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Project: Chess Engine to beat Prof. Basye

Goal: The goal is to make a FULL game that uses Alpha-Beta, or just Mini-Max, Algorithm to beat Prof. Basye. The process includes:

1. Graphics
   1. Board
   2. Chess Pieces
   3. Showing Possible move from clicking/Pressing a chess piece
      1. Move to empty square
      2. Move to ‘eat’ another chess piece
   4. Past Move made
   5. Check-ed square of the King

I just learned JFrame and is still trying to figure out some stuff. The main issue is how to create the checkerboard pattern once without repeating it again everytime I create another object. Maybe I should just import a background image? Let’s see…

Day 2: Mon January 27, 2020.

I just added the Tile.java class to represent the tile. I still need to establish a solid design before moving forward. Not too sure how the AI is gonna turn out…

I might use Character representation instead for the algorithm, then output a certain choice, which are later inputted into an “interpreter” function. We will see.

P.S. Still looking for an assistance partner.

Day 3: Thurs January 30, 2020

I made the board today. Still not sure what the Tile.java class is for. I guess I can now finish the basic Graphics within 5 hours (chess-piece-tile-alignment, Mouse Events, Occupied tile conflict, images imported, and maybe even the ‘suggests available moves’ function as well.)

P.S. Akhmad wanted to make an app for iOS. Not sure how this is gonna turn out when he’s so busy. Well I gotta finish this project first.

Target date is 4 to get the basic graphics done. Then I will move on to creating the different classes, and start working on the algorithm.

Day 4: Sat June 13, 2020

After the heavy amount of school work, exams, Covid19 outbreak, Quarantine, #BLM, and learning Python + Django, I am now able to continue on with my Chess project (though late). I have been going straight to coding and have been stuck a couple of times now. Most likely, I am confused of what to do.

Thus, I sat and thought for myself on the structure of my project. How would the inheritance work? How do you import and present images? What should the Tile.java class include?

Well, during today I was able to answer most of that. I was able to get Pawn.java working (with JPanel imageIO as well) after tinkering with Piece.java (modified a few things regarding Player class and imagePath).

Deciding on the design of Tile-Piece-Board will be very important to later create the interactive interface. I already have the basic layout of a chess board and pieces drawn out. I just need the specifics of the piece’s size. [Thank you Wikipedia for providing excellent and consistent transparent PNG images.]

I also have a Test class to test things out. I now find this really useful as a mini-testing ground for any code. Though I should move on quickly to implementing the click-and-click movement,

Goals for next journal entry:

1. Figure out the structural design regarding the Piece class:
   1. Should a piece have coordinates, or should it be an attachment to Tile.class
   2. Should it be immutable? When we move the piece, do we “change its coordinates to the destination” OR “make a new piece every time”?
   3. Test out functions: showMoves() and move()
2. After figuring that out, design the Board class.
   1. 2-D Array of Tiles? Or of Pieces? Or just a 2-D char array?
   2. Design a method for the GUI to read the Board
3. And I should highlight my notes.

NOTE:

I also should save the Player class…for scalability. Later if I were to add a database, Player ID would be viable. However, for distinguishing Black or White side, a Boolean or string ‘WHITE’, ‘BLACK’ should be used.

END