Software Requirements for Connect Four

Connect Four

Created By: Anne Zimmerman

Overview

This document describes requirements for the software implementation of the game of Connect Four. This software will allow tow players to play against each other. A description of the game plus the requirements of this implementation are provided below.

The Game

Two players are presented with a 7x6 grid of empty spaces. The players take alternating turns marking an empty space with their color: the first player to move is blue and the second is green. The first player to fill a winning set of any connected four spaces, either in a row, column, or diagonal line, wins. If all spaces are filled and neither player has a winning set, then the game results in a tie.

Software Implementation

UI Elements

The software will present the Connect Four game with the UI elements listed below.

- 7x6 grid of spaces
- Row of 7 buttons, one on top of each column
- Row of buttons on top of the screen (like a toolbar) that has:
  - Start button
  - Label to display game status message

Game Process and Rules

- The game starts when the player clicks Start. Until then all buttons will be disabled and the game status message is "Click Start to begin Game."
- After Start is clicked: The message "Current Turn: blue" is displayed. Player 1 (Blue) takes their turn by clicking on a button at the top of a column of their choice. This action results in the lowest empty space displaying the player's color. Then the current turn changes to "green," which is reflected in the game status message and when the player clicks. If a player clicks a spot that is already taken, the click is ignored, with no effect to the spot or current turn.
- When there is a winner: the back color of the game status message changes to the winners color. The game status message displays "Winner is:" followed by the winning color.
- If all spaces are filled but there is no winner (tie): game status message displays "Tie" and the back color of all space buttons changes to a color that indicates no winner.
- In the game state of win or tie all spot button clicks should be ignored. Do no disable the buttons because that will cause them to look faded out.
- If the user clicks start in middle of the game, then the game should interrupt and begin a new game.
- https://github.com/AnneZimmerman/connect-four.git