# Internet Relay Chat

# Networking Assignment 1

# Technical Information

The following manual describes the requirements of a chat room network (Internet Relay Chat - IRC). It also describes communication via private and public text messages.

During the communication process; the party that initiates the communication is labelled as the client and the process that waits to be contacted to begin the session is the server. On this occasion we would only use one server. Users will be required to create unique nicknames of a maximum of 8 digits to sign in, these would start with the letter “U”.

# Messages

Clients will only be able to send messages to other users located in the same channel as them. Messages should contain sender’s name, receiver’s name, command and message. The message should only include text. The sender will be represented as <user> and the receiver will be represented as the nickname <nick>. They will be separated by a colon character ( “:” ). After there will be a command, should it be needed. The next section would be the message. Placed just before the message there will be a semi-colon character (“ ; ”). This will help differentiate the message from the rest of the information. The line will end with an ASCII carriage return and linefeed (\r\n). This will activate when the user presses ENTER. The line is not allowed to be more than 200 characters long. The system will accept that prefix and message can be separated by one ASCII space character (0x20) each side or not. This will make it more user accessible for those users with limited knowledge.

Some examples could be;

<user>:<nick><PRIVMSG>;<message>\r\n

Heidi: UJohn PRIVMSG ; When is your birthday?

<user>:<nick>;<message>\r\n

Heidi: UJohn when is your birthday?

# Commands and Replies

The server will not confirm clients’ actions by response, instead it would incite further actions by providing user with information complementing initial action. Server will automatically issue an invitation to user to join channels available. To create a new channel or become part of an existing channel, a user is required to JOIN the channel. Should it be a new channel the creating user becomes a channel operator. A channel operator is identified by the letter “ O ” at the beginning of their nickname whenever it is associated with a channel. Channel operators would have access to the KICK command to eject a client from the channel should there be any abuse.

Joining the channel would depend if the current channel is invite-only, (“ i ”), then the user would need to wait to be invited to be allowed to join. Users will be allowed to join several channels at once, to a maximum of five at any given time. Users should not assume that they have joined a channel until request is confirmed by server.

Server commands available are as follows:

CONFIRMATION:

CONFIRMATION <message>

Provides the user with a message confirming their initial request and suggesting next action by user.

Example: CONFIRMATION log in completed; please join a channel

ERROR:

ERROR <error message>

This command is used by the server to inform client there is an issue with their request.

Example: ERROR; wrong password/nickname combination. If there is a mistake with their password/nickname combination, or

ERROR; access by invitation only. If user attempts to enter an “ i ” room without invitation or knocking, or

ERROR; wrong command format. This would come up if user failed to follow format protocol.

NICK:

NICK <nickname>

Allows a client to create their nickname when signing up. This has to be unique to them and cannot be used by another user simultaneously on the same session. The server will retain the information of nickname and password combination for the life of the session. Nickname should have a maximum of 8 characters and start with the letter “U”.

Example: NICK Ujohn

PASS:

PASS <password>

Sets a connection password. This command must be sent following the NICK command and set up when creating the registration combination. The server would retain this information only for the life of the session. Password should not be longer than 10 characters and include a number.

Example: PASS; Smith1

LIST:

LIST<channel><nick>

This command is likely to be used as soon as the user logs into the system as a way of learning about channels available and users within those channels. It will list both private and public channels using the following format:

LIST<channel1>< nick1>< nick2>< nick3>< nick4 >< nick5>< nick6>< nick7>

LIST<channel2>< nick1>< nick2>< nick3>< nick4>< nick5>< nick6>

LIST<channel3>< nick1>< nick2>< nick3>< nick4>< nick5>< nick6>

LIST<channel4>< nick1>< nick2>< nick3>< nick4>

QUIT:

QUIT <nick>

This command is can be used in combination with the SIGN OUT command as well as with the PONG command and is to be used to log out of the channel. It will issue a response from the server as follows; <user> disconnected.

Example: Sender will request to be logged out as follows: QUIT Ujohn and server will respond Ujohn disconnected

User commands are as follows;

INVITE:

<user> : INVITE <nickname> <channel>;<message>

Invites a user to join a channel. The channel has to exist and only members in the channel are allowed to invite clients currently outside the channel.

Example: Heidi: INVITE Ujohn secret room ; Hi nice to see you again. We are all here

KICK:

<operator>:KICK <channel> <nick> ;<message>

Forcibly removes client from the channel. This command may only be used by channel operators.

Example: Oheidi: KICK secret room Ujohn; Sorry you must leave now. You are rude!

KNOCK:

KNOCK <channel> <nick>

KNOCK <channel> <nick>;<message>

Sends a NOTICE to an invitation-only “i” channel. The user introduces himself and requests an invite. User would be able to add a message if so wished, but not mandatory.

Example: KNOCK secret room Ujohn

Example: KNOCK secret room Ujohn ; Hi, may I come in?

PRIVMSG;

<user> PRIVMSG <NICK>; <message>

Sends a private message to another user. This user would need to be in the same channel and be active to receive the message. No other client would be able to see this message.

Example: Heidi PRIVMSG Ujohn ; I cannot believe what they are saying!

SIGN OUT:

SIGN OUT <nick>

This command will be invoked by the user to request to terminate their session. User should ensure a response is received by the server to ensure command has been executed. Server will use command QUIT.

Example: SIGN OUT Ujohn

Word count: 1056

# Bibliography

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