Software Requirements Specifications

WIDEHEAVEN
Quality is our priority

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BS-212332

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Definition of Terms, Acronyms and Abbreviations

Term	Description
SRS	Software requirement specification
OSS	Online shopping system
SDLC	Software Development life cycle
CUST	Customer
VP	Verify Payment`
HTTP	Hypertext Transfer Protocol
CSS	Cascading Style Sheet
HTML	Hyper Text Markup Language

Table of Contents

1. Introduction

The WideHeaven store allows visitors to collect items in a virtual shopping cart. They may view the contents of their shopping cart at any time and may add or delete items at will. The program automatically calculates the subtotal, shipping charges, and total. This is software that helps you to do the major part of online shopping by using this site and can be managed online you (or the customer) can securely do all major transactions. To ensure the authentication of the customer one must have to register before proceeding. It provides the following standard features of any e-commerce website..

1.1 Purpose of Document

The purpose of the document is to define the system, and its requirements concerning consumers, admin, and sellers. In addition, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters, and its goals. This document describes the project's target audience and its user interface, hardware, and software requirements. It defines how our customers, admin, sellers, and audience sees the product and its functionality. Traders, distributors/marketers can sell products/services and the customer can purchase on that website electronically by using the internet on a mobile and computer.

1.2 Project Overview

The objective of our project is to provide easy assistance to both the customer as well as admin with the proper database and information. We develop a basic website where a consumer is provided with a shopping cart application and also to know about the technologies used in a web app. On our website, we will combine the all products of different brands on one page. Usually, customers face difficulty to search for a product on different websites of different brands but in our project, we will provide all the products of the entire brands on one page.

1.3 Scope

We will provide all brand-new clothes with detailed specifications and customers can search sales of all brand's products on one page. We will provide the service of delivery. This project also provides security with the use of Login-id and Password, so that any unauthorized users cannot use your account. Only Authorized will have proper access authority can access our web app. This system allows the customers to maintain their cart to add or remove the products over the internet. We will not provide service of replicated and old products selling.

2. Overall System Description

This project is web-based application it runs on the web browsers like Google Chrome, Firefox, and Edge. This project is operable on PC and smartphones.

2.1 User characteristic

Our project is useful for those users who should be familiar with the terms like login, register, order system, etc. Through a web browser, customers can search for clothes of different brands online by their name. The user can log in using his account details or new customers can set up an account very quickly. They should give the details of their full name, email account, username, and password.

2.2 Operating environment

The system operates with the following software components and applications.
A full internet connection is required for online shopping (OS) and any operating system and a Browser like Mozilla Firefox, Internet Explorer, and Google Chrome.

2.3 System constraints

System Constraints may include the following:

- Software constraints

   o Operating System: That is compatible with Windows.

   o Development tools: Visual Studio Code, Xampp, Pycharm.

- o Web browser: WideHeaven will run on different web browsers like Chrome, Firefox, and Opera.
- o Software is web based so software needs a web browser and internet connection.

- Hardware constraints

A Laptop, smartphone, PC, or tablet with specific requirements can access and use WideHeaven.

- o Windows Requirements for Laptop, PC, or Tablet.
- o Operating System: Windows 10 or later
- o Processor: Intel Core i5 or later
- o Memory: 2 GB minimum, 4 GB recommended
- o Screen resolution: 1280x1024 or larger
- o Application window size: 1024x680 or larger
- o Internet: Compulsory

Requirements for Smartphones.

- o Windows Requirements for Laptop, PC, or Tablet.
- o Operating System: Android version 7 or later
- o Processor: 4 core or later
- o Memory(RAM): 2 GB minimum, 4 GB recommended
- o Screen resolution: 720x1024 or larger
- o Application window size: 360×640 or larger
- o Internet: Compulsory

- Cultural constraints

Our web application provides traditional dresses of Pakistan.

- Legal constraints

It includes Copy Rights, Protection issues, Data Privacy issues, Transaction issues, and Data Security Requirements.

- User constraints

Women and men, mainly younger adults in the age range of 18 to 40. Special contact lenses and glasses may help people who are color blind tell the difference between colors.

3. External Interface Requirements

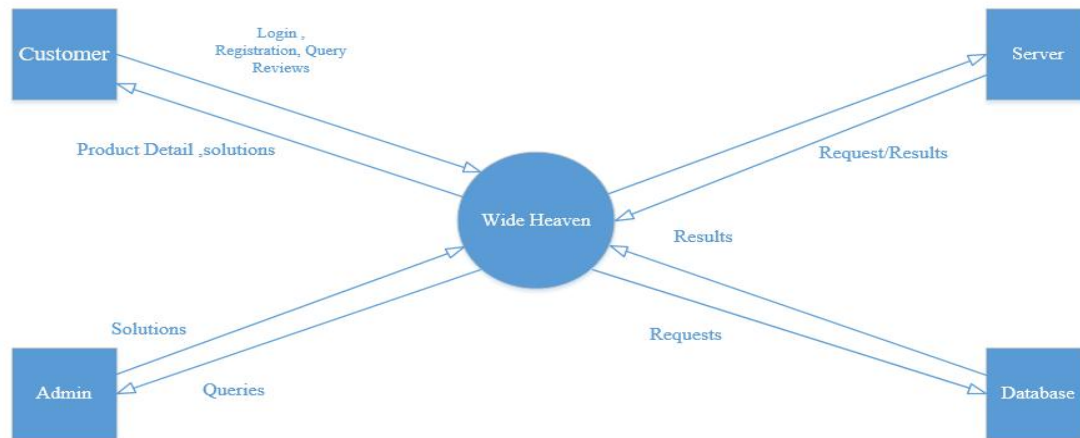This section will provide external interfaces of WideHeaven.

Fig 3.1 Context Diagram for External interfaces

3.1 Hardware Interfaces

The user must have a smartphone or PC for the use of the web app. Since the web app must run over the internet, all the hardware shall require to connect internet will be the hardware interface for the system.

3.2 Software Interfaces

Software interface for WideHeaven are:

- One user can log in from the same device.
- OS: Windows.
- Tools: Visual Studio code, Xampp, Pycharm.
- Integrated Components: WhatsApp, Facebook, and Instagram.
- Technologies used: Python, HTML, CSS, PHP, and JS.
- Database: MySQL, Flask.
- Browser: Firefox, Chrome, IE and Opera, etc.

3.3 Communications Interfaces

The user can access the online shopping system through the internet by searching the system's name on the web browser. The system shall use the HTTP protocol for communication over the internet. The system shall conform to the customer that their order is placed by sending a message to the customer's email id and number.

4. Functional Requirements

The several modules/functions discussed below to understand the approach to the solution in a broader way:

- **Login Page**: On the main page, here login option is provided to login. Also, a signup option is provided for new users to sign up.
- **Product Category Display Page**: This screen display all the main categories from this point user can select any category and they can proceed to select the products in this category.
- **Product Selection Page**: This is a search screen for selecting products. The option must be provided to select the products based on the name. Select the products based on category and based on brand.

- **Product Search Result Screen**: This screen shows all the products under the search criteria. If there are no products under these search criteria then the system will give the message that there are no products found under this category. Also   an option is provided to select the products.
- **View Cart Screen**: View Cart Screen shows all the selected items and quantity as to be entered. And also the option is provided to deselect the products.
- **Order Confirmation Screen**: This is the final screen in buying process. Here the customer is confirming the order.
- **Customer Registration**: This module deals with the registration of new customers i.e. the details of the customers like name, email address, and password. When registration is successful and customer is allowed to log in to the website.
- **Product Details:** This module deals with selecting the products to be purchased and adding them to the cart.
- **Shipment:** This module will deal with receiving, processing orders, picking, packing, printing labels and invoices, and even managing returns.
- **Payment Gateway:** This module deals with payment options in this the Link is given and then when its clicks the PAYMENT GATEWAY (a new window will open and pay) and when its successful pay by customers/end users then the BACK or HOME option will be available to Reach Welcome Page.

5. Non-functional Requirements

Following Non-Functional Requirements will be there in the insurance to the internet:
- Secure access to consumers' confidential data.
- 24X7 availability.
- Performance
- Security
- Flexible service-based architecture will be highly desirable for future extension.

Non-Functional Requirements define system properties and constraints. Various other Non-Functional Requirements are: Reliability, Maintainability, Portability, Extensibility, Reusability, Compatibility, and Resource Utilization.

5.1 Performance Requirements

To maintain an acceptable speed at the maximum number of uploads allowed from a particular customer any number of users can access the system at any time. Also, the connections to the servers will be based on the attributes of the user like his location and the server will be working 24X7 times.

Technical Issues: This system will work on client-server architecture. It will require an internet server that will be able to run PHP applications. The system should support some commonly used browsers such as Internet Explorer, Mozilla Firefox, and chrome.

5.2 Safety Requirements

There are wide range of concerns that arise whenever online transactions are performed especially with money transactions and address record. One of the most come risk of online shopping is online shopping stealing one's personal information to make illegitimate purchases, phishing and key logging are common ways to steal identity. Another common risk is credit card frauds. Customer may be redirected to the malicious user's site during payment that is made to look similar to the legitimate payment gateway and cost them money and may even have their credit card numbers stolen. To ensure user safety measures must be taken from the user site as well as shopping system's site. User must be careful not to fall prey to phishing by verifying that mails being sent from the server in fact, authentic. User must be aware of ads and ensure that appropriate antivirus software has been installed in one's system.

5.3 Security Requirements

- The system use SSL (secured socket layer) in all transactions that include any confidential customer information.
- The system should not leave any cookies on the customer's computer containing the user's password.
- The system's back-end servers shall only be accessible to authenticated administrators.
- Sensitive data will be encrypted before being sent over insecure connections like the internet.

5.4 User Documentation

We will provide the following user documents with our website:

- User /Instruction Manuals
- User Guide
- Software Documentation

6. Assumptions and Dependencies

It is assumed that the hardware designed will work correctly with the third-party operating system and the developed software. We assume that the customer has a computer or a smart phone with a browser and has internet.

7. System Architecture

The system architecture is a representation of a system in which there is a mapping of functionality onto hardware and software components, a mapping of the software architecture onto the hardware architecture, and human interaction with these components.

7.1 Data Flow Diagrams

A data-flow diagram is a way of representing a flow of data through a process or a system. The DFD also provides information about the outputs and inputs of each entity and the process itself.

7.1.1   CONTEXT DIAGRAM

Fig 7.1 Context Dataflow Diagram

7.1.2 Level 1

Fig 7.2 Level 1 Dataflow Diagram
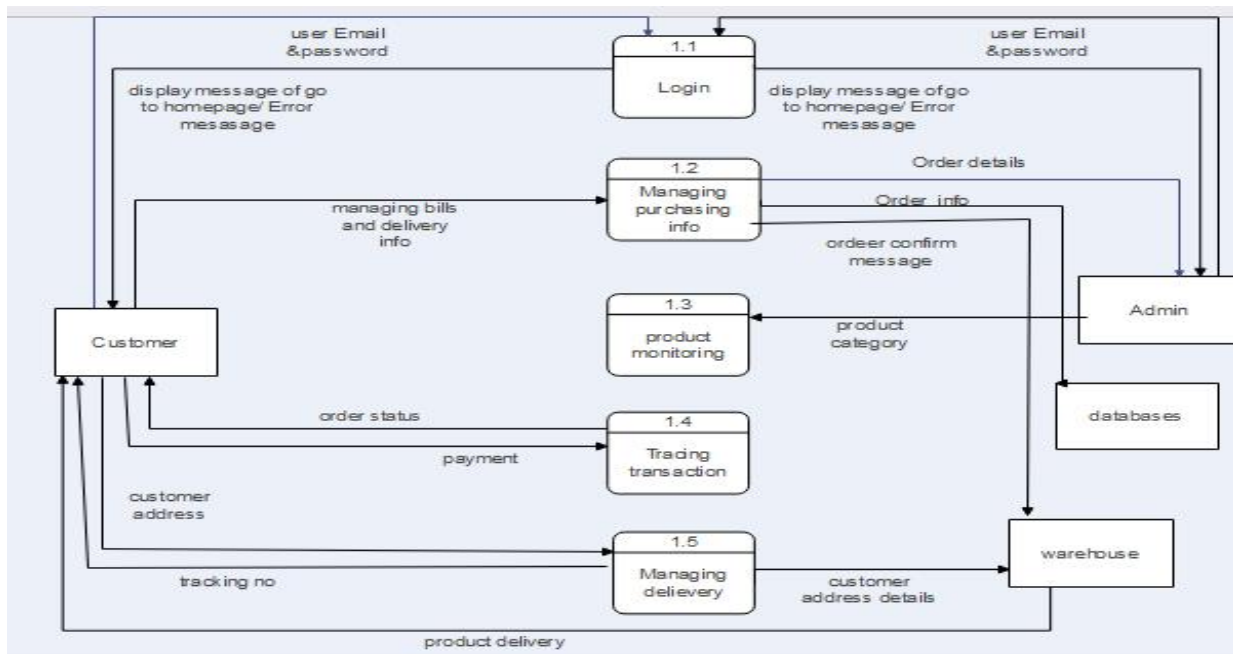
7.1.3 Level 2

Fig 7.3 Level 2 Dataflow Diagram

8. Use Cases

8.1 Use Case Diagrams

A use case is a written description of how users will perform tasks on your website. It outlines, from a user's point of view, a system's behavior as it responds to a request. Each use case is represented as a sequence of simple steps, beginning with a user's goal and ending when that goal is fulfilled. This section provides use case diagrams using UML convention.
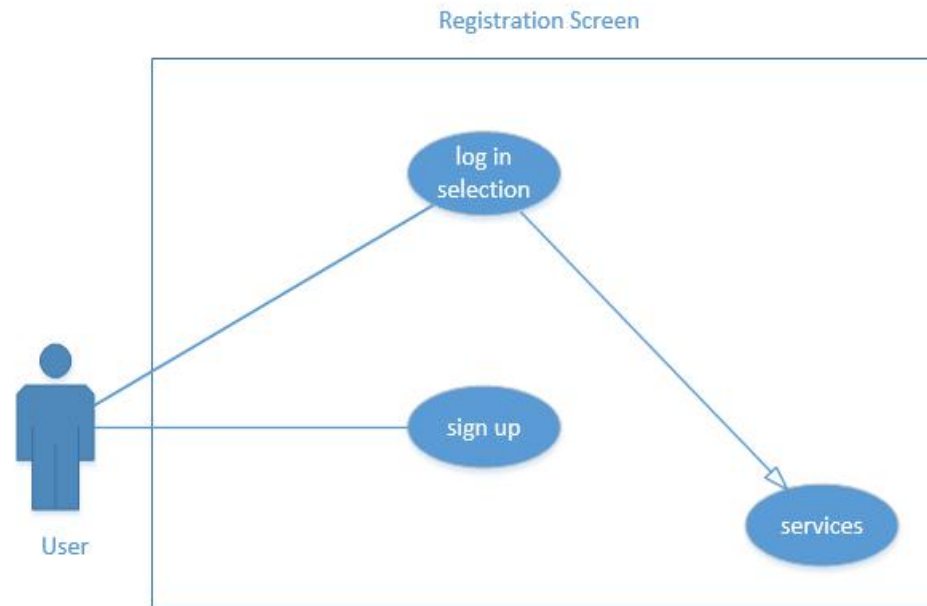
8.1.1 Login selection

Fig 8.1 Use case Diagram for Login Selection
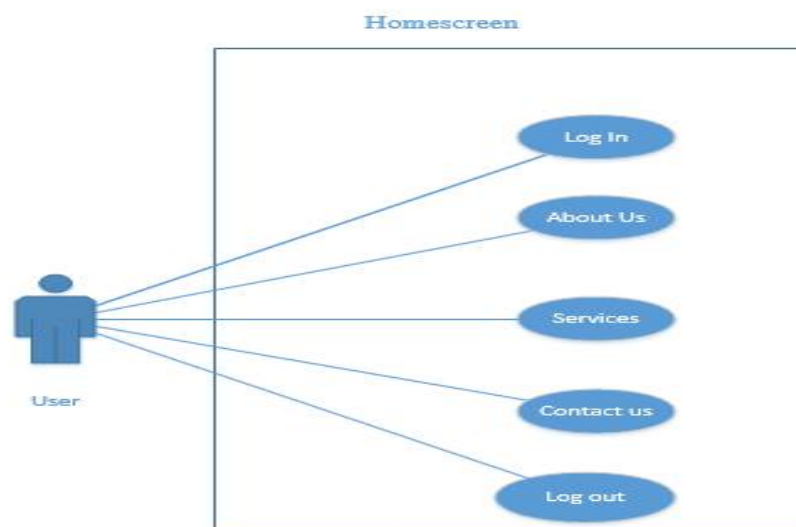
8.1.2 Home screen

Fig 8.2 Use case Diagram for Homescreen

8.1.3 Purchase Products
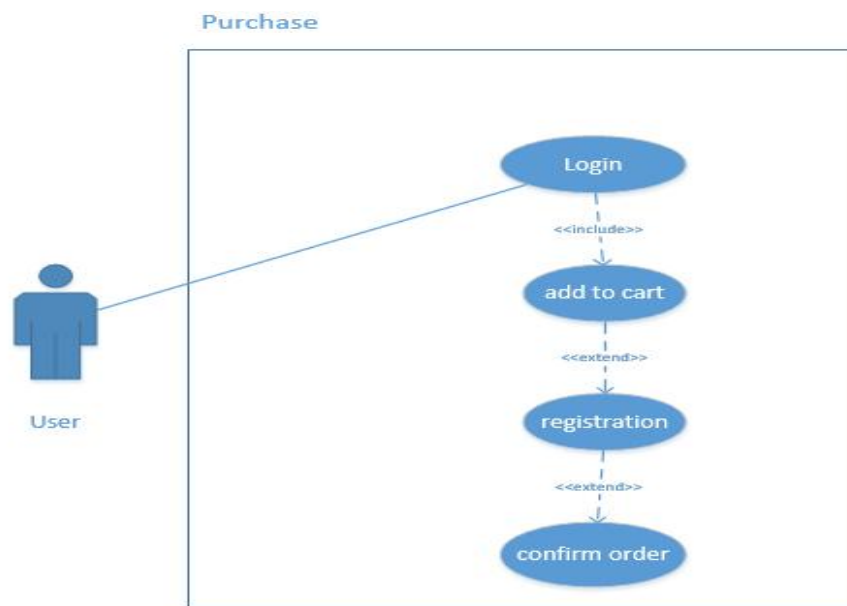

Fig 8.3 Use case Diagram for purchase of product.
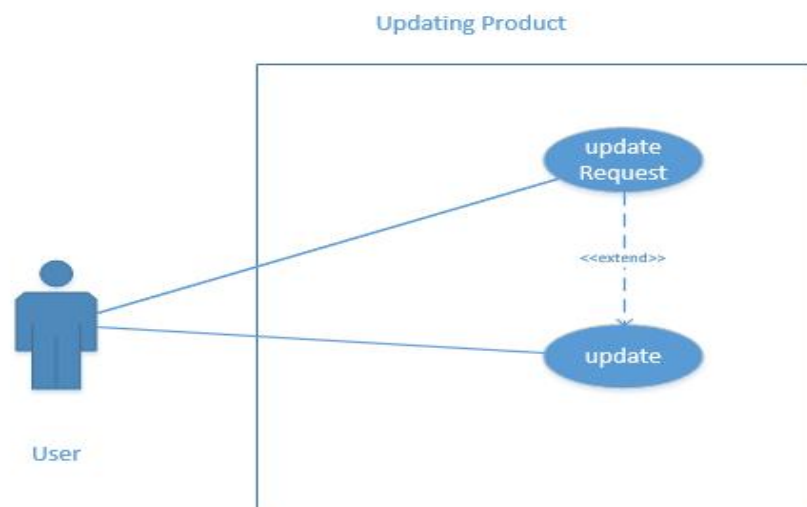
8.1.4 Update Details

Fig 8.4 Use case Diagram for Update Details
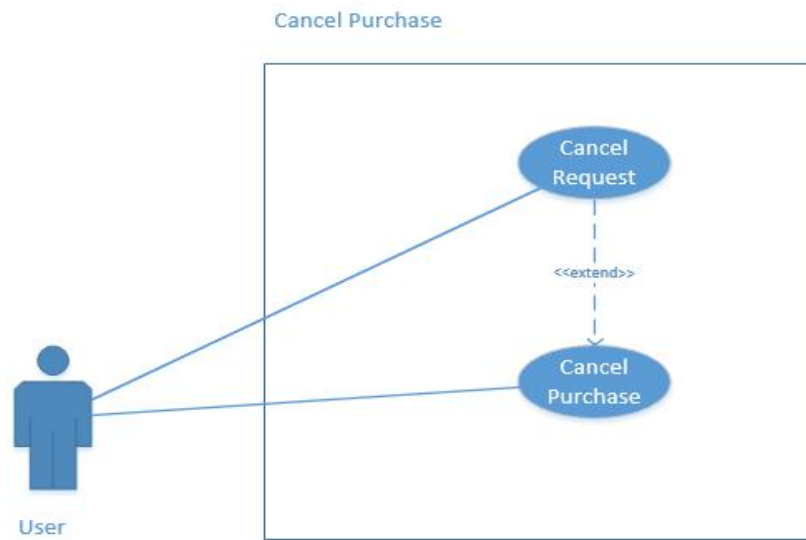
8.1.5 Cancellation

Fig 8.5 Use case Diagram for Deletion of product
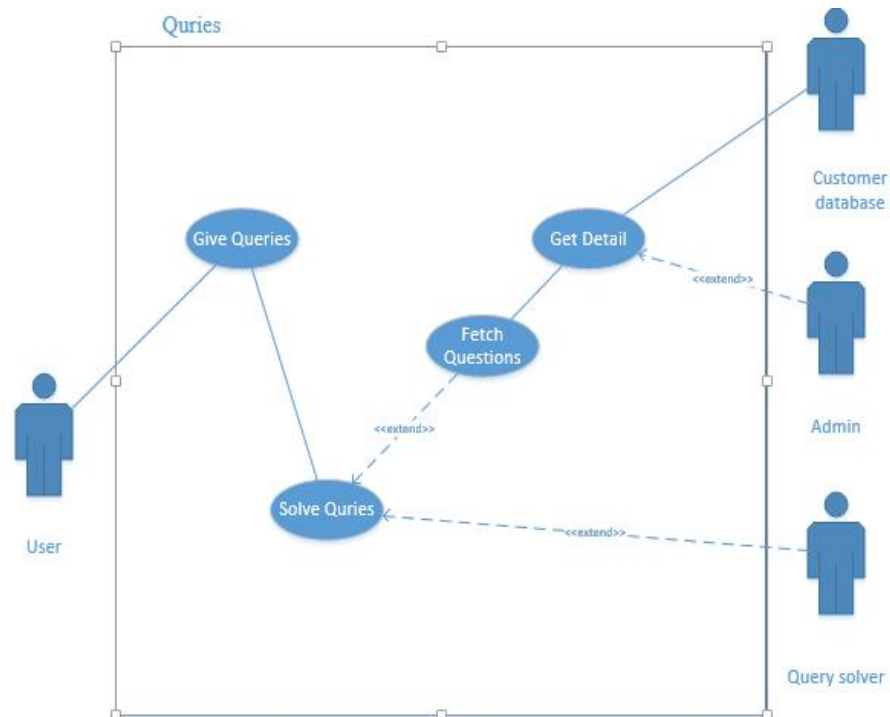
8.1.6 Queries

Fig 8.6 Use case Diagram for Queries
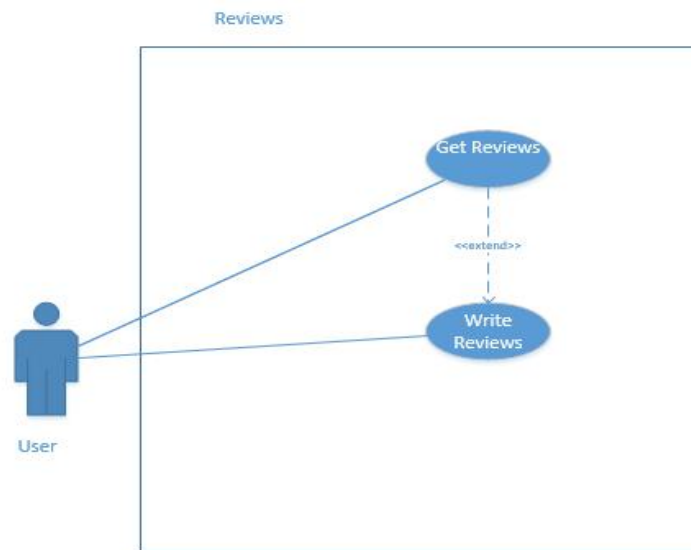
8.1.7 Reviews

Fig 8.7 Use case Diagram for Reviews
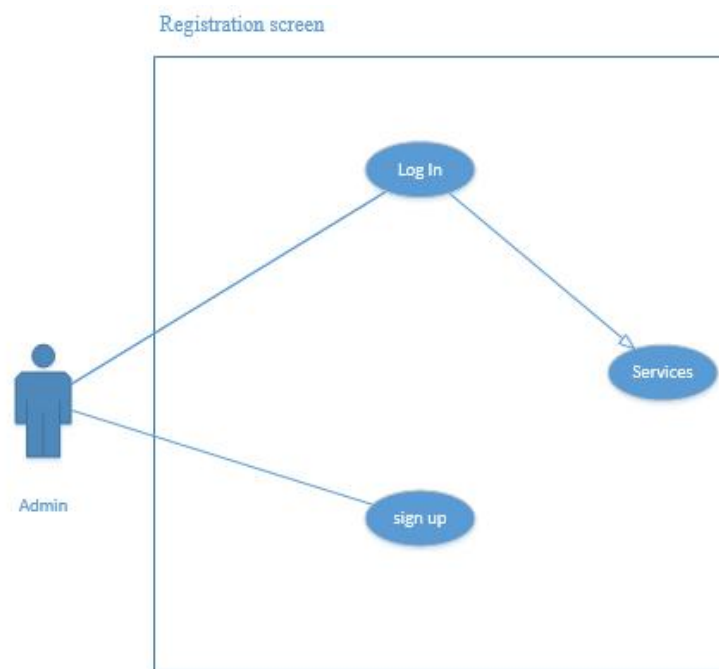
8.1.8 Admin login

Fig 8.8 Use case Diagram for Admin Login

8.1.8 Overall Use case diagram
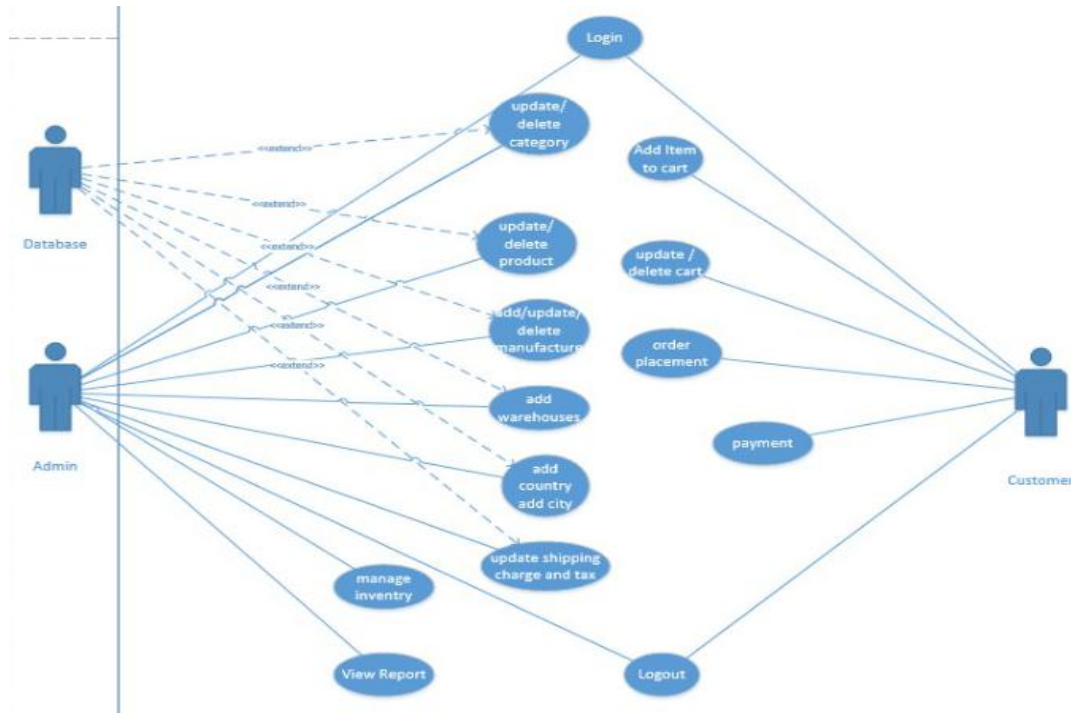
Fig 8.9 Use case Diagram for WideHeaven

8.2 Use Case Description

The below are the use cases for WideHeaven.

<table>
<tr><td colspan="3" align="center"><h3>8.1.1: User Login</h3></td></tr>
<tr><td>Actors:</td><td colspan="2">User</td></tr>
<tr><td colspan="3">Feature: This screen allows the user to sign up in-app, with the App extracting the user's information from one's info.</td></tr>
<tr><td>Use case Id:</td><td colspan="2">8.1.1</td></tr>
<tr><td>Pre-condition:</td><td colspan="2">The user has access to the website.</td></tr>
<tr><td colspan="3">Scenarios</td></tr>
<tr><td>Step#</td><td>Action</td><td>Software Reaction</td></tr>
<tr><td>1.</td><td>The user inserts a name, email id, and password.</td><td>The software saves those details in the database.</td></tr>
<tr><td>2.</td><td>The user clicks on the register button and waits for the next step.</td><td>The software then registers that user and asks for login.</td></tr>
<tr><td>3.</td><td>If already had an account then log in.</td><td>The software then takes the user to the home screen.</td></tr>
<tr><td colspan="3">Post Conditions</td></tr>
<tr><td>Step#</td><td colspan="2">Description</td></tr>
<tr><td>2.</td><td colspan="2">The user clicks on the register button, which made "NEW_USER_REGISTERATION" or "EXISTING_USER_REGISTRATION" do all the text on the current screen and transfer it to the app server using services.</td></tr>
</table>

8.1.2: Home screen

Actors:	User	
Feature:	This will allow the user to see features of website and main pages of website.	
Use case Id:	8.1.2	
Pre-condition:	User has sign up/ login.	

Scenarios

Step#	Action	Software Reaction
1.	A user must have login/signup in application.	Homepage appears.
2.	First screen show list pages available in an app.	The screen shows different pages options.
3.	A user can select any of them and request admin that are registered in an app.	
4.	Once a user selects, any services request page will be shown.	Selected services option page appears.

Post Conditions

Step#	Description	
3.	Different services are listed user selects their required service than that particular screen will appear.	
Use Case Cross referenced	Login	

8.1.3: Product Purchase

Actors:	User	
Feature:	Add to the product into the cart	
Use case Id:	8.1.3	
Pre-condition:	The user had signed up/login, selected the services, and done form filling..	

Scenarios

Step#	Action	Software Reaction
1.	The user will Input the details.	The Software will then add the selected product to the cart.

Post Conditions

Step#	Description	
1.	Users should add the product which they want to buy into the cart.	
Use Case Cross referenced	Login	

8.1.4: Update Details

Actors:	User	
Feature:	Update Details	
Use case Id:	8.1.4	
Pre-condition:	User has login/signup in our website	
Scenarios		
Step#	**Action**	**Software Reaction**
1.	The user will request an update.	
2.	The user will enter details for updating.	Updating
Post Conditions		
Step#	**Description**	
1.	Users can use it for updated details.	

8.1.5: Queries

Actors:	User, Customer's Database, product's Database.	
Feature:	If user has any query they contact us.	
Use case Id:	8.1.5	
Pre-condition:	The user has any query about the return and exchange policies of the product.	
Scenarios		
Step#	**Action**	**Software Reaction**
1.	The user gives a query.	The software then displays a reply after a query is solved.
Post Conditions		
Step#	**Description**	
1.	The query solution is displayed as a reply.	

8.1.6: Reviews

Actors:	User	
Feature:	User will give Feedback regarding their experience.	
Use case Id:	8.1.6	
Pre-condition:	User had used the website.	
Scenarios		
Step#	**Action**	**Software Reaction**
1.	User will give feedback in comment section.	Comments saved in database.
Post Conditions		
Step#	**Description**	
1.	Comments saved in database and shown on screen.	

8.1.7 : Admin Login

Actors:	Admin	
Feature: This screen allows the user to sign up in-app, with the App extracting the user's information from one's info.		
Use case Id:	8.1.1	
Pre-condition:	Admin has an access to website.	

Scenarios

Step#	Action	Software Reaction
1.	The admin inserts a name, email id, and password	Software saves that details in database.
2.	Admin clicks on register button and waits for next step.	Software then registers that admin and ask for login.
3.	If already had an account then login.	Software then takes user to home screen.

Post Conditions

Step#	Description
2.	Admin clicks on the register button, which made "NEW_USER_REGISTERATION" or "EXISTING_USER_REGISTRATION" do all the text on the current screen and transfer it to the app server using services.

9. Graphical User Interfaces

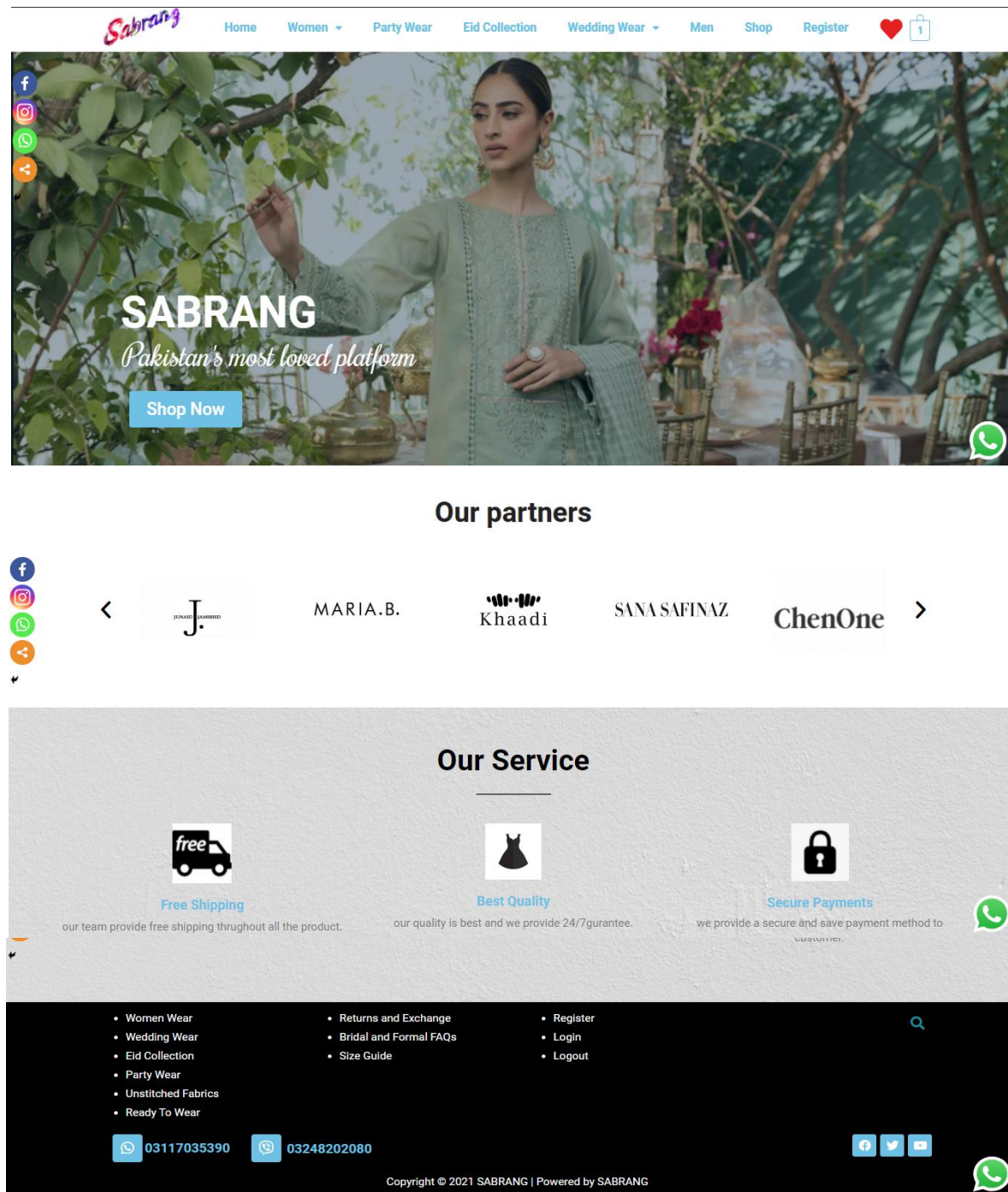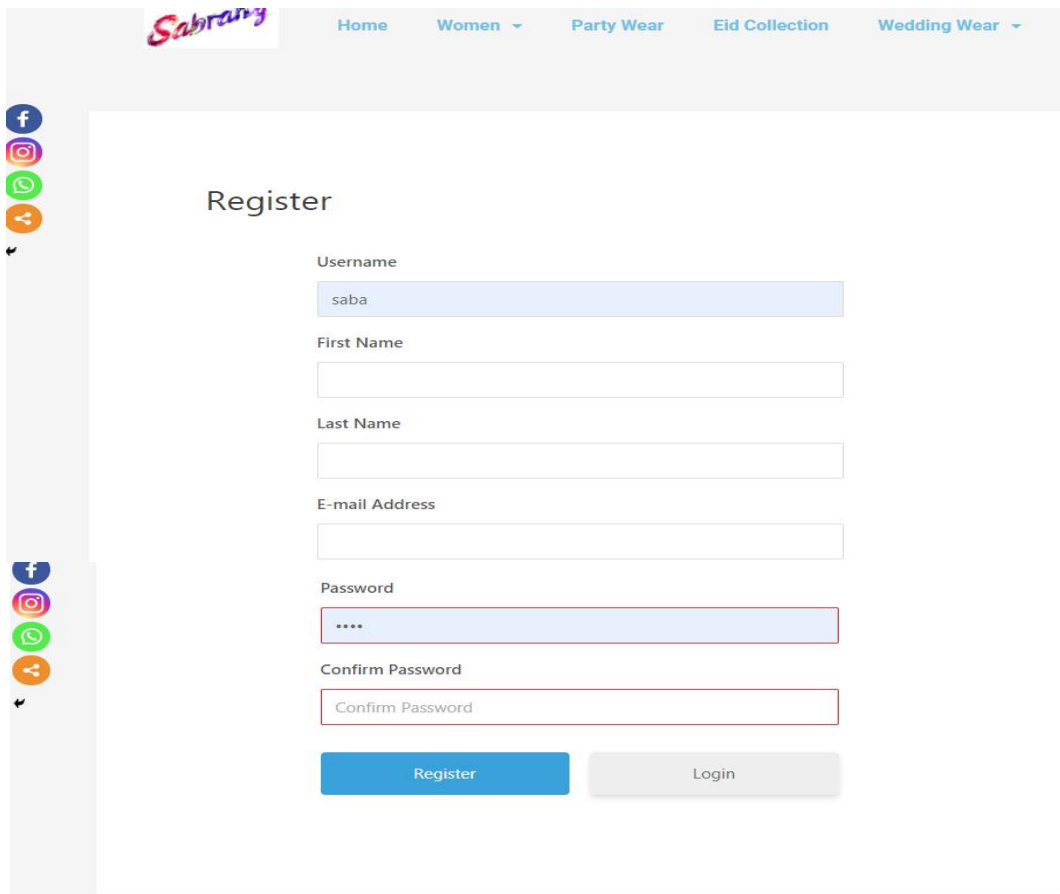Give a detailed account of user interfaces included in this project.

Home Screen

Fig 9.1 GUI for Home Screen

Registration

Fig 9.2 GUI for Registration

Categories

Fig 9.3 GUI for Home Screen

Our Shop

Home   Women ▾   Party Wear   Eid Collection   Wedding Wear ▾   Men   Shop   Register   ♥ 🛒¹

Home / Shop

Shop

Showing 1–12 of 23 results

Default sorting	▼
Default sorting	
Sort by popularity	
Sort by average rating	
Sort by latest	
Sort by price: low to high	
Sort by price: high to low	

♡ Add to Wishlist	♡ Add to Wishlist	♥ Remove from Wishlist	♥ Remove from Wishlist
bridals Wear	bridals Wear	bridals Wear	Casual Wear
BX-1	BX-2	BX-3	CX-2
☆☆☆☆☆	☆☆☆☆☆	☆☆☆☆☆	☆☆☆☆☆
₨955,000.00	₨955,000.00	₨950,000.00	₨33,500.00
Add to cart	**Add to cart**	**Add to cart**	**Add to cart**

localhost/project/product/bx-3/

Fig 9.4 GUI for product display
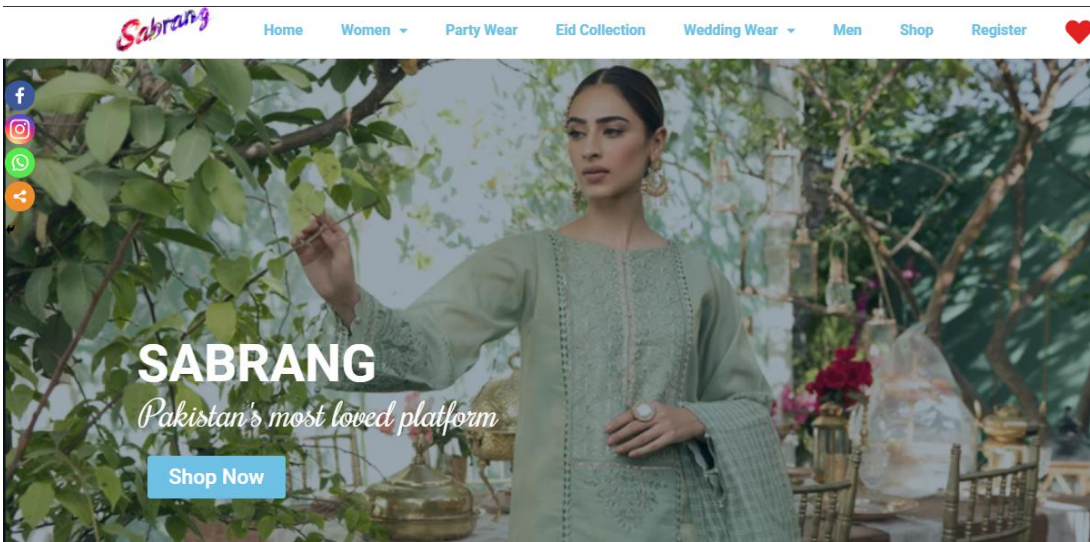
Home Screen	
Interface Id.	9.1
Use case Reference	8.1.2
Snapshot	
 Fig 9.1 GUI for Home Screen	
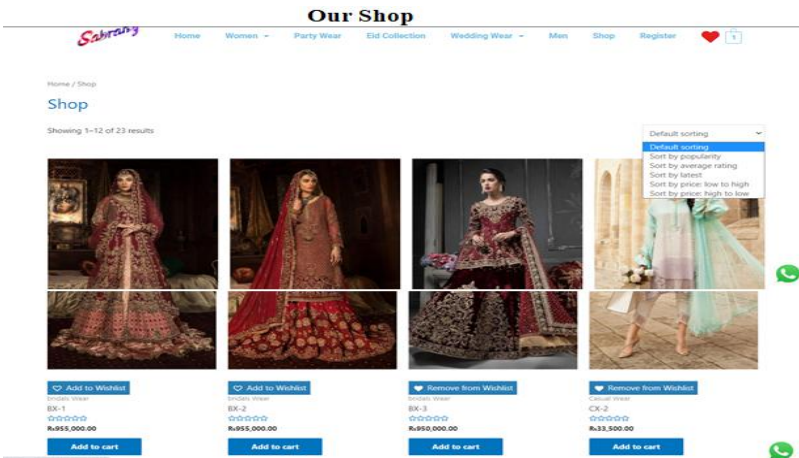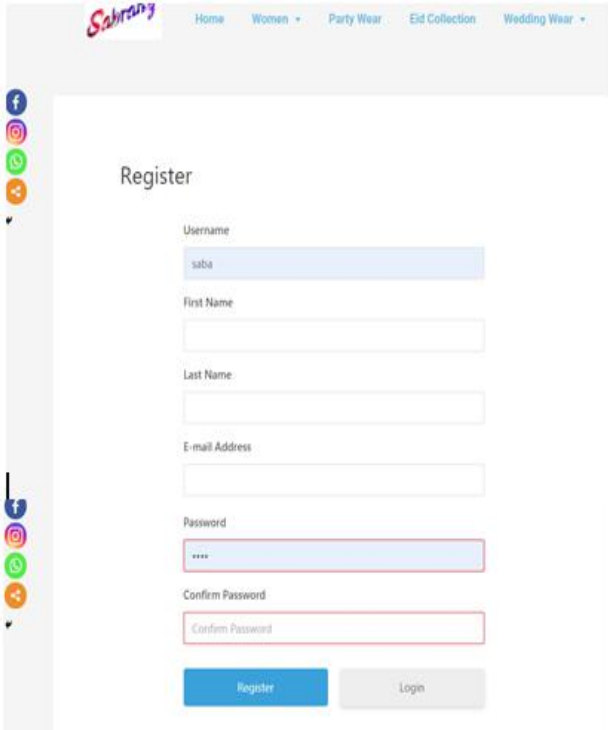
Purchase Product	
Interface Id.	Fig 9.5 GUI for Purchase product
Use case Reference	Fig 8.3 Use case Diagram for purchase of product.
Snapshot	
 Fig 9.1 GUI for Home Screen	

Registration	
Interface Id.	9.2
Use case Reference	8.1
Snapshot	

Fig 9.2 GUI for Home Screen

10. High Level Design

10.1   ER Diagram
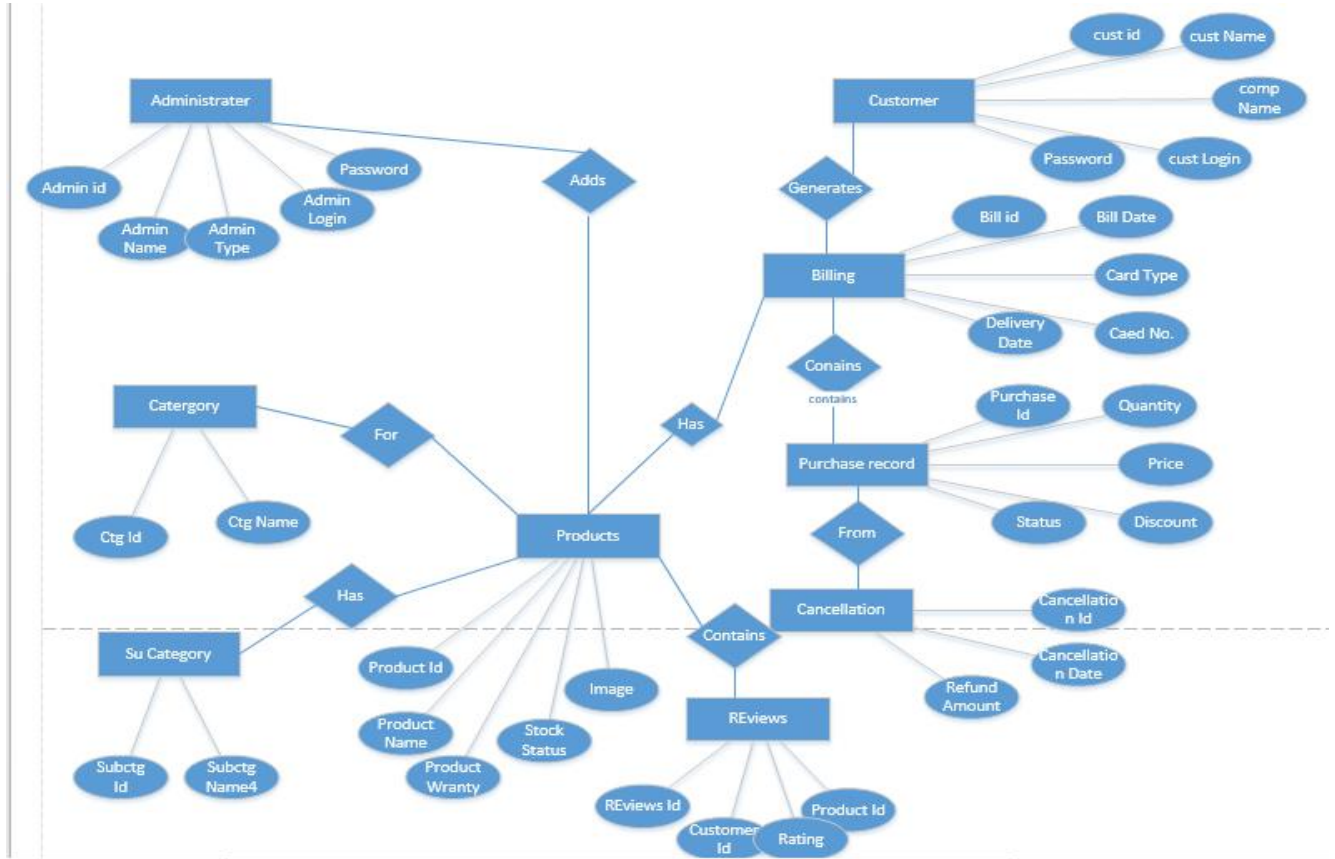
Fig 10.1 ER Diagram

10.2   Data Dictionary

The convention recommended for writing the data dictionary is as follows.

10.2.1 User

Field Name	Type	Specification	Key Constraints	Unique	Description
Name	String	20 Alphabetic characters	NOT NULL	Yes	The name of the user
Email	Varchar	30 Alpha numeric characters	Primary key, NOT NULL	Yes	Email of the user
Password	Varchar	11 Alpha numeric characters	NOT NULL	Yes	User's Password must contains 8 letters with special characters
Phone no.	integer	11 Integers characters	NOT NULL	Yes	User's Contact Number

10.2.2 Login

Field Name	Type	Specification	Key Constraints	Unique	Description
Login-id	integer	11 Integers	NOT NULL, Primary Key	Yes	User's login id
Email	varchar	30 Alpha numeric characters	NOT NULL	Yes	Email of the user
Password	varchar	11 Alpha numeric characters	NOT NULL	Yes	User's Password must contains special characters

10.2.3 Customer login

Field Name	Type	Specification	Key Constraints	Unique	Description
Admin-id	integer	11 Integers	NOT NULL, Primary Key	Yes	Admin's login id
Email	varchar	30 Alpha numeric characters	NOT NULL	Yes	Email of the admin
Password	varchar	11 Alpha numeric characters	NOT NULL	Yes	Admin's Password must contains special characters

.

10.2.4 Category Table

Field Name	Type	Specification	Key Constraints	Unique	Description
Category id	integer	11 Integers	Primary key NOT NULL	yes	
Category name	varchar	20 Alphabetic characters	NOT NULL	yes	Product's category

10.2.5 Product Description Table

Field Name	Type	Specification	Key Constraints	Unique	Description
Product id	integer	20 integers	Primary key NOT NULL	yes	Product's id
Category Name	varchar	20 Alphabetic characters	NOT NULL	yes	Category Name
Product Name	varchar	20 Alphabetic characters	NOT NULL	yes	Product Name
Price	integer	10 integers	NOT NULL	yes	Price of the products
Discount	integer	10 integers	NOT NULL	No	Discount for the products
Actual Price	integer	10 integers	NOT NULL	No	Actual price of the product
quantity	integer	10 integers	NOT NULL	No	Quantity of the products
Front display	integer	10 integers		No	Display of the products
Description	varchar	500 Alphabetic characters	NOT NULL	No	Detail about product

10.2.6 Customer table

| Field Name	Type	Specification	Key Constraints	Unique	Description
Customer id	Integer	10 integer	Primary key NOT NULL	yes	Customer's id
First name	Char	20 Alphabetic characters	NOT NULL	yes	First name of the customer
Last name	Char	20 Alphabetic characters	NOT NULL	yes	Last name of the customer
Address	Varchar	30 Alphabetic characters	NOT NULL	no	Address of the user
city	Char	20 Alphabetic characters	NOT NULL	no	Customer's city name
Postal code	Varchar	10 integer	NOT NULL	yes	Give the postal code
Phone number	Integer	11 Integers characters	NOT NULL	yes	Phone number
Email	Varchar	30 Alpha numeric characters	NOT NULL	yes	Give email of the customer

11. Requirements Traceability Matrix

Sr. #	Feature	Use case ID	UI ID	Priority	Build Number	Use Case Cross reference (Related Use Cases)
1.	Login	8.1.1	9.2	1	8.1.1	
2.	Home screen	8.1.2	9.1	2	8.1.2	Login
3.	Purchase	8.1.3	9.4	3	8.1.3	Login
4.	Update Details	8.1.4		4	8.1.4	Login
5.	Cancellation	8.1.5		7	8.1.5	Login
6.	Queries	8.1.6		5	8.1.6	Login
7.	Reviews	8.1.7		6		Login
8.	Admin login	8.1.8		8		Admin Login

12. Risk Analysis

- **Risk Identification:** These risks include the unlawful sharing of data, fraud, malware, and other security breaches, not to mention vulnerabilities related to working with third-party platforms, data privacy laws, online security regulations, and customer service issues.
  1. **Data Privacy and Online Security Risks**: Hackers are becoming more and more sophisticated every day. It's easier for malicious actors to find their way into your systems from the inside, obtaining customer credentials through phishing, or by deploying malware and ransomware in fraudulent links in emails.
  2. **Unauthorized Access:** Not everybody needs to have access to all company files. Unauthorized access accounts for a significant amount of data loss. Sometimes it's innocent, sometimes not so much.

3. **Exploitation of Vulnerabilities**: Malicious actors are always standing by to take advantage of any vulnerability in your network. Unpatched software, legacy systems, and lax endpoint protection leave you open to attack.

- **Risk Drivers:** Any time customers consider purchasing a new product or service, they face a set of uncertainties about the product or service collectively referred to as perceived risk. The level of uncertainty of a consumer depends upon whether the purchase one making will be worth it or not. Every time a consumer considers buying a product, he or she has certain doubts about the product, especially if the product in question is highly priced

  1. **Functional Risks:** It refers to the fear that a product or service will fail to deliver promised services or benefits.
  2. **Social Risks:** It pertains to a consumer's social status. Person of a high or wealthy social class, they want to buy products that their friends would also buy.
  3. **Financial Risks:** Every consumer is afraid that a purchase might strip them of their income sources at that time or in the future.
  4. **Physical Risks:** An item that could cause bodily harm to a person or their family causes perceived risk.
  5. **Time Risks:** If a product breaks or fails a few days after purchase and need replacement, this is time risks.
  6. **Psychological Risks:** Consumers also face questions about whether a given purchase is the morally right choice.

- **Percentage Impact of Risk Drivers:**
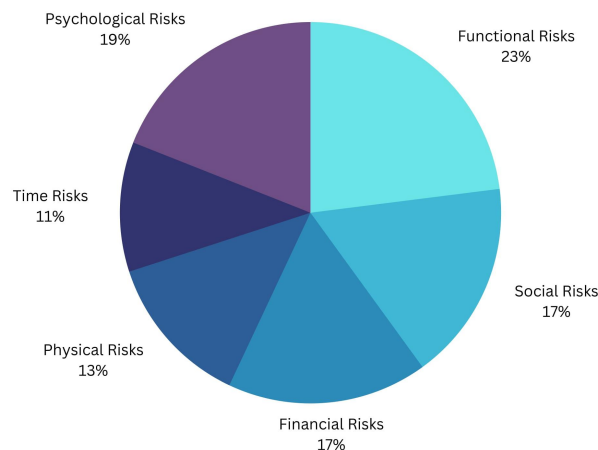
- **Risk Mitigation Plan:** There are several risk mitigation strategies which include access control policies, physical security and perimeter security policies, and remote access policies and methodologies".

  The key strategy of online marketers to increase consumer trust in online exchanges is to display privacy and security seals on their websites. Several technical security measures, mainly related to security and privacy, could be taken to safeguard sensitive information of the company's assets e.g. the sign-on security system, third-party verification, and Internet seals. Online privacy refers to the protection of information via the Internet.

  From unauthorized invasion, Security consists of four (4) elements: authentication, authorization, encryption, and auditing. The sign-on security system could be seen as a combination of authentication and authorization models that permit authorized people's activities and prevent unauthorized actions. Furthermore, the consumer has to take personal security measures e.g. use of anti-virus software, use of a safe browser, making purchases through verified online stores, and use of complex passwords. Finally, the consumer should seek in online stores the components that verify the credibility of payments standards such as SET (Secure Electronic Transaction), and SSL (Secure Socket Layer).

13. Cost Estimation Sheet

1.	Software development cost	3,00,000 rupees only
2.	Packaged software	10,680 rupees only
3.	Hardware	1,50,000 rupees only
4.	Network	54,000 rupees only
5.	Client	20,000 rupees only
6.	Misc.	1,50,000 rupees only
		Total cost = 684,680 rupees only

14. References

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