Web Technologies: Submission 2

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Website URL:  
<https://eesaiqbal.github.io/40590893_coursework/index.html>

Report:  
  
This is my report for the second Hand In concerning my website.

This website I have made is a games website that include a home page, Hangman game, Tic Tac Toe game and a Wordle game.

In terms of any form of deviation from my original plan there aren’t any changes. The plan I outlined was fairly abstract in terms of the actual game logic. I only set out some basic rules of the game, all of which I was able to achieve in my finished website. The things I weren’t able to add were my future ideas and implementations.

Starting from the beginning the home page is fairly simple. I started off by making the basic home page such as the background and finding a colour scheme I liked, then I moved on to the spine of the website, the navigation bar. This wasn’t too hard too implement as I have created a lot of navigation bars before on previous websites. The only part I struggled with was finding an image of the Napier logo that fit in my navigation bar and wasn’t in terrible resolution that could be used as a logo to take the user back to the homepage. I did plan on making a hamburger menu to store the different links for the website however because there are only 3 links there wasn’t a massive need to create it. I looked at how it viewed on mobile and there was plenty of space in-between the links and didn’t seem cramped, I also tested this on multiple different devices such as a google and android phones to make sure it was viewing fine across a wide range of devices, it all looked good so I decided to leave it without a hamburger menu as I thought it might look a bit blank. As for the content on the main page, that I something I really struggled with as I had no idea what to put, so in the end I just ended up putting images for the games and a brief description on how to play.

The first game I made was Hangman, I had already made this game before as part of my project in high school, which was also harry potter themed, so I just rewrote the code I had already made from python to JavaScript. I did struggle trying to find images that would fit at the size I wanted that weren’t in terrible resolution. Something I realised towards the end of finishing the website was that I had not changed the images and text below the game so that they would fit on mobile without having to zoom out. The images I had chosen looked good on the desktop version but were too big to view on mobile. I could have fixed this by choosing different images and hiding the previous one when on mobile but decided against this for the sake of my mental wellbeing having stared at code for too long. Also the game itself fit fine and that was the main point so I assumed it would be fine.

The second game was Tic Tac Toe, this was fairly easy to code as the logic is fairly simple. I did think of trying to go back after I had finished wordle and trying to make it multiplayer across multiple devices but had no idea on how to go about it, so I looked up some examples and decided it was far beyond my current capabilities and also didn’t really understand how I would make a multiplayer version work as I would have to look for another user also on the website at the same time to make it work.

Just like with the hangman and Wordle Games each game has its own HTML, CSS and JavaScript File. They all also use another CSS file for the navigation bar styles and the styles.css file to set the colour and font of the page as it carries across all the pages so I could just leave each games individual CSS page for the game styling.

The first game was something I had already done before and the second was fairly simple, so I decided to challenge myself with making a wordle game. The basic code for it wasn’t particularly difficult so I kept adding more and more features such as animations, calling from an API to check that the words entered by the user were indeed words that were in the dictionary, and then making the game store its data in local storage so that the game state was preserved even if the user refreshed the page. I did also have a version where the word that the user would guess was also called from the same API but I decided to just hardcode the words into a dictionary in a separate file to limit the amount of API calls as I am using the Words API that I found on the Rapid API hub, the plan I am currently using is a free plan as long as the requests remain under 2500 each day. Every time the user enters a word it calls the API to check the word so there could be tens upon tens of requests per game. I uploaded a version so that my friends and some members of my family could test the game and tell me any errors they encountered so for the sake of my wallet I tried to limit the API requests where possible.

The hard part was actually making it store everything in locallised storage. This required a lot of code and trips to YouTube and stack Overflow.

I did encounter quite a few errors such as when I had my console up to check stuff the words I would enter wouldn’t submit and it would freeze but as soon as I closed it and refreshed it would work fine. After I got the localised storage working I decided to implement a small stats tracker that would save your results from your storage. I then also tried to implement a key tracker that would also let you enter words from your devices keyboard using the keyUp detection but it wouldn’t work as it said that it didn’t have the correct permission however I did not have the time to fix this so I decided to scrap it.

In conclusion I am fairly happy with my website. It I had unlimited time I would implement the features above that I failed at and the ones that I didn’t get to do in my original plan. I did manage to do an account for wordle (Somewhat) as you can see your stats I didn’t have time to do it for my previous games or doing the harder level for hang man but this could be a fun project to work on over the summer.

Links to Resources Used:  
<https://developer.mozilla.org/en-US/docs/Web/API/Window/localStorage#examples>

<https://www.youtube.com/watch?v=j7OhcuZQ-q8&t=2252s>

<https://www.siskinds.com/how-does-wordle-save-my-stats/>

<https://www.freecodecamp.org/news/build-a-wordle-clone-in-javascript/>

<https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.youtube.com/watch%3Fv%3DckjRsPaWHX8&ved=2ahUKEwiVn6z2w92FAxVDRkEAHRU2CaEQwqsBegQIBBAG&usg=AOvVaw3_NkGmak0DUs8LE3Pnf-Dc>