Base

Pieces

Pieces have their own Interface IPiece and Abstract class APiece. Of course, pieces are not the same between them, so every type of piece has its own class. Piece has position, their model (represented by Path). Piece can have different width and height: everything depends on rectangle2D, which is an attribute for method createPath. Also every piece can calculate, can it move on i,j coordinates, or no.

Board

Board is represented by 64 rectangles, black cell is represented by lines. Every rectangle is saved in an array, so it is easier to manipulate with pieces.

Movements

Logic

Application simulates the logic of the original game. There is no difference. After every move with drag and drop, it will calculate if there will be a check after this move, and if there will be, it will cancel the turn.

Drag & Drop

Drag and Drop works with animation. Animation takes around 0.5 seconds to complete, but it will be skipped, if one of the players tries to make a move. Also when any piece will be captured, it will show every cell, on which is possible for this piece to move.

Where did it go?

Everytime the board is being drowned, it will color cells from the last move with yellow paint. So it will be easy to see what happened.

Mate and Pat

After every turn the game will check if there are any available moves for this turn. If there are not, it will look on the boolean check, and depending on it, on the center of the screen will be shown, that game is finished (Mate or pat) and game will offer to reset everything by pressing R on the keyboard, so everything will be resetted by method reset()

Random CPU

I coded a random CPU, which can badly replace a real player. It works with this algorithm: takes a random black piece, finds every possible move for this piece, then randomly picks one and does. Toggled on/off by pressing I on the keyboard.

Other

Graphs

Graphs could be shown by pressing a large button on the bottom of the window. On the left half of the screen there are moves of white player, on the right - opposite. Columns are the indexes of turns. WARNING: index of turn in graph is index of all time turns, not only just from this specific player.

PNG Export

PNG export creates a PNG file, named output_image.png in the application's folder. Exports only chess board.