Implement a Presence system using websocket connections

Objective

Simulate a Presence system for a game. All players have a friend list and can see in real time when their friends become Online, Offline or change their activity (Matchmaking, In-Game,...)

Components

- Node.js websocket server (represents a game backend)
    - Manage websocket connections with all players connected
    - Receive data and send data through websocket
- .Net websocket client (represents a game client)
    - Manage websocket connection with the backend
    - Receive data and send data through websocket
    - Handle input commands
    - Display friends' info

Constraints

- Time limit: 3 days
- Use any available resources (articles, tutorials, libraries...)
- Backend and Clients communicate exclusively through websocket connection
- 3 players (each represented by a game client)
    - Player 1 is friend with Player 2
    - Player 2 is friend with Player 1 and Player 3
    - Player 3 is friend with Player 2
- The Backend persists the friend list for each player (no database needed, can be hardcoded in a file)
- The Backend holds the players Presence status and activity (can be managed in memory)

Features

- Client command to connect (become Online)
- Client command to disconnect (become Offline)
- Client command to change activity (update Presence activity)
- Client displays updated friend list with the statuses and activities

Output

- Source code / binaries
- Time spent on each step: R&D, Analysis, Implementation
- Any instruction or valuable info to run the clients and the backend
- Any comments or ideas to further improve the system