

ALEXANDRIA NATIONAL UNIVERSITY

Course: Web Programming

Professor: Mohamed Abd El-Hafeez

# DARAGA SHOPPING WEBSITE

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# 1. ABSTRACT

The "Daraga" project is a specialized web-based e-commerce application designed to address the fragmentation in the online cycling equipment market. By creating a centralized platform for bicycles, repair tools, and accessories, the system significantly improves the shopping experience for cycling enthusiasts. The project features a responsive frontend interface for customers and a comprehensive administrative dashboard for inventory and user management. Key technical implementations include client-side data validation, dynamic routing simulations, and a dual-role authentication system.

# 2. INTRODUCTION

## 2.1 Problem Statement

Cyclists currently face a disjointed online shopping experience. To acquire necessary equipment, they often must navigate generalist e-commerce platforms that lack specialized categorization or visit multiple niche websites. This results in:

- Difficulty in finding specific spare parts and tools.
- A poor user experience (UX) due to cluttered interfaces.
- Inconsistent product information across different vendors.

## 2.2 Proposed Solution

"Daraga" addresses these issues by providing a dedicated, one-stop web application. The platform categorizes products into three distinct streams—Bicycles, Repair Tools, and Accessories—simplifying the user journey. It utilizes a responsive web design to ensure accessibility across desktop and tablet devices.



## 2.3 Project Objectives

1. **Centralization:** To aggregate cycling-specific products into a single, navigable catalog.
2. **Administration:** To empower business owners with a dashboard for managing products (CRUD operations), tracking orders, and managing user accounts.
3. **Security & Integrity:** To implement client-side validation for secure data entry during checkout and sign-up processes.
4. **Usability:** To design a consistent, branded user interface using modular CSS and semantic HTML.

## 3. Development Environment & Tools

Per the project requirements, the following tools and technologies were utilized to ensure professional delivery and collaboration:

- **Code Editor:** Visual Studio Code.
- **Version Control:** GitHub (for collaboration and source code management).
- **Server Environment:** Xampp (Apache Server & MySQL Database).
- **Languages:** HTML5, CSS3, JavaScript, PHP.

# 4. SYSTEM DESIGN

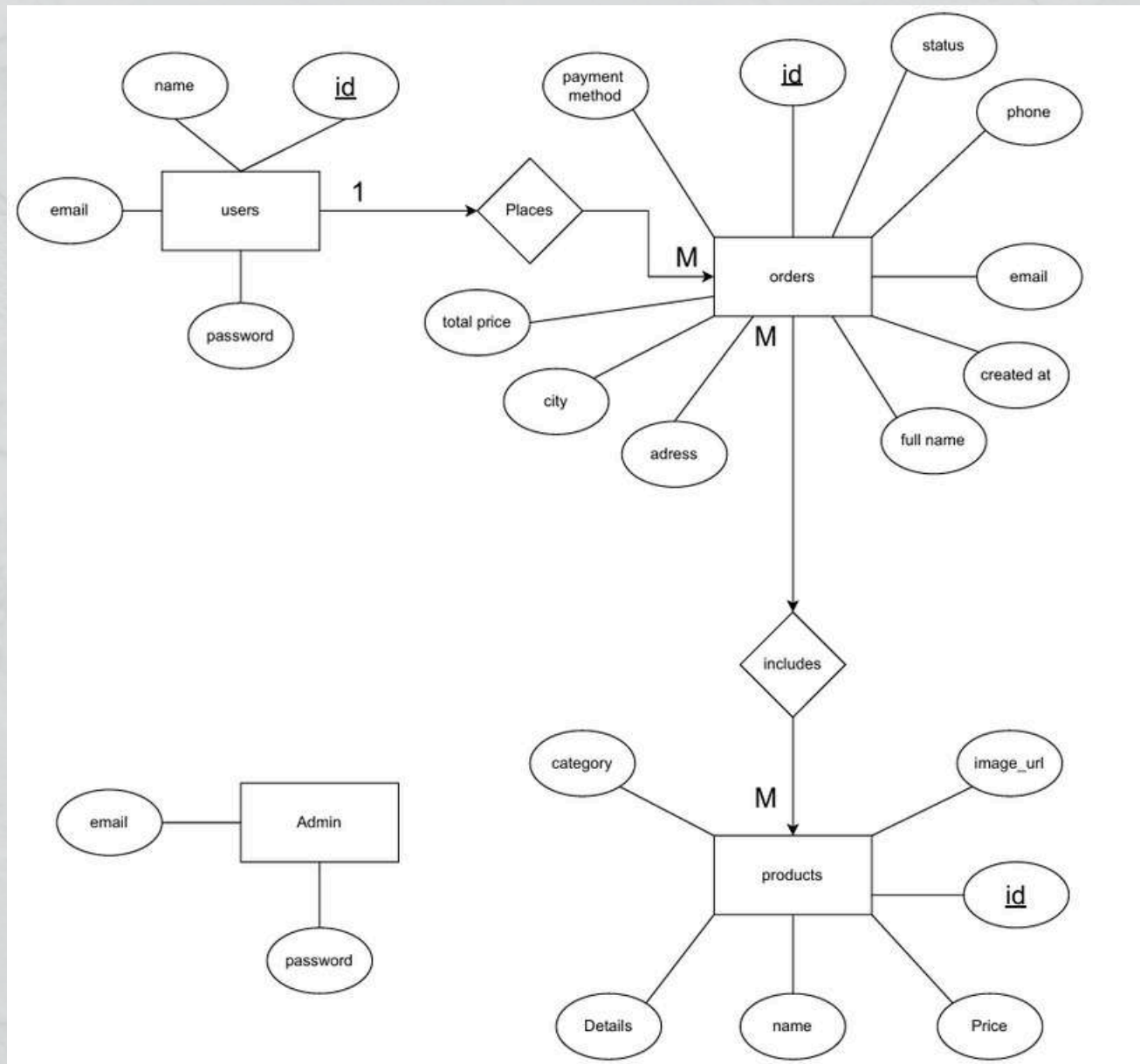
## 4.1 System Architecture

The application follows a standard Client-Server architecture pattern (simulated for frontend prototype).

- **Presentation Layer:** HTML5 and CSS3 provide the visual structure and styling.
- **Logic Layer:** navigation.js and AdminScript.js handle event listeners, DOM manipulation, and validation.
- **Data Layer:** JavaScript Objects and Arrays simulate the database storage for the frontend prototype.



## 4.2 Entity Relationship Diagram (ERD)



# 5. IMPLEMENTATION DETAILS

## 5.1 Frontend Technologies

- **HTML5:** Semantic structuring (Header, Nav, Main, Footer).
- **CSS3:** Uses CSS Variables (:root) for consistent theming.
  - Primary Dark:#2F2F2F
  - Accent Gold:#FFCB74
  - Action Green:#4dba47
- **JavaScript:** Vanilla JS used for all interactive elements to minimize dependencies.

## 5.2 Validation Logic (Client-Side)

To ensure data integrity, the application implements strict input validation.

- **Checkout Validation:** The placeOrder() function ensures no required fields (Name, Email, Address) are empty.
- **Login Routing:** The login() function detects the selected role (User vs. Admin) to route the user to the correct interface.



## 5.3 Folder Structure

The project is organized to separate concerns:

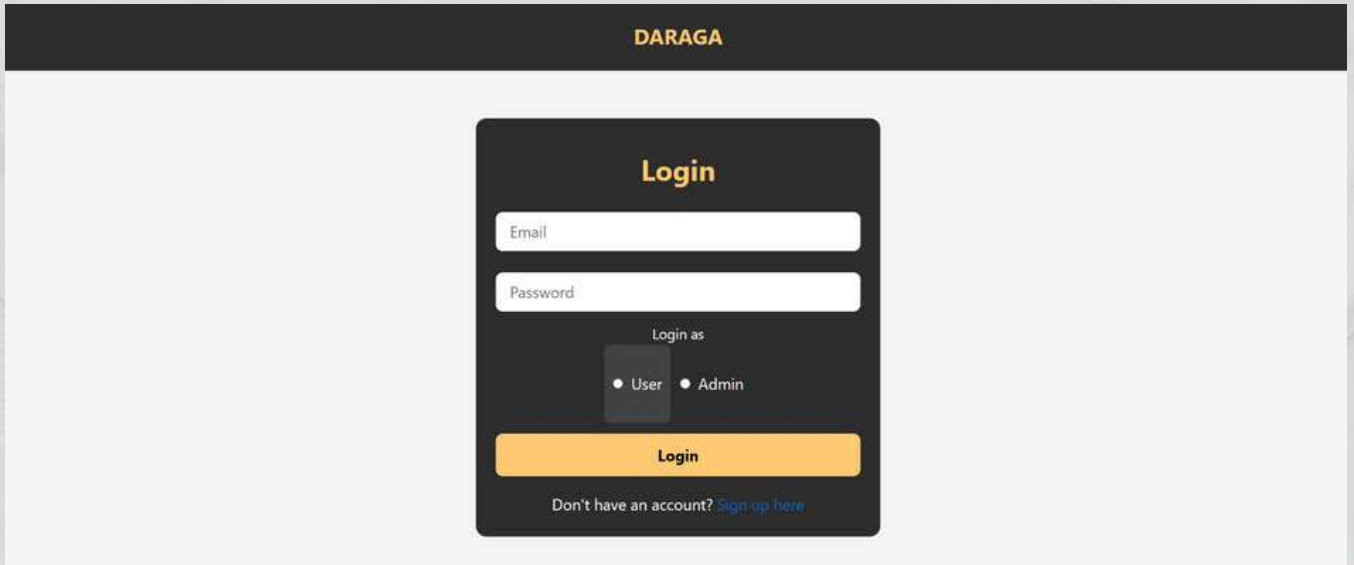
- **/admin-panel:** Administrator HTML views.
- **/user-panel:** Customer-facing HTML views.
- **/styles:** CSS stylesheets (style.css, AdminStyle.css).
- **/js:** Logic files (navigation.js, AdminScript.js).

# 6. USER INTERFACE WALKTHROUGH

## 6.1 Authentication Module

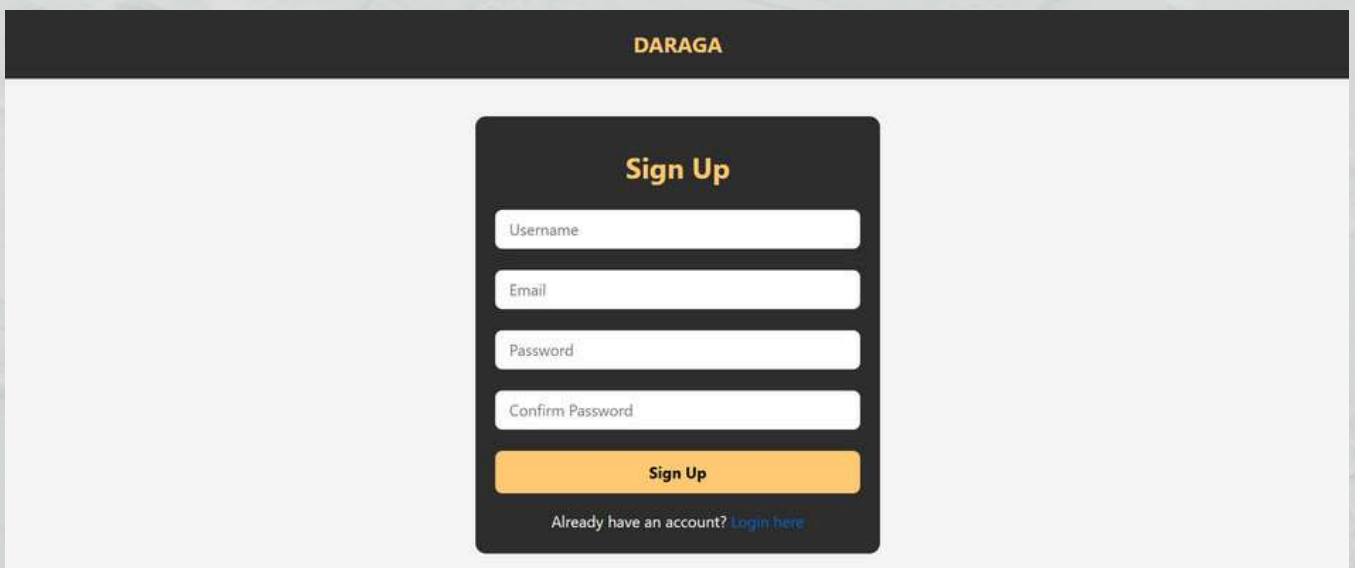
The entry point of the application allows users to Log In or Sign Up. The design uses a dark card on a light background for focus.

Figure 1: Login Page  
(Users select their role—User/Admin—before logging in.)



The screenshot shows the DARAGA Login Page. At the top, there is a dark header with the word "DARAGA" in orange. Below the header, the main content area is white. In the center, there is a dark gray rounded rectangle containing the login form. The form has the title "Login" in orange. It includes two white input fields for "Email" and "Password". Below these fields, there is a "Login as" section with two radio buttons: "User" (selected) and "Admin". At the bottom of the form is an orange "Login" button. Below the button, there is a link: "Don't have an account? [Sign up here](#)".

Figure 2: Sign Up Page  
(New users can create an account using the registration form.)



The screenshot shows the DARAGA Sign Up Page. At the top, there is a dark header with the word "DARAGA" in orange. Below the header, the main content area is white. In the center, there is a dark gray rounded rectangle containing the sign up form. The form has the title "Sign Up" in orange. It includes four white input fields: "Username", "Email", "Password", and "Confirm Password". At the bottom of the form is an orange "Sign Up" button. Below the button, there is a link: "Already have an account? [Login here](#)".



## 6.2 Customer Module (Storefront)

The customer interface focuses on product discovery and purchasing.

Figure 3: Home Page & Categories & Footer  
(The landing page displays the three main product categories. The footer contains quick links and social media.)

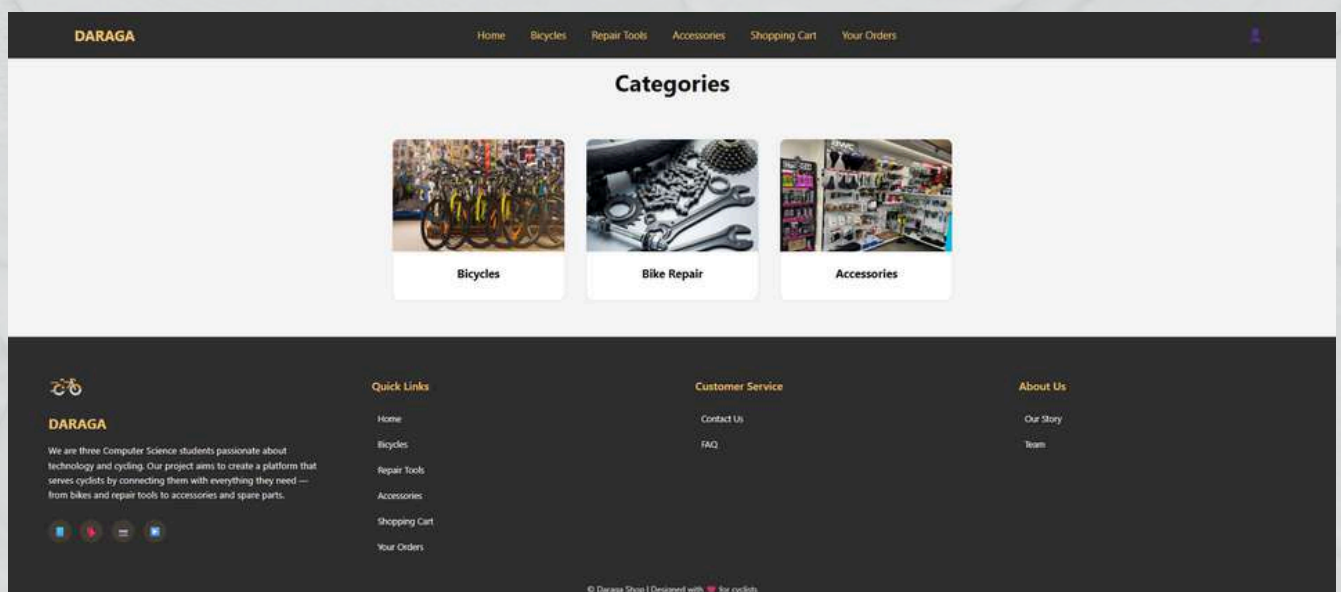



Figure 4: Product Catalogs  
(Dedicated pages for Bicycles, Repair Tools, and Accessories.)


DARAGA

[Home](#)[Bicycles](#)[Repair Tools](#)[Accessories](#)[Shopping Cart](#)[Your Orders](#)


## Bicycles




BTWIN 2624,499\$



Forever 247,999\$



Zoom 207,403\$



**DARAGA**

We are three Computer Science students passionate about technology and cycling. Our project aims to create a platform that connects

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## Repair Tools




Chain Brush10\$



Multi-Tool25\$



Tire Lever7\$



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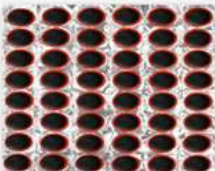
## Accessories




Socket Kit40\$



Spring Tool50\$



Spacer Set25\$



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Figure 5: Shopping Cart & Checkout  
(The cart displays selected items and tax calculations. The checkout form collects shipping details.)

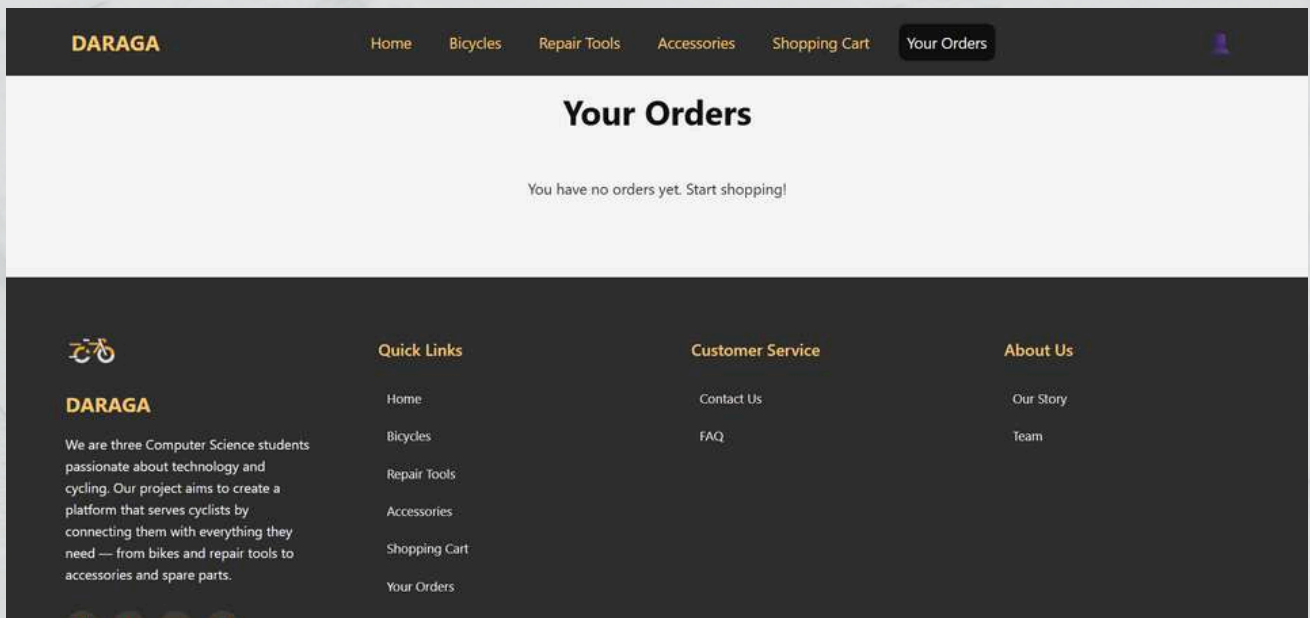
The screenshot shows the 'Shopping Cart' page of the DARAGA website. The navigation bar at the top includes links for Home, Bicycles, Repair Tools, Accessories, Shopping Cart (which is highlighted), and Your Orders. The main heading is 'Shopping Cart'. Below it, a dark grey box titled 'Cart details' contains two items: a 'BTWIN 26' bicycle for 24,499\$ and a 'Multi-Tool' for 25\$. Below the items, the tax is listed as 145\$ and the total as 24,669\$. At the bottom of the box are two buttons: 'Continue shopping' and 'checkout'.

Cart details		
	BTWIN 26	24,499\$
	Multi-Tool	25\$
Tax :		145\$
Total :		24,669\$
<a href="#">Continue shopping</a> <a href="#">checkout</a>		

The screenshot shows the 'Checkout' page of the DARAGA website. The navigation bar is the same as the cart page. The main heading is 'Shipping Address'. Below it, there are five input fields for 'Full Name', 'Email', 'Phone Number', 'Address', and 'City'. Below these fields is a 'Payment Method' section with a dropdown menu currently set to 'Cash on Delivery'. Below the payment method is an 'Order Summary' section showing 'Total Items: 2' and 'Total Price: 24,669\$'. At the bottom is a large green button labeled 'Complete Order'.

Shipping Address	
Full Name	<input type="text"/>
Email	<input type="text"/>
Phone Number	<input type="text"/>
Address	<input type="text"/>
City	<input type="text"/>
Payment Method	
Cash on Delivery <input type="button" value="v"/>	
Order Summary	
Total Items: 2	
Total Price: 24,669\$	
<a href="#">Complete Order</a>	

Figure 6: User Orders  
(Users can track their order history.)



## 6.3 Admin Module (Back-Office)

The admin panel provides a bird's-eye view of the business operations.

Figure 7: Admin Dashboard  
(Displays key metrics such as Total Earnings, Orders Placed, and Total Users.)



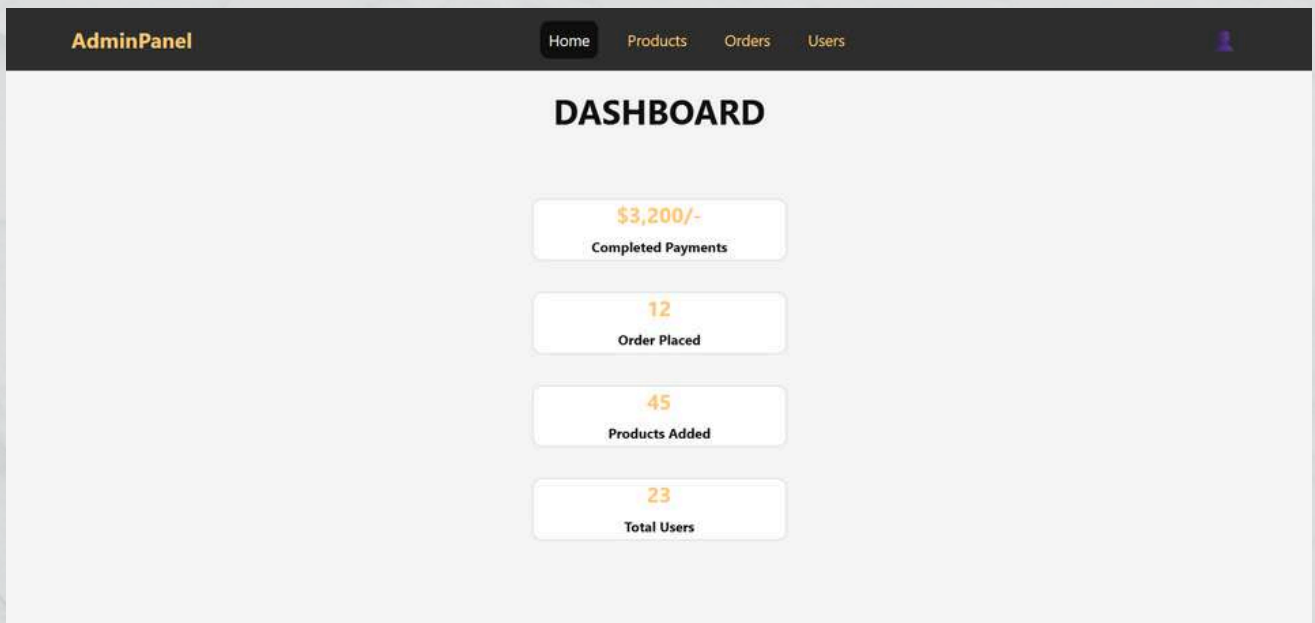
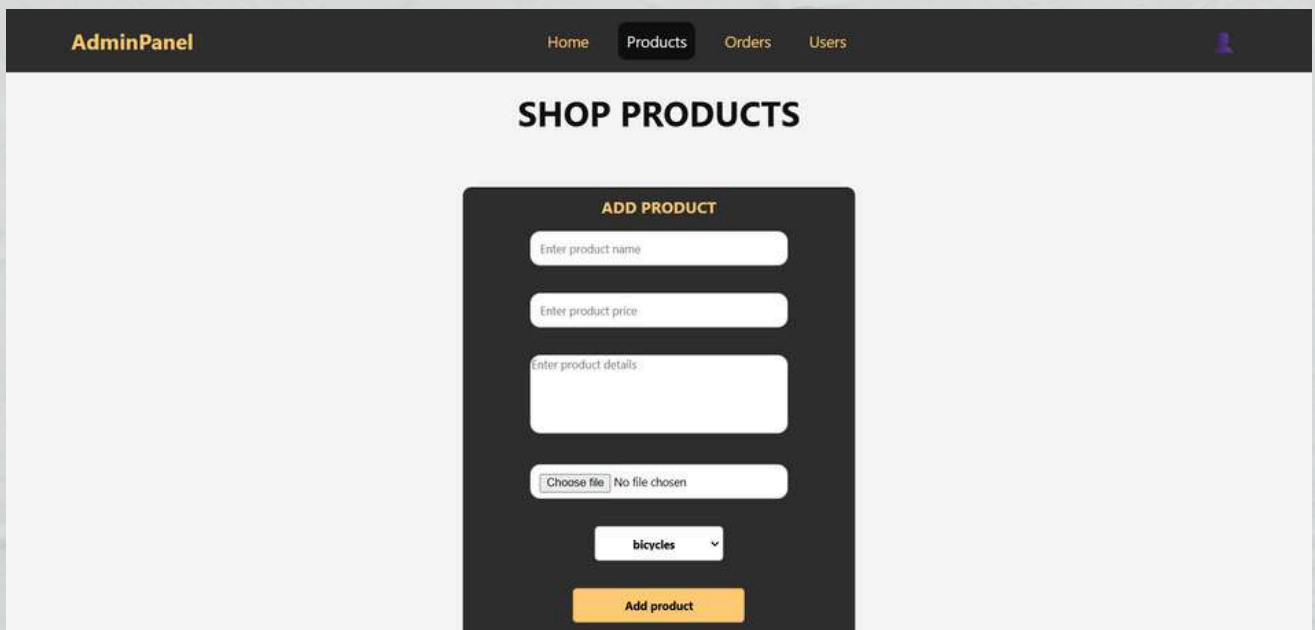


Figure 8: Product Management  
(Admins can view the current inventory, delete products, and add new items using the form.)



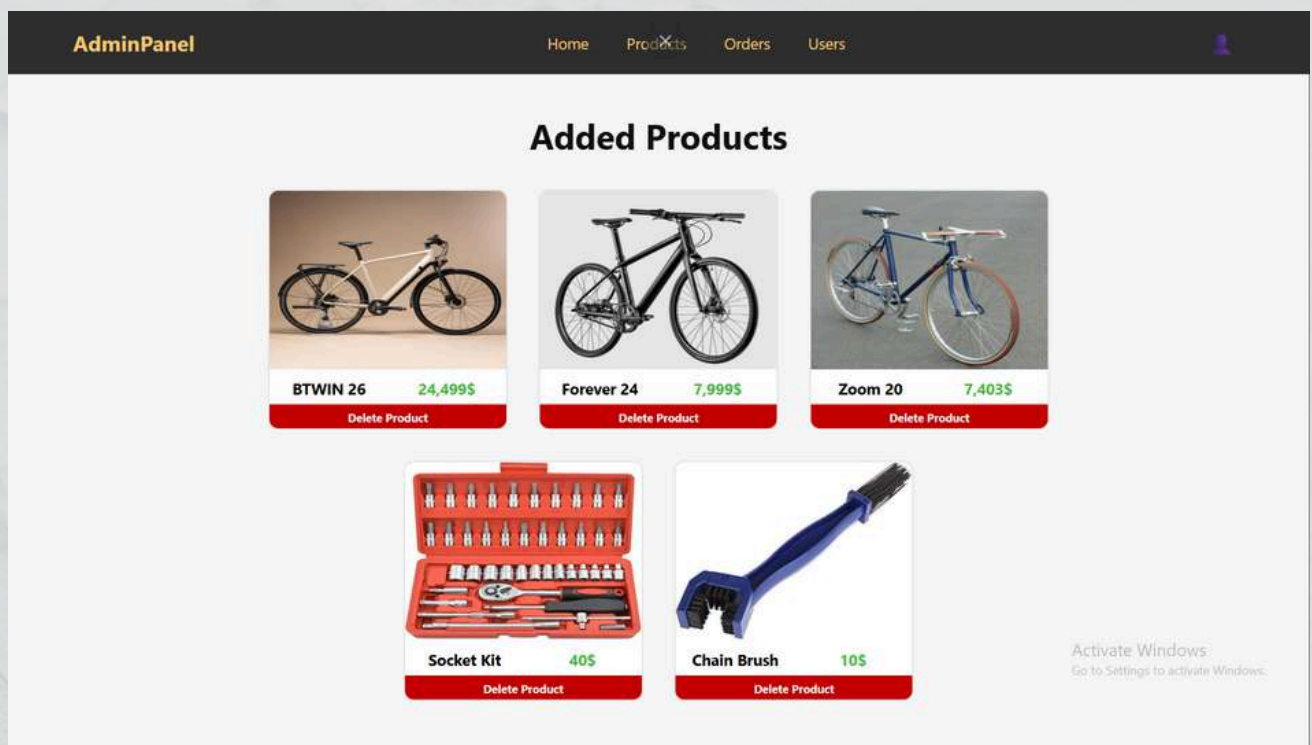
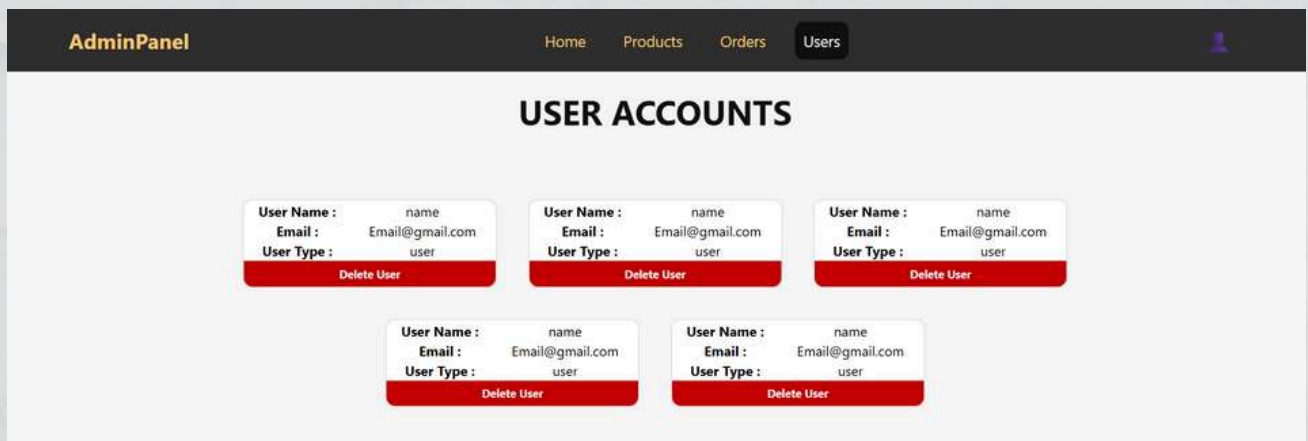


Figure 9: Order & User Management  
(Admins can track customer orders in a table view and manage registered user accounts.)

AdminPanel Home Products <b>Orders</b> Users								
PLACED ORDERS								
Order ID	Full Name	Email	Phone Number	Address	City	Payment Method	Total Price	Status
1	Any one	test@gmail.com	0123456789	Alexatndria	Alex	cash on delivery	12000\$	Pending
1	Any one	test@gmail.com	0123456789	Alexatndria	Alex	cash on delivery	12000\$	Pending
2	Any one	test@gmail.com	0123456789	Alexatndria	Alex	cash on delivery	12000\$	Pending
3	Any one	test@gmail.com	0123456789	Alexatndria	Alex	cash on delivery	12000\$	Pending
4	Any one	test@gmail.com	0123456789	Alexatndria	Alex	cash on delivery	12000\$	Pending





## 7. CONCLUSION

The Daraga project successfully demonstrates a functional prototype of a niche e-commerce platform. It meets the core objectives of providing a user-friendly shopping interface and a functional administrative control panel. The implementation of client-side validation, responsive design, and role-based access control ensures a professional and secure user experience.

Future enhancements will include integrating a backend database (MySQL) and a live payment gateway to transition the project from a prototype to a production-ready application.