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**Milestone 4 Individual Project – Connect 4**

**To Run:**

- Ensure that node and npm is installed. This can be done by going to the command line/terminal (can be from your IDE if IDE is capable)/git bash terminal and using "node -v" and "npm -v".
- If you have it installed use of the 3 above (command line, terminal, git bash terminal) and navigate to where you have unzipped the zip using "cd".
- Once there you will need to install the dependencies like express, socket.io and jQuery that were used to create the project. To do this run "npm install".
- Once the install has been completed, use "node server" to start up the socket.io server.
- You can confirm it has been started as it should print out "running" in the command line. This listens on port 4000 so go to localhost:4000.
- This uses cookies so make sure to use different browsers (incognito and normal count as different browsers).

**NOTE:**

- This can be run across multiple devices. To do so:
  - **Devices must be connected to the same router.**
    - On Windows, on the computer you are going to start up the socket.io server with, you go into the terminal and run "ipconfig" it will output multiple IPs one of which will look similar to 10.0.0.# (where # is 0-8). Once you have that and the server has been started, on a different device (again must be connected to the same router) you can visit the site 10.0.0.#:4000 (where # is 0-8 depending on the ipconfig output you received).
    - On Linux, instead of using "ipconfig" you can run "ifconfig" and there will be an IP similar to what I believe to looks like 127.0.0.# (where # is 0-8). Then similarly you can use that IP to connect/interact with the site (127.0.0.#:4000 would be put into the URL).

**Once Running:**

- When you first visit the site, it will generate for you a random string of multiple words, you can change this by replacing the text in the text box and pressing enter/change name button.
    - **NOTE:** I do not allow user to have the substring '@#$%' in their username as I concatenate the theme after the username using this substring to help me store both in 1 cookie.
    - I do not allow multiple users to have the same username as it may allow for one user to change the wrong user's theme.
- If you are returning (assuming cookie hasn't expired yet) it will display the username you previously had before reconnecting to site.

- To play a private game with friend, have one of you create a private room, in that private room you will be given a room code in which you can share with your friend so that they can join the room using the text field and join room button.

- To play a random opponent, press the find random opponent button and if there is someone already waiting you will join their game, otherwise you will be moved to a room, and must wait for a random opponent.

**In Room/Game:**

- In the room you may choose to change your color theme whenever you want which will change the color of the game board. This theme will be stored in user cookie.

**Playing**

- If it is your turn you can move the move across the board and there will be an indicator of where your piece would place if you were to play/click there, **IF NO INDICATOR SHOWN THEN IT IS INVALID MOVE AND GAME WILL WAIT FOR YOU TO MAKE VALID MOVE.**
- IF it is not your turn you cannot see any indicator on hover and the only thing you can do is change the theme of your board.

**GAME OVER**

- Once game is finished via tie or someone won then user MUST reload page to get back to home page in which they can look for another game.
    - ○ **Site does not check if one of the users has disconnected mid-way through the game, if this occurs then the user remaining in room will be left waiting for eternity/until they reload page to find another game.**
        - ▪ If it is their turn, they can make they turn but…
            - • Once it is opponent's (opponent being person that left mid-way through) turn then remaining user will be left waiting.

**Other things to Note**

- User who was waiting for opponent to join whether it be for a friend in private or for a random in random search will be person to make the first move.