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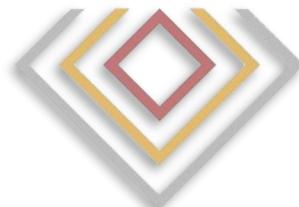
College of Computer Science & Information Technology

Department of Computer Science  
CS 411 – Software Engineering

Term 1 – 2019/2020

## Software Design Specifications

For



# جواهر JAWAHER

L7F2 – Team 2

Version 1.0  
Mrs. Lubna Tahlawi

November 24, 2019

This Software Design Specification was prepared and provided as a deliverable for Software Engineering, CS 411, Term 1. It will be used by all JAWAHER employees and customers in JAWAHER Alnemer Jewels Company, Eastern Province, Saudi Arabia.

This document is based in part on the IEEE Recommended Practice for Software Design Descriptions.

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## Revision History

This record is to keep track of the changes and updates that have been made to the SRS after the initial version on November 19th, 2019.

Name	Date	Reason for Changes	Version
All members	November 19, 2019	Prepared initial version	0.1
All members	November 20, 2019	Updated section 1 and 2	0.15
All members	November 22, 2019	Updated section 3	0.2
All members	November 23, 2019	Updated section 4	0.3
All members	November 22, 2019	Updated section 5	0.4
All members	November 23, 2019	Updated section 6	0.5
All members	November 20, 2019	Updated section 7	0.6
All members	November 23, 2019	Updated section 8	0.7
All members	November 24, 2019	Updated section 9	0.8
All members	November 24, 2019	Spelling/ Grammar mistakes	0.9
All members	November 24, 2019	Complete review - Final version	1.0

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## 1. Introduction

The software design specification (SDS) focuses on converting the previous requirements in the software requirement specification (SRS) documentation to achieve the JAWAHER's online jewelry store as a website, it contains components, interfaces, and data related to this stage. This document is the basic reference for developers to develop the software from scratch. The SDD is done in two phases:

- **The preliminary design stage:** is the initial design of all system structure and its data.
- **The detailed design stage:** shows the details of designing this software (interface design and the database).

This section clarifies the purpose, scope, acronyms and abbreviations, and the references of JAWAHER's SDS documentation.

### 2.1 Purpose

The purpose of this report is to define detailed design specification to the JAWAHER online jewelry store website. It shows the architectural design, data, and graphical user interface for each webpage in the JAWAHER website, all of them are produced to meet the SRS requirements. The targeted audience for this documentation:

- **Project Supervisor:** this document allows the project supervisor to evaluate and follow the project progress of this document and provide suggestions for improvement.
- **The Client (JAWAHER Jewelry Company):** the clients, JAWAHER jewelry company will go over the sketches and designs related to end users and make sure that they are appropriate and deliver what they need.
- **JAWAHER's Development team:** the team members will use this document as the main guide reference for the website implementation.

### 2.1 Scope

This document covers various data models and design features that clarifies JAWAHER Website in various views using different aspects of data system modeling and entity relationships which are:

- Activity Diagram
- Context Data Flow Diagram
- Data Flow Diagram
- Flowcharts
- Sequence Diagram

## 2.1 Definitions, Acronyms, and Abbreviations

Table 1 represents definition of all terms mentioned in this document.

Terminology	Definition
<b>Activity Diagram</b>	A part of UML diagram that describe the dynamic aspects of the system. [1]
<b>Context Data Flow Diagram</b>	The data context diagram is a diagram used to establish the context and boundaries of the system and how the system is related to the external entities. [6]
<b>Data Flow Diagram</b>	The data flow diagram determines the flow of the information for any process or system by using symbols such as rectangles, circles, and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination. [7]
<b>Flowcharts</b>	Flowcharts are used to illustrate the workflow of specific operations using geometric charts, it used to represent the pseudo-codes of specific systems, actual codes, and algorithms. [5]
<b>HTML5</b>	HTML5 is a markup language used for structuring and presenting the content on the web, it is an improved version 5 of the HTML that has more features. [1]
<b>Sequence Diagram</b>	Is a part of UML diagram used to model the interaction between the actors(Admin, Customer) and the objects that takes a place in the system. [8]
<b>Software Design Specification (SDS)</b>	Software Design Specification is a document that defines all data, architectural, interface and component-level design of the software. [2]
<b>Software Development Kit (SDK)</b>	Collection of software that includes an IDE that used to develop applications. [3]
<b>Software Requirement Specification (SRS)</b>	A software requirements specification (SRS) is an exhaustive description of the developed software system with its functional and non-functional requirements. [4]
<b>UML Diagram</b>	UML is a way of representing a software program using a collection of diagrams.
<b>WIX</b>	An online SDK used to build websites in drag and drop technique with the HTML5 language.

Table 1 Definitions

Table 2 list the acronyms mentioned in this document:

Acronyms	Detention
<b>SDS</b>	Software Design Specification.
<b>SRS</b>	Software Requirement Specification.
<b>SDK</b>	Software Development Kit.
<b>HTML5</b>	Hyper Text Markup Language version 5.
<b>IEEE</b>	Institute of Electrical and Electronics Engineers

Table 2 List of Acronyms

## 2.1 References

### Bibliography

- [1] MSc-IT Study Material, "Context diagrams," January 2011. [Online]. Available: [https://www.cs.uct.ac.za/mit\\_notes/software/htmls/ch06s06.html](https://www.cs.uct.ac.za/mit_notes/software/htmls/ch06s06.html). [Accessed 20 November 2019].
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- [6] HydraKeven, "Software Engineering Standards," 19 Novmber 2007. [Online]. Available: <https://www.sparxsystems.com/forums/smf/index.php?topic=29352.0>. [Accessed 5 October 2019].
- [7] "SDK (Software Development Kit) Definition," 15 April 2010. [Online]. Available: <https://techterms.com/definition/sdk>. [Accessed 15 October 2019].
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## 2. System overview

JAWAHER is a website that delivers different functionalities for both the admin and customer to meet their needs. It is an online website that can be used in any web browser even on the browsers of smart devices and phones. The customer will be able to look on the jewelry products by their types, add them to the shopping cart and specify their quantities and check their availability, communicate with the admin by online chat or email them. Also, the admin will be responsible for all aspects of the website, adding the products, categorize them, change their availability statuses and accepts the orders.

### 2.1 Overall System Functions

JAWAHER website has two types of users as we mentioned before, Customers and Admins, those are very important to organize the flow of the system, and each of them has its own functionalities depending on their authorities. In addition, there are some common functionalities between them:

- Both can login and log out to/from the system.
- Both can change their password or retrieve it if they have forgot it.

#### 2.1.1 Admin

The admin is authorized to:

- **Manage Collections:**
  - Create collections for jewelry products.
  - Add collections to specific product type interface(subpage).
  - Modify collections.
  - Delete collections.
- **Manage Products:**
  - Add new jewelry products
  - Categorize jewelry products in a specific collection.
  - Modify product information and availability status.
  - Duplicate Products.
  - Delete Products.
- **Manage Orders:**
  - View list of orders
  - View Specific order with its details
  - Change orders payment and fulfillment statuses.
  - Filter order list by its status or dates.
  - Export invoices for orders.
  - Add note on orders.
  - Archive/Un-archive Orders.
  - Search for specific orders.
  - Export lists of orders to a .CSV file.

- print orders.
- **Manage Inbox:**
  - Reply to an online chat/message.
  - Delete existing chat/message.
- **Manage Site members:**
  - View site members list.
  - View a specific member.
  - Block/Unblock Member.
  - Delete Member.
  - Search for a member
  - View blocked members list.
- **Manage the roles and permission of members:**
  - Adding a new admin

### 2.1.2 Customer

The customer is capable to:

- **Signup.**
- **View, edit personal information.**
- **View and edit existing address addresses.**
- **Add new Address.**
- **View Jewelry:**
  - View jewelry products and collections list with its prices depending on its type.
- **Order Jewelries:**
  - View jewelry product with its information.
  - Add jewelry product to the shopping cart.
  - Change the quantity of the required product need to be ordered.
  - Remove the product from the shopping cart.
  - Add a note to the order.
  - Enter a promo code.
  - Checkout (submit/place the order).
- **Track Orders:**
  - View the list of submitted orders.
  - Check the status of the order.
  - View specific order details.

### 3 Design Considerations

This section describes many of the issues which need to be addressed or resolved before attempting to devise a complete design solution.

#### 3.1 Assumptions and Dependencies

Throughout JAWAHER design stage, there are several assumptions have to be taken under consideration. Those assumptions are concerning the system and it can be categorized into associated groups as shown below:

- software or hardware
- Operating systems
- End-user characteristics
- Possible and/or probable changes in functionality

##### 3.1.1 Software / hardware

As the JAWAHER is an online web-based system, any PC, laptop, notepad or even small devices such as smartphones are capable to run the system successfully in the case of availability of valid internet connection. For the software part, the system is planned to be simple, smooth and consistent. The system has a structured database provided through WIX'S online built-in tools in order to develop the website, where the data will be stored and recover into/from it. Besides, there are no constraints related to hardware, any device of any type would work.

##### 3.1.2 Operating systems

The JAWAHER is qualified to run over all kinds of operating systems including Windows and Mac. Wix.com is the host of the system, due to that, most of the system's code is written in WIX code. WIX also uses HTML, CSS, and JavaScript to make the website work smoothly in all operating systems and different browsers.

##### 3.1.3 End-user characteristics

JAWAHER has two essential end users: Admin and Customer. Details of these two end users have already been provided, please refer to the Software Requirements Specification (SRS), which has been delivered previously.

##### 3.1.4 Possible and/or probable changes in functionality

Changes in the design of the website might happen because designing is an ongoing operation throughout time. Mostly, changes occur under the request of the client considering the team's abilities and skills and the time-bound period.

### 3.2 General Constraints

This section describes some design limitations and constraints of JAWAHER might have a significant impact on the design process. Such constraints can be divided into:

- Hardware or software environment.
- Availability of resources.
- Data repository and distribution requirements.
- Security requirements.

#### 3.2.1 Hardware and software environment.

JAWAHER is an online web-based system which eligible to be running through all different kind of devices, operating systems, and browsers. Additionally, there are no constraints related to the hardware part. A good internet connection must be provided to successfully running the system by operating any browser of the user's choice.

#### 3.2.2 Availability of resources.

JAWAHER is an online, web-based system, therefore; users need an internet connection to use the system and being able to surf. On the other side, the system must be available for its users 24/7.

#### 3.2.3 Data repository and distribution requirements.

All JAWAHER System's related data will be stored into Wix.com's online servers (databases), which can be easily accessed through WIX Online Built-in Tools.

#### 3.2.4 Security requirements.

The system contains critical information including users' email and passwords. No denies that security requirements are sensitive and important factors, therefore; the system must be supplied with privacy and security. Furthermore, only admins should have access to critical actions, such as being allowed to modify the system and surfing certain parts of it.

## 4 User Interface Design

This section gives brief glance of the planned user interfaces. It defines rules, images, designs, actions and their objects This section gives brief glance of the planned user interfaces. It defines rules, images, designs, actions and their objects.

### 4.1 Overview of User Interface

The JAWAHER website has a user interface that is easy to use and user-friendly interface where it is easy to handle. The end user of the site easily accesses all features. The first interface is a home page, and from that page, customers can log in or sign up. Login page requires the customer to enter a valid e-mail address and password. The web pages and services available are different from one user to another — these features listed in table.

webpage	Options
<b>Common to both</b>	
Home	Consist of jewelry, location, about and contact. Home page
Jewelry interface	List of products by categories. Rings, Bracelets, Necklaces, Earrings, Anklets and Gift Sets interface
Location interface	view all locations of the store
About interface	includes the JAWAHER's STORY
Contact interface	submit any questions, concerns, or general feedback using massage with your name and email address.
<b>Specific to Customer Only</b>	
Signup interface	Create a new account via filling the form to register in JAWAHER web.
login interface	<ul style="list-style-type: none"> <li>- Login Access the system with valid email and password,</li> <li>- Forgot Password registered customer must be able to retrieve their password if they have forgotten it</li> <li>- Reset Password registered customer must be able to rest password if they have forgotten it</li> </ul>

My Orders Interface	help the customer to check the status of orders or browse previous purchases.
My Address Interface	help the customer to shows saved addresses. Edit, remove and add new addresses.
My Account Interface	To view and edit personal information
Thank You Interface	display a thank you message to the customer after he/she submits the order and tell him that there will be a confirmation email will be sent for his email.
Customer Product Interface	customer see the jewelry product in detail
Cart Interface	show the shopping cart for the customer
Checkout	customer can place an order by completing the required steps (shipping details, delivery method and payment) in order to be allowed to place an order
<b>Specific to Admin Only</b>	
login	not a real interface of the JAWAHER website, it is an interface of WIX online SDK connected to the JAWAHER website to enable the admin to login to the admin homepage and manage the website.
homepage	appear when the admin login to enable the admin to manage the website by Store Products, Store Orders, Customer Management, Site Members, and Settings
Store products	<ul style="list-style-type: none"> <li>- Collection interface Admin can add collections for jewelry products with its name and specify in which type of jewelry page it will be added of the group of subpages (Rings, Bracelets, Necklaces, Earrings, Anklets, and Gift Sets), also admin can search for a specific product.</li> <li>- Products Interface add some products to the site</li> </ul>

Store orders	order table with the order number, order date and time, name of the customer who buys, payment states (paid, or unpaid), fulfillment statuses (fulfilled, or unfulfilled), and the total cost., and admin can display all orders or filter them.
Customer management	<ul style="list-style-type: none"> <li>- <b>Inbox Interface</b> respond to all live chat when the customer sends a chat using the online chat functionality.</li> <li>- <b>Site Members Interface</b> allow the admin to search about a member then he will be able to do three operations view Member, Block Member, Delete Member</li> </ul>
Settings interface	<ul style="list-style-type: none"> <li>- <b>Roles &amp; Permission Interface</b> it shows a table with a list of admins and he can add more admins by inviting them to be an admin using an email. Note that only the admin who invites the other admin (The first admin) can add the admin, other admins would not be able to add admins, they will be able only to see the list of the admins.</li> </ul>

Table 3 overview of user interface

## 4.2 Interface Design Rules

The main purpose of design phase is to create well-organized, user-friendly and clear interfaces. JAWAHER should follow the following rules to accomplish those goals:

- Strive for consistency: Use the same colors and icons as usual so as not to be difficult for the user to understand. Also, attention to coordination and organization where it is easy to see all the services provided to the user quickly. Use specific transition methods between pages.

- Enable frequent users to use shortcuts: Allows the user to copy and paste texts using keyboard shortcuts and to navigate between pages easily.
- Offer informative feedbacks: There must be feedback to each activity and action to let the user know what is happening now.
- Design dialogs to yield closure: For each sequence of actions, there should be messages indicating the success or failure of the activity. Also, it allows the user to know the extent of its progress and achievement and let them know that they can move to the next actions.
- Offer simple error handling: The system shall be able to detect the error and handle that error by using simple mechanisms.
- Permit easy reversal of actions: Errors can be undone. Allow the user to destroy some actions to facilitate using this website instead of closing the browser and back again.
- Support internal locus of control: Make the user have full control of Actions.
- Reduce short-term memory load: User interfaces must be simple. It should be familiar to the user no need to memorize any information displayed in previous pages based on concept of recognition rather than recall.

## 4.3 Screen Images

### 4.3.1 Common interfaces

#### 4.3.1.1 Home

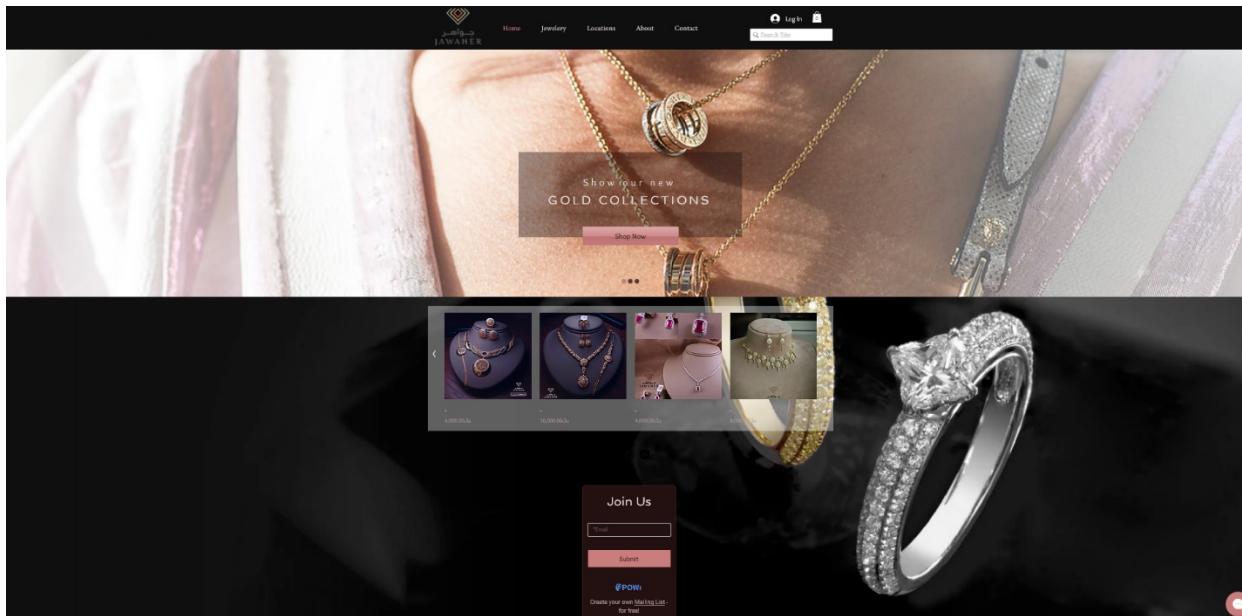


Figure 1 home interface

#### 4.3.1.2 Jewelry

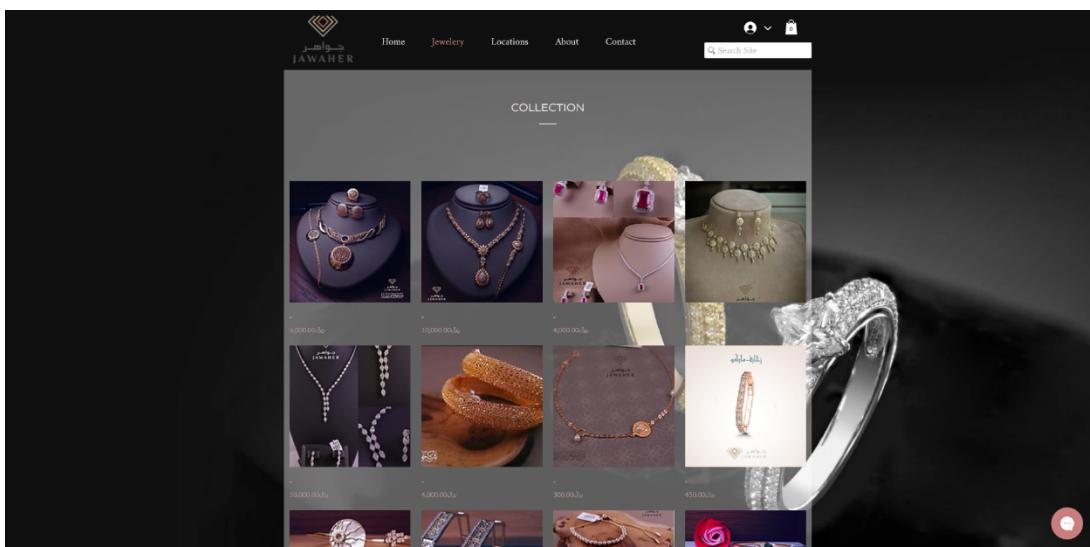


Figure 2 jewelry interface

- Rings

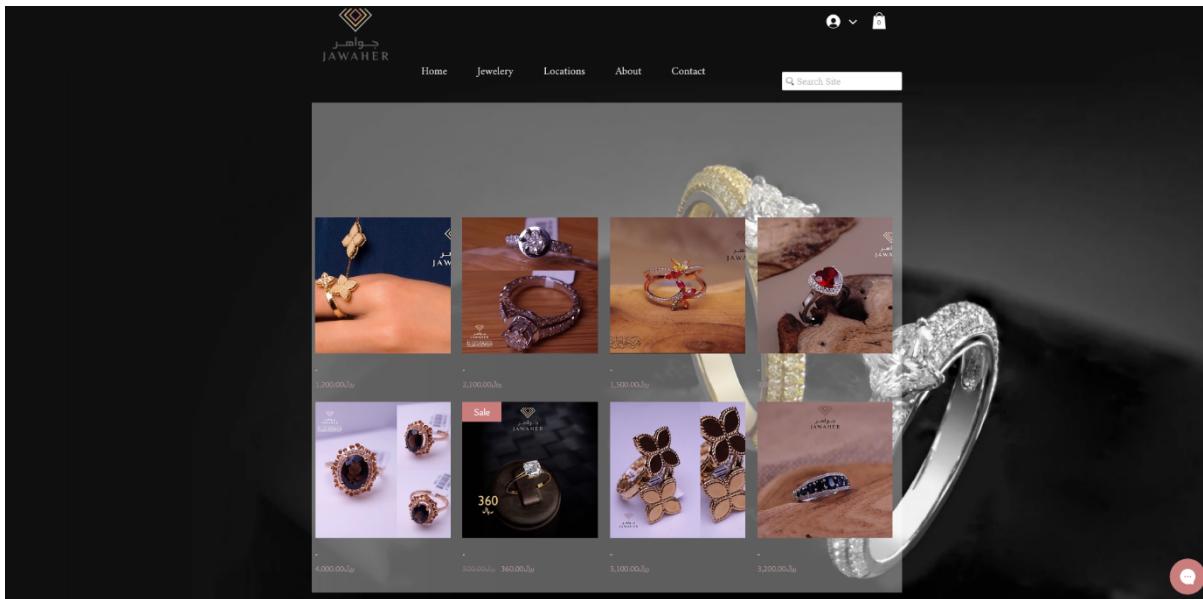


Figure 3 rings interface

- Bracelets

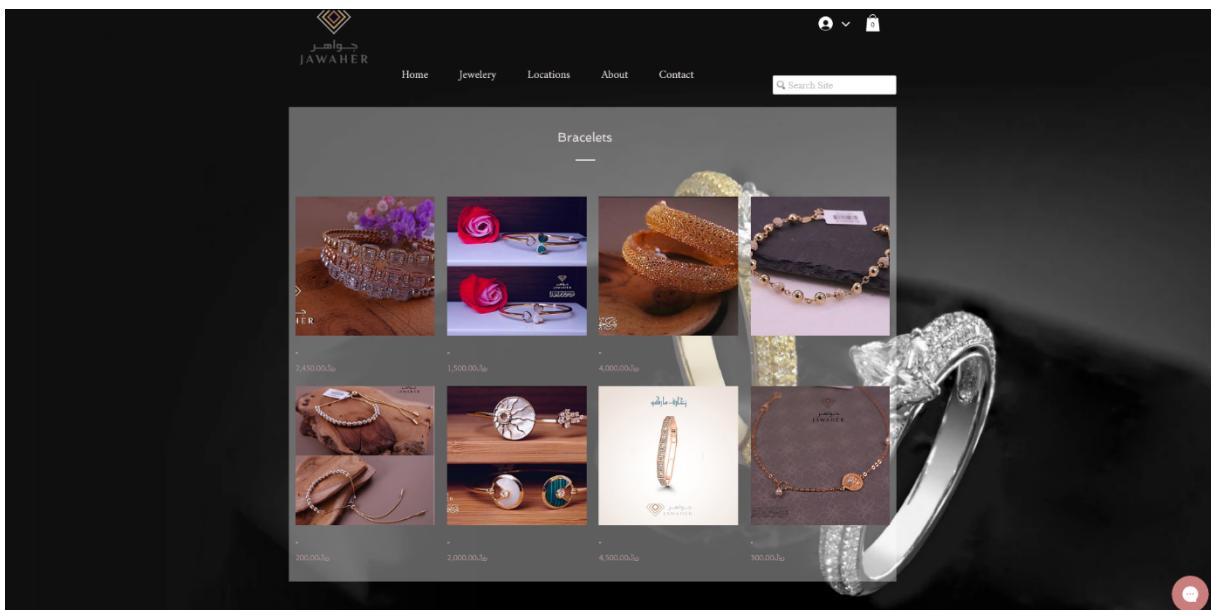


Figure 4 bracelets interface

- Necklaces

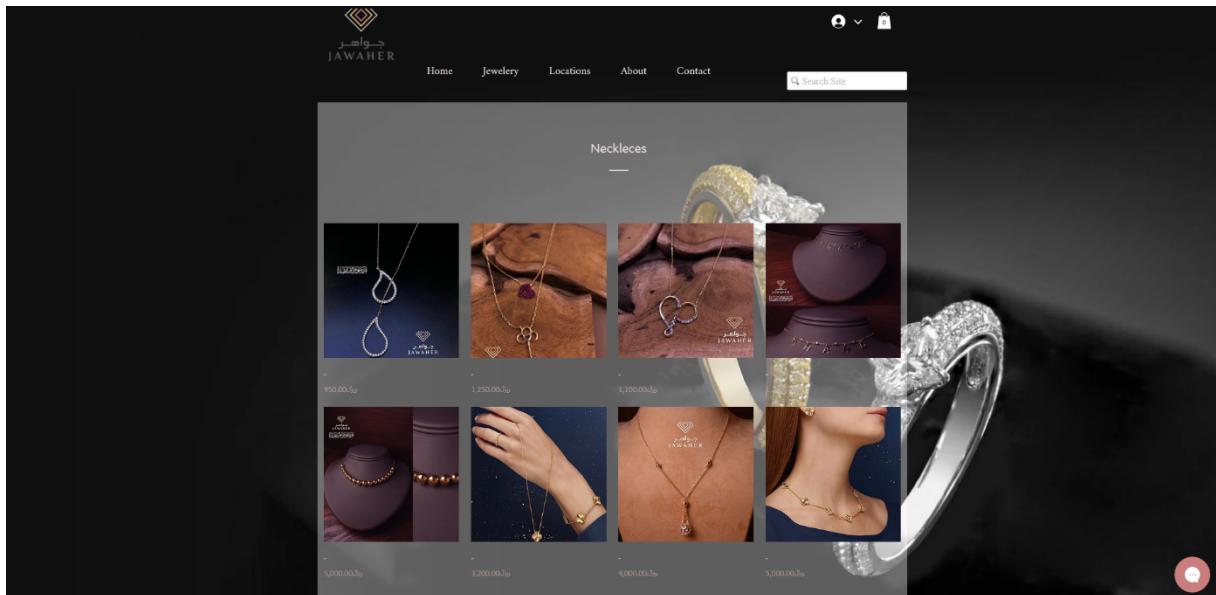


Figure 5 necklaces interface

- Earrings

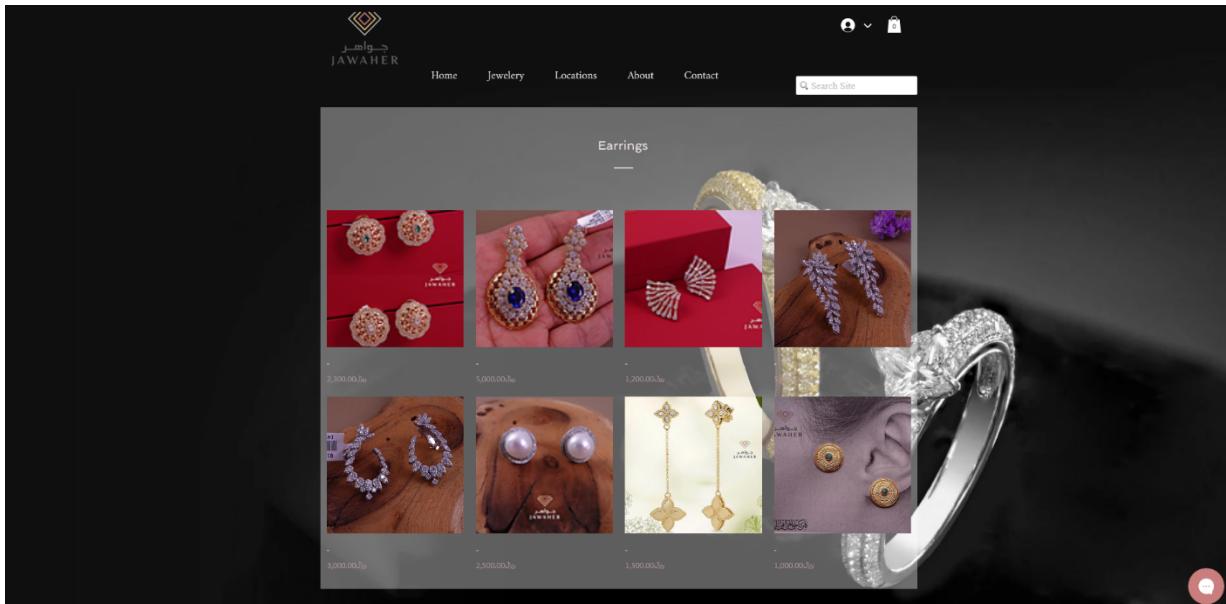


Figure 6 earrings interface

- Anklets

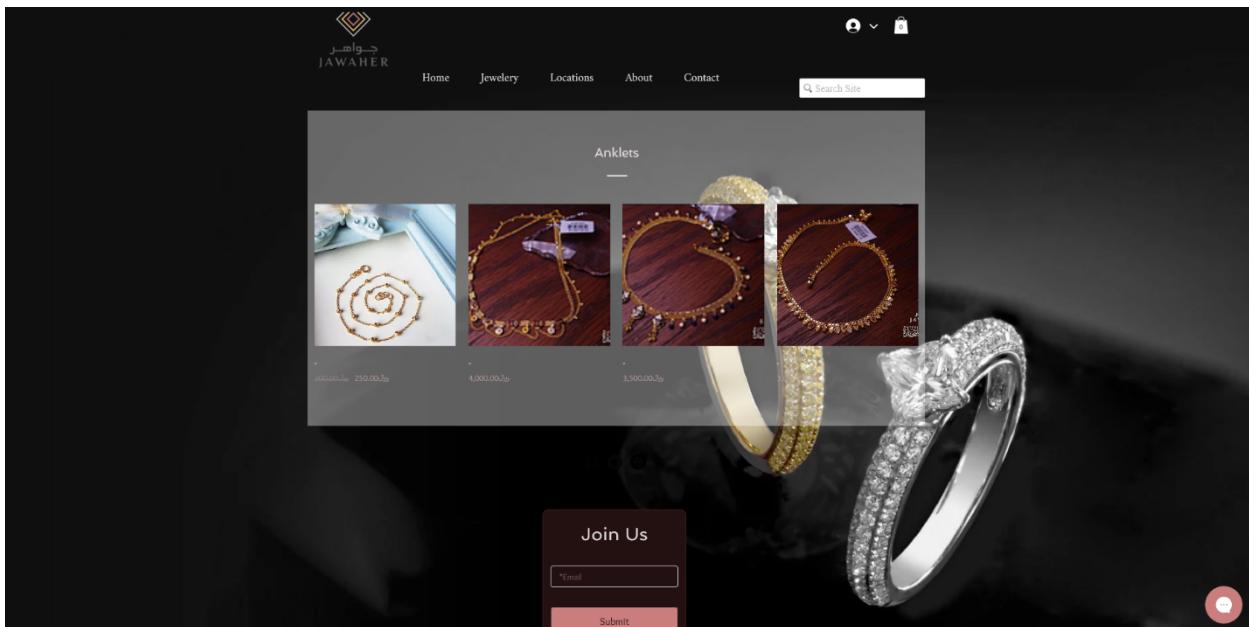


Figure 7 anklets interface

- Gift Sets interface

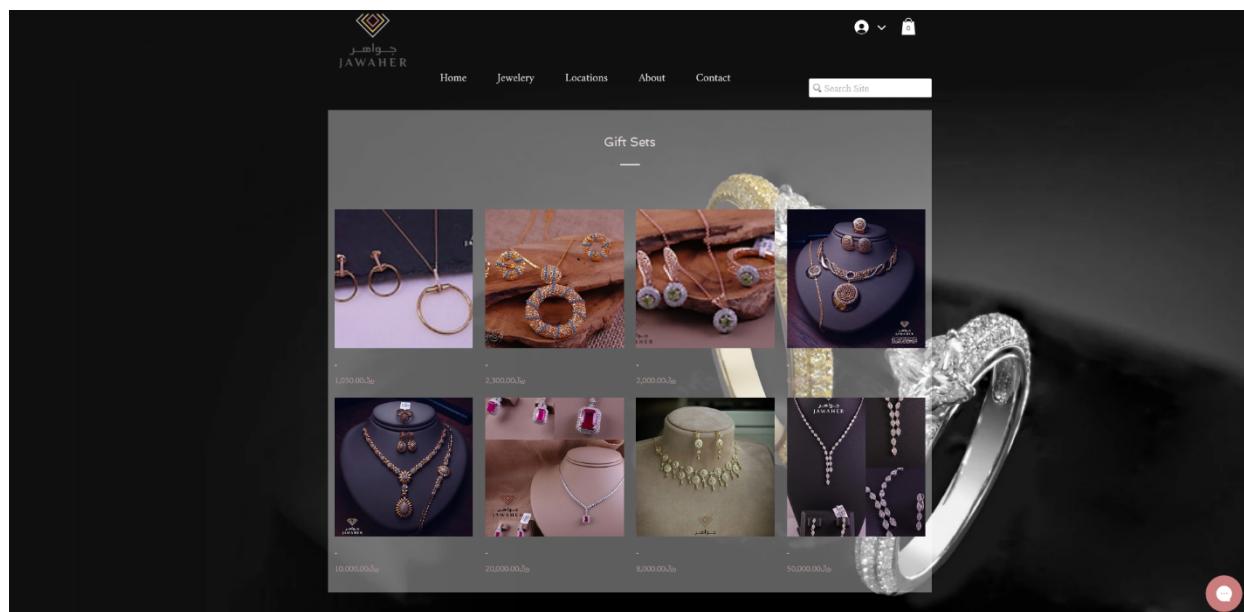


Figure 8 gift sets interface

#### 4.3.1.3 Location

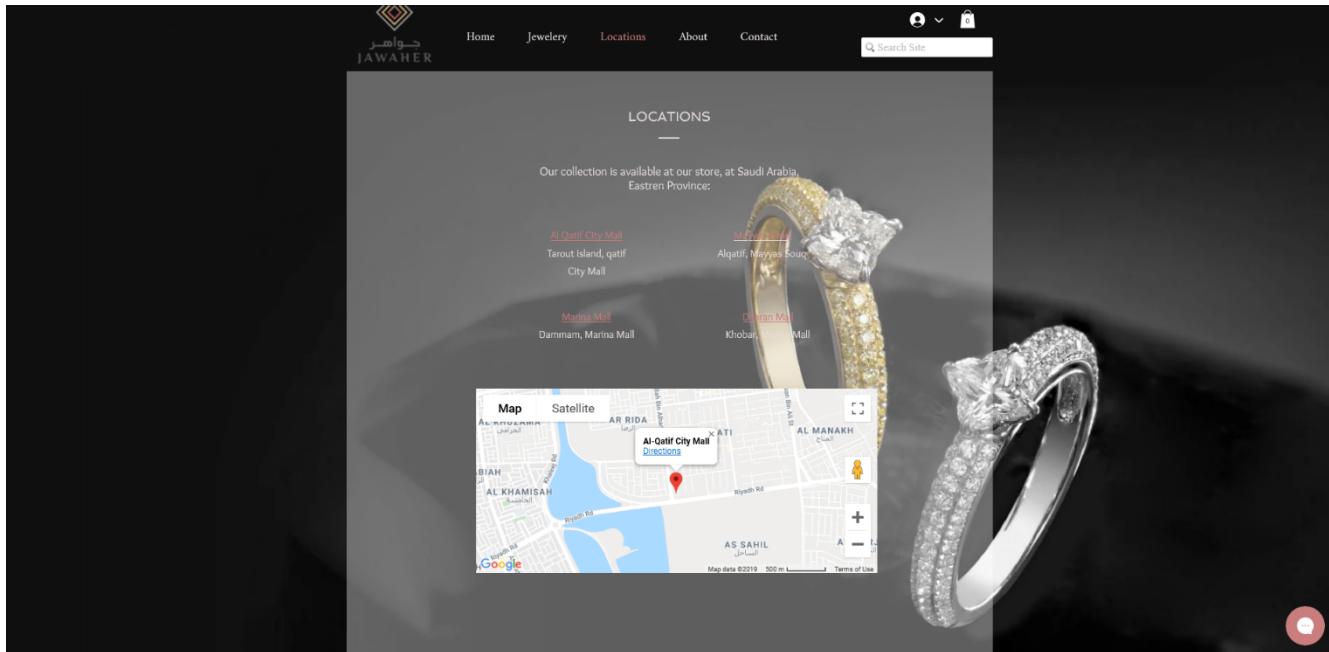


Figure 9 location interface

#### 4.3.1.4 About

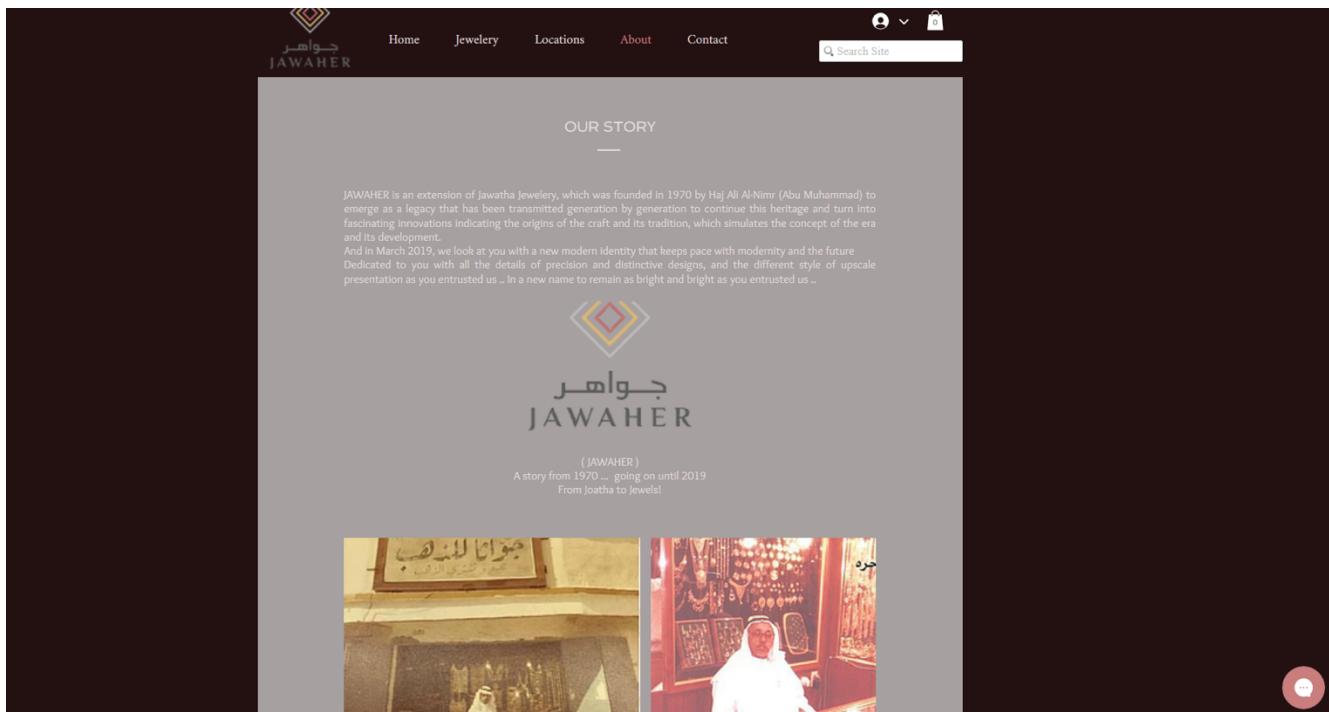


Figure 10 about interface

#### 4.3.1.5 Contact

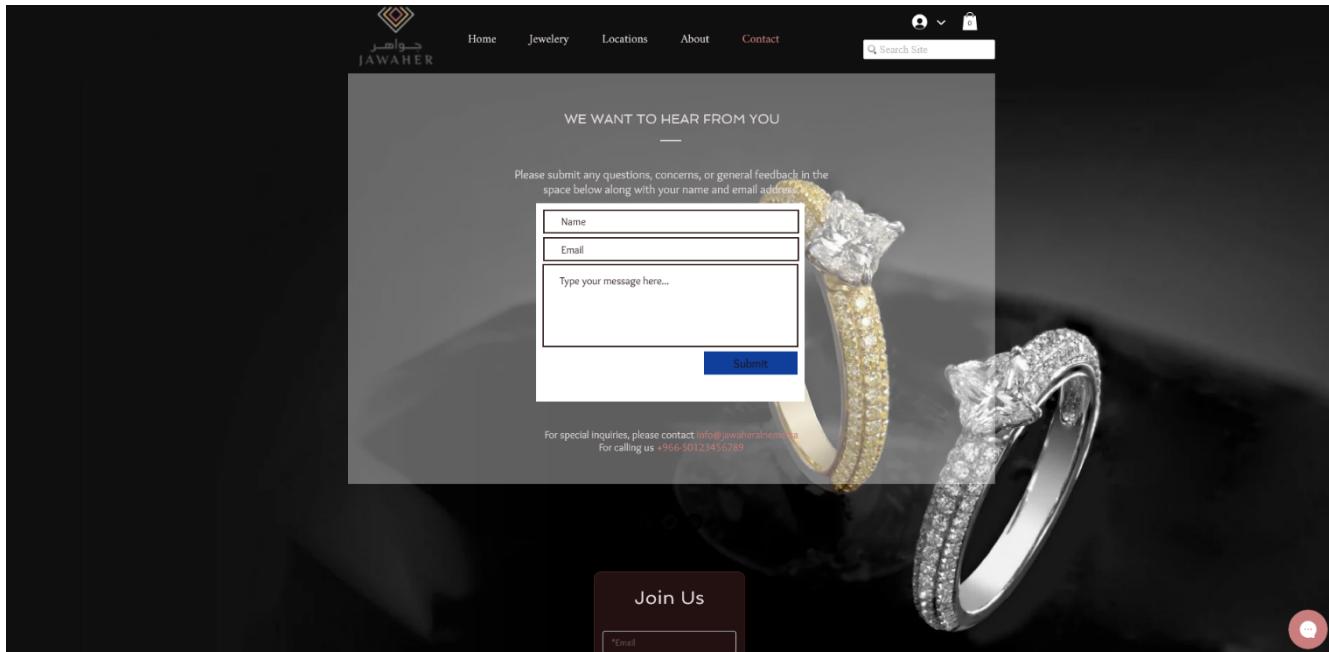
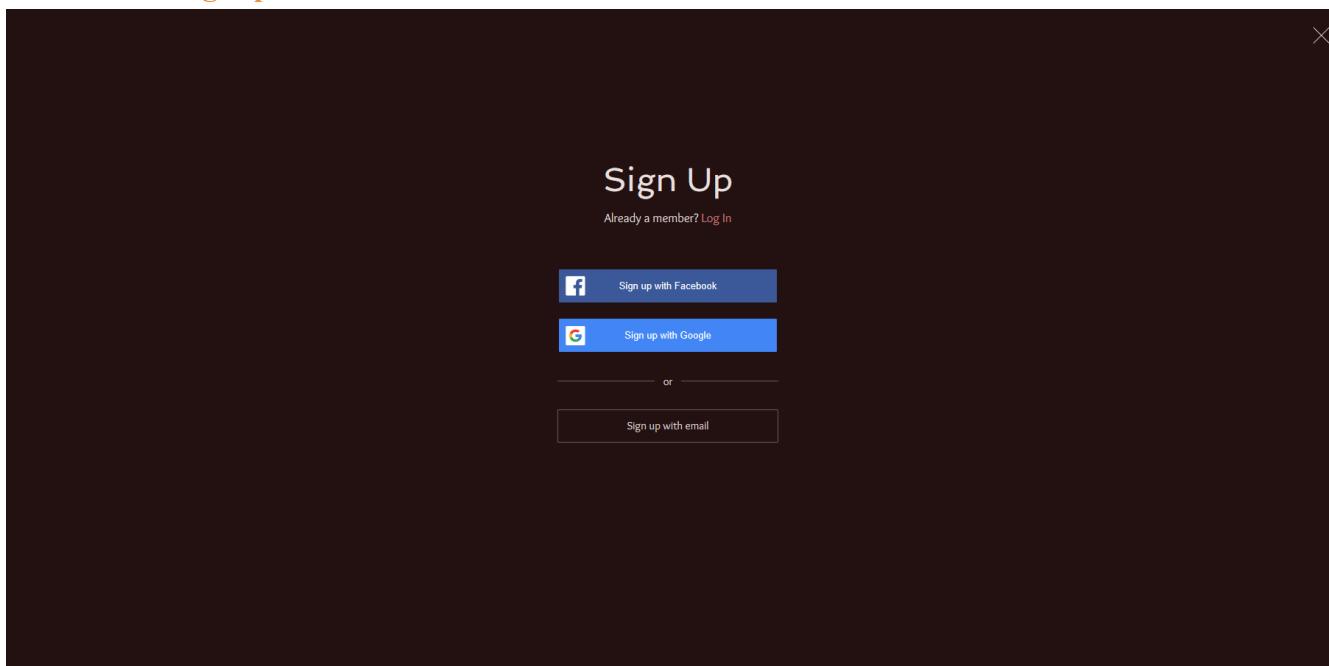


Figure 11 contact interface

#### 4.3.2 Customer interfaces

##### 4.3.2.1 Signup



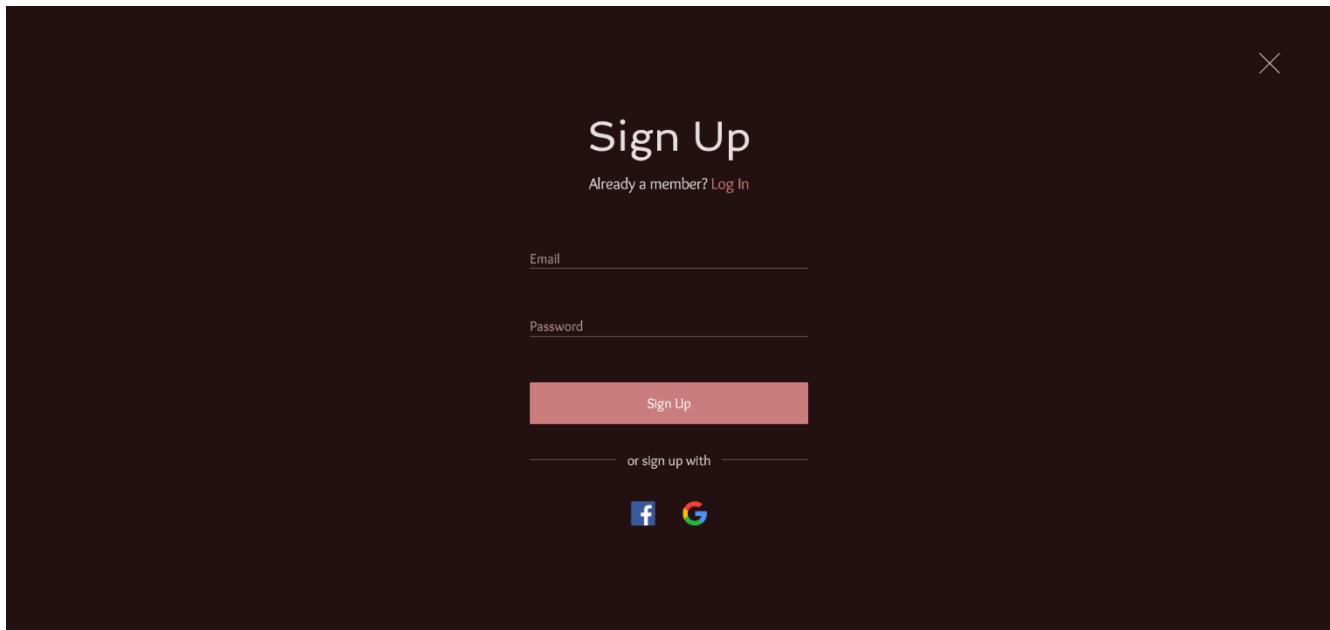
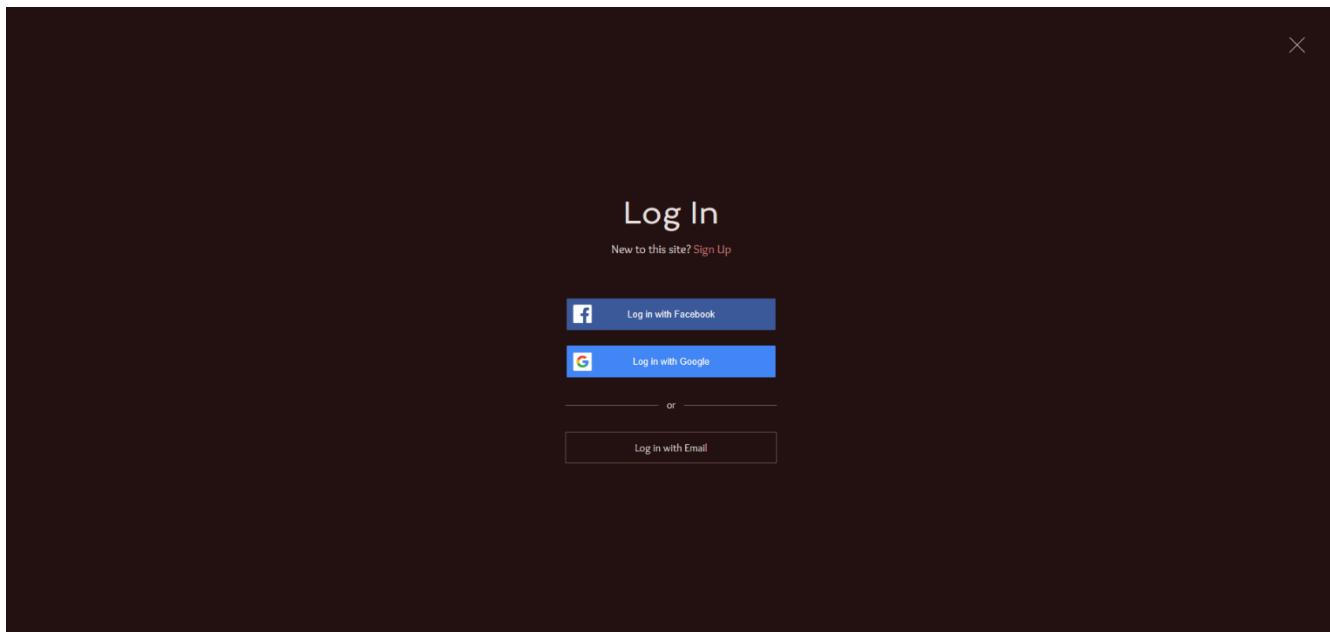


Figure 12 sign up interface

#### 4.3.2.2 Login

- Login



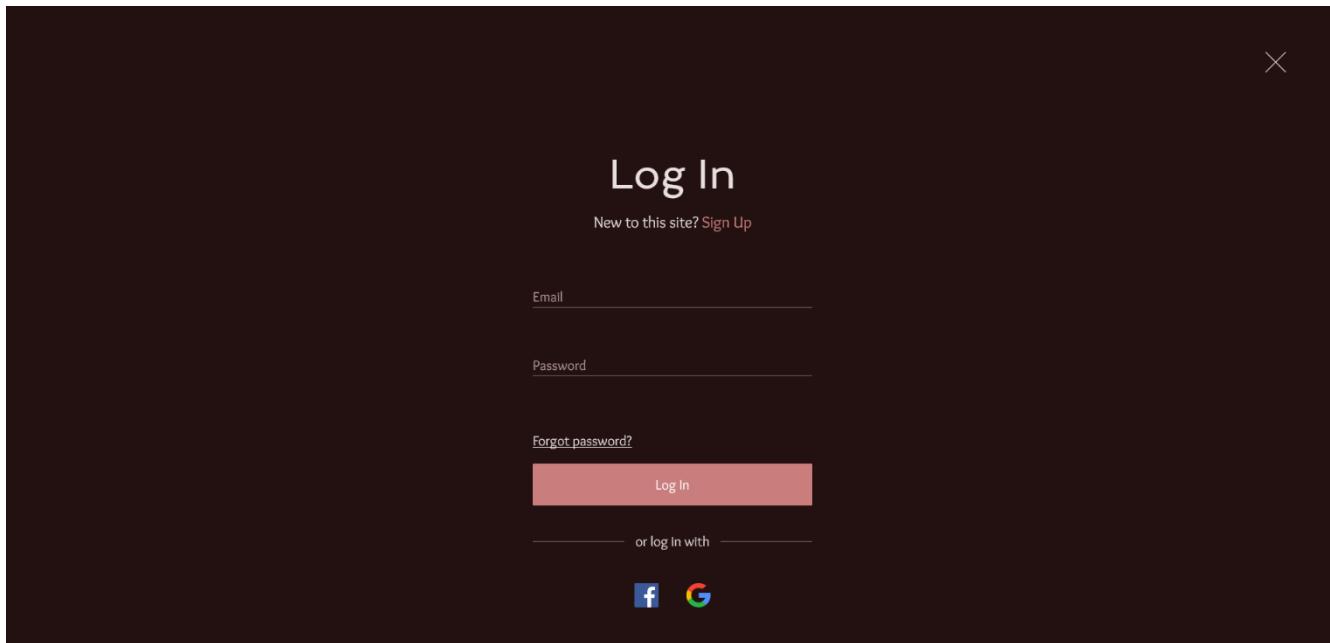


Figure 13 log in interface

- Forget password

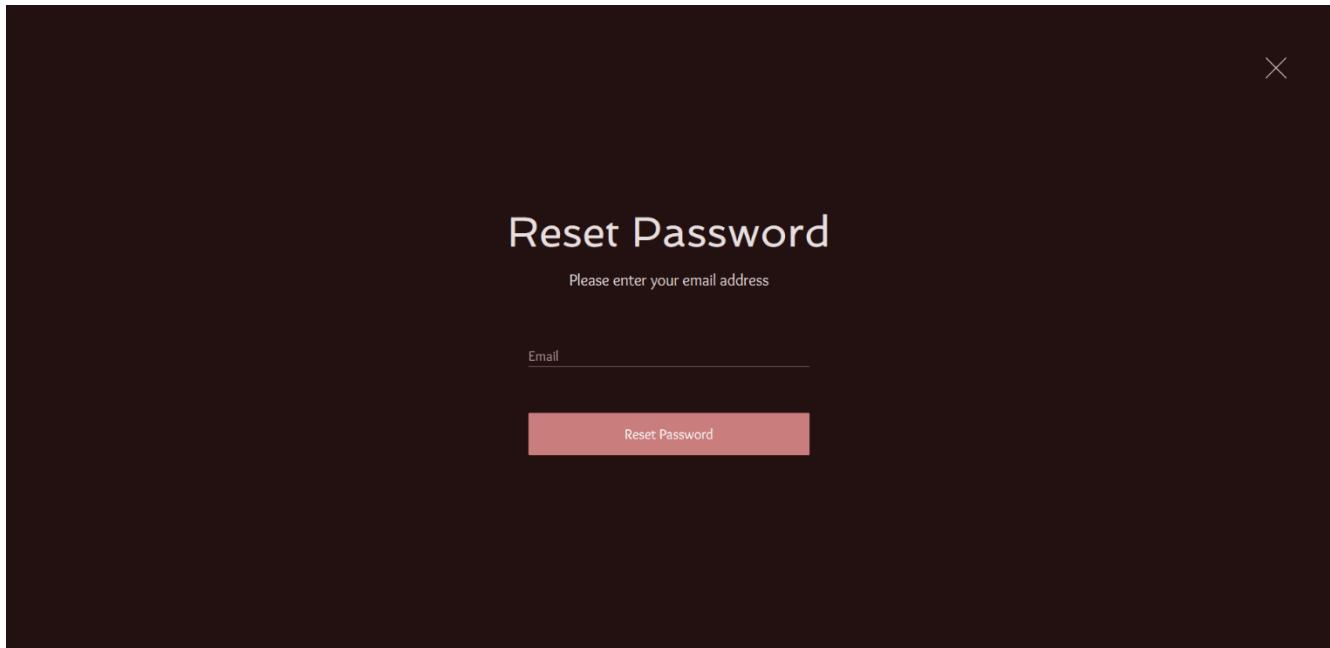


Figure 14 forget password interface

- Reset password

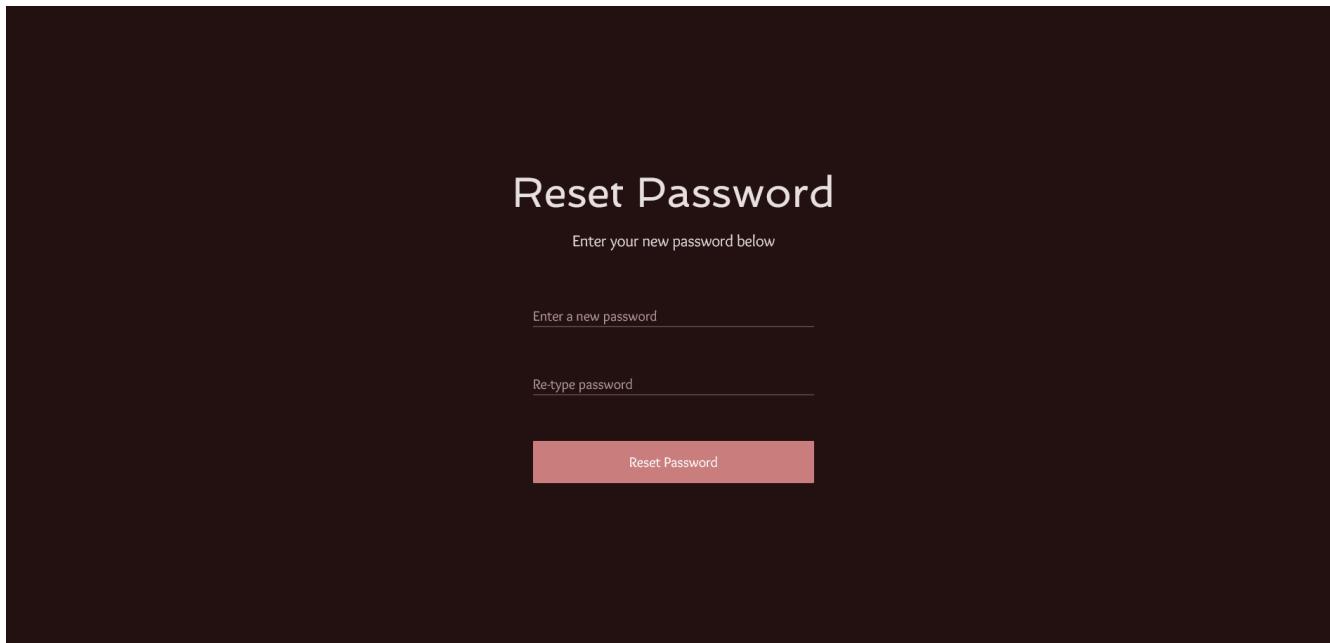


Figure 15 reset password interface

#### 4.3.2.3 My orders

A screenshot of the "My Orders" section of the JAWAHER website. The page has a dark background featuring two large, ornate diamond rings. At the top, there's a navigation bar with links for Home, Jewelry, Locations, About, Contact, and a search bar. On the left, a sidebar shows a user profile picture and the handle "zahra\_m.alzawad". Below the sidebar are three menu options: "My Orders" (which is highlighted in yellow), "My Addresses", and "My Account". The main content area is titled "My Orders" and includes a sub-instruction "Check the status of orders or browse through your past purchases." A table lists one order: Date (Nov 1, 2019), Order # (10006), Status (Shipped), and Total (59.97). A small red circular icon with a white speech bubble is located in the bottom right corner.

Figure 16 my orders interface

#### 4.3.2.4 My address

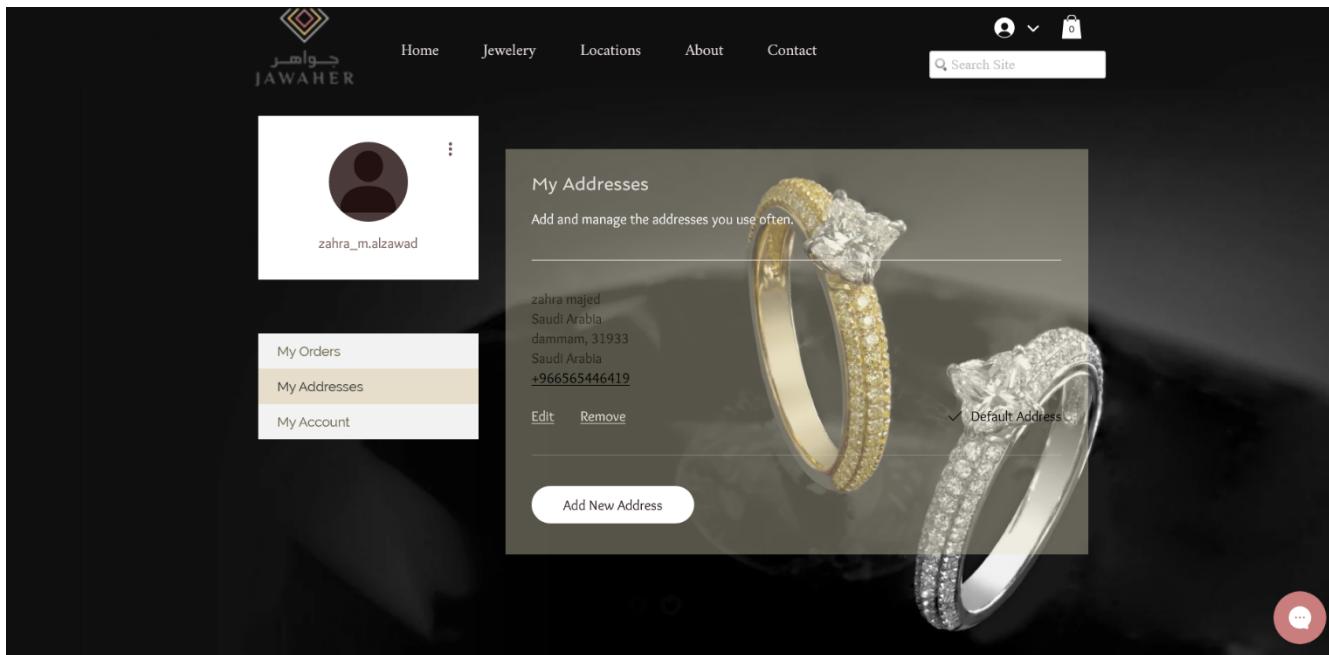


Figure 17 my address interface

- Add new address

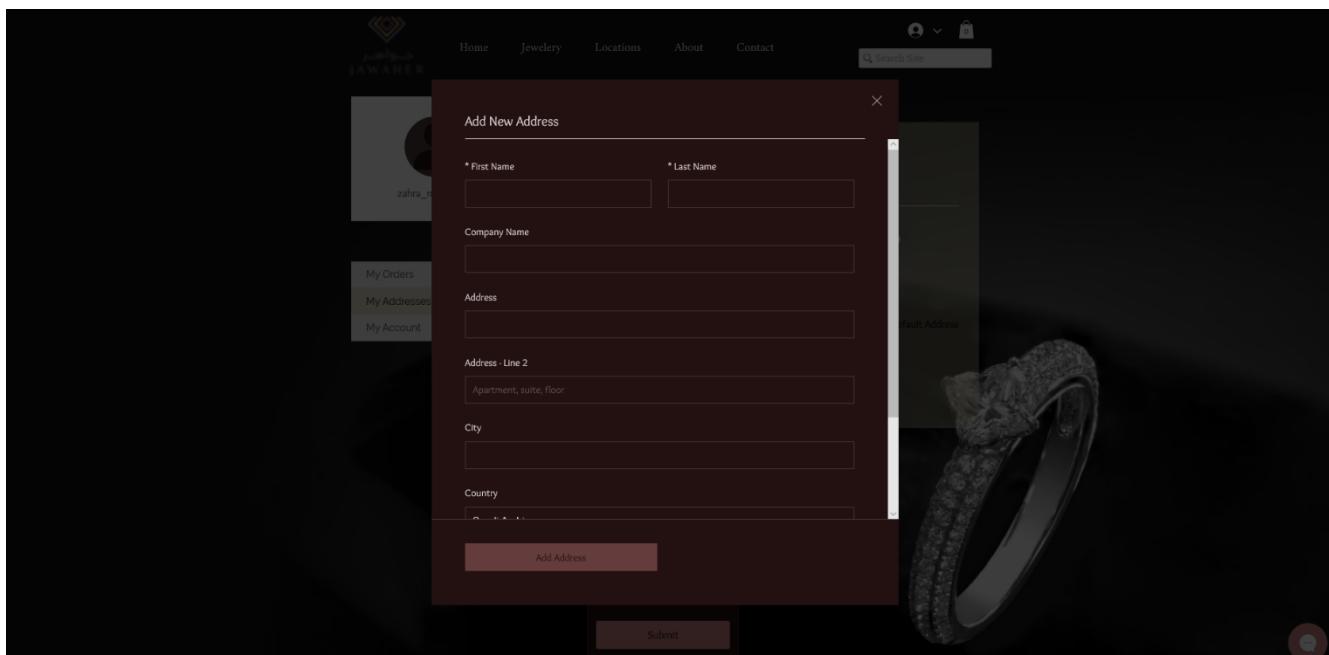


Figure 18 add new address interface

#### 4.3.2.5 My account

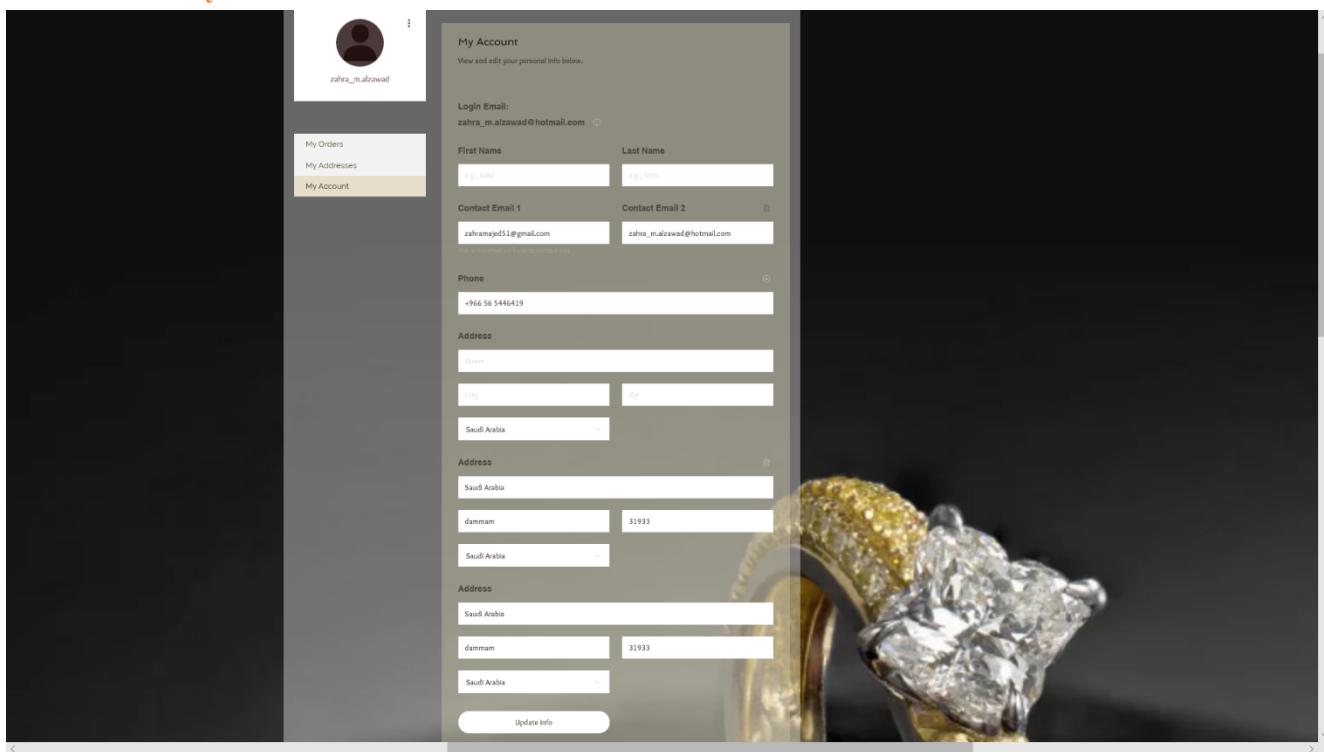


Figure 19 my account interface

#### 4.3.2.6 Product

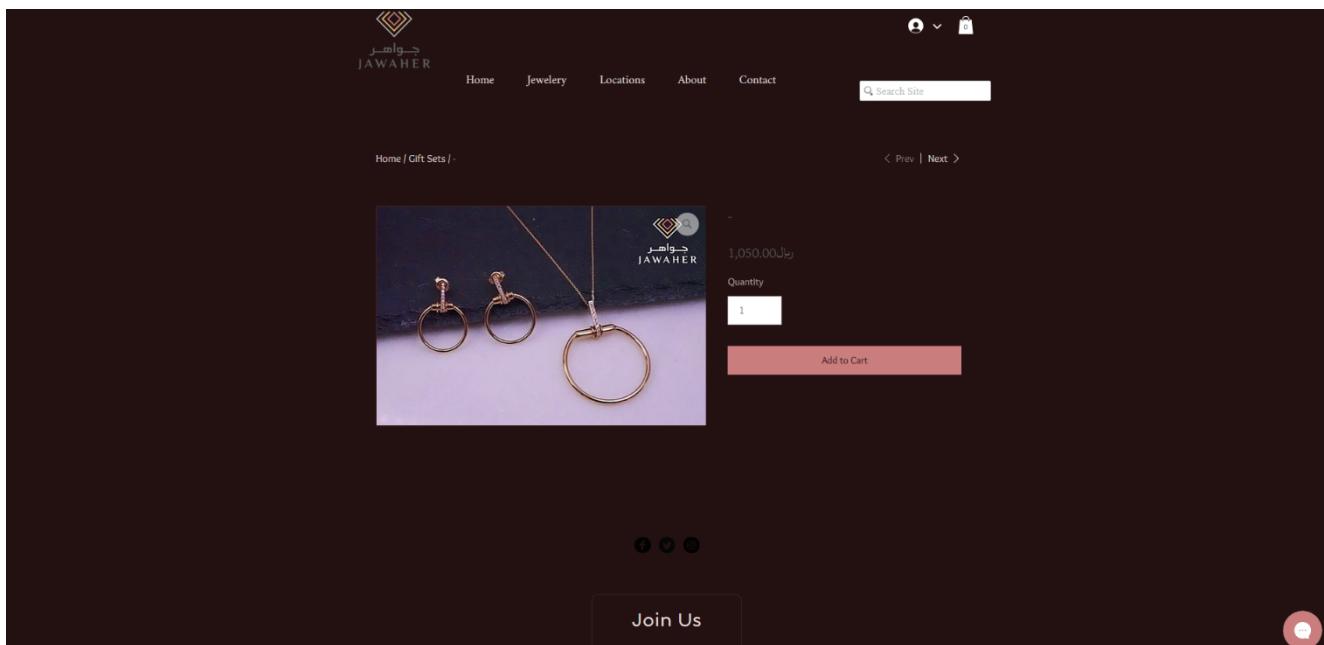


Figure 20 product interface

#### 4.3.2.7 Cart

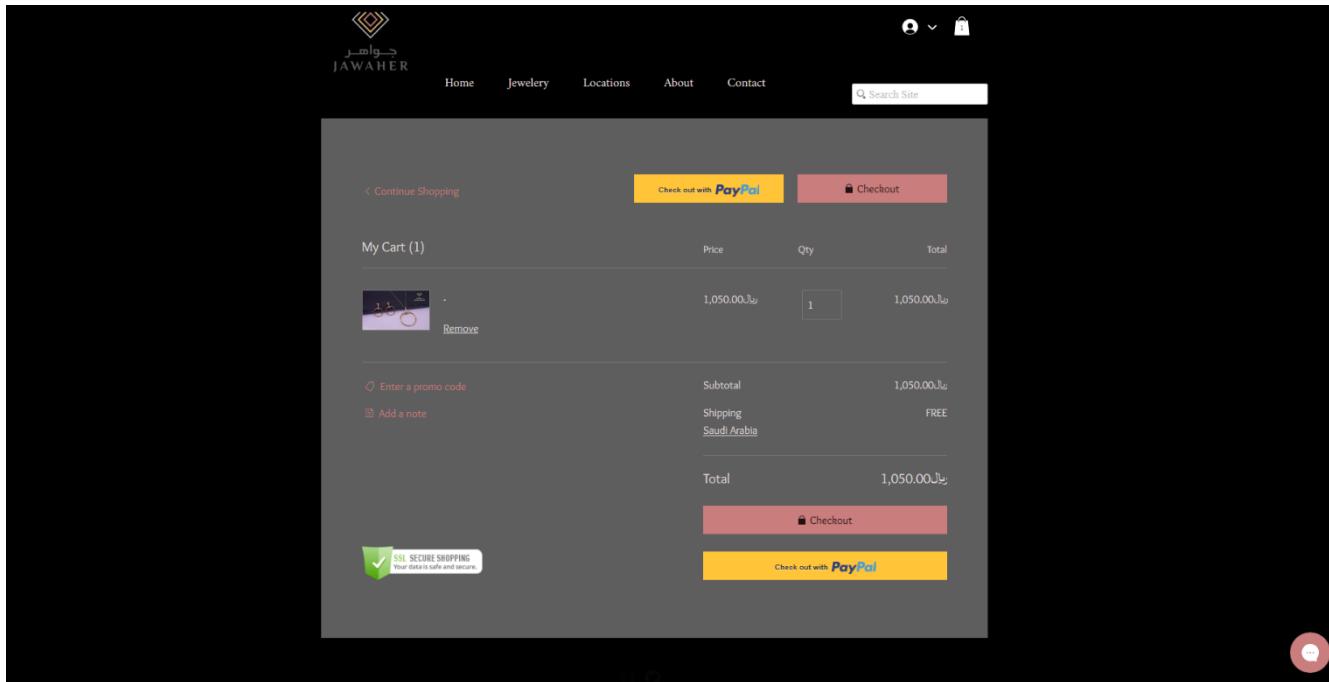


Figure 21 cart interface

#### 4.3.2.8 Checkout

The screenshot shows the JAWAHER website's checkout page. At the top, there is a header with the JAWAHER logo and a "CHECKOUT" button, along with "Continue Shopping" and "Log out" links. The page is divided into several sections: "Shipping Details" (zahra.m.alzawad@hotmail.com, Log out, Change), "Delivery Method" (Free Shipping Free), "Payment" (PayPal selected, Cash on Delivery), and "Order Summary (1)" (Qty: 1, Subtotal: 1,050.00 ج.س., Shipping: FREE, VAT: 0.00 ج.س., Total: 1,050.00 ج.س.). At the bottom, there is an "SSL SECURE SHOPPING" badge and a "Place Order" button.

Figure 22 chekout interface

#### 4.3.2.9 Thank you

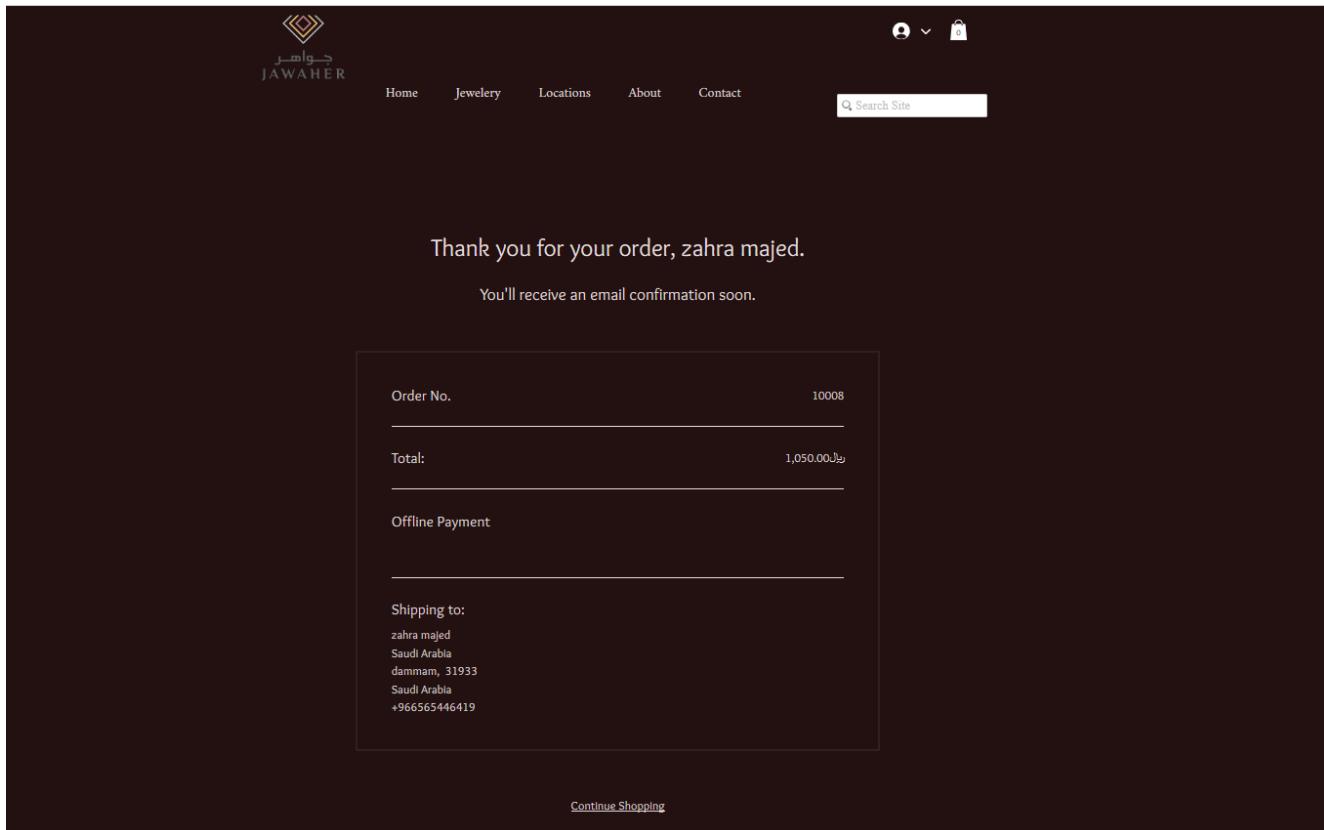


Figure 23 thank you interface

#### 4.3.3 Admin interfaces

##### 4.3.3.1 Login

The screenshot shows the Wix admin login page. It features a "Log In" button at the top center. Below it, there is a "New to Wix? Sign Up" link. The login form has fields for "Email" (Jawaheralnemersa@gmail.com) and "Password" (a series of dots). There are "Remember Me" and "Forgot Password?" links. On the right side, there are "Continue with Facebook" and "Continue with Google" buttons. At the bottom, a small note states: "By logging in, you agree to our [Terms of Use](#) and to receive Wix emails & updates and acknowledge that you read our [Privacy Policy](#)".

Figure 24 admin login interface

### 4.3.3.2 Homepage

Figure 25 admin homepage

### 4.3.3.3 Store products

- Collection

Figure 26 collection interface

- Products

The screenshot shows the Wix admin interface for managing products. On the left, there's a sidebar with 'Mysite' (Role: Owner) and 'Set Up Your Site' (4/7 Completed). The main menu includes 'Main Menu', 'Products', and 'Collections'. The 'Products' section is currently selected. The main content area is titled 'Products 45' and displays a table with columns: NAME, TYPE, SKU, PRICE, and INVENTORY. Each row represents a product with a thumbnail, name, type (Physical), SKU, price (e.g., 300.00), and inventory status (In stock). There are also three-dot more options buttons.

	NAME	TYPE	SKU	PRICE	INVENTORY
<input type="checkbox"/>	[Thumbnail]	Physical		300.00	In stock
<input type="checkbox"/>	[Thumbnail]	Physical		1,050.00	In stock
<input type="checkbox"/>	[Thumbnail]	Physical		2,300.00	In stock
<input type="checkbox"/>	[Thumbnail]	Physical		2,000.00	In stock

Figure 27 admin product interface

#### 4.3.3.4 Store orders

The screenshot shows the Wix admin interface for managing orders. The sidebar includes 'Mysite' (Role: Owner), 'Set Up Your Site' (4/7 Completed), 'Main Menu', 'Orders' (selected), and 'Abandoned Carts'. The main content area is titled 'Orders 8' and displays a table with columns: Status (dropdown set to All orders), Date, From, To, Search, Order, Date, Customer, Payment, Fulfillment, and Total. Each row represents an order with details like order ID (#10008, #10007, etc.), date (Nov 23, 2019, etc.), customer (zahra majed, ff ff, etc.), payment status (Unpaid, Paid, etc.), fulfillment status (Unfulfilled, Fulfilled, etc.), and total amount (1,050.00, 1,100.00, etc.).

Status	Date	From	To	Search	Order	Date	Customer	Payment	Fulfillment	Total	
All orders					<input type="checkbox"/>	#10008 [New]	Nov 23, 2019, 2:14 PM	zahra majed	Unpaid	Unfulfilled	1,050.00
					<input type="checkbox"/>	#10007 [New]	Nov 2, 2019, 8:50 PM	ff ff	Unpaid	Unfulfilled	1,100.00
					<input type="checkbox"/>	#10006	Nov 1, 2019, 9:35 PM	zahra majed	Paid	Fulfilled	59.97
					<input type="checkbox"/>	#10005	Nov 1, 2019, 9:19 PM	gvt bfrord	Paid	Unfulfilled	14.99
					<input type="checkbox"/>	#10004 [New]	Nov 1, 2019, 9:13 PM	gvt bfrord	Paid	Unfulfilled	14.99
					<input type="checkbox"/>	#10003	Nov 1, 2019, 8:59 PM	ff ff	Unpaid	Unfulfilled	34.98

Figure 28 orders interface

### 4.3.3.5 Customer management

- Inbox

The screenshot shows the Wix inbox interface. On the left, there's a sidebar with 'Mysite' information and a 'Main Menu' with options like Connect, Inbox, Contact List, Form Submissions, Manage, Automations, Workflows, Tasks & Reminders, and Site Members. The 'Inbox' option is selected. The main area is titled 'Inbox' and shows an email from 'Dan Smith (Demo)' with the subject 'Hi, just wanted to say thanks for the great service.' Below it is another message from 'Ascend by Wix' with the subject 'Inbox seamlessly conn...'. A third message from 'Dan Smith (Demo)' is partially visible. At the bottom, there's a compose box with 'EMAIL TO: DAN\_DEMO@WIX.COM' and a message input field. To the right, there's a contact card for 'Dan Smith (D...)' with tabs for 'Info' (selected), 'Manage', 'Contact Info' (with email dan\_demo@wix.com), 'Labels' (with an 'Add' button), and 'Attachments' (with a file icon).

Figure 29 inbox interface

- Site members

The screenshot shows the Wix site member interface. The sidebar is identical to Figure 29. The main area is titled 'Member List' and shows a table of members. The columns are NAME, LOGIN EMAIL, ROLES, and LAST LOGIN. There are six rows, each with a member icon, name, email, role (e.g., Admin), and last login date. A context menu is open over the last row ('ff ff'), showing options: 'View Member', 'Block Member', and 'Delete Member'. There are also three dots at the end of each row.

NAME	LOGIN EMAIL	ROLES	LAST LOGIN
ZA	zahra_m.alzawad@hotmail.com		Nov 21, 2019
FO	foo-foo.55@windowslive.com		Nov 23, 2019
JA	jawaheralnemersa@gmail.com	Admin	Nov 23, 2019
RM	rrroma12@gmail.com		Nov 22, 2019
RE	reemaljishi1@gmail.com		Nov 22, 2019
ff ff	zahraamaher1996@gmail.com		Nov 21, 2019

Figure 30 site member interface

### 4.3.3.6 Setting

- Roles & Permission

Figure 31 Roles & Permission interface

## 4.4 Screen Objects and Actions

This subsection provides a detailed description for each interface's objects and actions in table below:

webpage	Object	Type	Action
Common to both			
Home	<ul style="list-style-type: none"> <li>• Jewelry</li> <li>• Location</li> <li>• About</li> <li>• Contact</li> <li>• Chat icon</li> <li>• Login icon</li> <li>• Cart icon</li> <li>• Shop now</li> <li>• Products pictures</li> </ul>	<ul style="list-style-type: none"> <li>• Link</li> <li>• Link</li> <li>• Link</li> <li>• Link</li> <li>• Button</li> <li>• Button</li> <li>• Button</li> <li>• Button</li> <li>• Button</li> </ul>	<ul style="list-style-type: none"> <li>• Take you to Jewelry interface.</li> <li>• Take you to location interface</li> <li>• Take you to about interface</li> <li>• Take you to contact interface</li> <li>• Take you to chat live interface</li> </ul>

	<ul style="list-style-type: none"> <li>Join us(submit)</li> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>Take you to login interface.</li> <li>Take you to cart interface</li> <li>Take you to Jewelry interface.</li> <li>Take you to product interface.</li> <li>Customer enter email to stay in touch with new things in shop.</li> </ul>
Jewelry interface Rings, Bracelets, Necklaces, Earrings, Anklets and Gift Sets interface	<ul style="list-style-type: none"> <li>Products pictures</li> </ul>	Button	<ul style="list-style-type: none"> <li>Take you to product interface.</li> </ul>
Contact interface	Submit	Button	Send questions or feedback to admin
<b>Specific to Customer Only</b>			
signup interface	<ul style="list-style-type: none"> <li>Signup with Facebook</li> <li>Signup with google</li> <li>Signup with email</li> <li>Login</li> <li>Sign up</li> </ul>	<ul style="list-style-type: none"> <li>Button</li> <li>Button</li> <li>Button</li> <li>Link</li> <li>Button</li> </ul>	<ul style="list-style-type: none"> <li>Take you to Facebook interface.</li> <li>Take you to Google interface.</li> <li>Take you to signup with email interface</li> <li>Take you to login interface</li> <li>Take you to home interface</li> </ul>
login interface	<ul style="list-style-type: none"> <li>Log in</li> <li>Sign up</li> <li>login with Facebook</li> <li>login with google</li> <li>login with email</li> <li>forget password</li> </ul>	<ul style="list-style-type: none"> <li>Button</li> <li>Link</li> <li>Button</li> <li>Button</li> <li>Button</li> <li>Link</li> </ul>	<ul style="list-style-type: none"> <li>Take you to home interface</li> <li>Take you to sign up interface</li> </ul>

			<ul style="list-style-type: none"> <li>• Take you to Facebook interface.</li> <li>• Take you to Google interface.</li> <li>• Take you to login with email interface</li> <li>• Take you to forget password interface</li> </ul>
Forget password	• Reset password	Button	<ul style="list-style-type: none"> <li>• send email to rest password</li> </ul>
Reset password	• Reset password	Button	<ul style="list-style-type: none"> <li>• Confirmation interface</li> </ul>
My Address Interface	<ul style="list-style-type: none"> <li>• Edit</li> <li>• Remove</li> <li>• Add new address</li> </ul>	<ul style="list-style-type: none"> <li>• Link</li> <li>• Link</li> <li>• button</li> </ul>	<ul style="list-style-type: none"> <li>• Edit the address</li> <li>• If you press yes, the address will be deleted</li> <li>• Take you to add new address interface</li> </ul>
My Account Interface	Update info	Button	The personal information will be updated
Thank You Interface	Continue shopping	Link	Take you to home interface
Customer Product Interface	<ul style="list-style-type: none"> <li>• Prev</li> <li>• Next</li> <li>• Add to cart</li> </ul>	<ul style="list-style-type: none"> <li>• Link</li> <li>• link</li> <li>• Button</li> </ul>	<ul style="list-style-type: none"> <li>• Take you to product interface of previous product</li> <li>• Take you to product interface of next product</li> <li>• The product will be added to the cart</li> </ul>
Cart Interface	<ul style="list-style-type: none"> <li>• Enter promo code</li> <li>• Apply</li> <li>• Remove</li> <li>• Add note</li> <li>• Checkout</li> </ul>	<ul style="list-style-type: none"> <li>• Link</li> <li>• Link</li> <li>• Link</li> <li>• Button</li> </ul>	<ul style="list-style-type: none"> <li>• If you press it, apply button will appear to apply the code</li> <li>• the product will be deleted from the cart</li> <li>• To add any note</li> <li>• Take you to checkout interface</li> </ul>
Checkout	Place order	Button	Take you to thank you interface

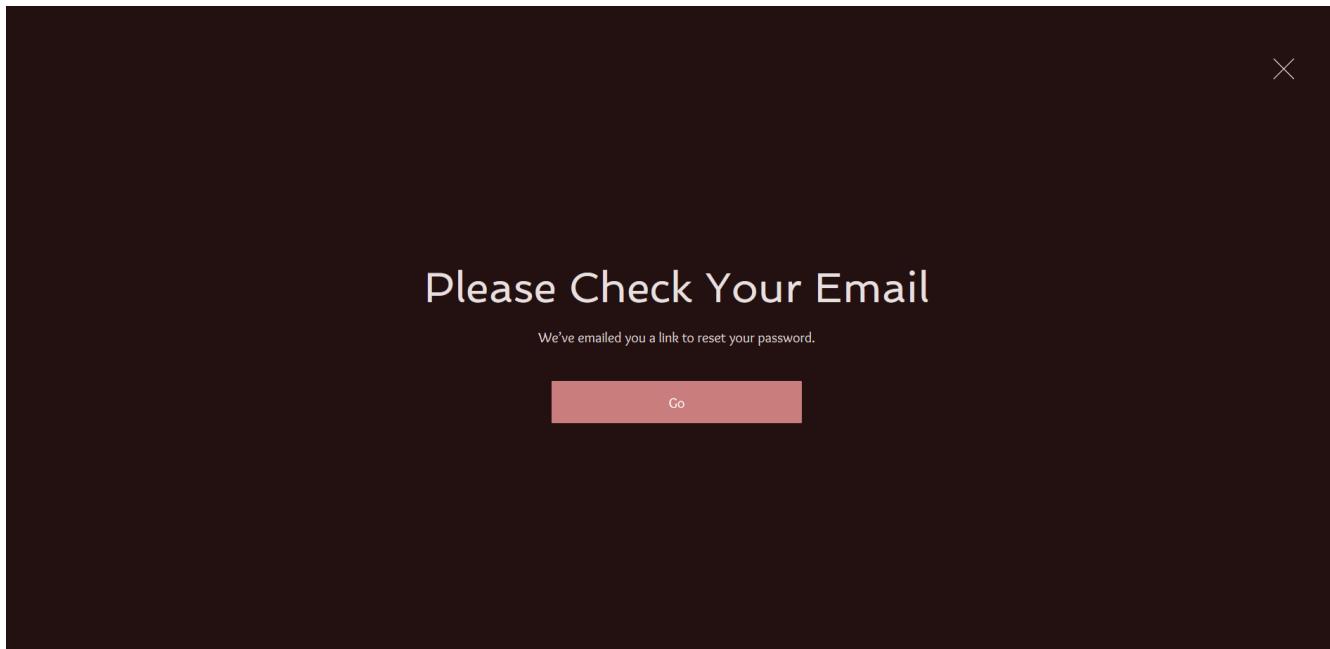
Specific to Admin Only			
login	Log in	button	Take you to admin homepage
homepage	<ul style="list-style-type: none"> <li>• Store products</li> <li>• Store orders</li> <li>• Customer management</li> <li>• Settings</li> </ul>	Link	<ul style="list-style-type: none"> <li>• Take you to admin product interface</li> <li>• Take you to orders interface</li> <li>• Take you to inbox interface</li> <li>• Take you to setting product interface</li> </ul>
Store products	<ul style="list-style-type: none"> <li>• new products</li> <li>• collection</li> </ul>	<ul style="list-style-type: none"> <li>• Button</li> <li>• link</li> </ul>	<ul style="list-style-type: none"> <li>• Add product</li> <li>• Take you to collection interface</li> </ul>
collection	New collection	Button	Add new product
Customer management	Site member	Link	Take you to site member interface
Settings	Roles & Permission	Link	Take you to Roles & Permission interface

Table 4 objects and actions

## 4.5 Other Interfaces

### 4.5.1 Check email interface

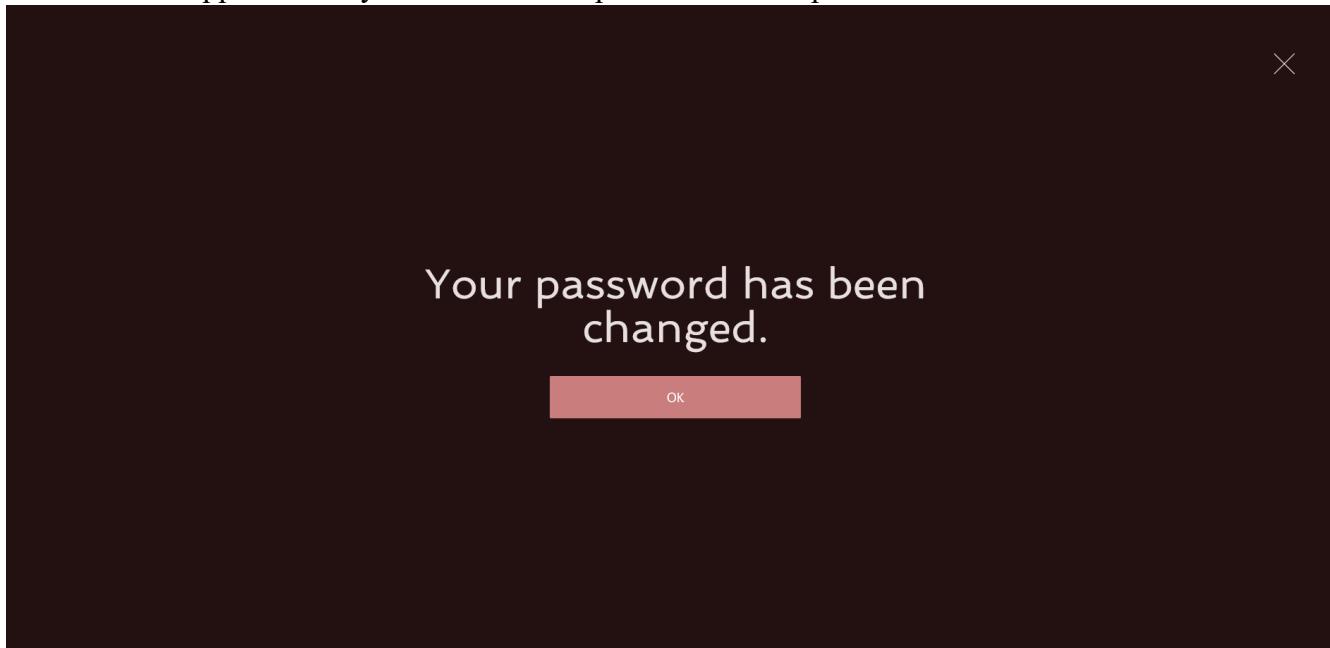
This interface appears after customer press on rest password button in forget password interface to inform the customer that they emailed him link to rest password



*Figure 32 check email interface*

#### 4.5.2 Password changed

This interface appears after you click on reset password in rest password interface



*Figure 33 password changed interface*

#### 4.5.3 blocked member interface

This interface shows list of blocked members

The screenshot shows the Wix platform's 'Blocked Members' section. On the left, there's a dark sidebar with various site management options like 'Main Menu', 'Contact List', and 'Form Submissions'. The main area has a header 'Blocked Members' with a back arrow and a search bar. A table lists one member: Zahra Majed, with her name, email (zahramajed51@gmail.com), and the date she was blocked (Nov 3, 2019). There are 'More Actions' and 'Member Permissions' buttons at the top right of the table.

Figure 34 blocked members interface

#### 4.5.4 live chat interface

The screenshot shows the JAWAHER website's homepage featuring a large banner with a woman's face and hands holding a diamond earring. Overlaid on the banner is a promotional box for 'GOLD COLLECTIONS' with a 'Shop Now' button. To the right, there's a red live chat window with the text 'Let's Chat! Ask us any question.' and an input field. At the bottom, there's a navigation menu with categories like 'Home', 'Jewelry', 'Locations', 'About', and 'Contact', along with a search bar and user profile icons.

Figure 35 live chat interface

## 5. System Architecture

This section provides an indication of JAWAHER architecture. It covers the architectural design approach, the overall system and subsystems architectures.

### 5.1 Architectural Design Approach

The architecture used for the JAWAHER website desktop is the multilayered architecture (N-tier structure). The main characteristic of N-tier is separated presentation, processing and data management functions into detached tiers ,the architecture consists of three basic layers: presentation layer, business layer and data layer.

- **The presentation layer:** This is the upper layer where users can interact with the system and it shows the content and information to the end users and take the inputs from them.
- **The business layer:** This is the middle layer that handles and performs all the application's functions. Presentation layer and data layer communicate with each other through this layer. - -
- **The data layer:** the actual server that stores the system data.

### 5.2 Architectural Design

- **Presentation layer:** This layer is responsible for managing user's interaction with the system, transfer and formatting information to business layer. The Wix-web development platform is used to create the web pages, and it provides a set of components to create the website that perform the presentation layer needs.
- **Business layer:** This layer responsible for managing the database and displaying web pages, by using the Wix tools the data will be stored and return from Wix's server.
- **Data layer:** This layer provides an access to the stored and retrieve the data from database by using quires, that enter by the user needs.

The architectural design diagram for the proposed application is shown in the figure below.

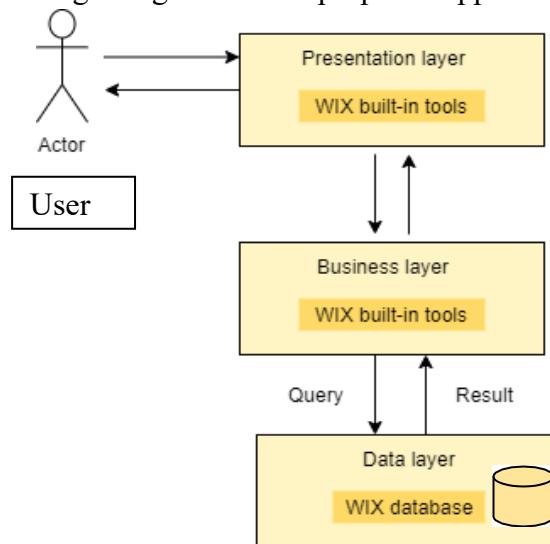


Figure 36: 3 layers design

### 5.3 Subsystem Architecture

This section breaks down all subsystems of the system, and describes the functions provided for each subsystem through data flow diagrams.

#### 5.3.1 General View of the System

The overall view of the system in general which is displayed as a context view data flow diagram is shown in the figure below:

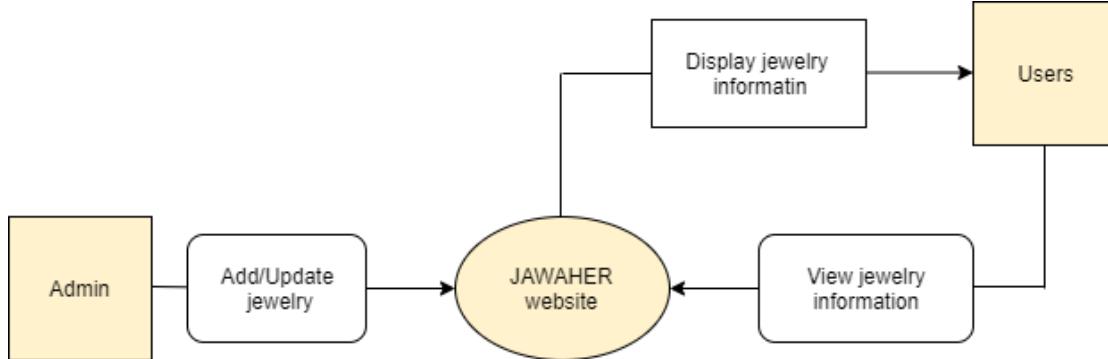


Figure 37: General view of the system

#### 5.3.2 General User Subsystem

The figure below specifies a graphical representation (data flow diagram) of the functionalities provided to the users, and show how they interact with JAWAHER the system.

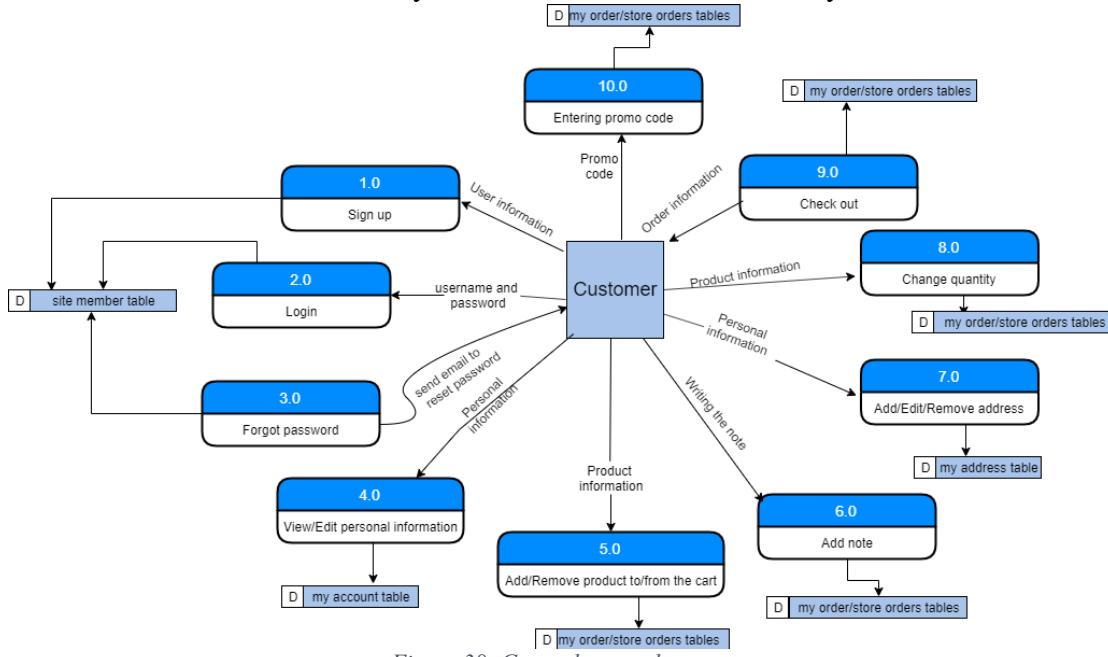


Figure 38: General user subsystem

#### 5.3.3 Admin Subsystem

This section provides a graphical representation of how the admin of JAWAHER Company interacts with the system.

The figure below shows the data flow diagram of the admin subsystem.

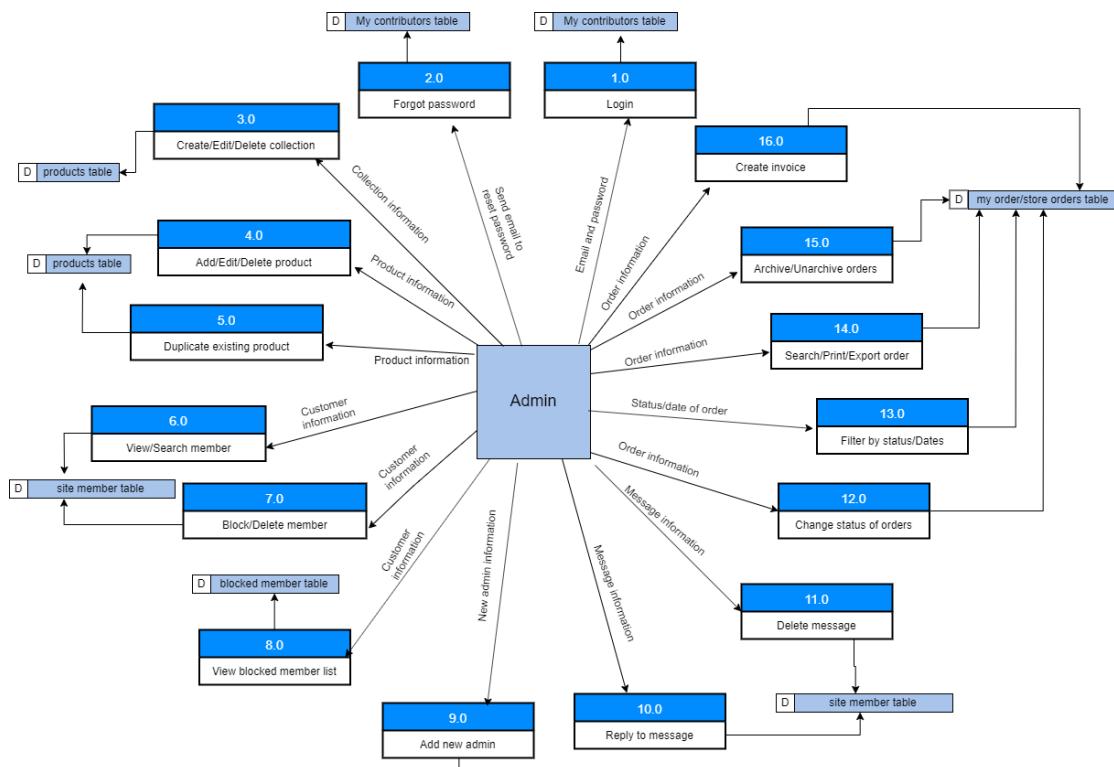


Figure 39: Admin subsystem

## 6 Data Design

This section provides a description of the data, data types, required fields, list of the application entities and a description of the application's database.

### 6.1 Data Description

JAWAHER data will have stored in single database, and it will include all the required data to have a complete functionality. Admin are responsible about the database. The user can access their own information and any information related with their orders of the jewelry.

The table below describes the database entities, their required fields, data types, and constraints.

Entity	Field	Type	Constraints
<b>Admin</b>	First_Name	VARCHAR(45)	Not Null
	Last_Name	VARCHAR(45)	Not Null
	Contact_Email	VARCHAR(45)	Primary Key, Not Null, Unique
	Phone	INT(10)	Not Null
	Address	VARCHAR(45)	Not Null
<b>Customer</b>	Cfirst_Name	VARCHAR(45)	Not Null
	Clast_Name	VARCHAR(45)	Not Null
	Ccontact_Email	VARCHAR(45)	Primary Key, Not Null, Unique
	Cphone	INT(10)	Not Null
	Caddress	VARCHAR(45)	Not Null
<b>Check out</b>	First_Name	VARCHAR(45)	Not Null
	Last_Name	VARCHAR(45)	Not Null
	Contact_Email	VARCHAR(45)	Primary Key, Not Null, Unique
	Address	VARCHAR(45)	Not Null
	City	VARCHAR(45)	Not Null
	Country	VARCHAR(45)	Not Null
	Zip_code	VARCHAR(45)	Not Null
	Phone	INT(10)	Not Null
	Payment	ENUM('PayPal' , 'Cash on Delivery ')	Not Null

Table 5 database entities, their required fields, data types, and constraints

## 6.2 Data Dictionary

This section lists all the entities and describes all the required fields. The table below shows the data dictionary of the anticipated JAWAHER system.

Entity	Field	Description
<b>Admin</b>	First_Name	Admin first name
	Last_Name	Admin last name
	Contact_Email	Admin Email
	Phone	Admin phone number
	Address	Address of the admin
<b>Customer</b>	Cfirst_Name	Customer's first name
	Clast_Name	Customer's last name
	Ccontact_Email	Customer's Email
	Cphone	Customer's phone number
	Caddress	Customer's address
<b>Check out</b>	First_Name	Customer's First name
	Last_Name	Customer's Last name
	Contact_Email	Customer's Email
	Address	Customer's address
	City	Customer's city
	Country	Customer's country
	Zip_code	Customer's zip code
	Phone	Customer's phone number
	Payment	Payment method

Table 6 Database Data Dictionary

## 7 Component Design

This section contains the flowchart diagrams that represent the algorithms of functionalities in JWAHER website. It is separated into further subsections below for an organized look.

### 7.1 Common Functionalities

#### 7.1.1 Home

- Product picture:

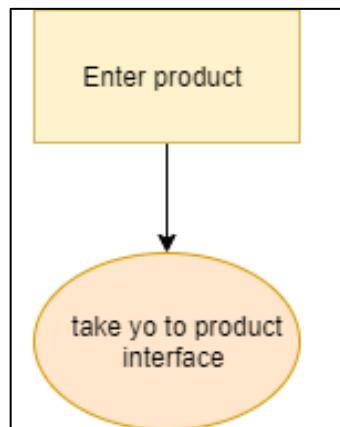


Figure 36 Click Product Picture

#### 7.1.2 Shop product

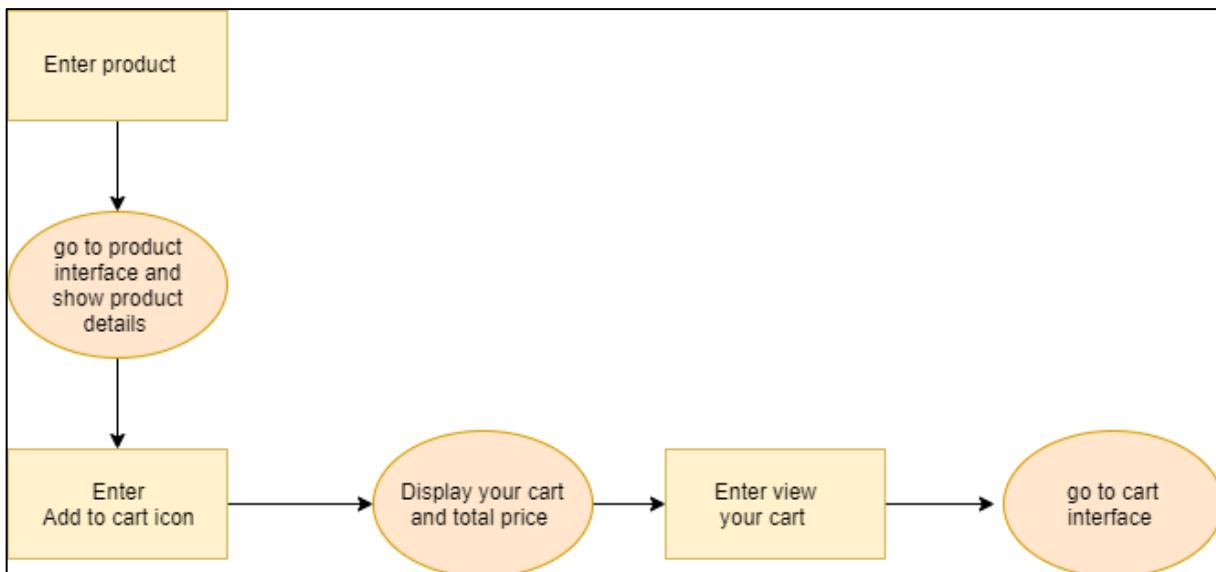


Figure 37 Click on Product Picture

### 7.1.3 Location

- Location Link:

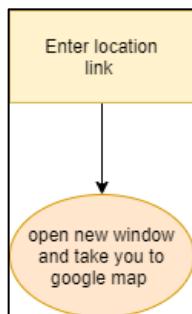


Figure 38 Click on Location Link

- Map:

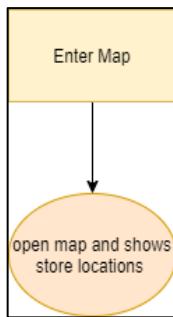


Figure 39 Click on Location Icon on Map

## 7.2 User Functionalities

### 7.2.1 Customer sign up

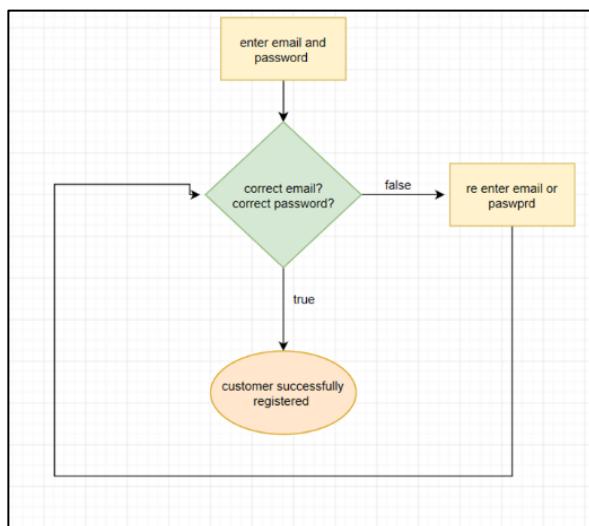


Figure 40 customer sign up active diagram

### 7.2.2 Customer Login

- Login:

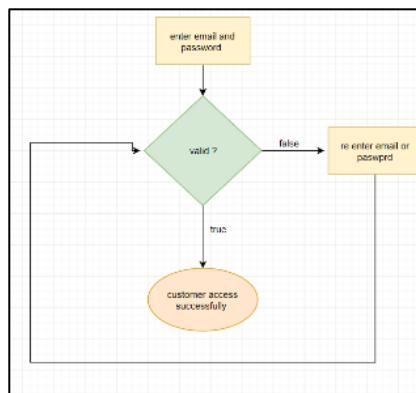


Figure 41 Customer Login active diagram

- Forget Password:

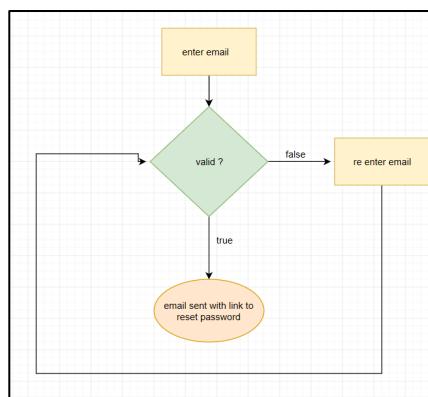


Figure 42 customer forget password active diagram

- Reset the password:

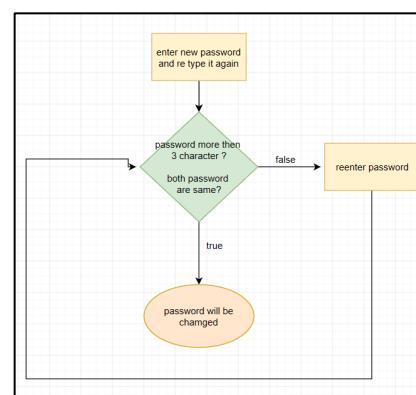


Figure 43 customer reset password active diagram

### 7.2.3 My account

- View personal information:

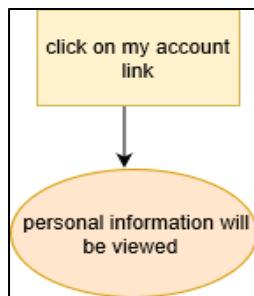


Figure 44 personal information active diagram

- Edit personal information:

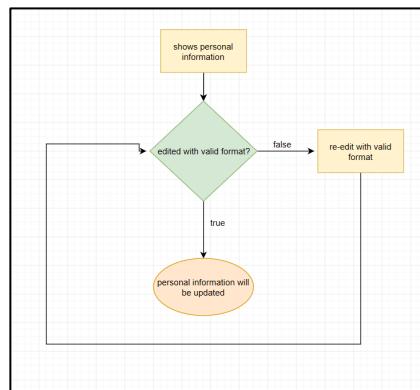


Figure 45 edit personal information active diagram

### 7.2.4 Thank you

- Continue Shopping:

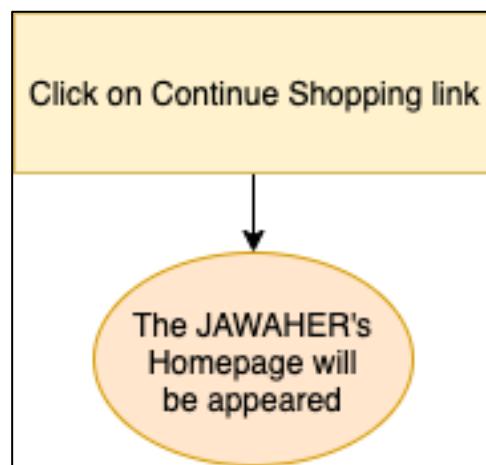


Figure 46 Continue Shopping

### 7.2.5 Product

- Add product to Cart:

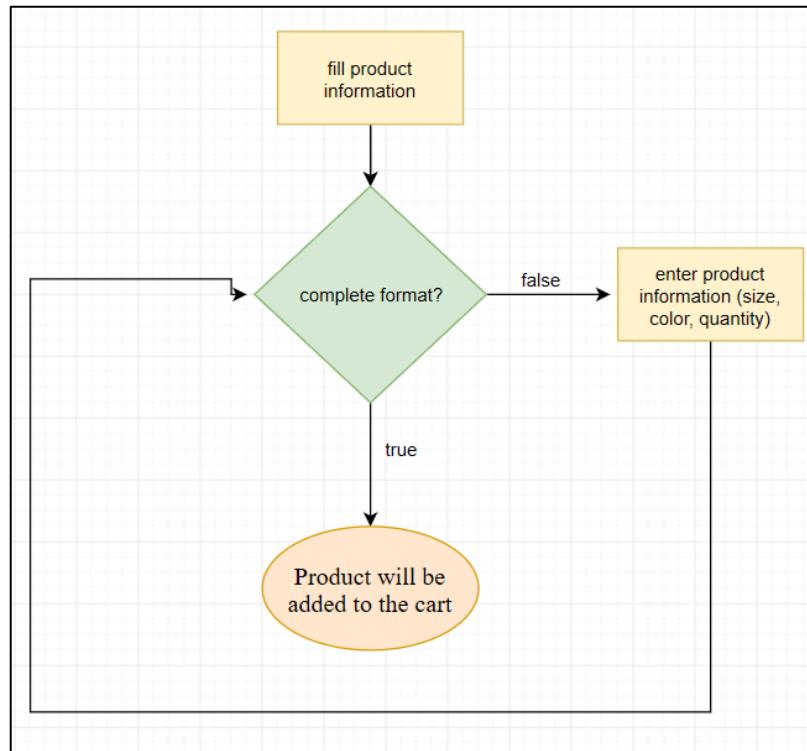


Figure 47 add to cart active diagram

- check the status of orders & browse previous purchases:

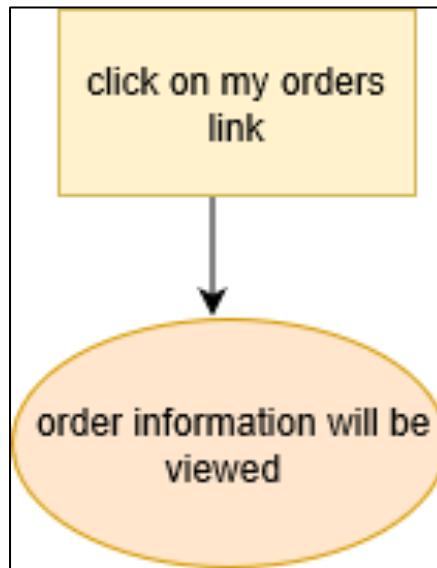


Figure 48 check order active diagram

### 7.2.6 My Address

- Edit & Remove addresses:

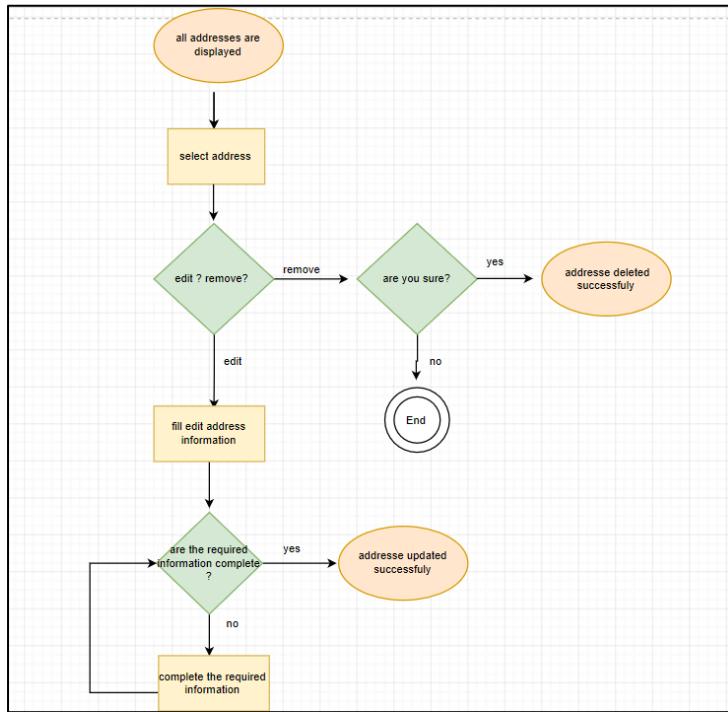


Figure 49 edit & remove addresses active diagram

- Add new address:

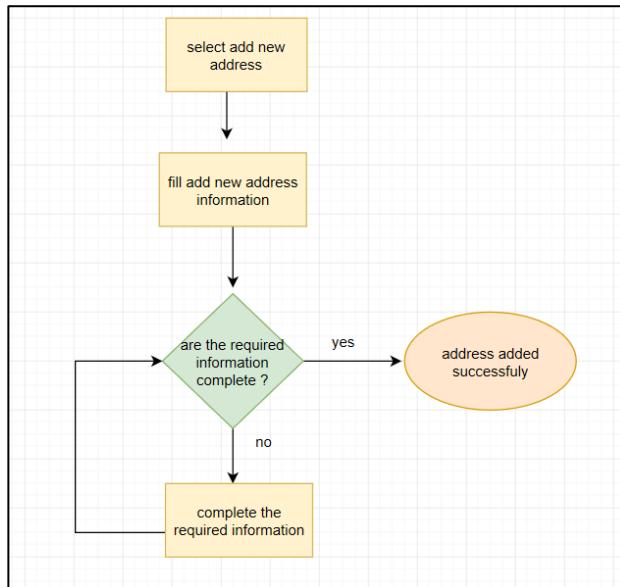


Figure 50 add new address active diagram

### 7.2.7 Cart

- Change Quantity:

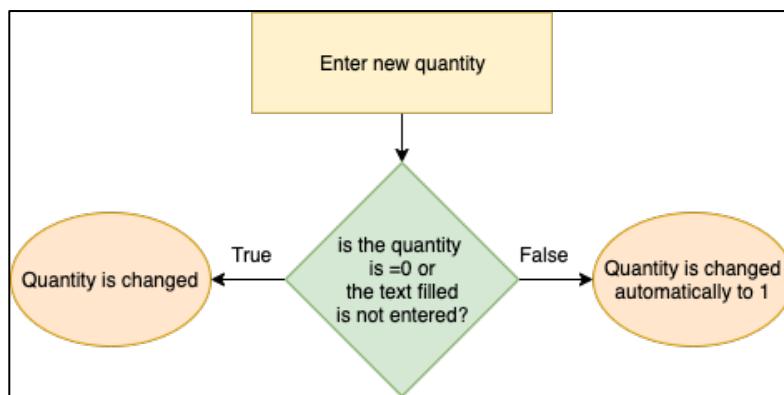


Figure 51 Change Quantity

- Add Note:

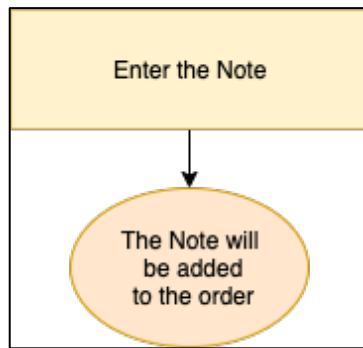


Figure 52 Add Note

- Entering Promo Code:

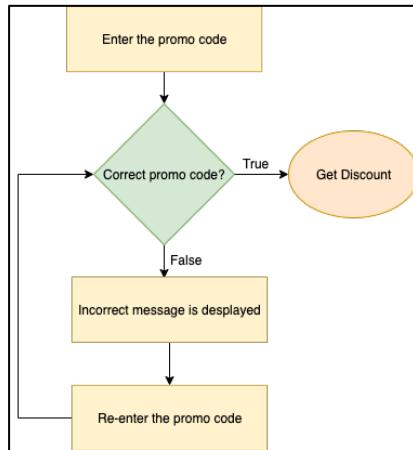


Figure 53 Entering Promo Code

- Remove Product from cart:

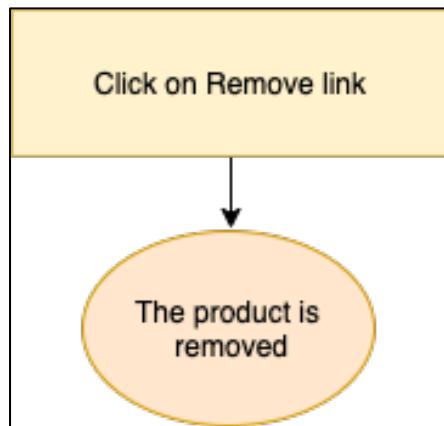


Figure 54 Remove Product from cart

- Checkout (place order):

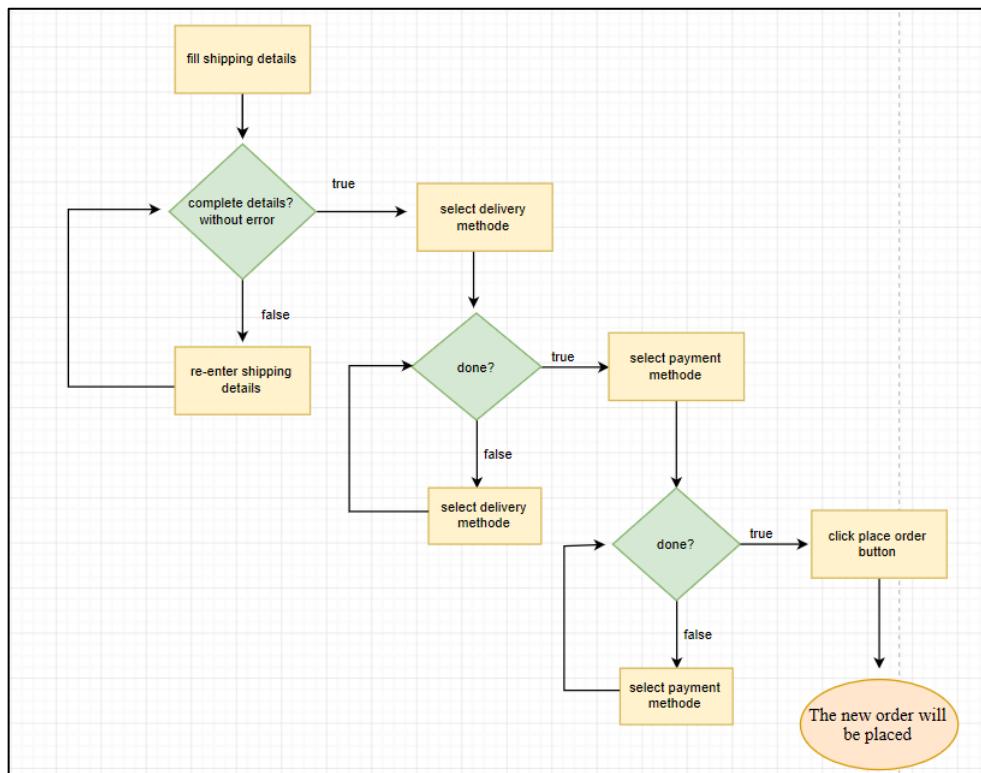


Figure 55 place order active diagram

## 7.3 Admin Functionalities

### 7.3.1 Admin Login

- Login:

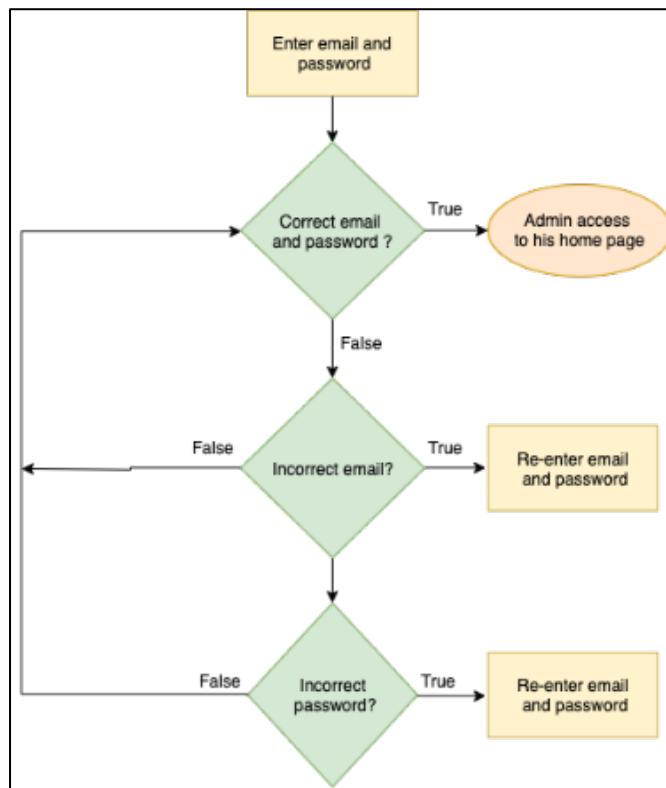


Figure 56 Admin Login

- Forgot password:

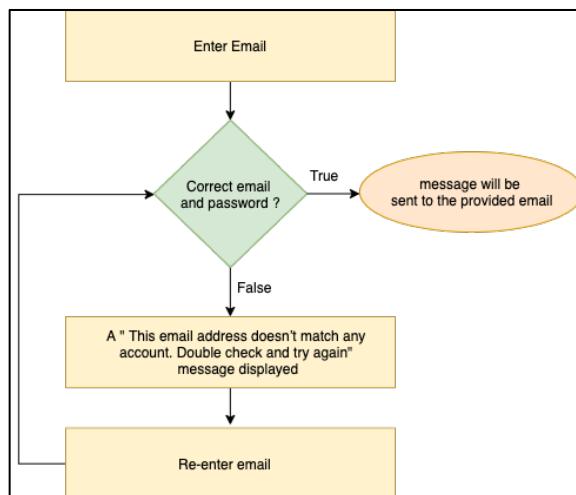


Figure 57 Forgot Password – case 1

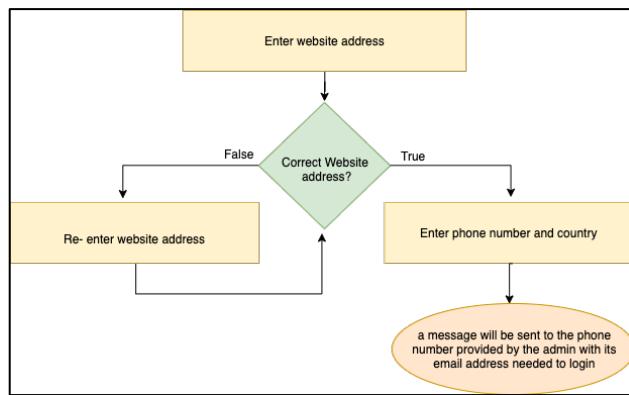


Figure 58 Forgot Password – case 2

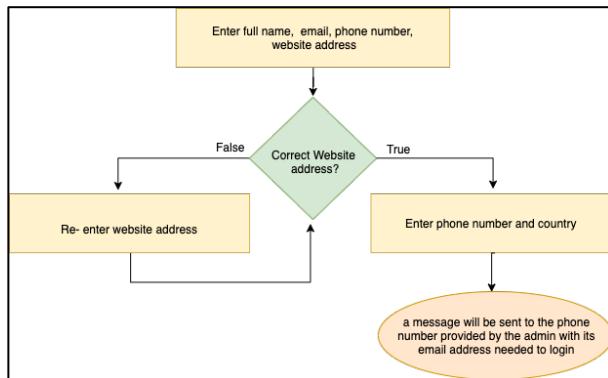


Figure 59 Forgot Password – case 3

### 7.3.2 Admin Homepage

#### 7.3.2.1 Collection Requirements

- Creating a new Collection:

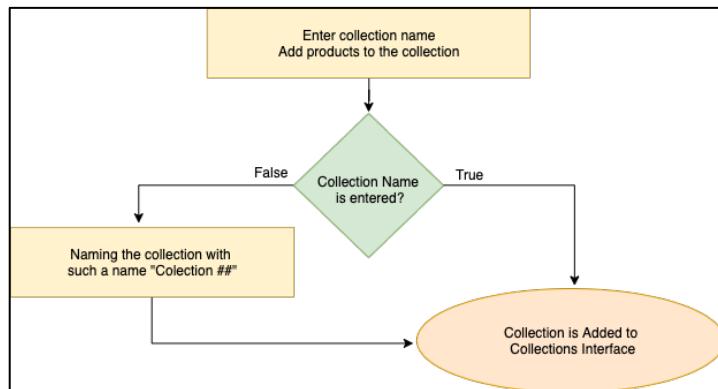


Figure 60 Creating New Collection

- Editing existing collection:

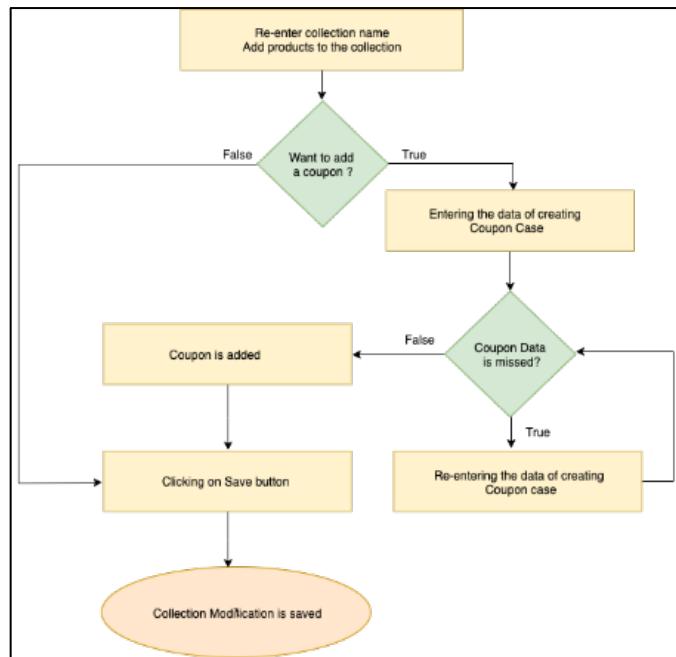


Figure 61 Editing Existing Collection

- Existing collection deletion:

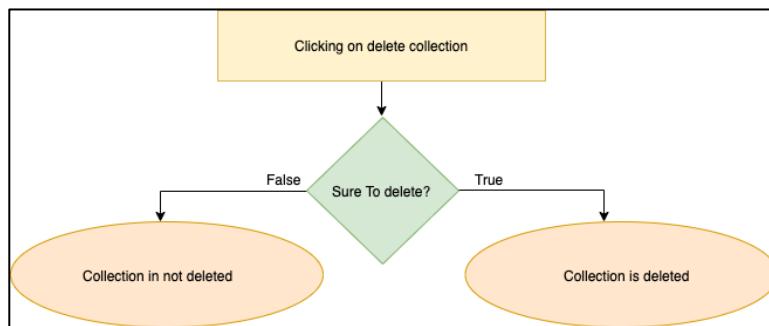


Figure 62 Existing collection deletion

### 7.3.2.2 Admin products Requirements

- Adding a new product:

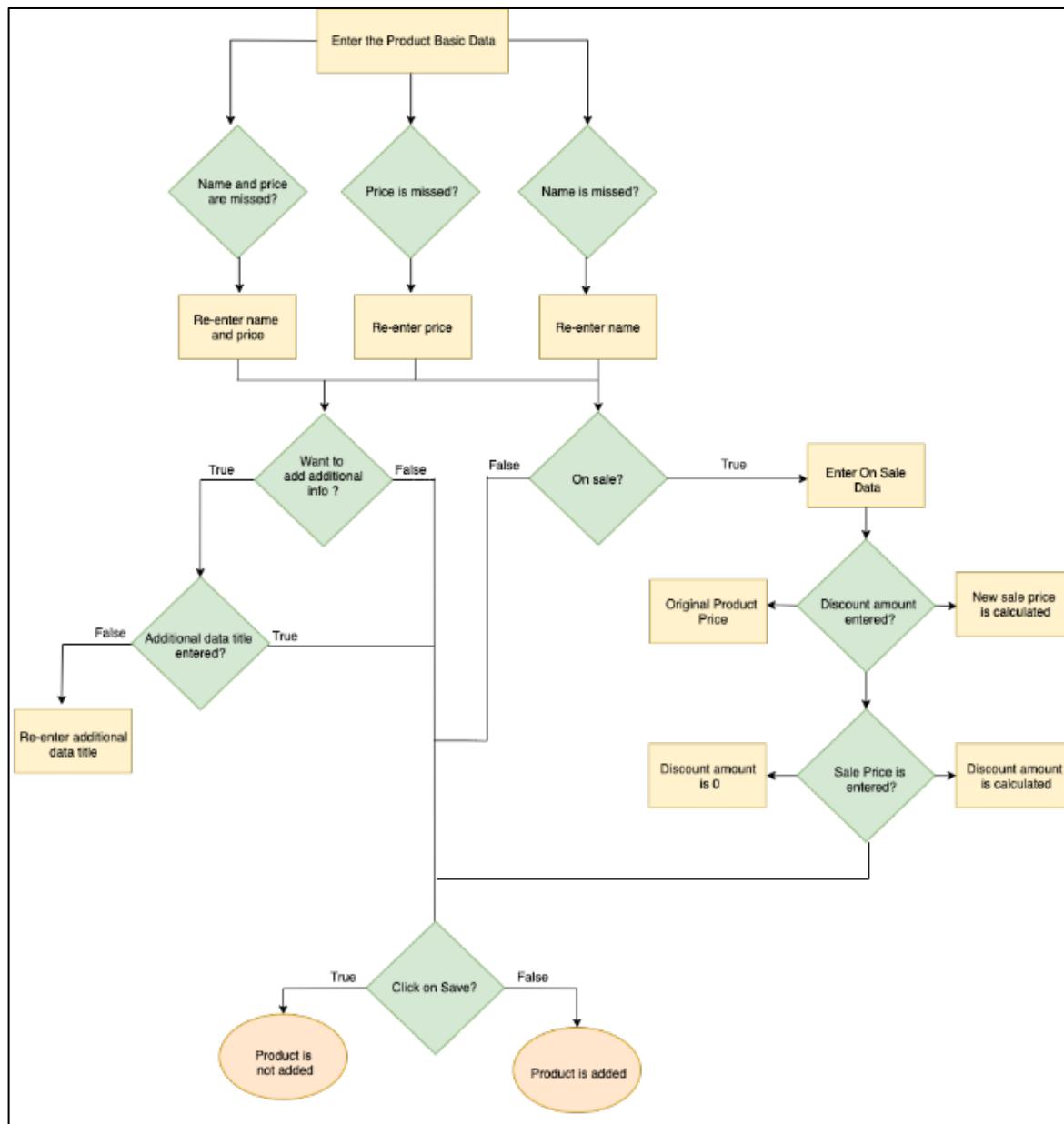


Figure 63 Adding New Product

- Editing an existing product:

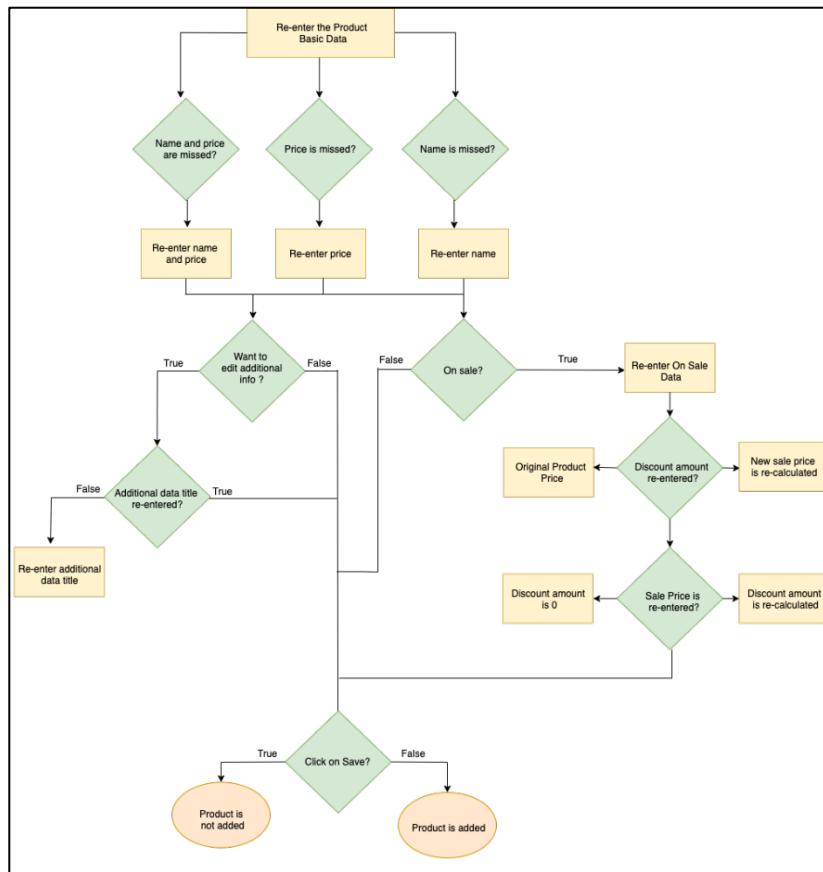


Figure 64 Editing an Existing Product

- Deleting an existing product:

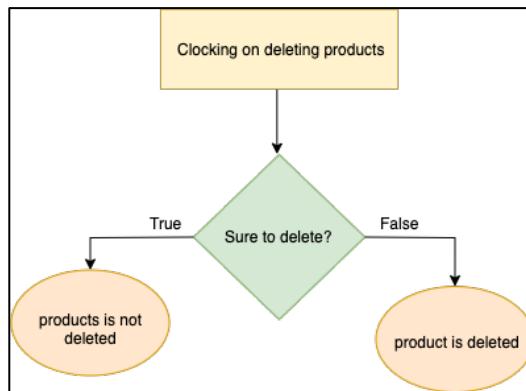


Figure 65 Deleting an Existing Product

- Duplicating an existing product:

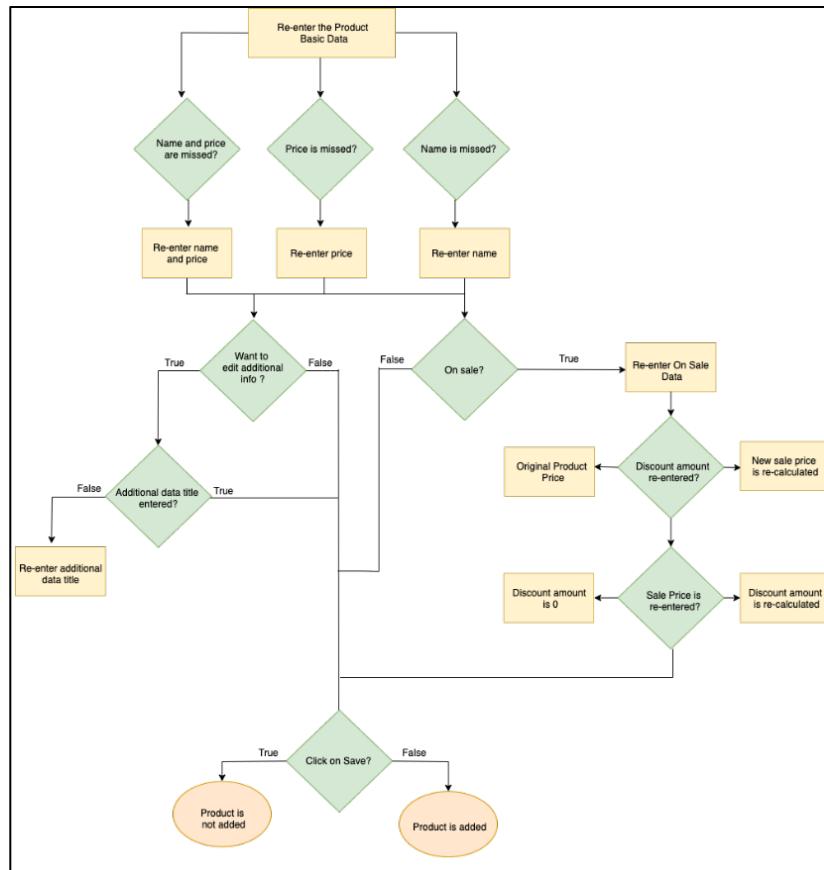


Figure 66 Duplicating an Existing Product

### 7.3.2.3 Store Order Requirements

- Change Statues:

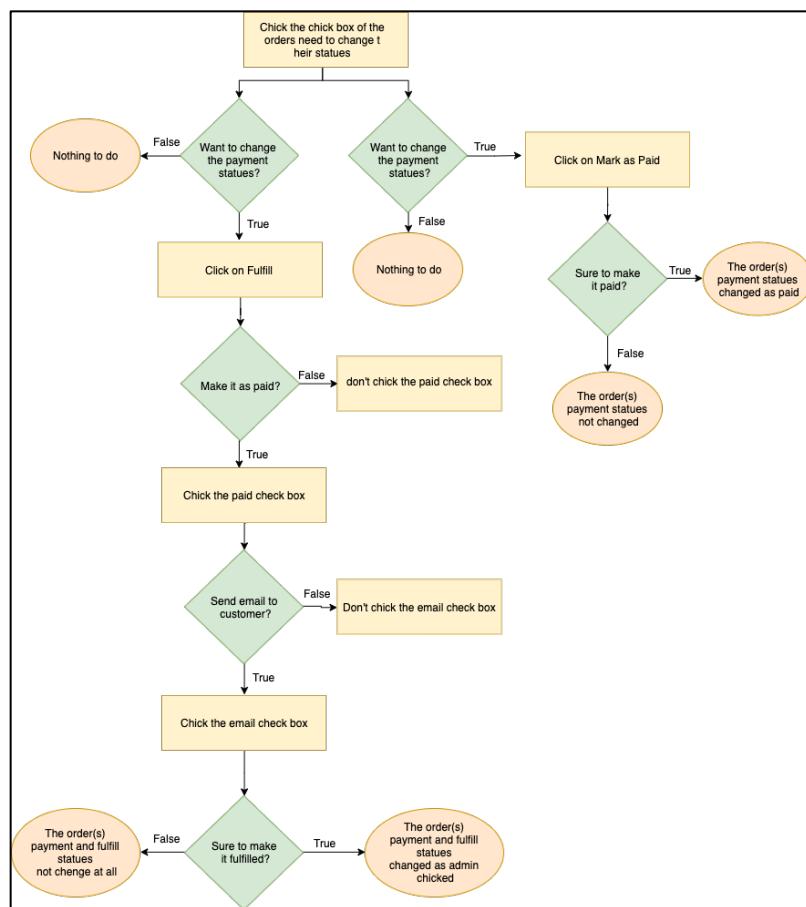


Figure 67 Change statuses

- Filter By Statuses:

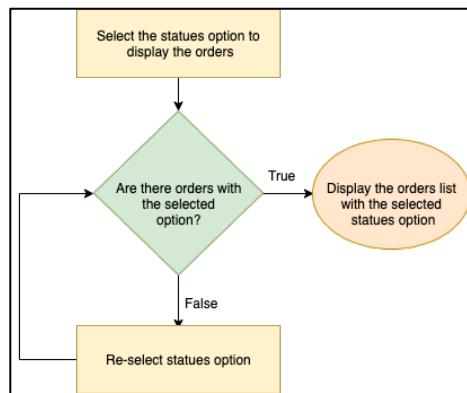


Figure 68 Filter By Statuses

- Export orders:

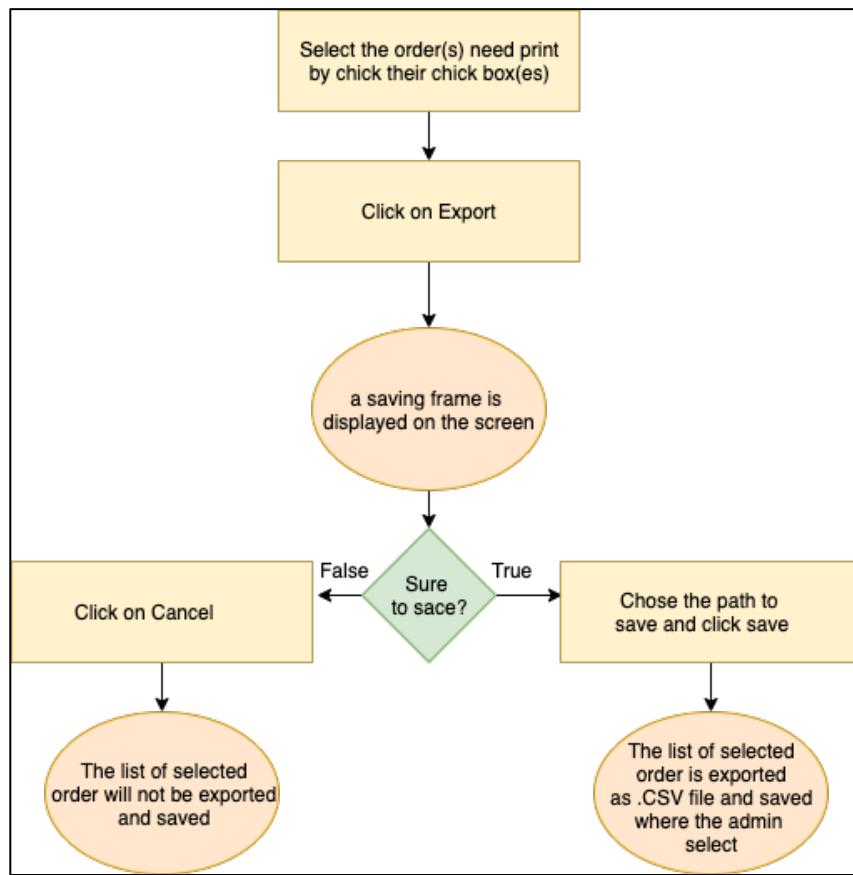


Figure 69 Export orders

- Print Orders:

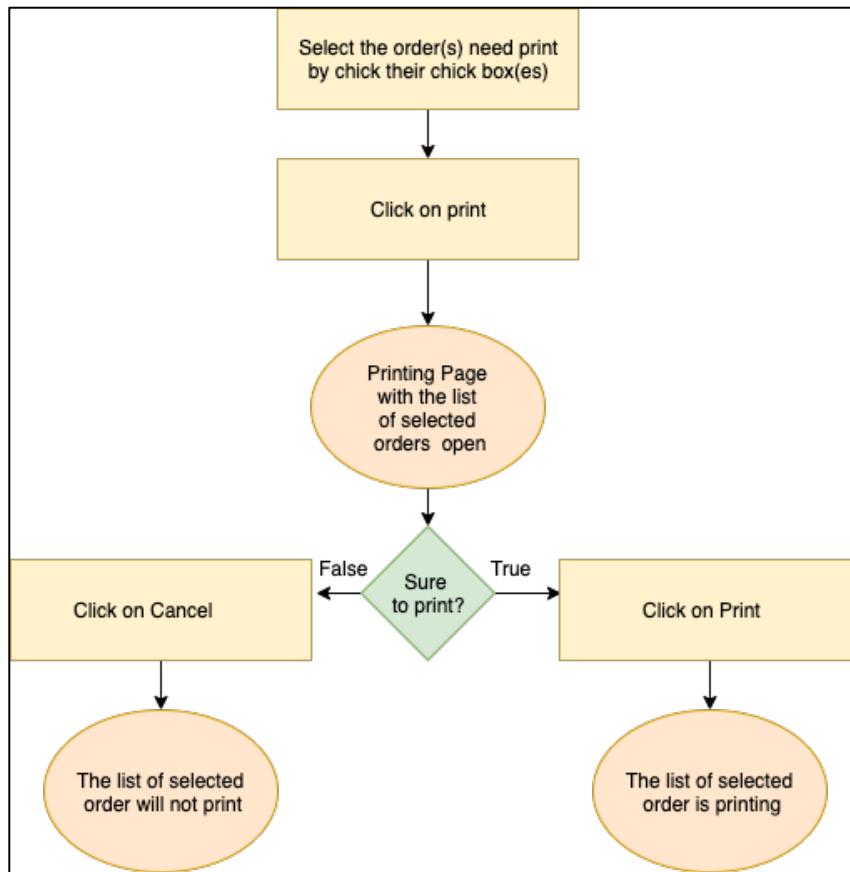


Figure 70 Print orders

- Archive Orders

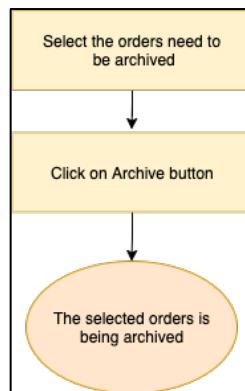


Figure 71 Archive Orders

- Unarchive Orders:

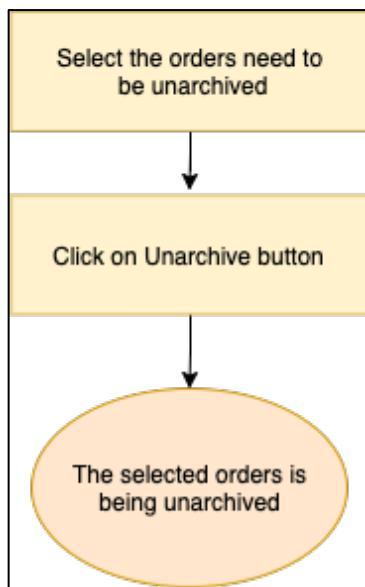


Figure 72 Unarchive Orders

- Filter by dates:

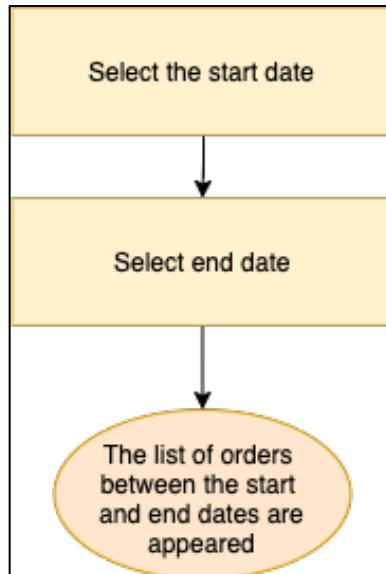


Figure 73 Filter by dates

- Search orders:

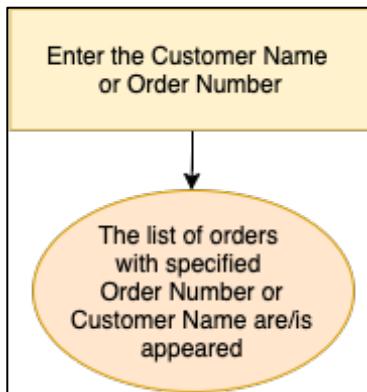


Figure 74 Search orders

- Create Invoice:

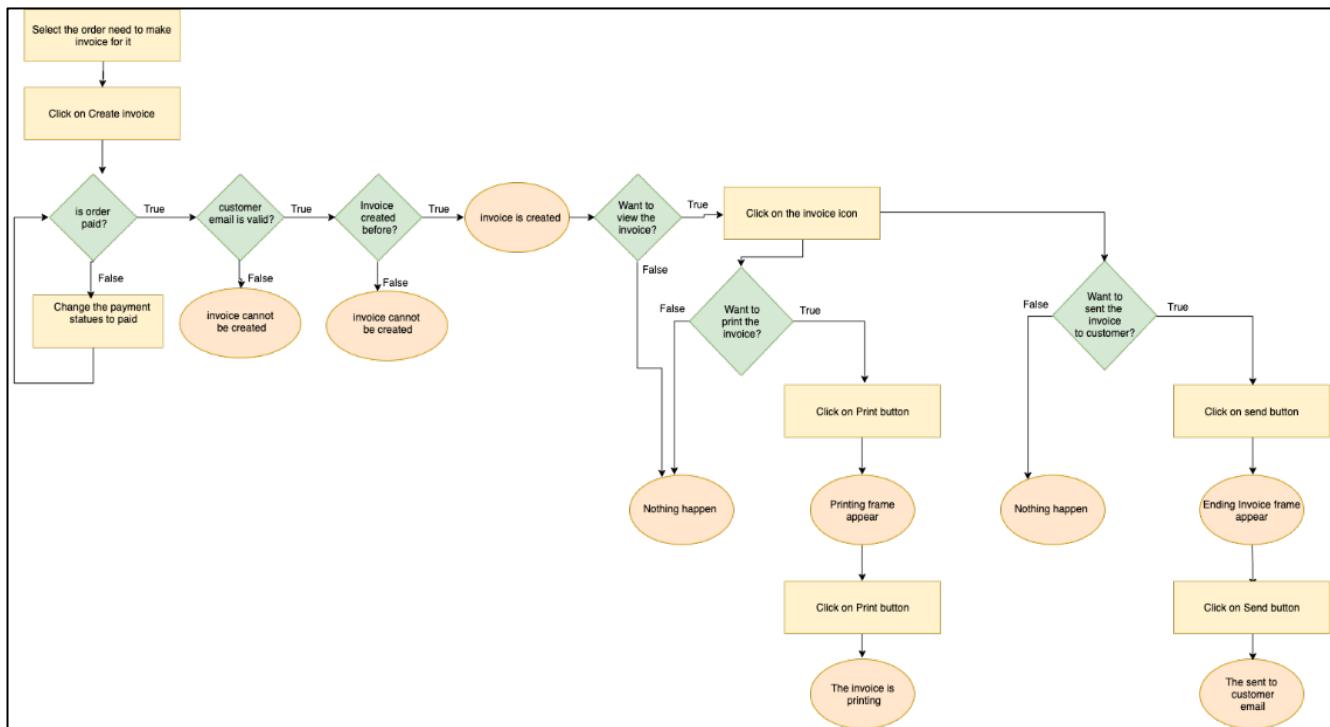


Figure 75 Create Invoice

#### 7.3.2.4 Inbox Requirements

- Reply to the message:

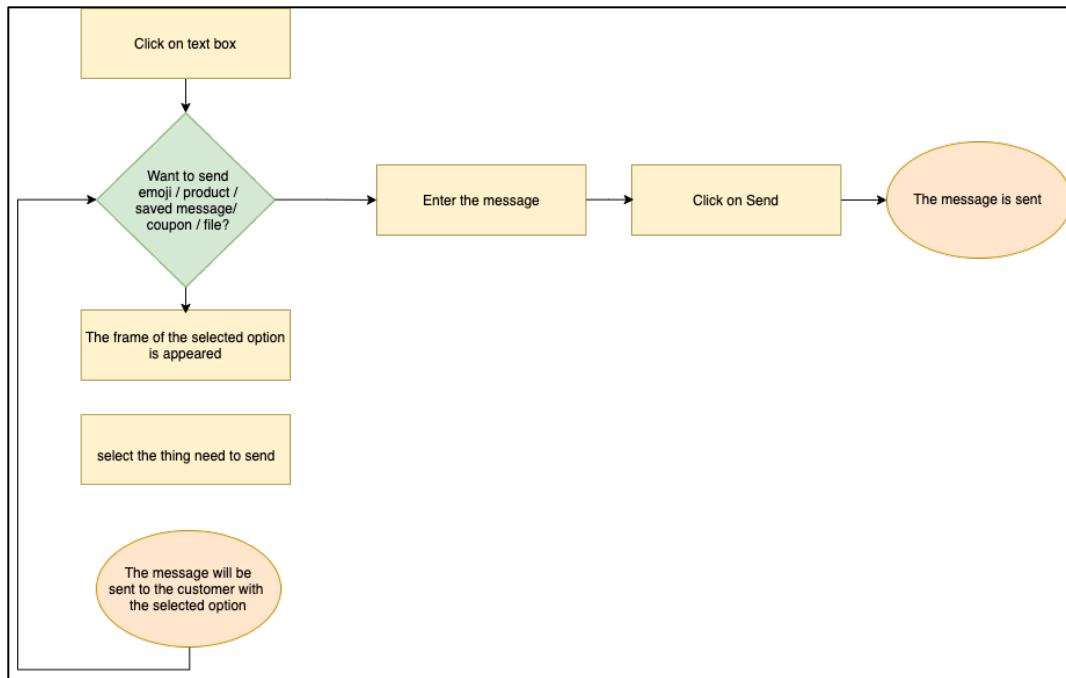


Figure 76 Reply to the message

- Delete the message:

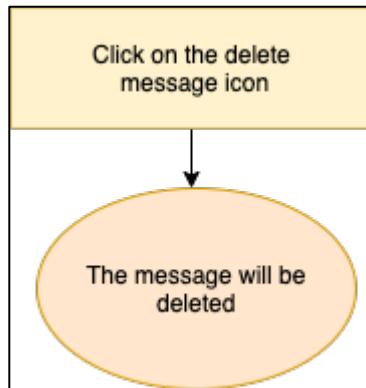


Figure 77 Delete the Message

### 7.3.2.5 Site Members Requirements

- View Member:

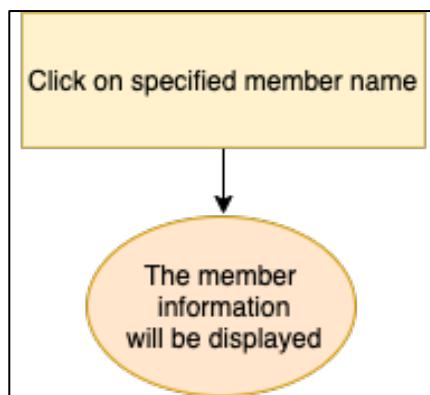


Figure 78 View Member

- Block member:

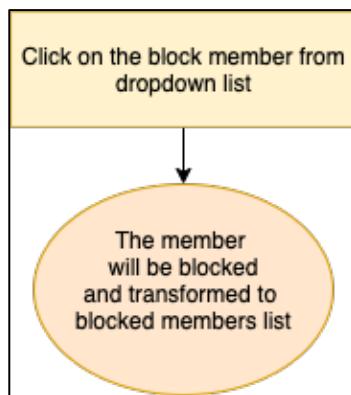


Figure 79 Block member

- Delete Member:

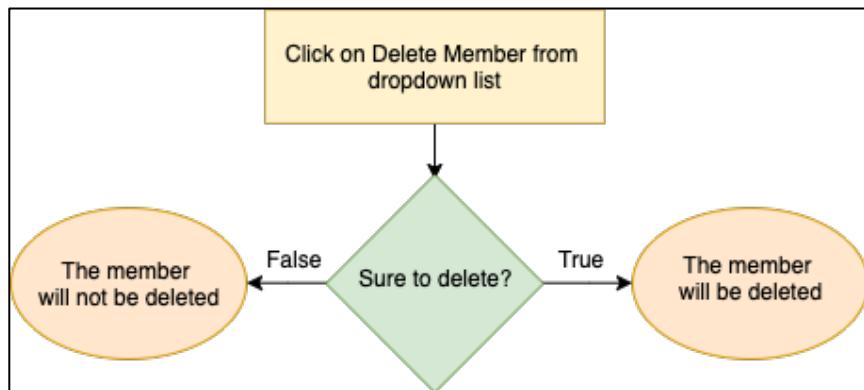


Figure 80 Delete Member

- Search Member:

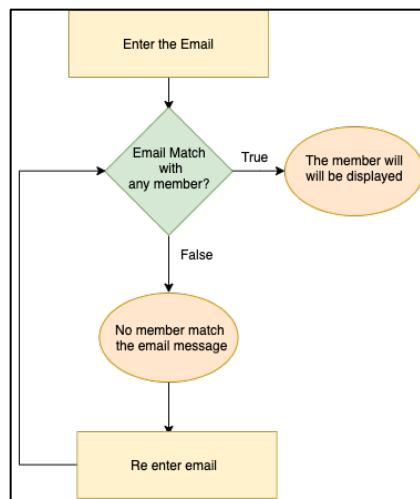


Figure 81 Search Member

- View Blocked Members list:

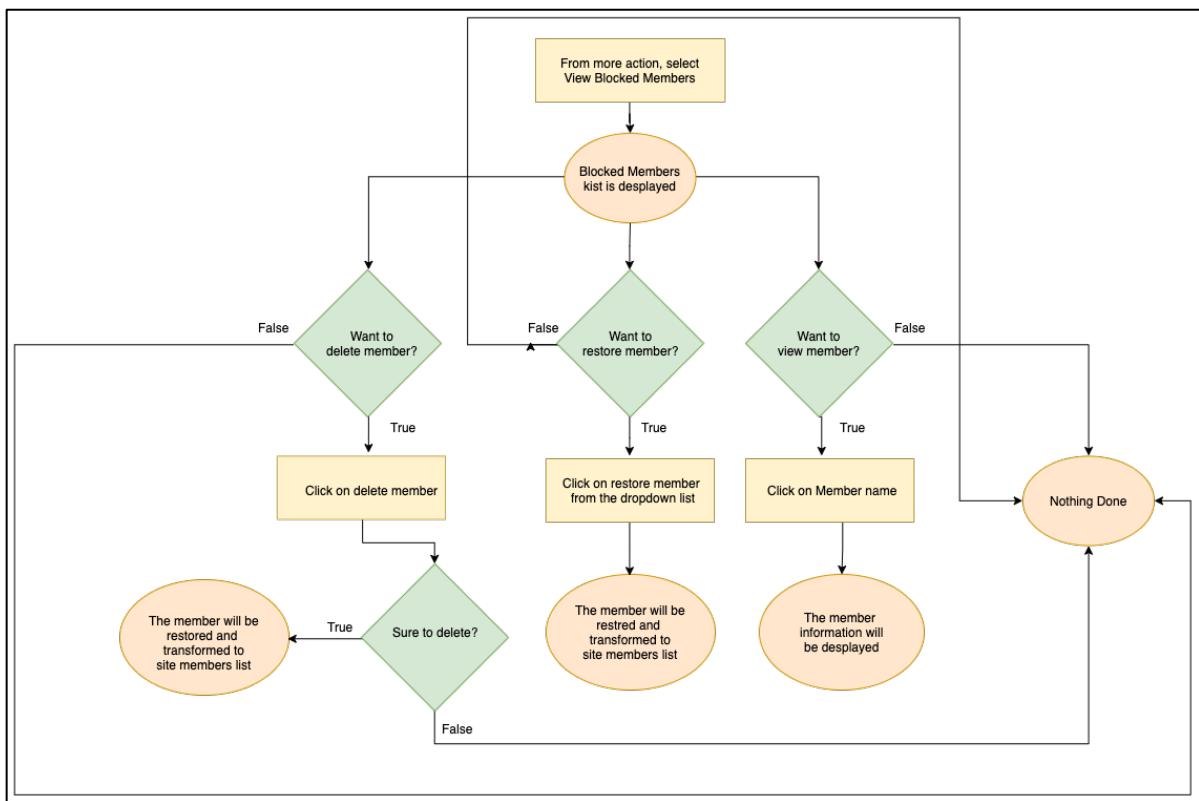


Figure 82 View Blocked Members list

### 7.3.2.6 Roles & Permission Requirements

- Adding a new admin:

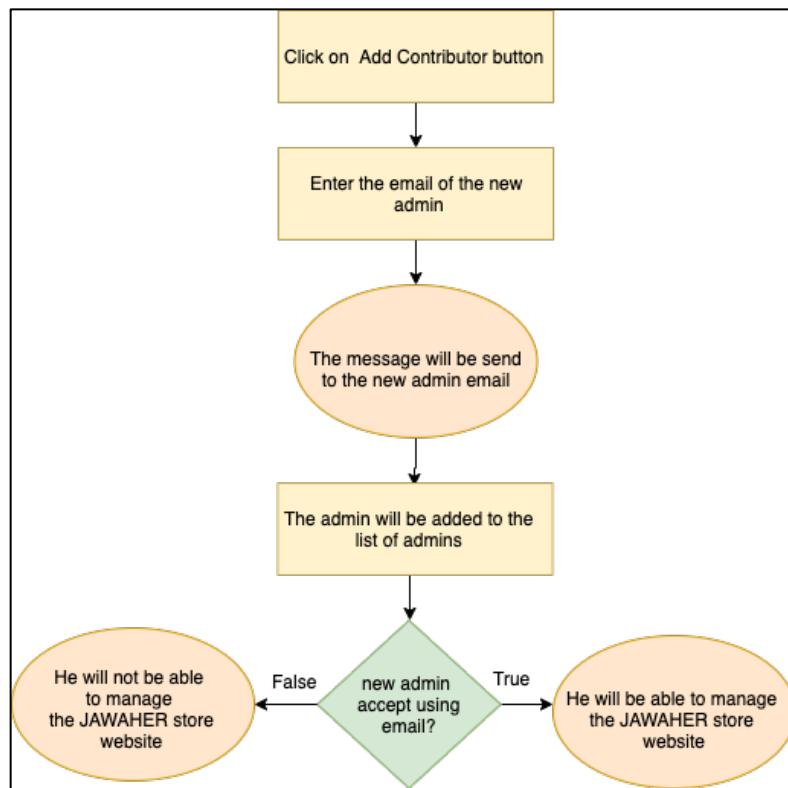


Figure 83 Adding a new admin

## 8 Detailed System Design

Now we will discuss in detail, the architecture of the system, from upper levels to lower levels, components and subcomponents and the collaboration between them. In the subsection of this section will contain a detailed description of system software component.

### 8.1 Classification, Definitions and Responsibilities

In this section you will find the classification of each component, and their definitions and the responsibilities summarized in the table below:

Component	Classification	Definitions & Responsibilities
<b>Common components between customers and admins</b>		
Signup		This function allow users to register into the website. They have 3 choices: either using a Facebook account, a google account or using an email and a new password.
Login		Users can access their accounts by using this function and providing a username and a password.
Logout		Using this function the user can logout from their account and are directed to the home page immediately.
Forget Password		If any user forgot their password they can easily reset it using this function. First they have to provide the email they used to create the account, then a link will be sent to that email to reset the password.
<b>Admin specific functions</b>		
Add a collection		This function lets the user create collections for the products with common specifications and add promo code if they desire
Modify a collection		Adding products to the collections and modifying the collections can be done after creating the collection.
Deleting a collection		This function deletes the collections available.
Add a product		Adding a product to the website by providing its specification like the color, the weight and the

Duplicate a product	<b>Function</b>	price also adding pictures of the product.
Delete a product		Add a duplicate of any product you desire and modify on it to speed up the adding process.
Manage an order		The admin could delete any product from the website.
Edit customers		View a list of order, view each order with its details, modify on orders status and add notes on orders.
Manage members permissions		Can block/unblock customers, and delete their accounts
<b>Customer Specific functions</b>		
Add to the cart	<b>Function</b>	Add products to their cart.
Product quantity		Edit the quantity of the product.
Remove a product		Remove a product form the cart.
Checkout		Finally the user places the order by providing his address and payment information through PayPal
Track orders		Can track the order status and whereabouts

Table 7 Classification, Definitions and Responsibilities

## 8.2 Constraints and compositions

This section includes the constraints, pre-conditions, and post-conditions of each and every system component.

Component	Constraints	Pre-conditions	Post-conditions
<b>Common functions between customers and admins</b>			
<b>Signup</b>	The user should provide his information	All fields must be filled with valid information	The user information should be saved into the website's database
<b>Login</b>	The user must have pre-existing account and the username and password must be saved into the database	Provide username and password	The user will be able to log into his account and view the interfaces
<b>Logout</b>	None	None	The user will logout form his account and go directly to the home page
<b>Forget password</b>	The user must have a pre-existing account and	Provide the email	The user should open the link that was sent to

	provide the email they used to create the account		their email and follow the instructions
<b>Admin Specific functions</b>			
<b>Add collection</b>	Provide collection name, image and the list of products to add to the collection	Fill all fields and the collection name must be unique	The user will be able to edit and modify the collection
<b>Modify collection</b>	The collection must be already saved	None	The modifications are save into the website
<b>Delete collection</b>	None	None	The collection is deleted form the website
<b>Add a product</b>	Provide product specifications and images	Fill all fields and the product's name must be unique	The product will be added to the website
<b>Duplicate a product</b>	The product must be already saved	None	The duplicate will be added as a new product
<b>Delete a product</b>	The product must be already saved	None	The product is deleted form the website
<b>Manage an order</b>	The order must be already placed	None	Order information are updated
<b>Edit customers</b>	Customer information must be already saved	Edit fields related to customer information.	Customer information updated
<b>Manage members permissions</b>	Must be an admin to access member's accounts	Edit/add the accounts	Accounts will be updated
<b>Customer Specific functions</b>			
<b>View products</b>	None	None	Load products interfaces
<b>Add to cart</b>	The product must be available and in stock	None	Items are added to the cart
<b>Product quantity</b>	The product must be in stock	Enter a number in the field.	If there's enough from this product the cart will be updated
<b>Remove a product</b>	The product must be in the cart	None	The item will be removed
<b>Checkout</b>	Provide shipping address and payment information	The user must login to his account	The order will placed and sent to the admin
<b>Track orders</b>	An order must be placed with user's account	Login to the account	The user can see the order status

Table 8 Constraints and compositions

### 8.3 Uses/Interactions

We illustrated some of the functions as a sequence diagram to express the user interactions

#### 8.3.1 Common functions

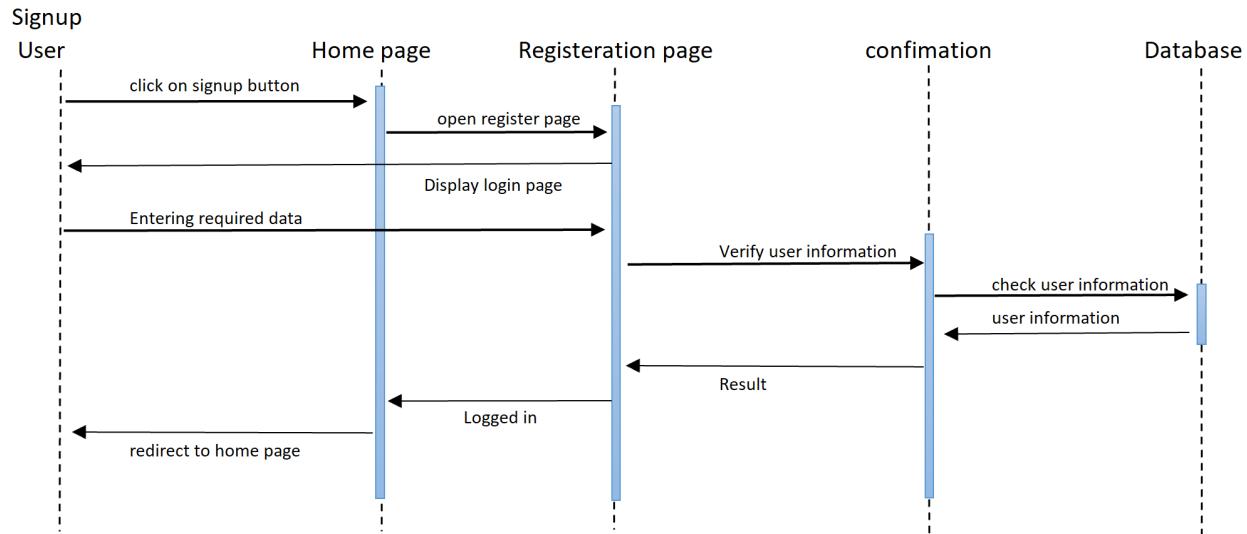


Figure 84 Signup sequence diagram

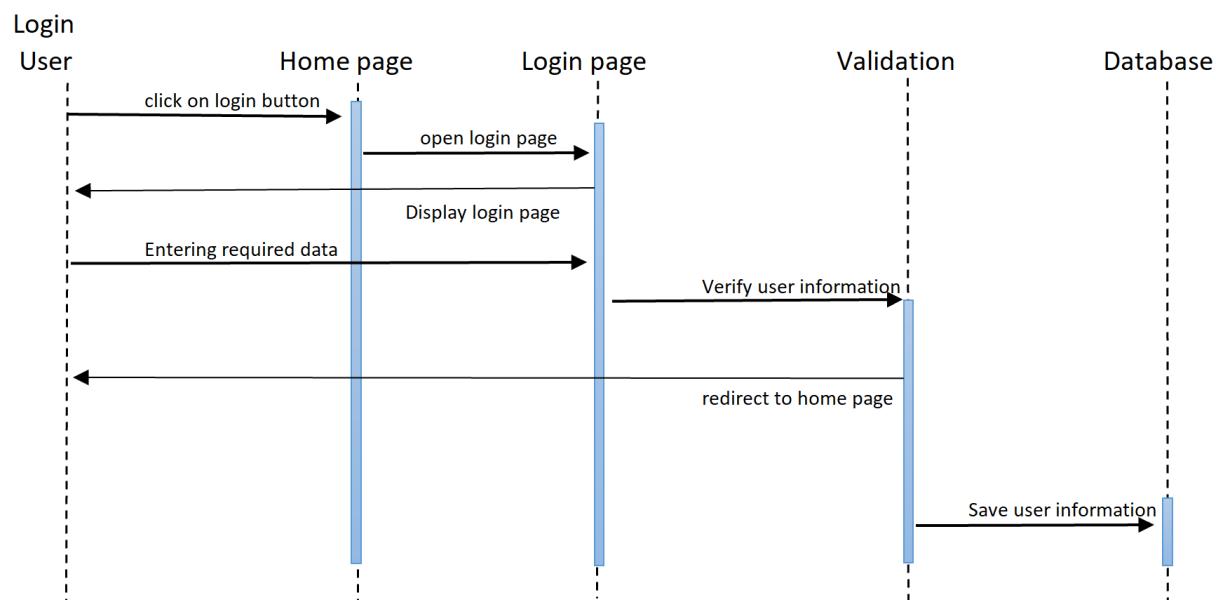


Figure 85 login sequence diagram

### Forget password

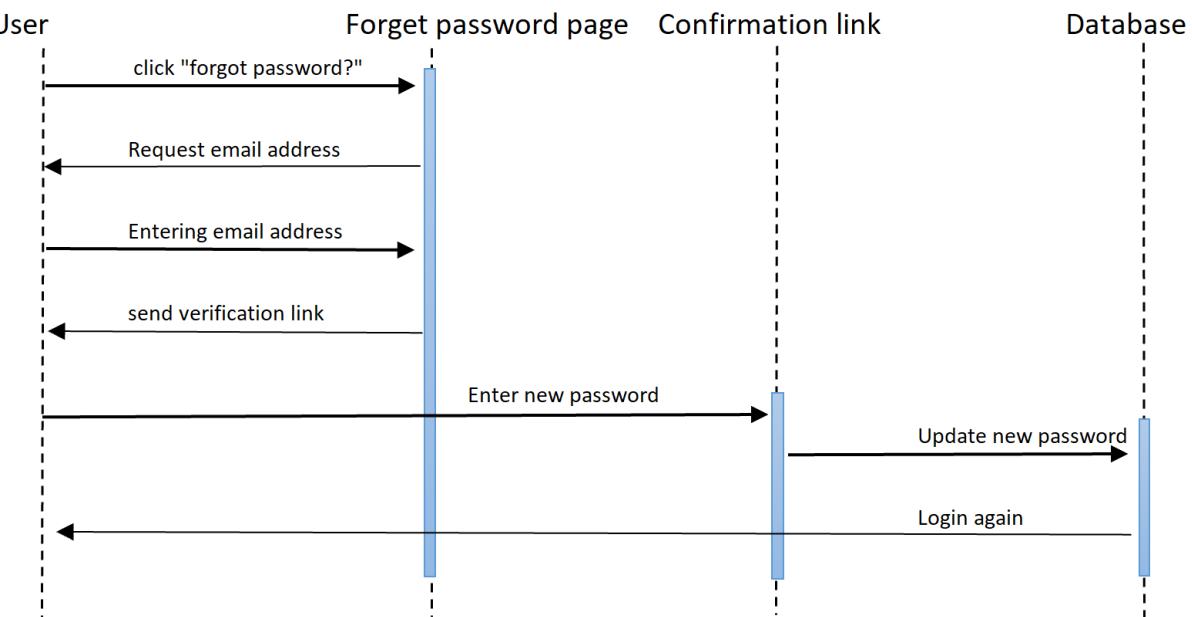


Figure 86 : Forget password sequence diagram

### 8.3.2 Admin specific functions

#### Add Collection

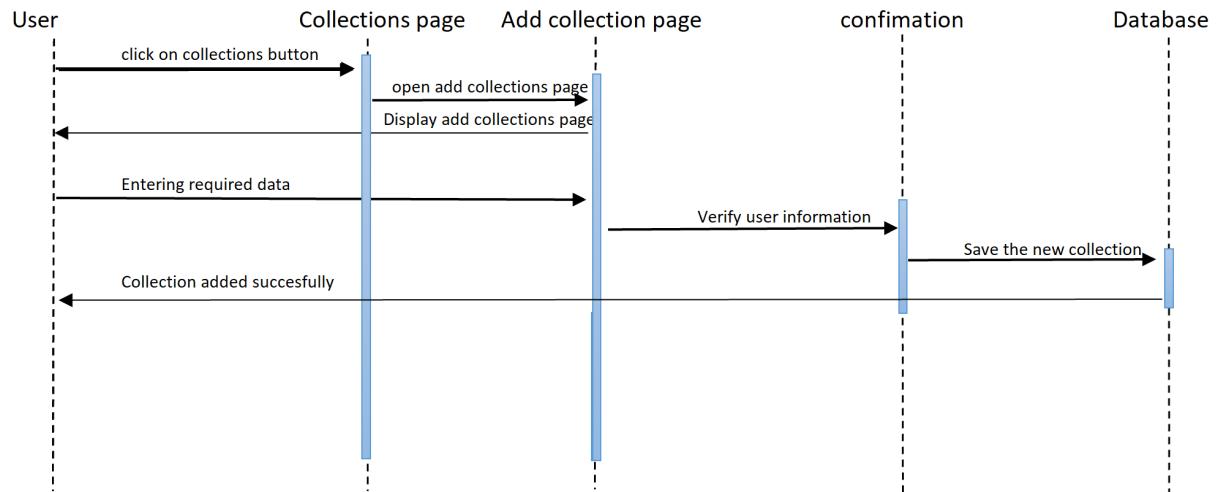


Figure 87 Add collection sequence diagram

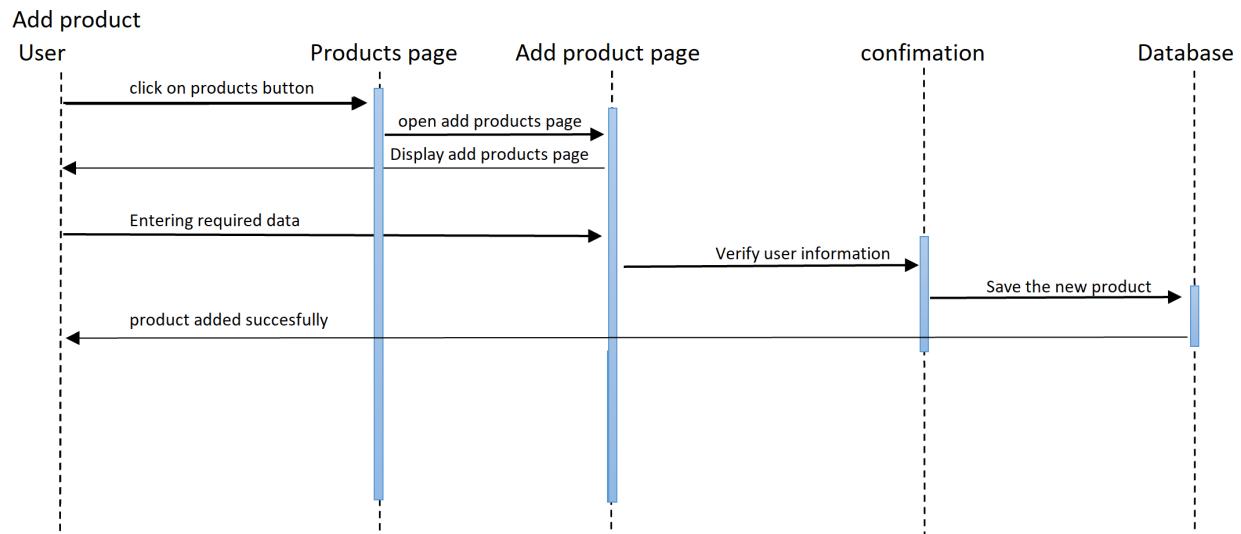


Figure 88 Add product sequence diagram

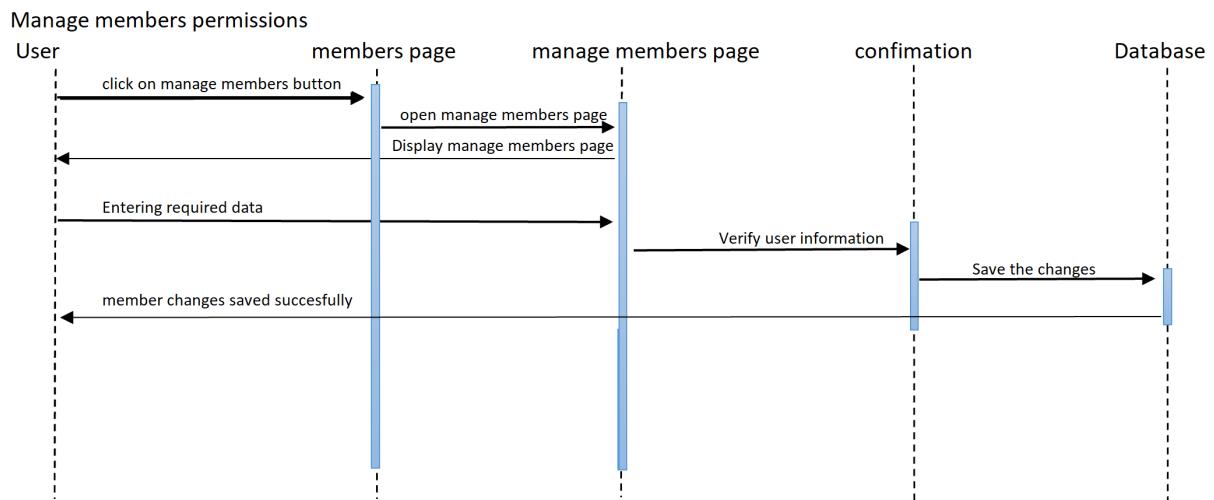


Figure 89 Manage members permissions sequence diagram

### 8.3.3 Customer Specific functions

#### Add to cart

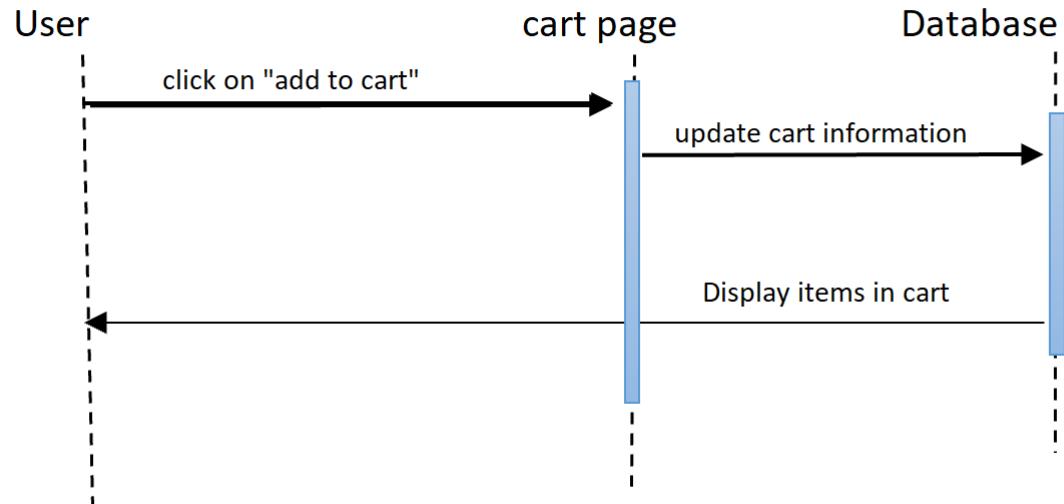


Figure 90 Add to cart sequence diagram

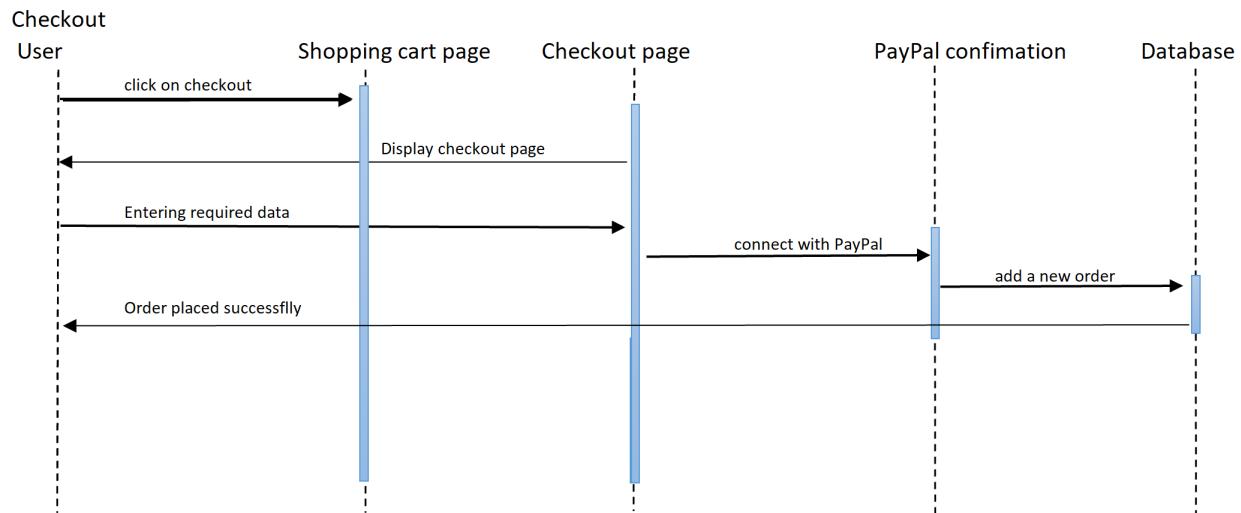


Figure 91 Checkout sequence diagram

## 8.4 Resources

The resources we needed to use to implement this project are the website template, the website database and the built in tools (to implement functions and the interfaces designs, in addition of course to printers and Microsoft office applications. But as in any situation there're some possible availability problems we might face which are described in the table below

Possible availability problems	Description	Solution
Wi-Fi/cellular data turned off	Happens when any user (admin or customer) tries to access the website without an internet connection.	Notify the user to check their internet connection.
PC turned off	The work we have done on the website was not saved and its all gone	Redo everything again

Table 9 Resources

## 8.5 Processing

This subsection describes what the functions do and how they are fulfilling their duties with inputs and outputs

Function	Description	Input	Output	Constraints
Login	Users can access their accounts by using this function and providing a username and a password.	Email address and password	If the email and password exist and match the user will access his account	The user must be already registered The email and the password must be matched
Signup	This function allow users to register into the website. They have 3 choices: either using a Facebook account, a google account or using an email and a new password.	Email address and password	A new account will be created and saved to the database	The email address must be unregistered
Forget password	The user should open the link that was sent to their email and follow the instructions	Enter the new password	The password will be updated	The user should have an already registered account
<b>Admin Specific functions</b>				
Add collection	This function lets the user create collections for the products with common specifications and add promo code if they desire	Collection name, image, products, a promo code or visibility	A new collection will be created	Collection name must be unique
Modify collection <sup>a</sup>	Adding products to the collections and modifying the collections can be	Collection name, image, products, a promo code or visibility	The collection will be updated	Collection name must be unique

	done after creating the collection.			
Delete collection a	This function deletes the collections available.	Click on “delete” button from the menu in the collection page	The collection will permanently deleted from the website	The collection must already exist
Add a product	Adding a product to the website by providing its specification like the color, the weight and the price also adding pictures of the product.	Enter product name, price, image description, or promotion	A new product will be created	The price box must be filled
Duplicate product a	Add a duplicate of any product you desire and modify on it to speed up the adding process.	Enter product name, price, image description, or promotion	A duplicate of the product is created	None
Delete product a	The admin could delete any product from the website.	Click on “delete” button from the menu in the products page	The product will permanently deleted from the website	The product must already exist
Manage an order	View a list of orders, view each order with its details, modify on orders status and add notes on orders.	The user can change the order status “i.e. fulfilled, paid, unpaid” and create an invoice of the product	The order changes are updated into the website	The order must already exist
Edit customers	Can block/unblock customers, and delete their accounts	Select the customer from the customer’s list and click the delete button	The customer will be permanently deleted	The customer must already exist
Manage members permissions	The admin can edit account’s roles to any role they desire	Role name, members included and role description	A new role will be created or an already existing role will be updated	The member must already exist
<b>Customer Specific functions</b>				
Add to the cart	Add products to their cart.	Click on “add to cart”	Items will be added to the cart	The item must be in stock
Product quantity	Edit the quantity of the product.	Enter the number of quantity they wish to purchase of the product in the box	The cart will be updated with the quantity number	The item must be in stock

<b>Remove product a</b>	Remove a product form the cart.	Click on “remove” button inside the shopping cart	The item will be removed from the cart	The item must be already added to the cart
<b>Checkout</b>	Finally the user places the order by providing his address and payment information through PayPal	Entering the shipping address and contact and payment information	An order will be placed	All information to contact and deliver to the customer must be provided
<b>Track order</b>	Can track the order status and whereabouts	The user can login to his account and check his order status	The order status will be available on the website and up to date	An order must exist

Table 10 Processing

## 8.6 Interface/Exports

Every member from our team must understand every little detail about the system's functionalities to make sure each function is implemented correctly. In addition, we refer to inputs, pre and post conditions in section 8.2, inputs and outputs and the description of the functional requirements are discussed in section 8.5. Also, we will refer to the Software Requirement Specifications (SRS).

## 8.7 Detailed Subsystem Design

In this section we will use the activity diagram to show some of the component's behavior or information/control flow.

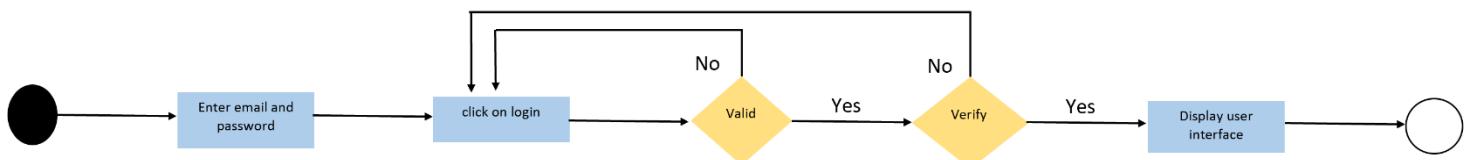


Figure 92 login activity diagram

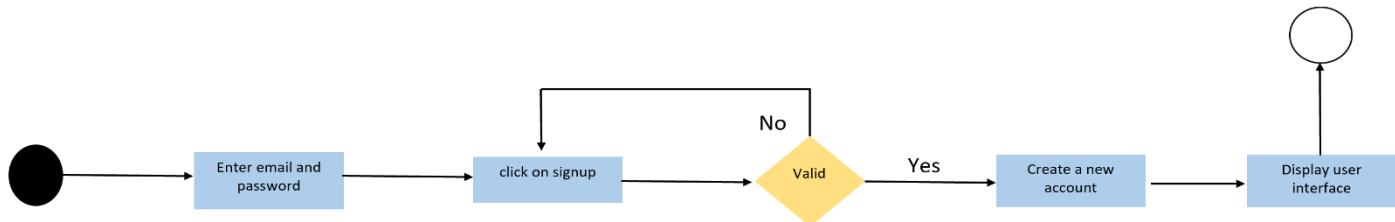


Figure 93 Signup activity diagram

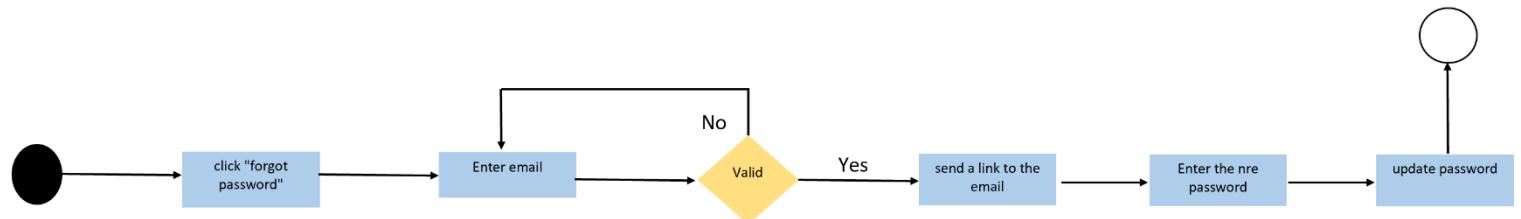


Figure 94 Forget password activity diagram

## 9 Other Design Features

All design features have been mentioned through this document. There are no more design features need to be mentioned.

## 10 Requirements Traceability Matrix

Table11 shows the Requirements Traceability Matrix for "JAWAHER" website.

Associated ID in SRS			Technical Assumptions and Customer Needs	Functional Requirement	User	Associated ID in SDS	System Components	
Common Functionalities	3.2.1	3.2.1.1	List of some product and direct chat	Home	All Users	7.1	7.1.1	Home
		3.2.1.2	List of products by categories	Shop product		7.1.2	Shop product	
		3.2.1.3	customers can view all locations of the store using two ways	Location		7.1.3	Location	
Customer Functionalities	3.2.2.1	3.2.2.1.1	New customer can sign up to the system by defining Email and password.	Customer Sign Up	Register member	7.2	7.2.1	Customer Sign Up
		3.2.2.1.2	Customer log in page	Customer Login		7.2.2	Customer Login	
		3.2.2.1.3	Show list of orders	My Account		7.2.3	My Account	
		3.2.2.1.4	Interface appears to the customer when he submits the order	Thank you		7.2.4	Thank you	
		3.2.2.1.5	Interface appears when the customer clicks on the product photo or name	Product		7.2.5	Product	
		3.2.2.1.6	Customer can edit and remove its addresses.	My Address		7.2.6	My Address	
		3.2.2.1.7	Interface will show the shopping cart for the customer	Cart		7.2.7	Cart	
Admin Functionalities	3.2.2.2	3.2.2.2.1	registered admins must be	Admin Login	Admin	7.3	7.3.1	Admin Login

		able to access to the web site admin interfaces					
		3.2.2.2.2	interface will appear when the admin login	Homepage	7.3.2	Homepage	
		3.2.2.2.1	From Store Products Interface the admin chooses “Collection”, he will be able to add and edit collections for jewelry products	Collection	7.3.2.1	Collection	
		3.2.2.2.2.2	From Store Product interface the admin choose “Production”, and he will be able to add some products	Admin Products	7.3.2.2	Admin Products	
		3.2.2.2.3	will show order table that admin can display all orders or filter them by their status	Store Order	7.3.2.3	Store Order	
		3.2.2.2.4	From Customer Management interface, the admin can to respond to all live chat.	Inbox	7.3.2.4	Inbox	
		3.2.2.2.5	From the Customer Management interface, the admin allow to search about a member.	Site Members	7.3.2.5	Site Members	
		3.2.2.2.6	Adding a new admin	Role & Permission	7.3.2.6	Role & Permission	

Table 11 JAWAHER Requirements Traceability Matrix