

Manual Test Plan for Chess GUI

October 4, 2017

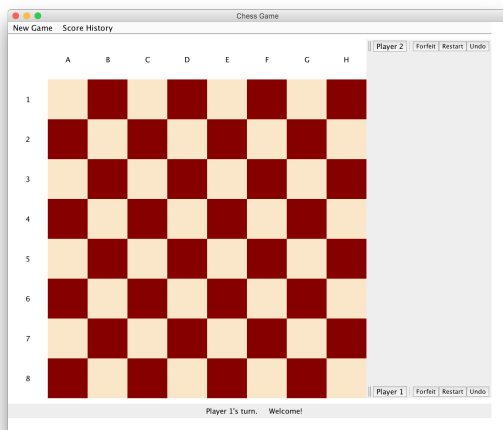
1 Introduction

Chess board GUI is in MVC pattern. Currently, it supports two modes: traditional chess game, and customized chess game with two additional pieces.

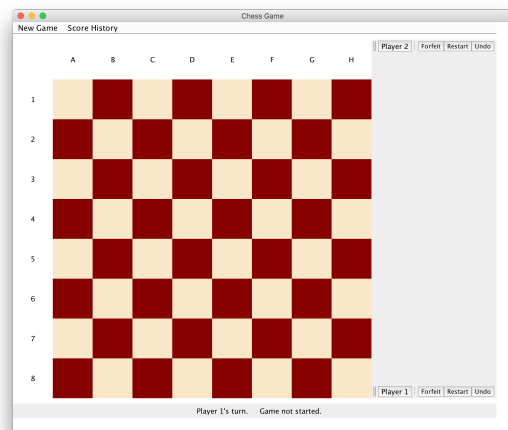
2 Launch GUI

When first launching GUI, menu bar, tool bar and empty chess board are set up, but the chess pieces are empty as shown in Figure 1a. Selecting any square on board, the bottom message gives a respond of "Game not started".

At this time, since the chess board is not yet initialized, tool options for player 1 and player 2 will do nothing.



(a) First launching chess GUI

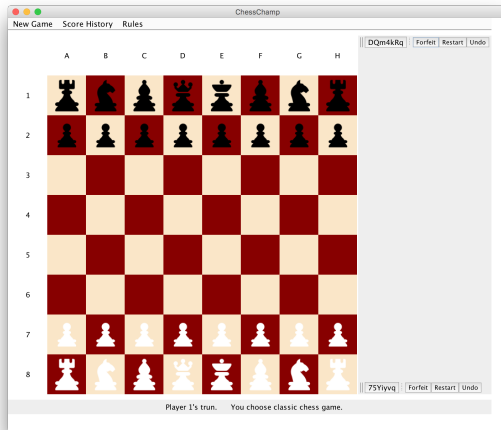


(b) Bottom message shows "Game not started"

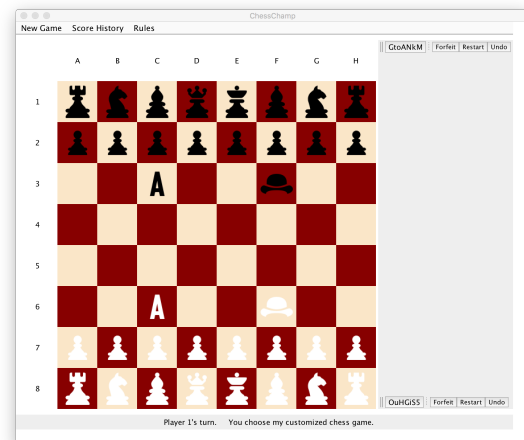
2.1 Initialize Chess Board

Select from the menu bar to start new game. When initialize the chess board in both classic and customized chess game, black and white pieces should be placed on their correct initial position as Figure 2 shows.

Also the "Player 1", "Player 2" buttons should turn into unique names that are automatically given by the program.



(a) Classic chess



(b) Customized chess

Figure 2: Initialize chess board

2.2 Movement

At this point, we can start move pieces. Player 1 is in turn at first by default.

If the user choose empty square, there will be error message and nothing performed.

If user choose a piece from the player who is not in turn (i.e. player 2's pieces in first run), then the bottom message will update the error accordingly.

Otherwise, the bottom message will say which piece is selected from the current player.

Then user have to pick up a destination square, if the movement is illegal, the bottom message will show the error, otherwise, when the move is performed the message will update to "Moved".

If some pieces is captured, the square should only show the icon of the remaining piece.

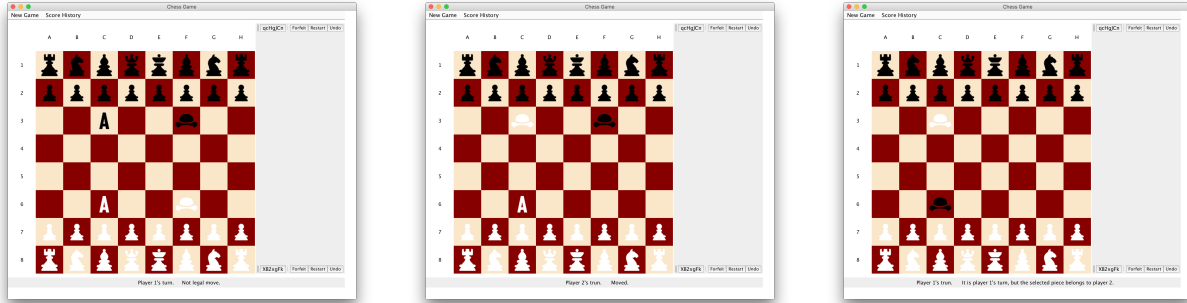


Figure 3: Message update accordingly to user input

2.3 Display Score

The second menu item is "Score history", which should pop up a window showing scores for all pairs of players.

If the board is uninitialized, the pop up window is empty. The initial score for player is 0:0. Other score cases will be discussed in following sections.

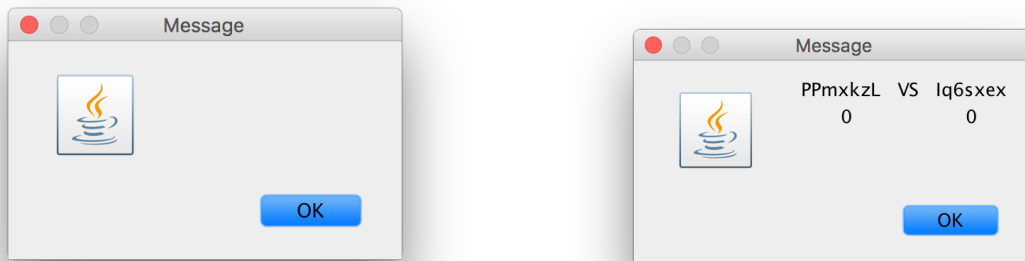


Figure 4: Show score history

3 Tools for Player

There are three tools for player. Forfeit, restart and undo.

Forfeit can be done at any point of the game, if the player choose to forfeit, the game will restart and the opponent will get one point.

Restart is allowed when both of the players choose restart. In this case, no player gets score.

Undo can be done multiple times until it reaches the beginning of the chess game. However undo can only be performed before the opponent moves.

3.1 Forfeit

When a player choose forfeit, the chess board will restart, with all pieces back to initial position and the score will be given to opponent.

Forfeit can be performed anytime. Check in cases of before any moves and after some moves.

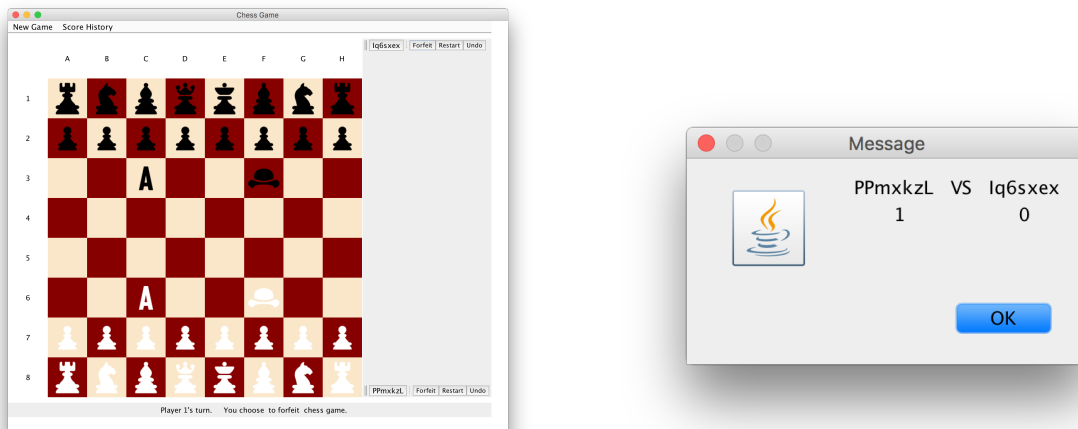


Figure 5: GUI after a player forfeits.

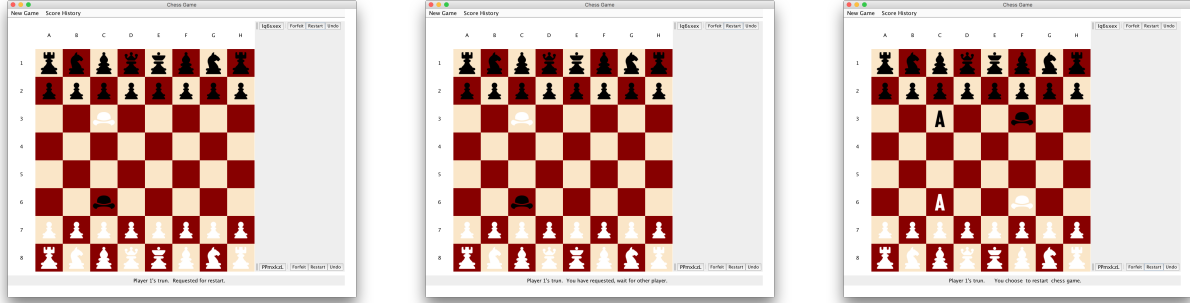
3.2 Restart

When a player choose to restart, the bottom message will acknowledge the request and do nothing as shown.

If the same player request again, the bottom message will update accordingly as shown, and still do nothing.

When the other player also request to restart, the board will re-initialized.

Check the score history. No player gets point in this case.



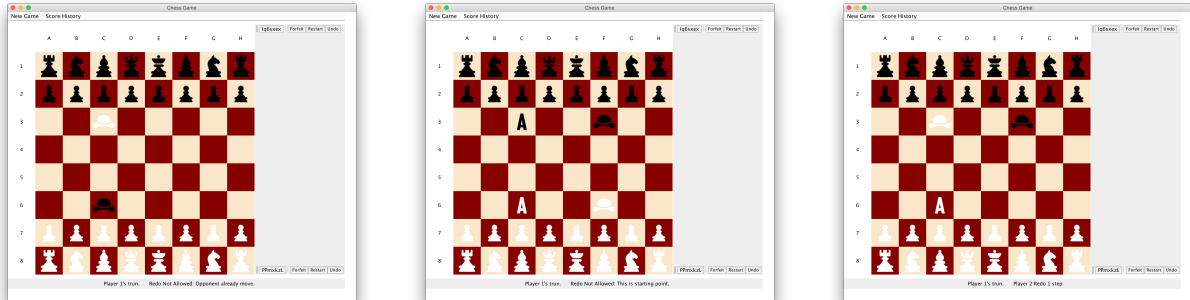
(a) The first user requests restart. (b) The same user requests restart again. (c) Both users choose restart, restart the game.

Figure 6: When user click restart.

3.3 Undo

Undo can be done if the opponent has not moved yet. If the opponent has moved, the bottom message will show error message. If player wants to undo until the board reaches the starting point, error messages also show up. Otherwise the undo should be performed nicely.

Check the case that undo a move that involving capturing a piece. After undo, the captured piece should also be restored.



(a) Undo after the opponent moved. (b) Undo at starting point. (c) Undo performed.

Figure 7: When user choose to undo.

4 Play with new Players

The GUI is able to record multiple pairs of player and their corresponding score history. To play with new Players, choose "Play with New Players" under "New Game" menu, and then the user can choose which chess game as previous section discussed.

Check the score history after starting with multiple new pairs of players. The name for each player should be different. The pop up window now should be a list of scores according player with different names.

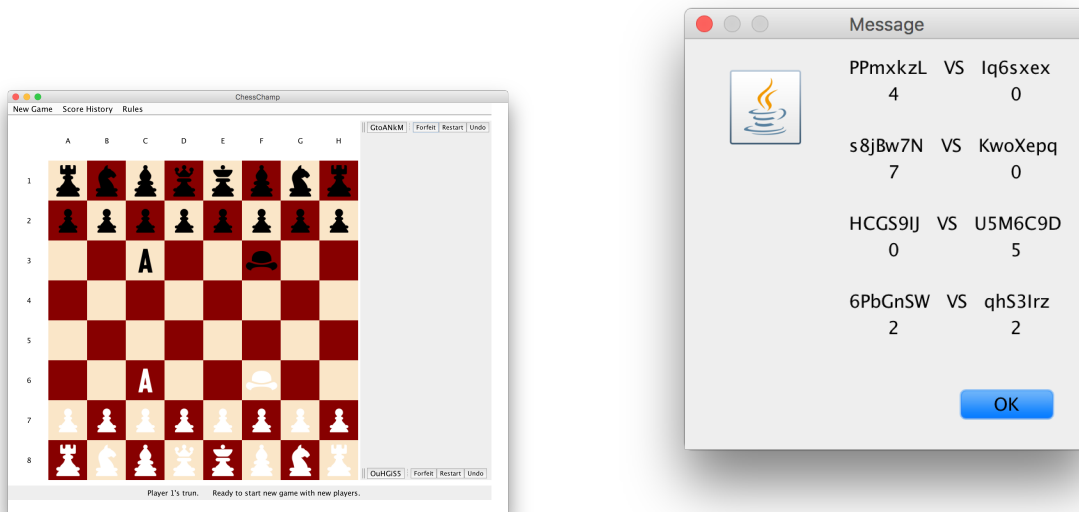


Figure 8: Multiple pairs of players.

5 Detecting winner

Move the pieces to create a stalemate or checkmate. The program should detect the winner. The GUI will display winning message at bottom and give scores to the winner. Any additional move from this point will be not allowed.

However, undo and restart tools are still active. If clicked, they should work as described in previous sections.

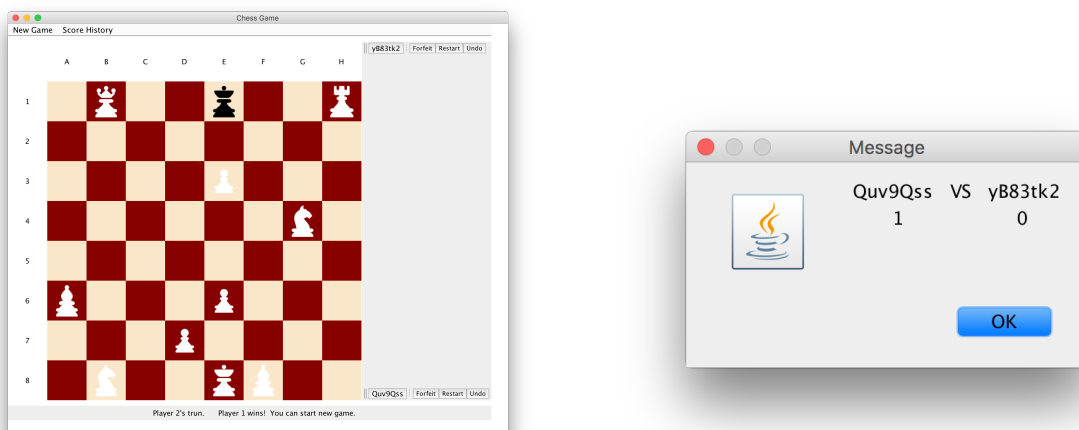


Figure 9: Detect the winner when Player 2 is in check.