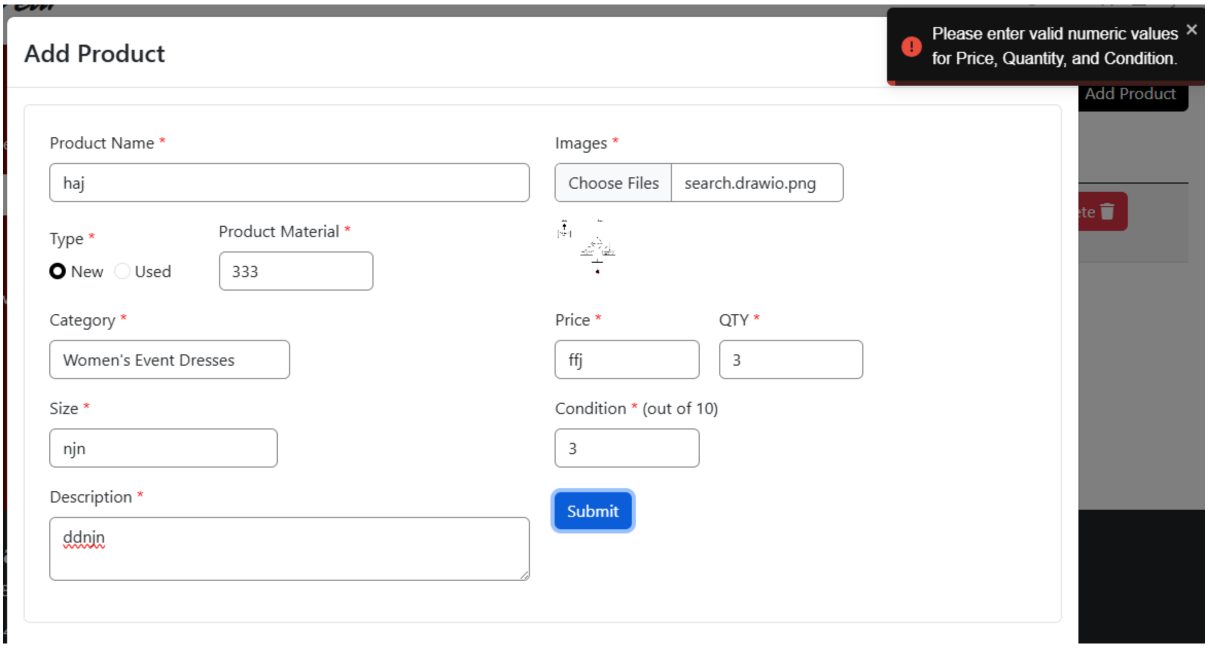
Select Category

Condition * (out of 10)

Size *

Description *

Figure 4.37 Heuristic Violation - 03


Add Product

Please enter valid numeric values for Price, Quantity, and Condition.

Product Name *: haj

Images *: Choose Files search.drawio.png

Type *: ● New ○ Used

Product Material *: 333

Category *: Women's Event Dresses

Price *: ffj

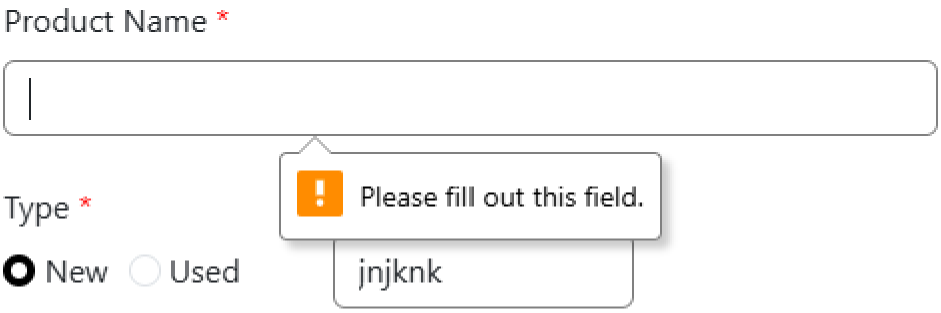
QTY *: 3

Size *: njn

Condition * (out of 10): 3

Description *: ddnjn

Figure 4.38: Solution of Heuristic Violation – 03 (A)


Product Name *

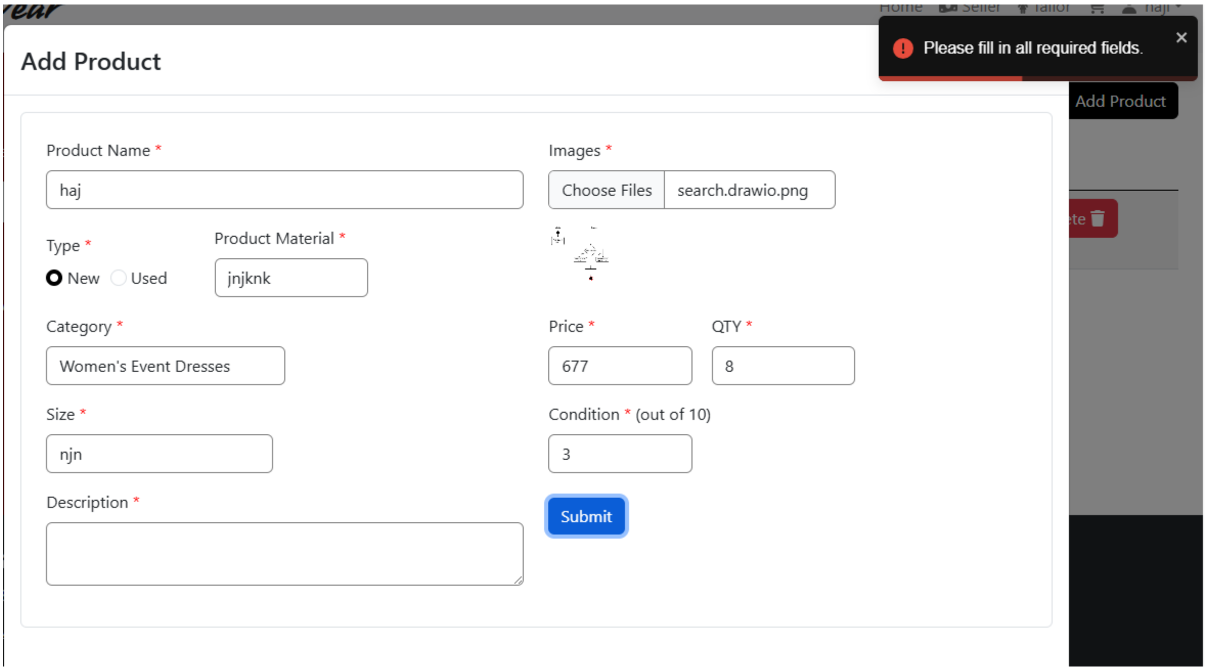
Please fill out this field.

Type *

● New ○ Used

jnjknk

Figure 4.39: Solution of Heuristic Violation – 03 (B)



Please fill in all required fields.

Add Product

Product Name * haj

Images * Choose Files search.drawio.png

Type * ● New ○ Used

Product Material * jnjknk

Category * Women's Event Dresses

Price * 677

QTY * 8

Size * njn

Condition * (out of 10) 3

Description *

Figure 4.40: Solution of Heuristic Violation – 03 (C)

Chapter 5

Implementation

Chapter 5

IMPLEMENTATION

5.1. ENDEAVOUR

5.1.1. Team

- M. Talha Masood
- Sfwan Ali

5.2. WORK BREAKDOWN STRUCTURE

Table 5.1: Work Break Down Structure

WBS Code	Deliverable
1	Project Management
1.1	WBS
1.2	Roles and Responsibility Matrix
2	Reports & Documentation
2.1	Team Members declaration
2.2	Initial Project Proposal
2.3	Project Proposal Document
2.4	Performance and Attendance Report
2.5	Project Report
3.1	Chapter 1: Introduction
4.1	Chapter 2: Literature
4.2	Online Survey & targeted Interview
4.3	Brainstorming
5.1	Chapter 3: Requirements Analysis

5.2	Functional Requirements
5.3	Non-Functional Requirements
5.4	Requirements Quality Assurance
5.5	Defect Identification - Checklist
5.6	Defect Detection - Black Box
6.1	Chapter 4: System Design
6.3	Architectural Design
6.4	Detailed Design
6.5	Use Case Diagrams
6.6	Fully Dressed use cases
6.7	Activity Diagrams
6.8	Component Diagram
6.10	Design Quality Assurance
6.11	Heuristic Evaluation
7	Chapter 5: Implementation
7.1	Endeavour
7.2	WBS
7.3	Roles & Responsibility Matrix
7.4	Deployment Environment
7.5	Quality Assurance
7.6	Defect Detection - White Box

5.2.1. Roles & Responsibility Matrix

Table 5.2: Roles and responsibility matrix

WBS #	**WBS Deliverable**	**Activity #**	**Activity to Complete the Deliverable**	**Duration (# of Days)**	**Responsible Team Member(s) & Role(s)**
1	Project Management	1	WBS	1	Muhammad Talha Masood

		1.3	Roles and Responsibility Matrix	5	Muhammad Talha Masood
2	Software	2.0	Reports & Documentation	30	Muhammad Talha Masood
			Website	45	Muhammad Talha Masood & Sfwan Ali
2.1	Reports & Documentation	2.1	Team Members declaration	1	Muhammad Talha Masood
		2.2	Initial Project Proposal	2	Muhammad Talha Masood & Sfwan Ali

		2.3	Project Proposal Document	7	Muhammad Talha Masood
		2.4	Attendance Report	1	Sfwan Ali
		2.5	Progress Report FYP-1	60	Muhammad Talha Masood & Sfwan Ali
2.5	Progress Report FYP	3.1	Chapter 1: Introduction	2	Muhammad Talha Masood
		4.1	Chapter 2: Literature	5	Muhammad Talha Masood
		4.1.1	Initial Project Proposal	1	Muhammad Talha Masood

		5.1	Chapter 3: Requirements Analysis	15	Muhammad Talha Masood
		5.2	Functional Requirements	10	Muhammad Talha Masood
		5.3	Non-Functional Requirements	2	Muhammad Talha Masood
		5.4	Requirements Quality Assurance	5	Muhammad Talha Masood
		5.5	Defect Identification - Checklist	4	Muhammad Talha Masood

		5.6	Defect Detection - Black Box	4	Muhammad Talha Masood
		6.1	Chapter 4: System Design	20	Muhammad Talha Masood & Sfwan Ali
6.1	Chapter 4: System Design	6.3	Architectural Design	3	Sfwan Ali
		6.4	Detailed Design	5	Muhammad Talha Masood

		6.5	Use Case Diagrams	2	Muhammad Talha Masood
		6.6	Fully Dressed use cases	5	Muhammad Talha Masood
		6.7	Activity Diagrams	3	Muhammad Talha Masood
		6.8	Component Diagram	2	Muhammad Talha Masood & Sfwan Ali
		6.10	Design Quality Assurance	3	Muhammad Talha Masood
		7.0	Chapter 5: Implementation	5	Muhammad Talha Masood & Sfwan Ali
		7.1	Endeavour	1	Muhammad Talha Masood

7.0	Chapter 5: Implementation	7.4	Deployment Environment	1	Muhammad Talha Masood
		7.5	Quality Assurance	5	Muhammad Talha Masood
		8	Chapter 6	15	Muhammad Talha Masood and Sfwan Ali
3.1	Chapter 6	2.2.1	UI	10	Muhammad Talha Masood
2.2		2.2.1	UX	10	Muhammad Talha Masood
2.2		2.2.1	Front End	20	Sfwan Ali

		2.2.1.1	Authentication	2	Sfwan Ali
		2.2.1.2	Register	5	Muhammad Talha Masood
		2.2.1.3	Login/ Logout	7	Sfwan Ali
		2.2.1.4	Profile Management	15	Sfwan Ali
		2.2.1.5	Product Management	25	Sfwan Ali

2.2		2.2.1	Backend	15	Muhammad Talha Masood & Sfwan Ali
2.2		2.2.1	Database	10	Sfwan Ali
		2.2.1.1	Database products	10	Sfwan Ali
		2.2.1.2	Database User	10	Sfwan Ali

5.3. COMPONENTS, LIBRARIES, WEB SERVICES, AND STUBS

- ReactJS
- JavaScript
- Bootstrap
- Axios
- Express
- Node.js
- MongoDB

5.3.1. IDE, Tools, and Technologies

- Visual Studio Code
- Canva
- Draw.io
- MS Word
- Adobe Illustrator
- Figma

5.4. Best Practices/ Coding Standards

5.4.1. Software Engineering Methodologies

In our project we have we have used iterative approach.

- Implemented iterative.
- Reviewed it in weekly meetings with our supervisor by giving them the demonstration of system.
- Recorded the suggested improvements.
- Implemented the suggested improvements.
- Designed that using through uml diagrams
- Performed testing.
- Moved forward to the next increment and so on.

Introduction

The Iterative model is a software development methodology were a project is divided into small, manageable increments or segments. Each increment represents a complete subset of functionality that can be developed, tested, and delivered independently. The key principle of this model is iterative development, where each increment builds upon the previous ones, adding new features or enhancements.

Why we used Iterative Model

The primary objectives of applying the Iterative model to develop our software include:

Timely Delivery of Core Features

Ensuring critical features like user authentication, content creation, and client interaction is delivered early in the development process.

Iterative Refinement

Continuously refining and enhancing the system based on stakeholder's feedback and evolving requirements.

Effective Project Management

Breaking down the project into manageable increments facilitates better resource allocation, risk management, and overall project control.

Our Increments

We have completed our development in overall 5 major increments, initially developed the core functionalities and then added additional features to enhance the user experience.

- **Daily stand-up meetings:** Brief sessions that include progress reports, planning, and team collaboration.
- **Regular progress reviews:** Include meetings with the supervisor as needed to evaluate project status and integrate comments.
- **Iterative planning:** Entails continually prioritizing work and responding to changing requirements.

- **Self-organization and task allocation:** Team members plan how to achieve goals based on their talents and availability.
- **Continuous improvement:** Entails regular reflection on processes, eliminating bottlenecks, and implementing new techniques to increase productivity.

5.4.2. ReactJS Coding Standards for Reusability:

- Prioritize variable and function names that are easy to understand and succinct.
- Follow camel case naming rules for uniformity.
- Use comments sparingly, offering only the essential context and avoiding overkill.
- Use shorthand notation when necessary to improve readability.
- Modularization should be emphasized to allow for component reuse and maintenance.

5.5. Summary

This chapter includes a list of elements and frameworks utilized in our project to improve the experience of users. We described the Work Breakdown Structure (WBS) and Control Flow Diagram. We discussed tools, IDEs, best practices, and code standards for software engineering.

5.6. DEPLOYMENT DIAGRAM

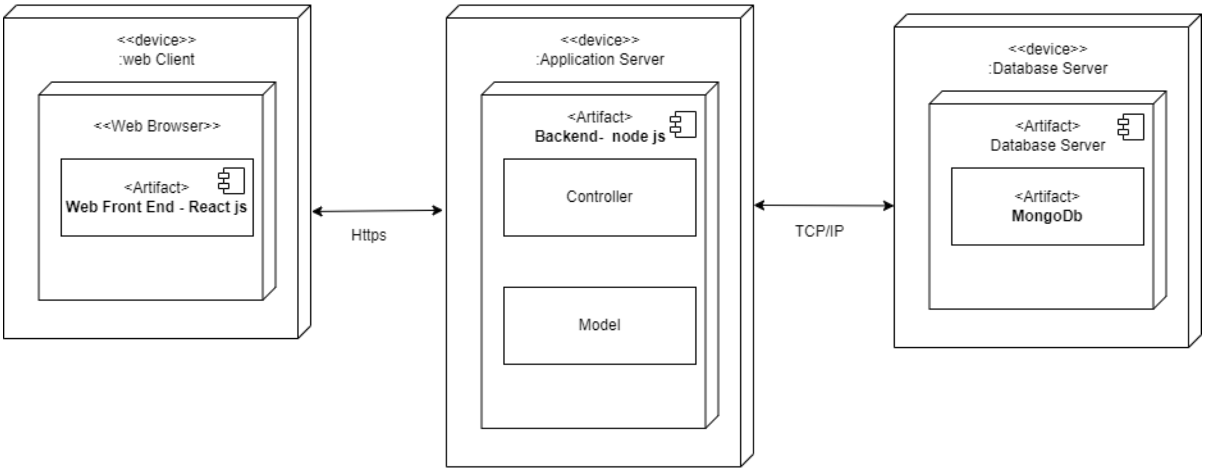


Figure 5.1: Deployment Diagram

5.7. SQA ACTIVITIES: DEFECT DETECTION

5.7.1. Test Case Design (White Box)

5.7.1.1. Register

Table 5.3: W.B. Test Case - Register

TC.ID	Input Fields			Reference - ECP	Actual Output
	Name	Email	Password		

1.1	Talha Masood	Talha@gmail.com	Talha@12345	Table 3.8, 3.9	Register successful. System redirected the user to respective Dashboard.
1.2	Talha	Talhagmail.com	123	Table 3.8, 3.9	Password and email is incorrect
1.3	H20	xyz	12345678	Table 3.8, 3.9	Name and Email is incorrect
1.4	N/A	N/A	N/A	Table 3.8, 3.9	Please fill the field

5.7.1.2. Login

Table 5.4: W.B. Test Case - Login

TC.ID	Input Fields		Reference - ECP	Actual Output
	Email	Password		
1.1	Talha@gmail.com	Talha@12345	Table 3.8, 3.9	Login successful. System redirected the user to respective Dashboard.
1.2	Talha@gmail.com	123	Table 3.8, 3.9	These credentials do not match our records.
1.3	xyz	12345678	Table 3.8, 3.9	These credentials do not match our records.
1.4	N/A	N/A	Table 3.8, 3.9	These credentials do not match our records.

5.7.1.3. Edit Profile (Name)

Table 5.5: W.B. Test Case – Edit Profile Name

TC.ID	Input	Reference - ECP	Expected Output
	Name		
1.1	N/A	Table 3.16	Please enter name
1.2	Talha	Table 3.16	Valid
1.3	!$%#^@	Table 3.16	Invalid name. name not updated

5.7.1.4. Profile Photo

Table 5.6: W.B. Test Case – Profile Photo

TC.ID	Input	Reference - ECP	Expected Output
	Image		
1.1	N/A	Table 3.13	No pic selected
1.2	Abc.io	Table 2.5	Invalid image format. Image not updated.

1.3	Pic.jpeg	Table 2.5	Valid image format.

5.7.1.5. Contact Number

Table 5.7: W.B. Test Case – Contact Number

TC.ID	Input	Reference - ECP	Expected Output
	Number		
1.1	N/A	Table 3.19	Please enter Number
1.2	+923365940220	Table 3.19	Valid
1.3	0322cjdnjc	Table 3.19	Invalid Number.

5.7.1.6. Change Password

Table 5.8: W.B. Test Case – Password

TC.ID	Input	Reference - ECP	Expected Output
	Password=confirm password		
1.1	N/A	Table 3.9	Please enter Password
1.2	Talha@123	Table 3.9	Valid

5.7.1.7. List Product

Table 5.9: W.B. Test Case - List Product

	Input Field										
TCID	**Name**	**Type**	**Material**	**Category**	**Size**	**Description**	**Image**	**Quantity**	**condition**	**Reference-ECP**	**Excepted Output**
1.1	Dress	Used	Silicon	Girl dress	M	Good dress	Pdf	1	3.7	Table 3.25-3.34	Product File type is incorrect
1.2	Dress	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Table 3.25-3.34	Fiel is empty
1.3	@1	used	35	Girls dress	2222	N/A	pdf	N/A	N/A	Table 3.25-3.34	Incorrect field
1.4	Dress	Used	Cotten	Girl dress	M	Good dress	jpeg	1	3.7	Table 3.25-3.34	Product Listed successfully

5.7.1.8. Edit Product

Table 5.10: W.B. Test Case - Edit Product

	Input Field										
TCID	**Name**	**Type**	**Material**	**Category**	**Size**	**Description**	**Image**	**Quantity**	**condition**	**Reference-ECP**	**Excepted Output**
1.1	Dress	Used	Silicon	Girl dress	M	Good dress	Pdf	1	3.7	Table 3.25-3.34	Product File type is incorrect
1	Dre	N/A	N/A	N/A	N/	N/A	N/A	N/A	N/A	Table	Fiel is

.2	ss				A					3.25-3.34	empty
1.3	@1	used	35	Girls dress	2222	N/A	pdf	N/A	N/A	Table 3.25-3.34	Incorrect field
1.4	Dress	Used	Cotten	Girl dress	M	Good dress	jpeg	1	3.7	Table 3.25-3.34	Product Edited Successfully

5.1. SUMMARY

In this chapter we have talked about list of technologies and libraries that is used in our project for quality development of our software system. We have mentioned Work break down structure WBS and roles and responsibilities Matrix. In addition, we also explained the deployment environment of the software, through deployment diagram. At the end we performed white box test case design upon code and created an error log at the end.