

Shots Fired

Group 17

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Brief Project Description

- 1 Top-down arena style 2D multiplayer shooting game
- 2 Can easily join a game with friends (low barrier to entry)
- 3 2-4 player game played on separate machines connected online
- 4 Characters are controlled with Keyboard and Mouse
- 5 When a player loses all their health they are out
- 6 Last person standing wins!

Game Mode 1: Quick Play

- 1 Player clicks the 'Quick Play' option in the main menu
- 2 They are put in a lobby, waiting until more people have joined
- 3 Once there are at least 2 players in the lobby, a countdown starts
- 4 Countdown resets every time a new player joins the lobby
- 5 If the countdown reaches 0 or the max number of players (4) have joined, the game starts

Game Mode 2: Private Match

- 1 Player clicks the 'Private Match' option in the main menu
- 2 Display custom URL to join the game.
- 3 Other players enter the URL to join the private lobby
- 4 Once the lobby has 4 people, the game will start

Gameplay

- ① Each player has x amount of health
- ② Move with WASD
- ③ Move mouse to aim.
- ④ Click to fire.

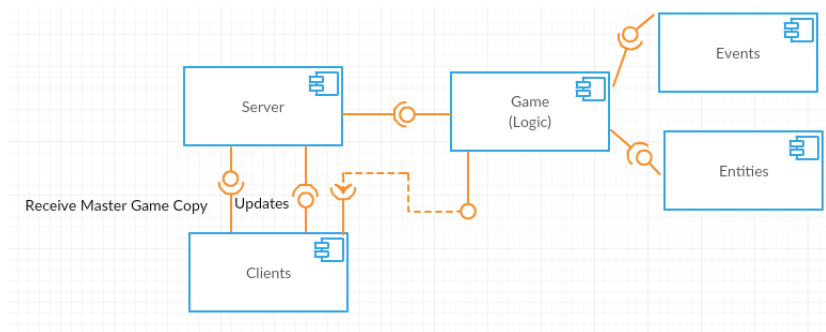
Design Challenges

- 1 Creating a game with character interactions, animations, controls, physics, online connections
- 2 Synchronizing differences between client and server game states
- 3 Running and managing multiple game servers simultaneously
- 4 Ensuring easily extendable game object interaction.

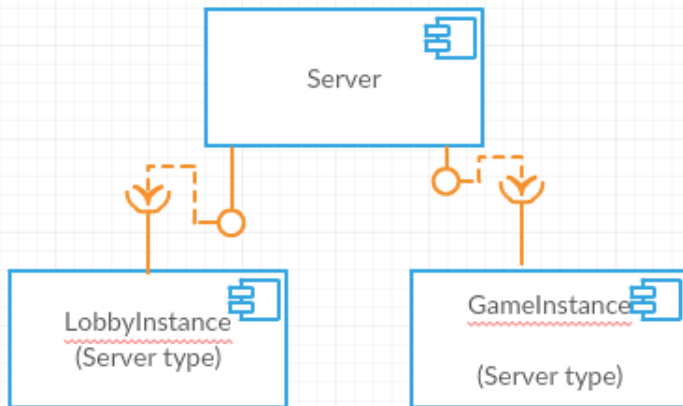
Major Challenges

- ① Client/Server Synchronization
- ② Lag on client side
- ③ Socket connections
- ④ Allowing server to run multiple processes
- ⑤ Deployment of a Node application

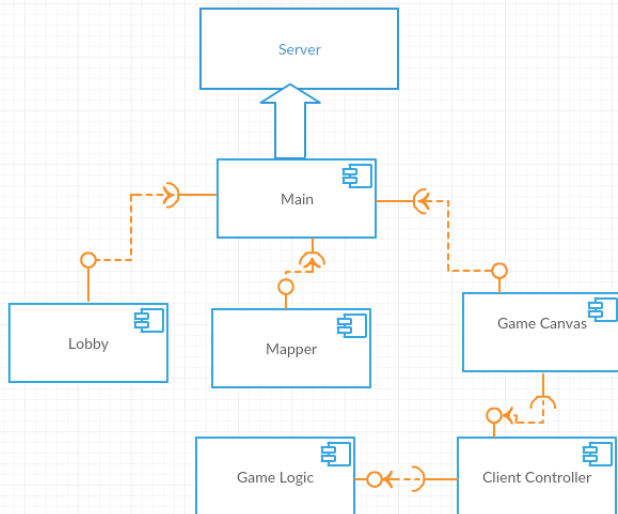
Overall Architecture



Server Architecture



Client Architecture



Game Screen Capture

