CS 1530 – Software Engineering

Andrew Dodel, Andrew Jia, Sundar Sampath, Brendan Campbell, and Yuxin Zhang

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Slide Puzzle

**Functional Requirements:**

1. The player can select, from the GUI, one of four different difficulties (easy - 5x5, medium - 7x7, hard - 10x10, or crazy - 15x15)

2. Upon selecting a difficulty, the game divides the chosen picture into an appropriate grid size.

3. Player information and high scores are sent and stored on a server, rather than placed in local storage.

4. After dividing the picture, the game will randomize positions of pieces.

5. The player can click on a tile to move it to the empty space.

6. The game will not allow players to move tiles that are not adjacent to the empty space.

7. The player can provide a picture for helping the user to solve the puzzle.

8. Puzzles can be created using included default photos or the user's provided photo.

9. The app will store pictures provided by the user for future use.

10. There will be a tutorial teaching the player the objective of the puzzle and how to move the tiles around the board.

11. The app should store enough default photos for user to select.

12. The gallery should be categorized as nature, portrait, cartoon, custom…

13. The score is calculated based on moves (timing).

14. Upon successful completion of a game, the application shall display a congratulatory message to the user, displaying the score for that game.

15. After displaying a congratulatory message (following the successful completion of a game), the application shall allow the user to enter his/her name for score recording.

16. The player's current score shall be displayed and continuously updated both with the passing of every second and turn.

**Non-functional Requirements:**

1. The player should only be able to view their own high scores and not those of another player unless it's the overall high score for a given game type

2. Game moves should have a sub 1 second response time.

3. Game is easy to understand and intuitive.

4. Game is entertaining.

5. The game will have a toggle-enabled sound effect when a tile is moved.

6. The game will be made to be played with a mouse.

7. The game shall be reliable, having less than 1 crash per 100 games.

8. The game shall be extensible; the addition of new, modified game types should be seamless.

9. The interface should be clear easy to follow.

10. The game should be easy to access.