Anishwar Tirupathur

Programming Usable Interfaces

Final Project

May 02, 2023

Final Project Write-Up

Sizes to Test:

- Macbook Air Viewport (1440px x 900px)
- Alienware m15 (1920px x 1080px)

Part 1:

Describe your website:

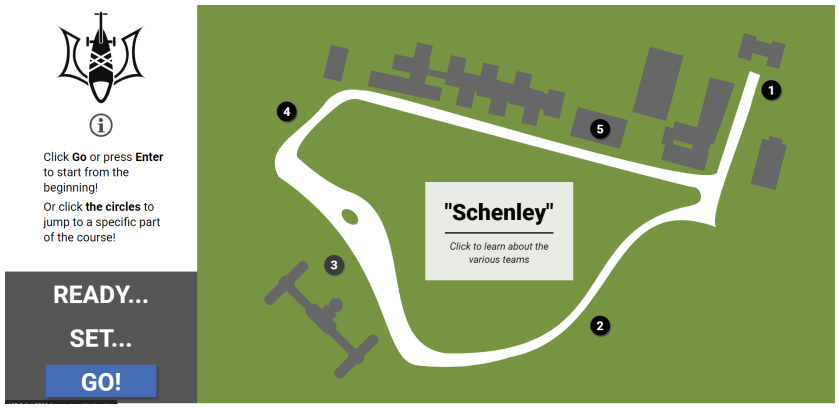
The purpose of my website is to create an informational page that provides a fun, cursory introduction into Carnegie Mellon's sport of buggy and its history. This buggy website gives visitors an overall understanding of the races and the various parts of the course. From there, it introduces a selection of historically notable buggies, showcases the teams that are actively racing, and ends with some notable course records and the leaderboard for the 2023 Raceday.

This website is interesting and engaging because it leverages the course to divide the information up into sections. The main page (buggy.html) features an overlay of a buggy so that it looks like it is racing on the road while the user is learning about the sport. The home page (index.html) features a fun navigation feature that uses a simplified graphic of the course to orient the user to both the site and the sport.

The target audience for my website are people who are interested in getting an introduction into buggy. As such, it is designed to be a quick resource that offers a high overall summary of the sport in order to hopefully pique the interests of new fans and interested participants.

Part 2:

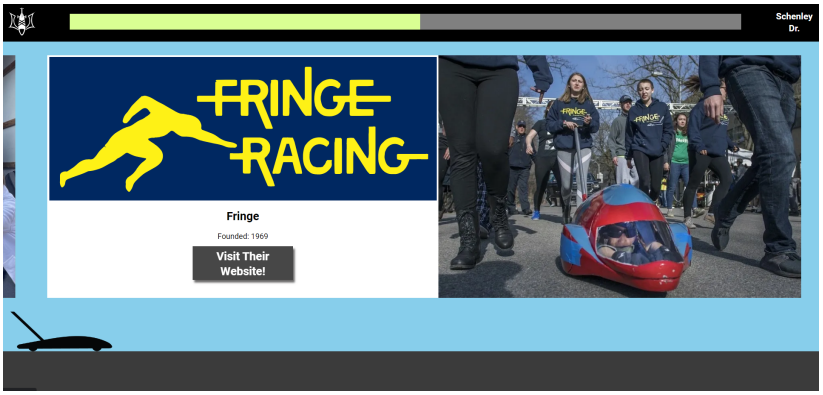
Interactions implemented:

- Home Page (index.html)
    - Hover over a Checkpoint Marker (the black circles with numbers around the course graphic) to learn about what the topic of that section of the website
        - Hover over one of the Checkpoint Markers to make an overlay popup
        - 

    - Click one of the Checkpoint Markers to Navigate to that section of the next page
    - Click the “GO!” button to navigate to the beginning of the next page
        - Alternatively, press the “Enter” button on your keyboard to navigate to the beginning of the next page
- Main Page (buggy.html)
    - Scroll on the Main Page Horizontally

- Progress Bar and Header Text update as the user scrolls through the page

- Navigate to Active Teams Websites
  - Click the “Visit Their Website!” button in the Schenley Dr. section to navigate to another team’s website



- Travel Back to Home Page
  - Click the logo in the top left corner of the page to navigate back to the home page

Part 3:

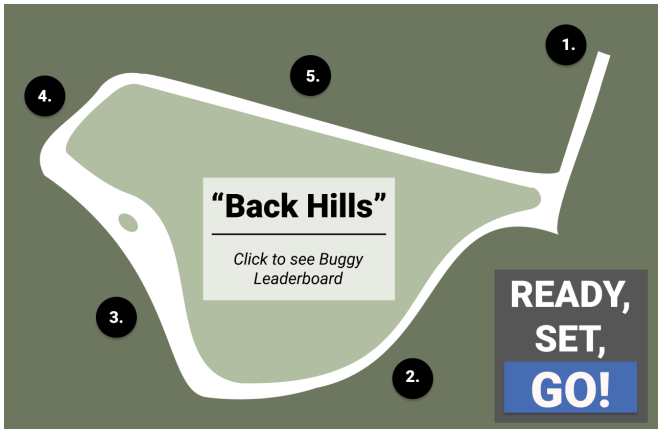
- Name of Tool:
    - JQuery
- Why you chose to use it?
    - I chose to use JQuery because a lot of my interactions and responsive elements required the use of CSS modification and performing functions in response to events, like the user scrolling or hovering over an element. JQuery simplifies the creation of these functions. Additionally, JQuery has some helpful functions for getting the size and position of elements.
- How you used it?
    - On the home page, I used JQuery to change the display of the overlay divs depending on when a user was hovering over a specific checkpoint marker. On the main page, I used JQuery to calculate the user's position in relationship to the document width in order to implement a progress tracker. I also referenced the user's position with the beginning of each section to live update the text in the header.
- What does it add to your website?
    - JQuery adds a helpful and playful interaction to the Home Page because it allows for the use of the overlays when hovering over specific elements. JQuery helps the user keep track of their progress and position on the website on the main page, which is needed considering that page is an unusual long and horizontal website.

Part 4:

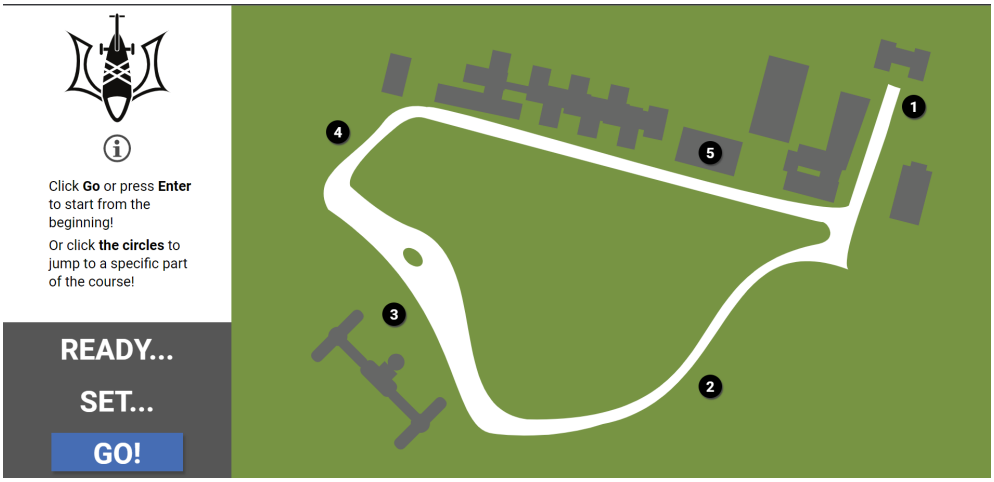
Describe how you iterated on your prototypes:

I iterated on my prototypes through sketching and getting feedback on the design from my friends and classmates. Doing the initial user test for the assignment "FP2 - Evaluating of Final Project Design," was helpful to identify what elements I needed to add in order to make the project more user-friendly and understandable.

One major way the design changed is the addition of the sidebar in the home page. The original design for the home page (pictured below) centerized the course image and the checkpoint markers.



However, I received feedback that some text informing the users on how to interact with this navigation screen would be helpful, so I added in a sidebar and moved the "GO!" button to there.



Lastly, while my original design called for animating the buggy overlay so that it goes up and down hills as one scrolls, I ended up scoping this element down to create a static fixed element. However, I think this improved the design as it achieves the same effect of the buggy driving as the user scrolls, but is less distracting than a more intricately animated element.

Part 5:

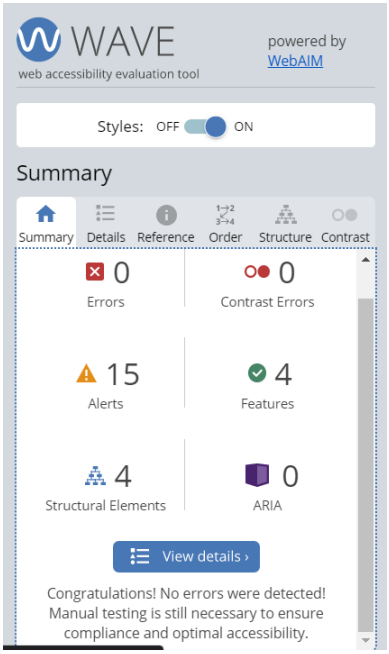
What challenges did you experience in implementing your website?

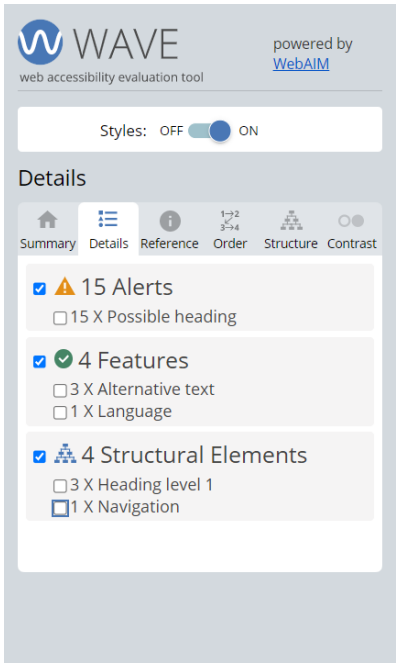
Part of the difficulty of implementing this website was working with the unusual css behavior of working with a really long horizontal website. There was a lot of unpredictable spacing and overlapping of elements. Additionally, I struggled with implementing the updating header text in the main page (buggy.html) because the function I was using exhibited some strange behaviors. It would randomly change its text

to different sections during part of the Front Hills section and change back into the Front Hills section when at the end of the Back Hills Section.

Accessibility (WAVE Screenshots):

Home Page (index.html)





Main Page (buggy.html)