Design Paradigm Choice Essay

For Project 3, we initially were going to do a functional programming approach, but we ended up doing a mix. The group wanted to try using a functional approach, but for the sake of convenience and time constraints, as not all of us fully understood functional programming, we thought it was better to go with a mixed approach.

Our game.js file is just a collection of functions that we ultimately just import into the Executive file, but it takes in object arrays consisting of the class Character(the class that provides functionality and variables to one's own players and also enemy AI). So our Executive simply just calls a function in game.js(a collection of functions that makes the game work), the newGame() function, which is the parent function that starts everything. It is what initializes the object arrays that we defined globally and breaks down into other smaller functions(such as enemyAttack, playerAction, setNext) that each play a part in executing the program.

As opposed to object-oriented design where objects interact with each other and change their data based on those interactions, in Project 3 we use functional programming to populate the 2 globally defined blank character object arrays, and perform actions with them. A good amount of object oriented Programming was also used with the character class in that we manipulated the data inside each character object. We start with newGame, which initializes the two arrays Player(you) and Enemy(AI). It then calls the setOwnPlayer function which decides which character to start with(in our case it would always be setOwnPlayer(0), or the Player 1, the first character object in the array). playerAction is then called, which defines the inputs, and based on button pressed, would using the character class' methods to change itself or the enemy AI's values(such as health). After the completion of one action, it would lead to setOwnPlayer being called again (incremented by one to move to the next object in the array), with the conditional of if it's the last object, it would go back to 0, or Player 1.