Game Show Using Socket Programming

Overview:

The Project is a simple game that is build using Socket Libraries offered by Python3. There are three players (clients) that get connected to a host(Server),The server sends questions to the three clients over a TCP connection.The player who knows the answer can press the buzzer and then is given 60s to answer the question. If the player gives the correct answer then he is rewarded 1 point. The one who reaches 5 points first or player with the maximum score at last wins the game.

IMPORTANT RULES FOR GAME

The answer to question is question number itself.

Do not press the buzzer or the anwer without pressing any key since it may get stuck in an infinite loop and then code may not run for some time since the port will not be available

Technology Used:

Python3 and its Socket Libraries along with other libraries such as random, time, sys etc.

Problems Faced:

- Learning socket programming was a difficult task. However, the real challenges were to make the interface of the game user-friendly
- Commands such as (input() or recv()) used to stop indefinately.
- Synchronization of Client side with the server side was a major challenge as well.

Implementation Details:

Have implemented functions for each job like (bind_socket(), accept_connections(), Game(), GameOver() and etc.

The server sends a unique id to each client at the time of tcp handshake, and stores it in a dictionary mapping id to connection. The client also, stores this id (connection_id) as a unique identifier. Whenever the client presses the buzzer, this unique id is sent to server,on receiving the id, the server knows which client has pressed the buzzer and notify's the other players about it. It is also used to get anwer and update the information about the players.

The client side is simple. It waits for the question. It can be used to send buzzer and answer and receive updates.

To run the code open 4 terminals. Type:

$ **python3 server.py** (on one terminal)

$ **python3 client.py** (on the rest three terminal)

Overall Experience:

My experience was great learning socket programming. I also learnt what is a socket and how port numbers and ip address help create a socket which acts a communication layer between the transport layer and application layer. I also learnt the TCP protocol and it’s handshaking procedure etc. It was a great experience doing this project.