Nicole Araya
7 November 2021
Programming User Interfaces

Assignment 6B -- Web Prototype with Javascript

Link to Website: https://nicolearaya.github.io/homework_6b/

Link to Source Code: https://github.com/nicolearaya/nicolearaya.github.io

Reflection

I encountered several issues during this iteration. The first bug I encountered was trying to self-select the element when a particular “Remove” button was clicked. I had heard of selecting the parent element of an event before, but I didn’t understand how to grab a certain event target in Javascript when it was clicked. To solve this, I took to google to see how an event target could be selected and learned about the “event” input into a function. For example, I learned that when an HTML element is passed through a function as `onclick="deleteSelf(this);"`, then the Javascript callback function would be able to access the “this” element that describes the event target. In Javascript, my function can take the input as: `function deleteSelf(event) {}` , and use the new event variable to capture the target. This was all very new to me, and I feel like it will be very useful going forward.

Another issue I encountered was how to delete a given element from the LocalStorage once the HTML parent element was clicked. The specific issue I encountered with this was how to select the data object in my LocalStorage given the arbitrary key I had previously assigned to it. For my first LocalStorage iteration, I just gave every new element a key equivalent to its index in the array, which was fine for when elements were not deleted. Once elements were able to be deleted, the index-dependent keys were offset and I could not select the correct element. To mitigate this, I decided to give each new data object in LocalStorage a unique key identifier, which I could then embed in the value of the button HTML element when it is created. That way, I can always access the key of the data object when the respective HTML element displaying it is selected. The unique identifier also avoids the confusion of having two elements with the same name, which may create issues if the wrong element is deleted from LocalStorage.

Five Programming Concepts

1) Firstly, I learned to use and parse URL parameters to pass variables across pages. I used this on my product detail page, in which I pass the name of the bun flavor to dynamically populate the title and image with Javascript.
2) Next, I learned how to create an ID to use as the key when saving a data object to LocalStorage. I looked up various ways to create a unique identifier, from hash tables to Math.random(), and ended up adapting the date/time function of Javascript in combination with Math.random() to create a key to save with my bun data object (containing information about the glazing, quantity, and price as well).
3) When trying to figure out how to grab all the keys saved in the LocalStorage array, I learned about `localStorage.key(i)`, which returns the key associated with that index in the LocalStorage array. This was a helpful function to use when I didn't know the exact key name (as they are randomly generated). Initially, when I was using the index itself as the key, I could simply use `localStorage.getItem(i)` to retrieve the object associated with the index number when iterating through the array, but when I moved away from that naming convention to better support the delete function, I had to adapt my getItem function to `localStorage.getItem(localStorage.key(i))`
4) During this assignment, I also became familiar with the innerHTML Javascript function. Initially, I was unsure of how to display my data object onto the HTML DOM, even though I could access the values of the glazing, quantity, and price within Javascript. Once I learned about element.innerHTML, I was able to pass my Javascript variables to the HTML document so that they could print on the page visible to the viewer.
5) Finally, I learned about document.createElement(), which is a way to create new elements, such as paragraphs or headings, simply through the Javascript itself. I used `document.createElement("P");` to dynamically create a new paragraph element in my cart every time a new item is added to the cart.

Image references:
https://unsplash.com/photos/1V-sKpHHju4 Kjartan Einarsson on UnSplash
I drew the buns on the cart page!

Resources:
https://www.w3schools.com

Nicole Araya
24 October 2021
Programming User Interfaces

Assignment 6a -- Adding Functionality to a Website with JavaScript

Link to Website: https://nicolearaya.github.io/homework_6a/

Link to Source Code: https://github.com/nicolearaya/nicolearaya.github.io

Lofi Prototype

For this assignment, I decided to redesign my shopping cart page. Incorporating Neilson's heuristics, I wanted to update the page according to 1) aesthetics and minimalist design and 2) consistency and standards. I decided to strip away the two-column layout (for cart items and summary) and replace it with just the cart items, followed by the summary. In the low fidelity prototype, I mapped out the new structure using columns. The layout follows a familiar design pattern for a cart page, therefore better fulfilling the consistency and standards heuristic.

Hifi Prototype

In the high fidelity prototype, I used the basic layout from the low fidelity prototype but integrated it with my existing design system and visual treatment of the rest of the website. That includes the color scheme, typography, and grid used for the other pages. I decided to put the cart items on a light brown background to better separate it visually from the summary and to be consistent with the positioning and layout of the product detail page. I placed the summary information right-aligned at the bottom of the page and included a checkout button as is customary with this cart design pattern. Using the familiar, existing conventions of a cart page allow the user to scan over the page and quickly access the information they are looking for. From my original design, I changed the column headings to space out the description information, and put the summary at the bottom as opposed to the right side to comply with the aesthetics and minimalist design heuristic.

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