Final Project: Reversi

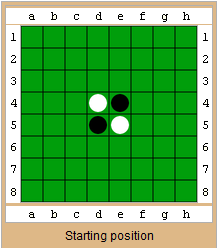
# Due: December 11th, 2014, 11:59:59pm

# Project Description

In this project, you need to work with a team to accomplish an end-to-end intelligent program which can play the game Reversi. Your program should have three major components:

# How you should design your program

[1] A GUI which presents the board of the game: the initial state of the game is always



and the dark side always take the first move. Your GUI should also enable human operation mode, where the user can place the piece using a mouse in certain position, either black or white.

[2] A socket based communication component, which can communicate with the server program (built by Yizhou Lin). Please check the site for detailed description and source code for the communication protocol.

[3] A core AI program, which could either play the dark or white side, based on a search strategy. You should work on a good evaluation function and do informed search based on that. Each move must be made within 10 seconds in order to ensure that the game can finish on time. So your search is time constrained. A better machine may gain you some advantage, so try to use the best machine your team can have.

In network multiple player mode, your program should be able to play the full game automatically. You should work on it and we will have a dry run on 12/04/2013 to ensure that your program function appropriately and can interact with programs from other teams via the server through the communication protocol.

# What to turn in?

You should work with your team to write a report describing your algorithm and the evaluation you did. Please clearly identify contributions from each team member.

Your report should be no more than 10 pages including appropriate references. Please make a PDF file for your report and name it as:

**[yourfirstname]\_[yourlastname]\_FinalProject.pdf**

For your program, you may use any programming language. However, your submission should be the executable, the source code, and a detailed readme file on how to run it. Please make sure you packed additional dependent libraries, if any, used in your program. If your program cannot run, you lose 10 point automatically.

Your also need to make a PPT presentation to be presented in the class. Each team has 5 minutes to present.

Package your PDF report, your PPT presentation, along with the code and supplementary Readme file in a single ZIP file as:

**[yourfirstname]\_[yourlastname]\_FinalProject.zip**

and please submit it through the Moodle system.

# Grade: 50% with bonus

Your report counts for 20 points, so please carefully write it. Please make it more like a technical report. So it should start with an introduction, a system description, an algorithm description, an algorithm analysis, and lessons you earned from the project. 10 points will be from your team presentation, which I will evaluate in class. I look into how well you prepared your slides and the content presented in your slides. So make sure you do a good job.

The rest of the 20 points is from the competition. We will run a tournament. Each team will play against all other teams, and two games will be played between any two team (each play dark and white once). The rule is win +3, tie +2, lost: +1. So in the end we can have a full rank of the teams based on the accumulated scores. If your team successfully gets into the competition and the program runs without any problem, then at least you will get 12 points. So please make sure you have a working system.

For the rest 8 points, the champion gets all 8 points. The team ranked the second will get 7 points, and so on and so forth, until 0 points.

Late submission policy applies universally with no exception.