Tribhuvan University Faculty of Humanities and Social Science

A PROJECT REPORT ON

Second Hand Buying and Selling Goods

Submitted to

Department of Computer Application

Lumbini ICT Campus

In partial fulfillment of the requirements for the Bachelors in Computer Application

Submitted By:

Aakash Kandel

TU Reg.no: 6-2-1194-48-2020

Under the Supervision of

Er. Mod Nath Acharya

Tribhuvan university

Faculty of Humanities and science studies

Lumbini ICT campus

Supervisor's recommendation

The supervisor wholeheartedly endorses the project titled "Second-Hand Buying and Selling Goods," exclusively developed by **Aakash Kandel**, acknowledging its exceptional execution and successful fulfillment of the requirements for the degree of Bachelor of Computer Application. This project is highly recommended for final evaluation.

…….

Signature of supervisor

Tribhuvan University

Faculty of humanities and social studies

Lumbini ICT Campus

LETTER OF APPROVAL

This document certifies that **Aakash Kandel's** project, "Second-Hand Buying and Selling Goods," has undergone a comprehensive evaluation to fulfill the requirements for the degree of Bachelor in Computer Application. In our expert opinion, this project demonstrates satisfactory scope and exceptional quality, meeting the standards expected for the degree.

…… Nischal Khatiwada **Supervisor**	…… Er. Mod Nath Acharya **HOD/coordinator**
…….. **Internal Examiner**	……..… **External Examiner**

ACKNOWLEDGEMENT

I would like to extend my sincere gratitude to the authorities at Tribhuvan University for providing me with the invaluable opportunity to work on the project titled 'Buying and Selling Goods.' This project has offered me a platform to apply and explore the practical implications of the theoretical knowledge and expertise I have acquired during my academic journey.

I am deeply appreciative of the unwavering support and guidance extended to me by Lumbini ICT Campus throughout this endeavor. I wish to express my heartfelt thanks to my supervisor, **Er. Mod Nath Acharya**, whose scholarly mentorship and valuable suggestions have been instrumental in navigating the complexities of this research. Without his continuous encouragement and belief in the project, this undertaking would have been immensely challenging.

Undoubtedly, this project has not only allowed me to delve deeper into the subject matter but has also significantly enhanced my practical acumen and skills. I am indebted to my friends, family members, and teachers who generously shared their insights and perspectives, which have greatly contributed to the improvement and enrichment of this work.

Furthermore, I extend my deepest appreciation to all individuals who have directly or indirectly contributed to the successful completion of this project. Their guidance and encouragement have been a source of motivation throughout this journey.

With heartfelt thanks,

Aakash Kandel

Abstract

The overarching goal of the "Second Hand Buying and Selling Goods" project is to develop an exceptionally user-friendly and comprehensive online platform that enables individuals to effortlessly list and purchase pre-owned items using a single user ID. In an effort to cultivate a trustworthy and dependable trading environment, the project places a prime emphasis on transparency and accountability, eliminating the need for a traditional rating system. This approach promotes open and direct communication between users, ensuring that they can establish a sense of trust without relying on formalized ratings. To optimize the overall shopping experience, the project introduces an advanced search feature, empowering users to swiftly find and explore items that align with their specific preferences. This sophisticated functionality streamlines the process of item discovery, making it easier for buyers to find the desired products within the vast array of pre-owned offerings. Additionally, the project incorporates a cash-on-delivery option to enhance security during the purchase process. By providing this payment method, users can place their orders with added confidence, as payment is confirmed only upon successful delivery of the purchased item, ensuring a secure and reliable transaction. In conclusion, the "Second Hand Buying and Selling Goods" project is dedicated to delivering a seamless and user-centric experience. With its unwavering focus on a single user ID, transparent trading practices, efficient search capabilities, and secure payment options, the project endeavors to create an environment that fosters positivity, trust, and security for all participants in the dynamic realm of pre-owned goods trading.

Contents

List of Figure

List of Table

CHAPTER 1: INTRODUCTION

1.1 Introduction

Second hand buying and selling products is a web-based application that is designed to sell and buy goods or materials which have been used or even new products. This project aims to supply goods and materials for those who seek to buy desired products at a suitable and reasonable price. This system has many facilities where users can buy goods that are included in the system category. This system will provide a convenient and secure marketplace for individuals to connect and engage in transactions involved in used as well as new items.

1.2 Problem statement

The second-hand buying and selling market in Nepal face challenges due to the absence of a centralized platform, lack of trust and security, limited reach and visibility, informal transactions, inefficient search options, and limited promotion of sustainable practices. These challenges hinder the seamless exchange of used products and restrict the market's potential. Addressing these issues and providing a user-friendly platform that fosters trust, expands reach, streamlines transactions, improves search capabilities, and promotes sustainability will contribute to the growth and development of the second-hand market in Nepal.

1.3 Objectives

The objective of the proposed Online Second Hand Buying and Selling is that users can buy and sell goods in an efficient and systematic manner. This project aims to address the growth demand for a convenient and secure marketplace for individuals to engage in transactions involving used items.

With the proposed system, the achievable advantages are as follows:

- To provide easy and convenient transactions.
- To maintain trust and security.
- To promote sustainability and cost-effectiveness.
- To provide faster community engagement.

1.4 Scope and limitation

Scopes include:

Platform Development: The project aims to develop a user-friendly online platform for buying and selling goods in the second-hand market. The platform will include features like item listings, search functionalities, user profiles, secure payment gateways, and automated notifications.

Multiple Categories: The platform will cater to various categories of goods, such as electronics, clothing, furniture, books, and more, to accommodate a diverse range of user preferences and needs.

User Authentication: The system will implement a robust user authentication mechanism to ensure the security and privacy of user data, allowing only registered and verified users to participate in transactions.

these online Second hand buying and selling goods systems have few limitations. Some of the limitations of this system are:

Geographical Constraints: The project's scope may be limited to specific regions or countries initially, depending on the platform's target audience and legal considerations.

Limited Sellers: In the early stages, the number of sellers and listings on the platform may be limited, affecting the variety and availability of goods for buyers.

Payment Integration: Integrating secure payment gateways can be challenging and subject to external factors such as financial regulations and third-party service availability.

Security Concerns: Despite robust user authentication, the platform may face security vulnerabilities and threats, requiring constant monitoring and updates to ensure data protection.

User Adoption: The success of the project depends on user adoption and engagement. Convincing users to switch from traditional methods to the new platform may present challenges.

Competition: The project may face competition from established second-hand buying and selling platforms, impacting its market penetration and growth.

Technical Constraints: The project's scope may be limited by technical constraints such as budget, time, and resources available for development and maintenance.

Overall, the project aims to create a viable and user-friendly platform for buying and selling goods in the second-hand market, but its success will depend on addressing these limitations and continuously adapting to meet user demands and market conditions.

1.5 Report organization

Chapter1: Topic “Introduction” contains the introduction to the project. It explains the project's objectives, scope, and limitations, as well as provides a brief description and summary. It also explains why we're working on this project.

Chapter 2- Topic “Background Study and Literature Review” present a critical evaluation of the context of our system-critical analysis of existing literature. It includes a description of our perspective of the previous system, as well as what our project wants to accomplish, as well as a comparison of the traditional and our planned system, the Online Food Ordering System.

Chapter 3-Topic “System Analysis and Design” includes a data flow diagram, modules, architecture as well as contains the requirement of the system its hardware requirement, and the software required to run our system. It also relates to shaping organizations, improving performance, and achieving objectives for profitability and growth.

Chapter 4-Topic “Implementation and Testing” includes the process of testing implementations of technical specifications. It consists of all the ways how the functions are implemented and what functions are used to implement them.

Chapter 5-Topic “Conclusion and Future Recommendations” includes how well have we achieved our original aim and objectives, what were the limitations and scopes of our system, what should we do differently next time, consequences for research funding and practice.

CHAPTER 2: BACKGROUND STUDY AND LITERATURE REVIEW

2.1 Background study

As part of the background study for the "Second Hand Buying and Selling Goods" project, I conducted thorough research and analysis to understand the market demand and potential challenges in the second-hand goods trading industry. Through extensive online research, surveys, and interviews with potential users and stakeholders, I gathered valuable insights into their preferences, pain points, and expectations from an online platform dedicated to buying and selling pre-owned items. I explored existing online marketplaces and e-commerce platforms to identify gaps and limitations specific to the second-hand goods niche. I closely examined their features, user interfaces, payment methods, and security measures to understand what works well and where improvements could be made. During the research process, I discovered a growing demand for a user-friendly and reliable platform that caters exclusively to second-hand goods. Users expressed a strong interest in a platform that prioritizes transparency, trustworthiness, and data security, enabling seamless and secure transactions. Based on the study's findings, it became evident that certain aspects needed special attention, such as user-friendliness, extended service hours, order confirmation, and product ratings. I recognized the importance of addressing these pain points to create a positive and engaging user experience. Additionally, I explored the emerging trends in the sharing economy and sustainability movements, recognizing the potential of the second-hand market to contribute to a more environmentally conscious society. This further motivated the project's mission to encourage sustainable consumption practices and support the growth of the second-hand market. By incorporating the knowledge gained from the background study, the "Second Hand Buying and Selling Goods" project is designed to offer a solution that aligns with users' needs and expectations. The platform aims to provide a modern and efficient experience, where individuals can seamlessly list and purchase pre-owned items, fostering a sense of trust and community within the second-hand goods trading ecosystem. Throughout the study, I emphasized the importance of data security and user privacy, ensuring that the platform's infrastructure would meet the highest standards in safeguarding sensitive information. Overall, the background study played a vital role in shaping the project's vision and guiding its

development process, ensuring that it caters to the real needs and aspirations of users in the second-hand goods market.

2.2 Literature Review

The literature review for the "Second-Hand Buying and Selling Goods" project thoroughly examines the existing body of research related to e-commerce platforms, online marketplaces, and user behavior in the context of buying and selling second-hand goods. It delves into the growth and significance of e-commerce platforms, with a specific focus on their impact on the convenience and accessibility of the second-hand market. By analyzing previous studies, the review aims to gain insights into consumer preferences, behaviors, and decision-making processes when engaging in second-hand transactions. Understanding user behavior is a crucial aspect of the review, as it helps identify key factors that influence buying and selling decisions in the second-hand market. Factors such as price sensitivity, product condition, and the level of trust users place in the platform can significantly impact their engagement and satisfaction. Therefore, this understanding will guide the design of the project's user interface, ensuring it is user-friendly, intuitive, and capable of meeting user expectations. The review also places a strong emphasis on security and trust-building measures. It investigates existing strategies used by successful online marketplaces to prevent fraud, protect user data, and foster trust between buyers and sellers. By incorporating such measures into the project, it aims to create a secure and reliable environment for transactions, thereby enhancing user confidence in the platform. In addition to drawing from existing research, the literature review includes an analysis of case studies of successful online marketplaces in the second-hand market. By studying their best practices and success factors, the project gains valuable insights that can inform its implementation, improving the chances of success and user satisfaction.

Overall, the literature review serves as a comprehensive foundation for the "Second-Hand Buying and Selling Goods" project. It provides valuable knowledge and insights that guide the development of a user-centric, secure, and successful online platform for buying and selling second-hand goods. By incorporating relevant findings and best practices, the project can offer an efficient and satisfying experience to users, fostering a thriving and reliable marketplace for second-hand transactions.

CHAPTER 3: SYSTEM ANALYSIS AND DESIGN

3.1 System Analysis

System analysis is the process of collecting facts, identifying the problems, and decomposition of a system into its components. System analysis is conducted for the purpose of studying a system or its parts in order to identify its objectives. It is the problem-solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose. Second Hand buying and selling goods would be initiated using a waterfall model and different phases are used for the completion of works.

I.e., waterfall model is a popular model of the software development lifecycle to make a successful project. The waterfall model describes a development method that is linear or sequential. The whole process of system development is divided into separate phases like requirement analysis, design, implementation, testing, deployment, and maintenance. Once the one phase is completed the development process to the next phase starts and this is no turning back. Moreover, a waterfall model is suggested for the project because it has clear objectives and solutions. I take the waterfall model for the online food ordering system project mainly because the waterfall model is simple, easy to use, and manage, waterfall model works well for smaller the and project will be completed in a short period of time with a low budget where requirements are very well understood and the main advantage are processed and results are well documented.

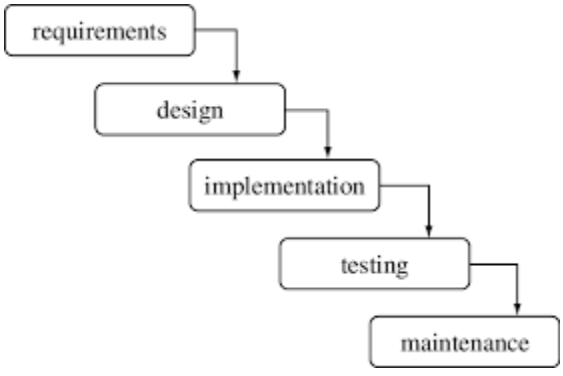

Figure 1:Waterfall Model

3.1.1 Requirement Analysis

Requirement analysis also called requirements engineering, allows software engineers to define user needs early in the development process. It helps them deliver a system that meets customer time, budget, and quality expectations. In this article, we review the requirements analysis process and explain various analysis techniques. The goal of this phase is to decompose analyze and detail the requirement across the system design. The following section presents the complete set of functional and non-functional requirements identified for the second hand buying and selling system. In prioritizing functional requirements for the entire system, the user roles of buyers and sellers take precedence, followed by the administration functionalities. Non-functional requirements, on the other hand, center around the system's operation and encompass aspects such as security, stability, reliability, and performance, all of which are vital for ensuring a professional and seamless user experience.

I. **Functional Requirements:**

Functional requirements define the capabilities and functions that a system must be able to perform successfully. Functional requirements are those requirements in the system that are used to illustrate the internal working nature of the system, and explanation of each subsystem. It consists of what task the system should perform, technical information, various processes, and other functionality. The specified functional requirements for the second hand buying and selling goods System are presented in this section. Use case diagrams are used to describe the functional requirements as they represent the system’s functions at the most basic level. The functional requirements are:

There is main two users who operate the system.

- Admin (Service Provider)
- Users: all who use Online buying and selling goods.

Admin Functionalities

The system should let the administrator.

- Dashboard
- User management
- Product management
- Order Details

- Logout

User Functionalities

- Homepage
- Login to the website
- User homepage
- Buy/sell goods
- To update his/her profile.
- Product listing
- Product Details
- Payment Confirmation
- Help Center

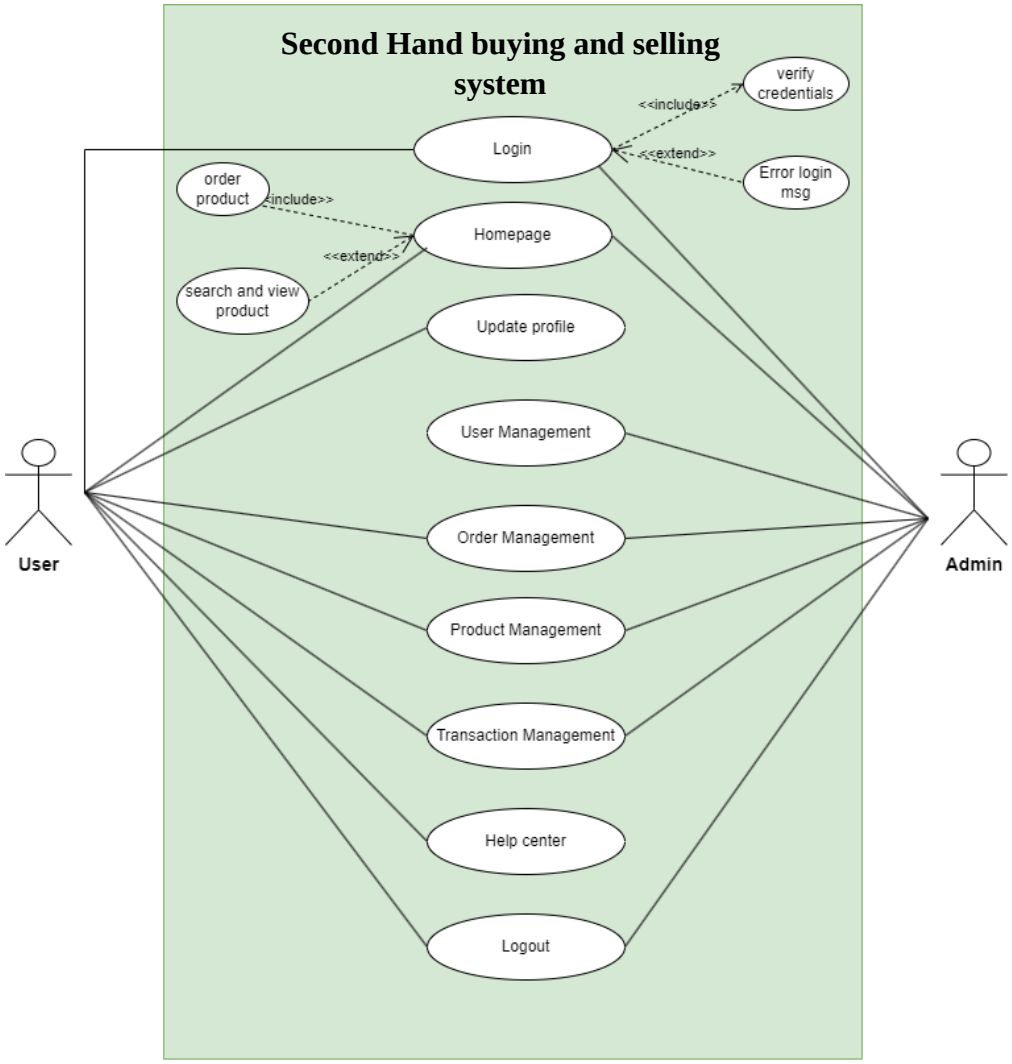

Figure 2: Use Case Diagram

I. Non-functional requirement

The non-functional requirement describes constrains for implementing the project. Some of them are: the central sever has to be provided at secured area,the system must be maintainable and expandable, and the network infrastructure has to beprivate network client machines at each of the user side must be installed. In each of the each of user there should be technically supporting people. The user should have also basiccomputer skills and training should be provided to the employee on the demo version of the management application. The following non-functional requirements are included in the system:

- Secure: The application is secured for every kind of its users because here is the facility of session management and password encryption. If any user logout from any session, then nobody will be able to access his/her profile without knowing confidential password.
- Reliable: The system should be reliable, for handling the occurrence of errors.
- Usability: The users should able to understand the menu and options providing by the system. The system shall provide an easy-to-use interface so that the users do not strain to interact with the system.
- Performance: The system should respond fast, mostly depends the connection of speed and the processor of user device.
- Accessibility and Availability: The system should be up and running whenever needed.

3.1.2 Feasibility study:

A feasibility study is the initial design stage of any project, which brings together the elements of knowledge that indicate if a project is possible or not. A feasibility study was conducted for the project with the goal to see if a system idea is feasible. So far, during the development of

the project Online Food Ordering System, we have four major categories of the feasibility study.

- **Operational feasibility:**

  As our project plan satisfies the requirement identified in the requirement analysis phase of system development. Our application is operationally feasible because it is simple and needs only a general idea to operate it is not necessary to have a well-trained expert. Our system has a user-friendly interface that makes it simple for users to utilize.

- **Economical feasibility:**

  As our system utilizes free software such as HTML, CSS, JS, and MYSQL, which will not generate any costs also the application does not spend much more money so our system is economically feasible. But because our project is a college project so we do not need to check whether our project is economically feasible or not.

- **Schedule feasibility:**

  Schedule feasibility is the most important for the success of a project after all it analyzed time it will take to complete a project which has a great impact on the organization as the purpose of the project may fail if it can't be completed on time. As our project is short, the requirement for the system is already fixed and it cannot be changed, we manage a perfect time period for our project by analyzing and discussing with experts, so we summarize that our system is schedule feasible.

- **Technical feasibility:**

  For to develop the system we include the correct required resources and technologies such as HTML, CSS, PHP, and MySQL as the server are the main technologies and tools used in our system which are freely available, and the system developer has lots of technical experience. We will conduct systematic information-sharing training with an associated user guide.so, our project is technically feasible.

Week

Time and phases	1	2	3	4	5	6	7	8	9	10	11	12
Study and analysis												
Implementation and coding												
Testing												
Documentation												
Reviews												

Figure 3:Time Plan

3.1.3 E-R Diagram

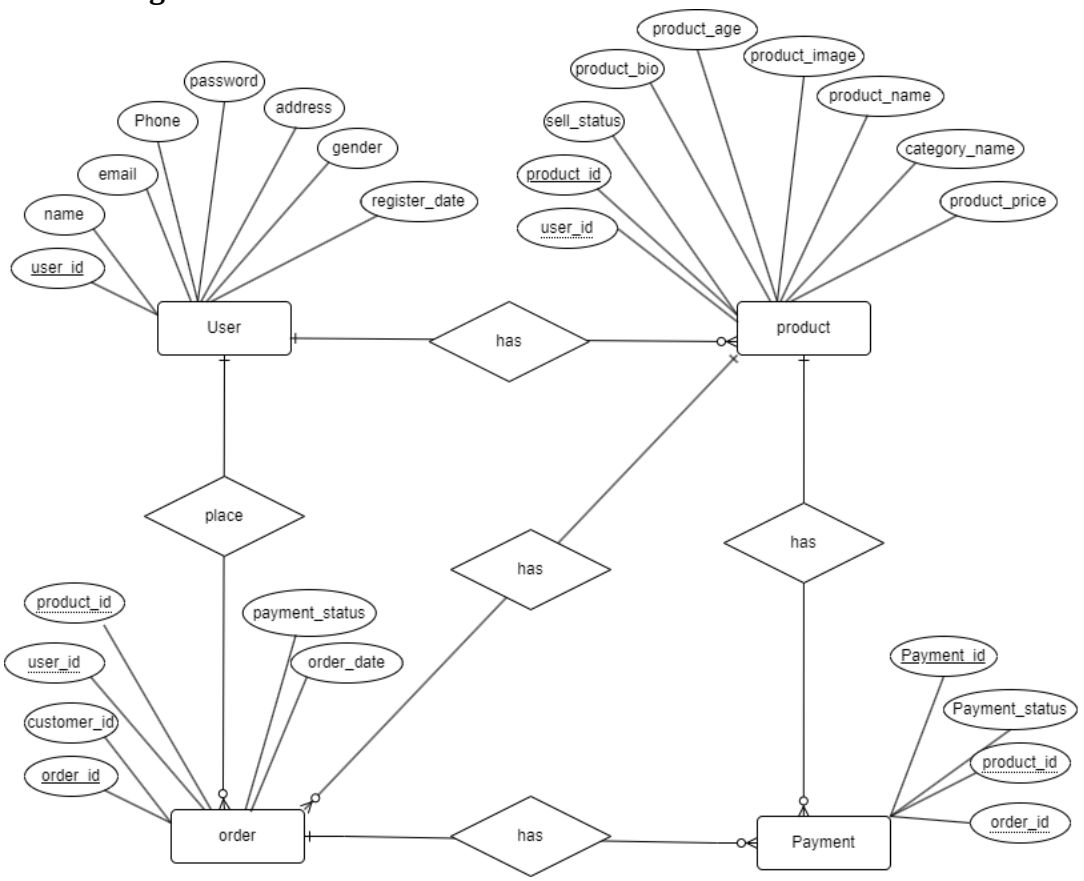

Figure 4:Er Diagram

3.1.4 DFD (data flow diagram)

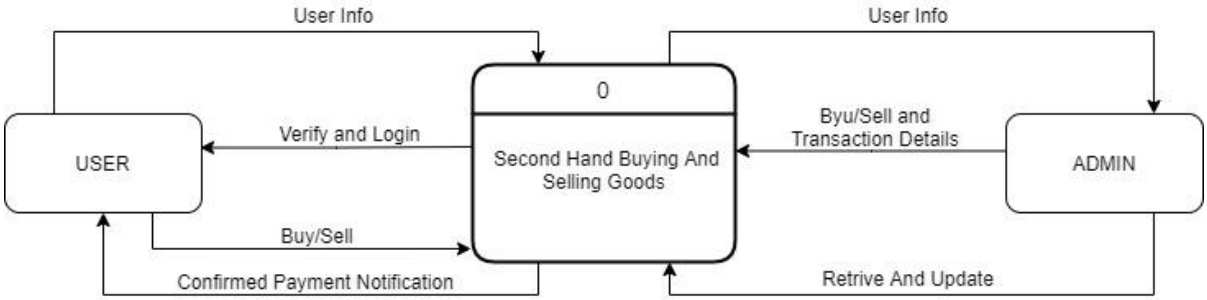

Figure 5:DFD level 0

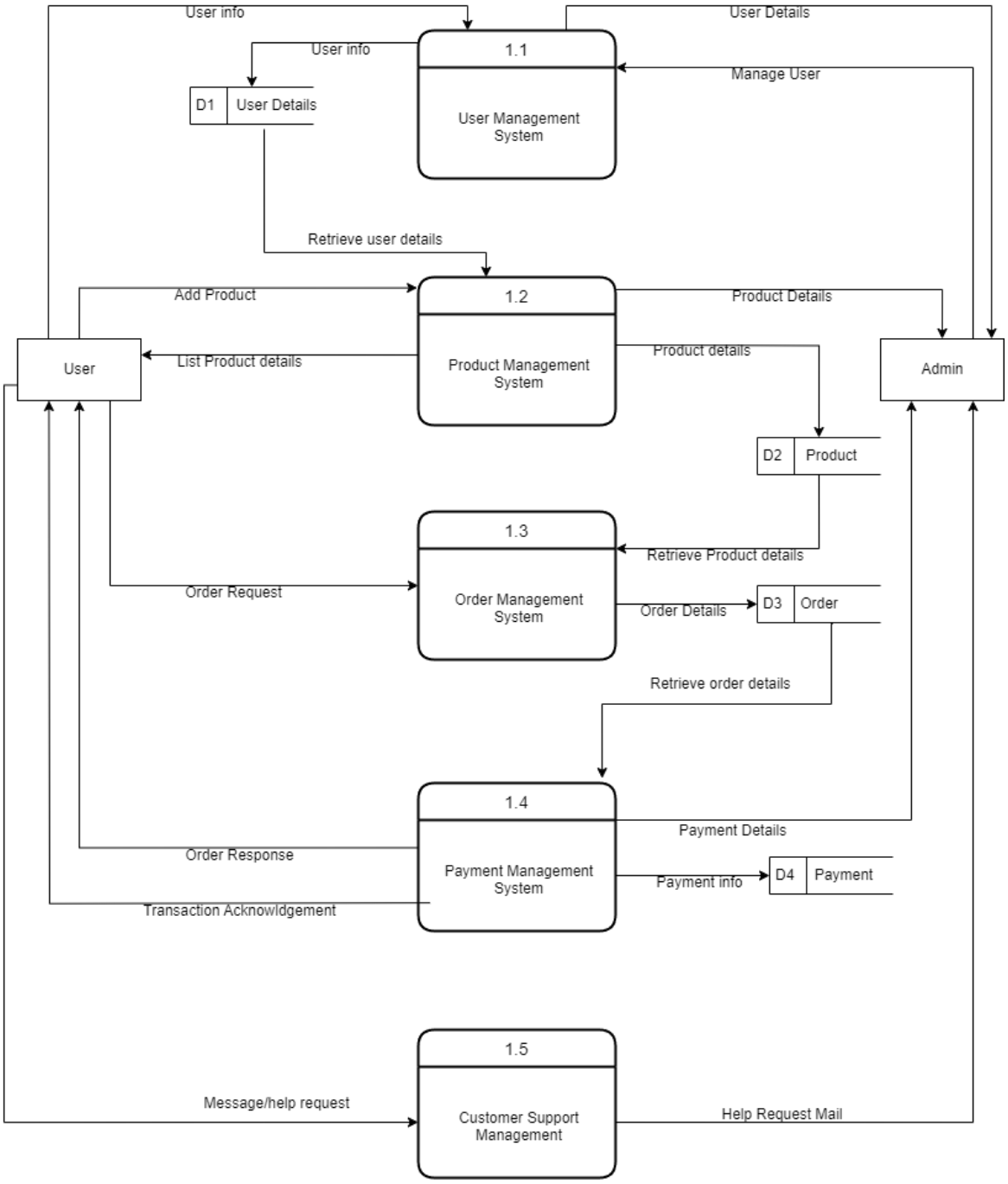

Figure 6:DFD level 1

3.2 System Design

System design is the process of defining elements of a system like modules, architecture, component, and their interfaces and data for a system based on the specified requirements. System design is the process of defining, developing, and designing systems that satisfy the specific needs and requirements of an organization.

3.2.1 Architectural Design

An architectural diagram for a software project is a visual representation of the system's overall structure and how its components interact with each other. In the case of online tutor project, the architectural diagram provides a high-level overview of the system and its various components, including the user interface, database, application server, and external systems or services. 18 The diagram helps to illustrate how these components fit together and how data flows through the system. It can also help to identify potential bottlenecks or areas of the system that may require optimization

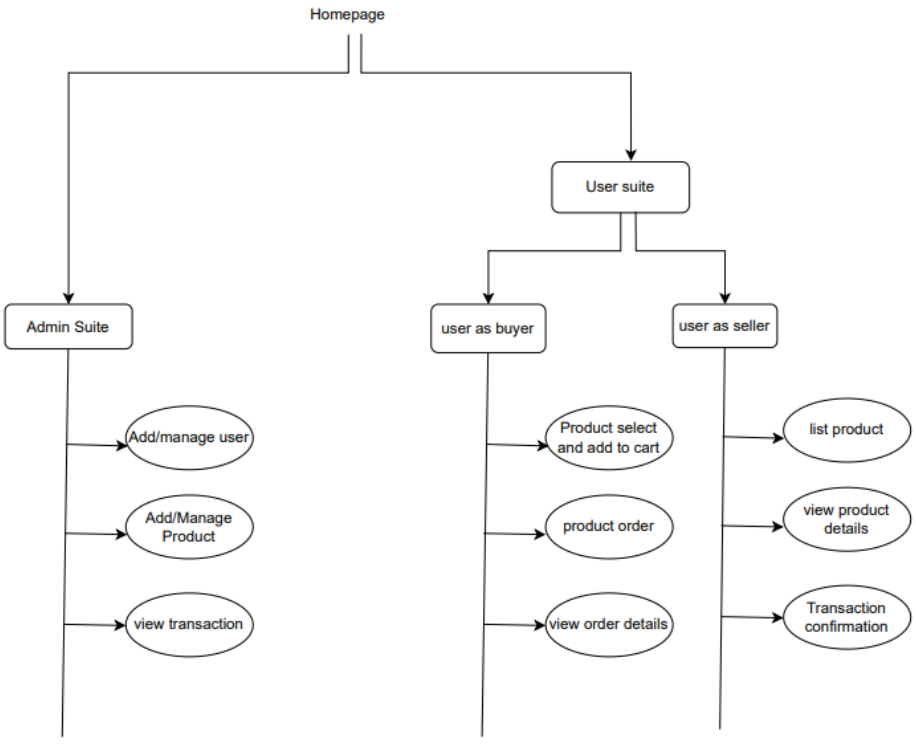

Figure 7:Architecture Diagram

3.2.2 Database schema design:

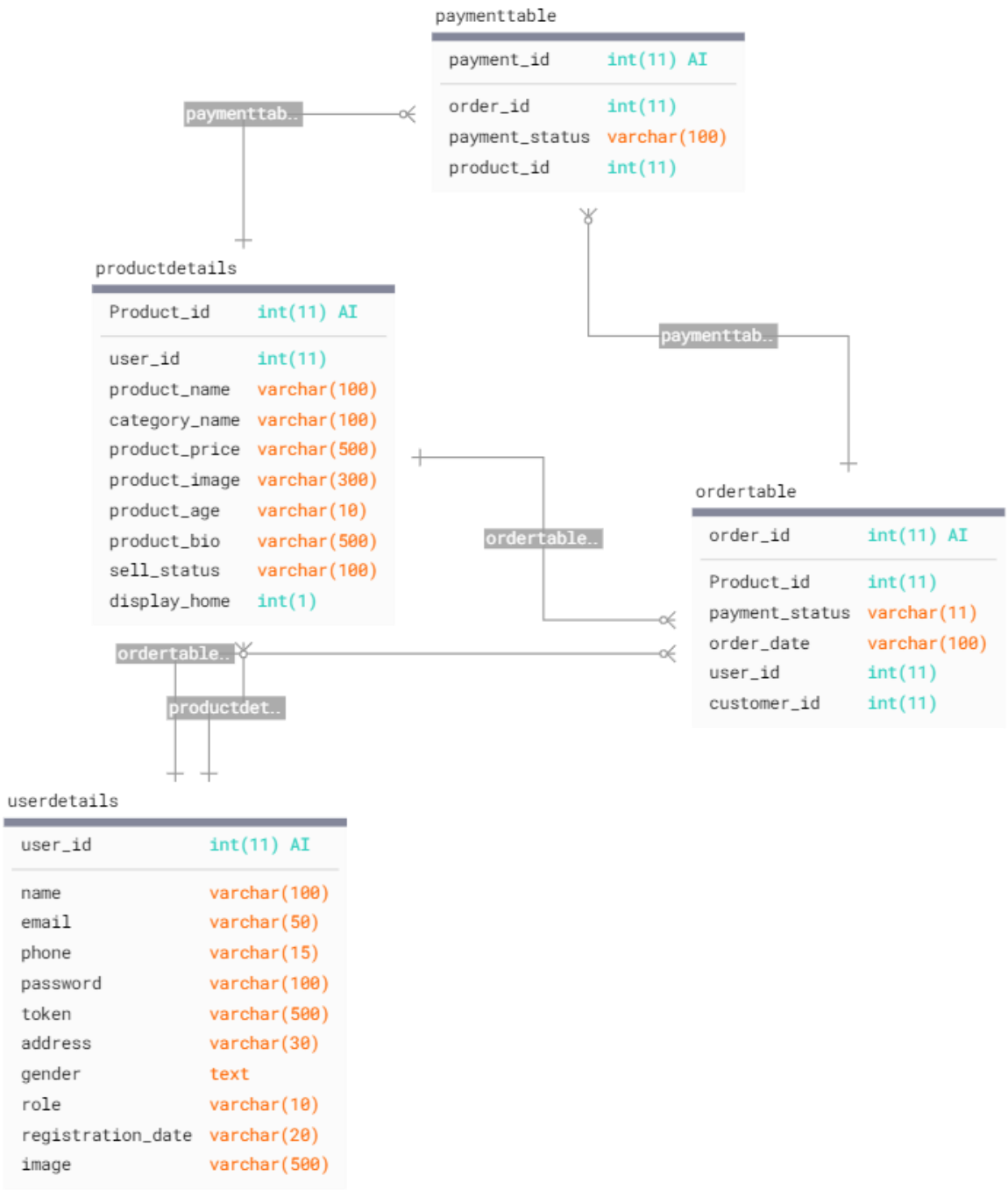

Figure 8:Schema Design

3.2.2.1 Database design

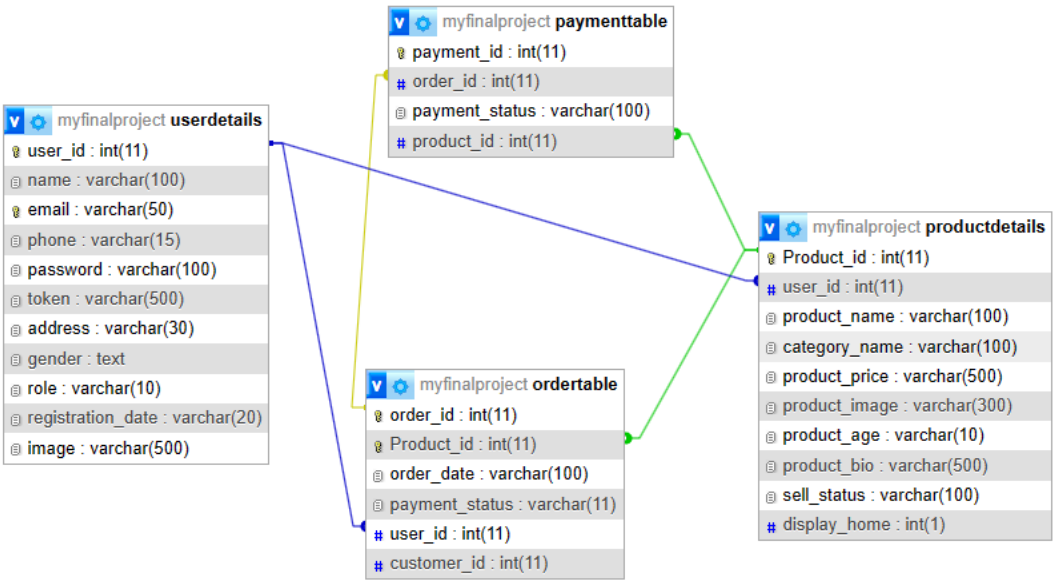

Figure 9:Database Design

3.2.2.2 Data Dictionary

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	user_id	int(11)			No	None		AUTO_INCREMENT
2	name	varchar(100)	utf8mb4_general_ci		No	None		
3	email	varchar(50)	utf8mb4_general_ci		No	None		
4	phone	varchar(15)	utf8mb4_general_ci		No	None		
5	password	varchar(100)	utf8mb4_general_ci		No	None		
6	token	varchar(500)	utf8mb4_general_ci		No	None		
7	address	varchar(30)	utf8mb4_general_ci		No	None		
8	gender	text	utf8mb4_general_ci		No	None		
9	role	varchar(10)	utf8mb4_general_ci		No	None		
10	registration_date	varchar(20)	utf8mb4_general_ci		No	None		
11	image	varchar(500)	utf8mb4_general_ci		No	None		

Figure 10:User Details Database table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	Product_id	int(11)			No	None		AUTO_INCREMENT
2	user_id	int(11)			No	None		
3	product_name	varchar(100)	utf8mb4_general_ci		No	None		
4	category_name	varchar(100)	utf8mb4_general_ci		No	None		
5	product_price	varchar(500)	utf8mb4_general_ci		No	None		
6	product_image	varchar(300)	utf8mb4_general_ci		No	None		
7	product_age	varchar(10)	utf8mb4_general_ci		No	None		
8	product_bio	varchar(500)	utf8mb4_general_ci		No	None		
9	sell_status	varchar(100)	utf8mb4_general_ci		No	pending		
10	display_home	int(1)			No	1		

Figure 11:Product Details Database table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	payment_id	int(11)			No	None		AUTO_INCREMENT
2	order_id	int(11)			No	None		
3	payment_status	varchar(100)	utf8mb4_general_ci		No	Pending		
4	product_id	int(11)			No	None		

Figure 12:Payment Details Database table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	order_id	int(11)			No	None		AUTO_INCREMENT
2	Product_id	int(11)			No	None		
3	order_date	varchar(100)	utf8mb4_general_ci		No	None		
4	payment_status	varchar(11)	utf8mb4_general_ci		No	Pending		
5	user_id	int(11)			No	None		
6	customer_id	int(11)			No	None		

Figure 13:Order Details Database table

3.2.3Interface Design

Designing the interface for a second-hand buying and selling platform involves creating user-friendly and intuitive screens for both buyers and sellers, as well as an admin panel for overseeing the platform's operations. Here's a breakdown of the interface design:

1. **Homepage**

   Header: Contains the platform's logo, navigation menu, and user login/register options.

   Search Engine: Prominently displayed at the top, allowing users to search for products by keywords, categories, and other filters (e.g., price range, location).

   Product Listings: Display a grid of product cards, each showing a product's image, title, price, and location. Users can scroll through these listings.

   Filters: On the side or above the product listings, offer filter options (e.g., category, condition, price range) to refine search results.

2. **User profile**

   User Dashboard: After login, users are directed to their dashboard, which includes options for viewing listed items, account settings, and transaction history.

   Listed Items: Display a list of items the user has listed for sale. Include options to edit, remove, or mark items as sold.

   Payment Confirmation: A section where users can confirm or reject payments for sold items.

3. **Product Listing**

   In the menu bar, provide an option for users to list their items. This form should allow users to upload images, provide product details (title, description, price, category, condition), and set contact preferences.

4. **Selling Flow**

   When a user clicks on a buy button, a detailed page opens, displaying images, title, description, price, contact information of the seller, and a button to request confirmation.

5. **Admin Panel**

   User Management: Admin can add or remove users, manage their profiles, and respond to user requests for assistance.

Product Management: Admin can add, remove, or edit product listings. Also, handle requests to remove or address damaged products.

Order Details: Display a comprehensive view of all transactions, including order status, payment status, and communication logs between buyers and sellers.

6. **Product Confirmation**

   When a user clicks the "Done" after know the details of the product, the product owner receives a notification and can accept or reject the request.

7. **Payment Flow**

   Cash and delivery method is implemented in the system

8. **Notification**

   Notify users about product status changes, new messages, or important updates through mail

9. **Help and Support**

   Include a section for users to contact customer support

CHAPTER 4: IMPLEMENTATION AND TESTING

4.1 Implementation

In this chapter, we focus on turning the technical specifications of the Second-Hand Buying and Selling System into a practical reality. We explore the various phases of development, including frontend and backend implementation, database integration, and technology selection.

System Development Phases

The implementation process comprises four key stages. Firstly, we refine the system's requirements to ensure clarity and coherence. Next, we carefully select suitable technologies and tools. Thirdly, we develop the frontend for an intuitive user interface and the backend for

data processing. Finally, we design and integrate a robust database.

System Enhancements

Several enhancements refine the system's functionality. User management features secure authentication and profile management. Admin functionalities enable effective system administration. The product listing and search functions offer a smooth user experience. A secure payment gateway facilitates safe transactions, and reporting and analytics provide valuable insights.

Operational Guidelines

This section provides instructions for operating the system effectively. Users are guided through registration, product listing, purchasing, and dispute resolution. Administrators receive best practices for efficient system management and handling user concerns.

In conclusion, the implementation phase of the Second-Hand Buying and Selling System transforms technical specifications into a fully functional platform. With meticulous planning and development, the system empowers users with a seamless experience, ensuring secure transactions and enhanced functionalities.

4.1.1 Tools Used

We use different tools and techniques for the development of the system. We use HTML, CSS, and JAVASCRIPT for the frontend and PHP for the backend development. We use SQL for managing databases.

Html and CSS:

HTML (HyperText Markup Language) was used to structure the content and layout of the web pages. I employed HTML to define the various elements such as headings, paragraphs, lists, tables, forms, and buttons, which are essential components of the user interface.

CSS (Cascading Style Sheets) was employed to control the presentation and styling of the HTML elements. With CSS, I could specify the font styles, colors, spacing, positioning, and other visual aspects of the interface. By separating the content from the presentation, CSS allowed me to maintain consistency and easily update the design across multiple pages.

JavaScript: JS is used to add events and triggers to the website. The website also uses JS to acquire the system time for date and time reasons.

PHP with MySQL: PHP is a server-side scripting language that allows you to connect to a database, as CRUD actions such as editing, deleting, and searching news is required, PHP is utilized in association with the MySQL database, which stores database tables.

XAMPP Server: XAMPP is a popular cross-platform web server that allows programmers to design and test their code on a local webserver. It is used in project development to host the portal locally and centralize the database.

Visual studio code: visual studio code is a source code editor its features include support for debugging, code refactoring, etc. Users can change the theme keyboard shortcuts, and install extensions that add additional functionality.

4.1.2 Implementation Details of Modules

Following are all the modules designed for the Second-Hand Buying and Selling System:

Admin Module

The Second-Hand Buying and Selling System is equipped with a robust admin module that empowers authorized administrators to efficiently manage various aspects of the platform. With secure login credentials, the admin gains access to a comprehensive set of tools for user

and product management, as well as access to essential lists like the user list, product list, and payment list.

User Module

The User Model within the Second-Hand Buying and Selling System enables users to list their products for sale and buy items from other users directly within the model. After placing an order for a product, the goods owner is notified and can respond by confirming the payment, validating the purchase request.

4.2 Unit testing

The overall aim for testing a system is to ensure that the system meets its entire functional requirement and to check its performance. The accuracy of the program can be tested with some varying data, testing gives assurance that the new system will achieve its objectives and purpose. Testing is basically an attempt of executing program to find bugs. It consists of various types for which a system is subjected to but the ones to be carried out are the testing objectives. The test plan presents the test in details through identifying the test case areas within the system.

4.2.1 Test Cases for Unit Testing

Unit testing is a critical software testing approach used to evaluate individual units or components of Second-Hand Buying and Selling System. The primary purpose is to validate the proper functioning of each unit in the system. Developers conduct unit testing during the application's development phase to ensure its accuracy and reliability. Second-Hand Buying and Selling System was divided into specific components, such as the admin component and user (as a buyer and seller) component. Each component was thoroughly tested in isolation. Throughout the testing process, various input values and scenarios were examined to verify the corresponding outputs. The goal was to ensure that all components work effectively and deliver the expected results. By implementing comprehensive unit testing, the developers were able to identify and rectify any issues or errors, enhancing the overall reliability and performance of the Second-Hand Buying and Selling System.

4.2.2 Test Cases for System Testing

System testing is a level of testing that validates the complete and fully integrated software product. In software testing the behavior of whole system is tested as defined by the scopeof the developed project. It is the most of the final test top verify that the system to be delivered meets the specification and purpose. System testing should focus on testing interactions between the components and objects that make up a system as well as test the reusable components or system to check that they work as expected when they integrated with new component.

Table 1:Admin login Login test cases

Test Case	Test Scenario	Test Steps	Test Data	Expected Results	Actual Result	Pass/ Fail
TC01	Check the login module with correct input access the system	1. Go to site http://localhost/myfinalproject/login.php 2.Enter username 3.Enter password 4.Click login	Email=Akadmin@gmail.comPassword=000	Allow the admin login to the system.	The admin logged into the system.	Pass
TC02	Check the login module with incorrect input access the system	1.Go to site http://localhost/myfinalproject/login.php 2.Enter username 3.Enter password 4.Click login	Email=admin Password=admin	Deny the admin access tothe system	The admin was unable to login into the system. Error message incorrect username or password.	Pass

Table 2:Add and view user test cases

Test Case	Test Scenario	Test Steps	Test Data	Expected Results	Actual Result	Pass/ Fail
TC03	This test Add user with correct input	1. Go to site http://localhost/myfinalproject/addusermanage.php 2. EnterUser ID,Name, Email, Address, Phone,Gender ,Password 3. Click submit	Driver ID: 350 Name: Aakash Gender:male Phone:9805449777 Email: Ak100@gmail.com Address:Devchuli-1 Password: Ak@00000	Allow the admin to save User.	The admin saved the new User.	Pass
TC04	This test Add user with incorrect input	1. Go to site http://localhost/myfinalproject/addusermanage.php 2. Enter Driver ID, Name, Email, Address, Phone,Gender,Password 3. Click submit	Driver ID: 350 Name: Aakash Gender:male Phone:9805449777 Email: Ak100@gmail.com Address:Devchuli-1 Password: Ak@00000	Prompt an error “user already exists.”	The admin doesn’t add User.	Pass

Table 3:Add and view product test cases

Test Case	Test Scenario	Test Steps	Test Data	Expected Results	Actual Result	Pass/ Fail
TC05	This test Add Product with correct input	1. Go to site http://localhost/myfinalproject/addproductmanage.php 2. Enter UserID, Name,Category,Price,Imagefile, Age, bio 3. Click Save	User ID: 350 Name: TV Category: Electronic Price:50,000 Imagefile:///C:/Users/Aakas/Downloads/tvimage.png Age:2years Bio:Rowa tv for sale	Allow the admin to save product.	The admin saved the new product.	Pass
TC06	This test Add Product with incorrect input	1. Go to site http://localhost/myfinalproject/addproductmanage.php 2. Enter User ID,Name,Category,Price, Imagefile, Age, bio 3. Click Save	User ID: 350 Name: TV Category: Electronic Price:50,000 Imagefile:///C:/Users/Aakas/Downloads/tvimage.png Age:2years Bio:Rowa tv for sale	Prompt an error "User Doesnot exits".	The admin doesn't add Product.	Pass

Table 4:Register user test cases

Test Case	Test Scenario	Test Steps	Test Data	Expected Results	Actual Result	Pass/ Fail
TC07	This test Register user with correct input	1. Go to site http://localhost/myfinalproject/userhomepage/homepage.php and click signup 2. Enter User ID, Name, Email, Address, Phone,Gender,Password,image 3. Click submit	Name: Aakash Gender:male Phone:9805449777 Email: Ak100@gmail.com Address:Devchuli-1 Password: Ak@00000 Image:img.jpeg (1200×960)	The User able to signup and redirected to login page.	The admin saved the new User.	Pass
TC08	This test Register user with incorrect input	1. Go to site http://localhost/myfinalproject/userhomepage/homepage.php and click signup 2. Enter User ID, Name, Email, Address, Phone,Gender,Password,image 3. Click Signup	Name: Aakash Gender:male Phone:9805449777 Email: Ak100@gmail.com Address:Devchuli-1 Password: (empty) Image:img.jpeg (1200×960)	Deny the user to register. Prompt an error “Please fill out this field”.	The user unable to register into the system.	Pass

Table 5:User Login test cases

Test Case	Test Scenario	Test Steps	Test Date	Expected Results	Actual Result	Pass/ Fail
TC09	Check the login module with correct input access the system	1. Go to site http://localhost/myfinalproject/login.php 2.Enter password 3.Click login	Email=Aakashkandel9777@gmail.com Password=Aakash@123	Allow the user login to the system.	The User logged into the system.	Pass
TC10	Check the login module with incorrect input access the system	1. Go to site http://localhost/myfinalproject/login.php 2.Enter password 3.Click login	Email=Aakashkandel@gmail.com Password=Aakash	Deny the User access to the system	The was User unable to login into the system. Error message incorrect user not found or invalid password.	Pass

CHAPTER5: CONCLUSION AND FUTURE RECOMMENDATION

5.1 lesson learned/outcome

This project assisted me gain a practical experience and apply the knowledge assimilated from the previously course undertook. Putting the knowledge gained earlier and applying different techniques from past course was interesting and certain concepts, tools and technique only made sense after seeing their application in a real word scenario. It was extremely challenging at times but it has been great and worthwhile learning experience. This application is several users friendly and simple codes that have been adopted as well as prove to be a powerful software package in satisfy all requirement of the user.

The website I made by using the simple code in JavaScript, HTML, CSS and PHP with MySQL database which is thoroughly tested and implemented. The implementation of this system will reduce the paper work, time.

5.2 Conclusion

In conclusion, the second-hand buying and selling goods project has demonstrated significant potential and value for both consumers and the environment. Throughout the project, it became evident that the marketplace effectively facilitated the exchange of pre-owned items, encouraging a more sustainable and resource-efficient lifestyle. By giving used products a second life, the project contributed to reducing waste and conserving natural resources. The positive impact on the environment was clear, as the platform helped lower manufacturing emissions and the depletion of raw materials by reducing the demand for new products. Additionally, buyers benefited from more affordable options, enabling them to save money while still acquiring high-quality goods. Overall, the project showed promise in fostering a sense of community and promoting the spirit of recycling, sharing, and supporting one another.

5.3 Future recommendation

In addition to the unfinished requirements, there are other possibilities for further improving the project. This improvement may include:

- Delivery option: add a delivery option

- Payment options: add different payment options such as cash payment, eSewa, etc. allowing to save payment details for future use.
- Restaurant locator; allow to find and choose a nearby restaurant.
- Tracking on delivery

Reference

Portal, "Mero Second Hand," [Online]. Available: https://www.merosecondhand.com [Accessed 02 May2023].
Commercial Website, "Hamro Bazar," [Online]. Available: https://hamrobazaar.com [Accessed3 May 2023].
Portal, "IMPLEMENTATION AND TESTING," 2020. [Online]. Available: https://portal.bazeuniversity.edu.ng/student/assets/thesis/. **[Accessed 15 May 2023].**
guru99, "Unit Testing," 2021. [Online]. Available: https://www.guru99.com/unit-testing-guide.html **[Accessed 16 May 2023].**

Appendices

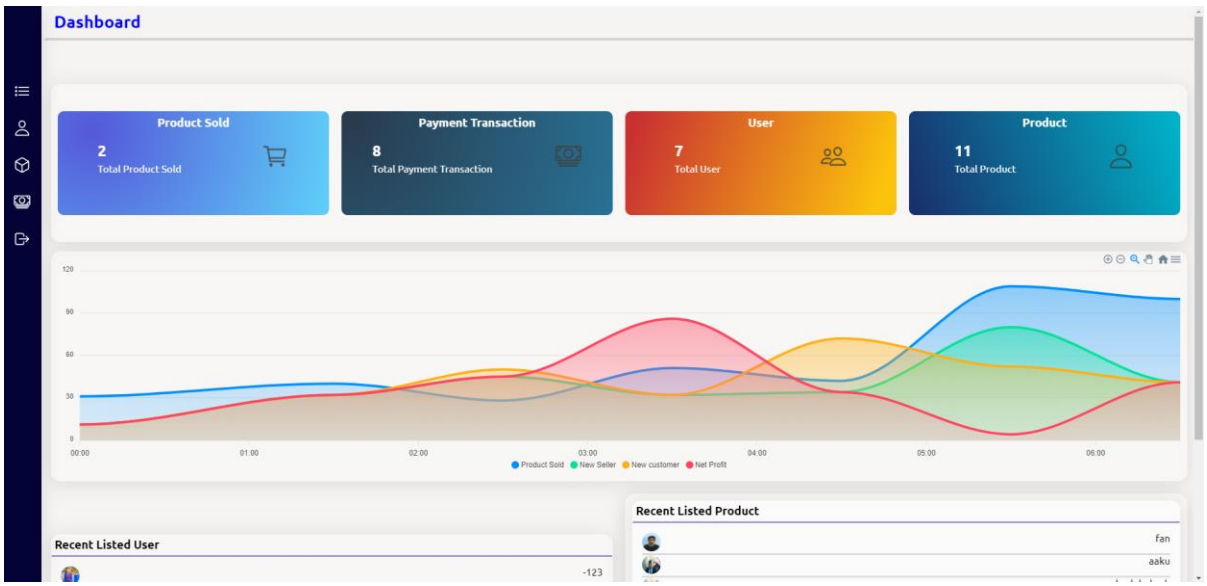

Figure 14:Admin Dashboard

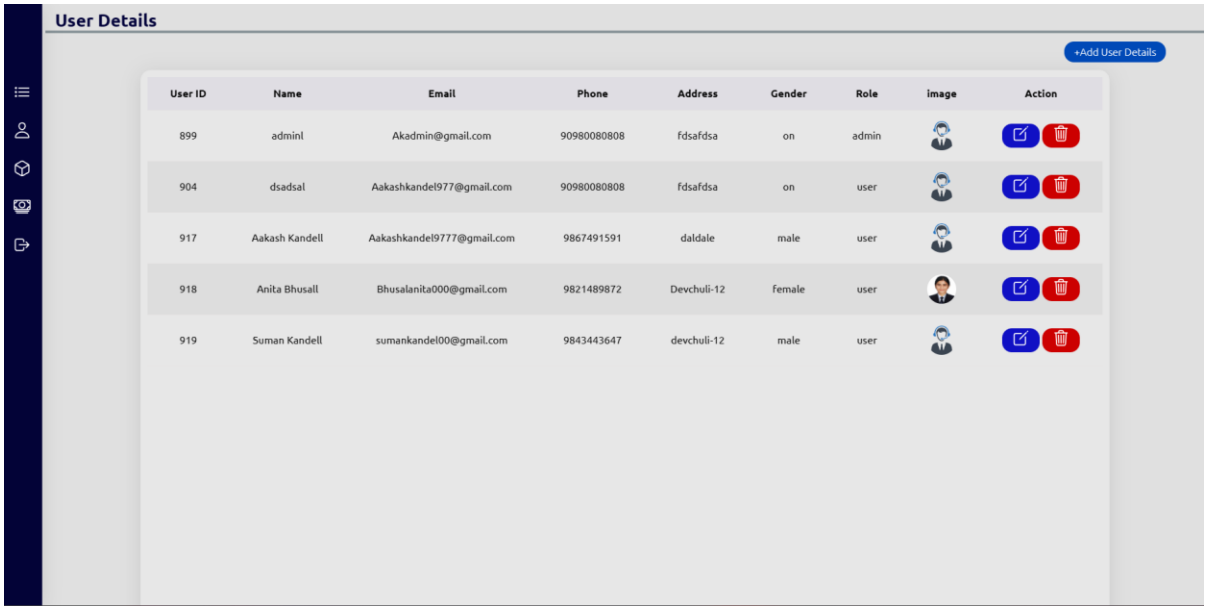

Figure 15:User management

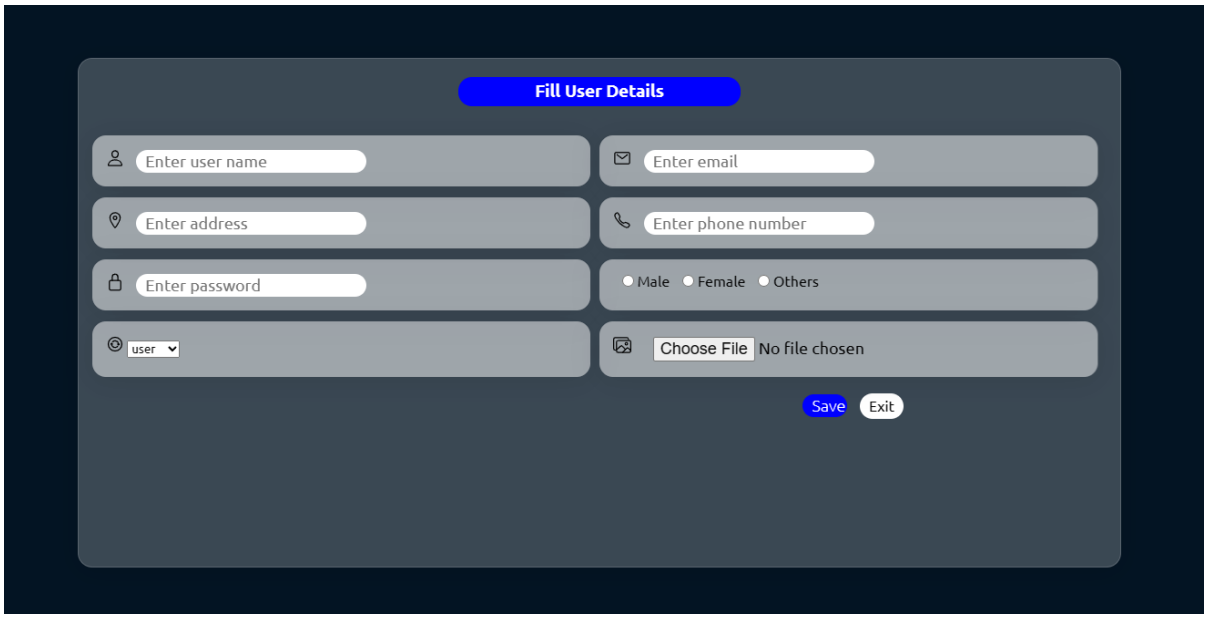

Figure 16:Add user form

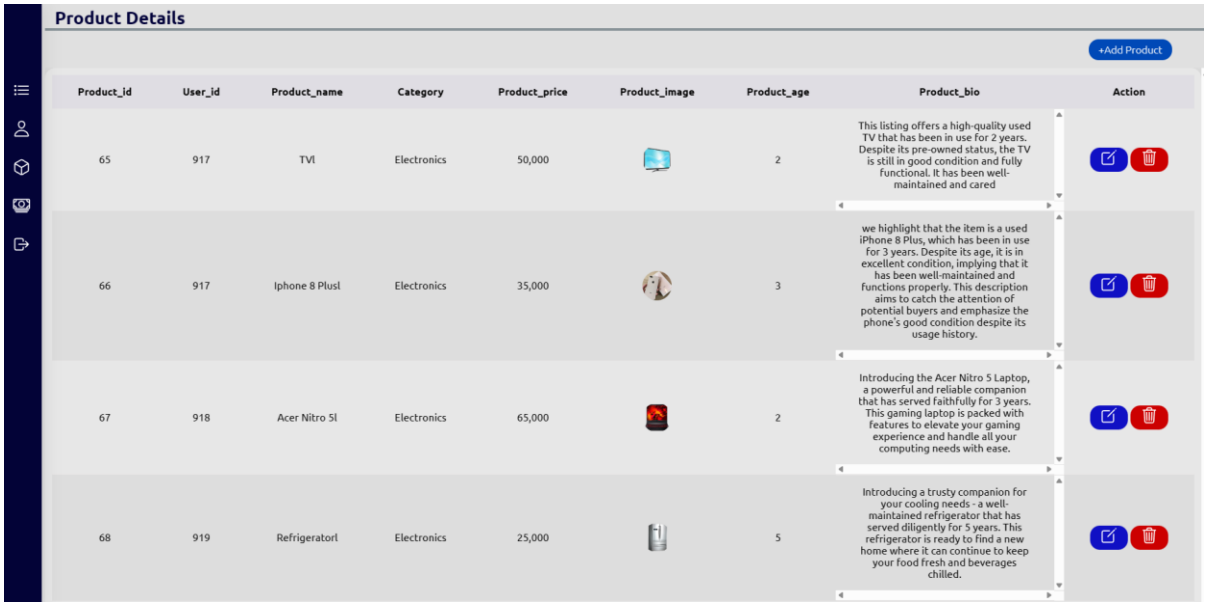

Figure 17:product details

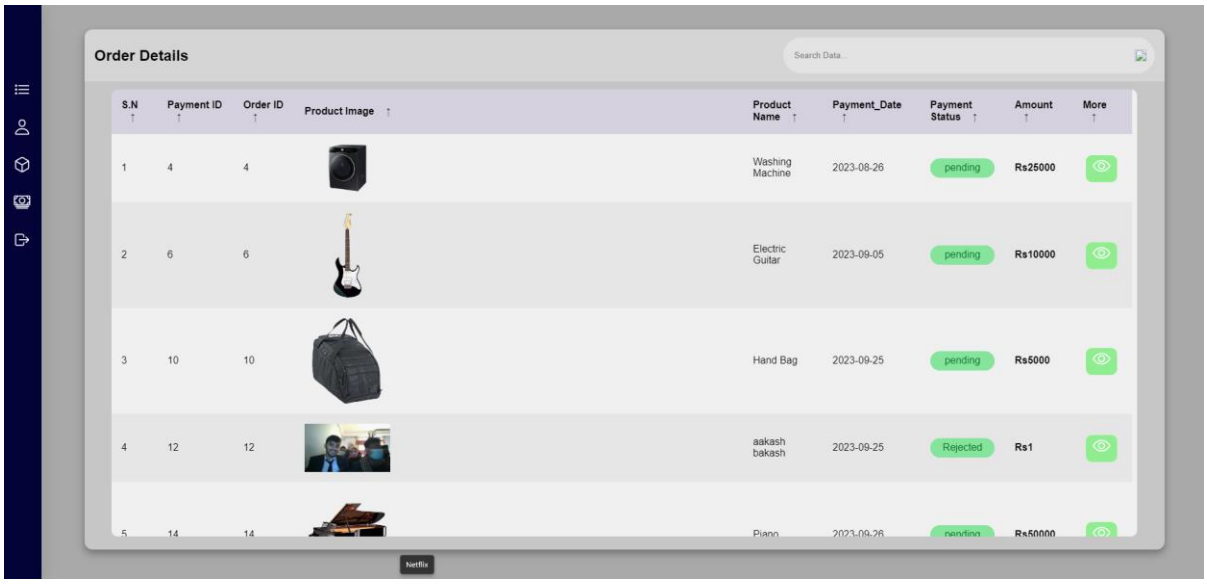

Figure 18:Order Details

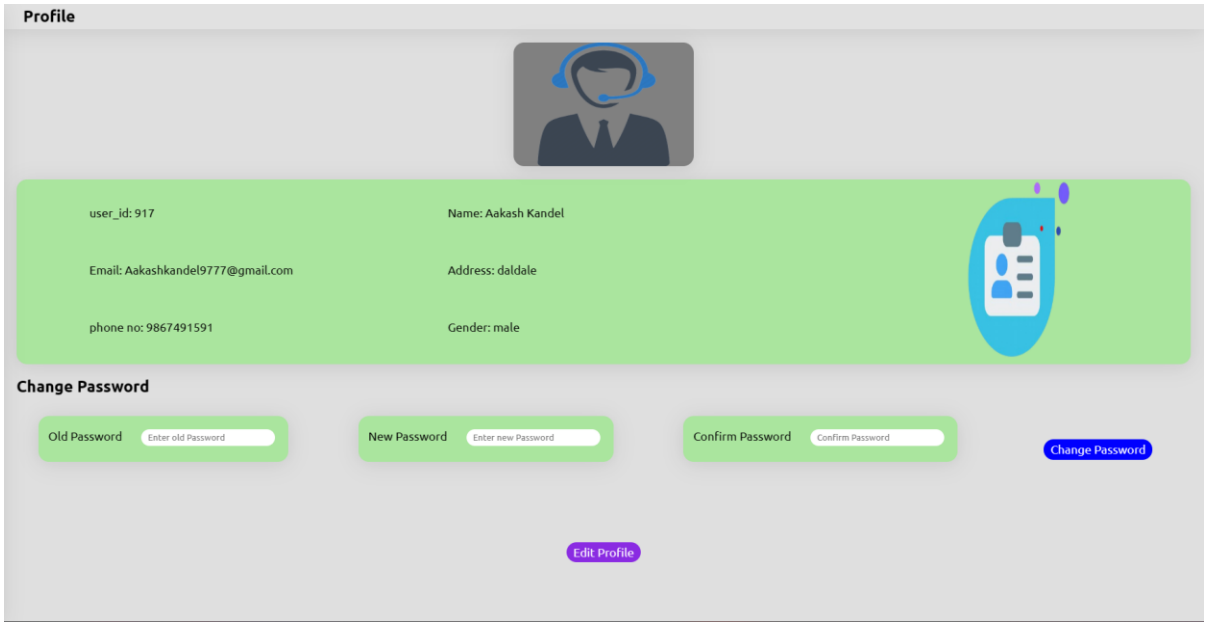

Figure 19:Update user profile

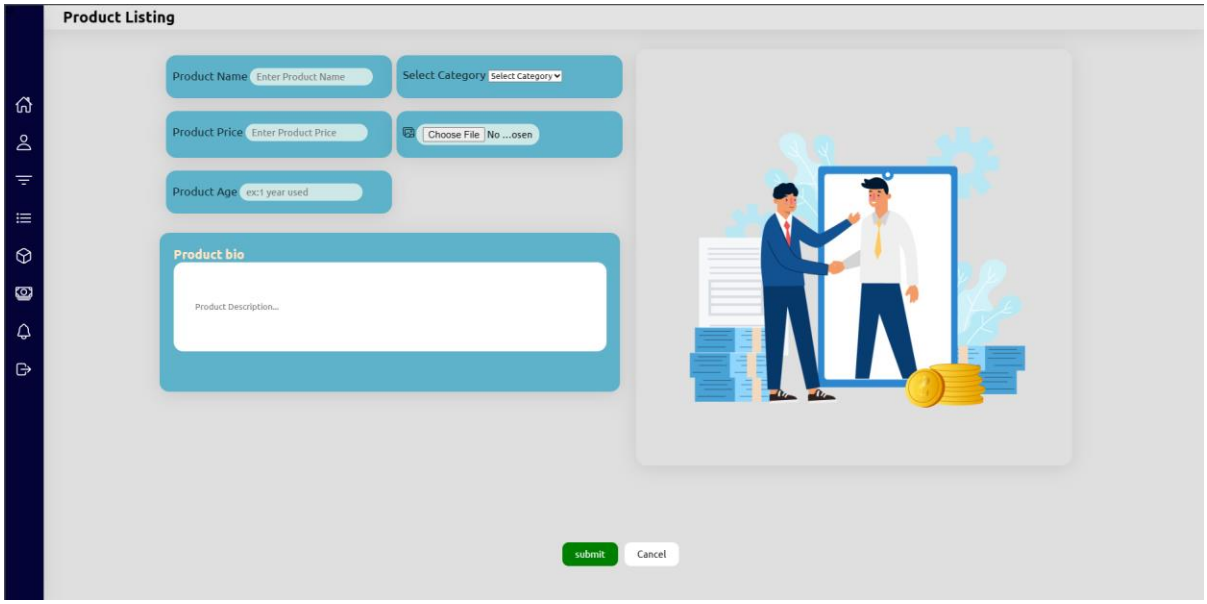

Figure 20:Product Listing form

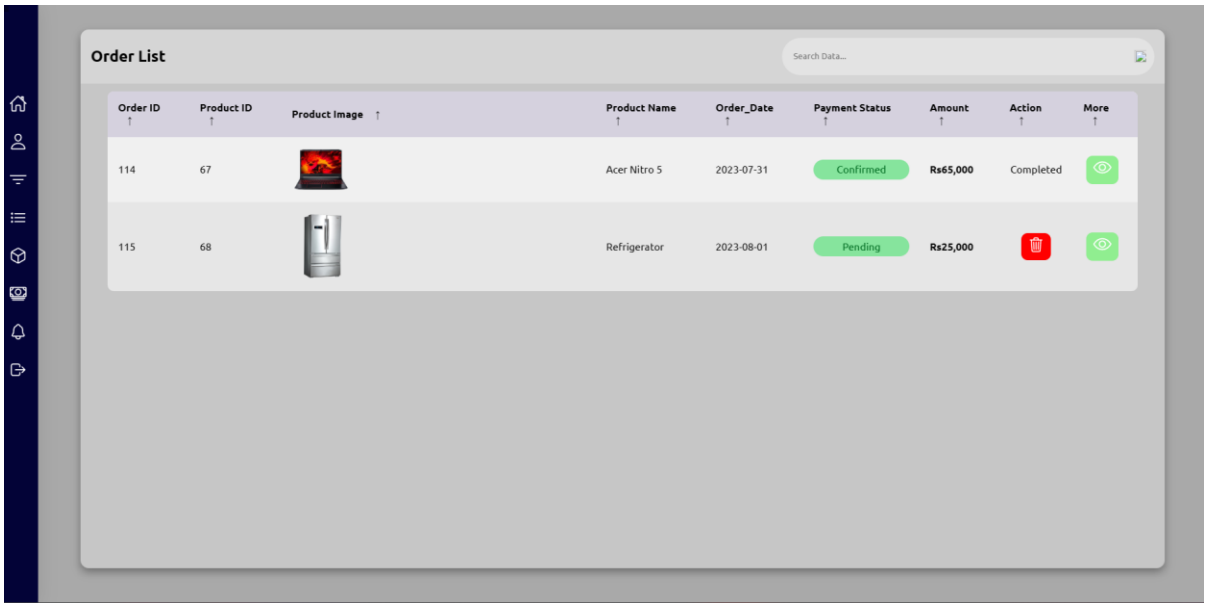

Figure 21:Order List details

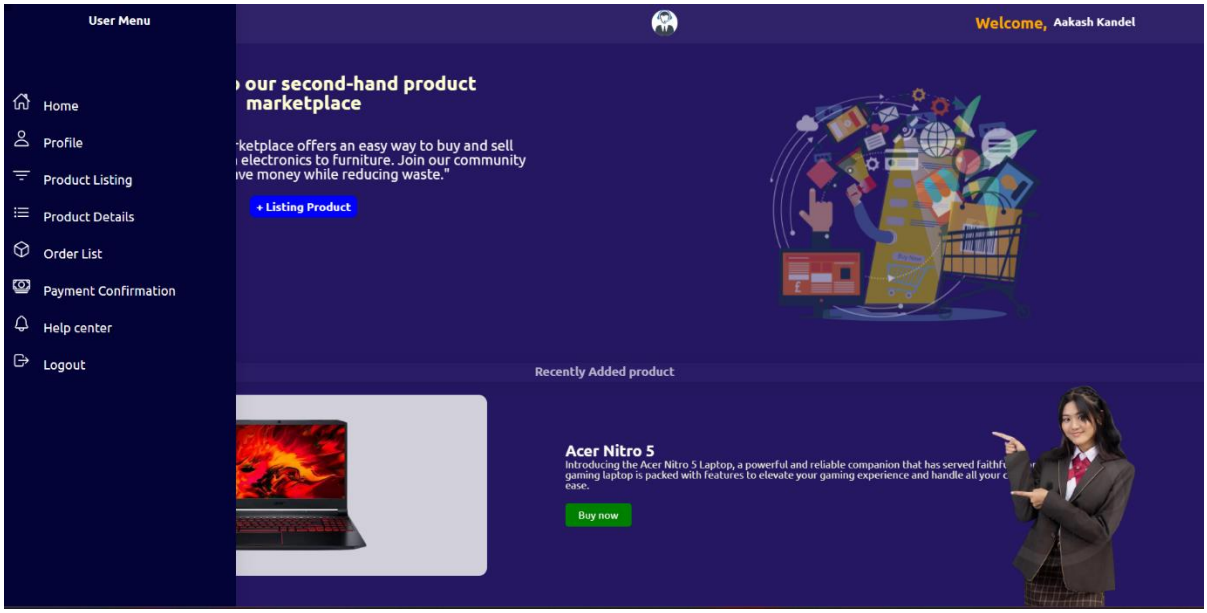

Figure 22:User menu

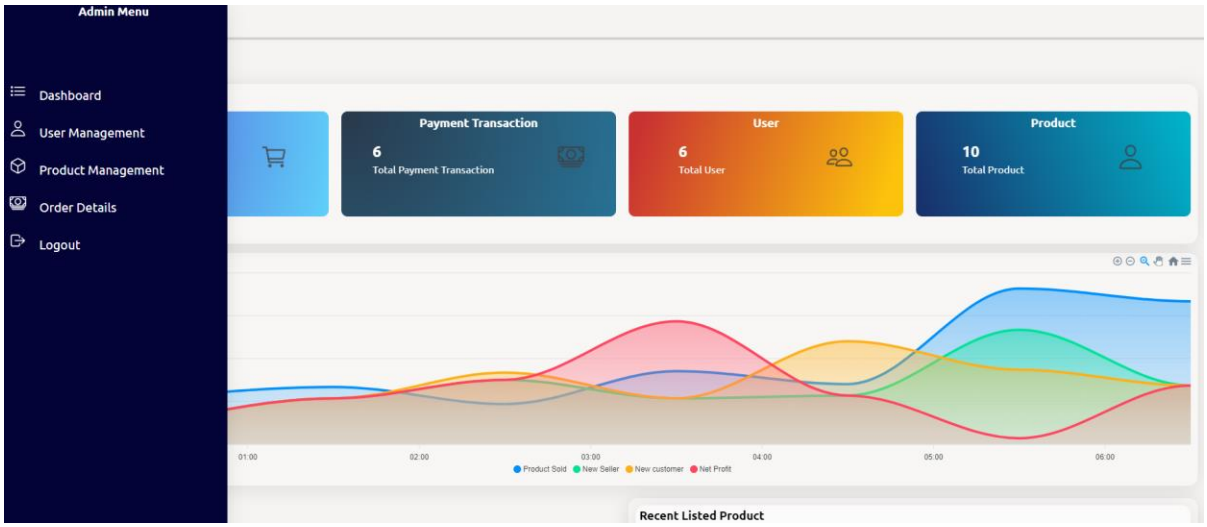

Figure 23:Admin menu

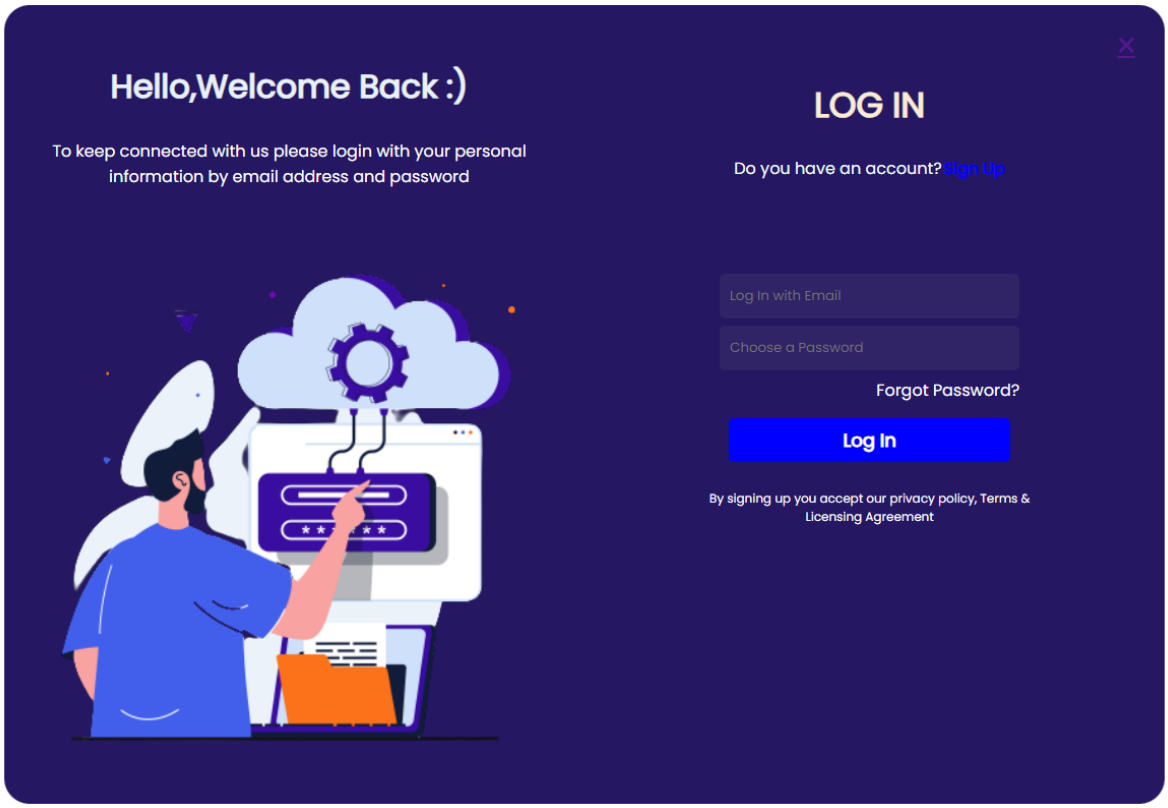

Figure 24:Login form

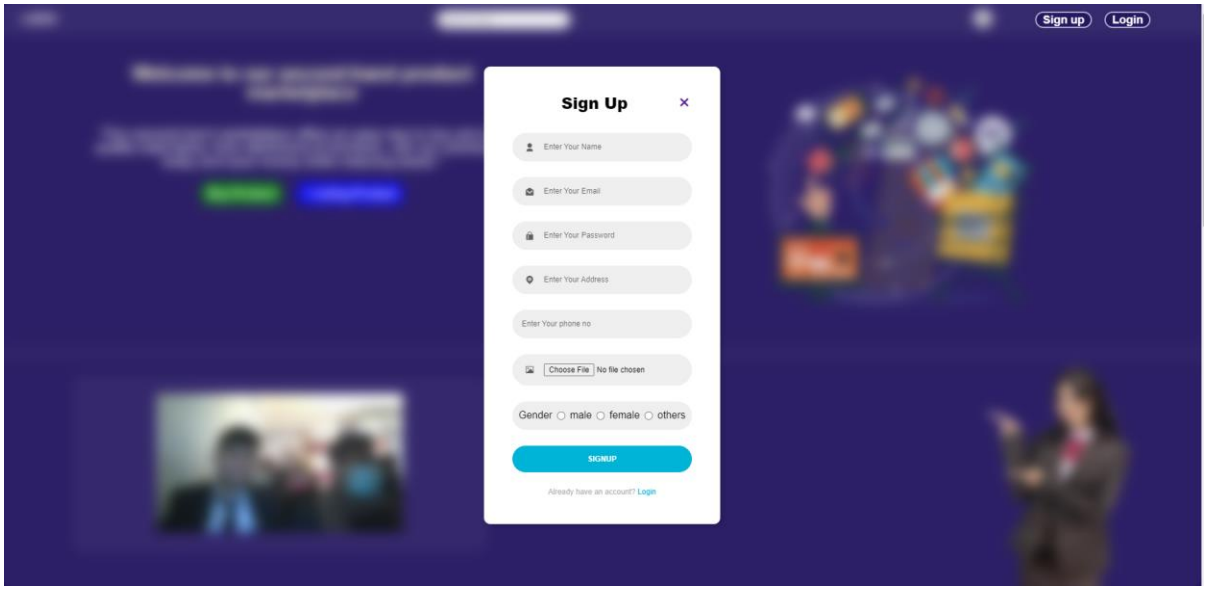

Figure 25:Signup form

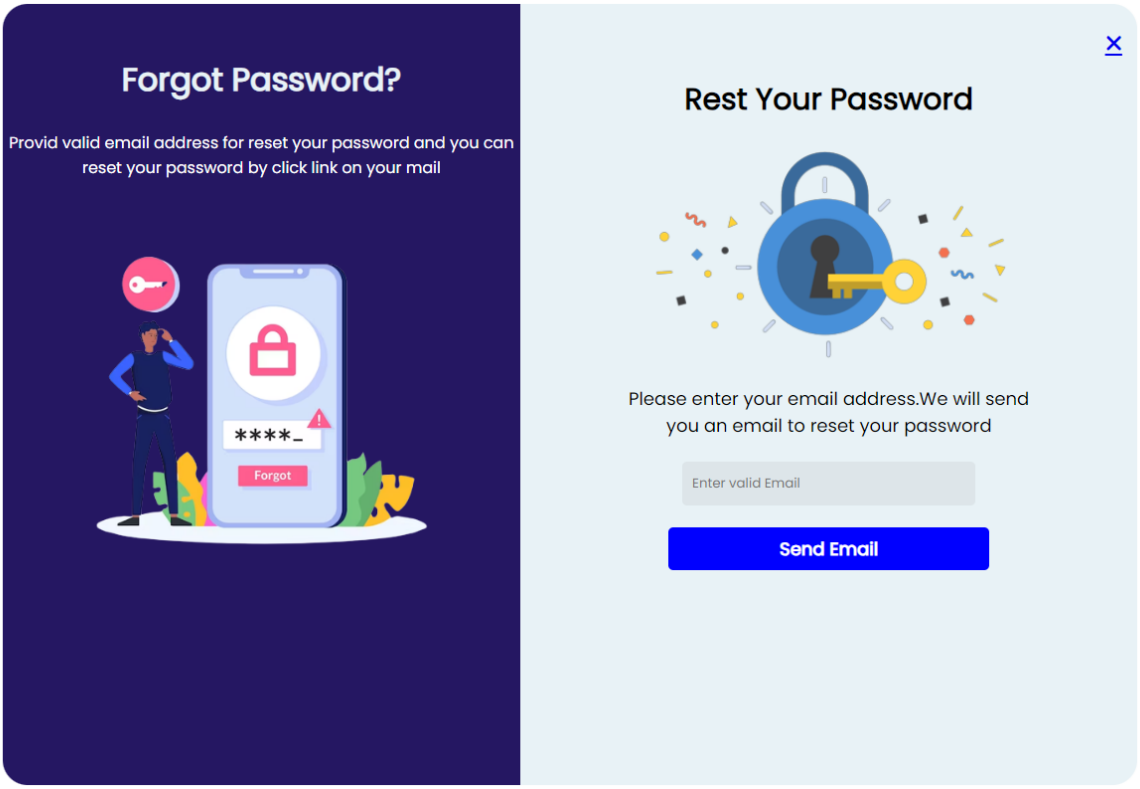

Figure 26:Email for forgot password

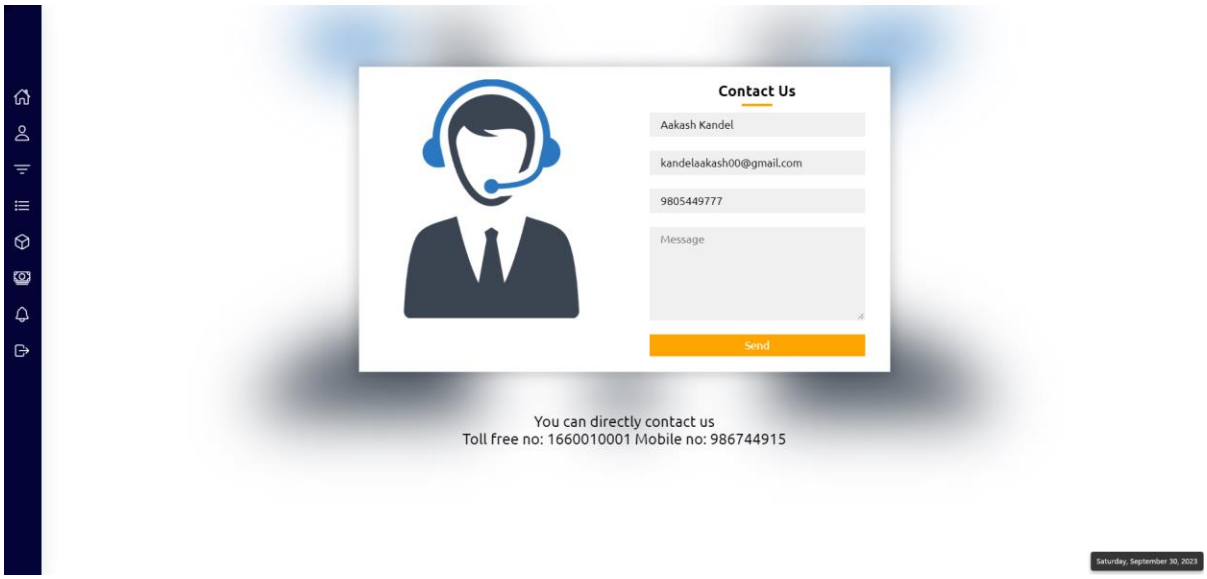

Figure 27:User support

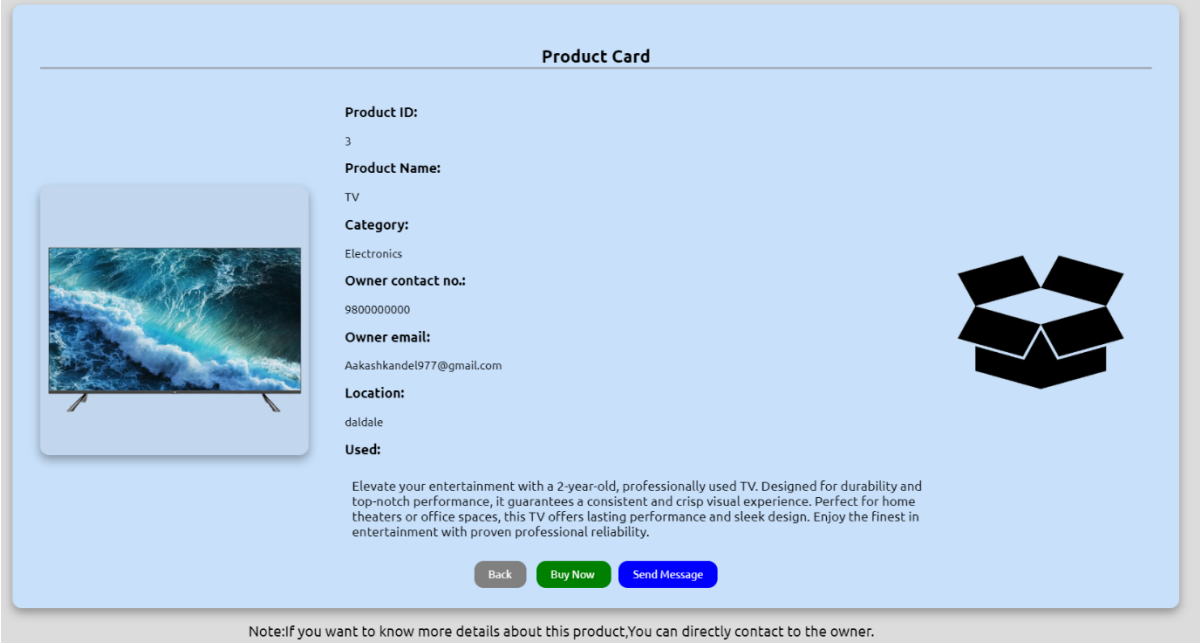

Figure 28:Product details form

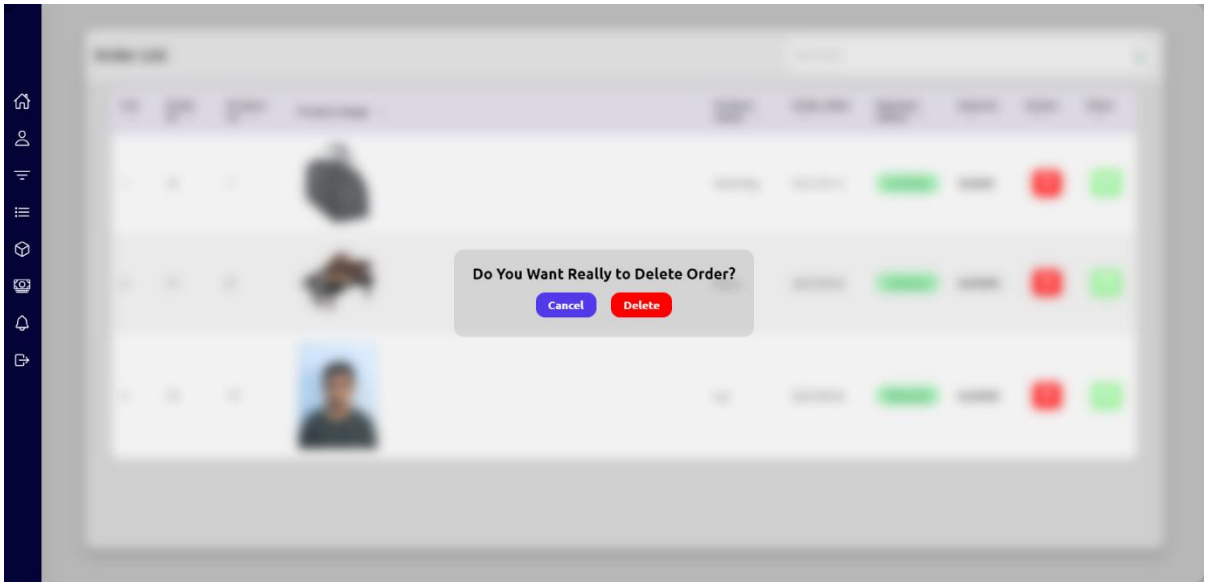

Figure 29:Delete or Cancel interface

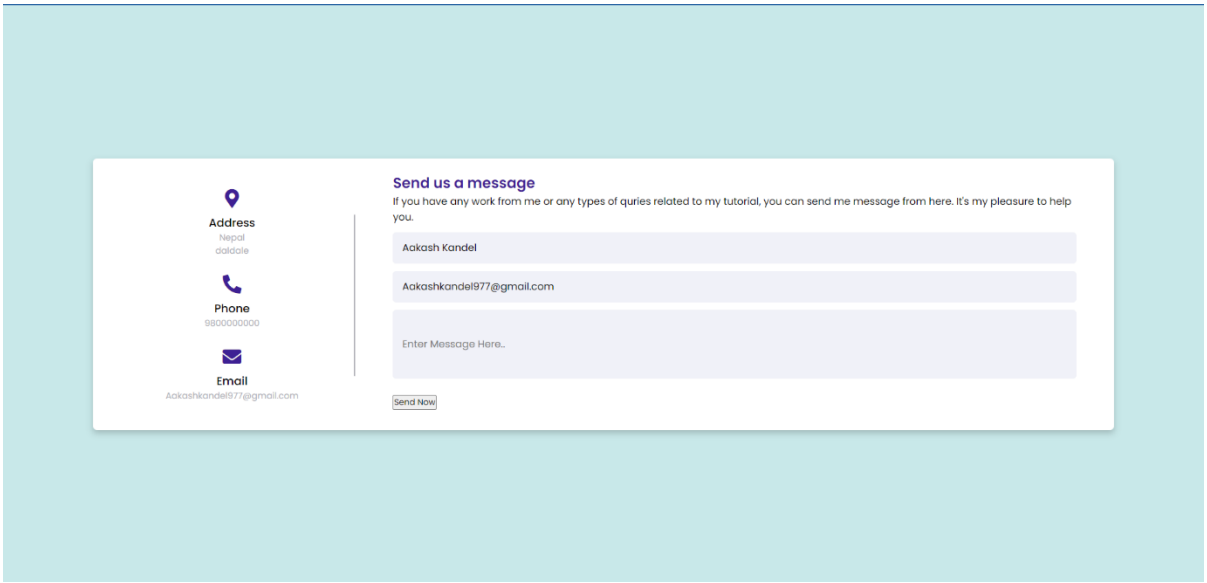

Figure 30:Send message to product owner

LUMBINI ICT CAMPUS

Gaindakot, Nawalpur
Project Logbook

Project Title: Buying and Selling Second hand ~~product~~ goods
Faculty: BCA
Semester: Fourth
Group Name: Individual
Year:2079/80
Student Name: Aakash Kandel
Supervisor Name: Modnath Acharya

Date	Description on the Functions/Features/Improvements	Supervisor's Signature	Remarks
Sunday, 9 April	- Structuring ~~the~~ layout of the admin page. - responsive, dashboard design, creating category table and menu adjusting with respect to the screen size -		
Monday, 24 April	- Structuring homepage, signup page login page, forgot page, user profile page, user~~s~~ product listing page		
~~may~~ Friday, 19 may	- Structuring admin ~~product~~ user management table, add user details design. - complete backend of the each design model - Complete testing of each model.		

Figure 31:Log Sheet 1

LUMBINI ICT CAMPUS

Gaindakot, Nawalpur
Project Logbook

Project Title: Buying and Selling Second hand goods
Faculty: BCA
Group Name: Individual
Student Name: Aakash Kandel

Semester: Fourth
Year:2080
Supervisor Name: modnath Acharya

Date	Description on the Functions/Features/Improvements	Supervisor's Signature	Remarks
~~Jan~~ Monday, 5 Jun	- Notification for each transaction through php mail		

Figure 32:Log Sheet 2