

1. Introduction

This document describes the game's idea, rules and structure of the code. Coding language used is C++11/CLI and IDE used is Visual Studio 2017.

2. Idea and rules

The game is a typical connect-5 / Gomoku styled game: the idea is to get five (5) same symbols in a row. There's two symbols (X and O), hence the game's meant to be played by two players. The gameboard is a 15x15 grid of squares. The game can be only won by exactly five same symbols in a row, for example six symbols in a row will not grant a victory. In the case where whole gameboard is filled but no connect-5 has been achieved, the game results in a draw.

3. Code structure

The game is mainly divided to two classes, ConnectFiveGUI and GameLogic. Main.cpp exists purely for running the GUI. ConnectFiveGUI includes everything GUI related: text labels, buttons, background etc. GameLogic handles the rules of the game, for example checking if there's a winner after a turn.

Button_matrix of ConnectFiveGUI contains all the buttons of the gameboard in a two dimensional Generic::List. Accessing buttons happens easily by double closed brackets, for example button at (x,y) can be found by button_matrix[x][y]. Button_map is a hash table containing pair value coordinates of a specific button, which helps checking for a winner from certain coordinates.

All functions and class variables are commented in code for easier understanding of the structure.

4. Improvements to be made

- Display the connect-5 in colors while other buttons are disabled at the end of the game.
- Fix slow button load when using background image.