Joining the game

Client	Client GUI	Client Game Logic	Client Network	Server Network	Server Game Logic

1: Join Game

2: Display Setting Fields

3: Enter Settings and press Join

4: Request Connection

5: Create Connection

6: Connect

7: Accept Connection

8: connection established

9: Add to client list

10: Update Lobby Information

11: Send Lobby Information

12: Update Local Stats

13: Update GUI

14: Display Lobby
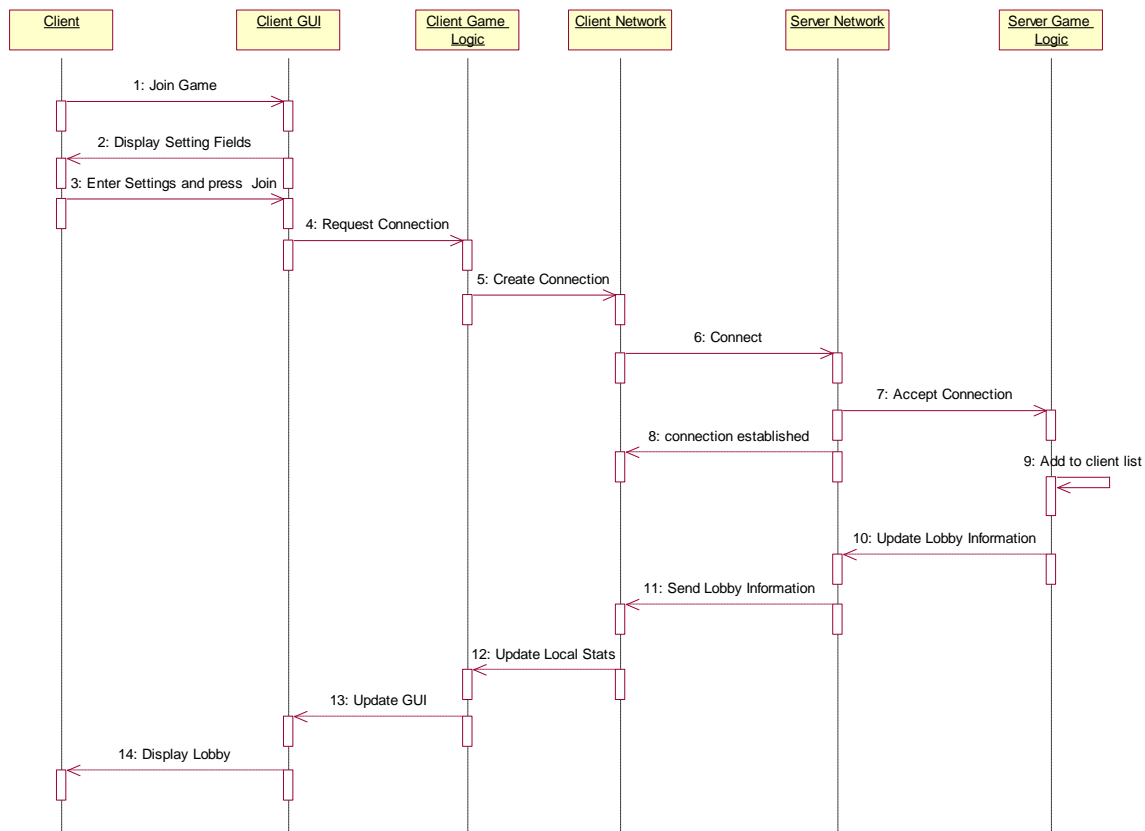
The diagram above demonstrates how a client can establish a connection to the game server. The connection process starts by the user clicking the "Join Game" button on the initial game screen. After clicking the "Join Game" button, the client will be presented with the screen where they can enter the connection settings. After the client fills in the connection settings, they can connect to an already running server by clicking the "Join" button. When the "Join" button is clicked, the client game logic module will request the client network module to send a connection request to the server. The server network will accept the connection and ask the server game logic to add the client to the client list and send the lobby information to the newly connected client (this includes the names and teams of other clients). The client network will receive this information and update the display on client GUI.
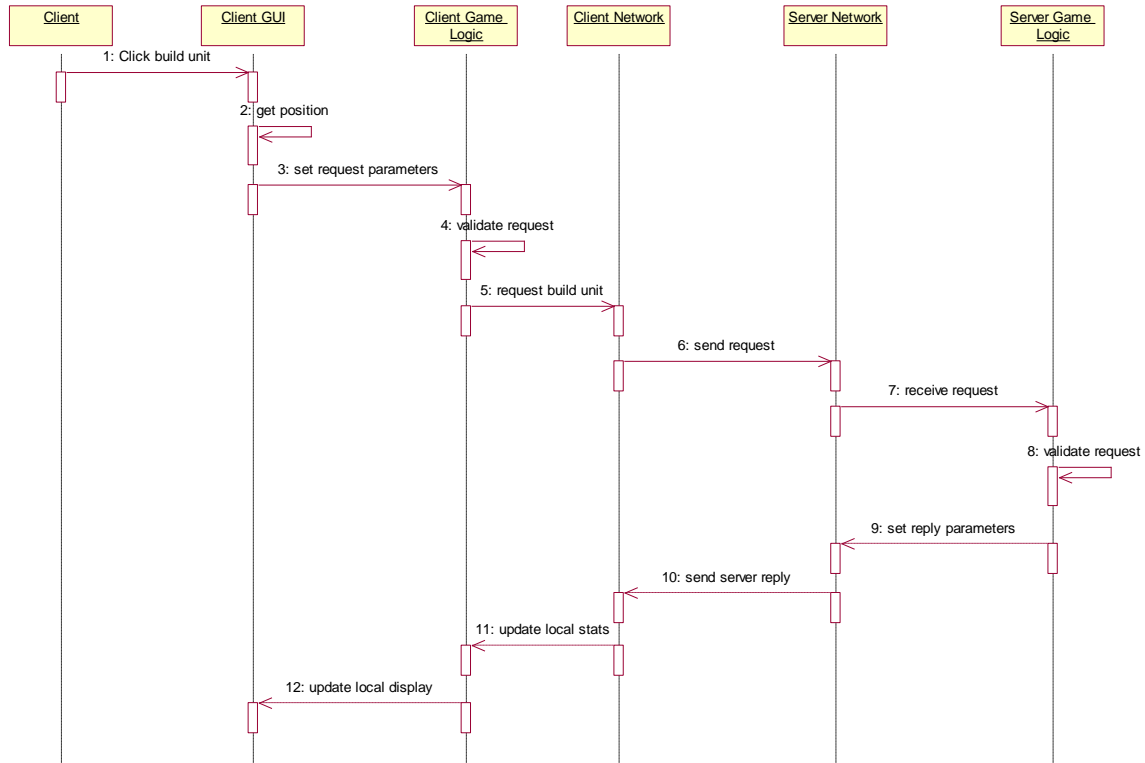
Lobby
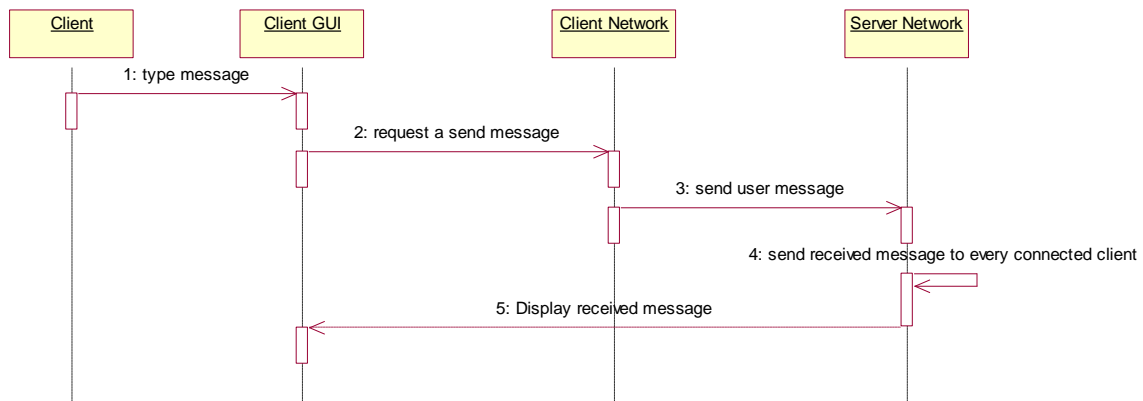
While connected and in the game lobby, a client can send/receive messages from other clients in the game. After a message is typed into the input field of the chat box, the client GUI will forward this message string to the client network and the client network will send the message to the server. The server network will receive this message and then echo the received message to all clients connected to the server.

Starting the game
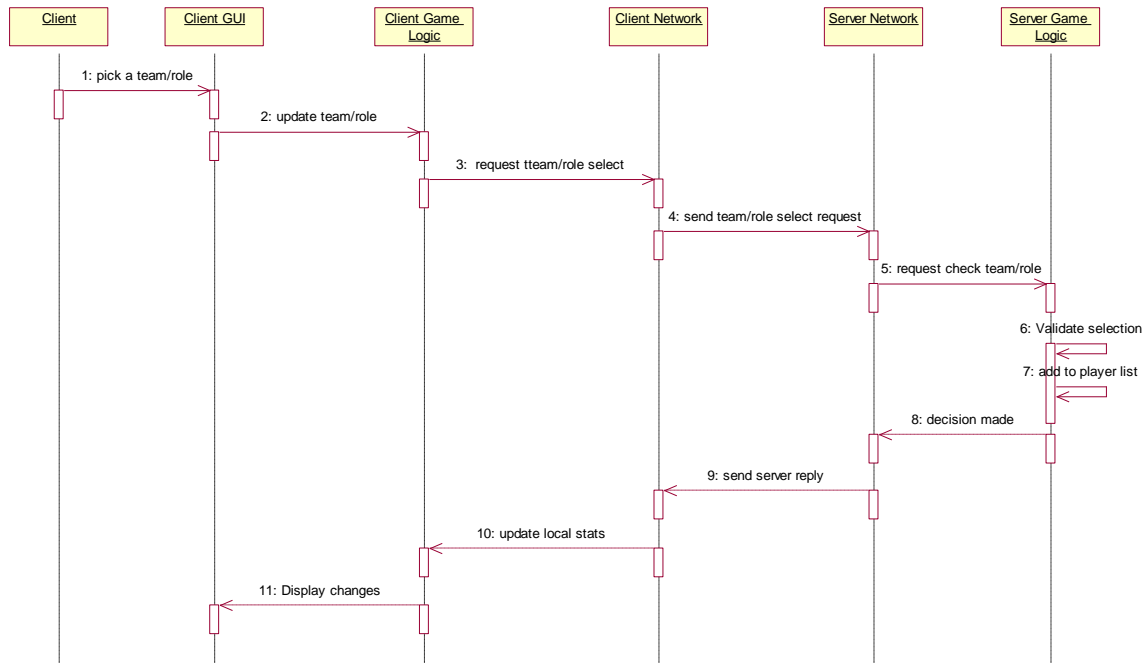
To start a game, a client must first select a team and a position and click "Ready". Once the user picks an open slot, the client GUI module will inform the client game logic module about the user's choice. The client game logic will then request the client network to send a request to the server to be added to a team. The server network will receive this request and check with the server game logic to see if the request is valid. If valid, the server will add the client as a player to its players list and invoke the server network module to inform the client about the server's decision. The client network will receive this reply and displays the updated lobby on client's screen.

Builder Flow

Client	Client GUI	Client Game Logic	Client Network	Server Network	Server Game Logic

1: Click build unit

2: get position

3: set request parameters

4: validate request

5: request build unit

6: send request

7: receive request

8: validate request

9: set reply parameters

10: send server reply

11: update local stats

12: update local display

The builder is the first team member on the team list. The builder is capable of building towers and spawning creeps. When the builder clicks a button on their screen to build a creep or tower unit, the GUI module will get the position of the user's request and passes the request to client game logic. The client game logic will validate the user request and ask the client network module to send a build unit request to the server. The server network will receive this request, validate it, set response parameters, and send the response to the client. The client will send the server's response to the client game logic, the client game logic will update the local client parameters based on the response received, and the GUI module will update the clients display.

Hero Flow
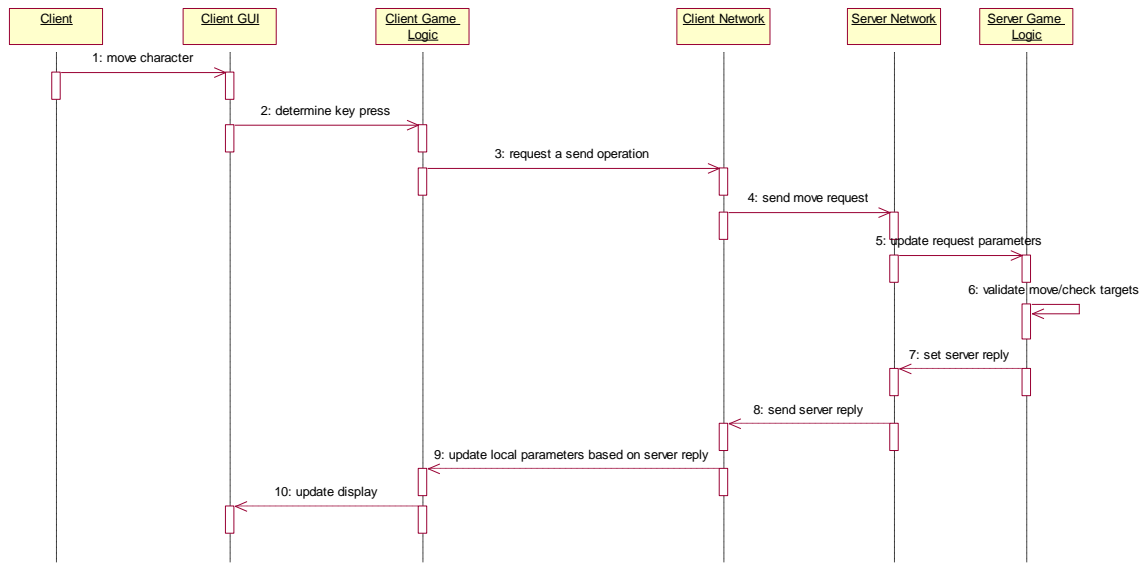
Other team members are called heroes. The hero class can move around on the map, but can not build units. The player controlling a hero character can request to move the character by pressing "WASD" keyboard buttons. The client GUI module will inform the client game logic about the user command, and the client game logic module, sends a move command to the server. The server network will receive this move request and send it to the server game logic, which will validate the move request and then ask the server network to send the new coordinates to the client. The client network receives these values and then update the local stats. User display's will then be redrawn with these newly updated values.