PUI Fall 2020
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Homework 6 Reflection

Challenge/Bug and Solution

One of the bugs that took me a while to find was due to the multi-page nature of the website. Since the website has more than one page but only one page is displayed at a time, there is no easy way to manipulate elements that are not on the current page. For example, when I was implementing a counter for the number of items in the cart, I was frustrated that the counter on the other pages would not change. After getting help during office hour, I realize that only the html for the currently page is loaded when visiting a particular page. On the product details page, the counter on the cart page is undefined and I have to do separate error handling as well as updating each time a page loads in order to track the counter.

Another challenge I encountered was finding the most efficient way to modify the HTML. When implementing the selection of quantity and toppings, I initially had javascript code the change the style of the selection buttons. In this case, I needed to change specific attributes and restore the attributes when a new selection is made. I was writing over ten lines of code for each selection function. But after thinking about it, I thought it would save me a lot of code if I change the class of the selection buttons and simply have two different classes for selected and unselected. With this fix, I only have about five lines of code for each function.

Programming concepts learned

Concept 1: Local storage

In this assignment, I learned and practiced using local storage to store users' information after the page is closed or reloaded. In particular, I store a counter for the number of items in cart and an array of properties arrays for the specific information about the cart items to display and calculate total price. For the counter, the most important part was to update it in local storage every time a change is made and to retrieve it when loading each page. For the array, the most important part was to update it in local storage when a change is made so the record is correct after reloading.

Concept 2: Constructor

I used a constructor-cartItem-to create elements of name:value pairs in order to store information about the items in the cart. For each item, I store the flavor, the price, the quantity, the topping, and the image source link. This information is used to create the corresponding display on the cart page. The constructor made storing information a lot easy as I can use the same method to retrieve the relevant information and feed it into the constructor to create the cart item to store in local storage.

Concept 3: Modular code

I also learned the benefit of modular code. For example, when implementing the six different detail pages, since the basic layout is the same for all of them, I simply found different images and replaced the images the text for the flavors to create the different pages. I think this method was especially beneficial because I focused on one simple page first and only created the rest when the first one is settled. If I had created everything from the beginning, I would have to go back and forth to make the same changes to every single page every time I want to change a common feature.

Concept 4: Event listener

I also learned to use event listeners to dynamically respond to users' input. For example, I created click event listeners for all the add to cart buttons. After a add to cart button is clicked, the counter for items in cart would increment by one and the array of cart items would be updated.

Concept 5: storing information in JSON

Since local storage takes in text in JSON, I learned using parse function and stringify functions to process text to store and retrieve information from local storage. For example, for both the counter and the property array, I stringify the text before storing and parse when retrieving.

GitHub Page Link:
https://ruocenliao.github.io/PUI2020/assignment6b/index.html
GitHub Folder Link:
https://github.com/RuocenLiao/PUI2020/tree/master/assignment6b