

Chess Program

Functional requirements:

1. All chess functionality
 - a. Moving pieces
 - b. Capturing pieces
 - c. Ending game with mate
 - d. Stalemate
 - e. Castling
 - f. Promotion
 - g. En passant
2. Multiplayer across two devices
 - a. Connect
 - b. Host
3. Able to play against the computer - Single Player
4. An interactive GUI



Non-functional requirements:

5. Menu Bar with options
 - a. Reset
 - b. New Game
 - c. Save
 - d. Load
 - e. Undo
 - f. **Adjust difficulty**
 - g. Change language
 - h. Shortcut commands
6. Stockfish integration
 - a. <https://github.com/Niflheim/Stockfish-Java>
 - b. <https://chess.stackexchange.com/questions/15704/what-is-the-optimal-way-to-use-stockfish-programmatically/15707#15707>
 - c. Compile fen string of board
 - d. Move translation
 - i. internal
 - ii. external 1. e4 2. Nxg7
7. **Possible move highlighting**
8. Move animations
9. Time control
10. Make PGN (Save game)
11. Flip board
12. Sound effects
 - a. Pieces make noise when they move
 - b. Victory/Stalemate music

The non-functional requirements are not necessarily mandatory, they are added if we are able and have time. The main priority is the functional requirements.

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