Shots Fired

Group 17

scmaier, d2lal, samiskin, wcakeize

University of Waterloo

September 29, 2016

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
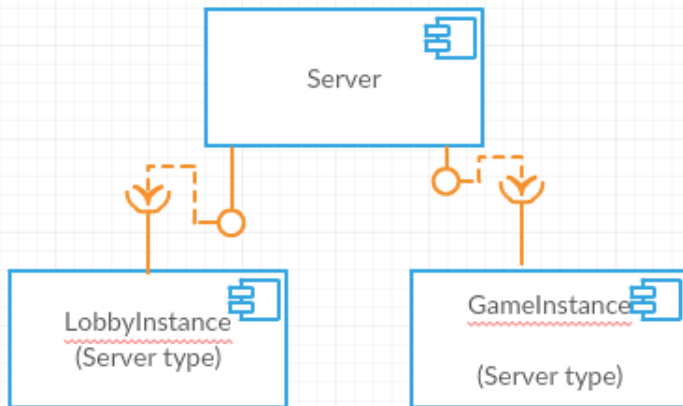4. Ensuring easily extendable game object interaction.

Major Challenges

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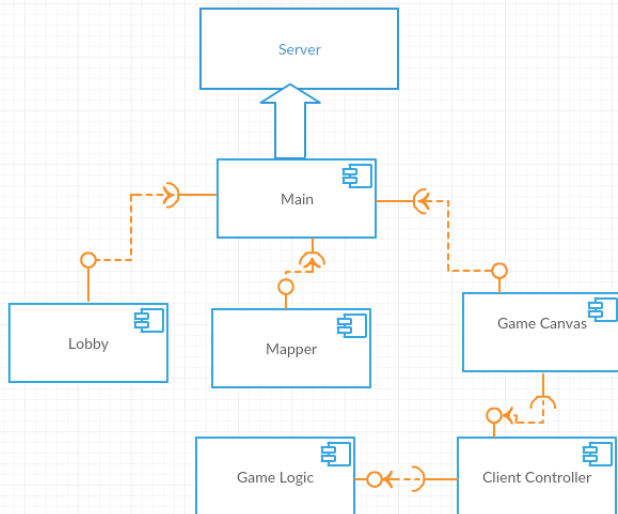5. Deployment of a Node application

Overall Architecture
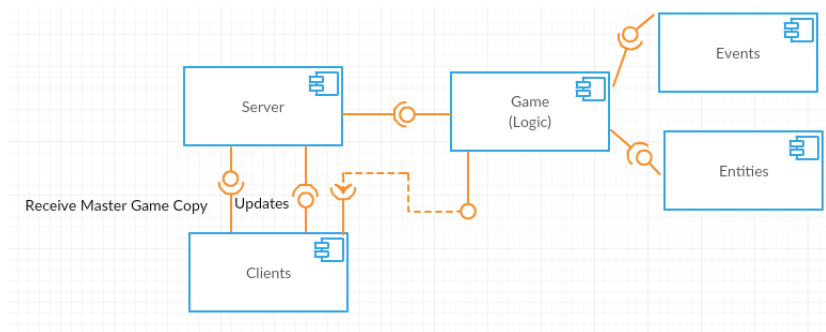
Server Architecture

Client Architecture

Game Screen Capture