

## Mini-Project 1: The DZ-Shop Front-end

### Overview

You have built the foundation of an e-commerce platform. Now, it is your turn to act as the Lead Frontend Engineer. Your goal is to transform this prototype into a professional-grade application with persistence, advanced logic, and a unique brand identity.

**Total Grade: 7 Points**

**Deadline: G1: 06/04/2026 | G2: 08/04/2026**

### 1. Branding & Visual Identity (1.0 Point)

The current "Orange/Gray" theme is just a placeholder. You must give your store its own brand.

- **The Task:** Change the primary color scheme of the entire website (e.g., Deep Blue, Emerald Green, Minimalist Black/Gold).
- **Requirement:** Modify the Tailwind configuration or your global CSS to ensure the Navbar, buttons, and icons follow a consistent, new color palette. Change the "DZ-Shop" name to your own custom store name.

### 2. The Wishlist System (1.5 Points)

Users often want to "save for later" without adding to the cart.

- **The Task:** Implement a **Wishlist Context**.
- **UI Requirement:** Add a "Heart" icon to every **ProductCard**.
  - Create a **/wishlist** page that displays the saved items.
  - Clicking the heart should **add/remove** the item from the wishlist.
  - Add a Wishlist link (or icon) in the Navbar next to the Cart.

### 3. Data Persistence (LocalStorage) (1.0 Point)

Currently, if you refresh the page, the Cart and Wishlist are wiped out. Professional apps never lose user data on a refresh.

- **The Task:** Use the **useEffect** hook to synchronize your Cart and Wishlist states with **window.localStorage**.
- **Requirement:** When the app loads, it should check if there is data in **LocalStorage**. When the state changes, it should save it automatically.

### 4. Advanced Searching & Sorting (1.5 Points)

The **Home.jsx** page currently shows products in a random order. We need better discovery.

- **The Task:**
  1. **Search:** Make the search bar in the Navbar functional. As the user types, the product grid should filter in real-time.
  2. **Sorting:** Add a dropdown menu above the product grid to sort by:
    - Price: Low to High
    - Price: High to Low
    - Alphabetical (A-Z)

### 5. Dark Mode Toggle (1.0 Point)

Modern users expect a "Night Mode" for comfortable browsing.

- **The Task:** Use Tailwind CSS **dark:** classes to create a dark theme for the whole site.
- **UI Requirement:** Add a Sun/Moon toggle switch in the Navbar.

- **Persistence:** The user's preference (Light or Dark) should also be saved in **localStorage**.

## 6. Secure Checkout Form & Validation (1.0 Point)

The current checkout is a simple alert. We need a real form.

- **The Task:** Replace the "Confirm Purchase" buttons in the modal with a real HTML Form.
- **Fields required:** Full Name, Email, Shipping Address, and a 16-digit Card Number.
- **Validation:**
  - Email must be valid.
  - Card number must be exactly 16 digits.
  - Show red error messages if the user tries to submit an incomplete form.

### Grading Rubric (Total 7.0)

<b>Criteria</b>	<b>Points</b>	<b>Failure Condition</b>
<b>Custom Branding</b>	<b>1.0</b>	Kept the default orange/gray colors or name.
<b>Wishlist Logic</b>	<b>1.5</b>	Heart button doesn't work or page doesn't update.
<b>Persistence</b>	<b>1.0</b>	Refreshing the page empties the Cart or Wishlist.
<b>Search &amp; Sort</b>	<b>1.5</b>	Search doesn't filter; Sort logic is incorrect.
<b>Dark Mode</b>	<b>1.0</b>	Background changes but text remains unreadable.
<b>Form Validation</b>	<b>1.0</b>	Form allows empty fields or invalid card lengths.