Zachary Kuchar Senior Project Paper 1 1-25-18

Over the course of my life, I have always had an interest in playing video games. It has been one of my favorite hobbies to do in my down time. Thus, I have gained an inspiration to create video games. Creating the types of games that I enjoy playing, feels like it should be just as fun. My senior project allows me to do just that. My project involves a website full of various card games. I will put various games on the site, and then proceed to program them, and then keep track of scores and moves for users.

My project involves allowing users to create an account on my website. From there they can participate in a number of different card games. From there, they can play games against the computer, or by themselves. Once they win a game, either their score, or the number of moves will be recorded and stored in a leaderboard. Users will also be able to view these leaderboards and compare their score to those of others who have used the site. There is an initial set of games that will be added to this project, but other games and features may also be added as time goes on. This project drew my interest because I have a desire to be a video game designer. One hobby that I adore doing in my free time is playing videogames. I love to play videogames, especially with friends. I feel like I could have just as much fun creating games as I would by playing them.

Week one of this project simply involved setting up the main html code as well as any necessary load up functions. Games such as go fish, war and crazy eights, and many more were added. Some games, from work done before this semester, proceeded to become complete than others have. Memory matcher and Crazy Eights had most of their functionality done. For Crazy Eights, I even went to work to make the computer be a better player. Other games that were added were Go Fish, and Solitaire. For these games, I only proceeded to get the initial look, and the ability to reset the game. Some of the more simpler games, such as war and blackjack, I began to work at the setup for the games.

For Blackjack, some issues did arise while working on the background code. One such problem occurred when calculating values to determine if a player had gone over a value of twenty-one. This problem was easily fixed through a coding convention found online. The program had originally tried to concatenate all the numbers together. By putting a plus in front of all the values to be added up, the code worked as intended and added up all the numbers correctly. Other problems encountered involved simple mistakes that were not that hard to fix.

I started off week two by setting up a GitHub account to put the code for my project out on. I also worked to set up a Heroku account, to run my project as a normal website. Once that was all done, I proceeded to continue work on the functionality of the website. I proceeded to work with the code for the games War, and Blackjack. War was the first one I began to work on. I worked out the ability to click on your deck and have the cards to be played placed out on the screen. The higher valued card earned a point for that player. If the card values were the same, then two more cards were placed out for each player. The second card is than used for determining which player got the point. For Blackjack, I began to work out the kinks that were still in the program. I decided to replace the idea of clicking on the deck with clicking on two buttons to decide if you should hit or stand. This was to help fix the problem of disabling the ability the play any further once a game is done. The only way to play further was to reset the game. I also made a second value to keep track of, so that an ace could count as either a one or an eleven.

I finished up the week by working on go fish. I worked out how to keep track and see if the player would need to ask if the computer had a card, or to see if player had a card that the computer had. Unfortunately, there were some bugs that needed to be ironed out that I was not able to finish for the week. One particular problem involved the player being able to put down any card, not just what the computer was asking.

Week number three started out with correcting how to reset each game that we were playing. I also set up for adding online features by adding a button to switch to an online mode. However, I did not yet add any functionality to the button. I also set up the ability in Crazy Eights to keep track of time as you played the game. That way, I would be able to store a new value in the database for Crazy Eights. Then I moved into fixing the existing bugs that remained in Go Fish. Some of the previous problems that had existed the previous week had been fixed. Once Go Fish appeared to be operational, I moved to start working on a newer game that I had added more recently in Snip Snap Snorum. I started off by working on the initial setup for the game. This would involve just any coding that would help load up the initial hands for both players. I also went into setting up functionality with the player. This included the ability for the player to place down cards, and then pass control of the turn to the computer if they did not have a card that it was possible for them to play. I then begun to work on the functionality for the computer, so that the computer would be able to perform the same actions. Once that was done, I moved to do some fine tuning of Go fish. This included making some tweaks, as well as add actions for what happens when a player has won. I also made it so that a player winning disables all the buttons. That way, the player has to reset the game, in order to proceed with any further gameplay. Finally, after making some other tweaks to other games, I began working on Spider Solitaire. I started out by working on the simple features. I started out with the ability to deal out a new set of cards. This would allow the player to deal out more cards, so that they could continue playing when they ran out of moves. Following that, I began to move into such features as determining which card was clicked on, as well as determining if a card at the moment was currently flipped face down. If the player clicked on a face down card, they would not be able to do anything. The next step involved the ability to move a card that was chosen. The first click a player makes on a card selects it as the card that they want to move. The second click the cards in that particular row, to that of the row that was marked. I had some success in writing code for this, however, it did come with its challenges. One of the challenges involved removing all the cards that needed to be removed properly, but not moving all of the necessary cards over to the other hand. Another problem was that when all the face up cards were removed from the first row, however, the correct number of cards were not added to the second row. In the end, I was not able to finish it up for this week, but I felt that I had gotten a significant chunk of the game working.