

Server GUI:

- Option to select port number for hosting, default at 5000
- Three panels — logs, view all users, and admin power

Log panel:

- a new log entry is created each time the server restarts
- the “Current” logs have all the server information (connection, disconnection, payloads, etc)
- Up to 5 latest log files are loaded at once, if you wish to see more, and there is more, you may click the “plus” button (shows up only when there is more)

All users panel:

- display a list of all DQ users and their relevant info

Admin power panel:

- select from the list of the connected users (real-time updates) and either broadcast an important message to them, or broadcast a disconnecting message and disconnect the user

Client GUI:

- option to select IP and port number, with defaults set at 127.0.0.1:5000
- login/register new user panel
 - users cannot log into the same account from two windows at once
 - no duplicate usernames
 - mandatory requirements on username, password, and description (Password must be between 8 to 20 characters, containing at least 1 number, 1 uppercase letter and 1 lowercase letter, etc. See common/entities/Constants.java.)

Settings (user profile):

- update username
- update description
- update password (must enter the correct old password)
- changing status — online, idle, invisible (appears as offline to other users), do not disturb

Manage friends:

- A list of all friends, and a separate list of all online friends
- Left click on a friend: displays friend profile

- Right click on a friend: options to block/remove friend
- Incoming friend requests: left click to accept/reject
- Outgoing friend requests: left click to cancel request
- Blocked: a list of blocked users
- Add friend: send a friend request to another user by username, can include an optional request message
- DMs are created once a user accepts a friend request (removing/blocking a friend does not close down the DM, however, blocking prevents either user from sending messages)

Group channel:

- You can create a new group channel with just you as the owner
- Right click to add participants who are your friends
- Added participants have permission to add more people or choose to leave the channel
- Owners can remove, blacklist, rename channel, or transfer ownership to another participant, also by right clicking on the channel in the main frame
- If the owner leaves, ownership is transferred to someone else in the channel at random

Messaging:

- Messages are loaded 50 at a time, and are only further requested when necessary (when the chat history is not fully loaded and the user scrolls to the top). There is a cool down for such requests, which is set to at most 1 request in 5 seconds.
- Users can send, edit, and delete messages (they can only edit/delete their own).
- You can also send an attachment with your messages and all users in the channel can download the attachment, stored in their separate sub folders in downloads/, which are named by their userIds. If a file with the same name exists, a unique version number will be added to the front of the new file's name.

Disconnection:

- Users will be timed out after 5 minutes of inactivity (can be changed in common/entities/Constants.java)
 - Activity is detected from user's mouse movement (anywhere on the screen) and typing in the chat window
- When the server shuts down, the user gets notified and disconnected

Creators' Notes:

- All client data is saved, so no worries about restarting server

- Disclaimer: if you feel like i'm excessively using frames, I ripped this design off from QQ 😊 - candice