

Feature Name: Internet Relay Chat Project

Status: Draft

Start Date: 02-23-2023

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Internet Relay Chat Project

PSU - CS333

Status

This is a draft RFC for an Internet Relay Chat project for CS333 at Portland State University. The intent of this document is to establish an RFC Internet-Draft valid for 6 months unless updated, replaced, or obsoleted.

Abstract

This memo describes the communication protocol for an Internet Relay Chat client and server systems.

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Introduction

A simple IRC protocol for client-to-client communication through a central server which relays messages between clients.

Users can join rooms and any message sent to the room will be relayed to all room participants.

Communication will be sent over a TCP/IP connection on port 8080.

Initial Conditions

Users by default are not assigned to any chat rooms. Any messages they send will not be sent until they join a chatroom. Default username is 'Anon' until specified by the user. Users will receive messages from all chatrooms they have joined until they leave the room or quit the server

Persistence Method

Threading is used to allow a continuous stream to receive messages and send messages simultaneously

Formatting

Opcodes

0	=	JOIN
1	=	LEAVE
2	=	MSG
3	=	LIST
4	=	NICK
5	=	QUIT
6	=	ERROR

Packet Contents

Opcode - specifies type of payload being sent

Length - specifies how many bytes in the payload

Operation Codes

JOIN -

`join_chatroom(client,data)`

Client users can join a chatroom. Clients will receive messages from all users that send messages in that chatroom. Clients will send messages of the chatroom which they most recently joined.

LEAVE -

`leave_chatroom(client,data)`

This is the call to leave a chatroom. The chatroom name must be specified and clients will no longer receive messages from the room once they leave.

MSG -

`send_message(client,data)`

Method to send messages to users. All messages are encoded using utf-8 encoding.

LIST -

`list_chatrooms(client,data)`

Lists all chatrooms which exist on the server as one list and another list of all the chatrooms the user is currently in.

NICK -

`change_nick(client,data)`

Assigns the nickname of the user. User is assigned 'Anon' by default until they specify a username.

QUIT -

`quit(client,data)`

Removes user from all associated chatrooms and closes connection with the server.

ERROR -

`error(client,data)`

Method for sending errors to/from client/server.

Security Considerations

Messages sent using this system have no protection against inspection or tampering. The server sees all messages that are sent through the use of this service. Users wishing to use this system for secure communication should use their own encryption protocol.