Group 9 - Test Specification

2 RELEVANT QA DOCUMENTS

The Test Specification and Test Report must be produced in accordance with the quality standards specified in the **QA Plan** [1]. In particular, they must be maintained within the configuration management system according to the appropriate procedures [3]. The basic layout and information content must conform to the **General Documentation Standards** [4].

Contents

Introduction
Purpose of this document
This document contains all the tests ran on the Chess Tutor project and will be used to confirm what functional requirements are passed and failed.

Scope

Objectives

Test Specification

Test Ref	Req being tested	Test Content	Input	Output	Pass Criteria
SE-F-001	FR1	Check whether new game works properly	Click 'New game'	New game is started	New game is started
SE-F-002	FR1	Check whether 'Restore previous game' works properly	Click 'Restore previous game'	Previous game is restored	Previous game is restored successfully
SE-F-003	FR2	Both players names, pieces and colour is tracked correctly	Make a moves	Updated board	The players name should match the pieces and colour
SE-F-004	FR3	Tutor keeps track of current player and shows visually whos turn it is	New turn	Changed turn	Changes turn and has a visual to show whos turn it is
SE-F-005	FR3	Unambiguous board representation	New game and move a piece	Board clearly displayed	Unambiguous board and pieces

					represented
SE-F-006	FR4	Only current player can move there pieces	Move piece from other player and current player	Players moving pieces	Only current player can move there coloured pieces
	FR4	Check if piece selection works	Click piece that is available to move		
	FR4	Check if piece selection works	Check piece that cannot move as it is pinned		
	Fr4	Check if piece selection works	Check piece that cannot move as it is check		
SE-F-007	FR5	Check whether Pawn Pieces are moving legally	Clicking on Pawn Pieces To only move vertically one or two steps	Pawn Pieces should only move one or at most two steps	Pawn Pieces moved correctly
SE-F-000	FR5	Test functionality of Pawn Pieces for capturing pieces	Pawn Pieces could only move towards enemy pieces as in diagonally to the left or right	Pawn Pieces could only capture enemy pieces diagonally and then landing on its designated location	Pawn Pieces attacked correctly
SE-F-000	FR5	Test Pawn Pieces applying En Passant rule which only occurs when a pawn captures a horizontally adjacent enemy pawn piece that made an initial two square advance	Pawn Pieces could only capture enemy pawn pieces if it advances two square which its position is adjacent to the player's pawn piece	Pawn Pieces could only capture enemy pawn pieces if it met the requirements of En Passant	Pawn Pieces applying the En Passant rule
	FR5	Check Pawns cannot capture illegally	Click Pawn and then attempt to move across the board	Pawn piece flashes red	Pawn piece flashes red and is not moved
SE-F-008	FR5	Check whether Bishop Pieces are moving legally	Clicking on Bishop Pieces to only move diagonally as many steps as desired	Bishop Pieces should only move diagonally	Bishop Pieces moved correctly
SE-F-009	FR5	Test functionality of Bishop Pieces for capturing enemy pieces	Bishop Pieces could only move diagonally in any steps to capture enemy pieces	Bishop Pieces could only capture enemy pieces diagonally and then landing on its designated location	Pawn Pieces attacked correctly
	FR5	Test functionality of Bishop making illegal move	Move bishop piece horizontally	Bishop piece flashes red	Bishop piece flashes red and is not moved
SE-F-010	FR5	Check whether Knight Pieces are	Clicking on Knight Pieces to only move one	Knight Pieces should only move as	Knight Pieces moved correctly

		moving legally on the top side	space left or right horizontally and then two spaces up or down vertically	in a 'L shape'	(top side)
SE-F-011	FR5	Check whether Knight Pieces are moving legally on the bottom side	Clicking on Knight Pieces to only move two spaces left or right horizontally and then one space up or down vertically	Knight Pieces should only move as in a 'L shape'	Knight Pieces moved correctly (bottom side)
SE-F-012	FR5	Test functionality of Knight Pieces for capturing enemy pieces on the top side	Knight Pieces could only move one space left or right horizontally and then two spaces up or down vertically while landing on the enemy pieces to capture them	Knight Pieces could only capture enemy pieces after attacking and then landing on its designated location	Knight Pieces attacked Correctly (top side)
SE-F-013	FR5	Test functionality of Knight Pieces for capturing enemy pieces on the bottom side	Knight Pieces could only move two spaces left or right horizontally and then one space up or down vertically while landing on the enemy pieces to capture them	Knight Pieces could only capture enemy pieces after attacking and then landing on its designated location	Knight Pieces attacked correctly (bottom side)
	FR5	Test functionality of knight piece making illegal move	Move knight to accross the board to a square it shouldn't be able to go	Knight piece should not be moved	Knight piece should flash red and not move
SE-F-014	FR5	Check whether Rook Pieces are moving legally as in vertically	Clicking on Rook Pieces to only move vertically for as far as desired	Rook Pieces should only move vertically as in a straight line	Rook Pieces moved correctly (vertically)
SE-F-015	FR5	Check whether Rook Pieces are moving legally as in horizontally	Clicking on Rook Pieces to only move horizontally for as far as desired	Rook Pieces should only move horizontally as in a straight line	Rook Pieces moved correctly (horizontally)
SE-F-016	FR5	Test functionality of Rook Pieces for capturing enemy pieces vertically	Rook Pieces could only move vertically for as many spaces as desired to capture enemy pieces	Rook Pieces could only capture enemy pieces in a vertical direction and then landing on its designated location	Rook Pieces attacked correctly (vertically)
SE-F-017	FR5	Test functionality of Rook Pieces for capturing enemy pieces horizontally	Rook Pieces could only move horizontally for as many spaces as desired to capture enemy pieces	Rook Pieces could only capture enemy pieces in a horizontal direction and then landing on its designated location	Rook Pieces attacked correctly (horizontally)
		Test functionality of rook moving illegally	Attempt to move rook piece diagonally	Rook piece flashes red and isn't moved	Rook piece flashes red and isn't moved
SE-F-018	FR5	Check whether Queen Piece is moving legally	Clicking on Queen Piece to move in any directions and any distance as in	Queen Pieces could move into any space desired	Queen Piece moved correctly

			vertically, horizontally and diagonally		
SE-F-019	FR5	Test functionality of Queen Piece for capturing enemy pieces	Queen Piece could move in any direction and any distance regardless of vertical, horizontal or diagonal to capture any enemy pieces	Queen Piece could move in any direction and any distance regardless of vertical, horizontal or diagonal to capture any enemy pieces and then landing on the designated location	Queen Piece attacked correctly
		Test functionality of queen piece making illegal move	Move queen piece to a position is shouldn't be able to move	Queen piece should flash red and not move	Queen piece should flash red and not move
SE-F-020	FR5	Check whether King Piece is moving legally	Clicking on King Piece to only move one space in any direction	King Piece should only move one space in any direction	King Piece moved correctly
SE-F-021	FR5	Test functionality of King Piece for capturing enemy pieces	King Piece only moves one space in any direction as vertical, horizontal or diagonal to capture enemy pieces	King Piece could only move in one space in any direction as vertical, horizontal or diagonal to capture enemy pieces and then landing on the designated location	King Piece attacked correctly
		Test functionality of king piece moving illegally	Move king piece to across the board to a square it shouldn't be able to move	King piece should flash red and not move	Kind piece should not move and flash red
SE-F-000	FR5	Test functionality of Pawn Pieces which are eligible for promotion	Clicking on Pawn Pieces which have advanced until the starting point of the enemy	display a window for players to allow them choose which piece to promote to from a Pawn Piece into a Queen, Knight, Bishop or Rook Piece	Pawn Pieces are valid to undergo the promotion process
SE-F-000	FR5	Detects any Pawn Pieces which are on the starting line of the enemy where their promotion is mandatory	Each of the Pawn Pieces on the starting line of the enemy has the ability to promote to a Queen, Knight, Bishop or Rook Piece	Indicates the player that a Pawn Piece is ready for promotion	Players must choose between the pieces to promote from a pawn
SE-F-022	FR6	Tutor detects whether if the opponent's king is currently in the checked state	Display on the board instantly when it met requirements	Display opponent's king with a colour to indicate it as in a checked state	The player is indicated that the opponent's king is in check
SE-F-023	FR7	Tutor detects whether if the opponent's king is in the state of	Display on the board instantly when it met requirements	Display opponent's king with a colour which indicates that it is in checkmate	The player is indicated that the opponent's king is in checkmate

		checkmate		and the player has won the game	
SE-F-024	FR8	Checkmate	One player is checkmated	Game finishes	Game ends and players asked if they want to save the game
SE-F-025	FR8	Resign	One player has resigned the game	Game finishes as one player has resigned	Game ends and players asked if they want to save the game
SE-F-026	FR8	Agree to finish (Draw)	Both players agreed to end the game	Game finished	Game ends and players asked if they want to save the game
SE-F-027	FR9	Game quit	One player quits game	Game finishes with save prompt	Game closes and players asked if they want to save the game
SE-F-028	FR10	Game replay	Player clicks replay game	Game runs through in replay mode	Players can go forward or back in the replay
SE-F-029	FR11	Game saved while playing	Move made	Game is saved to a file to later be either restored or replayed	If program crashes the game can be restored. If game is saved it can be replayed

REFERENCES

Document history

Version	Date	Changes made to document	Changed by
1.0	10/02/2023	Added tests for each functional requirement	jib16