

• CHECKERS ONLINE •

Testing Cases Document

For version 0.7 β

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Revision History

Name	Date	Reason for Change	Revision
Zacharia Thottakara	8/20/18	Documenting tests and expected results	0.5
Zacharia Thottakara Yansen Tjandra Lucas Vitalos Andrew Yaros	8/21/18	Expansion of test lists, addition of test priorities and mappings to requirements, formatting.	1.0
Andrew Yaros	8/28/18	Added test results	2.0

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1. Introduction

This document defines the testing approaches taken when evaluating the Checkers Online Program for its functionality and performance.

2. Test Cases

2.1. Initializing a Game:

- 2.1.1. Description: This case contains the tests for initializing a game.
- 2.1.2. Preconditions: A working internet connection, desktop or laptop machine, any web browser with javascript enabled. Server must be running.
- 2.1.3. Scenarios:

ID	Priority	Req	Description	Steps	Expected	Actual
1	High	3.1.1.1, 3.2.1	Connect to Server	1. Enter URL of server into browser window of client	1. Main Menu Loaded from Server 2. UUID generated for player	Pass: Main menu is loaded and unique UUID is generated.
2	High	3.1.1, 3.2.1.2	Join Random Game	1. Connect to Server on two separate clients 2. Click join Random Game option on both	Client 1 and Client 2 both go to game window.	Pass: behavior as expected
3	High	3.1.1, 3.2.1.1	Join Game by UUID (prompt)	1. Connect to Server on 2 separate clients 2. Click join by UUID on client 1	Client 2 is prompted to accept game from client 1 (showing uuid)	Fail: Client 2 is not yet prompted by client 1.
4	High	3.1.1, 3.2.1.1	Join Game by UUID	1. Complete test case 3 (above) 2. Click accept on client 2	Client 1 and Client 2 both go to game window.	Partial pass; Client 1 initiates the game by clicking, but doesn't join it, after which Client 2 can click to join it, after which Client 1 must click the join button again to join.

2.2. In Game Mechanics

2.2.1. Description: These are the tests for in game mechanics

2.2.2. Preconditions: Two clients must be in the game window. Referred to as Client 1 and Client 2

2.2.3. Scenarios:

ID	Priority	Req	Description	Steps	Expected	Actual
5	Medium	3.2.3.1	Show possible Moves	Click on any piece on the board with possible moves	Possible spots to move to are highlighted	Pass, behavior as expected.
6	High	3.1.3, 3.2.3.1	Move piece	Click on a piece and click on any highlighted spots	1. Piece is removed from the current spot and moved to new spot 2. Server will update on both clients	Partial pass; behavior as expected, although sometimes a user must click twice on the destination spot.
7	High	3.1.3	Attempt illegal move	Click on a piece and click on any non-highlighted spots	The move does not take place. If the client does allow the move, it is rejected by the server.	Pass, behavior as expected.
8	High	3.1.2, 3.2.3	Capture piece	Using your piece, jump over one of the opponents	1. Opponent's piece is removed from board and your piece is moved to the correct position 2. Tally of Opponents Pieces Taken increases	Pass, behavior as expected.
9	High	3.1.2, 3.2.3	Lose Piece	Have opponent jump over one of your pieces	1. Your piece is removed from board and opponent's piece is moved to	Pass, behavior as expected.

					the correct position 2. Tally of Your Pieces Taken increases	
10	High	3.1.2	Get King	End your turn with a piece on the farthest row on the board from your side	Regular game piece is swapped for King piece	Fail; server sends back matrix treating them as pawns; pieces can no longer be moved by client.
11	High	3.1.3, 3.1.4	Win Condition	Maneuver the board until opponent has no more possible moves	1. Both players are taken to the game end screen. 2. Game history records win correctly	Pass, behavior as expected.
12	High	3.1.3, 3.1.4	Draw Condition (No captures in 40 moves)	Play out a game until at least 41 turns have gone by (opponent, you, opponent, you counts as 4)	1. Both players are taken to the game end screen with a Tie 2. Game history records this correctly	Untested; cannot be confirmed working without crowning working
13	High	3.1.3, 3.1.4	Draw Condition (No more possible moves for either player)	Play out a game until there are no possible moves for either player	1. Both players are taken to the game end screen with a Tie 2. Game history records this correctly	Pass, behavior as expected.

2.3. Other Tests

- 2.3.1. Description: These are tests not pertaining to the game itself
- 2.3.2. Precondition: A client must be connected to the server and on the Main Menu
- 2.3.3. Scenarios:

ID	Priority	Req	Description	Steps	Expected	Actual
14	High	3.2.2, 3.2.1.4	Information Page	Click on "Info" button	Info menu page loads	Pass; page loads
15	Medium	3.2.2.2	About Page	Click on "About" button on Info Menu	About Page loads	Pass, page loads
16	Low	3.2.2.1	History Page	Click on "History" button on Info Menu	History Page for user loads	Pass, page loads
17	High	3.2.2	Return to Main menu	Click on Return to Main menu button on Info Page	Return to Main Menu	Pass, page loads

2.4. Server Tests

2.4.1. Description: These are the tests test functionality of the server

2.4.2. Precondition: N/A

2.4.3. Scenarios:

ID	Priority	Req	Description	Steps	Expected	Actual
18	High	4.1, 4.2	Server can run without interruption on Ubuntu 17.04	Start up server and let run for 2 days.	No problems are expected. Server should function normally.	Pass
19	High	4.1, 4.3	Clients can connect to server on all supported browsers	1. Start server 2. Connect to server through Chrome 67 on macOS and Windows 3. Connect to server through Firefox 61 on macOS and Windows 4. Connect to server through Edge 42 on Windows 5. Connect to server through Safari 11 on macOS	Clients connect and sees Main Menu	Pass, works on the required browsers and OSs

20	Low	3.1.4	Server can remember player history by UUID	1. Start server 2. Connect 2 clients 3. Play through a game 4. Check history page after game	Textual history of previous game will appear.	Fail; not yet implemented
21	Medium	5.1.1	Start server on non-default port (command line)	Start server on command line and pass --port option with non-default port.	The server starts and listens on the specified port.	Fail; not yet implemented

3. Appendix

3.1. Glossary

- 3.1.1. King piece - If a checker moves all the way to your opponent's end of the board and remains there at the end of the turn, then it becomes a **King**
- 3.1.2. Jump - when a player makes a legal move over one of the opponent's pieces with the players, this is considered a jump. The opponent's piece is also captured.
- 3.1.3. Captured - a captured piece is removed from the board.
- 3.1.4. Win - a condition in where only the opponent is unable to move
- 3.1.5. Draw - a condition in which neither player is able to move, or where neither player has captured in the past 40 turns
- 3.1.6. Loss - a condition in which the player has no possible moves while the opponent does

3.2. References

- 3.2.1. Checkers Rules - <https://www.mastersofgames.com/rules/draughts-rules.htm>

