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Final Project Proposal-Connect 4

Our project is a game of connect 4. Our project will have a few classes for objects such as the game, the board, and the pieces. We will use inheritance as the pieces can be derived from the board and the board derived from the game. We will use exception handling in that we can load a game from a file. We will be using strings for filenames and vector and arrays to hold data such as the game board itself. We will have file handling in that we will be loading files for a game, saving games half way, and loading how to play.

The board class will have most of the entities such as holding pieces, knowing which moves are valid (if any rows are full), undo a prior move, checking for game over, and an array for the board as well. There will be more as we continue to work on the code and think of possible improvements.

There will be a hardware component where you can enter in the input with buttons. There will be 8 or 9 buttons to select. One for every column that you can select and undo/save. There will be some reliability on the buttons being used and how effective they can be pressed with the bounce of the signal. We will also be able to take in the input on the computer if the hardware is not able to work.

There will be a significant amount of error checking to provide that all inputs the user could put in are accounted for. Proper messages will be displayed and they will be asked again for input.

The final product will consist of a full on Connect 4 game that is user friendly. The user will be given options to choose a color. Select whether to play another player or to play the computer (AI). During the game user will be given options to move, save the game for later, or undo the previous turn. Depending on how fast we can get the bulk of the code done, we will also try to get different difficulties for AI, but the default will probably consist of random moves and blocking the player whenever possible.