Project Charter

Introduction

This project charter will focus on various aspects of the Connect 4 project. It will include a success criteria, budget, and list of deliverables among many other things.

Project Description

This project will consist of a program written in Java meant to emulate the "Connect 4" board game on a computer. It will involve a six row, seven column grid which players will take turns dropping pieces in. The objective for a player in this game is to have four of their colored pieces connected in a row before their opponent. This can be done vertically, horizontally, or diagonally. The player will have the option to participate in this game either against another player, or against the computer.

Scope

Deliverables

- create all of the classes necessary for a functional Connect 4 board
- create a method for users to input information into the board, and for that interaction to be reflected visually
- design and implement suitable user menus to select modes or exit
- create a functional AI using the minimax algorithm to play against the player

Requirements

- successful implementation of a Connect 4 game on the computer that is objectively the same as one that would be played physically
- successful implementation of an AI that can reliably beat humans of an average intelligence
- successful creation of different menus that are visually appealing to the user yet still very functional

Task List

- a main menu which will allow the user to select which mode they would like to play in
- a visual representation of a 6 by 7 Connect 4 board
- a functional AI that the user can play against
- a turn-based system which will display who's turn it is
- a way for the user to interact with the board by placing a piece
- a detection method for the computer to know when someone has won the game
- a way to reset the board automatically when a player has won a game, or manually if the user wants a fresh start
- an easy way to exit the program
- a way to save the state of a game for loading (optional)

Timeline

May 13th to May 18th

- creation of project charter

May 18th to May 23rd

- creation of project plan

May 23rd to May 25th

- creation of algorithm

May 25th to May 26th

- editing and making sure all of the project charter, project plan, and algorithm reflect the final product envisioned by the developers

May 26th to June 10th

- main development of the project
    - bi-weekly meetings (2 times a week) will be held to monitor and control the develop the project
    - change management enacted using a README file on Github to keep track of everything that is going on

June 10th to May 12th

- reflection upon the project
    - what we did well, or needed to improve on