

Software Engineering Group Project System Test Specification

Author: Jasper Crabb [jac127]
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1. INTRODUCTION

1.1 Purpose of this Document

This document will be used as reference to system testing and specifies how we will test the system as a whole.

1.2 Scope

This document's tests are derived from requirements specification for the software group project [1].

The document's standard and format are from the test procedure standards for the software group project [2]

1.3 Objectives

The objective of this document is to guide the system tester during testing, so that they know what the system should be able to do and how it should behave when doing so.

2. SYSTEM TEST SPECIFICATION

Test Ref	Req being tested	Test Content	Input	Output	Pass Criteria
SE-F-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-F-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-F-003	FR1	Check that player 1 is able to enter their name	The player selects the menu option "start a new game"	There is a text box on the screen with the name prompt	The text box takes the user's input and their input is used as their name
SE-F-004	FR1	Check that player 1 is able to choose their colour	The player selects the menu option "start a new game"	There are three buttons, one for white, one for black, and one for random	When one of the buttons is clicked an appropriate colour is assigned to player 1
SE-F-005	FR1	Check that player 1 is able to specify whether they would like tutorials on or off	The player selects the menu option "start a new game"	There is a check box, this can be ticked to specify tutorials on or off	When the tick box is selected player 1 should have tutorials enabled, when deselected the tutorials should be disabled
SE-F-006	FR1	Check that player 1 is able to choose a colourblind setting	The player selects the menu option "start a new game"	There is a drop down list that has 4 options, for each	Depending on the option chosen, the appropriate colours should

				type of colour blindness and no colour-blindness	be shown on the screen and in game
SE-F-007	FR1	Check that the button to proceed to the player 2 setup works correctly	The player selects the menu option "start a new game"	There is a button, named "next"	When the button is clicked player 1's preferences should be stored and the player 2 setup screen should be displayed
SE-F-008	FR1	Check that player 2 is able to enter their name	Player 1 presses the "next" button	There is a text box on the screen with the name prompt	The text box takes the user's input and their input is used as their name
SE-F-009	FR1	Check that player 2 is assigned the correct colour	Player 1 presses the "next" button	The program will specify what colour player 2 will be playing as	The colour specified should be the colour that player 1 isn't playing as
SE-F-010	FR1	Check that player 2 is able to specify whether they would like tutorials on or off	Player 1 presses the "next" button	There is a check box, this can be ticked to specify tutorials on or off	When the tick box is selected player 2 should have tutorials enabled, when deselected the tutorials should be disabled
SE-F-011	FR1	Check that player 2 is able to choose a colourblind setting	Player 1 presses the "next" button	There is a drop down list that has 4 options, for each type of colour blindness and no colour-blindness	Depending on the option chosen, the appropriate colours should be shown on the screen and in game
SE-F-012	FR1	Check that the back button works correctly	Player 1 presses the "next" button	There is a button labelled "back"	When pressed the button should go back to the player 1 setup screen
SE-F-013	FR1	Check that the button to start the game works correctly	Player 1 presses the "next" button	There is a button labelled "next"	When pressed the chess game should begin, with all parameters matching what was selected in

					the previous menus
SE-F-014	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 when clicked takes them to a menu for previous games
SE-F-015	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-F-016	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-F-017	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-F-018	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-F-019	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-F-020	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-F-021	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-F-022	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-F-023	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 they try to move more than one piece	Only one piece can be moved at a time
SE-F-024	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 by colouring squares that can be moved to	The correct squares are coloured, and are the correct colour
SE-F-025	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-F-026	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-F-027	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-F-028	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 by their king being highlighted in a colour	The program highlights the king in a colour (depending on which colourblind mode)
SE-F-029	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-F-030	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-F-031	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-F-032	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-F-033	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-F-034	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-F-035	FR9	Check that the game is saved to disk each move	The player makes a move in game	The text file for the game should update with the current FEN string for the game	The correct game state is saved to the text file
SE-F-036	FR10	Check that the player can select a game to replay	The player selects the menu option “restore previous game”	The player is presented with a menu that has a list of games to replay	All the of the saved games are present and can be selected (highlighted)
SE-F-037	FR10	Check that the player can go back to the main menu	The player selects the menu option “restore previous game”	The current menu has a button labelled “cancel”	When the button is pressed it should take the user back to the main menu
SE-F-038	FR10	Check that the player can delete a game save file	The player selects the menu option “restore previous game”	The current menu has a button labelled “Erase”	When the button is pressed the save game that is highlighted is deleted
SE-F-039	FR10	Check that the player can load the selected game	The player selects the menu option “restore previous game”	The current menu has a button labelled “Load”	When the button is pressed the save game that is highlighted should be loaded into and be able to be replayed

SE-F-040	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-F-041	FR10	Check that the previous move button cannot be pressed if there is no previous move	The player presses the “Load” button	The button should be greyed out	When the button is pressed it should not do anything
SE-F-042	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-F-043	FR10	Check that the next move button cannot be pressed if there is not another move	The player presses the “Load” button	The button should be greyed out	When the button is pressed it should not do anything
SE-F-044	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-F-045	FR11	Check the program saves each move made	The player makes a move in game	n/a	A file is updated with the new board position
SE-F-046	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-EI-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-EI-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

REFERENCES

- [1] Software Engineering Group Projects – Chess Tutor Requirements Specification 1.1 (Release)
- [2] Software Engineering Group Projects – Test Procedure Standards/2.1 (Release)

DOCUMENT HISTORY

<i>Version</i>	<i>Issue No.</i>	<i>Date</i>	<i>Changes made to document</i>	<i>Changed by</i>
0.1	N/A	15/02/23	N/A - original version	Jac127
0.2	N/A	22/02/23	Added required sections and changed test reference numbers	Jac127
0.3	#14	01/03/23	Added more specific tests for some features	Jac127