IRC- For -Me

Blair Davis
Licensed under: MIT License
Located at: https://github.com/brdavis/IRC-For-Me

Brief overview of application

- This application is essentially a chat application

- One Server able to service multiple Clients

- Run off the linux command line

Conceptual model of Application

▷ Client- Side

  ▷ Client

    ▷ Connects client to Server

    ▷ Receives messages from Server

  ▷ Client handler - thread

    ▷ Takes user input and sends it to Server

Conceptual model continued..

▷ Server-side

  ▷ Server

      ▷ Starts server

      ▷ Accepts clients continuously and pass them as threads to Server_handler

  ▷ Server_handler

      ▷ Facilitates all IRC functionality of each client connected to the server

      ▷ Sends all messages from clients to other clients

  ▷ Server_channel

      ▷ Maintains all variables associated with each irc channel

          ▷ channel name, clients in channel, channel operator

Theoretical walk-through

▷ Server Starts -> Client Starts and requests to join

▷ Server accepts Client and passes client on to Server_handler

   ▷ Client_handler starts to poll for user input

▷ Server_handler services client and sends messages for client with help of Server_channel

IRC Protocol that is implemented

/HELP – shows a general list of commands to client

/JOIN – enables client to join a channel

/LIST – shows a list of all current channels

/NAME – lists names of clients in current channel

/LEAVE – enables client to leave a channel

/QUIT – enables client to exit IRC-for-me application

/NICK – enables client to change its screen name

/AWAY – enables client to create an away message

/WHOIS – displays information about a client in the channel

/KICK – enables channel owner to kick out a client from the channel

/TOPIC – enables channel owner to change the topic of the channel

Who is this software meant for?

▷ Can be utilized by anyone interested in having a chatting application

   ▷ Best use is personal use between friends

How does it meet their needs?

▷ The application allows anyone who wants to chat online to communicate with multiple other people

▷ caveat is that someone has to host the server

Comparable alternatives

- Standard IRC

    - List of all comparable released IRC clients:
      https://en.wikipedia.org/wiki/Comparison_of_Internet_Relay_Chat_clients

    - Most common - HexChat, XChat, mIRC, WeeChat etc.

        - All have GUI interface with visual lists for channels and participants

- Loosely comparable to other forms of chat communication

    - Facebook chat

    - Texting

    - WhatsApp

Development process

What worked : Able to understand and Implement everything that was researched

- Strategy for project- Research then write the code

- Research topics:

  - Java and OOP - for entire project

  - Networking - Socket programming - for entire project

  - Programming with threads and synchronization - for server, specifically the Server_handler

Development process

- **What did not work: Lot to learn in a short amount of time**

    - Issues:

        - Thread synchronization

            - Server_handler for broadcasting messages

        - Difficulty with naming convention

            - At first, with naming convention of Server side and Client side files since the Server handles client events and the Client handles server events

            - Then with various different types of lists - channels, clients, Server_handlers

    - Deciding where to place certain functionality

        - Server or the Server_handler

Lessons learned

- Importance of application model before writing code

  - Increases efficiency for future methods

  - Better modulation

  - Easier for others to understand and contribute

Future Improvements

▷ Ways for others to expand on the project:

   ▷ Implement a GUI

   ▷ Implement more of the IRC protocol

Want to join? - Contact Info

▷ Project location:
https://github.com/brdavis/IRC-For-Me

▷ My contact information:
bdavis@pdx.edu

15