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<u>Project 4 Report</u>

For Project 4, I have designed an "app" where two people can play the classic game of Tic Tac Toe. All of the assets that I included in this web page were copyright-free and free to use. The theme I used for this project was the Stylish Portfolio theme by Start Bootstrap, https://startbootstrap.com/theme/stylish-portfolio. In the footer of my web page, I made sure to give credit to Start Bootstrap for this theme.

One very significant improvement that I wanted to make in this assignment that I had not tackled in the past assignments was animating certain elements on my web page. In my previous projects for this course, I did not add animation to elements on the page. However, I wanted to make this web page for Project 4 very lively and inviting, as a game should be. In order to get animations that fit with the vibrant web page I was going for, I used animations from https://animate.style/ by using its CDN, which is included at the beginning of my HTML file. I decorated my elements with animations from my CSS file using `animation` and `animation-duration`. Some of my elements, namely the buttons, are only animated when the user is hovering over them, so I made sure to use the `:hover` command in my CSS file for these elements.

Two other important improvements I made were changing how the results of each game were displayed to the user and customizing the game board and results using CSS. As we were instructed to do, I used the Tic Tac Toe code from https://jsfiddle.net/rtoal/ThPEH/ as the foundation for my JavaScript file. Since the board was plain at first, I used CSS in my CSS file on the elements `table`, `th`, and `td` to change how the board itself actually looked. To change

the X's and O's that show up on the board when you click, I went into the JavaScript file, added the class `tdfix` to the `td` tag, and added CSS for this class in my CSS file. As for the results, I wanted to change how they were being delivered to the user. In the source code, the results of each Tic Tac Toe game were given through alerts. I did not really think that this method of delivering the results to the user was very enthusiastic, so I decided to write some jQuery code in order to deliver the results to the user via a `div` on the web page. In order to do this, I commented out the code for the alert result messages and instead utilized a div I made in my HTML file with an ID called "results" to display winner. First, I used

`$('#results').empty();` to clear out any child elements in the "results" div after each game. Then, I used the line of code `$('#results').append('<div class="winner">X won the last game!</div>');` for when X won, the line of code `$('#results').append('<div class="winner">O won the last game!</div>');` for when O won, and the line of code `$('#results').append('<div class="winner">The last game ended in a tie.</div>')` for when there was a tie. I then used CSS to change the style of the text itself and to animate the results text immediately after the game finished.

Other small but notable fixes I made included fixing the icons under the "Rules" section on the web page. I used icons from Font Awesome (https://fontawesome.com/) to do this; Font Awesome was already referenced in the Bootstrap template I used, so I just browsed the Font Awesome catalog for the new icons that I wanted and included the HTML code for the icons in the proper locations in my HTML file. I also gave the title and description text under the "Home" section of the web page a text shadow so that they stand out to the user when they view my page.

Lastly, I added the class `table-responsive` to the Tic Tac Toe board `div` so that the user can scroll back and forth on the table itself if the table does not fit on the screen completely. This feature was important to add for mobile users.

Although I thought jQuery was a little bit challenging at first and I struggled for a while trying to get the results to display the way I wanted them to, I feel a lot more comfortable with working with jQuery after this project. For this project, I used Brackets as my text editor and Chrome as my browser of choice. To ensure that I was using the correct HTML tags, CSS syntax, JavaScript syntax, and jQuery syntax, I referenced W3 Schools, https://www.w3schools.com/, and the Zybooks textbook. I used https://validator.w3.org/ to validate the HTML program.