CS447 Project - Group 4

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Project Description

Our project was about the architecture of fast-paced client-server multiplayer games.

The project consists of 2 parts. First part is the implementation of a client-server multiplayer game in python using pygame, pickle and sockets. Our python project folder consists of a client, network, player and a server. Network is used by clients to connect and send information to the server.

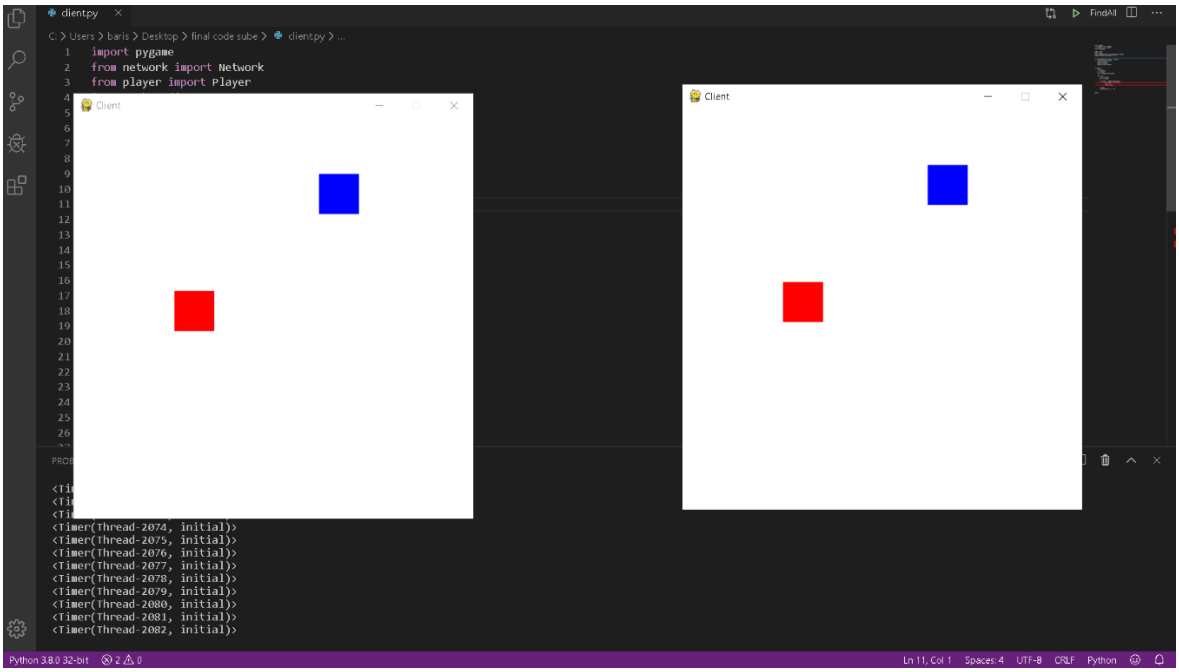
Implementation

The player object has a specific height, width color and velocity. This object can move around by pressing the left, right, up and down keys.

When the client script is run, the client connects to a server by network and a window opens up. Only one player can be moved at this point. After a new client script has been run, both players can be moved separately.

We used the socket, pygame and pickle libraries to implement the scripts.

Our main problem was to see the lags happening in the scripts but by putting in a pygame time delay line on anywhere in our code, it completely shuts down our clients. The only line that works based on time calculation was the line that printed the amount of threads on the console.



User Manual

To correctly use the system, the use should check his/her IPv4 address by opening up the command prompt and typing “ipconfig” command.

After getting their IP the user should fill this line in the network.py script.

```
self.server = "Your IPv4 Address"
```

Also the user should fill this line in the server.py script.

```
server = "Your IPv4 Address"
```

After these configurations the user should first run the server and check if it is running by examining the console. If the console says “***Waiting for a connection, Server Started***” then the server is running properly. Now the user should open up 2 client and run them. Then the user can see that everything is working.

References

https://www.pygame.org/news

https://docs.python.org/3/library/socket.html