**Documento di System Test**

**Test-Case:**

1. Test starting a new game
2. Test choosing the start board configuration between many alternatives.
3. Test loading a saved game.
4. Test moving blocks by GUI interactions and moves counter.
5. Test undo previous moves up to the game’s start.
6. Test help to solve the puzzle.
7. Test saving the actual game’s state.
8. Test game reset.

| **ID** | T\_01 |
| --- | --- |
| **Name** | Test starting a new game. |
| **Summary** | Test if program correctly starts a new game |
| **Test Case Design** | The player must start a new game. From the main window, the player presses the "Start Game" button.  The default game window (Level1) is displayed.  Now the player can play the game. |
| **Pre-Conditions** | Program is in main window |
| **Post-Conditions** | Game window is displayed and the player can play the game. |
| **Test Script** | * Board is displayed in the initial state * Moves Counter is displayed to 0 * Help, Save, Undo, Reset, Back options are displayed and active |
| **Test case Execution Record** | System correctly starts a new game  PASS |
| **Execution Variables** | No execution variables needed for this test. |

| **ID** | T\_02 |
| --- | --- |
| **Name** | Test choosing the start board configuration between many alternatives. |
| **Summary** | Test if program correctly starts a new game choosing from different alternatives |
| **Test Case Design** | The player has to start a new game choosing from many alternatives. From the main window, the player presses the "Choose configuration" button. A list with the available configurations is displayed.  The user chooses what he wants to be started.  The chosen game is displayed. Now the player can play. |
| **Pre-Conditions** | Some initial configurations of games must be saved. |
| **Post-Conditions** | Chosen game window is displayed and the player can play the game. |
| **Test Script** | * Chosen board is displayed in the initial state * Moves Counter is displayed to 0 * Help, Save, Undo, Reset, Back options are displayed and active |
| **Test case Execution Record** | System correctly starts the chosen game  PASS |
| **Execution Variables** | Test must be done for all available configurations (level1, level2, level3, level4). |

| **ID** | T\_03 |
| --- | --- |
| **Name** | Test loading a saved game. |
| **Summary** | Test if program correctly loads a saved game. |
| **Test Case Design** | Player must press “Load Game” button from the main window. A list with the available saved game is displayed. Player chooses what game he wants to continue the chosen game from the last save point. The chosen saved game is displayed. Now the player can play the game. |
| **Pre-Conditions** | A previous partial game must be saved and program is in main window. |
| **Post-Conditions** | Chosen game window is displayed and the player can play the game. |
| **Test Script** | * Board is displayed in the last state it was in before saving. * Moves Counter is displayed to the number of moves made before saving. * Help, Save, Undo, Reset, Back options are displayed and active. |
| **Test case Execution Record** | System correctly loads the chosen saved game.  PASS |
| **Execution Variables** | No execution variables needed for this test. Any of available saved game can be used for this test. |

| **ID** | T\_04 |
| --- | --- |
| **Name** | Test moving blocks by GUI interactions and moves counter. |
| **Summary** | Test if program correctly moves blocks and if correctly increment moves counter. |
| **Test Case Design** | Player must start a new game by selecting one of the available configurations or load a saved game and make some moves by tapping and dragging a block in the direction he wants to move it. |
| **Pre-Conditions** | New game has to be started or a saved game has to be loaded. The game is displayed. |
| **Post-Conditions** | If there is enough free space, the move is made, board is updated with the move made and the moves counter is incremented, otherwise the block is not moved and board and moves counter stay in the current state. |
| **Test Script** | * Moves counter must be incremented if the moves was made * Board must be update with the move made if there was enough free space |
| **Test case Execution Record** | System correctly moves blocks and updates moves counter.  PASS |
| **Execution Variables** | No execution variables needed for this test. Any moves can be made for this test. |

| **ID** | T\_05 |
| --- | --- |
| **Name** | Test undo previous moves up to the game’s start. |
| **Summary** | Test if program correctly undo moves up to game start condition |
| **Test Case Design** | Player must start a new game selecting one of available configuration and make some moves to change the game state. Then player have to press the undo button until the moves counter is greater than zero. |
| **Pre-Conditions** | New game has to be started and at least a move has to be made |
| **Post-Conditions** | Moves counter has to be decreased by number of clicks of undo button. |
| **Test Script** | * Moves counter decreased by number of clicks of undo button |
| **Test case Execution Record** | System correctly undo moves up to game start conditions  PASS |
| **Execution Variables** | No execution variables needed for this test. Any of available configuration can be used for this test. |

| **ID** | T\_06 |
| --- | --- |
| **Name** | Test help to solve the puzzle. |
| **Summary** | Test if program correctly suggest move to solve the level |
| **Test Case Design** | Player must start a new game selecting one of available configuration and press help button. |
| **Pre-Conditions** | New game has to be started |
| **Post-Conditions** | Moves counter has to be increased and a move has to be automatically done or last move has to be canceled if no best move is available |
| **Test Script** | * Moves counter increased * Move automatically done in the board |
| **Test case Execution Record** | System correctly suggests a move or undo moves if it cannot suggest best moves.  PASS |
| **Execution Variables** | No execution variables needed for this test. Any of available configuration can be used for this test. |

| **ID** | T\_07 |
| --- | --- |
| **Name** | Test saving the actual game’s state. |
| **Summary** | Test if program correctly save actual game state |
| **Test Case Design** | Player must start a new game selecting one of available configuration and make some moves to change the game state. Then player have to press the save button and wait message box with saving to save game state into a file located at user home directory |
| **Pre-Conditions** | New game has to be started and at least a move has to be made |
| **Post-Conditions** | New saving file has to be created into user home directory and a message box has to appear to communicate saving results |
| **Test Script** | * MassageBox communicating save succes * New saving file has to appear at User Home/KlotskiGame/Saving/ |
| **Test case Execution Record** | System correctly saves the game after creating the default directory User Home/KlotskiGame/Saving  PASS |
| **Execution Variables** | No execution variables needed for this test. Any of available configuration can be used for this test. |

| **ID** | T\_08 |
| --- | --- |
| **Name** | Test game reset. |
| **Summary** | Test if game can be correctly reset to initial status of chosen configuration |
| **Test Case Design** | Player must start a new game by selecting one of available configuration and make some moves to change the game state. Then player have to press the reset button to go back to initial status with no moves done. |
| **Pre-Conditions** | New game has to be started and at least a move has to be made or a saved game has to be loaded correctly. |
| **Post-Conditions** | Moves counter must be reset and board must return to initial state of the select configuration |
| **Test Script** | * Moves counter must be zero * Board must be the initial board of selected configuration |
| **Test case Execution Record** | System reset moves counter and board to initial status  PASS |
| **Execution Variables** | No execution variables needed for this test. Any of available configuration or any saved game can be used for this test. |