Tile Puzzle Game Project

Group Members:

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Short Description:

We will create a tile puzzle game where the user provides an image file and the tile grid dimensions to break the image up into. The program breaks up the image into icons, replacing one of the icons with a blank tile, and then proceeds to shuffle the icons around on the frame. The user then can drag tiles adjacent to the blank tile into the blank tile, shifting the blank tile into the location formerly occupied by that tile. Once the user arranges all of the tiles in the correct order, the tiles will disappear and be replaced by the original image, thus leaving the puzzle solved.

Concepts Used:

Patterns:

- Observer
  - Tile locations will be stored in a data model that will change when a tile is moved
- Decorator
  - We will implement scroll bars for images too large for the frame size
- Composite
  - Our tiles are small components that make up a larger component in the frame
- Strategy
  - Our tiles will utilize the strategy pattern to create either image icons, or a blank tile icon used for the blank tile.

Other Concepts:

- GUI
  - Icons
    - We will break up an image into icons for our tiles

- Action Events
  - Moving tiles will generate an action
- Timers
  - We will display the initial image before switching to the puzzle frame utilizing timers.