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# **Test Plan**

**for**

**Chesstackle**

**Version 1.0 approved**

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*<This template serves as a basis for a Software Design Specification. As in the SRS document, all italics refer to the “comment” style. Comments in blue are general and apply to any SDS, these that are in black are applicable specifically for this course. This template is based on the work by Karl. E Wieggers, Steve McConnel of CXOne group and the IEEE standards.>*

# **1 Introduction**

This document lays out the process to test the software for issues.

## **1.1 Test Plan Objectives**

This document will be used to validate and verify the code, making sure each piece can only move in their pre-determined positions and take only in their legal ways.

# **2 Test Strategy**

## **2.1 System Test**

Verify that the program compiles without any errors. Unit testing to verify that each class works, additionally verifying if the classes properly interact with each other.

## **2.2 User Acceptance Test**

Executing the program and playing several games to verify no game-breaking bugs occur.

# **3 Environment Requirements**

## **3.1 PC**

Windows 10 unit with up-to-date Java (version 8 update 161) installed.

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## 4 Functions To Be Tested

- Only one move per turn.
- The Pawn may only move 1 square forward.
- The Pawn may move 2 squares forward if it has not moved this game.
- The Pawn may only take 1 square diagonally.
- The Rook may only move vertically or horizontally.
- The Rook may only move vertically or horizontally.
- The Rook may not jump over other pieces.
- The Bishop may only move diagonally.
- The Bishop may only take diagonally.
- The Bishop may not jump over other pieces.
- The Queen may move diagonally, vertically, or horizontally.
- The Queen may take diagonally, vertically, or horizontally.
- The Queen may not jump over other pieces.
- The Knight moves first one step in a diagonal or horizontal direction, then another step diagonally in an outward direction.
- The Knight may land on an opposing piece to take it.
- The square any piece lands may not contain a piece of the same color.
- Game pieces taken are removed from the board for the remainder of the game.
- The game will end if an opponent's King is in check when their turn is over.

### Verification of Special Features

- The game board's squares will change color to denote where a piece may move, when selected.
  - The graveyard will keep track of all pieces taken this game.
  - The Pawn may be promoted to any piece if it reaches the opposite edge of the board.
  - The game will restart to the original setup when the restart button is pressed.
  - The game will end with the current player loser when the surrender button is pressed.
  - The game will display a timer to measure how long it has been the current player's turn.
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