CSC405 Final Project Proposal

Luke, Oluj, Grant

Project Description:

We'll be making a game similar to Set, in which there are 81 cards each with 4 different characteristics (shapes, color, shading, and the number of shapes). Upon starting the game you will be presented with 9 of these 81 cards on the screen. You will be able to select any three cards to attempt to form a set: 3 cards that have either all different shapes, color, or number of shapes. When you successfully create a set, the three cards will disappear and 3 random cards appear in their place, randomly drawn from the remaining deck. If the cards you clicked aren't a set, the cards will not disappear. The game ends when you've gone through all of the cards, which means you have found all 27 sets.

Inspiration:

Our game is similar to Set but we are planning on using triangles, squares, and circles instead of the shapes used in that game in order to simplify the coding process and make the cards easier to design. In addition, we might change the colors and the filling of the shapes to make it more unique and player-friendly. We also took some inspiration from some matching games where a certain amount of cards randomly switches every few seconds, so we will add a game mechanic that will shuffle the deck and swap out all nine cards on the screen every 15 seconds.

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Feature List:

Must haves

- Generating cards properly with proper designs (shapes, colors, shading, and number of shapes)
- Checking if a set is valid
- Clickable cards and play button
- Ask whether to play normal or hard
- Change every card every 15 seconds in hard mode
- Check whether there are sets in the board state
- End the game when applicable

Nice to have

- Background
- Timer shown on the screen
- Point counter: starts off with 500 points, +100 points per set, -5 points per second, failing to get a set is -25 points (an additional -25 per fail in a row), an additional 100 points per consecutive set, stops at 0. Exceptional high score is ~37,700
- Colored border around the cards to show you clicked it, and smaller borders when you hover over a card
- “Not a set” and “found a set” pop-up

Schedule/Labor Distribution:

May 15: All group members submit Project Proposal and get started coding the basics of the project, such as a default background, functions that generate the blank cards, and a counter mechanism that can count the cards. The click functions and other basic mechanisms will also be coded here.

May 16: All group members will work on designing the specific shapes/color designs for each card. There are three different shapes (triangle, square, and circle) so each one of the group members can take one shape and create the proper code for filling in each blank card with a certain number of shapes given a color and a number. Also continue coding for the basic background and card generator as well as other functions.

May 17: All group members continue coding the shape/color designs.

May 18: All group members continue coding the shape/color designs. Together, we can start coding the part of the program that checks if a group of three cards is a set or not. The points counter can also start to be coded here.

May 19: All group members continue coding the shape/color designs. Continue coding the part of the program that checks if a group of three cards is a set or not as well as the points counter. Start coding the timer mechanism.

May 20: All group members continue coding the shape/color designs. Finish coding the part of the program that checks if a group of three cards is a set or not as well as the points counter. Continue working on the timer mechanism.

May 21: Begin making changes to the program for a hard mode. Finish the timer mechanism.

May 22: Continue making changes to the program for a hard mode.

May 23: Continue making changes to the program for a hard mode.

May 24: Finalize changes to the program for a hard mode.

May 25: Code point counter.

May 26: Continue coding point counter. Start coding popups.

May 27: Finish coding popups and adding borders when cards are hovered over and test code.

May 28: Submit the final project to Mx. El!!