

Case Study: Front-End Development of an E-Commerce Website

Objective: The project aims to develop and deploy an entire module e-commerce site on HTML CSS, and Javascript alone. The site will allow a user to enjoy a completely hassle-free shopping location with features like product listings, search capabilities, effective cart management, and responsiveness on different devices.

Scope:

- A nice and efficient interface for browsing products.
- Functions to add and remove items to/from the cart.
- A responsive layout for mobile, tablet, and desktop usability.

Basic validation for user inputs like shipping details.

Key Functionalities:

1. Homepage:

- Featured products with categories.
- Easy access to different sections through a navigation bar.

2. Product Listing Page:

- A product list includes name, price, image, etc.
- Sort/filter by price/category.

3. Product Details Page:

- Detailed product information like description, specification, availability, etc.
- Button "Add to Cart".

4. Shopping Cart:

- Selected products, number, and price.
- Gives option to change amount of product or completely remove it.

5. **Search Functionality:**

- Searching product by name or keyword.

6. **Responsive Design:**

- This media query would keep it compatible across devices.

7. **Checkout Page:**

- Data for shipping and payment all goes here.
- Summary of purchase items.

8. **Error Handling:**

- Messages for invalid inputs or empty cart situations.

Technologies Used:

- **HTML:** Structure and layout of web pages.
- **CSS:** Styling and design elements, including animations and transitions.
- **JavaScript:** Dynamic functionality, form validations, and DOM manipulations.

Challenges and Solutions:

- **Challenge:** Ensuring cross-browser compatibility.
 - **Solution:** Testing on multiple browsers and applying standard practices.
- **Challenge:** Implementing responsive design.
 - **Solution:** Utilized media queries and flexible layouts.

Outcome: the project is fully completed and robust- a comprehensive e-commerce site developed for smooth shopping experiences, showcasing proficiency in HTML, CSS and JavaScript front-end development.

Written by : Abhiraj Sinha