

Memory Game Refactor

For exercise 7, I've chosen to refactor the memory game assignment or exercise 4. The key changes made with this assignment compared to the original are to fix the original submission's issue where clicking on multiple cards in rapid succession would essentially allow the player to cheat.

In addition to this, much of the game logic that was present in the more cosmetically oriented game button class was moved to the main game class, and the code has been reorganized and in some places been slightly altered to follow better code practice.

Card Reveal Timer

Originally, in my original exercise 4 assignment submission, you could click across the board rapidly to reveal many cards at once. They would still disappear after three seconds once the second guess was made, but this made the game very easy.

To remedy this issue, the timer that hides a set of cards once they have been revealed has been moved. Originally, each button had its own timer, but now there exists only one timer within the main game class. The game logic has been updated to handle this for card clicks and whenever the reset button is clicked.

Game Button Class

Previously, the game button class not only hosted methods that were responsible for changing its' appearance, but also game logic. For instance, the timers were hosted inside the game button class. This has been changed so that the game button class does not deal with game logic and only handles its appearance.

In addition to this, the main game class has been relieved of loading the game icons. Now, the game button class has a static array of the game's icons. This allows us to continue to only have one instance of each icon loaded at any one time, while also keeping cosmetic concerns away from the main game logic.

Miscellaneous

Many smaller changes have been made throughout the code. Some examples include using constants instead of repeating similar numbers everywhere, using for each syntax where applicable, and other minor logic refactors like cards being highlighted later than when they are revealed.