Game Project

# Assignment 2

Interactive UI elements:

* Canvas (chess board)
  + A piece can either be dragged or clicked. Dragging or clicking the opposition’s piece has no effect. If you click one of your own pieces, the square the piece is on will change colour (yellow) indicating that the piece has been selected. A second click can be performed to indicate where the user wants to move the piece. An invalid second click will have no effect, unless another of their own pieces is selected (
* Buttons
  + Offer Takeback
    - offer takeback sends a popup to the screen of the opponent, with 2 buttons, accept or decline takeback.
    - accept takeback button undoes the most recently played move
  + Resign
    - When a user clicks on the resign button, the game ends, and the default popup when a game ends appears.
  + Offer Draw
    - Offer draw sends a popup to the screen of the opponent, with 2 buttons, accept or decline draw.
  + Settings
    - display name with text box and submit button (allowing user to change their display name)
    - colour theme with coloured buttons
    - multiple queen pieces as buttons, which allows the user to change the theme/font of the pieces (the queen pieces are used as preview).
* History Section (html tag)
  + The history of the game is stored in an array. There is a pointer that points at the position in the array that represents the board that is displayed. When a move is made, the move is added to the array and the pointer is set to (array.size() - 1).

The array is displayed in a box on the side, with the element at the pointer highlighted. The array is initialized with the initial board position.

* + Show initial starting positions <<=
    - Changes pointer variable to 0
  + Show board display one move back <=
    - Changes pointer variable to max(0, pointer – 1)
  + Show board display one move forwards =>
    - Changes point variable to min(pointer + 1, array.size() – 1)
  + Show current board display =>>
    - Changes point variable to array.size() - 1
* Interactive popup after game
  + Game analysis
    - Brings you back to the chess board. The 4 buttons below the history section (settings, offer draw, offer takeback, resign) are still there but are inactive. The pointer is set to 0. The array is sent to the stockfish engine for analysis. Now as the user goes through the game/array, the history section will also display a better move the user could have done at that specific layout of the board.
  + Offer rematch
    - A popup will appear at the other user’s screen (if he still hasn’t exited the game), asking him to either accept or decline the rematch. If the opponent has already exited the game, the user will receive an error message saying that the opponent has left.
  + Main menu
    - Bring you back to the main menu.