Final Assignment – Soccer game

Website link: <https://webspace.ocad.ca/~3164714/Assignments/final/Final.html>

Reference:

<http://bencentra.com/2017-07-11-basic-html5-canvas-games.html>

<https://stackoverflow.com/questions/4276048/html5-canvas-fill-circle-with-image>

<https://www.youtube.com/watch?v=789weryntzM&t=1454s>

<https://www.w3schools.com/>

<http://www.clipartpanda.com/clipart_images/soccer-ball-clip-art-352410>

Passionate about soccer, I created my own soccer online game in this final assignment. The process to code the game was quite challenging. Even though I had many resources at my disposal, it took a long time to properly understand the use of each functions and codes.

A major challenge that I encountered was combining several codes from different sources together. Each programmer has his/her own way and technique to code - for example: one would not use arrays or functions to draw coordinates and size of shapes (circles, squares or rectangles) but others would directly declare the shapes’ data such as *“context.fillRect(x, y, sideLength, sideLength)”.* Therefore, I spent a lot of time adapting to other programmers’ codes and combining them with my own. Furthermore, I had difficulties with the keyboard interactions. At first, I used the knowledge we learnt in class using *“canvas.onmousemove = function()”* but this function made the sprite animate in a choppy way because the code was like a toggle button for the movements of the sprite. With in-depth and immersive research, I figured out another way to animate the sprite with the keyboard interaction by declaring the variables up, down, right and left as false and when pressed they become true. To do so, I used *“addEventListener('keydown', function(event)”* to animate the sprite which worked perfectly. Lastly, I had issues with the rebound of the balls from the goalkeeper and the canvas’ boundaries because when both the sprite and the ball collide against each other they both get stuck. Therefore, I changed the concept of the game to instead of the ball rebound from the goalie, the ball disappears from the goalie and spawns two balls in the middle of the field. With the new concept the game stayed as challenging as before but even more interesting.

There are some elements that I wish I could have added, for example, I had initially planned that every 5 seconds, another ball would spawn in front of the goalkeeper. However, the game was challenging enough that I decided to focus on polishing the game with aesthetic purpose instead.

I learnt how to create my own sprite (goalkeeper) and implemented it as an image into the canvas. Moreover, I designed my own soccer field by drawing shapes and lines for the goal area and penalty box. However, I did outsource the soccer ball’s image from clipartpanda.com.

To conclude, the game project was very challenging and time consuming, but I enjoyed the process and, in the end, it felt very rewarding, satisfying and worth the while to complete it and see the game in action. Through this process, I learnt a lot about game design and JavaScript. I now see that collisions and if functions play an important role when designing a game. Even though I faced many problems and errors, I was able to solve them and increase my knowledge about JavaScript. This project was a good introduction to game design and programming especially as a student in Digital Futures. Moving forward, I am inspired to improve and practice more coding for the upcoming projects.