



**EVEREST ENGINEERING COLLEGE
(AFFILIATED TO POKHARA UNIVERSITY)**

**A Minor Project Report
On
SHECYCLE SHOP**

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DECLARATION

We hereby declare that the report of the project entitled “**SHECYCLE SHOP**” which is being submitted to the Department of Computer and Information Technology Engineering, Everest Engineering College, Sanepa-2 Lalitpur, in the partial fulfillment of the requirements for the award of the Degree of Bachelor of Engineering in Computer Engineering, is a bona fide report of the work carried out by us. We are responsible for the work submitted in this project, that the original work is our own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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CERTIFICATE OF APPROVAL

The project report entitled “**SheCycle Shop**”, submitted by Niru Bhandari, Pratigya Adhikari, and Pratikshya Maharjan in partial fulfillment of the requirement for the Bachelor’s degree in Computer / Information Technology Engineering has been accepted as a Bonafede record of work independently carried out by the group in the department.

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ABSTRACT

SheCycle Shop is a modern web-based thrift and rental store designed to make fashion both affordable and sustainable. This platform connects customers with fashionable brands at low prices and assists clothing brands in selling their unsold stock. Additionally, SheCycle Shop supports individuals and small businesses in selling refurbished, used, or new clothes, thereby reducing textile waste and promoting environmental preservation. By providing a streamlined and efficient platform, SheCycle Shop enables small businesses to reach a large online customer base and grow their operations.

The proposed project aims to develop an online platform focused on renting and thrifting clothes through peer-to-peer exchanges instead of direct sales. Users will be able to list their clothes for rent or thrift, complete with descriptions and prices, and categorize them for easy browsing. Sellers can specify their location, allowing buyers to purchase products from nearby sellers, fostering local connections. Moreover, sellers will designate specific available times, and buyers must contact them within these hours to initiate transactions, ensuring timely and convenient exchanges. This project seeks to enhance the accessibility and convenience of sustainable fashion while promoting localized interactions within the platform.

Keywords: [Thrift store, Fashion rental, Affordable fashion, Textile waste, Secondhand clothing, Refurbished clothes.]

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Lists of Abbreviations

HTML	HyperText Markup Language
CSS	Cascading Style Sheets
PHP	Hypertext Preprocessor
MySQL	My Structured Query Language
CAGR	Compound Annual Growth Rate
SSD	Solid-State Drive
CPU	Central Processing Unit
RAM	Random Access Memory

Chapter 1 INTRODUCTION

1. 1 Background

The fashion industry is increasingly embracing sustainable practices, with rising interest in rental and thrift clothing options. Our project aims to develop an outline platform dedicated to renting and thrifting clothes, promoting sustainability and the sharing economy. Fashion sector is the third largest industry in the global manufacturing sector. The negative impacts it has had on the environment via dumping non-biodegradable cloth wastes into ocean bodies and landfills is quite significant alarming. Yet, this problem is not being discussed enough. [1]

In today's fashion landscape, especially for individuals, including girls immersed in social media, there's a strong demand for stylish outfits for various occasions. However, the high cost of buying new clothes, especially for one-time wear items like party wear, is a significant barrier. Our platform addresses this by offering a cost-effective alternative, promoting environmental sustainability by reducing fashion waste and fostering a community focused on responsible consumption.

This platform will enable users to list, rent, and thrift clothes, emphasizing community-driven fashion. Additional features like user authentication and detailed item management, categorization.

1. 2 Problem Statement

Existing fashion platforms often only serve sellers in specific areas, making it hard for users outside those regions to find rental or thrift options for clothes. This limits access to sustainable fashion choices, especially for items like party wear that are expensive and not often used. Additionally, these platforms mostly focus on single sellers, which excludes others who want to rent or thrift their clothes. This reduces options for affordable and eco-friendly fashion alternatives, hindering a broader community of users.

1. 3 Objectives

- To Provide rental and thrifting service of new and old clothes.
- To eliminate the need to visit multiple shops.

1.4 Scope and Application

Our project aims to create a user-friendly online platform for renting and thrifting shopping clothes, enhancing user satisfaction by simplifying the process and improving the overall experience. It will be evaluated through real-world scenarios to meet usability and sustainability goals in fashion consumption. The platform supports the sharing economy, promoting resource sharing and sustainability. While primarily focused on clothing, the system's potential extends to various rental areas.

The applications of the project can be:

- a. **Social events and occasions:** The platform allows users to rent outfits for special events, ensuring access to stylish options without the need for permanent purchases.
- b. **Fashion exploration:** Users can experiment with different styles and trends by renting clothes, promoting creativity and variety in fashion choices.
- c. **Budget-conscious consumers:** The platform provides affordable alternatives to buying new clothes, making fashion accessible to those seeking quality while managing costs.

Chapter 2 LITERATURE REVIEW

Access-based consumption, particularly in the fashion industry through fashion renting, has been gaining traction as a sustainable and cost-effective alternative to traditional ownership models. This trend is driven by several factors, including environmental benefits, consumer benefits, and the evolving landscape of online retail and the entertainment industry [2].

The global demand for online clothing rental grew at a compound annual growth rate (CAGR) of 8.7% from 2018 to 2022, indicating a significant shift in consumer behavior towards renting over purchasing. This trend is expected to continue, with the overall online clothing rental market projected to grow at a CAGR of 10.6% between 2023 and 2033 [3].

The growth is fueled by increasing online retail, technological advancements, internet penetration, and the rising popularity of online shopping portals. Additionally, the entertainment industries, including fashion vlogs, film, and television, which require clothing for short durations, prefer renting to buying. The concept of low-cost, high quality online clothing rentals complements the vintage fashion phenomenon. This model allows for the refurbishment and rental of clothing items that have only been worn a few times, reducing waste and making new or expensive clothing accessible to a wider audience at a lower cost. This approach not only benefits consumers by providing access to a variety of products without the burden of ownership but also contributes to environmental sustainability by minimizing waste [4].

The fashion rental market addresses the fashion needs of consumers who may not be able to afford new clothes for infrequent use. It offers a more affordable and convenient option, allowing consumers to enjoy the usage and function of products without the responsibilities of ownership, such as the cost of purchasing, maintaining, and storing the product, as well as the risk of obsolescence and disposal. In 2019, Kathmandu started witnessing a growing number of fashion rental stores. The majority of these stores rented out party outfits for people to wear to social events, thus relieving people of the financial burden of buying new dresses. But as the Covid-19 pandemic gripped the country in 2020, social events started

getting cancelled and people began worrying about contracting Covid-19 by touching and using rented clothes. The growth of fashion rental stores then came to an abrupt halt. However, with the number of Covid-19 cases decreasing, fashion rental stores are now making a comeback [5].

The thrift store market in the U.S. is growing due to economic challenges and shifting consumer behaviors. This paper outlines how to analyze the potential success of new thrift stores, focusing on performance, competition, location, and financial viability, using Martha's Outfitters in Washington, DC, as a case study [6].

Chapter 3 METHODOLOGY

For developing our project, we have used the Agile method due to its simplicity and flexibility. It helps us to break the project into one or more iterations, with the last iteration bringing the entire product. Person and interactions are valued more than processes and tools in this methodology. It enables our project teams to work quickly and collaboratively on a project, while being able to adapt to changing requirements in development.

3.1 System Block Diagram

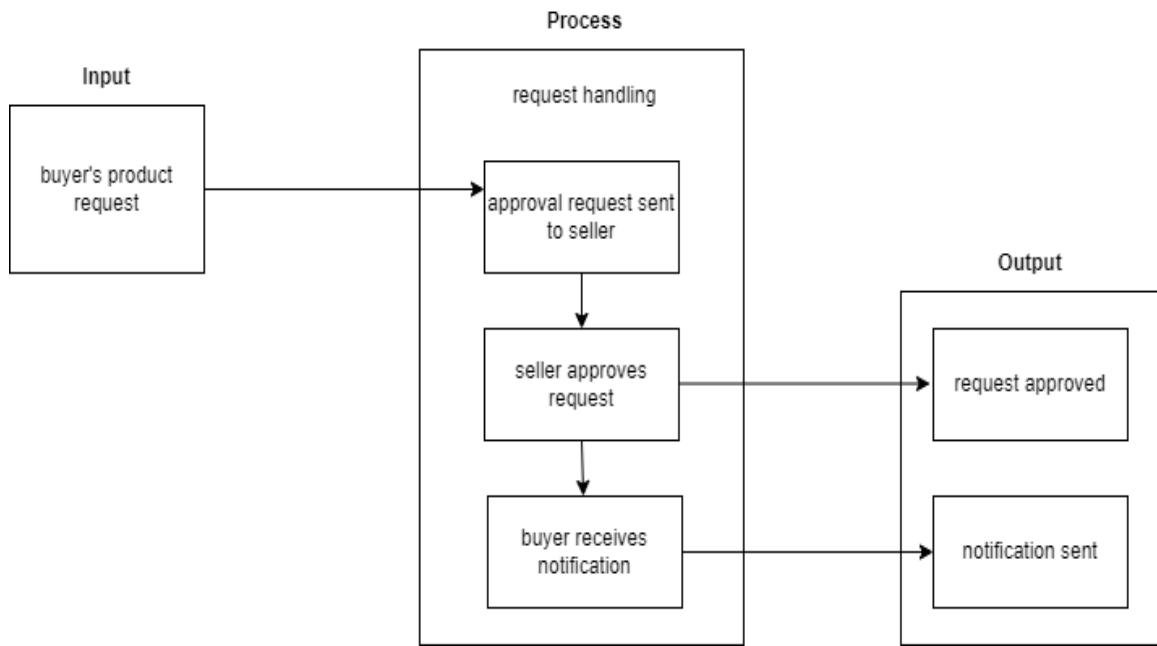


Figure 3.1 Block Diagram of SheCycle Shop

The seller and buyer modules communicate through a notification system. Sellers upload products, which are then displayed in a feed for buyers. Buyers can request products, sending notifications to sellers, and communication between them occurs through their email. The admin module manages all these details.

3.2 Description of working principle

The SheCycle Shop platform simplifies the process of renting and thrifting clothes within local communities. Users begin by registering on the platform and listing their clothes for rent or thrift. They provide detailed descriptions, set rental prices, and categorize their items to attract potential renters. On the other hand, users interested in renting browse through available items, examining photos and descriptions provided by the owners. When they find an item they like, they submit a rental request directly to the owner.

The owner receives the request and evaluates it based on factors such as item availability, rental terms, and their own preferences. If they approve the request, both parties then coordinate a convenient pickup location and time to exchange the item. This local interaction eliminates the need for delivery services, making the process more straightforward and cost-effective.

During the rental period, the renter enjoys using the item according to the agreed-upon terms, such as duration and condition. At the end of the rental period, the renter returns the item to the owner at the designated pickup location.

The platform manages the entire process, facilitating communication between users, maintaining listings, and overseeing requests and interactions. It promotes sustainable fashion practices by encouraging local clothing sharing and reducing the environmental impact associated with fast fashion.

3.3 Sequence Diagram

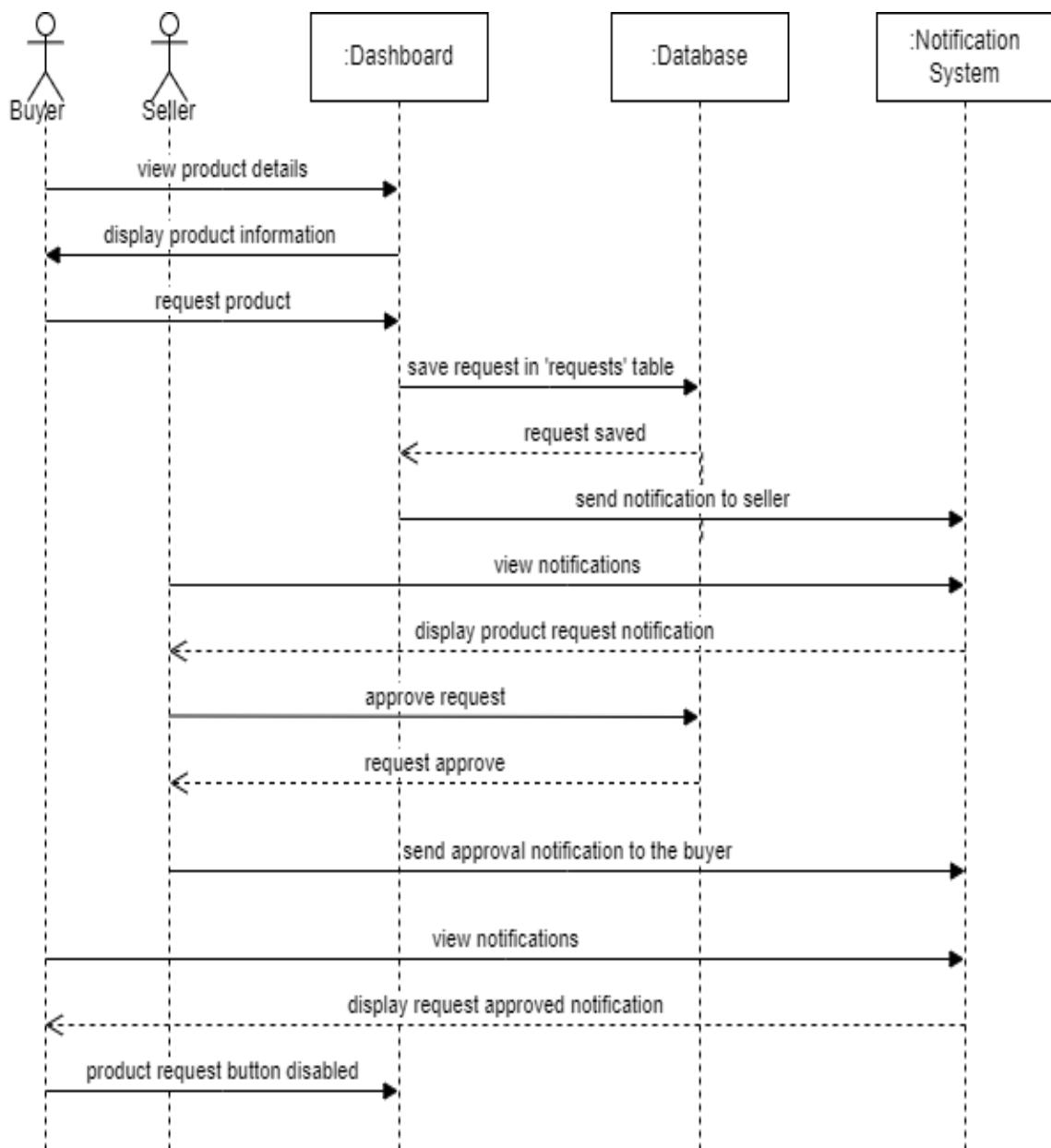


Figure 3.3 Sequence diagram of SheCycle Shop

3.4 E-R Diagram

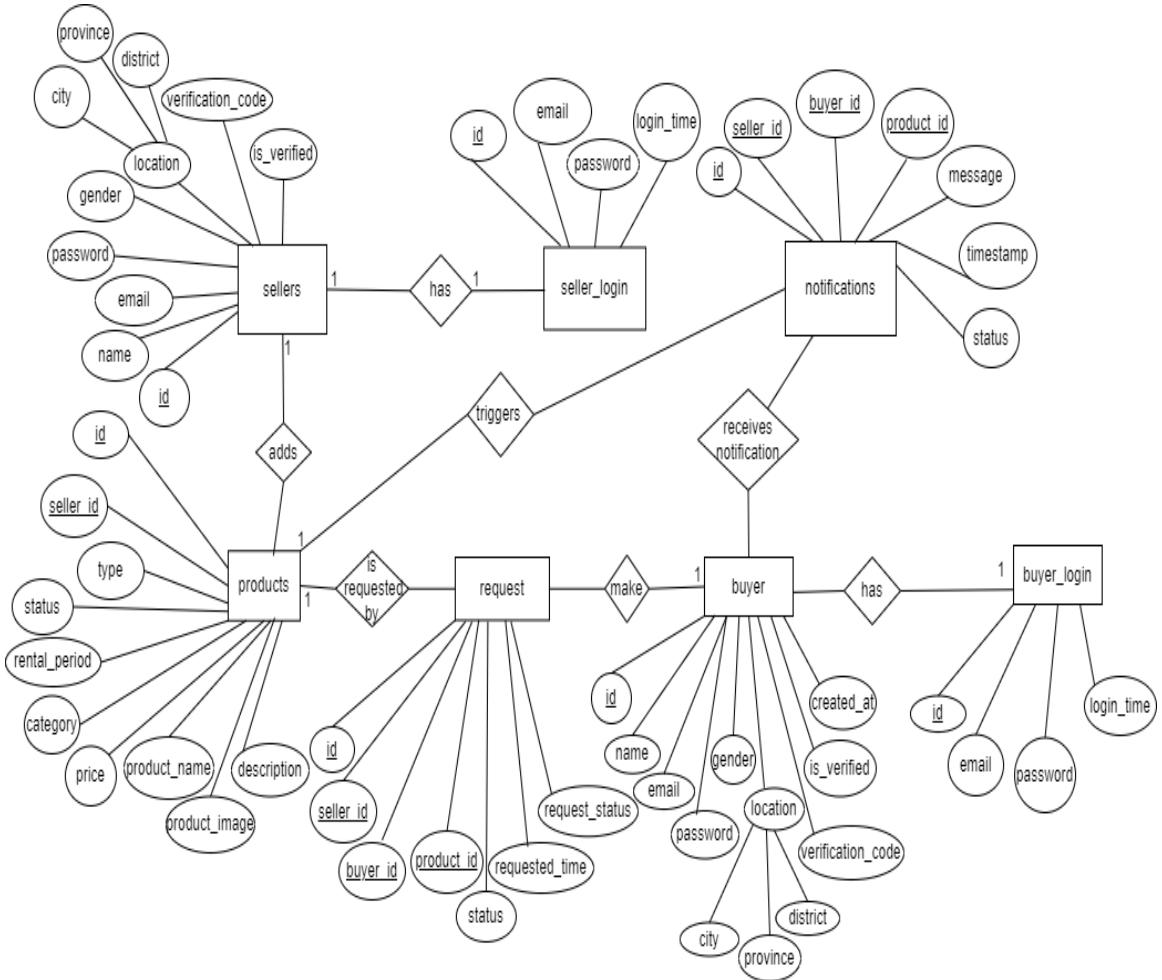


Figure 3.4: E-R diagram of SheCycle Shop

3.5 Use case Diagram

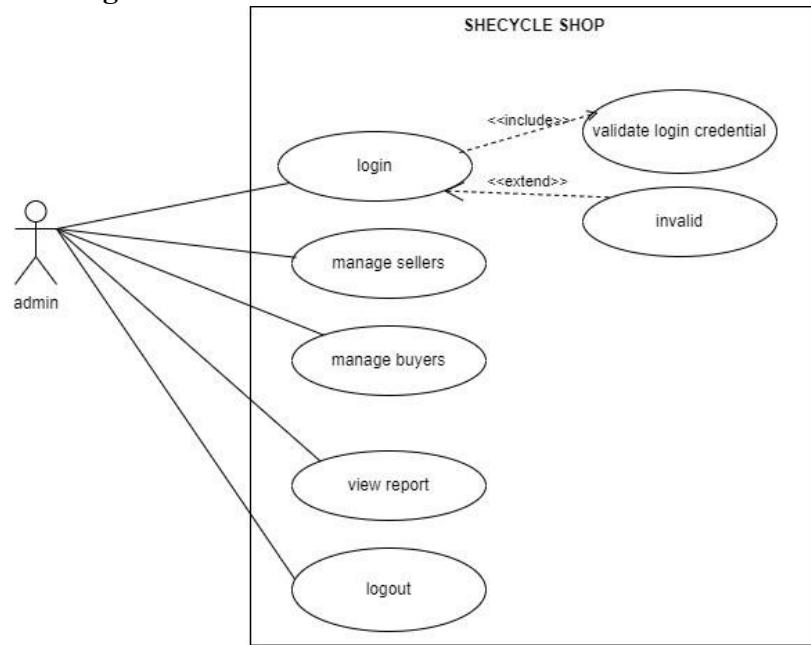


Figure 3.5.1: Admin Use case Diagram

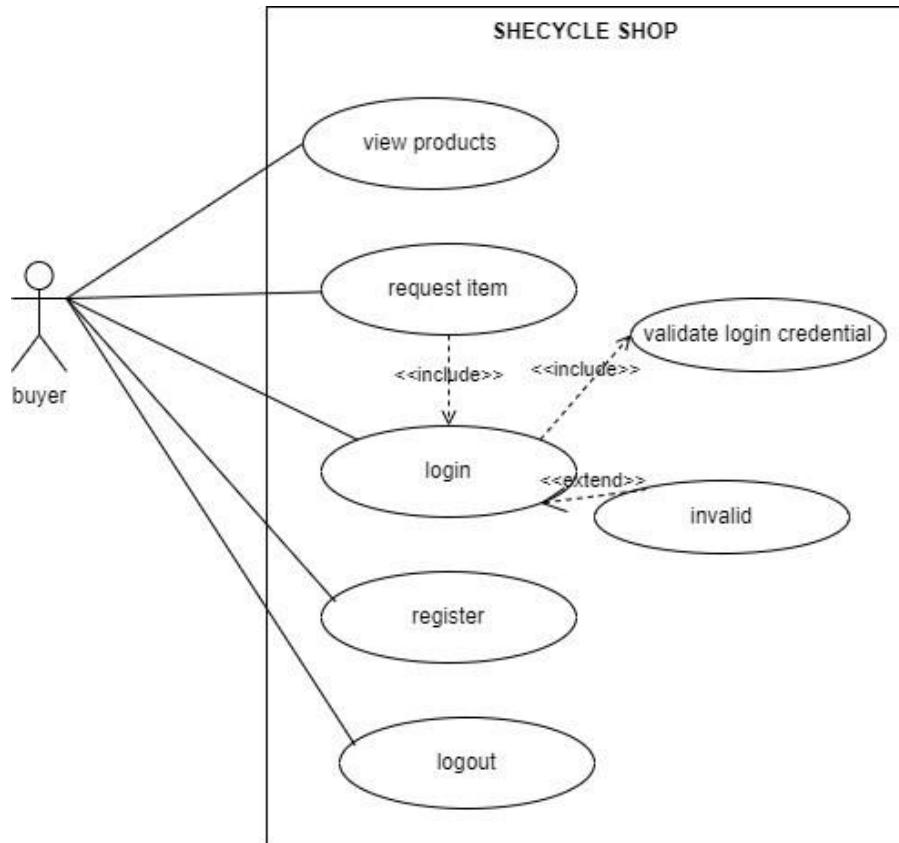


Figure 3.5.2: Buyers Use case Diagram

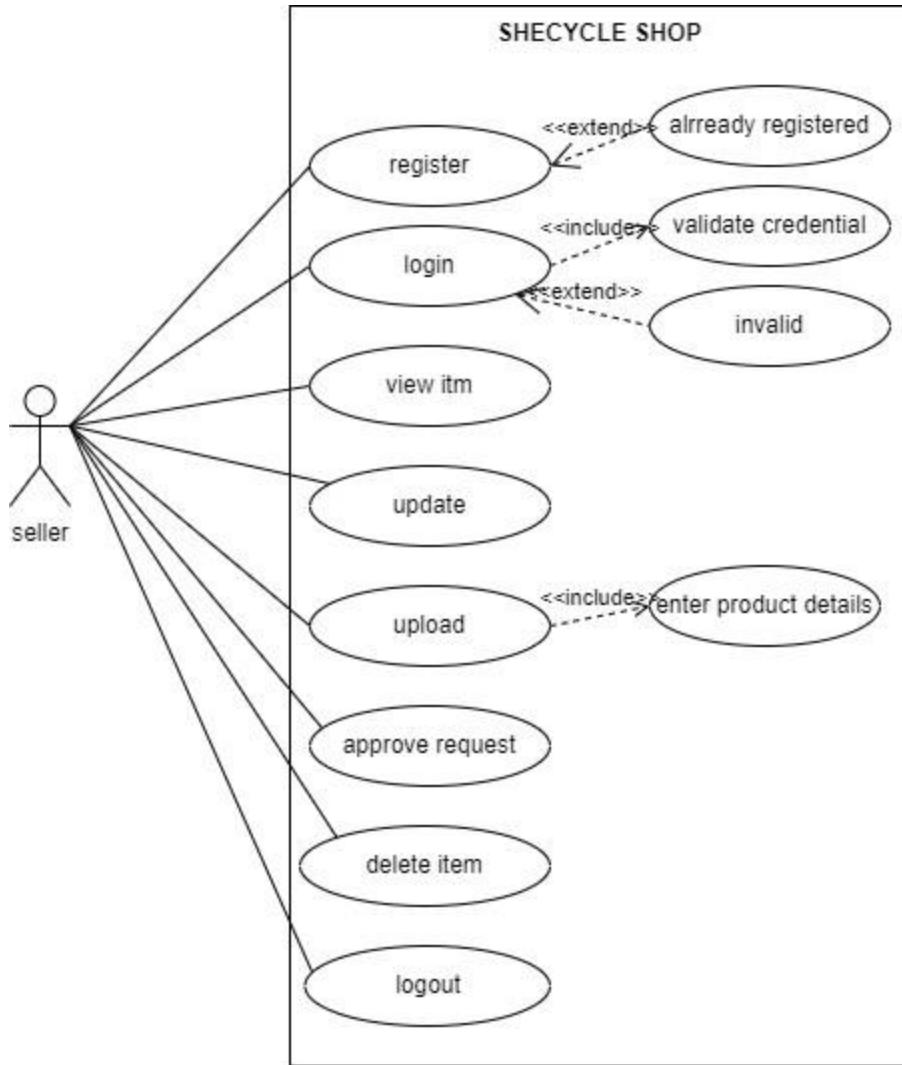


Figure 3.5.3 Sellers Use case Diagram

3.6 Assumptions

The SheCycle Shop platform assumes that users will primarily access the system through standard web browsers on desktop. Users are required to have a valid email address for account verification, which will serve as the main method for authentication and communication. The platform is initially focused on women interested in fashion thrifting and renting, allowing for the development of tailored features that align with the needs of this demographic. Additionally, the platform presupposes that users will possess a basic familiarity with online e-commerce systems, reducing the need for extensive onboarding or training.

3.7 Hardware and Software required

3.7.1 Hardware Requirements

The hardware requirements for our project are as follows:

- a. Sufficient Computational Power: A multi-core CPU (e.g., Intel Core i5 or higher) is necessary to handle backend processes, server requests, and database queries.
- b. Adequate Memory: At least 8 GB of RAM is required to ensure smooth performance during development, testing, and handling multiple processes simultaneously.
- c. Storage: A minimum of 256 GB SSD is recommended for faster data retrieval and storing project files, databases, and dependencies.
- d. Reliable Internet Connection: A stable internet connection is essential for accessing cloud services, uploading products, and handling communication between buyers and sellers.

3.7.2 Software Requirements

The software requirements for our project are as follows:

- a. Development Environment: Visual Studio Code (VSCode) will be used for writing, debugging, and testing the system's code.
- b. Database Management System: MySQL will be employed for managing and storing all user, product, and transaction data.
- c. Front-end Technologies: The user interface will be built using HTML, CSS, and JavaScript for creating responsive and interactive web pages.
- d. Back-end Development: PHP will be used for server-side scripting and handling business logic and database interactions.
- e. Version Control: Git will be utilized for source code management and collaboration during development.
- f. Operating System: The development environment will be compatible with Windows operating systems.

3.8 Implementation Plan

a. Setting up Development Environment

We start by setting up the development environment with Visual Studio Code (VSCode), MySQL, PHP, and a local web server like Apache.

b. Design of Database

A MySQL database is designed to store user profiles, products, requests, and notifications. Tables are created for sellers, buyers, products, and administrative tasks.

c. Development of Front-end

The user interface is developed using HTML, CSS, and JavaScript. The design is responsive, working well on desktops, tablets, and smartphones.

d. Development of Back-end

PHP handles server-side functions such as user registration, login, and product management. Email verification ensures secure user accounts.

e. Creation of Dashboards

Dashboards are created for sellers to manage their products and for buyers to view and request items, facilitating easy interactions.

f. Implementation of Notifications

A notification system alerts sellers when buyers request products, and allows communication between buyers and sellers through the platform.

g. Developing Admin Dashboard

An admin dashboard is developed for managing users, products, and for monitoring platform performance.

h. Testing and Debugging

The platform undergoes thorough testing to ensure functionality, with bugs fixed.

Chapter 4 RESULT AND ANALYSIS

The SheCycle Shop platform effectively integrates its front-end and back-end components. The user interface, built with HTML, CSS, and JavaScript, is responsive and engaging across all devices. The PHP and MySQL back-end manages user registrations, product uploads, and communication efficiently. The seller and buyer dashboards work well, allowing easy product management and requests. The notification system reliably alerts sellers and enables smooth communication between users.

After implementing the project, we performed unit testing to identify errors, gaps or missing requirements in contrast to actual requirements.

4.1 Performance Metrics

For Register (user model) function:-

S.N	Test Case	Result	Expected Result	Remarks
1.	(niru.Bhandari ,04@gmail.c, niru@123)	Invalid gmail	Register successful	failed
2.	(nirubhandari 04@gmail.c, niru@123)	Register successfully	Register successful	passed
3.	(nirubhandari04@gmail.c, niru@123,)	User already exists with this email	Register successful	failed
4.	(nirubhandari 04@gmail.c, niru@123,)	Registration successful	Register successful	passed

Table 4.1: Unit Testing for register function

For Login (Email,password) function:

S.N	Test Case	Result	Expected Result	Remarks
1	(nirubhandari04@gmail.com , niru12345)	Invalid password for the username	Login success	Failed
2	(nirubhandari04@gmail.com , niru@123)	Login Successful	Login success	passed

Table 4.2: Unit Testing for Login function

Chapter 5 CONCLUSION

The SheCycle Shop website project provided us with valuable insights and learnings in various areas, such as project management, teamwork, and feature development. The project was an opportunity to apply theoretical knowledge into practical application, which allowed us to develop an innovative platform that provides a unique service to users. The project perspective was to create a platform that promotes sharing economy and sustainability by allowing users to upload and rent/thrift products to and from others. By using Agile methods, we can stay flexible and quickly respond to user needs. This platform will overcome the limitations of existing systems, like regional restrictions and single-seller models, by allowing anyone to participate. The features developed for the SheCycle Shop website project were essential in creating a user-friendly experience for users, including a secure login and registration system, product upload and rental system, and review system.

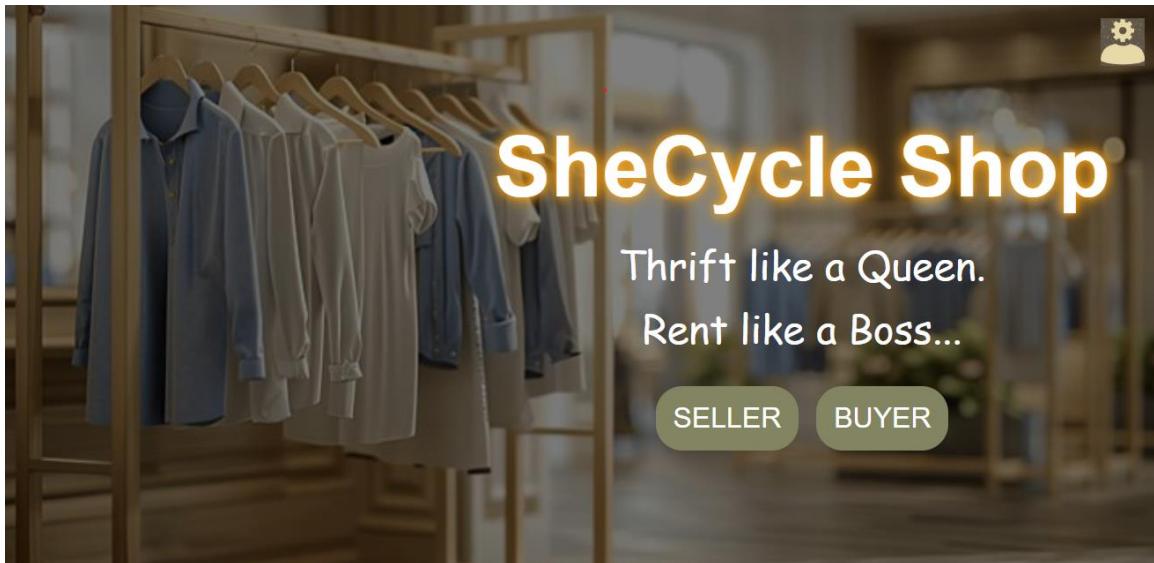
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APPENDIX

Appendix A

HomePage



Seller Registration

The image shows the "Seller Registration" form. It has a light gray background with a house icon in the top left corner. The title "Seller Registration" is at the top. Below it are input fields for Name (with a red asterisk), Password, Email, Province (with a dropdown menu showing "Select Province"), City (with a dropdown menu showing "Select City"), District (with a dropdown menu showing "Select District"), and Address. At the bottom is a "Register" button.

Seller Dashboard

Welcome to Your Dashboard

Your Products

Upload Product

Available

pant
size-30
Price: 500.00
Type: Rent
Rental Period: 3 days
Category: Pant

Edit Delete

pant
size-20
Price: -10.00
Type: Rent
Rental Period: 3 days
Category: Pant

< >

The Seller Dashboard interface features a sidebar on the left with a house icon and an "Upload Product" button. The main area displays a welcome message and a section titled "Your Products". It shows two items: a white t-shirt with a sunflower print paired with red pants (size 30, price 500.00, rental period 3 days, category Pant), and a blue dress (size 20, price -10.00, rental period 3 days, category Pant). Each item has "Edit" and "Delete" buttons. Navigation arrows are present between the product cards.

Buyer Form

Buyer Registration

Name:

Password:

Email:

Gender: Female

Address:

Province: Select Province

City: Select City

District: Select District

Register

The Buyer Form is a registration page titled "Buyer Registration". It includes fields for Name, Password, Email, Gender (set to Female), Address, Province (with a dropdown menu labeled "Select Province"), City (with a dropdown menu labeled "Select City"), and District (with a dropdown menu labeled "Select District"). A "Register" button is at the bottom.

Buyer Dashboard

Home Categories

SheCycle Shop - Browse Products

The dashboard displays a grid of five product items:

- mini skirt**: waist size 28 suits everyone worn only once. Rs. 200. Type: Thrift. Category: Rental: 0. Seller: [ram](#). [Request](#)
- mini skirt**: size-28. Rs. 200. Type: Thrift. Category: Rental: 0. Seller: [hari](#). [Request](#)
- kurtha**: size-26. Rs. 20. Type: Thrift. Category: Rental: 0. Seller: [hari](#). [Request](#)
- kurtha**: size 38. Rs. 300. Type: Thrift. Category: Rental: 0. Seller: [hari](#). [Request](#)
- pant**: size-30. Rs. 500. Type: Rent. Category: Pant. Rental: 3. Seller: [Niru Bhandari](#). [Requested](#)

Below the main grid, there are four smaller thumbnail images: a woman in a blue dress, a blue backpack, a black t-shirt with purple text, and a pair of pink shoes.

Admin Dashboard

Sidebar

- [Manage Sellers](#)
- [Manage Buyers](#)
- [Logout](#)

SheCycle Shop Admin Panel

Hello, Admin!

Total Sellers
28

Total Buyers
2