

CS425

ASSIGNMENT 1 – GAME ON

Q) Implement an online game management software .The aim of the game management software is to establish connection between players who want to play games online.

Working of the software could be laid out as follows –

1. There should be a game server.
2. Players should be able to login to the game server.
3. Every player should be able to get the list of other players who are online.
4. After getting the list from the game server, the players could send request to the game server indicating the desired opponent.
5. The game server should then confirm with the opponent whether to accept the request from the first player. If the opponent is ready to play with the first player then relevant information (like IP address) should be passed to both players so that a game could be started.
6. The game server should maintain a list of games that are going on so that no player can request to play with an opponent who is already in another game.

The following situation may arise and needs to be tackled efficiently:

Player A raises a request to play with player B, Player B raises a request to play with player C and player C raises a request to play with A.

Situation 1: B accepts the request from A, C also accepts the request from B and A accepts the request from C. This will result in each player playing with more than one player at the same time which is not allowed.

Situation 2: B rejects the request from A (because B has requested to play with C and not received any response from C), C rejects the request from B and A rejects the request from C. Since all requests were rejected nobody would be playing and the whole process of getting the list and requesting for opponents would go on.

You must use the C Programming Language on Linux platform and use Socket Programming for the communication.