

*System Application Development*  
*Assignment 03*

Group submission – up to 2 members in a group

*General Description*

TCP/IP is the most heavily used communications protocol for inter-process communication. It is broadly supported by the socket programming paradigm across multiple platforms. You will write a chat program to demonstrate the basics of TCP/IP communications. The requirements are deliberately vague so you have flexibility in design of your solution.

*Specific requirements*

1. Use Linux as the main platform and TCP/IP as the inter-process communication mechanism.
2. At least 2 users should be able to chat to each other.
3. This chat should be functional across computers that are in the same subnet.
4. The user interface during the chat is simple: A prompt is provided to allow a user to input a message, and when the carriage return is pressed, the message is sent to the recipient.
5. Any message received should be displayed with the target's name or IP address as a prefix to the message.
6. Messages should be received as soon as they are sent.
7. As a user is typing, any received message should not interrupt the message being currently composed.
8. You may choose a peer-to-peer model or a central server model for the system architecture.
9. Any failures must be handled gracefully.
10. Shutdowns must be handled gracefully.
11. If there are command line parameters available, make sure a "usage" message appears if the parameters are incorrect or missing.
12. Include a document that defines how the application is installed and used.
13. Bonus: Implement a client in Windows, and demonstrate a chat session with the Linux server/peer.

The program(s) and document are to be submitted in a zip or tar file in D2L.

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