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CSCI 466

Trivia Server Discussion

The trivia games server makes use of both tcp and udp communication in its implementation. TCP sockets are used exclusively in the user registration server for the initial registration of players. The user registration server functions similar to HTTP requests keeping a connection active only long enough to complete the request. In the user registration server a client attempts to connect to the server. Once a connection is made the client sends the request. The server then responds and closes the connection. The commands available to the client in this mode is Check Server, Register User, Deregister User, Ready, and Not Ready all in a pull format. Once all users are marked as ready the game server closes the registration and takes control from the user registration server till the active player list is copied to the new game and the old one cleared, at which time registration will be reopened and the user registration server will regain control.

The trivia game server makes use of UDP multicast to communicate with its clients and primarily functions off a push format. The trivia game server operates asynchronously. One thread consistently sends out messages held in its send queue. While the other thread receives data and makes use of the observer pattern to notify games when new data has been received. The server consists of six commands, five are push and one is a pull. The commands that will be broadcasted to clients consist of sending the question, finding who pressed the buzzer, allowing a user to attempt an answer, notifying the user the points they earned with 0 points meaning an incorrect answer, and start/unfreeze screen. The only pull command is the buzzer which is sent from the client as soon as they want to answer. To guarantee that all clients have received information commands are rebroadcast after a set period of time till all users acknowledge they have the data up to a set retry amount.