Haskell Project Diary

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February 2020

1 5th February 2020

We get information about the project at a lecture, and I immediately ask Jakob if he'd like to work on a chess engine with me, as I know that he is also an avid chess player like myself. He is happy to work on the project. I create a Trello project for us.

2 7th February 2020

Magnus joins the team.

3 12th February 2020

Ha joins the group.

4 13th February 2020

The group meets for the first time and we brainstorm a bit to get some ideas flowing. Jakob shows us an interactive server that we could plug our engine into once it's done to play chess against it. We create a GitHub repository and start working on some basic functions.

5 18th February 2020

Group's second meeting. Magnus has created a board and some basic data types needed, while Jakob has worked on the functions that convert FEN notation from and into a board. I work on and finish functions that convert indexes to squares and vice-versa. We start writing down more functions we need to work on in the future: a function that checks if a move is valid, a function that makes a move, a function that prints out a board, etc.

6 19th February 2020

I finish the function boardLookupSquare that looks up what square is present at a given index.

7 20th February 2020

I see a need for more clarity in the group due to many small changes that interrupt the group's workflow (changing data types, writing same functions twice, etc.). I start working on group rules in our google docs and writing down a summary of all the functions we have so far, all the functions that might be superfluous, and all the functions that we might need in the future.

In the morning first meeting with supervisor Emil. He suggests we focus on making the engine, and making sure it can interact with the chess winboard protocol that we intend to use as our graphical interface.

8 21st February 2020

I write the project description and send it to the group for revision. I also post my project diary in Studium. In the afternoon I work on a function called countMaterial that calculates the amount of material (each piece is worth a certain amount) for every side.

9 22nd February 2020

I finish the function countMaterial which counts the value of material on given board for chosen side. I update the progress on Trello and Github. My next goal is to work on tests for all the functions we have so far.

10 24th February 2020

I write the function isMove which checks whether a string that will be sent from the Winboard protocol indeed represents a string or not. I then continue to work on testing Jakob's function generateMove with Perft results positions (https://www.chessprogramming.org/Perft$_R esults$).

I experience problems writing tests for the function generateMoves, getting a "variable not in scope" message. I fail to solve it today, so I write a function promotePiece which takes care of a special case within Jakob's generateMove function, namely the one where a pawn reaches the end of the board and the player can promote it to either a queen, a bishop, a knight or a rook. Happy with today's progress, it looks like the engine is close to completion. Next step will be making it communicate with Winboard.

11   25th February 2020

Fixing bugs in functions isMove and promotePiece, as well as discussing with Jakob whether we should change our type Move to add extra info to it for special cases, such as promotion, etc. Will discuss further at tomorrow's group meeting.

12   26th February 2020

Group meeting. I merge functions promotePieceWhite and promotePieceBlack into one function promotePiece.

13   28th February 2020

Start working on project documentation, start writing the summary.

14   1st March 2020

Continue working on project documentation and writing more tests for our code.

15   2nd March 2020

I miss the group's meeting due to a doctor's appointment in Stockholm but meet Jakob in the afternoon and go through all of the code with him. We test the engine and allow it to play against itself. We have a working chess engine!

16   3rd March 2020

Continue working on project documentation, as well as start thinking about the presentation.

17   4th March 2020

Continue working on project documentation, writing the background and conclusion.

18   5th March 2020

I do a final read of our project documentation and work on the language a bit. Ready to hand in!