Assignment 6B

Programming Usable Interfaces

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Live website: https://yuwen-lu.me/PUI-Fall2020/assignment_6b/

Github repository: https://github.com/yuwen-lu/PUI-Fall2020/tree/main/assignment_6b

Reflection

In this assignment, I practiced how to add functionalities with JavaScript to my website.

One bug I encountered was that after adding in the remove functionality in shopping cart, once I remove all the items in my cart, instead of displaying the “Cart is currently empty” message, the cart page main content was left blank with two horizontal lines. The reason was that my condition for displaying the empty message was when in the local storage, retrieving the stored item list returns null; however, in the case of me deleting all items in cart, the retrieving would return an empty object instead of null.

In this case, I added another condition branch in my cart.js file, saying when the object I retrieve from local storage is an empty object, the empty message will display as well.

Programming Concepts

1. Retrieving HTML elements using different metrics in JavaScript

In this assignment, I practiced using different ways of retrieving HTML elements in JavaScript, such as getElementById and getElementsByClassName. Using these methods, I was able to manipulate DOM objects on my website. All my JavaScript files contain code using such methods. For example, in my product-detail.js file from line 12 to 14, since I have all the products’ information listed in my HTML file and their display property set as “none”, I was able to retrieve the one product HTML container element I want to display and set its display property as “flex”.

2. Creating new DOM elements using JavaScript

I used JavaScript to create my shopping cart items in my shopping cart page. I learned how to use related objects and functions such as textNode, appendChild, etc. In my

cart.js file, after getting cart items' detailed information, I created all the HTML elements based the selected products' information, organized and displayed them on screen by using JavaScript DOM.

3. Local Storage in JavaScript

In this assignment, I learned how to use local storage to store data and pass data between different pages on a website (in my case, product detail page and shopping cart page). It's tricky to always stringify and parse objects to and from strings to store though, as I will mention in the next point. For one example, in my product browsing page, I store the name of the clicked product card by user into local storage, and retrieved it in the product detail page to determine which product to display based on user's previous selection. I used local storage to store which items the user added to the shopping cart as well.

4. Dynamic loading of content using JavaScript

This concept is built on the basis of previous concepts. As I described above, I used local storage and DOM manipulation to dynamically load the product detail page based on which product card the user clicked on the previous product browsing page. Also, in the shopping cart page, I dynamically created DOM elements using JavaScript for each user-selected item in the cart and displayed them on the screen. See my JavaScript files for the above pages for details.

5. JSON and string conversion

In this assignment, I used JSON to stringify and parse my shopping cart item, in order to store the item objects in Local Storage, since it only accepts string instead of JavaScript objects. See my product-detail.js file for details.