Assignment 6 – Adding Functionality to a Website with JavaScript

Assigned: Mon Oct 12, 2020
6A Due: Fri Oct 30, 2020 11:59 pm (please note intermediate milestones)
6B Due: Sunday Nov 8, 2020 11:59 pm

Learning Goals

- Practice JavaScript by adding functionality to your web site from Assignment 5
- Practice with Objects and Storage in JavaScript

Intermediate Milestones

- Mon/Wed October 19/21 - in lab show and tell of what you have so far
- Fri Friday October 30 - Submit 6A
- Sun November 8 - Submit 6B

To Do

This is an **individual** assignment. This assignment has two parts with different deadlines. Please note the due date for each part of the assignment.

For this assignment, building off of the web store that you designed and implemented for Assignment 5, add the following:

Assignment 6A (due date: Friday, October 30)

1. **Create a NEW page.**
    - The page should be a Shopping cart page where users can view items in their cart. Include the following prototypes: a low fidelity prototype, a high fidelity prototype, and an implementation in HTML + CSS. Modify your existing web store files as needed.
        - **If you had a shopping cart page already,** choose a new type of page to implement (Special Offers, Order Tracking, etc.). You need to design high fidelity prototypes, and an implementation in HTML+CSS (no JavaScript). This is to ensure everyone does the same amount of work for this assignment. The remainder of the assignment that uses Javascript to add functionality will be implemented on the shopping cart page.

    - The Javascript functionality for 6A (the next deliverable 2) and 6B should be implemented on the shopping cart page.

2. **Create NEW features for your site.**
    - The user can modify options on the Product Detail page (the size, quantity, etc.).
    - The Product Detail page should change according to the user's selection. For example, if a user selected a **Tiny Fire Orange** Cat Harness, the page should

update with the details of that product (i.e. update size, color and image). **This should NOT be a new HTML file. Use JavaScript to implement this functionality.**

- The user can add products to their shopping cart. There should be some visual indication to the user of how many items they have in their shopping cart. For assignment 6A you just need to indicate the count of items.

Assignment 6B (due date: Sunday, November 8)

1. **Adding more functionality to the website.**
    - The user should be able to view their shopping cart on a Shopping Cart page, see the items they selected, and remove the items they no longer want.
    - The shopping cart page should reflect the user's actual product selections.
    - **You do NOT need to implement the checkout process.**

2. **Write a one (or more) paragraph reflection (due with Assignment 6B)**
    - What challenges or bugs did you encounter?
    - How did you overcome these challenges?

3. **What programming concepts did you learn as a part of the assignment?**
    - Illustrate at least 5 concepts with an example.

Other Notes

1. You will need things we will learn in week 7 and week 8 labs to fully complete this homework assignment. I suggest you start with the JavaScript we learn in Week 7 first.
2. **Do NOT** use any existing JavaScript libraries for this assignment (though jQuery is acceptable if you want to learn on your own. You are not required to use jQuery). You can use plain JavaScript. Either is fine.
3. Note: Use plain HTML/CSS code only. DO NOT use frameworks like Bootstrap or other libraries (you can "look at it" means you can look at how they do the HTML and CSS and format your code in a similar way, but DO NOT import Bootstrap or other libraries).
4. Please cite any external resources you use.
5. Your website does not have to be responsive to screen size changes. However, please test your website for a **1366 x 768** screen ratio using the Developer Tools Device Mode
6. Please follow Google's HTML, CSS, and JavaScript Style Guidelines

Deliverables for Assignment 6A *(20 pts total)*

1. **(5 pts total)** Low & High-Fidelity Prototypes:
    - A low-fidelity rough sketch for the required new page and features. You can add to your sketch for the previous assignment, but please explain how your sketch changed. Otherwise, simply explain your design choice.
    - A high-fidelity digital mockup for the required new pages and features. You can add to your mockup for the previous assignment, but please explain how your mockup changed. Otherwise, simply explain your design choice.

2. **(15 pts total)** Web Prototype w/JavaScript:
    1. At least 1 JavaScript file that demonstrates
        - Page updates when selecting a product's details.
        - An add to cart feature and a visual indication of items in the cart.

2. All HTML/CSS files from Assignment 5
3. A new HTML file for the required new page linked to the main page
4. For HTML files:
    - Make sure each of the pages renders without error. Use the Developer Tools in Chrome to do this, and also use the HTML validator to validate your HTML file.
    - Indent and comment your code; follow the HTML style guides.
5. For CSS files:
    - Make sure the CSS file is well formatted and use the CSS validator to validate your CSS file.
    - Indent and comment your code; follow the HTML style guides.
6. For JavaScript Files:
    - Interactions should work without error. Use the Developer Tools in Chrome to help you with this.
    - Indent and comment your code; follow the JavaScript style guides (see above)

Deliverables for Assignment 6B *(20 pts total)*

3. **Web Prototype w/JavaScript (12 points)**
    - The ability to remove items from the shopping cart.
    - For JavaScript Files:
        - Interactions should work without error. Use the Developer Tools in Chrome to help you with this.
        - Indent and comment your code; follow the JavaScript style guides (see above)

4. **Reflection (3 pts total)**
    a. You should clearly demonstrate what issues / bugs you encountered, what you learnt from them and how did you resolve them. A good reflection will demonstrate a clear understanding of the issue, and how it may be mitigated in the future.
    b. Writing should use appropriate style and clearly to convey the writer's concepts (this includes grammar).
    c. Writing should demonstrate reflection on actual events and analyze these events to draw appropriate conclusions.

5. **Programming Concepts (5 points)**
    a. Demonstrate 5 programming concepts that you learned in Javascript and used in this assignment with an example.
    b. Writing should use appropriate style and clearly to convey the writer's concepts (this includes grammar).

Submission:

1. Create a new folder and call it *assignment_6*.
2. You should include all the files required in this write up in that folder.
    - HTML, CSS files, JS files.
        - Your CSS, js and image files (and other font files etc. you are using) should be kept in their respective directories (typically font sets, icons, or images are stored in an Assets directory). It is a good way to keep your code organized.
    - Reflection file. The reflection should be a pdf file. It should be named as "reflection.pdf".
3. Always (for every change, big or small) do a:
    - **git add -A** (or git add --all, which means staging all new changes for this commit)
    - **git commit -m "Please write a message that makes sense here; it is good practice"**
    - **git push origin master**
4. Submit the link to your GitHub repo and the link to your hosted website to Canvas.

The deadline for the Assignment is at the top of this document. We will count as your final submission the last **git push** before that time. Anything pushed after that date and time will be counted as a late submission.

★ **Bonus** *(8 pts total)*

- Add a "wishlist" functionality. For this feature, users can add products to their wishlist and view their wishlist (either on the shopping cart page or a separate page). (max 3pts)
- Add a carousel on at least 1 Product Detail page that shows similar products. The carousel should be able to scroll left and right. See an example here taken from Amazon.com. (max 5pts)