

Toph Chat ©

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Glossary

Account: includes username and password, used by server to identify users.

Away: the user is online, but not actively using the messenger.

Block: prevents a user from messaging you.

Encryption: encoding of a message so that it can only be read with the correct key.

Client: hardware or software that connects to server.

Online: the user is connected to the server.

Offline: the user is disconnected from the server.

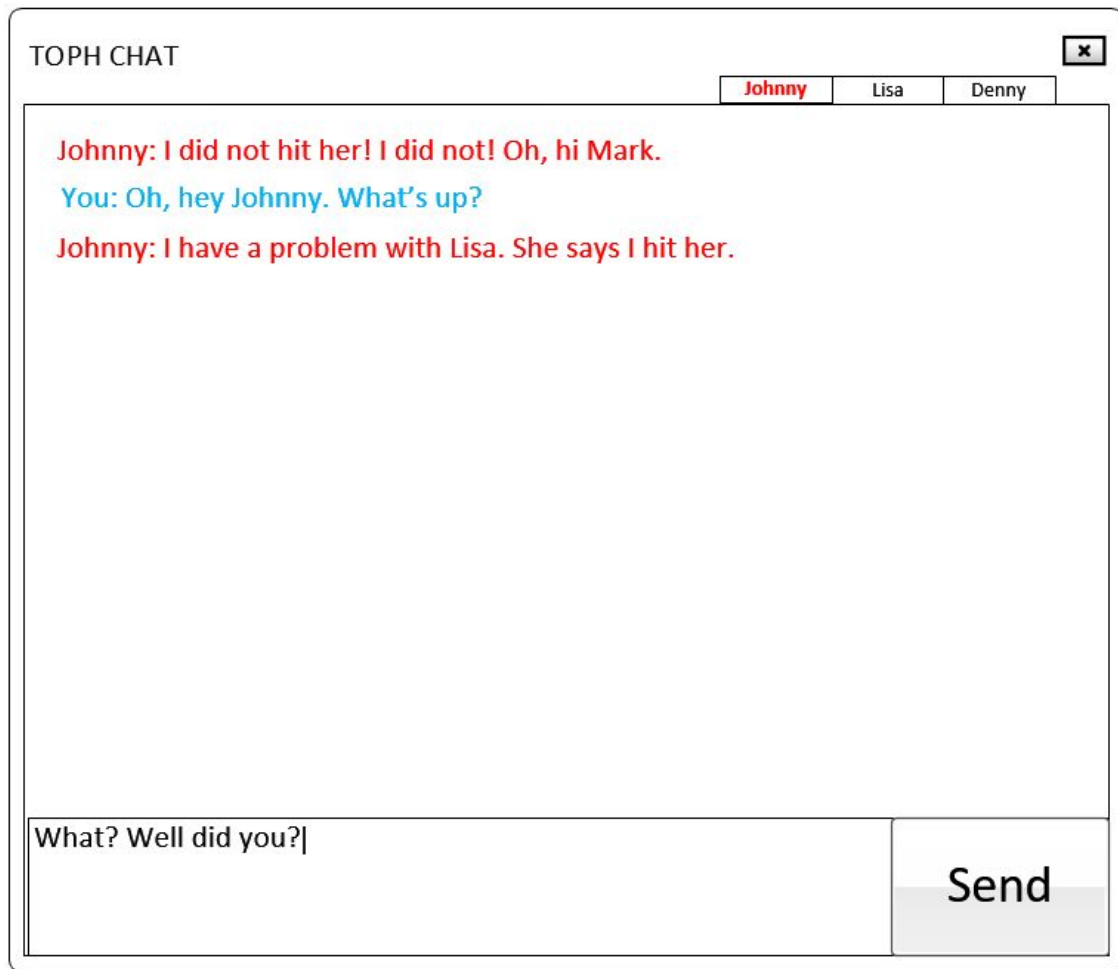
Server: centralized computer hardware or software that clients connect to.

Rsync: Linux Command that transfers files over sockets

Execv: c command that performs shell commands (requires unistd.h)

1. Instant Messaging

1.1 Usage Scenario



The client side interaction is through a GUI text box in which the user can type and send messages to another user. The chats are kept in tabs with the current chat being the active tab open.

1.2 Goals

To create an instant messaging application that utilizes a main server to handle the chat processes and data storage.

1.3 Features

- accounts with unique usernames
- password & data encryption
- user blocking function
- group chats
- accounts with unique usernames
- user status shown
- mutual friending before chatting
- server to store passwords, chat logs, user details
- user-friendly GUI
- Ability to send photos and videos to the other users

2. Installation

2.1 System Requirements

- Linux operating system (e.g. RHEL-6-x86_64)
- Gcc version 4.4.7 minimum
- Make utility

2.2 Setup and Configuration

1. Download the tarball
2. Assume the server is up and running
3. Run the command “./TophChat”
4. A window will open prompting login or account creation.
5. Follow on-screen instructions to get to chatting!

2.3 Uninstalling

1. Run command “make uninstall”

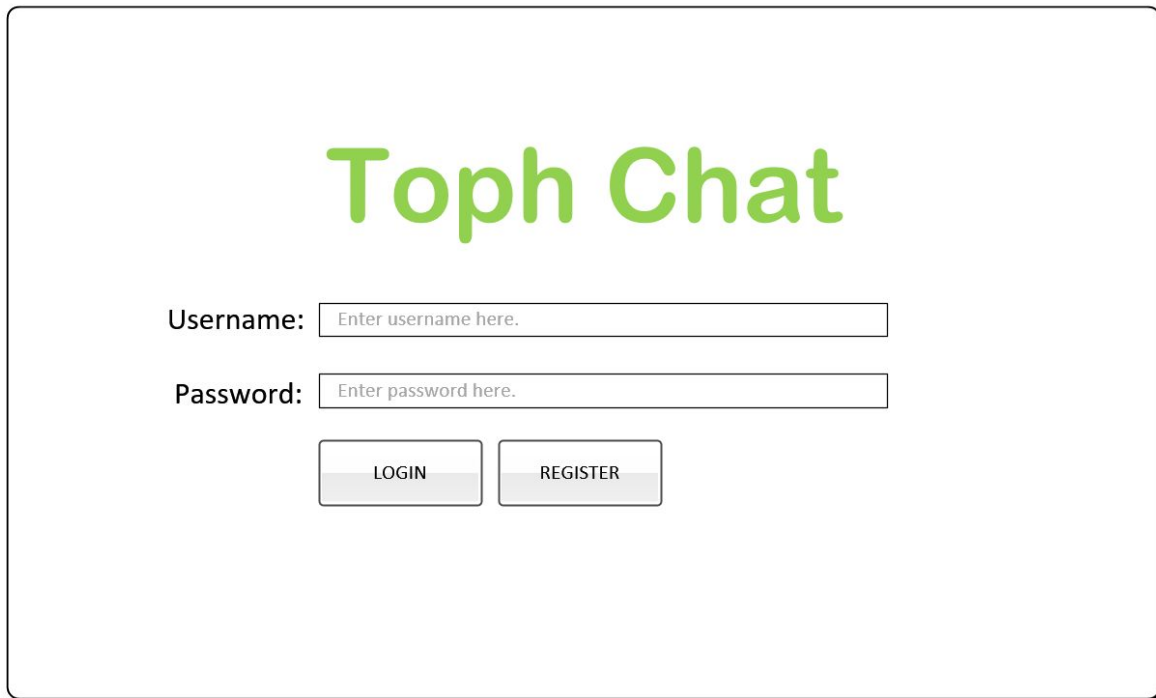
3. Program Functions and Features

3.1 Client and Server Communication

In order for the client-side program to run, the server must already be running. Likewise, the client must also be connecting to the same hostname and port as the server's in order for the two to interact. There will be one main server; however, multiple clients can connect to it. Every action the client makes is sent to the server for processing and depending on the action, the server sends certain returns. For example,

3.2 Registering Account and Logging In

When the program starts, the user will be prompted to enter their account information to log in. There will be a button to create a new account for the user to click on if he/she does not have an account.

The image shows a web form for 'Toph Chat'. At the top, the text 'Toph Chat' is displayed in a large, green, sans-serif font. Below this, there are two input fields. The first is labeled 'Username:' and contains the placeholder text 'Enter username here.'. The second is labeled 'Password:' and contains the placeholder text 'Enter password here.'. Below these fields are two buttons: 'LOGIN' on the left and 'REGISTER' on the right. Both buttons have a light gray background and a thin black border. The entire form is enclosed in a rounded rectangle with a black border.

The user will enter their desired username and password to create an account. If the username is already taken, the user will be prompted to enter again. After the account is successfully created, the user can use his/her account information to log in.

Back Matter

Error Messages

- "The user you are trying to message is offline."
 - "The message will be delivered when the user comes online."
- "Username or password is incorrect"
 - "Please try again."
- "Username already taken!"
 - "Please enter another username."
- "Server is currently unavailable"
 - "Please try again later. Sorry for any inconvenience"
- "Error sending message!"
 - "Please check your network connection."

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