

Multiplayer Research:

- **10/4/22**

Began research on multiplayer. Discovered an open-source multiplayer plugin called Nakama. It does most of the heavy lifting for creating a multiplayer.

- **10/10/22**

We got a multiplayer chat working using a program that already uses Nakama. In order for that to work we needed to setup on Nakama on our AWS server using docker to install the necessary components.

Link to Nakama website and documentation -> <https://heroiclabs.com/>

Some questions we wanted to answer:

1. What happens when two players try to interact with a single object at the same time?

We would need to implement logic to handle which player would get to interact with said object. That is if the object being interacted with is limited to one use per player.

a. How do you settle this tie?

To settle a tie, we would need the logic to decide who gets the object. This could be decided based on player connection, who is winning more inside of the game, etc.

2. How can we have separate cameras for each player?

Each player's camera will be handled within their own instance of the game (their own player). In order to show other players, we can get the positions of the players from the server, and then display those player objects onto the screen.

3. Should there be collision between players? How can we implement this if so?

There should be collisions with players in situations that call for it, for example when there is a mini game where collisions are part of the game. We could implement this with the object collision built into Godot. This is based on areas that can be placed around the players, and if these areas collide this information could be sent to the server. The game clients in all of the players games could then reflect this appropriately.