



Development of an e-commerce website sales management with JEE

Master's Degree in Computer Science Engineering

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Chaptre 1: UML Design and Conceptualization

In this chapter we will discuss UML Use Case and Class Diagrams

I. USE CASE DIAGRAM

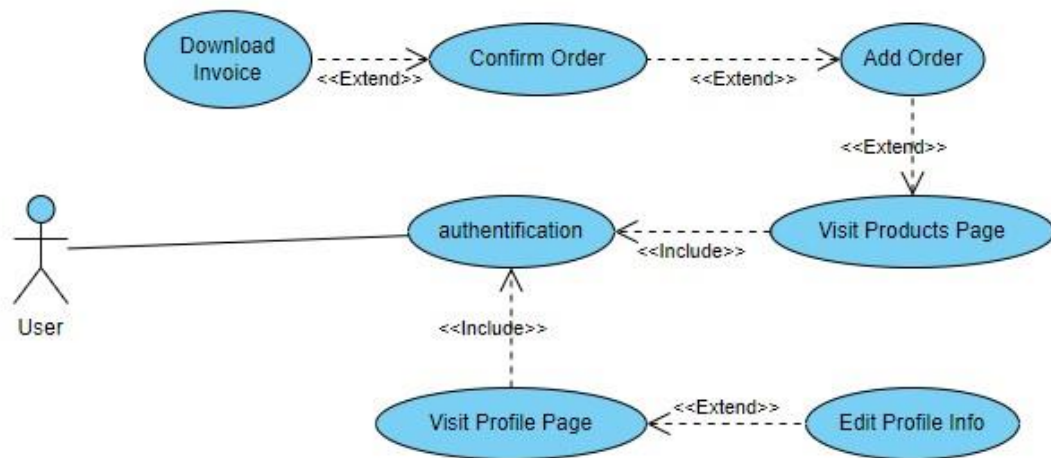


Figure 1 : Use case diagram

In the use case diagram, the main actor is the "User." Before accessing any other functionality, the User needs to authenticate or log in to the application. Once authenticated, the User can perform various actions. These include visiting and editing their profile information, browsing products, adding an order, and confirming the order. After confirming the order, the User can download the invoice in PDF format. The use case diagram visually represents the interactions between the User and the application, outlining the key functionalities available to the User.

II. CLASS DIAGRAM

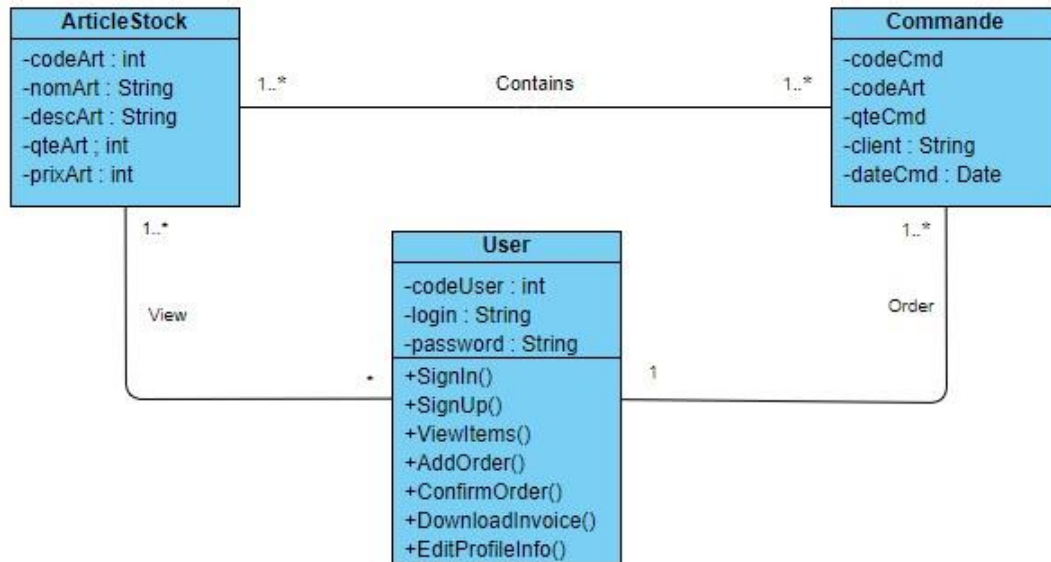


Figure 2 : Class diagram

The class diagram represents the structure and relationships between classes in the application. In this case, the "User" class is associated with the "Article" class through a "view" relationship. This implies that a user can view or interact with articles. The "Commande" class is related to the "User" class through an "order" relationship, indicating that a user can place orders. The "Commande" class also has a "contains" relationship with the "Article" class, suggesting that a command can contain multiple articles. These relationships illustrate how users, articles, and orders are connected within the application, providing a clearer understanding of the system's design.

Chaptre 2: Application Walkthrough and Technological Stack

In this chapter we will discuss the technologies used to build the website and also the application demo

I. TECHNOLOGICAL STACK

1. TOMCAT SERVER



Figure 3 : Tomcat

Apache Tomcat is a lightweight, open-source web server and servlet container that is widely used for deploying Java web applications. It provides an environment for running Java Servlets and JavaServer Pages (JSP), making it an ideal choice for hosting web applications.

2. STRUTS 2



Figure 4 : Struts

Struts 2 is a popular Java web application framework that provides a framework for building flexible and maintainable web applications. It follows the Model-View-Controller (MVC) architectural pattern, making it easier to separate concerns and enhance code reusability.

3. MAVEN



Figure 5 : Maven

Maven is a build automation and dependency management tool for Java projects. It simplifies the project's build process by managing project dependencies.

4. SPRING FRAMEWORK



Figure 6 : Spring

The Spring Framework is a powerful and widely adopted Java framework for building enterprise-level applications. It provides comprehensive support for dependency injection, aspect-oriented programming, and inversion of control. Spring Framework simplifies application development by promoting modular and loosely coupled code.

5. MySQL



Figure 7 : MySQL

MySQL is a popular open-source relational database management system (RDBMS) that provides a robust and scalable solution for storing and managing data. It is widely used in web applications for efficient and secure data storage and retrieval.

6. HIBERNATE



Figure 8 : Hibernate

Hibernate is an object-relational mapping (ORM) framework that simplifies database access and persistence in Java applications. It enables developers to interact with relational databases using object-oriented programming concepts, eliminating the need to write complex SQL queries manually.

7. JSP



Figure 9 : JSP

JavaServer Pages (JSP) is a technology that enables the creation of dynamic web content by embedding Java code within HTML pages. It allows for the separation of presentation logic from business logic, facilitating the development of dynamic and data-driven web applications.

8. CSS



Figure 10 : CSS

Cascading Style Sheets (CSS) is a stylesheet language used for describing the presentation and layout of web pages. It provides a range of styling options to customize the appearance of HTML elements, including fonts, colors, spacing, and responsive design.

9. BOOTSTRAP



Figure 11 : Bootstrap

Bootstrap is a front-end framework that provides a set of CSS and JavaScript components for creating responsive and mobile-friendly web applications. It offers pre-designed templates, grids, and UI elements that streamline the development process and ensure consistent visual presentation across different devices.

10.JAVASCRIPT



Figure 12 : Javascript

JavaScript is a widely used scripting language for web development. It enables dynamic behavior and interactivity on web pages, allowing developers to create responsive and engaging user interfaces.

11.JQUERY



Figure 13 : JQuery

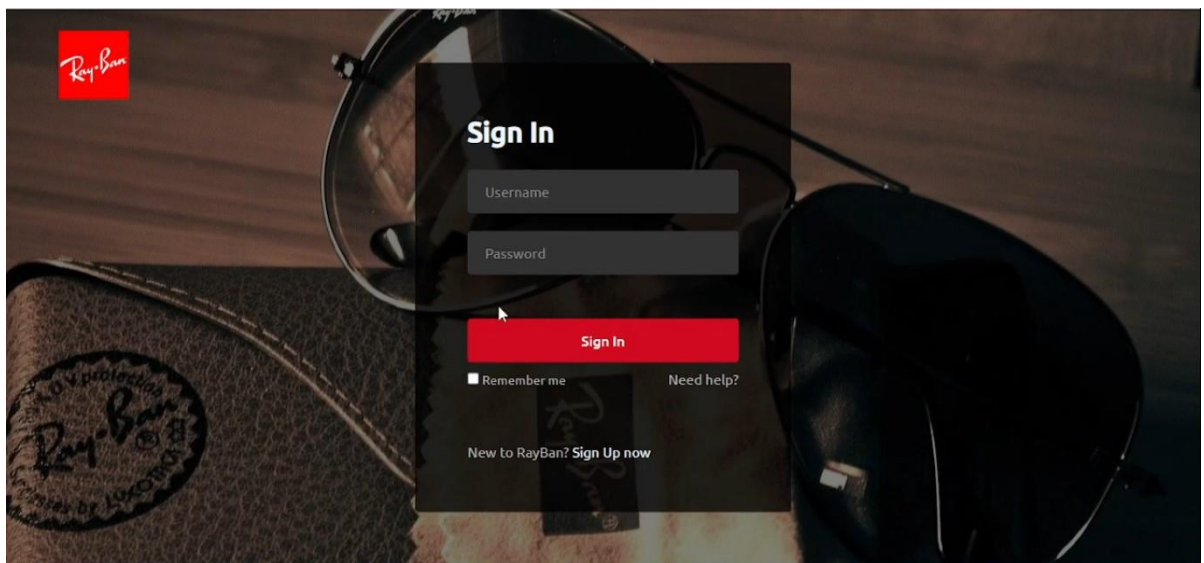
jQuery is a popular JavaScript library that simplifies client-side scripting and enhances the development of interactive web applications. It provides a range of functions and utilities for manipulating HTML elements, handling events, and making asynchronous requests to the server.

II. APPLICATION WALKTHROUGH

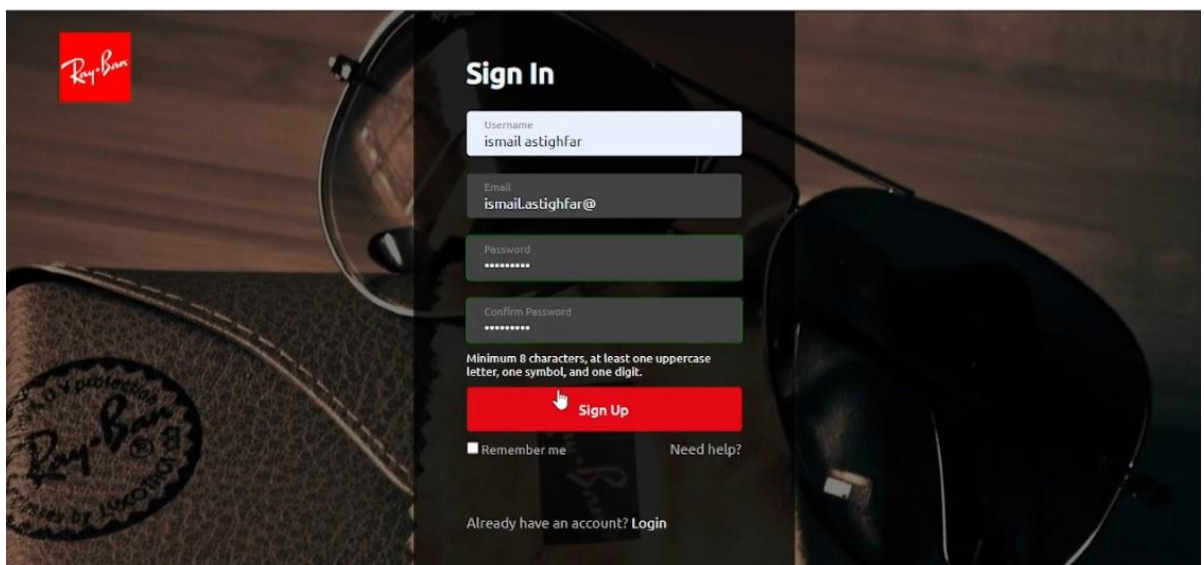
we will provide a visual demonstration of how the e-commerce application works.

1. AUTHENTICATION

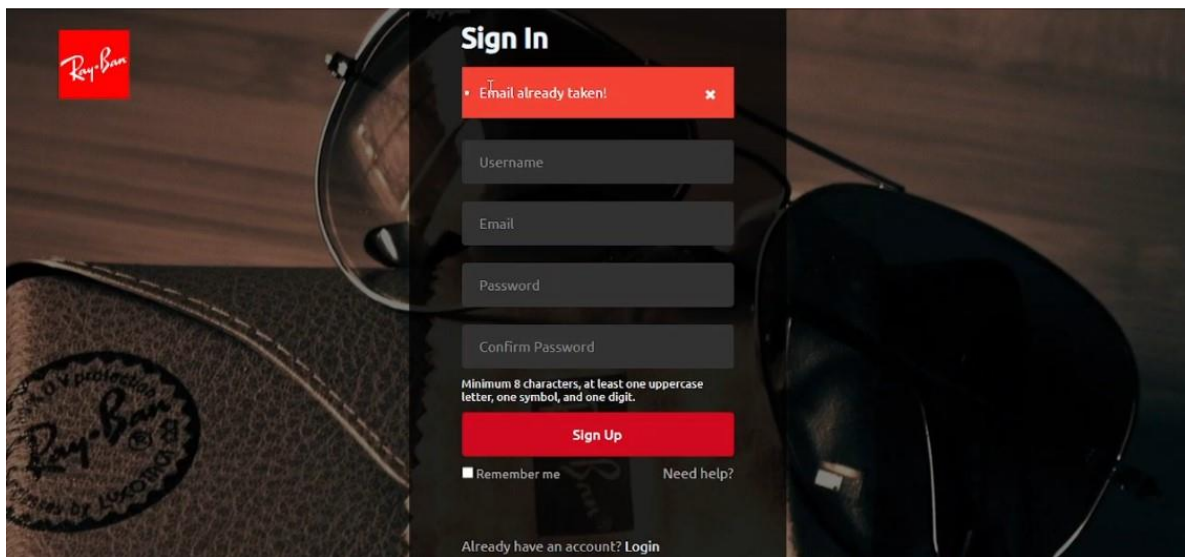
- This is the first page that shown to the user when he visits our website, if this is the user first visit, he needs to click sign up link to register



- The user enters credentials Username Email and Password



- If the username already exists or Email already exists this error will show to the user



The image shows a 'Sign In' form on a Ray-Ban website. The form has a red Ray-Ban logo in the top left. The background is a dark, textured image of a Ray-Ban sunglass case. The form fields are: Username, Email, Password, and Confirm Password. A red error message 'Email already taken!' is displayed above the Username field. Below the fields, there is a 'Sign Up' button, a 'Remember me' checkbox, and a 'Need help?' link. At the bottom, there is a link 'Already have an account? Login'.

Sign In

Email already taken! ✕

Username

Email

Password

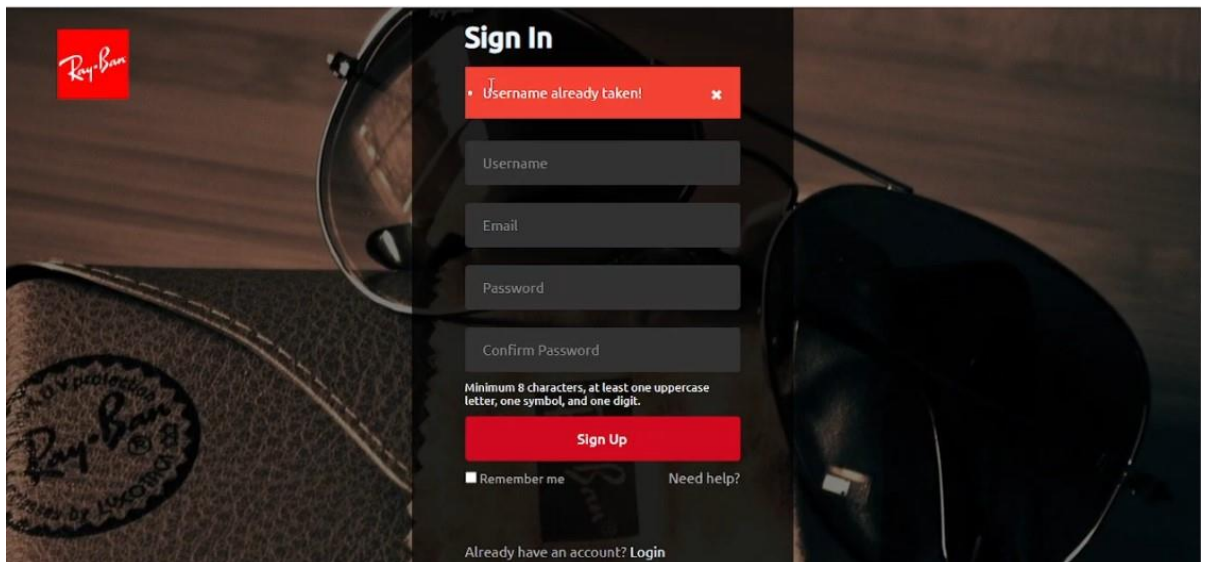
Confirm Password

Minimum 8 characters, at least one uppercase letter, one symbol, and one digit.

Sign Up

☐ Remember me Need help?

Already have an account? Login



The image shows a 'Sign In' form on a Ray-Ban website. The form has a red Ray-Ban logo in the top left. The background is a dark, textured image of a Ray-Ban sunglass case. The form fields are: Username, Email, Password, and Confirm Password. A red error message 'Username already taken!' is displayed above the Email field. Below the fields, there is a 'Sign Up' button, a 'Remember me' checkbox, and a 'Need help?' link. At the bottom, there is a link 'Already have an account? Login'.

Sign In

Username already taken! ✕

Username

Email

Password

Confirm Password

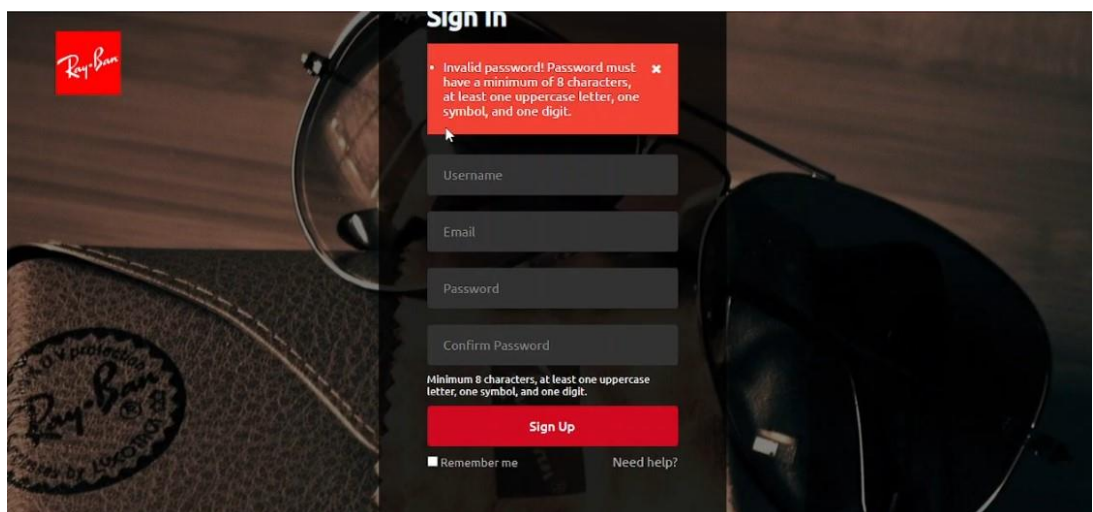
Minimum 8 characters, at least one uppercase letter, one symbol, and one digit.

Sign Up

☐ Remember me Need help?

Already have an account? Login

- If the user enters a password that not match the criteria's this error will be shown to the user



The image shows a 'Sign In' form on a Ray-Ban website. The form has a red Ray-Ban logo in the top left. The background is a dark, textured image of a Ray-Ban sunglass case. The form fields are: Username, Email, Password, and Confirm Password. A red error message 'Invalid password! Password must have a minimum of 8 characters, at least one uppercase letter, one symbol, and one digit.' is displayed above the Password field. Below the fields, there is a 'Sign Up' button, a 'Remember me' checkbox, and a 'Need help?' link. At the bottom, there is a link 'Already have an account? Login'.

Sign In

Invalid password! Password must have a minimum of 8 characters, at least one uppercase letter, one symbol, and one digit. ✕

Username

Email

Password

Confirm Password

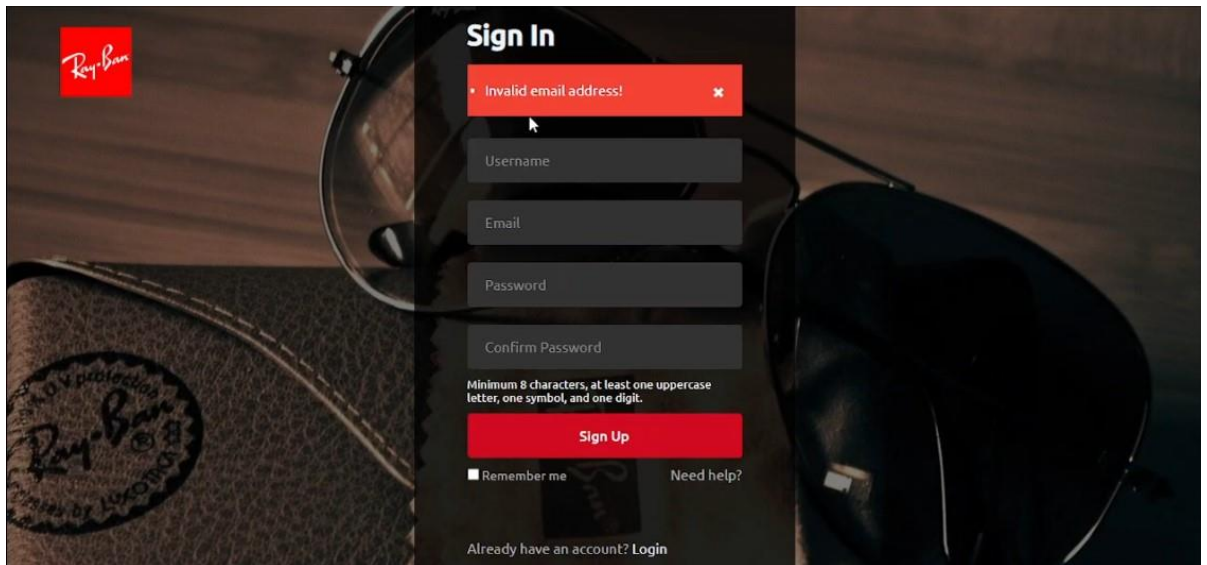
Minimum 8 characters, at least one uppercase letter, one symbol, and one digit.

Sign Up

☐ Remember me Need help?

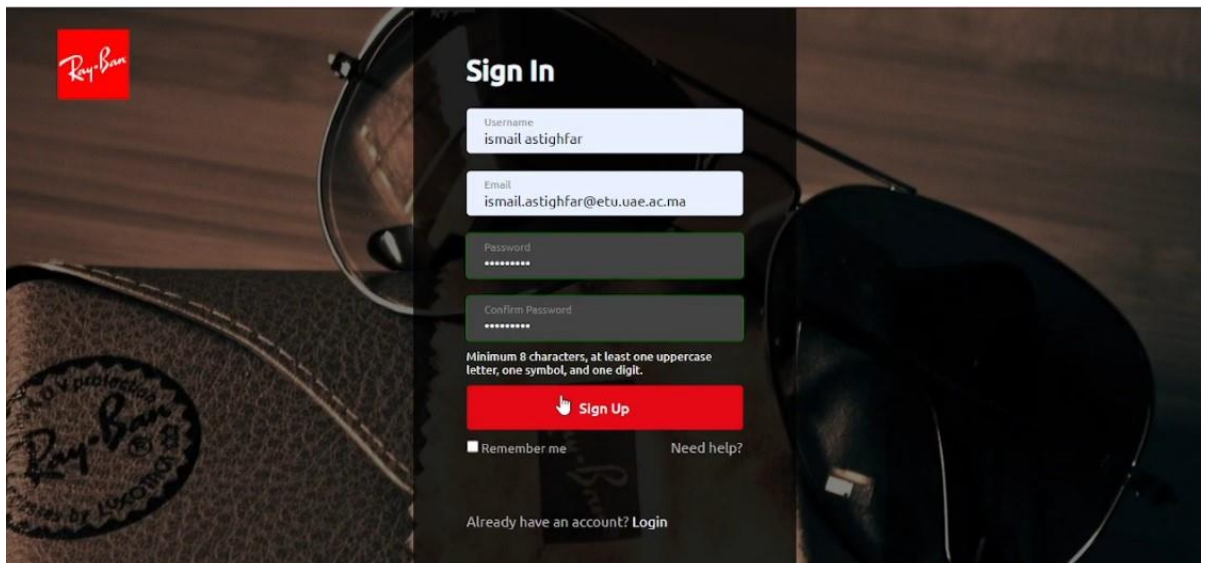
Already have an account? Login

- If the Email address is not valid this error appears to the user

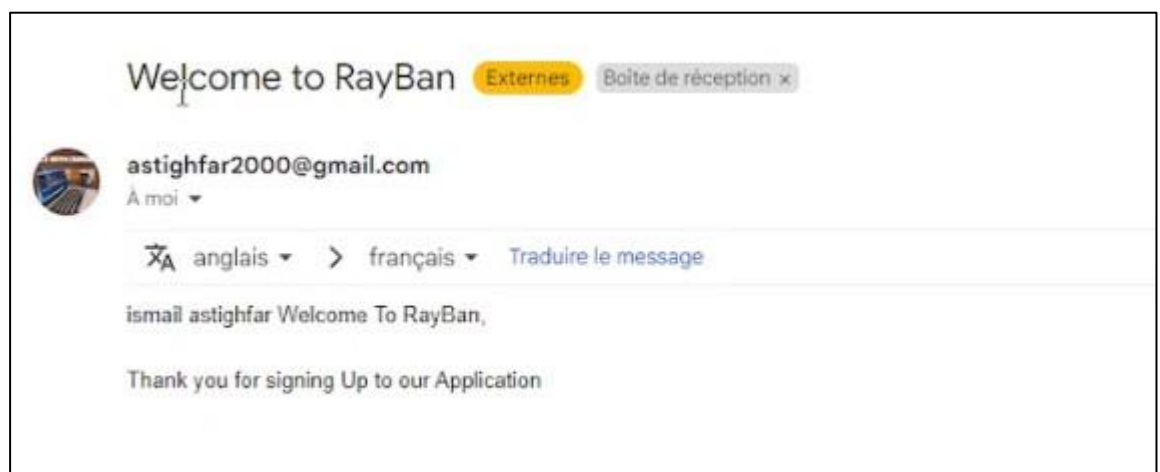


The image shows the Ray-Ban Sign In form. At the top left is the Ray-Ban logo. The form has a dark background with a pair of Ray-Ban glasses and a leather strap. The form fields are: Username, Email, Password, and Confirm Password. A red error message box at the top says "Invalid email address!". Below the fields is a red "Sign Up" button. There are checkboxes for "Remember me" and a link for "Need help?". At the bottom, it says "Already have an account? Login".

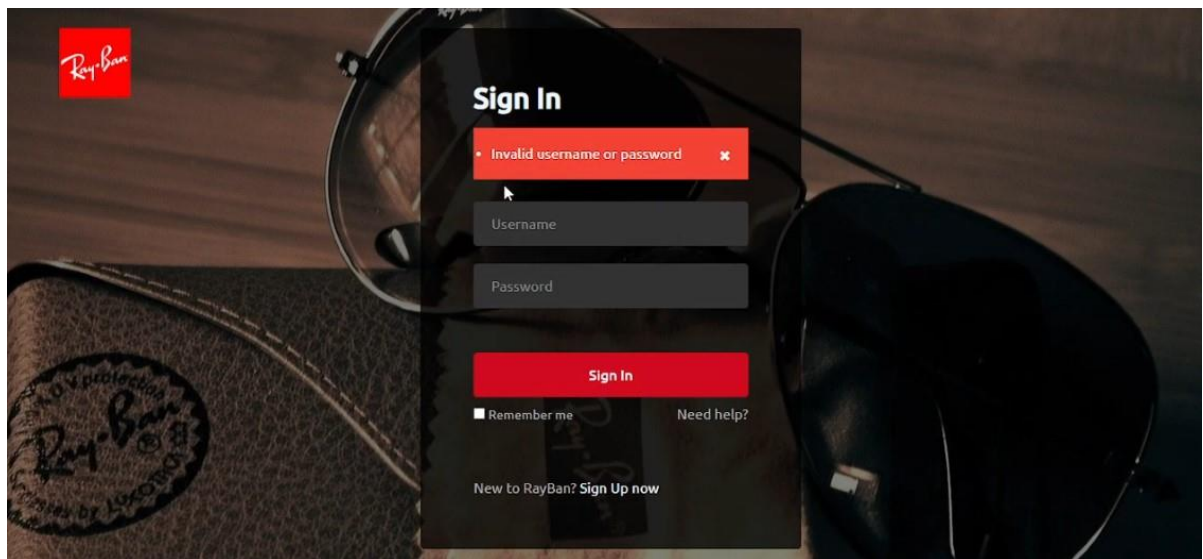
- If the user provides correct information a welcome email will be sent



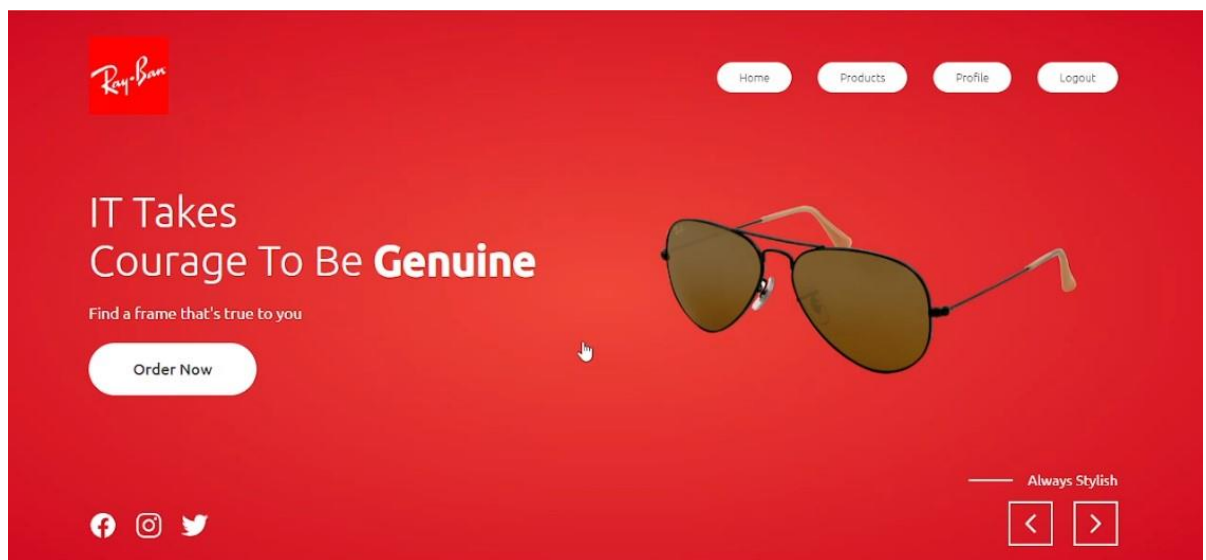
The image shows the Ray-Ban Sign In form with the correct information entered. The fields are: Username (ismail astighfar), Email (ismail.astighfar@etu.uae.ac.ma), Password (*****), and Confirm Password (*****). The red "Sign Up" button is highlighted. The error message is gone. The "Remember me" checkbox and "Need help?" link are still present. The "Already have an account? Login" link is at the bottom.



- The user then redirected to the sign in page if he enters incorrect username or password

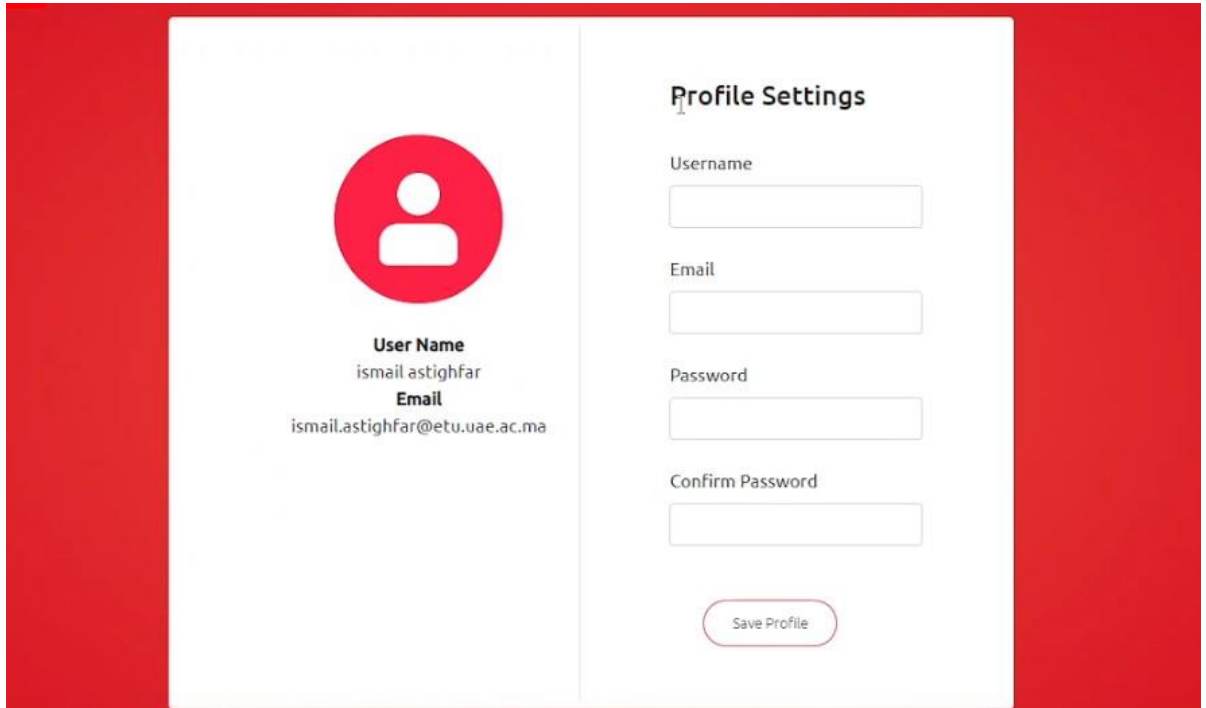


- If the user enters a valid credentials, he will be redirected to the home page



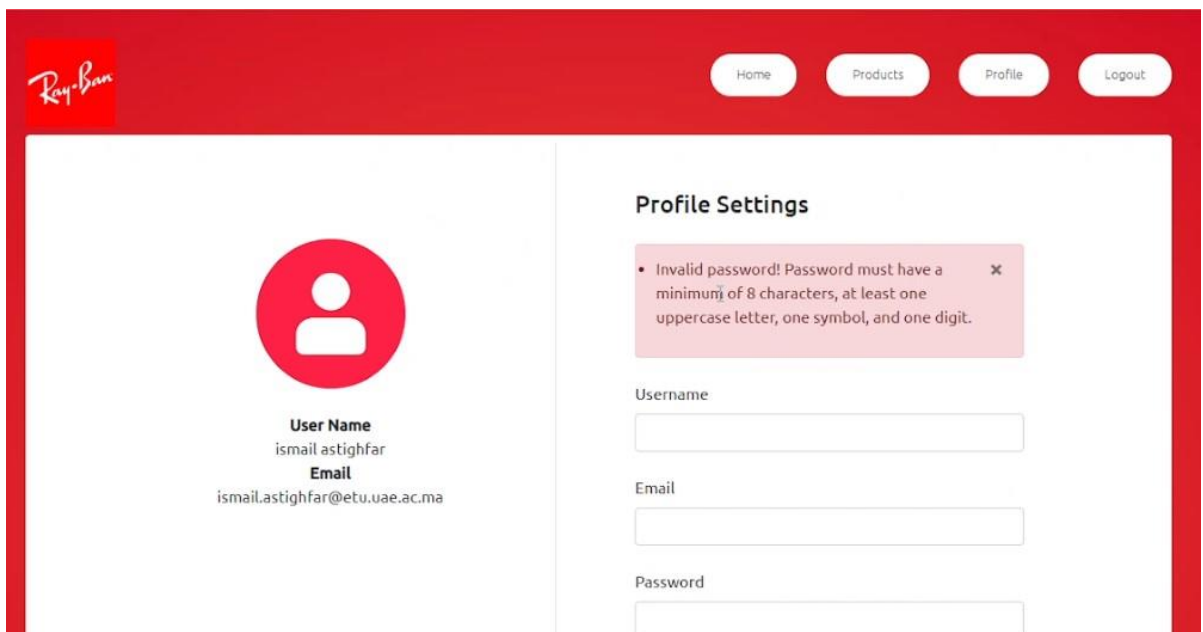
2. EDIT PROFILE INFORMATION

- If the user visits the profile page, he can view his username email and can edit profile info




The screenshot displays a web interface for editing profile information. On the left, a red circular profile icon is shown above the user's details: **User Name** ismail astighfar and **Email** ismail.astighfar@etu.uae.ac.ma. On the right, the **Profile Settings** section contains four input fields for Username, Email, Password, and Confirm Password, followed by a **Save Profile** button.


- If the user enters invalid email or password this error appears



This screenshot shows the same profile settings page as before, but with an error message displayed at the top of the settings section. The error message, in a pink box, states: "Invalid password! Password must have a minimum of 8 characters, at least one uppercase letter, one symbol, and one digit." The input fields for Username, Email, and Password are visible below the error message.



[Home](#)
[Products](#)
[Profile](#)
[Logout](#)



User Name
 ismail astighfar
Email
 ismail.astighfar@etu.uae.ac.ma

Profile Settings

- Invalid email address! ✕


Username

Email

Password

Confirm Password

- The user enters a valid credentials



User Name
 ismail astighfar
Email
 ismail.astighfar@etu.uae.ac.ma

Profile Settings


Username

Email

Password

Confirm Password

Save Profile



User Name
 ismail astighfar M2I
Email
 astighfar2000@gmail.com

- User information updated successfully ✕

Username

Email

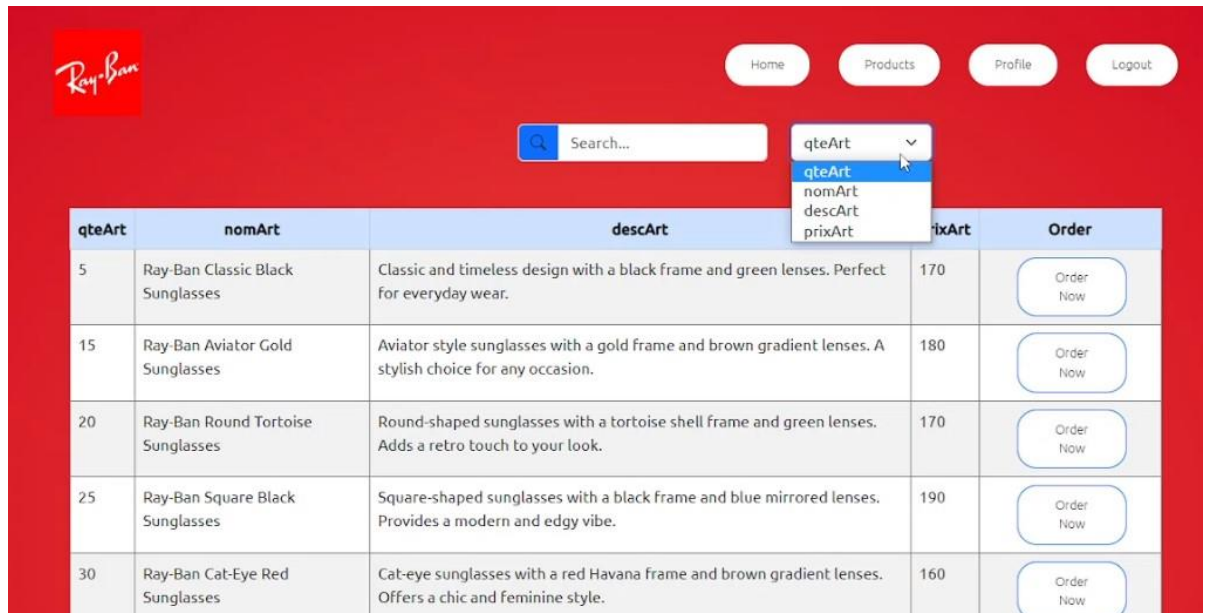
Password

Confirm Password

Save Profile

3. ORDER PRODUCT PROCESS

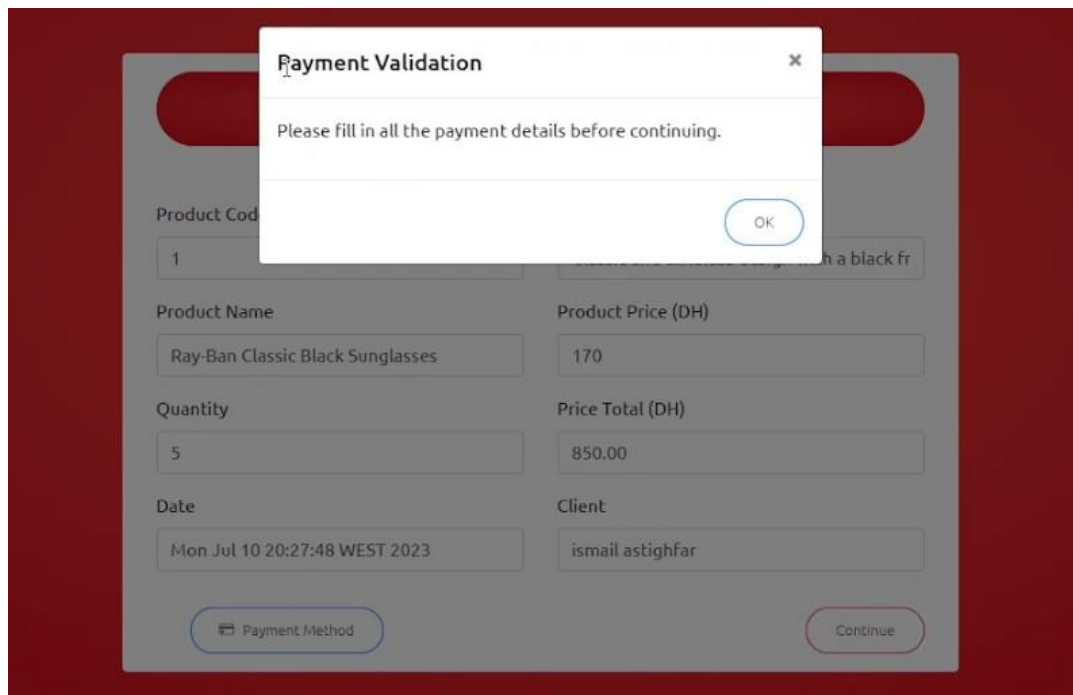
- The user clicks either Order now or product link in the navbar he will be redirected to the product's page he can search for a specific product and order it



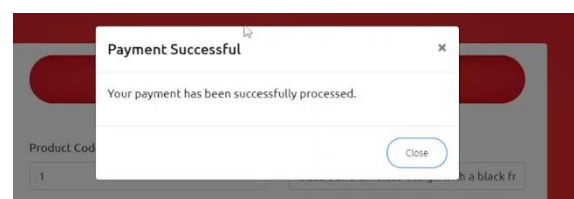
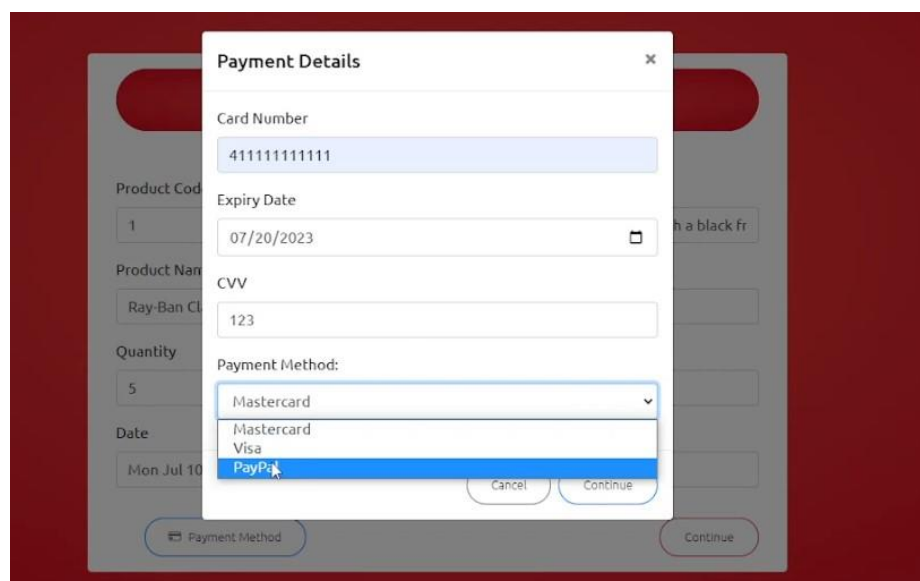
- The user chooses a product he can select the quantity needed, if he click continue without paying this error appears

The screenshot shows a "Create Order" form with a red header. The form is divided into two columns. The left column contains fields for Product Code, Product Name, Quantity, and Date. The right column contains fields for Product Description, Product Price (DH), Price Total (DH), and Client. At the bottom, there are two buttons: "Payment Method" and "Continue".

Create Order	
Product Code	Product Description
1	Classic and timeless design with a black fr
Product Name	Product Price (DH)
Ray-Ban Classic Black Sunglasses	170
Quantity	Price Total (DH)
1	170.00
Date	Client
Mon Jul 10 20:27:48 WEST 2023	ismail astighfar
<button>Payment Method</button>	<button>Continue</button>



- The user needs to enter his payment credentials after clicking the payment method button



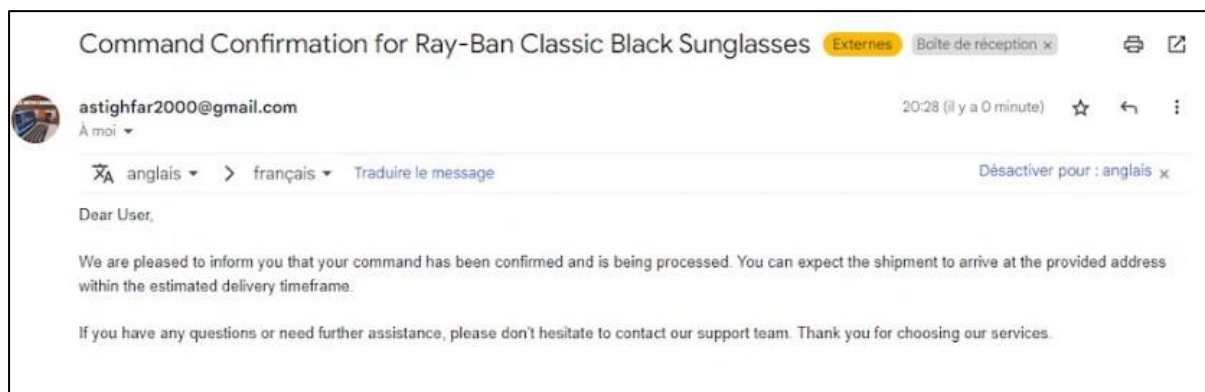
- The user now can click continue, an email will be sent for command confirmation

Create Order

<p>Product Code</p> <input style="width: 90%;" type="text" value="1"/>	<p>Product Description</p> <input style="width: 90%;" type="text" value="Classic and timeless design with a black fr"/>
<p>Product Name</p> <input style="width: 90%;" type="text" value="Ray-Ban Classic Black Sunglasses"/>	<p>Product Price (DH)</p> <input style="width: 90%;" type="text" value="170"/>
<p>Quantity</p> <input style="width: 90%;" type="text" value="5"/>	<p>Price Total (DH)</p> <input style="width: 90%;" type="text" value="850.00"/>
<p>Date</p> <input style="width: 90%;" type="text" value="Mon Jul 10 20:27:48 WEST 2023"/>	<p>Client</p> <input style="width: 90%;" type="text" value="ismail astighfar"/>

Payment Method

Continue



- After that the user redirected to the Invoice page where he can download his Invoice order pdf

Invoice

Payment method visa Client ismail astighfar	Ordre Order date Mon Jul 10 20:27:48 WEST 2023
--	--

Order summary			
Item	Price(DH)	Quantity	Total Price(DH)
1-Ray-Ban Classic Black Sunglasses	170	5	850.00

[Download PDF](#)
[Return Home](#)

Invoice

Ordre

Payment method
 visa
Client
 ismail astighfar

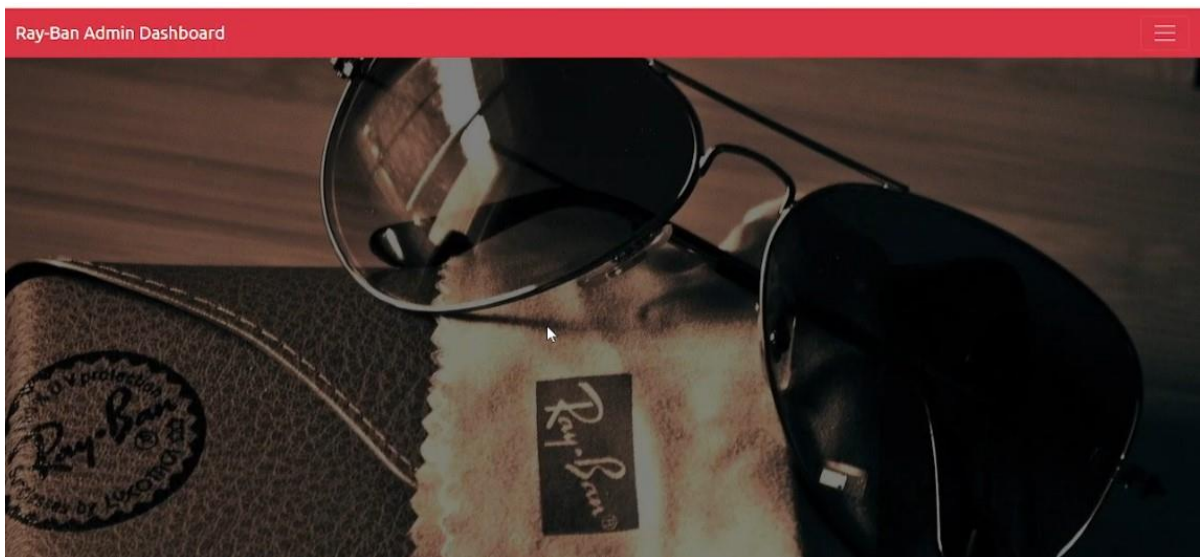
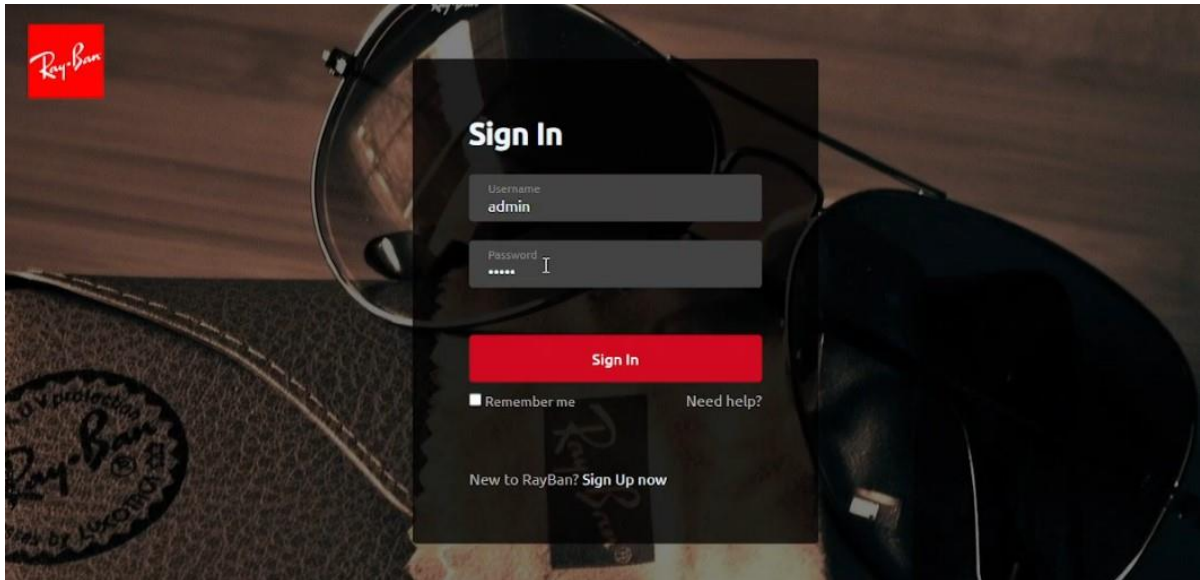
Order date
 Mon Jul 10 20:27:48 WEST 2023

Order summary

Item	Price(DH)	Quantity	Total Price(DH)
1-Ray-Ban Classic Black Sunglasses	170	5	850.00

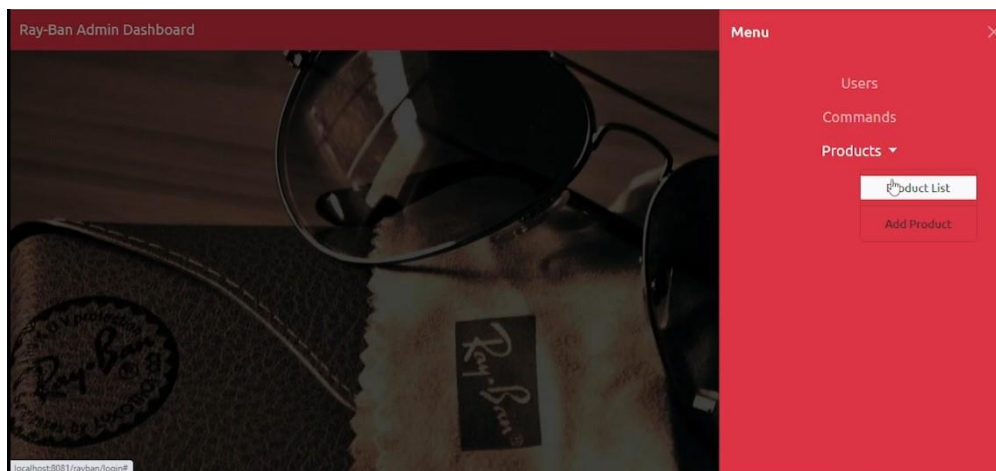
4. ADMIN DASHBOARD

a. ADMIN AUTH



b. PRODUCTS MANAGEMENT

- The Admin can view the list of products



Search... codeArt

codeArt	qteArt	nomArt	descArt	prixArt	delete	edit
1	0	Ray-Ban Classic Black Sunglasses	Classic and timeless design with a black frame and green lenses. Perfect for everyday wear.	170	delete	edit
2	15	Ray-Ban Aviator Gold Sunglasses	Aviator style sunglasses with a gold frame and brown gradient lenses. A stylish choice for any occasion.	180	delete	edit
3	20	Ray-Ban Round Tortoise Sunglasses	Round-shaped sunglasses with a tortoise shell frame and green lenses. Adds a retro touch to your look.	170	delete	edit
4	25	Ray-Ban Square Black Sunglasses	Square-shaped sunglasses with a black frame and blue mirrored lenses. Provides a modern and edgy vibe.	190	delete	edit
5	30	Ray-Ban Cat-Eye Red Sunglasses	Cat-eye sunglasses with a red Havana frame and brown gradient lenses. Offers a chic and feminine style.	160	delete	edit
6	35	Ray-Ban Wayfarer Black Rubber Sunglasses	Wayfarer style sunglasses with a black rubber frame and grey lenses. The iconic design for a cool and casual look.	170	delete	edit

- Admin click on edit button for a product the update his information, if the product name already exists

Ray-Ban Admin Dashboard

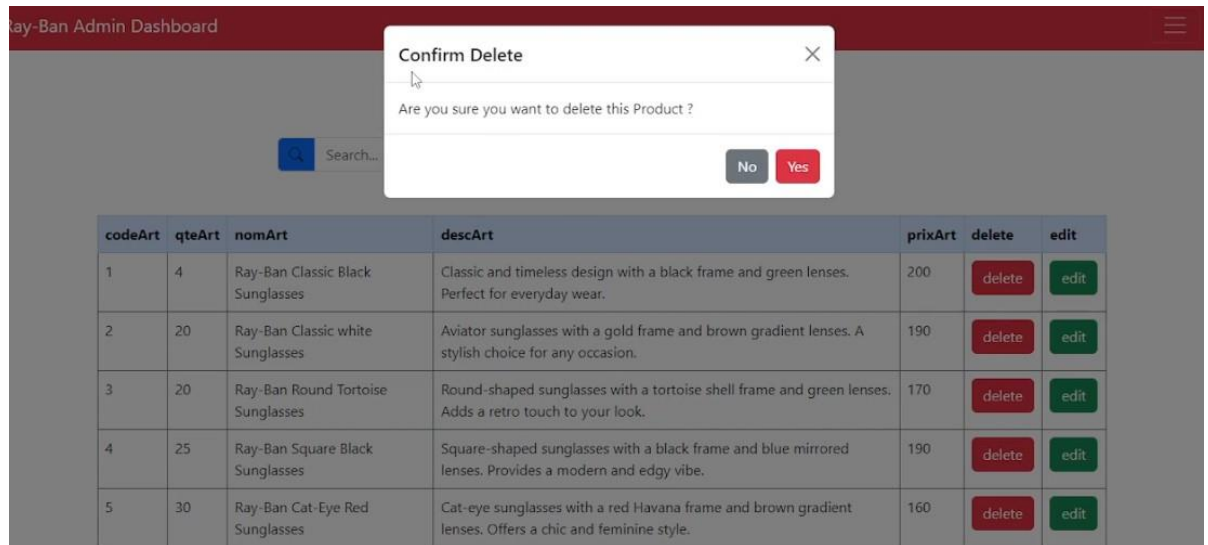
Edit Product

Article already exists!

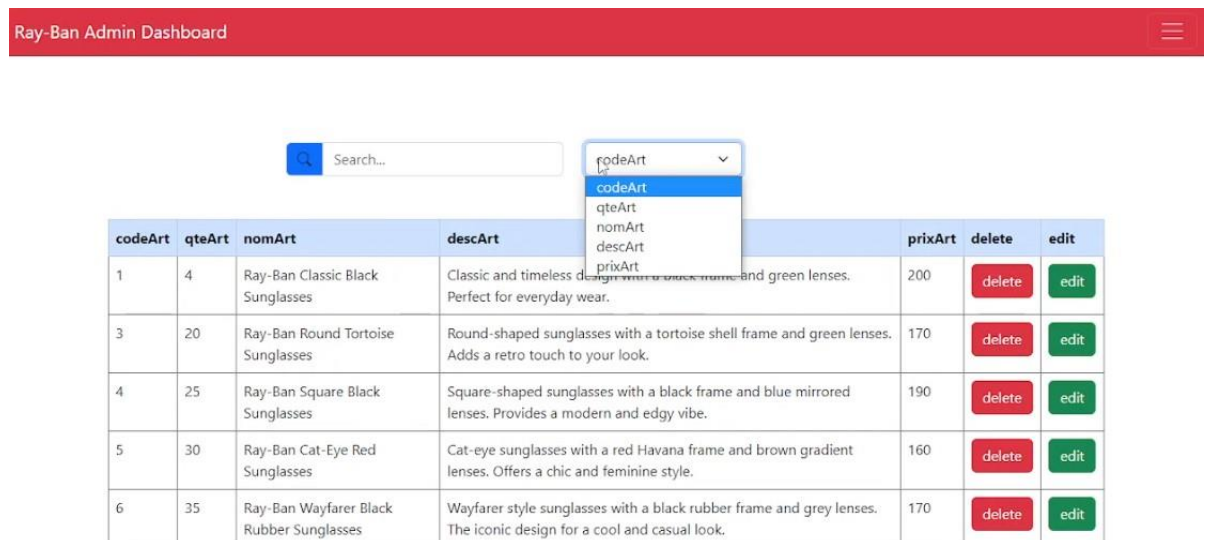
Product code	2	Product Description	Aviator style sunglasses with a gold frame and brown gradient lens
Product Name	Ray-Ban Classic Black Sunglasses	Product Price (DH)	180
Quantity	15		

Save

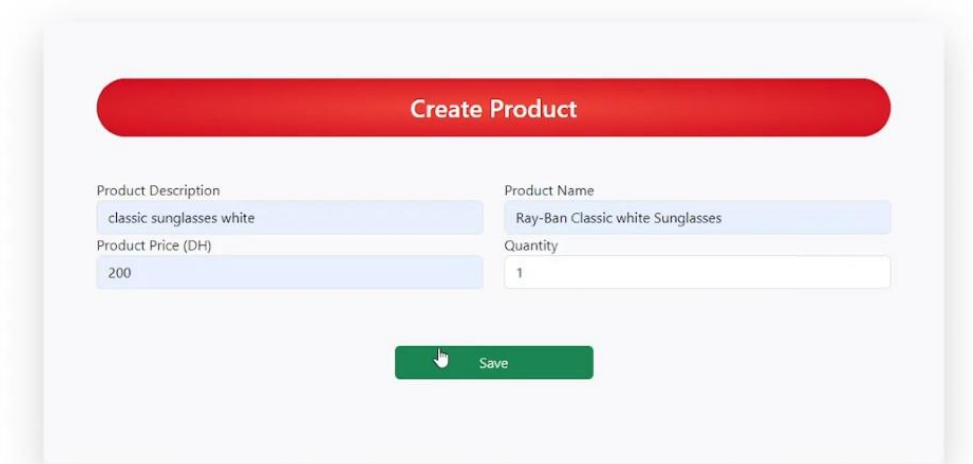
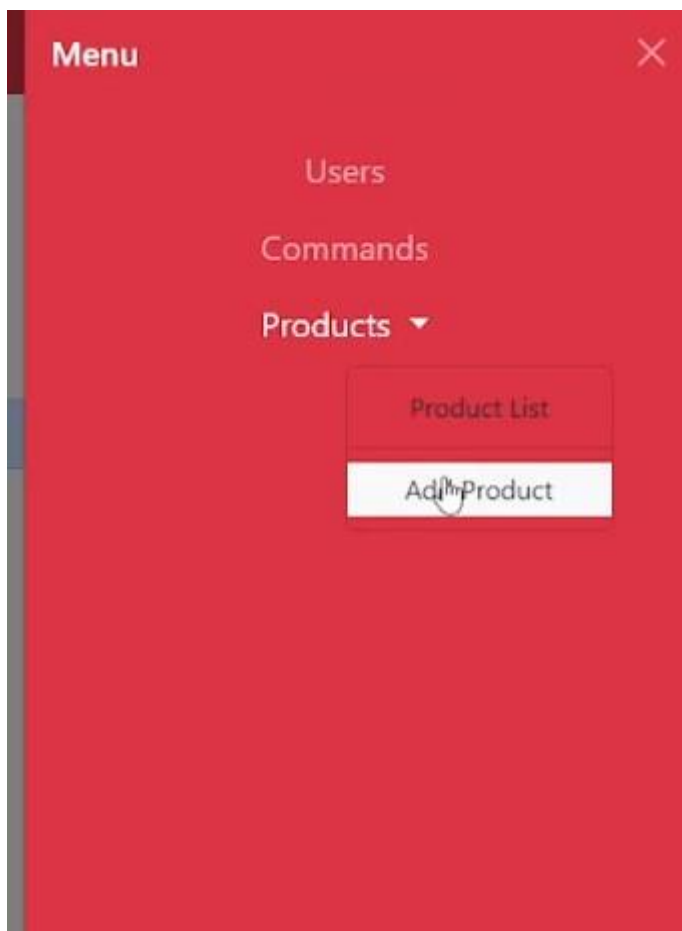
- If all is correct he will be redirected to the product page, he can also delete a product



- The admin can also search a product by any criteria he needs



- Admin can create a product



A 'Create Product' form with a red title bar. It contains four input fields arranged in a 2x2 grid:

Product Description	Product Name
classic sunglasses white	Ray-Ban Classic white Sunglasses
Product Price (DH)	Quantity
200	1

At the bottom center of the form is a green 'Save' button with a mouse cursor hovering over it.

		Sunglasses	Perfect for everyday wear.		delete	edit
3	20	Ray-Ban Round Tortoise Sunglasses	Round-shaped sunglasses with a tortoise shell frame and green lenses. Adds a retro touch to your look.	170	delete	edit
4	25	Ray-Ban Square Black Sunglasses	Square-shaped sunglasses with a black frame and blue mirrored lenses. Provides a modern and edgy vibe.	190	delete	edit
5	30	Ray-Ban Cat-Eye Red Sunglasses	Cat-eye sunglasses with a red Havana frame and brown gradient lenses. Offers a chic and feminine style.	160	delete	edit
6	35	Ray-Ban Wayfarer Black Rubber Sunglasses	Wayfarer style sunglasses with a black rubber frame and grey lenses. The iconic design for a cool and casual look.	170	delete	edit
7	40	Ray-Ban Clubmaster Tortoise Sunglasses	Clubmaster sunglasses with a tortoise shell and gold frame, paired with green lenses. A retro and sophisticated choice.	180	delete	edit
8	45	Ray-Ban Oversized Black Sunglasses	Oversized sunglasses with a black frame and grey gradient lenses. Provides a glamorous and bold statement.	200	delete	edit
9	50	Ray-Ban Hexagonal Gold Sunglasses	Hexagonal sunglasses with a gold frame and pink lenses. Adds a modern and trendy twist to your style.	190	delete	edit
10	55	Ray-Ban Double-Bridge Gunmetal Sunglasses	Round double-bridge sunglasses with a gunmetal frame and green lenses. Offers a contemporary and sleek look.	210	delete	edit
12	1	Ray-Ban Classic white Sunglasses	classic sunglasses white	200	delete	edit

- If the product already exists

Ray-Ban Admin Dashboard

Create Product

- Article already exists!

Product Description

Product Name

Product Price (DH)

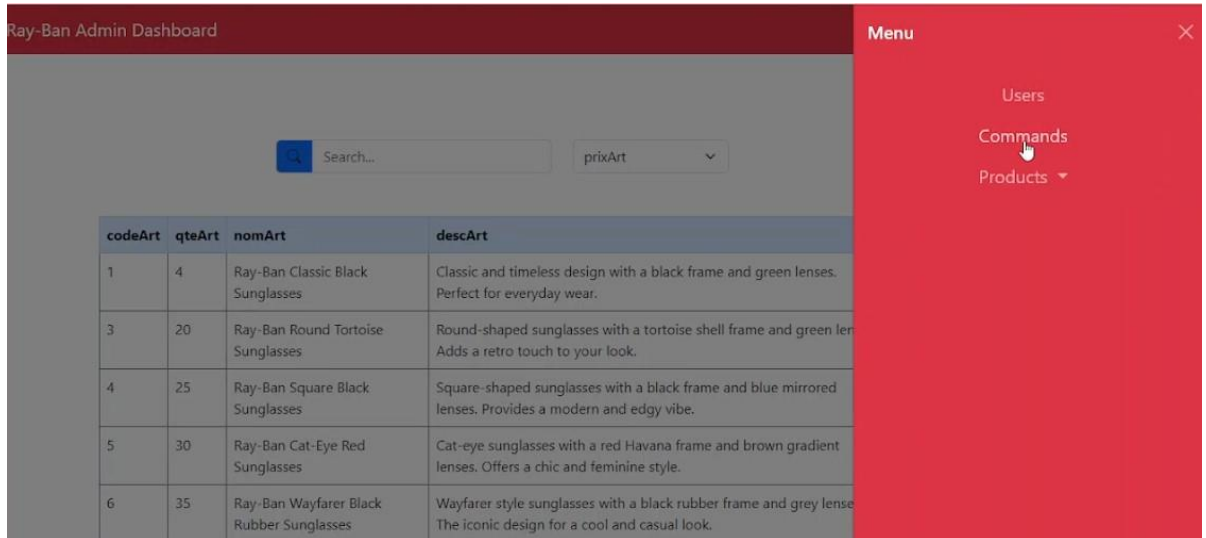
Quantity

1

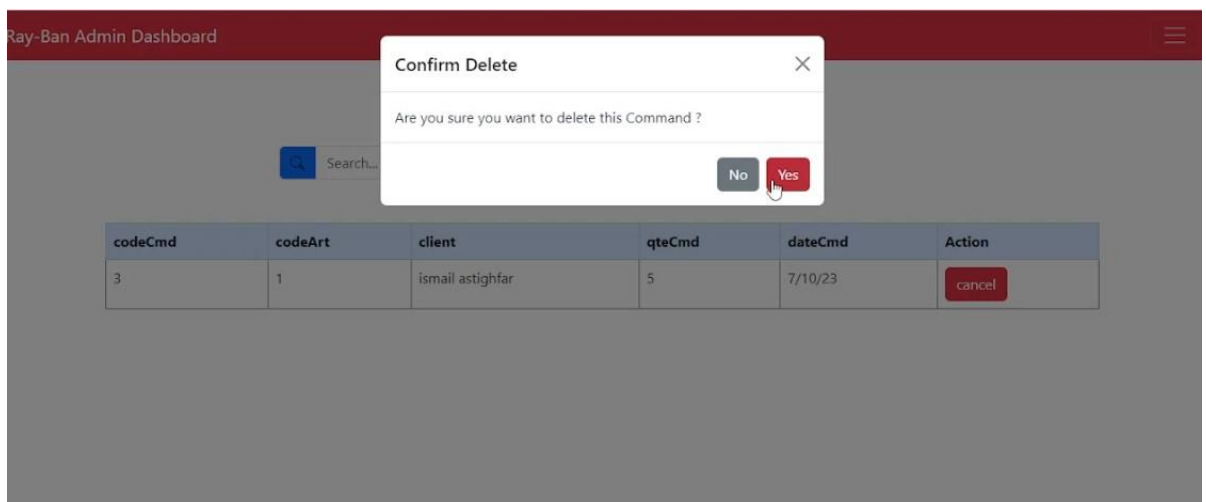
Save

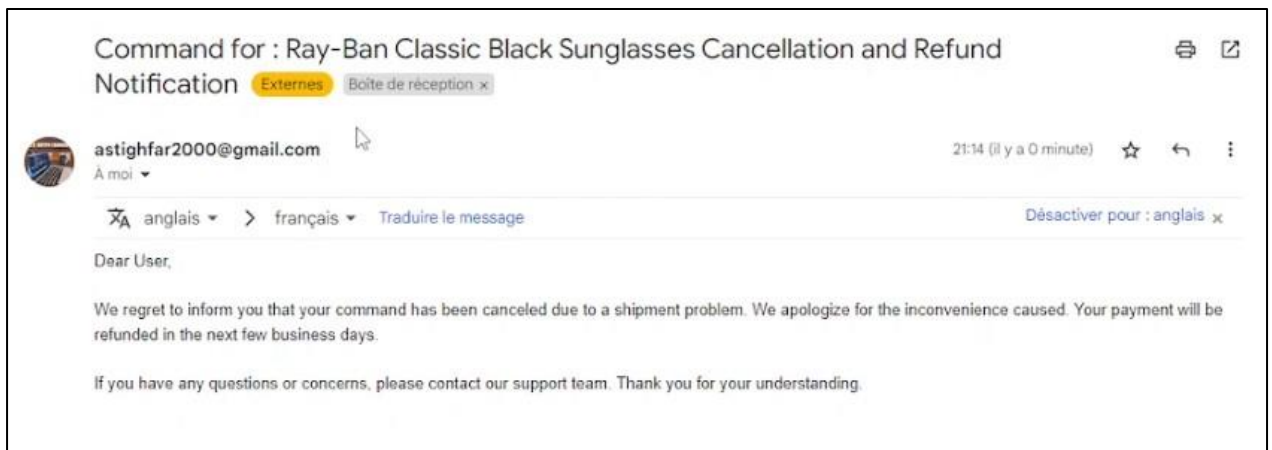
c. COMMANDS MANAGEMENT

- The Admin can see list of commands and search for a specific command



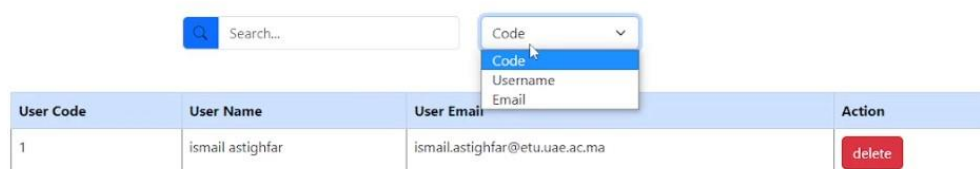
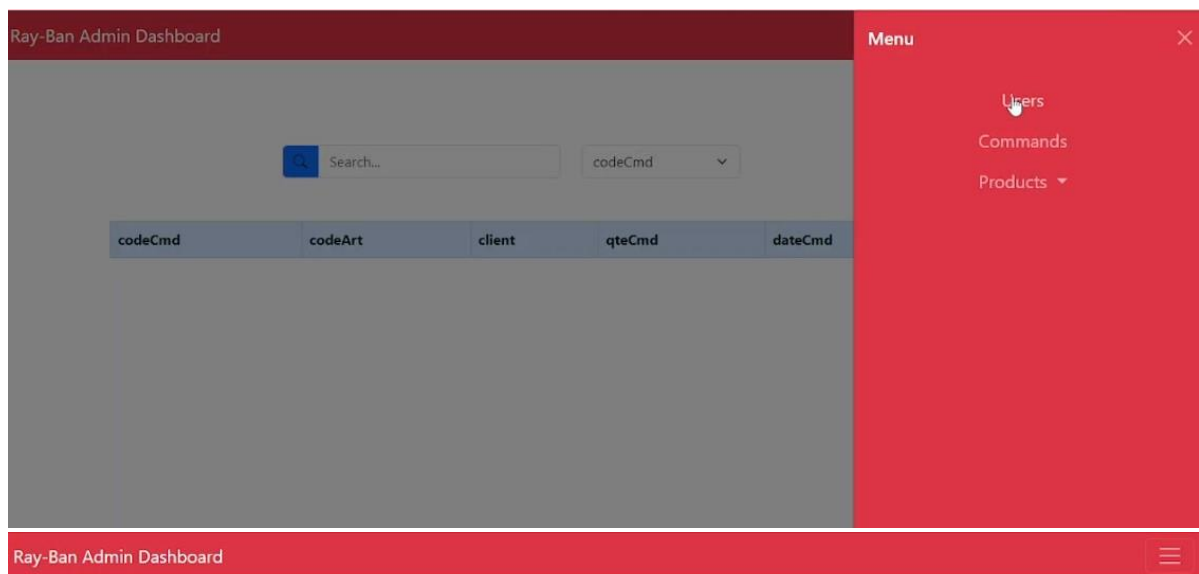
- The admin can cancel the command due to shipment problems or any other reason, an email will be sent to user to notify him





d. USERS MANAGEMENT

- The admin can view list of users and search for a specific user



- The admin can delete a user for his false info or any reason, an email will be sent to inform the user

