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Homework 5

Lab Report

Requirements Analysis

Functional Requirements

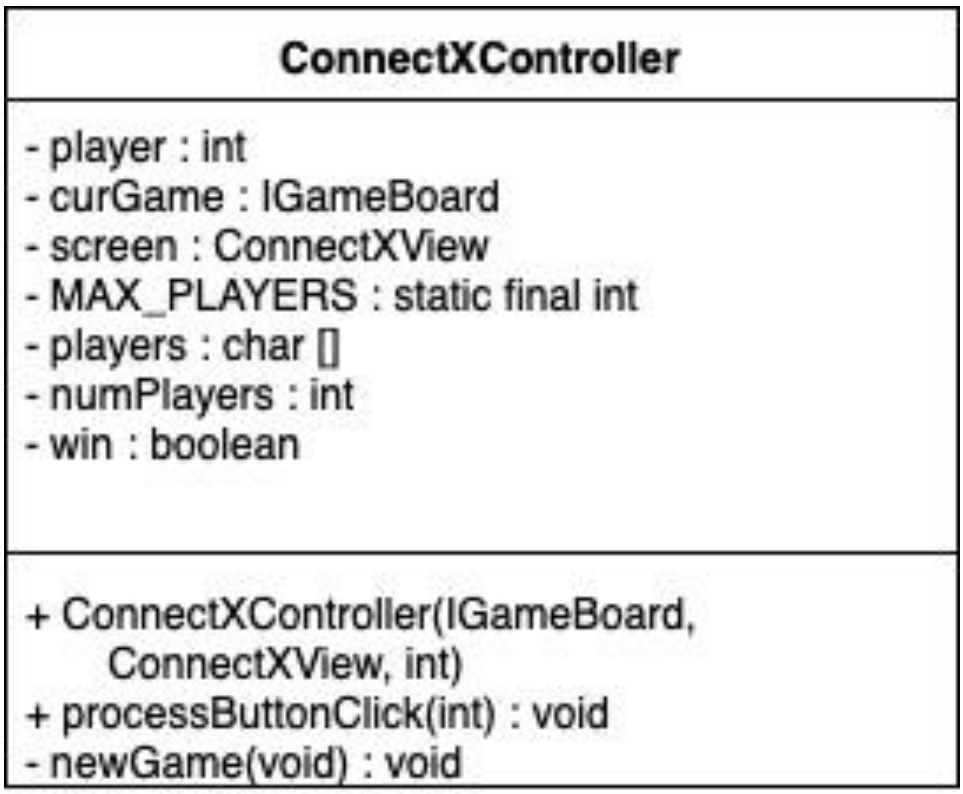
- As a user I can choose the number of players between 2-10 so I can control the number of players in the game.
- As a user I can re-choose the number of players between 2-10 if my previous choice was outside the limit so I can control the number of players in the game.
- As a user I can choose the number of rows between 3-20 so I can control the height of my gameboard.
- As a user I can re-choose the number of rows between 3-20 if my first selection was outside the range, so I can control the height of my gameboard.
- As a user I can choose the number of columns between 3-20 so I can control the width of my gameboard.
- As a user I can re-choose the number of columns between 3-20 if my first selection was outside the range, so I can control the width of my gameboard.
- As a user I can choose how many tokens between 3-20 in a row are needed to win a game, so I can control the objective number of tokens needed to win a game.
- As a user I can re-choose how many tokens between 3-max number of rows or columns needed to win a game, so I can control the objective number of tokens needed to win a game.
- As a user I can choose between 0 and the number of columns – 1 (inclusively) to place a token into the selected column.

- As a user I can click another button to create another game of Connect X after a game has been won or there is a tie so I can play another game with new parameters.
- As a user I can choose to respond refuse to click another button to exit the Connect X Game once the game has a win or tie.
- As a user I can view the gameboard to view the placement of my most recent move along with the rest of the board.

Non-Functional Requirements

- The system must be written in Java to run on IntelliJ.
- The system implements the IGameBoard Interface from the Controller class.
- The system sets the controller to be a registered observer of the ConnectXView screen to observe the widgets in order to respond to events.
- The screen defines a callback method to the controller to respond to an event.
- The system must include a Graphical User Interface to show the screen to the user and communicate any events to the controller.

Design


ConnectXController
- player : int
- curGame : IGameBoard
- screen : ConnectXView
- MAX_PLAYERS : static final int
- players : char []
- numPlayers : int
- win : boolean
+ ConnectXController(IGameBoard,
ConnectXView, int)
+ processButtonClick(int) : void
- newGame(void) : void

Public void processButtonCLick(int col)