**COMP 3010 Project Check in 1**
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**The project**

I will be doing a distributed systems project. The project will be a peer-to-peer multiplayer game that will use Bonjour or a similar MDNS system for client/game discovery. The game will be built in Java using the libGDX game library. It will be a simple 2d platformer game of tag, where players navigate around the map in an attempt to ‘tag’ other players. Because the main focus of the project is the distributed/networking aspect, those features will be prioritized in the games development. Any extra features such as graphics, level design, and extra gameplay mechanics will be done with a lower priority when time permits. I will be completing this project by myself.

**How does it relate to distributed systems**

The project idea follows the given example idea of *Build a Bonjour-compliant/Avahi-compliant service that bootstraps and accomplishes a distributed task*. With the distributed task being the game itself. As mentioned above the game will be peer-to-peer, meaning there will be no centralized server and all game state will be contained within each game itself. All clients (someone playing the game) within a game will then act as their own 'server' holding their own version of the games ‘state’, directly communicating with the other clients. I would like to focus on consensus; making sure every client is observing the same thing, fault tolerance; what to do if a client (or multiple clients) disconnects, and time complexity; finding an optimal way for clients to communicate in a scalable way.