Zachary Kuchar CardGames.org 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, which has inspired me to create them. This project allows me to achieve that. It involves a website full of various card games. Users to create an account on my website. From there they can participate in several different card games. They can play games against the computer, or against other players online. Once they win a game, either their score, or the number of moves will be recorded in a leaderboard. Users can view these leaderboards and compare their score to those of others who have used the site. 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.

I decided on the main look of the project so that it could look more like an actual website. A title at the top as well as tabs make the project look more presentable. There will be a tab for creating a login, one for each game, and one for loading up any particular leaderboard. The setup not only looks nice, but it is very easy for a user to maneuver around. Everything is clear to the user how to move around the webpage.

The graphical style of each card game implemented was based off a Crazy Eights project that was done in a previous class. The look of the cards was taken from the project, while the positioning and the functionality were adjusted in order to fit the game that was being implemented. The only exception to this was a match game that was implemented. The features for this game were based on code that was borrowed from an online source. For messages that needed to be displayed, changes were made so that they would be displayed in the message bar of the respective game. I wanted to make sure that there were no alert messages were being displayed, even if it was just for the purpose of testing.

As for the functionality of each game, Crazy Eights maintained similar functionality, with the addition of an improved computer. Other games were given adjustments so that they could work properly but kept a similar setup to that of Crazy Eights, with a different class for each of the elements of the game. Crazy Eights did not undergo much change. Upgrades were made to the computer player so that it would perform better and be a tougher opponent for any user that played against it. Other games had a similar setup to Crazy Eights, but had their internal methods changed to reflect how the game was played. For games such as Go Fish and Snip Snap Snorum, the initial look did not need to change much. However, the internal workings of the game resulted in a dramatic change in how it works. Games such as Spider Solitaire had to have a complete overhaul, resulting in a change in both look and features. Games such as war and blackjack required changes, but these were much simpler to implement. The main feature involved pressing a button to have cards go where they needed to go. For war, I would put out the cards, and then determine which card has the higher value to determine who got the point. Blackjack was similar in a way. I had buttons to have the user determine if he wanted to put down a card or not. However, I also had to keep track of the overall value of the cards in both players hands. This allowed me to determine how to see who won the game. One additional feature that I thought that would be a nice feature to have was an ability to reset a game that was being played. This allowed players to just start a new game at any time if they so choose. Where it was appropriate, I also disabled some features when using them would cause problems.

Challenges/Problems

Working on this project did not come without its fair share if difficulties. It was not easy to calculate the values of the cards in games like Blackjack. One coding error that I encountered was the way the values were being concatenated together. They would be put together as one big number instead of being added together separately. This problem was eventually solved through a trick I discovered online. I would simply put a + sign in front of the values to be added up. This would allow them to be added up instead of being put together as one giant number. A technical problem that arose while working on Blackjack was how to properly determine how to incorporate both values of an ace. An ace in blackjack can count as the value of either a 1 or an 11. It proved challenging to effectively switch between the two values. As I tested different methods. I eventually settled on going with a value of 11, and then subtracting 10 if the total hand value went over 21. This method appeared to have worked. Another technical problem was that I was having trouble with was setting up a way for play to be disabled once a winner was determined. Once we determine a winner, we do not want to allow the player to interact with the game anymore. At first, I was using a image to click on, but when problems arose with disabling the ability to click the image, I instead went to use buttons. These were much easier to disable, since all I needed to do was set the disabled property to true.

A few snags that developed while working with Go Fish involved determining what game action to perform, as well as making sure the user could not put down more cards than necessary. Eventually, I managed to work out the problem. I set up a Boolean variable to determine if the player needed to ask for a card or give a card to the computer. This allowed for

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 problem involved the player being able to put down any card, not just what the computer was asking.

While working on this part of the project, I noticed that I had forgotten to set up a reset for the card game war. I decided to take a moment of time to make sure this part of the website was running correctly. The initial reset of the cards displays the card backs incorrectly, however, the process as a whole works as intended.

finishing up the work I am performing on the solitaire game. I start by fixing the problems involving moving multiple cards at once. The problem seemed to occur with how I was handling the condition. While trying to change what the number was by subtracting or adding a one, a two-digit number with a one at the end would be created. This would make the program act like the set of cards to be moved could not be moved. Luckily, I was able to fix this problem with a similar method that I had used before. By putting a plus sign in front of the values that I was using, I was able to put adjust the values in the manner that I wanted. The next thing that I worked on was methods of dealing with an empty row, and how to move a king. Starting off, I set up the view so that I card back face would be displayed when a row is empty. I set up the id of a card displayed in a blank row to a value of empty. When moving a kind, it checks if the id pulled in is the word empty. If it is not, then it will not allow the move to happen. Finally, I moved into setting up how to remove a row of cards and calculate how to win the game. This part of the game was a bit tricky to set up. I needed to look at each row and determine if a row contained all the necessary cards in the correct order. If the row did, I would remove those respective cards and then place a king card down in a separate row to show that we have completed a row. I had to do some finicking with some if statements and variables in order to get this to work properly. I set up different variables with if statements that functioned based off what those variables were. In the end, I managed to get the function working as I intended it to. With the game at near completion,

Other problems simple mistakes not that hard to fix.

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.

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. 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 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.