

>>MINI-PROJECT<<

>> Computer Communication and Networking <<

>>The TIC-TAC-TOE game using SOCKET Programming<<

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Programming Language : C Language

Compiler: GCC compilation

About The Game :

Tic-Tac-Toe, also known as **Noughts and Crosses** or Xs and Os, is a simple game for two players, who take turns marking the spaces in a 3x3 grid. The player who succeeds in placing three of their marks in a horizontal, vertical, or diagonal row is the winner. Tic-tac-toe is a game of perfect information, meaning that both players have complete knowledge of the game state at all times and can take their turns accordingly.

Details About the Project :

Server Side : The server side socket program will be responsible for managing the game state. It would use the socket API to create and manage the sockets, and use the send() and recv() functions to communicate between the clients.

The following functions would be managed by the SERVER :-

- Initialize the game state, including the game board and the turn order of the players.
 - Loop through the game, alternating between the two clients and allowing them to make their moves.
 - When a particular client makes a move, the server should update the game state and send the updated game state to both the clients.
 - If one of the clients wins or the game is a draw, the server should send a message to both clients indicating the outcome of the game and close the socket descriptors.
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Client Side : The client side socket program will be responsible for rendering the game board and allowing the player to make moves. It would use the socket API to create and manage the socket, and it would use the send() and recv() functions to send and receive data with the server.

- The client will be able to make a move in the 3X3 Grid by entering the a number from 0 to 8.
 - The client who is able to succeed in placing three of their marks in a horizontal, vertical, or diagonal row will be the winner.
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