

CSC335 - Object Oriented Analysis – Concentration Game

Use Cases

This program simulates the children's game Concentration in a virtual environment. This program is intended to be used for entertainment purposes. You must have the latest version of Java as well as SWT to run the program.

Objects & Classes

ConcentrationGameBoard

This object represents the game board itself. Here is where we store information such as the state of each card, the players, the game mode and more. In this class, the heavy lifting is done in terms of storing all the objects which we require for the game to run.

ConcentrationGameCard

This object represents a single card on the board. A card needs to store information such as what image it houses, and what state the card is in. Additionally, we need to be able to change these values as the game progresses.

ConcentrationGamePlayer

This object represents a single player who is participating in the game. Each player must have a unique id so that we can identify them later. Each player must store information such as if it is their turn, and how many sets of cards they have collected. Additionally, we need to implement setters for both variables.

ConcentrationGameImageSet

This object houses all the images which are selected by the user. When the game starts the user gets to select which set of images to use. This class takes in that information and creates an array of strings where each cell is a path to an image in the set they selected.

ConcentrationGameUI

This class is responsible for doing all the work to make the user interface work. This includes displaying the query for the user settings, displaying board in its current state, and displaying the winning message and options. Additionally, this class needs to handle all click events that occur.

ConcentrationGame

This is where the main method is housed for the program. Here the game is setup and all of the objects above are initialized. Then game will run from the functions embedded.

Diagram

Concentration Game Diagram

