Blackjack App Case Study

1. Intro
   1. This Independent case study will be laid out in multiple sections. The first section I will talk about my background and experience of a web developer. The second section will talk about what I am going to try to make. The third section I will talk about what I want to learn. The fourth section I will talk about some of the goals I wish to complete. The next section will consist on everything I learned throughout this study. The final section will consist of a conclusion where I will summarize everything that has been done.
2. Background
   1. I started learning web developing on 4/01/2020. When I started I only had minimal experience in Java. When I first started I focused on learning the basics of HTML/CSS. I spent around 110 hours learning them. After that, I started Javascript. Right now I am probably around 160 hours into learning javascript. I know the basics about javascript and what can be done with it.
3. Task
   1. In this task I am going to make an app that helps people learn how gain an advantage on the house in blackjack. The app will consist of graphs that show various strategies of how to play each hand. Also, I am going to create a section where the app asks the user questions so they can see what they know. In addition, I want to create a section that saves the users stats. One of the statistics that I will keep track of is how long it took them to complete the questions part.
4. What I Want To Learn
   1. For this task I want to practice and learn how to write understandable and concise code. I want to practice the modulo design pattern and obtain a good understanding of it. I also want to practice XML. In addition, I want to solidify my basic understanding of javascript, and add a new layer to it by using code that I have never used before.
5. Goals
   1. Understand the modulo design pattern
   2. Create a usable app.
   3. Create a foundation for when I want to build upon this app and eventually put it on the app store and maybe make some money off it
6. What I Learned
   1. I learned about the observer design pattern. I was watching a Youtube video about it and I realized that I could implement it in my code. What I did way created a observables that updated when the window location would change. I made each different web page an object and added each one to the observable object. Therefore, every time the onload event fires the obervalbes function update() fires. When it fires it loads the page that has the same domain name as the window location.
7. Problems & Solutions
   1. The first problem I ran into was when I tried to implement the modulo design pattern. I wanted save the JSON file as a local variable. The problem with that is that the xml request is asyncronis, so when I would try to use the object that used that local variable it would be undefined. The reason for that is that the file was still being requested so I could not possibly use it. The solution to that problem is that I had to make a promise that returns the JSON file as a variable. Then I saved to a variable a Promise.then , taking the promise return variable as a parameter function, that implemented the modulo design pattern. So when I want to use the JSON file I have to .then the variable that contains the Class and use the returned Class in the way I would normally use it.