

Assignment 6B: Reflection and Concepts

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Reflection

While working on this implementation, I ran into quite a few bugs. Some of them were simple, like small misspellings or not getting the capitalization exactly right. Some of them wiped every element from my screen, forcing me to painstakingly pick through code to find the line that had removed everything -- instead of just the element from the array like it was supposed to. While I am very happy with my final project, and feel like I have learned a lot very quickly, it was also incredibly difficult and often left my head spinning.

To begin with, I slightly backed myself into a corner with my initial design. Instead of just having to implement a cart page, I had to also implement a very similar process on a cart sidebar I had created on the shop and every single product page. This forced me to create two different instances of almost every function and class so that I could properly format each section for the right size. I'm sure there was a way to do it where the elements were instead responsive to the size change, and therefore I could have cut down on nearly half my code. However, my attempts at that were far too complicated and rarely worked. I am happy with my final solution, but I do wish I could have streamlined the overall process more.

Figuring out removal was also extraordinarily difficult for me. As I discuss in "Programming Concepts", I focused on storage management throughout the process. I didn't want to force a large amount of individual bun items into local storage and then have to root around there later, so I added everything to an array. However, this added an extra step to my removal process, as I had to access the element in the cart and then reconstruct the proper item. Now I could search the array for my item, and eventually remove it, but I felt like I had to take three steps backward to do it. I wish I had a bit more experience overall with Javascript for this task especially; a lot of the time I felt like I was just brute forcing my way through the task without thinking about how each function would have to work later or in an expanded setting. Thankfully, it all worked out for me pretty well, but removal especially pushed me to my limit.

Overall, while I still impressed myself with the final design, the backend code is not pretty. The website definitely works, and accomplishes all of the tasks I set out to accomplish, but I also realize there were likely many more efficient ways to accomplish those same tasks. I think my lack of experience did play a role in that, and so I am definitely looking forward to getting more time with Javascript as we continue through the course. Overall, if this is the last time I get to work on this website, I am happy with it, although I wish there were a few more things from my initial design that I was able to include.

Programming Concepts

1. Storage management

In order for this entire website to work, it was vital that I understand how to manage storage. It took me a while to get the hang of it, but I eventually understood how to send things to `localStorage`, then access them again, change them, and send them back. This is how I was able to keep my load in `localStorage` light; I only ever created two local storage items, and just called them and edited them each time I needed to change something. This was also made easier by putting all of my objects into an array instead of storing each product individually. Instead of having who knows how many random product items floating around in storage, I kept track of them all in an array which made it easier to present them and, later, remove them.

2. Accessing existing elements

I had to be able to take existing elements from the document so that I could either change the contents or use the contents to shift something on the page. While the implementation is relatively simple (`document.get____`), it was still a learning curve to figure out how to get each item, what to do with it, and which format it would return in. For example, in order to remove items, I had to create a list of every cart item which had already been created. I called the items by class, which created an array of every object with that class. By knowing how to access this, I was able to write a simple for loop to remove products.

3. Creating new elements

Creating new elements was actually the part I struggled with the most. This was especially vital for creating each product item. When we did the zoo animals lab, I had provided empty tags on the index page, since I knew they would always be filled. However, with this project, I couldn't just leave an infinite amount of empty tags in the cart space. Thus, I had to get comfortable with creating new elements of all sorts, assigning them classes, and then edit the inner HTML or the text content.

4. Adding new elements to existing elements

Now that I had accessed existing elements and created new ones, I now had to add the new elements to the old. I use "`appendChild`" a lot in this code, which actually wasn't my first thought. I initially tried to use "`innerHTML`" for everything, until I realized that replaced the HTML that was already present. Thus, I painstakingly created each child node, appended it to a higher node, and then typically had to append that again to the final parent. It created a complicated web of parents and children, but also allowed me a lot of flexibility in what I needed to call and when.

5. Complex functions

My remove function, while short, took many, many tries to get right. Eventually I was helped by the fact that I had everything in an array; I could merely search through the array and locate the item I had selected to remove. However, this did require me

to write a function with a for loop, and then figure out how to generate and format a remove button on each object. While this may have been overly complicated, it ended up working very smoothly for me. I have definitely written more complex functions in other programming languages, but implementing it in Javascript was a new experience, and I feel like I learned quite a lot.