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CS133J Online

**Final Project Plan and Outline**

Final Project Concept:

Matching tiles or cards, something that could be marketed as a memory-exercising game.

Why I chose this idea:

To me it seems that style of game would be the most efficient to transition from the JavaScript Code that I currently know, to teaching myself how to implement that code and logic into a playable game by June 1, 2020.

I would like to someday have the knowledge base to make more complicated games, but given the time constraints and the workload that I currently have it is not realistic for me to try to learn how to make a game with more complicated logic, deeper gameplay, or better graphics.

How I plan to implement the JS into a game:

If I can make buttons with card or tile graphics, I should be able to assign each individual graphic a name so that I can use the **if** function that we have learned to verify a match and to implement a score counter and display.

Challenges for me:

1. I intend to try to find out a method to randomize the placement of the cards on the playing field.
2. I would like to implement a difficulty scale by allowing the user to select how many cards they have to find matches with.
3. The other challenge will be to find a way to animate the cards flipping, and matched cards stacking on the side of the playing field.
4. Another challenge will be finding a way to both make sure that the cards are of high enough contrast to be accessible to sight-challenged persons.
5. I would also like to find a way to make the game accessible to people who do not have the sense of sight at all, possible by assigning each card an ARIA attribute to be read aloud, and making the game only playable using arrow keys and spacebar on the keyboard.

Possible solutions:

1. I think I recall a math.random kind of command in my online searches, or something similar, I bet I could use that to randomize the selection and placement of cards on the playing field.
2. I think I will need to look up some JS logic in order to make the number of cards on the field player selectable. I know it can be done, because I have played JS games with a configurable difficulty level.
3. I will have to look up how to animate static images. I have no idea how to do that.
4. I will see if I can find a couple different image libraries, one with normal images and one with high contrast images and make that a user selectable option.
5. I will have to refresh my memory on ARIA attributes and how they work as well as figuring out how to map game board movements with specific keys as opposed to using the onClick, onFocus, or onBlur commands with the mouse cursor.