Block 2: The Game Challenge

The task

The challenge for block 2 is very simple: write a GUI that allows two players to play a game. Any game goes, but here are some suggestions:

- Noughts and crosses;

- Four in a row;

- Battleships;

- Draughts;

- Chess;

- . . .

The minimum your program should be able to do is to allow two players to go together. This means that your program should:

- Display the state of the game;

- Allow players to make moves;

- Deal with special rules (promotion in chess, for example);

- Keep players from making illegal moves;

- Detect if one of the players has won and notify the players if this is the case.

If you want to try your hand at something more complicated, that is of course highly encouraged. Here are some suggestions, but you can undoubtedly think of your own:

- Extend the GUI design (3d views?);

- Implement a computer player;

- Allow players to play each other over a network connection;

- Implement the possibility to save and resume games;

- . . .

You can do this challenge either individually or as a team.

Advice

This project allows you to practice all of the skills you have learned in Block 2—you are designing and implementing a piece of software!

So, the most important bit of advice we can give you is not to start programming immediately, but to think about your design first. Some questions you might want to ask yourself:

- What would be the best way to represent the game state? (What data structures are you using?)

- How am I going to implement the game rules? (Such as: possible moves, winning and losing, etc.)

- How can I design the GUI to make it as easy as possible for players to work with my program?

- How am I going to link up the game logic (i.e. the pieces of code that deal with the game state and rules) with the GUI?

After you have decided this, you can start implementing your game. It might be helpful to use some of the GUI demo code as a starting point, but if you prefer to start from scratch, that is fine as well.