CONNECT FOUR GAME CONSOLE
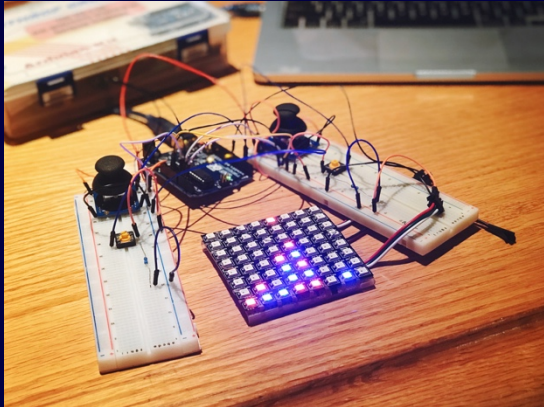
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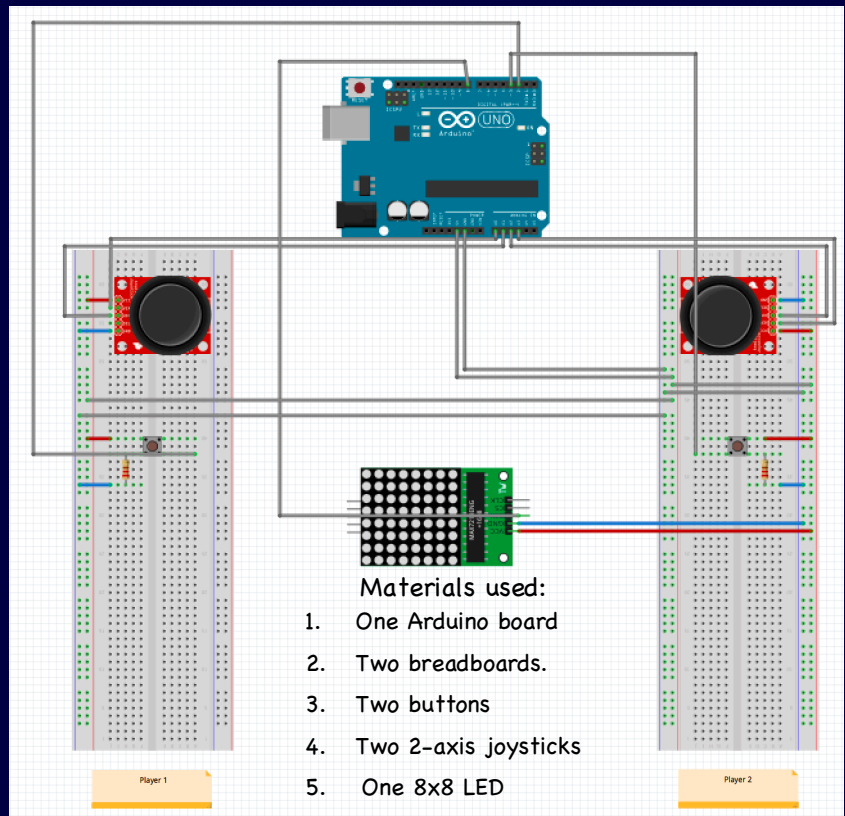
Abstract of the project

Our project is a game console using an 8*8 LED matrix as the chessboard to play the connect four. Two joysticks are wired for two players to control the placement of the chess, where the top row is to indicate where to place the disks. The one who connects a horizontal, vertical, or diagonal line of four of one's own discs wins the game.

How it works & What it does

The LED matrix we use only needs to connect the input data, 5v and ground ports to the Arduino module. It shares the same ground with the two other joysticks which also need to wire the VCC, L/R and U/D ports. In the program, the whole board is represented as a 2-dimensional array. Multiple algorithms are involved, including recursion and nested loops.

Materials used:
1. One Arduino board
2. Two breadboards.
3. Two buttons
4. Two 2-axis joysticks
5. One 8x8 LED

Future improvements

- The exploration of other chess games like five in a row or Go.

- Inspired by a project from last year about a LED cube. Maybe we could try to invent a game that plays in three-dimension.

- Develop the system to wireless version by wifi or bluetooth.

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