Networking Assignment 1

This document will describe in full, an application protocol definition for a chat system that will allow users to send messages from user to user using a multi user chat room with the option to send private messages, create custom user nicknames and block incoming messages from defined users.

1. Connection

## Server Join

Command: SJoin

Parameters: <roomname><roomsize>

Connects to a server. Connections to a server will require a level of registration from a user. The registration will be the username and creation of a server based nickname for the user. Users have to ability to create custom rooms by specifying a room name and room size, the room size will need to be between 1 - 10 users to minimize traffic. To increase security between connections each chat room will need an admin created password in order to complete the registration process.

Registration order:

1. User name definition
2. Server Password
3. Nickname creation

Example: SJoin Room1

Possible error replies:

ERR\_INVALIDPASS ERR\_INVALIDROOMSIZE

(Password incorrect) (Room size not within parameters)

ERR\_ROOMFULL ERR\_INVALIDUSERID

(Room capacity reached) (User name incorrect)

## 2. Server Quit

Command: SQuit

Parameters: <roomname>

The SQuit command will tell an unpopulated server to close. This command will only be accessed by an administrator or an administrating server. The server can be shut down remotely or within the server itself to close all connections.

Example: SQuit Room1

Server ‘Room1’ has been closed down.

Possible error replies:

ERR\_NOTADMIN ERR\_NOSERVER

(No admin rights) (Server does not exists or is already closed)

2. Nick Names

Command: NICK

Parameters: <nickname>

Creates a server based nickname for a user. Users will be asked to create a unique nickname upon joining the chat room. Nicknames must be strictly alphanumeric with a character count of between 3 and 10 to stop ambiguity between user names, if the user enters a name outside the given parameters the server will respond with ERR\_NICKINVALID. Nicknames must not be identical to another user, if the server receives a nickname from a user that is identical the server will respond with ERR\_NICKUSED and the user will be asked to enter a new one.

Example: Nick “Barry”

Nickname changes from “Larry” to “Barry”

Possible error replies:

ERR\_NICKINVALID ERR\_NICKUSED

(Nickname not within parameters) (Nickname already in use)

3. Chat commands

## Message

Command: MSG

Parameters: <message>

Sends a message to the room. Messages between users must be between 1 - 140 characters. Users can not send too many messages in a short time, this is to reduce spam.

Example: MSG Barry “Hello, world”

Possible error replies:

ERR\_MSGLONG ERR\_MSGSHORT

(Message too long) (Message too short)

ERR\_TOOMANY ERR\_USERMUTED

(Messages sent too quickly) (User has been muted by admin)

## 2. Private message

Command: PMSG

Parameters: <username>/<nickname> <message>

Sends a message to a single user defined user, based on username or nickname. Private messages are written in blue text for the receiver to easily differentiate between group and private messages. The messages will inherit the 1 - 140 character parameters.

Example: PMSG Barry - David “Hi Barry”

Possible error replies:

ERR\_MSGLONG ERR\_MSGSHORT

(Message too long) (Message too short)

ERR\_NOUSER ERR\_USERMUTED

(User does not exist) (User has been muted by admin)

## 3. Mute User

Command: MUTE

Parameters: <username>/<nickname>

Mutes a user, based on username or nickname, so the user will no longer receive messages from them. A muted user will still be able to send messages to other users in a room.

Example: MUTE Barry

User ‘Barry’ has been muted.

Possible error replies:

ERR\_NOUSER ERR\_USERMTD

(User does not exist) (User already muted)

## 4. Block User

Command: BLOCK

Parameter: <username>/<nickname>

Blocks a user from contacting any other user in the room. Only the admin has rights to block a user.

Example:BLOCK Barry

User ‘Barry’ has been blocked.

Possible error replies:

ERR\_NOUSER ERR\_USERBLK

(User does not exist) (User already blocked)

4. Administration

## Room Moderation

1.Command: BLOCK (see section 4.3)

2. Command: KICK

Parameters: <username>

Remove a user from the current room. Administrator only.

Example: KICK Barry

Admin David has removed ‘Barry’

Possible error replies:

ERR\_NOTADMIN ERR\_NOUSER

(No admin rights) (User does not exist)

3.Command: SETPASS

Parameters: <password>

Sets the password for the room. Password is required during registration for the room.

Example:SETPASS password123

Admin David changed ‘Room1’ password.

Possible error replies:

ERR\_SAMEPASS ERR\_NOTADMIN

(Entered the existing password) (No admin rights)