Samuel Parkin T2A3 – Draft

Develop and describe an algorithmic solution for an application that utilises two way communication over a network?

The application will be a game of TIC TAC TOE between only 2 users.

The users will be communicating to each other over sockets with their messages being sent as a pickle.

The server will start first. This is to open up a socket connection. This will be its own 'Server' class

Once the socket connection has started the client will then be able to connect. This will be its own 'Client' class.

Within these 'Server' and 'Client' classes will have the following functions:

- A 'send' function to send information to the other connections
- A 'Receive' function to Receive information from the other connections.

Once a connection has been made, the user will be assigned to a 'Game' class. Within The Game class it will then initiate:

- The users name,
- Their playing symbol,
- The opponents name,
- A list of moves made.

A 'Display' class will be used to display the board to the user and clear the terminal.

The Game class will have functions within it for play of the game. These will include:

- A function to ask for the users move,
- A function to checking weather the users move has won the game
- A function that creates a dictionary of information for the recipient to receive.

Once the user has made their move it will check to see weather or not the move has won them the game, call to the 'Display' class function to clear the screen and display the updated board and send the dictionary with updated information to the opponent.

If the user has won, it will ask whether they would like to play again

The user will then wait for the recipient to reply with their move.

Once the other user has received the information it will call the 'Game' class function to check whether the opponent had won. If the opponent has won it will ask if the user would like to play again, if the opponent hasn't won, it will ask for the users move and continue with the previous steps until there is a winner or draw.