

Chess

Responsibilities

- Play the game:
 - Initialize the Board
 - Set CurrentPlayer to Player(White) and NextPlayer to Player(Black)
 - while (game is not over) {
 - » Get the Move from CurrentPlayer
 - » Display the Move
 - » Update Board to reflect the Move
 - » Display the updated Board
 - » Reverse Current and Next Players
- Display the game result
- Construct most of the objects?

Chess Rules

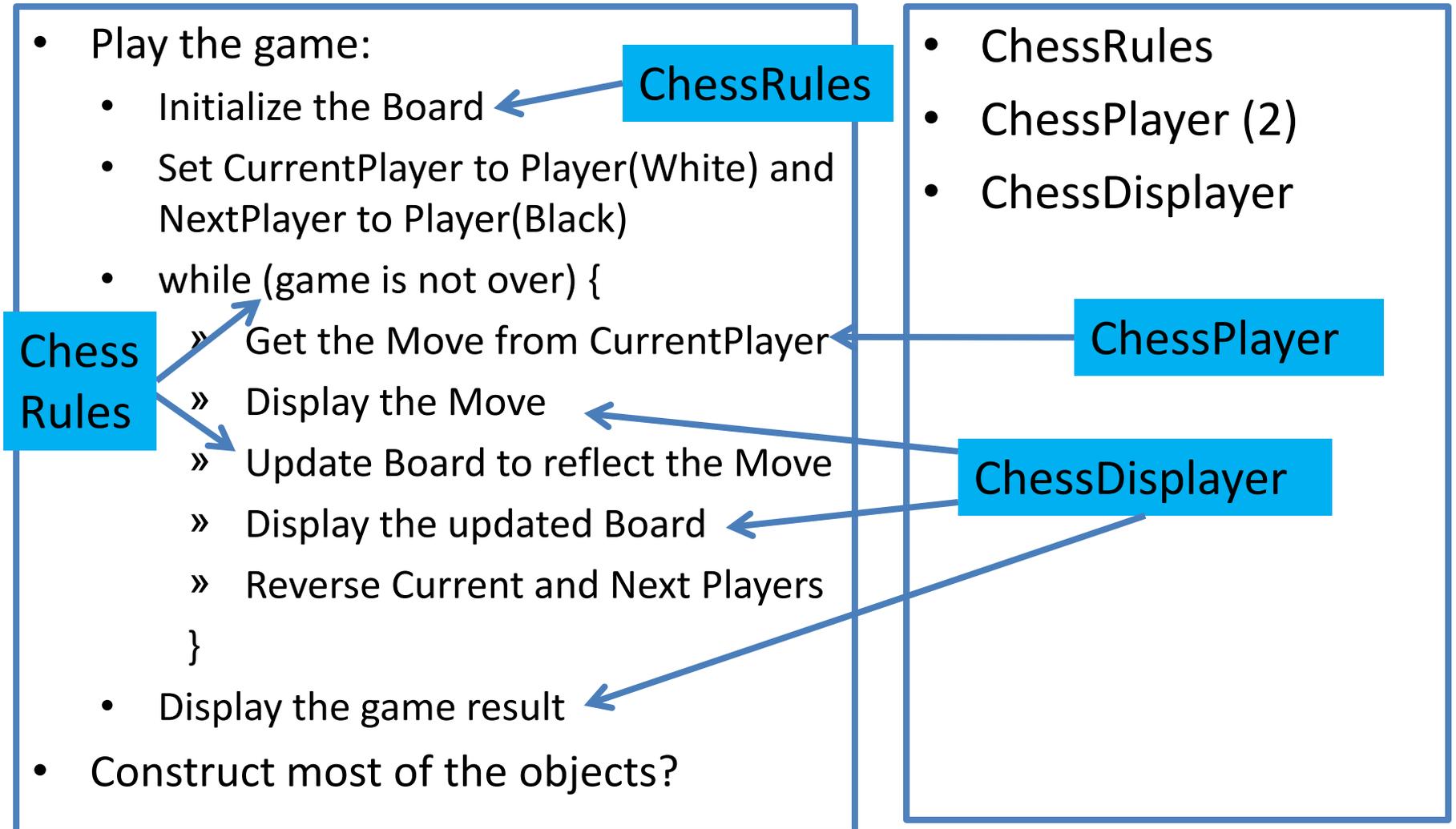
ChessRules

ChessPlayer

ChessDisplayer

Collaborators

- ChessRules
- ChessPlayer (2)
- ChessDisplayer



ChessRules

Responsibilities

- Initialize the ChessBoard
 - Construct ChessPiece's and put them on it
- Return whether or not the game is over
- When the game is over, return the result
- Returns whether a given Move is valid
- Update the Board to reflect a given Move

Collaborators

- ChessBoard
- ChessPiece
- ChessMove

ChessPlayer

Responsibilities

- Get a Suggested Move
 - From the human user, or
 - From an AI player (future expansion)
- Choose (return) a Legal Move
 - Get a Suggested Move
 - See if it is legal
 - If not, repeat

Collaborators

- ChessAI
- ChessMove
- ChessRules



ChessDisplayer

extends JComponent

Responsibilities

- Display the ChessBoard
- Display a given ChessMove
- Display the game result

Collaborators

- ChessBoard
- ChessPiece
- ChessRules?
 - To know what, if anything, to highlight

ChessBoard

Responsibilities

- Return (get) the ChessPiece at a given Coordinate
- Set the given ChessPiece at a given coordinate

- Maintains the ChessPieces in an 8x8 array

Collaborators

- Coordinate
- ChessPiece

ChessPiece

has subclasses for each type of chess piece (King, Bishop, etc)

Responsibilities

- Draw itself on a given Graphics2D object
- Be constructed at a given Coordinate with a given color
- Set its location to a given Coordinate
- Return the set of valid moves for this piece in isolation
- Has a Coordinate (where the Piece is located) and a Color (white or black)

Collaborators

- Coordinate
- Color
- Graphics2D

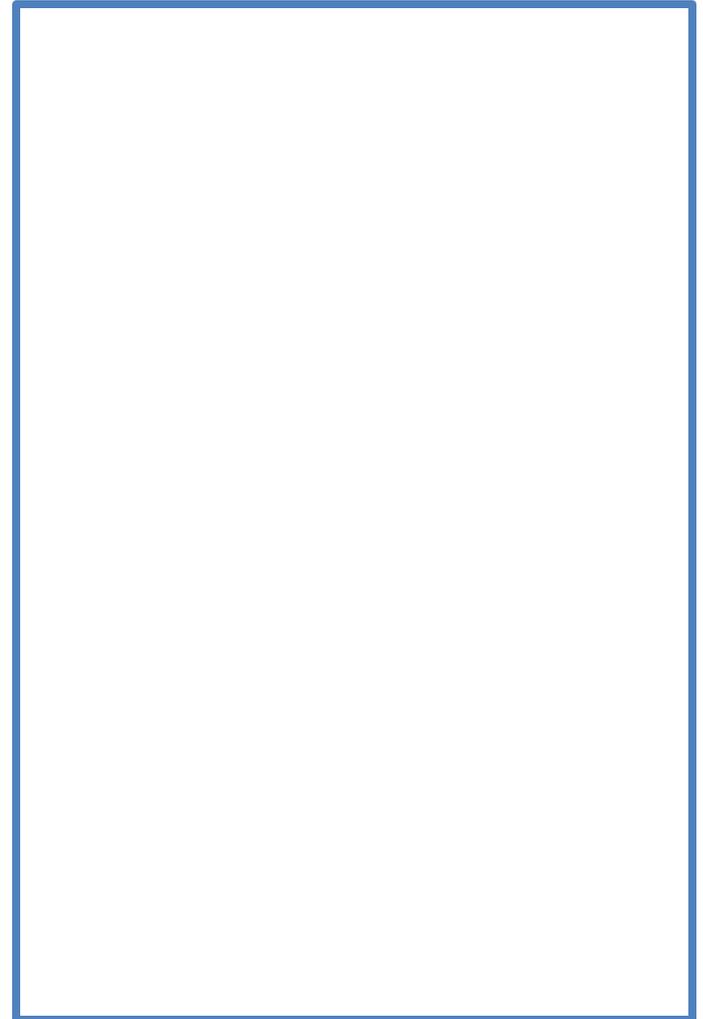
Coordinate

Responsibilities

- Get the row of this Coordinate
- Get the column of this Coordinate
- Set the row and column of this Coordinate

- A Coordinate is a pair of integers

Collaborators



ChessMove

Responsibilities

- Get the beginning Coordinate of this ChessMove
- Get the ending Coordinate of this ChessMove
- Set the beginning and ending Coordinates of this ChessMove

- A ChessMove is a pair of Coordinates

Collaborators

Coordinate