

Check Yourself

This project group will consist of August Trollback, Elijah Stanger Jones, and Suzanne O'Meara. We would like to implement a multiplayer game of checkers that has a hybrid between physical and virtual gameplay. The game will allow two players in different locations to play a game of checkers by moving physical checker pieces on different game boards. The two game boards will each consist of a computer monitor laid down on a table. Each player will have a set of physical checkers pieces which they will be able to move around the monitor as they play. The other player's pieces will be displayed on the virtual game-board by the FPGA.

The FPGA will detect the moves of each of the players through a camera that will run computer vision on the board and the physical checkers to determine their current locations. The FPGA will store the game state and check that all of the moves made by each player are rules-compliant. Once the player has finished their turn the FPGA will send over a communications protocol the current game state of the system. The other FPGA will then determine whether any pieces need to be removed from that player's board and indicate such to the player. This process will continue until a winner has been declared.