Sliding Puzzle Requirements Document

Overview

This project is a standard sliding tile puzzle game. The user will have a square grid of numbered tiles with one piece missing & the tiles mixed up. The user should slide the tiles such that they end up in their original positions. The game will have 3 difficulty settings, 3x3, 4x4, and 5x5. The game will time the user as they solve the puzzle, and will keep a high score for each difficulty level. The current timer value and the high scores will be displayed in the game window.

Functional Requirements

FR1	The puzzle consists of tiles that can be clicked. The number of tiles is the (num rows)^2 -1, with one "empty slot" in every board, which is a tile with no number on it.
FR2	The puzzle is solved when the user orders all the puzzle pieces in order, starting at 1 at the upper left and going across the board until the highest piece is in the last position.
FR3	The player can choose one of three board options (difficulty level): 3X3, 4X4, 5X5
FR4	Puzzle order is randomly generated
FR5	The player can click on the tiles to move them. ↘ When the player clicks on a tile, it should move to the only empty slot on the board. ↘ If the player clicks on a tile and there is no empty slot that the player can move to, the tile the player clicked on should not move.
FR6	Board is hidden until player hits a start button
FR7	A timer keeps track of how long it takes for a player to successfully solve the puzzle.
FR8	Timer starts when start button is hit.
FR9	The player can see how the timer value.
FR10	The player can exit the current game at any time.
FR11	If the user chooses to exit, the game should close
FR12	The player can enter his/her name.
FR13	If the player's time beats the current best time, then the player's name is saved to the leader board for that difficulty level
FR14	In the case of a new fastest time, the player should be notified that his/her time was the fastest.
FR15	The high scores (fastest times) are saved when the user exits the application.
FR16	When the user starts the application, saved high scores are loaded and displayed.
FR17	Leader board shows top fastest times for each difficulty level.
FR18	When the puzzle has been completed, the user is prompted to play again.

User Requirements

UR1	As a player, I want to be able to choose the level I want to play.
UR2	As a player, I want to be able to switch the level I am playing if I decide that it is too easy or too difficult.
UR3	As a player, I want to see the time it took me to complete a puzzle.
UR4	As a player, I want the high scores for each level to be recorded and saved

User Interface