

麻将

Májiàng

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Vision Statement

To create a unique one player version of the fast-paced Mahjong Solitaire by switching tiles on the board at designated time intervals.

Game Features

- 144 images for tiles
- Tracking how many matches exist on the board at any given time
- Visually distinguish between selected and deselected tiles
- Game statistics such as time elapsed, percentage complete when there are no valid moves, and total score
- Ability to undo moves
- The user can pick a level of difficulty which determines how often a randomly chosen stack of tiles (with a top tile playable) gets shuffled.
- Different board arrangements.

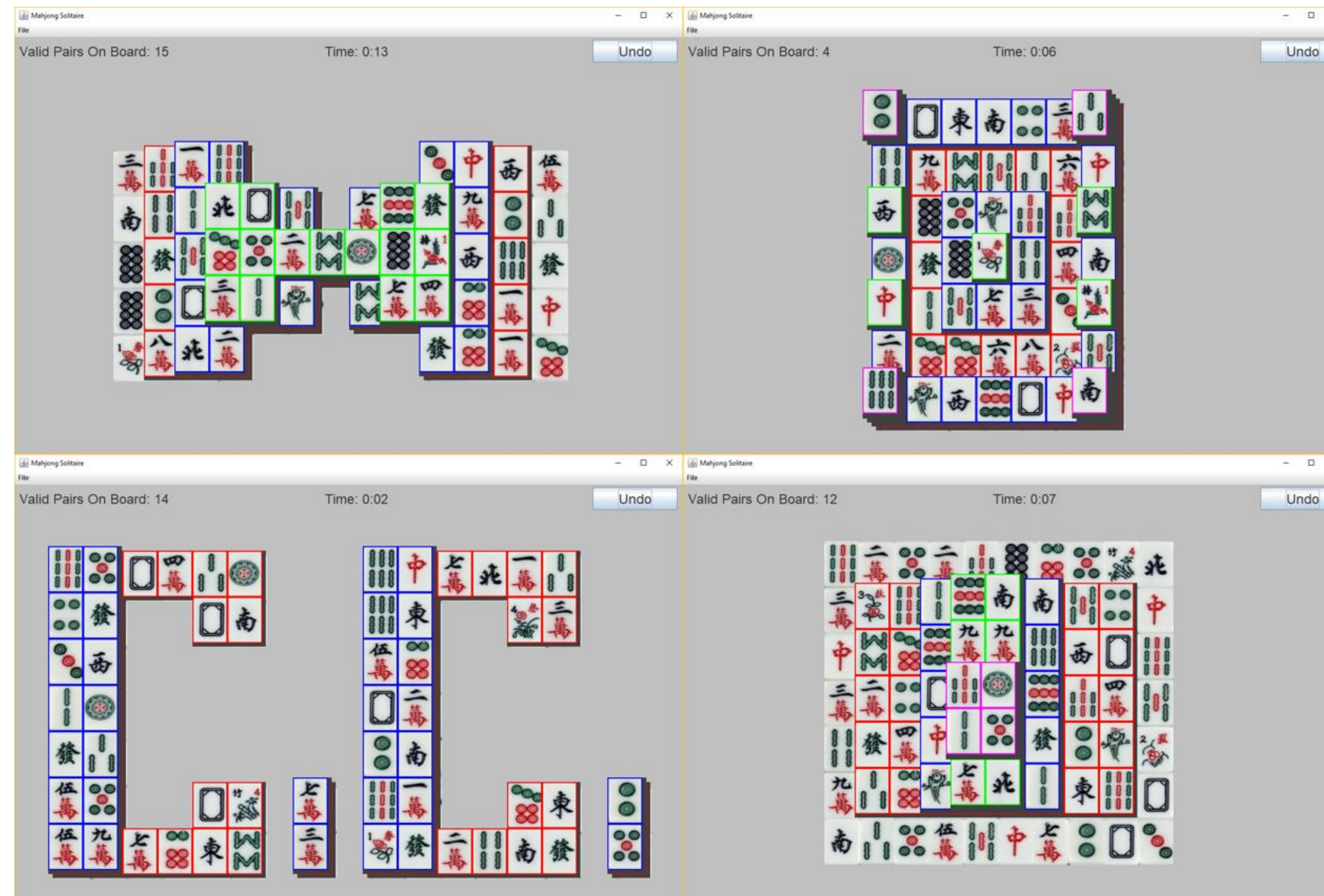


Image 1: The four layouts of this Mahjong Solitaire version.

Program Development

1. *Storing and assigning neighbors*
We chose to store the board position information using a 3-D array. Though many of the spaces in the array are null, the structure is easy to understand and work with. For each tile, we assign pointers to its neighbor tiles to the right, left, above and below. The cleverness of this method exists in initializing all positions and neighbors in the same triple "for loop" in order to improve the loading speed.
2. *Adding shadows*
By default, the tiles print directly on top of their lower neighbors. Hence, we adjusted the position and added a shadow effect to each tile to distinguish between layers.



How to Play:

Objective

To remove every tile on the board

Rules

- Match two of the same valid tiles.
- Once tiles are matched, they disappear and new tiles can show from the layer below.



Image 2: All tiles
<https://www.yimimports.com/products/us-c011-a>

What are valid tiles?

Tiles that are not stacked below other tiles and tiles who do not have an adjacent left or right tile



Image 3: Valid tiles are highlighted in yellow.

What are valid pairs?

Two matching valid tiles.



Image 4: Valid Pairs are shown in pink, invalid pairs are in green.