CMPUT 275 Project Proposal

Chess

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Description

The project is an improvement on our CMPUT 274 final project, which was a player vs. player Arduino chess game. We plan to first import our project into python, making use of the object oriented features of python, that we did not use in the old version. For example, each chess piece will inherit from a generic chess piece class, and have their own moves. Instead of the Arduino, we will use pygame as our GUI. We will improve on the algorithms from our original game, using new algorithmic knowledge gained in 275. (particularly check and checkmate tests, which were inefficient). Once a player vs. player implementation is up and running, we will then focus on creating a basic computer opponent. This will involve a move generator, and an evaluator function that determines scores for different board positions. We would use our knowledge of search trees, to implement the computer players moves.

Python classes

Will be used to store information about the chess pieces. Each chess piece can inherit from the the chess piece class, and then have their own moves. For example, we could define the catsle and bishop class, and then the queen could inherit from those classes.

Graph

A tree can be used for move generation, from which we can detect valid moves in a more efficient was compared to checking every single square.

Basic computer player

Once we have valid move generation down, we can maybe get a rudimentary computer player working to play chess against

Arduino

If time permits, we can use server communication to let the player interact with a joystick, and pyserial to let a computer act as a sever for processing moves

Timeline

- March 16: Finish making this proposal
- March 21: Work on Assignment 2
- March 23: work some more on Assignment 2
- March 26: Refine our plans and see what's really possible
- March 28: Work on chess pieces and move generation
- .March 30: Get it working with the Arduino
- April 02: Sart work on computer logic
- April 04: idk
- Finishing touches
- present