**Software Engineering Group Projects – System Test Specification**

Author: Jasper Crabb (jac127)

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| **Test Ref** | **Req being tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-FR1-001 | FR1 | Check that the user is prompted with a menu on startup | Opening or running the program | A menu is displayed on the screen | The menu is displayed correctly |
| SE-FR1-002 | FR1 | Check that menu contains an option to start a new game | Opening or running the program | One of the menu options is to start a new game | The menu option is present and works correctly |
| SE-FR1-003 | FR1 | Check that the players are prompted to enter their names for each colour | The player selects the menu option “start a new game” | The player should be presented with a way to enter two names, one for black and one for white | The player is able to enter a name for both colours and each name is shown correctly with the correct colour |
| SE-FR1-004 | FR1 | Check that the player has the option to restore a previous game on startup | Opening or running the program | One of the menu options is to restore a previous game | The menu option is present and works correctly |
| SE-FR2-001 | FR2 | Check that the player names are tracked for the duration of the game | The player selects the menu option “start a new game” or makes a move in game | The player name is stored for the duration of the game | The name is stored in memory and can be corresponded to pieces |
| SE-FR2-002 | FR2 | Check that the player colour is tracked for the duration of the game | The player selects the menu option “start a new game” or makes a move in game | The colours of each player are stored for each of the players for the duration of the game | The colours are stored in memory corresponded to the correct players, and therefore the correct pieces |
| SE-FR2-003 | FR2 | Check that program is keeping track of where the players pieces are for the duration of the game | The player selects the menu option “start a new game” or makes a move in game | The pieces and their locations are stored for the duration of the game | The piece positions on the board are stored correctly in memory |
| SE-FR3-001 | FR3 | Check that program visually indicates which player should move | The player selects the menu option “start a new game” or makes a move in game | The program displays which player should move | The correct player is told to move |
| SE-FR3-002 | FR3 | Check that the players names are displayed on the screen | The player selects the menu option “start a new game” or makes a move in game | The program displays the player names | The names are displayed correctly |
| SE-FR3-003 | FR3 | Check that the board is displayed on the screen | The player selects the menu option “start a new game” or makes a move in game | The chess board should be displayed on the screen | The chess board is correctly displayed with no graphical errors |
| SE-FR3-004 | FR3 | Check that the pieces are displayed | The player selects the menu option “start a new game” or makes a move in game | The pieces should appear on the board | The pieces should be displayed in the correct locations, in the correct colour with no graphical errors |
| SE-FR4-001 | FR4 | Check if the player can only select their pieces | The player selects the menu option “start a new game” or makes a move in game | The player will be told if they try to move a piece that isn’t theirs | The correct player is prevented from moving the opponents pieces |
| SE-FR4-002 | FR4 | Check that the player can only move one piece at a time | The player selects the menu option “start a new game” or makes a move in game | The player will be told if the try to move more than one piece | Only one piece can be moved at a time |
| SE-FR5-001 | FR5 | Check that the possible legal moves are shown to the user | The player selects the menu option “start a new game” or makes a move in game | The program will show the legal moves for that turn to the user | The legal moves shown are valid and correct |
| SE-FR5-002 | FR5 | Check that the pieces can moved | The player attempts to move a piece | The piece selected will move | The correct piece moves to the correct location |
| SE-FR5-003 | FR5 | Check that the piece can only be moved if it is a valid move | The player attempts to move a piece | The player will be told if the piece cannot be moved | The program does not allow an illegal move |
| SE-FR5-004 | FR5 | Check that the player cannot move a piece to an invalid square | The player attempts to move a piece to an invalid square | The player will be told that it is an illegal move | The program does not allow a move to an illegal square |
| SE-FR6-001 | FR6 | Check that the program detects check and indicates it to the user | The opponent targets the king with one of their pieces | The player is told that they are in check | The program makes sure that the player knows that their king is in check |
| SE-FR7-001 | FR7 | Check that the program detects checkmate | The opponent puts the players king into checkmate | The player is told that they have lost | The program ends the chess game and stores the winner |
| SE-FR8-001 | FR8 | Check that program clearly indicates a game over | A condition that causes the game to end is triggered | The program tells the players that the game is over | The program displays a game over screen at the correct time |
| SE-FR8-002 | FR8 | Check that the program has an option to resign | The player selects the menu option “start a new game” or makes a move in game | There is a button somewhere that allows either player to resign | The player that resigns loses and the game is over |
| SE-FR8-003 | FR8 | Check that the players can make a draw | The player selects the menu option “start a new game” or makes a move in game | There is a button somewhere that allows either player to ask for a draw | Both players are presented with an option to draw and if accepted the game ends |
| SE-FR8-004 | FR8 | Check that the program saves the game as it ends | A condition that causes the game to end is triggered | n/a | The entire game and its details are saved to disk |
| SE-FR9-001 | FR9 | Check that the players can exit the game | The player selects the menu option “start a new game” or makes a move in game | There is a button somewhere that allows either player to quit the game | The game is adjourned and saved for later |
| SE-FR9-002 | FR9 | Check that the players can save the game | The player selects the menu option “start a new game” or makes a move in game | There is a button somewhere that allows either player to save the game | The entire game and its details are saved to disk |
| SE-FR10-001 | FR10 | Check that the game can be replayed one step at a time | The player selects the menu option “restore previous game” | The board is changed to its next / previous state | The board displayed is one move ahead or behind the current state and has the correct game state |
| SE-FR10-002 | FR10 | Check that the player has the option to review the game backwards | The player selects the menu option “restore previous game” | There is a button that allows the player to move backwards through the game | The board displays the previous move from the current game state |
| SE-FR10-003 | FR10 | Check that the player has the option to review the game forwards | The player selects the menu option “restore previous game” | There is a button that allows the player to move forwards through the game | The board displays the next move from the current game state |
| SE-FR10-004 | FR10 | Check the program allows the user to exit the replay mode | The player selects the menu option “restore previous game” | There is a button that allows the player to exit the replay mode | The button takes the user back to the start menu of the program |
| SE-FR11-001 | FR11 | Check the program saves each move made | The player makes a move in game | n/a | A file is updated with the new move that was made, as well as the new board position |
| SE-FR11-002 | FR11 | Check that the program can restore a game that has been quit | The player selects the menu option “restore previous game” | The is presented with an option to restore the game in question | When the game is selected it is in the correct (previous) state |
| SE-EIR-001 | External Interface | Check that a user’s input is acted in on in under a second | Any input | The program responds within 1 second | The output is correct and took less than one second to display |
| SE-EIR-002 | External Interface | Check that the program can run on the IS PCs | n/a | n/a | The program runs and behaves correctly on the IS PCs |