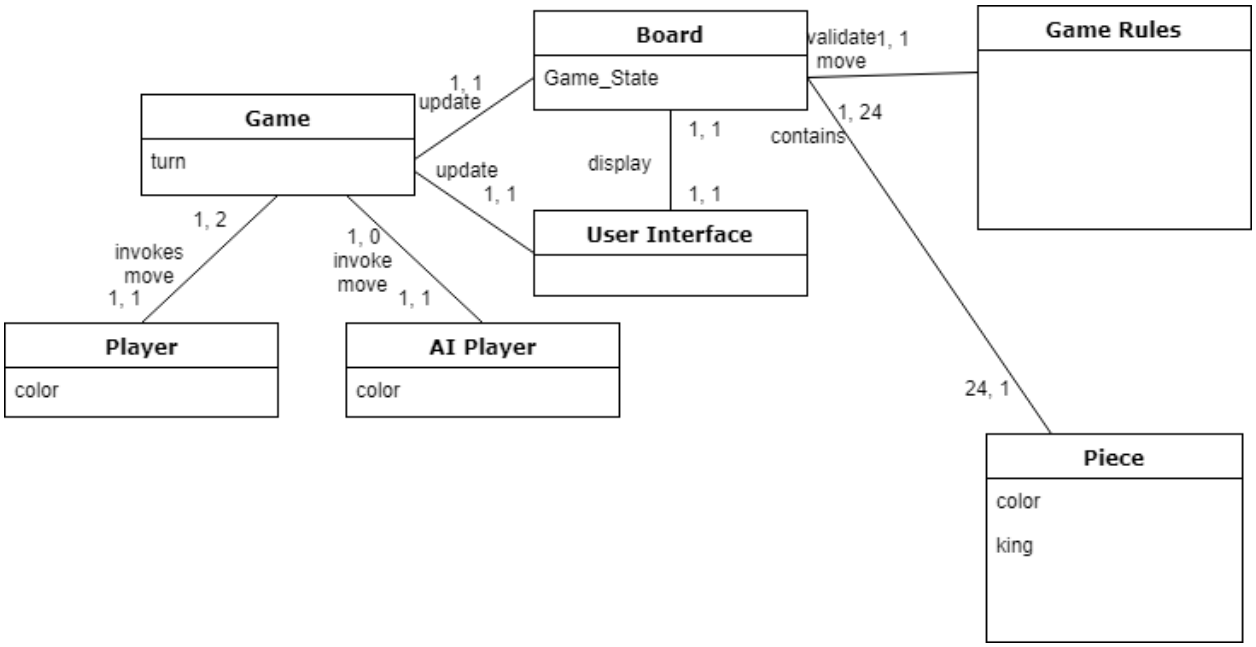
Kendall Berner, Christian Shinkle, William Fuhrmann, Ben Trettin
Com S 362
9 February 2018
Group Exercise 1

1. Use Cases
    a. The player selects player vs player or player vs system.
    b. The player selects playing locally or through network.
    c. The player starts the game.
    d. The player chooses the piece they want to move and moves it to the square they want to.
    e. The player wants to quit the game.
    f. Once the player moves a piece all the way across the board, the piece becomes a king.
    g. The player chooses to undo his/her last move.
    h. The player wants to play again.
    i. The player wants to check how many games they've won or lost.
2. Detailed Use Cases
    a. King Piece
        i. Title: King Piece
        ii. Goal: Promote piece to King
        iii. Primary Actor: Player moving the piece
        iv. Secondary Actor: Piece being promoted
        v. Main Scenario: A player moves his piece and it ends up on the end of the board opposite of the side it started on. The piece is then promoted to a King.
    b. Player moves piece
        i. Title: Move piece
        ii. Goal: Move the players piece to a new location on the board
        iii. Primary Actor: Player moving the piece
        iv. Secondary Actor: Piece being moved
        v. Main Scenario: A player first decides which piece they would like to move. They then move the piece to one of the allowed spaces on the board.
        vi. Alternate Scenario: If the player chooses a location to move their piece that is not valid, the piece will not move to that location.
    c. Player starts game
        i. Title: Player starts game
        ii. Goal: Start a new game for the player
        iii. Primary Actor: Player
        iv. Secondary Actor: Game board, All Pieces
        v. Main Scenario: A player selects whether he/she wants to play vs another player or the system. Then the system will create a new game with all the pieces in the default positions.

d. Player undoes his/her last move
    i. Title: Undo move
    ii. Goal: Change board state to what it was one move prior
    iii. Primary Actor: Player
    iv. Secondary Actor: Game board
    v. Main Scenario: Player triggers event by selecting an ‘undo’ option in the UI. The system looks at the history of moves and selects the most recent one. The system then performs the move backwards to undo it, then discards the move from the history.

3. Domain Model Classes



Responsibilities:

- Player: invoking moves, choosing color
- AI Player: invoking moves
- Game: tracks who’s turn it is, interfaces with the board and the users, updates state of board
- Board: tracks game state, contains position of all pieces
- User Interface: displays current state of board and whose turn it is
- Game Rules: Determines validity of moves
- Piece: Tracks color, tracks whether piece is a king piece or a standard piece

4. Assumptions
    a. There is a desire for an undo feature in the game.
    b. There is a desire for the ability to quit the game.
5. Open Issues

a. Is an undo feature really wanted or needed?