

## Starting the Multiplayer Game!

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Game Design 2

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### 1. Objectives

- A. To make sure we can initiate any style of online game.

### 2. Equipment

- A. A computer that runs Unity 2017.

### 3. Lab Preparation

- A. Did you do the exercise?

### 4. Lab Instruction

- A. Phase 1 – The Network Player
  - a. Create an object prefab that will be spawned for each player when they connect to the server.
  - b. This object will have a canvas on it that will ask the user to select color, shape and enter their name. It will also have a button labelled “Okay”.
  - c. Create a script called network player that inherits Network Component
  - d. When the user changes an option, a command will be sent to the server, which will then change the variable and send an update back.
    - i. In this particular case the command and update can use the same message labels.
  - e. When the player hits okay, the player character will be spawned (on the server) matching the appropriate options and have the players name above their character.
  - f. The Network Player UI should be disabled
  - g. WARNING: The variable ‘name’ is taken by Unity
- B. Phase 2 – Let’s Synchronize
  - a. Using Phase 1 modify the code so when “Okay” is pressed it will notify the server the player is ready.
  - b. Using either a game manager poll the network players “ready” on the server and when they are all true send a “GameStart” message to the clients.
  - c. On the server, after the game start message has been sent, spawn all of the player characters.
  - d. When the clients receive “GameStart” they will disable their Network Player UI’s.
- C. Phase 3 – A little more challenging.
  - a. Using Phase 2 – modify the code so when everyone is ready all players will switch to an “online” scene.
  - b. NetworkCore, Network Players will need to be persistent.
  - c. Once all of the clients have loaded the new scene (this is the hard part) the server will then spawn their correct characters.

- d. The Network Player UI should be disabled.
- e. If a client disconnects from the scene they will return to the original scene. The old NetCore should be destroyed. (That way you don't have 2).

## 5. Lab Rubric

	Perfect	Some errors, but it functions	Does not function
Phase 1 – Player can select shape, color and enter their name (and it is synchronized over the network)	10	5	0
Phase 1 – The appropriate “character” is spawned when the player presses “Okay”	10	5	0
Phase 2 – All player characters spawn only once everyone presses Okay	10	5	0
Phase 2 – Network Players UI disables once all characters are created	10	5	0
Phase 3 – All players switch over to the new scene BEFORE spawning their players. Network Core and Network Players are preserved.	10	7	0
Phase 3 – When a player disconnects it returns to the first scene and the old network core (and any remaining network players) are destroyed.	10	7	0
Total	60		

## 6. Lab Report Requirements

No lab reports required for this assignment.