

Final Project Report – Introduction to Information & Communication Technology

University: National University of Computer & Emerging Sciences (FAST)

Department: Computer Science

Course: Introduction to Information & Communication Technology

Project Title: Online Electronics Store System

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1. Introduction To the Project

Our project is an online electronics store designed to provide users with a simple and convenient method to explore a variety of electronic products. This website allows visitors to browse items, view featured products, read customer reviews, add items to cart and navigate through different product categories with ease etc.

We chose this project because of the fact that e-commerce is hastily becoming one of the most widely used online platforms in the world. Building such a system helps us understand how real-world online stores are structured and developed, how multiple webpages connect, and how users interact with products on a real website.

The website solves the problem of limited accessibility to electronics by offering a user-friendly platform where customers can find different types of devices in one place and easily navigate through the various webpages to perform their desired tasks.

2. Project Objectives

- To design a functional online electronics store interface.
- To categorize products into clear sections to allow easy website navigation.
- To allow users to add items to shopping cart.
- To organize product information in a clear and structured manner.
- To develop basic interactive features such as buttons and cart updates.
- To practice and improve our skills in HTML, CSS and JavaScript.
- To understand how multipage websites are structured and connected.

3. Scope of The Project

What Is Included

- A completed home page consisting of featured products, customer reviews sections and options to browse multiple sub-categories of electronics.
- Three main sub-categories: Earwear, Audio Devices and Accessories.
- Additional product groups in each main sub-category.
- An Add to Cart option which displays selected items on the right side of the screen.
- An About Us page containing details and contact information about the company.
- Smooth navigation through the webpages and a visually appealing design and layout.

What Is Not Included

- No backend database to save orders or cart items permanently.
- No admin panel to manage (add/delete) products from the website.
- No account creation or login options.
- No system of order tracking.
- No option to search products by their name or any product filtering system.
- No payment gateway or online payment system.

4. Tools and Technologies Used

- HTML used for webpage structure.
- CSS used for webpage styling and layout.
- JavaScript used for interactivity and dynamic features.
- Visual Studio Code used as code editor for HTML, CSS and JavaScript.
- Chrome Web Browser to test and display webpages.
- Online images to enhance website design and provide additional product information.

5. Project Implementation

The website begins with a home page with the company's name and logo followed by a navigation bar. This navigation allows the user to switch between webpages according to their needs. Also on the home page, there is a section for featured products with their photo and description, as well as a customer reviews section at the bottom.

From the home page, user can navigate to three main sub-categories of Electronics – Earwear, Audio Devices and Accessories. Each of these sub-categories has its own separate page, where further divisions of product groups are displayed alongside relevant information.

Using JavaScript, there is an option to add products to cart by clicking on the “Add To Cart” button alongside all the listed products. The selected items are displayed in a cart that remains visible on the right side of each webpage. After adding desired items, the user can proceed to checkout and place the order after entering their personal details.

Additionally, the website includes an About Us page which displays the company's information such as contact info, branches, and working hours etc.

6. Module Snippets & Explanations

```
<section class="earwear-section" id="headphones">
  <h2>Headphones Collection</h2>
  <p>Explore our premium over-ear headphones with superior
sound quality.</p>
  <div class="product-grid">

    <div>
      <h3>Beyerdynamic DT 1990 Pro</h3>
      
      <p class="description">Openback studio headphones
with Tesla drivers and high-resolution audio.</p>
      <p><strong>Price: Rs. 2,75,000</strong></p>
      <button>Add to Cart</button>
    </div>
    <div>
  </section>
```

Explanation

- This module represents a Headphones product section on the Earwear webpage. <section> is used to group related content and allows linking via anchor <id = "Headphones">.
- Each product is placed inside <div> with its name, description, image, price and "Add To Cart" button.
- The .product-grid class creates a responsive layout for multiple products using CSS grid.
- This structure is repeated for other products and sub-categories, providing a consistent and organized display for users.

```
.product-grid div {  
    background: rgba(0, 255, 255, 0.05);  
    padding: 15px;  
    border-radius: 12px;  
    text-align: center;  
    display: flex;  
    flex-direction: column;  
    justify-content: space-between;  
    height: 100%;  
    transition: transform 0.3s, background 0.3s;  
}  
  
.product-grid div:hover {  
    transform: scale(1.05);  
    background: rgba(0, 255, 255, 0.15);  
}
```

Explanation

- This CSS snippet styles each product card in the Audio Devices webpage.
- “display: flex; flex-direction: column; justify-content: space-between;” ensures the product details and buttons are evenly spaced vertically.
- height 100%; ensures all product cards are uniform in height.
- The hover effect (transform: scale(1.05); and background change) creates small zoom and highlight, improving user interactivity and enhancing visual appeal.
- transition: transform 0.3s; background 0.3s; makes sure these changes are smooth.

```
cart.forEach((item, index) => {
  const li = document.createElement('li');
  li.textContent = `${item.name} - Rs. ${item.price} x
  ${item.quantity}`;

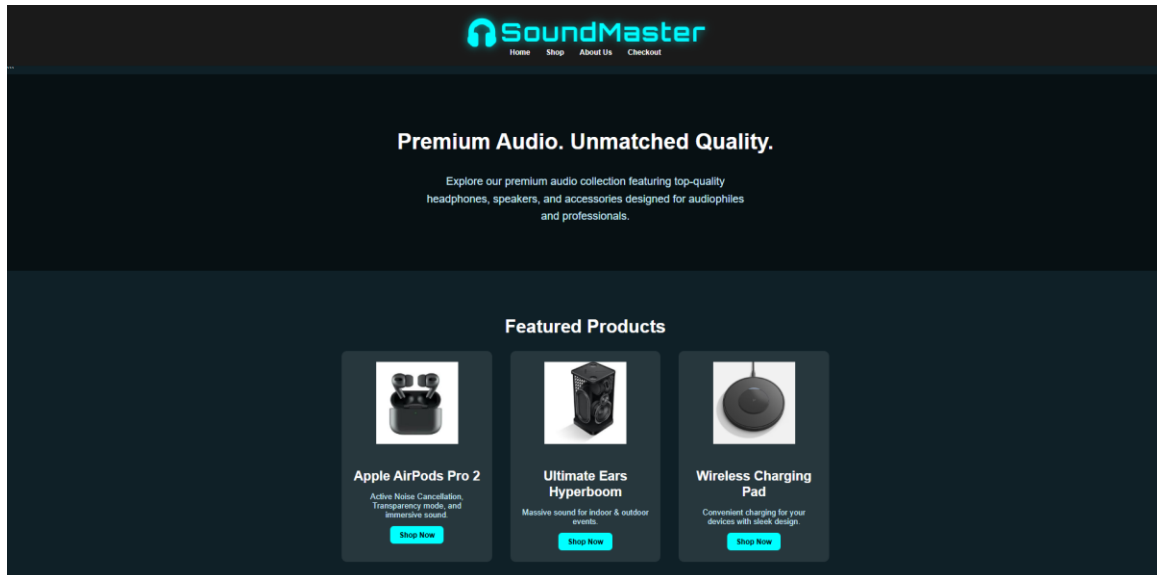
  // Remove button only on shop page
  if (!window.location.href.includes('checkout.html')) {
    const removeBtn = document.createElement('button');
    removeBtn.textContent = 'x';
    removeBtn.addEventListener('click', () => {
      cart.splice(index, 1);
      localStorage.setItem('cart', JSON.stringify(cart));
      renderCart();
    });
    li.appendChild(removeBtn);
  }

  cartList.appendChild(li);
  total += item.price * item.quantity;
});
```

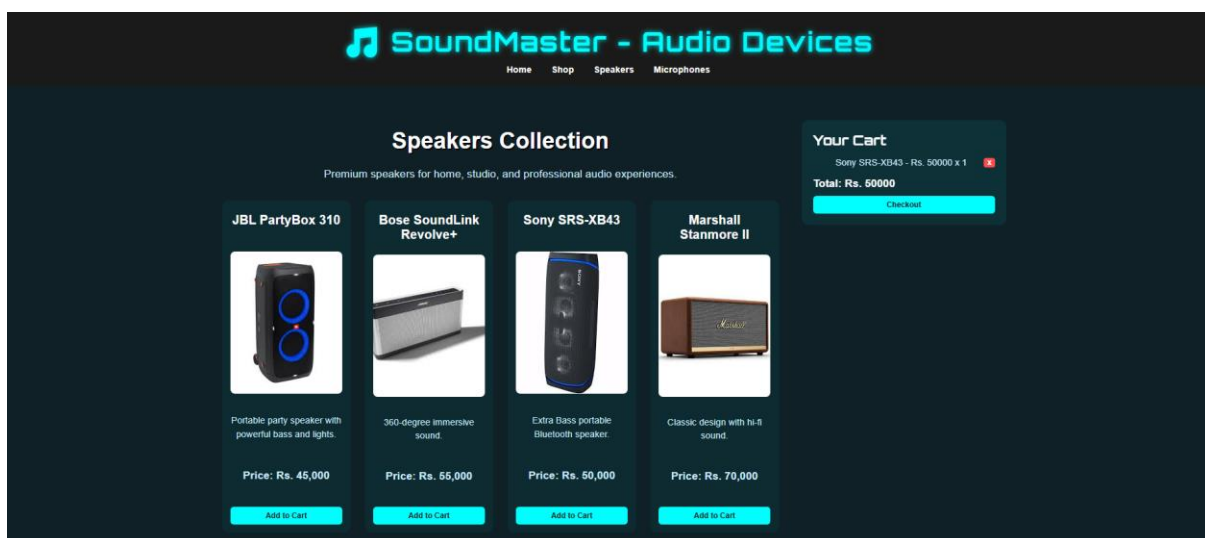
Explanation

- This JavaScript snippet loops through each item in the cart and creates a list element (li) to display the product name, price, and quantity.
- It also creates a remove button (x) that deletes the item from the cart and updates localStorage when clicked by the user.
- The renderCart() function is called afterward to refresh the cart display, ensuring the UI always reflects the current cart contents.
- This demonstrates dynamic cart management and DOM manipulation using JavaScript.

7. Website Screenshots



**Part of Home page, zoomed out to show more contents*



**Part of Audio Devices page, showing products and shopping cart*

**Complete view of Checkout Page, showing item added to cart and asking user for personal information*

GitHUB Link : <https://github.com/k250823-cmyk/ICT-Final-Project>