

Kung Fu Chess

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Kung Fu Chess plays like a normal game of online chess – except for the fact that there is no turn order. Instead of playing one move after another, two players join the game and can immediately move any number of pieces at any time. We have implemented a number of features such as piece cooldowns (pieces become inactive for a period of time after they have been moved), pretty graphics to display the game state for each player, a countdown to start the game, and more; each contributes in creating a pleasant user experience.

Our client-server model connects the two players to a single server that hosts the game. Each player sends move requests to the server, the server updates the shared game board state accordingly, and players continuously listen for changes to the board that are broadcasted by the server. Because each player operates within a separate thread, they will attempt to update the board concurrently, meaning that the board must be protected from updates that could potentially happen at the same time. By using appropriate locks and message passing, we have implemented code synchronization to prevent data races and deadlocks that might arise from such concurrent programming.

