# Battleship

Overview

***Introduction****:*

*The project that we want to build is a multiplayer form of the board game battle ship consisting of two players. Essentially, players will use a client to join a game then each player in a game will take turns trying to shoot down other players boats on a specified sized board by choosing different coordinates to shoot at.*

***Context****:*

*This project will have many processes, resources, and protocols. First, There will be three different processes: A lobby, a game manager, and a user client. The Lobby will manage information regarding what games are currently playing and what games are open to join. Each game manager will manage a game state. The Client will be used to display the user’s board, make guesses on where other user’s ships are, and be connected to games available in the Lobby.*

*The system will have some resources that will be shared. Three of mention are the Lobby’s data containing the endpoints of the user clients and game managers, the game manager’s current game state for each individual game, and the lobby will store information regarding user names and win record.*

*Many protocols will be used in this distributed system. An example of Six that will be used include the Client sending to the Lobby to join a game, Game manager sending to lobby to become available for a game, the Lobby sending to the Game Manager to start a game, the Client sending to the Game Manager to set the boats on the grid, the Game Manager sending to the Clients to start the game, the Game Manager sending to the clients to end the game.*

1. **Actors and their Goals**

There are three main actors in our system: Player, Game Manager, and Lobby. The goals for these actors are outlined below

Player:

* One actor is the player and the goal is to beat the other player in battleship.
* Connect to the lobby.

Game Manager:

* Manage game state and communicate it to the Players.
* Communicate with players to change the game data.
* Connect to lobby.

Lobby:

* Facilitate connecting players to Game Managers.
* Find players and hold players until a game is started.