SP-14 GREEN — Novel Chess Game

CS 4850 - Section 02 – Fall 2024

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We ran each feature several times depending on how long it took to test, with 10 being the highest we were willing to go. If anything went wrong, whether it was a crash or a bug it was considered a failure, if no issues were found it was considered a pass. In the case of the AI models, we considered it a pass if the AI played the game. We have been utilizing loggers throughout the development of our project so that the program can tell us what it is thinking as it runs and that has made keeping a low number of bugs easy.

Test scenario: Chess page functionality

Requirement	Pass	Fail
Run in browser	10	0
Home page displayed	10	0
Rules page displayed	10	0
Chess board displayed	10	0
Number of Chess pieces correctly displayed	10	0
Player vs Player function	10	0
Player vs AI function	10	0
Resign function	10	0

Test scenario: Chess pieces functionality

Requirement	Pass	Fail
Pawn movement function	10	0
Rook movement function	10	0
Knight movement function	10	0
Bishop movement function	10	0
Queen movement function	10	0
King movement function	10	0
Castling function	5	0
En passant function	10	0
Capture function	10	0
Check function	10	0
Checkmate function	10	0
King pinned function	10	0
Promotion function	5	0

Test Scenario: AI plays

Requirement	Pass	Fail
Randy Random Runs	10	0
Smarty AI Runs	10	0
MiniMax Runs	10	0

We think these results really show how well our Chess engine is made. Whenever a major bug or crash has appeared. We have worked to quickly resolve the issue. We had one major bug appear that was causing captures to happen when they should not, but the issue was quickly diagnosed to be caused by the stalemate logic and a fix was pushed out within the week. We also found a crash that could occur in the minimax AI when it moved a piece near the edge of the board. That one was more difficult to diagnose but once found a fix was pushed immediately.