

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.

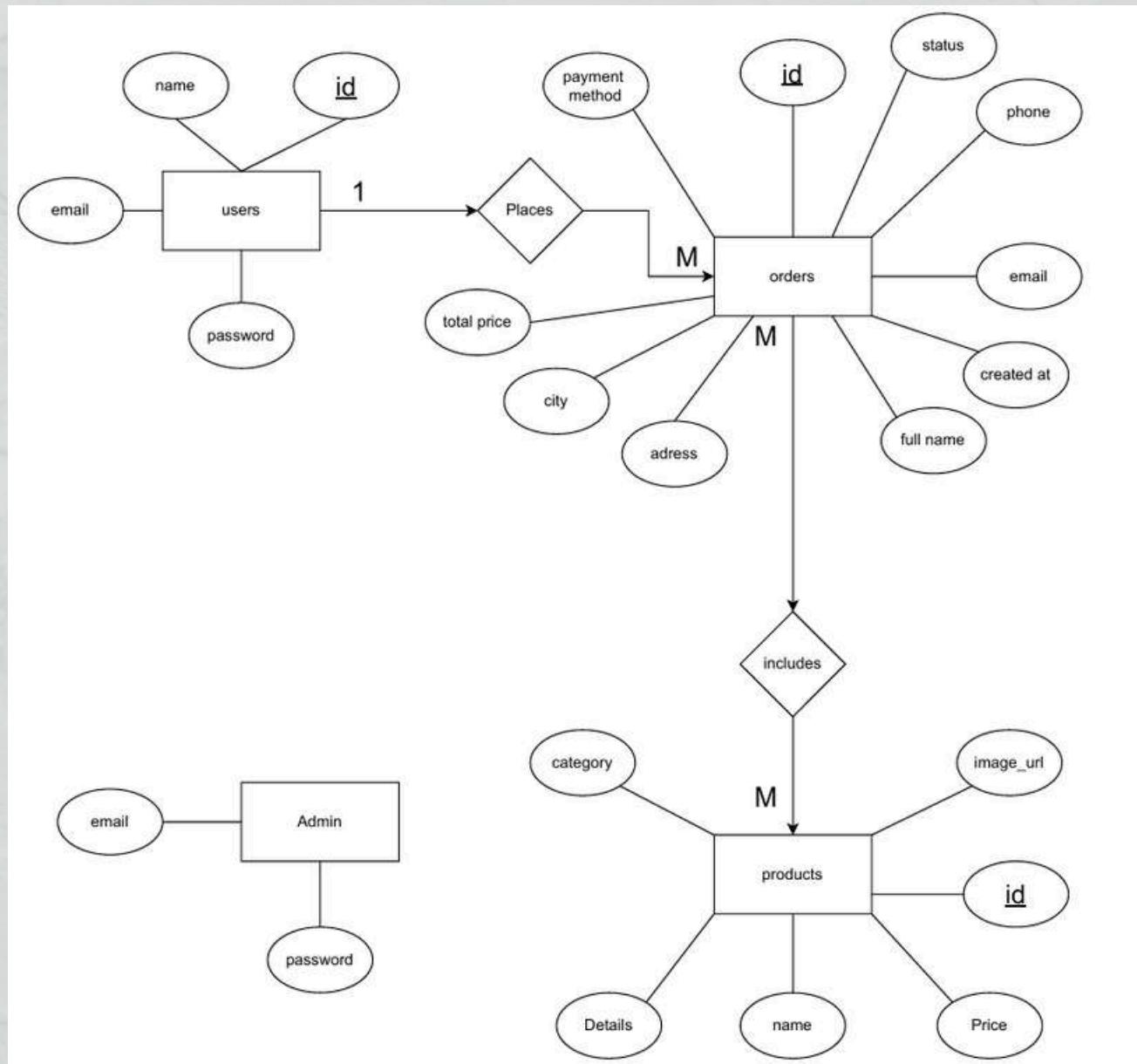
# 4. SYSTEM DESIGN

## 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 login page features a dark header with the word "DARAGA" in yellow. Below it is a central "Login" button. The form contains fields for "Email" and "Password". A "Login as" section includes radio buttons for "User" and "Admin", with "User" selected. At the bottom is a yellow "Login" button, and below it, 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 sign up page features a dark header with the word "DARAGA" in yellow. Below it is a central "Sign Up" button. The form contains fields for "Username", "Email", "Password", and "Confirm Password". At the bottom is a yellow "Sign Up" button, and below it, 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.)

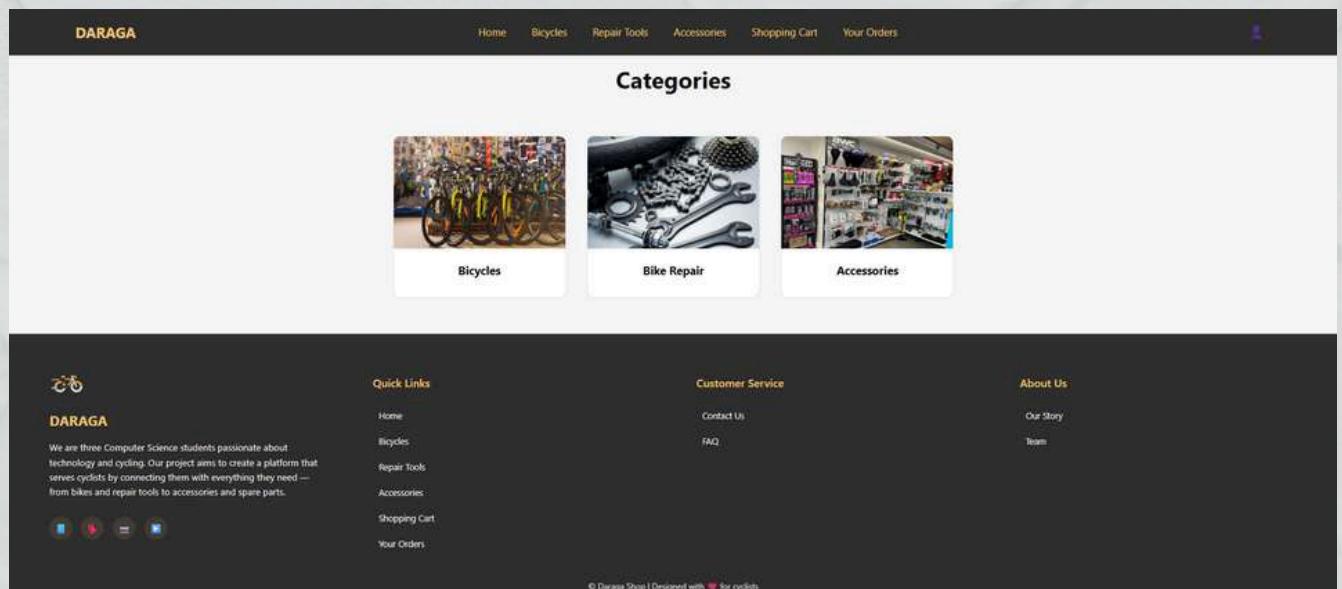


Figure 4: Product Catalogs  
(Dedicated pages for Bicycles, Repair Tools, and Accessories.)

**DARAGA**

Home   Bicycles   Repair Tools   Accessories   Shopping Cart   Your Orders

## Bicycles

**BTWIN 26**   **24,499\$**

**Forever 24**   **7,999\$**

**Zoom 20**   **7,403\$**

**DARAGA**

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

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## Repair Tools

**Chain Brush**   **10\$**

**Multi-Tool**   **25\$**

**Tire Lever**   **7\$**

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## Accessories

**Socket Kit**   **40\$**

**Spring Tool**   **50\$**

**Spacer Set**   **25\$**

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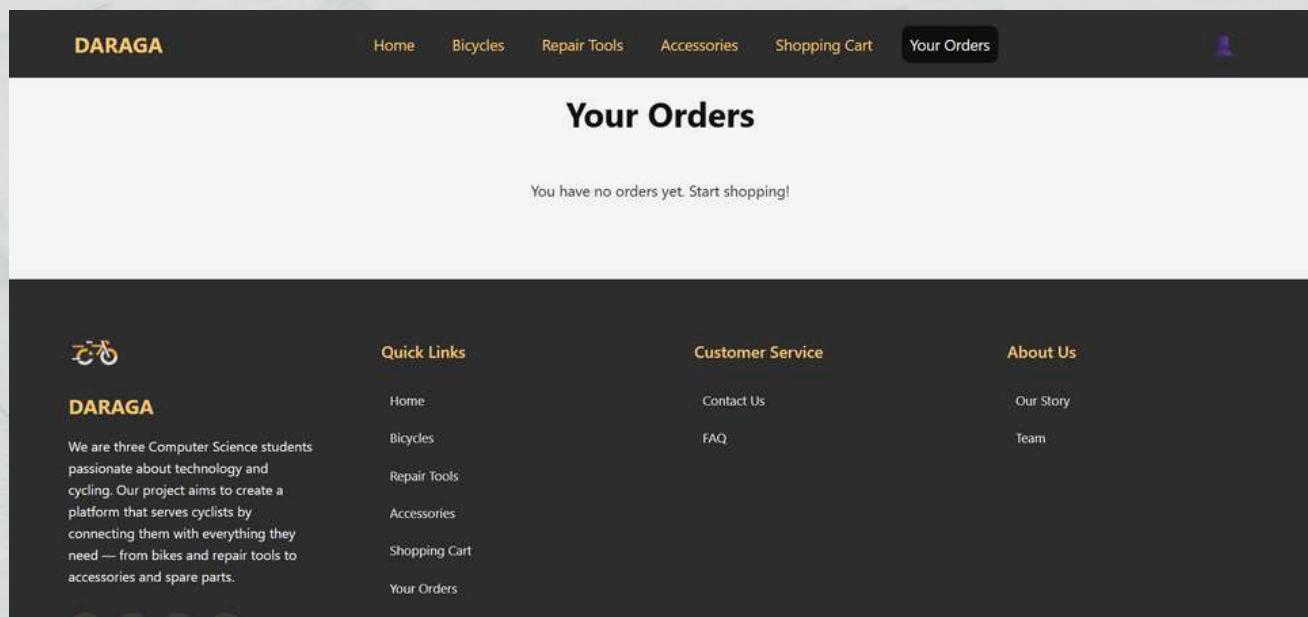
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**Figure 5: Shopping Cart & Checkout**  
(The cart displays selected items and tax calculations. The checkout form collects shipping details.)

The screenshot shows the DARAGA website's shopping cart page. The header includes links for Home, Bicycles, Repair Tools, Accessories, Shopping Cart (which is highlighted), and Your Orders. A user profile icon is also present. The main content area is titled "Shopping Cart" and contains a "Cart details" section. This section lists two items: "BTWIN 26" (a bicycle) at \$24,499 and "Multi-Tool" at \$25. Below these, tax information is shown as "Tax : 145\$" and the total as "Total : 24,669\$". At the bottom of the cart section are "Continue shopping" and "checkout" buttons.

The screenshot shows the DARAGA website's checkout page. The header links are identical to the shopping cart page. The main content area is titled "Shipping Address" and contains five input fields for "Full Name", "Email", "Phone Number", "Address", and "City". Below this is a "Payment Method" section with a dropdown menu set to "Cash on Delivery". The "Order Summary" section at the bottom provides a summary of the order: "Total Items: 2" and "Total Price: 24,669\$". A large green "Complete Order" button is located at the bottom of this summary section.

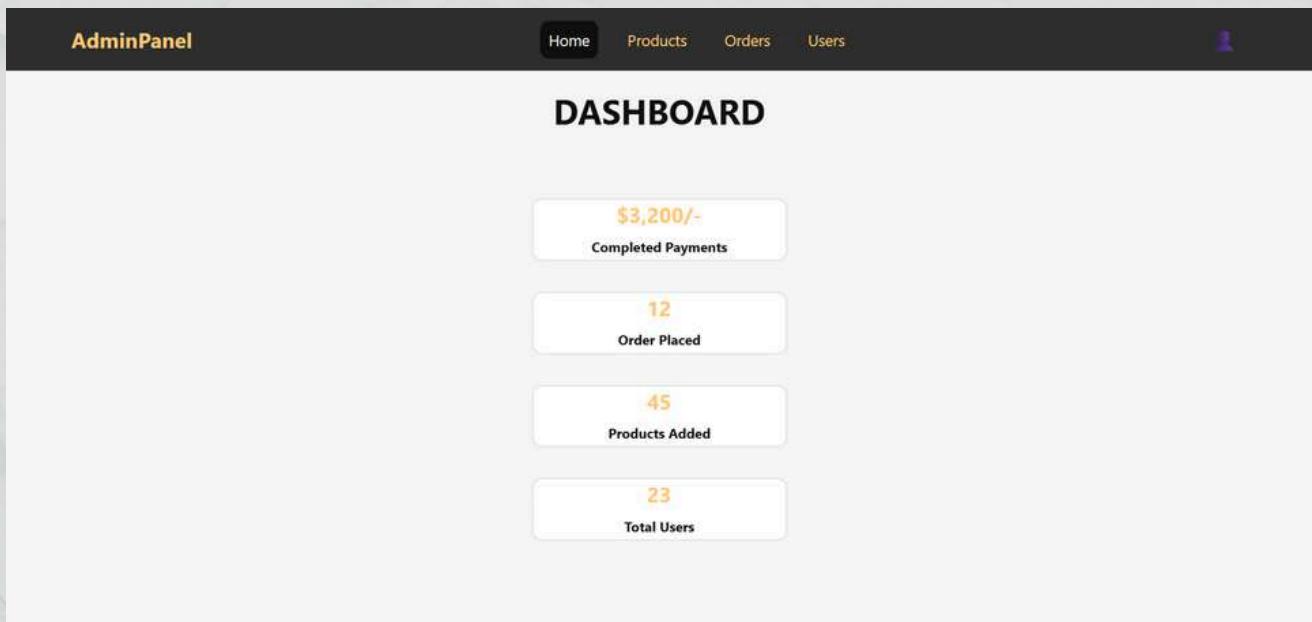
**Figure 6: User Orders**  
**(Users can track their order history.)**



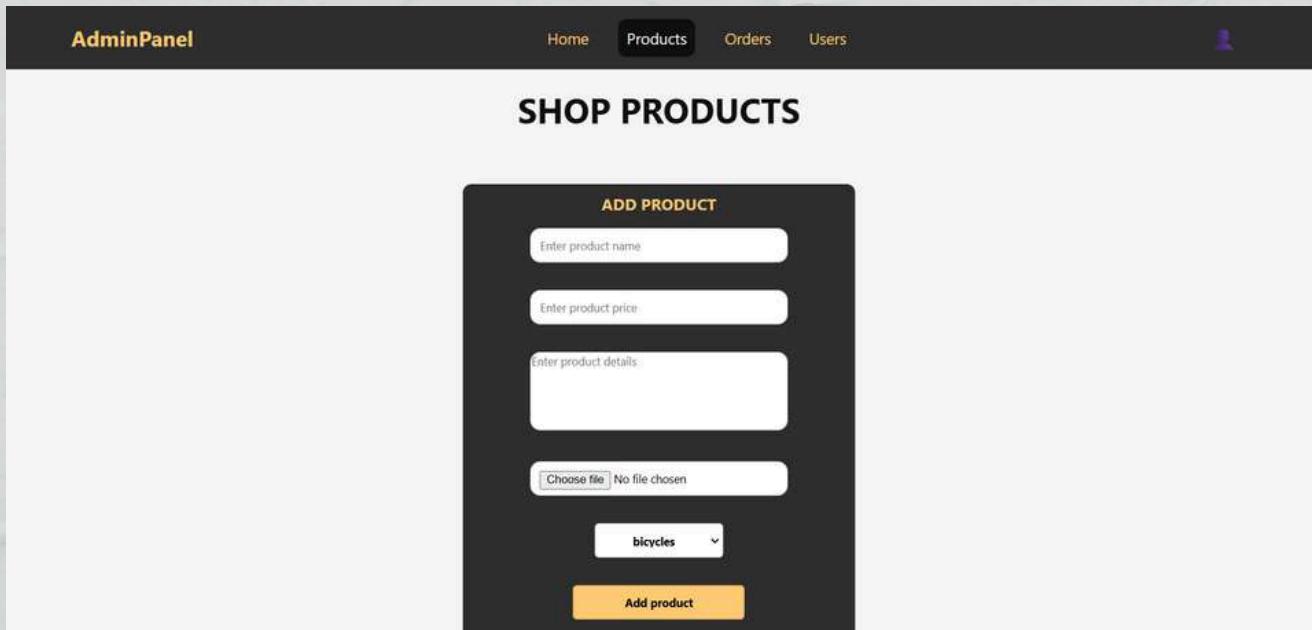
## 6.3 Admin Module (Back-Office)

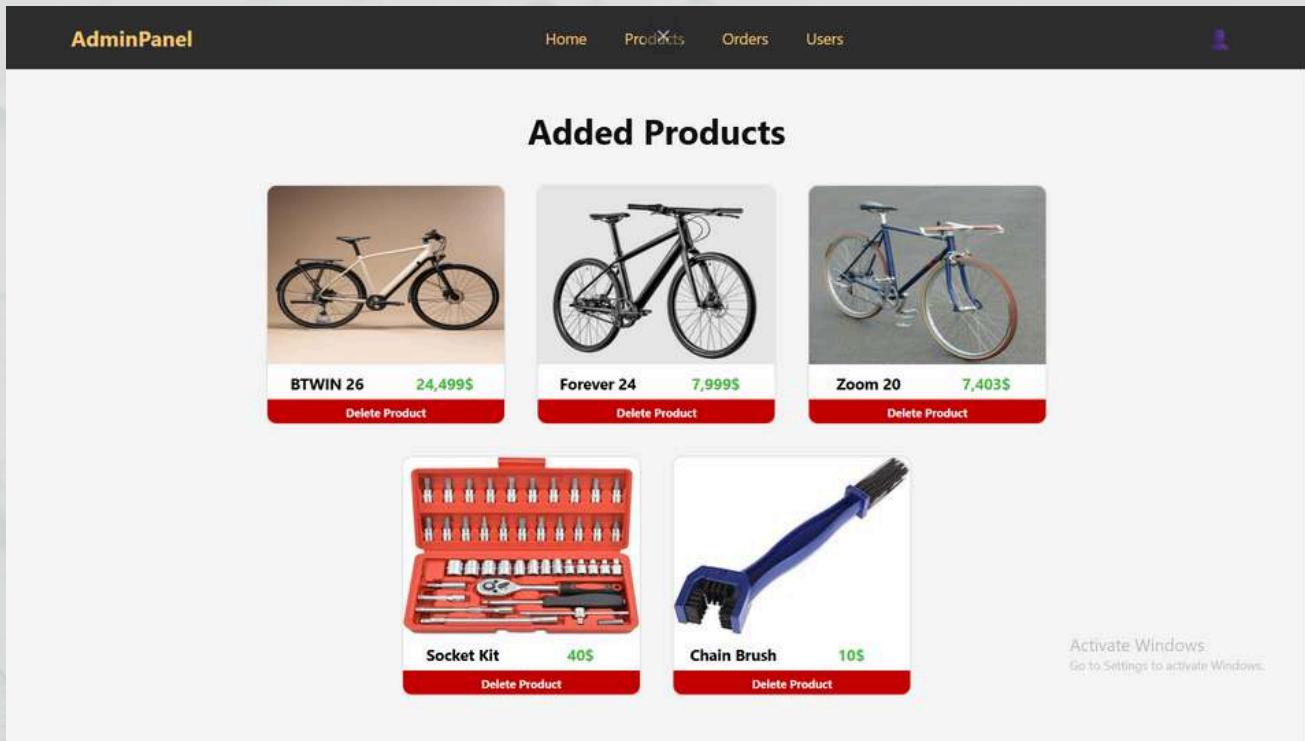
The admin panel provides a bird's-eye view of the business operations.

**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.)

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

The screenshot shows the AdminPanel interface with the title "USER ACCOUNTS". There are five user accounts listed in a grid:

User Name	Email	User Type
name	Email@gmail.com	user

Each account row has a red "Delete User" button at the bottom.

## 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.