

Requirements for the Checkers Game

Use Cases

1. UC1: Start a New Game

- **Actor:** Player 1, Player 2
- **Description:** Players start a new game, and the board is initialized with pieces in their starting positions.
- **Preconditions:** Both players are ready.
- **Postconditions:** The board is displayed with pieces arranged for the first turn.

2. UC2: Display the Game Board

- **Actor:** Game system
- **Description:** The game shows the current state of the board to the players after every turn.
- **Preconditions:** None.
- **Postconditions:** Players can view their pieces and possible moves.

3. UC3: Make a Move

- **Actor:** Player 1, Player 2
- **Description:** A player selects a piece and moves it to a valid position.
- **Preconditions:** It is the player's turn, and a valid piece is selected.
- **Postconditions:** The piece is moved, and if applicable, an opponent's piece is captured.

4. UC4: Capture a Piece

- **Actor:** Player 1, Player 2
- **Description:** A player jumps over an opponent's piece to capture it.
- **Preconditions:** The move meets the conditions for capturing (diagonal jump, opponent piece in the path).
- **Postconditions:** The opponent's piece is removed from the board.

5. UC5: Promote a Piece to King

- **Actor:** Game system
- **Description:** A piece becomes a king when it reaches the opposite end of the board.
- **Preconditions:** The piece reaches the last row on the opponent's side.
- **Postconditions:** The piece is promoted to a king and can move both forward and backward.

6. UC6: End the Game

- **Actor:** Game system
 - **Description:** The game ends when one player has no remaining valid moves or pieces.
 - **Preconditions:** A player loses all their pieces or cannot make a valid move.
 - **Postconditions:** The winner is declared.
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User Stories

1. **As a player**, I want to view the board clearly so that I can decide my moves effectively.
2. **As a player**, I want to move my pieces diagonally to capture my opponent's pieces.
3. **As a player**, I want to promote my piece to a king when it reaches the last row of the board.
4. **As a player**, I want to know whose turn it is to play.
5. **As a player**, I want to be notified if I attempt an invalid move so I can try again.
6. **As a player**, I want the game to declare a winner when all of my opponent's pieces are captured or they have no valid moves.

