



Open-source Chess and Instant Messaging Program
User Manual, Beta Release v2.0

Developed by 22-Move L: Aammarah Idris, Darlena
Nguyen, Kiefer Daniel, Kyle Mach, & Sofia Bernstein

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Department of Electrical Engineering and Computer Science
University of California, Irvine

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Glossary

account

A personal profile tied to a unique identifying username that remembers a user's game records and friends

guest

A user that does not have an account. Guest users are unable to add friends

friend

A user that, once added, can be directly invited to play a game or chat with

instant messaging

A type of chat that offers real-time text transmission over the internet

login

Authenticating oneself to the server with a username and password

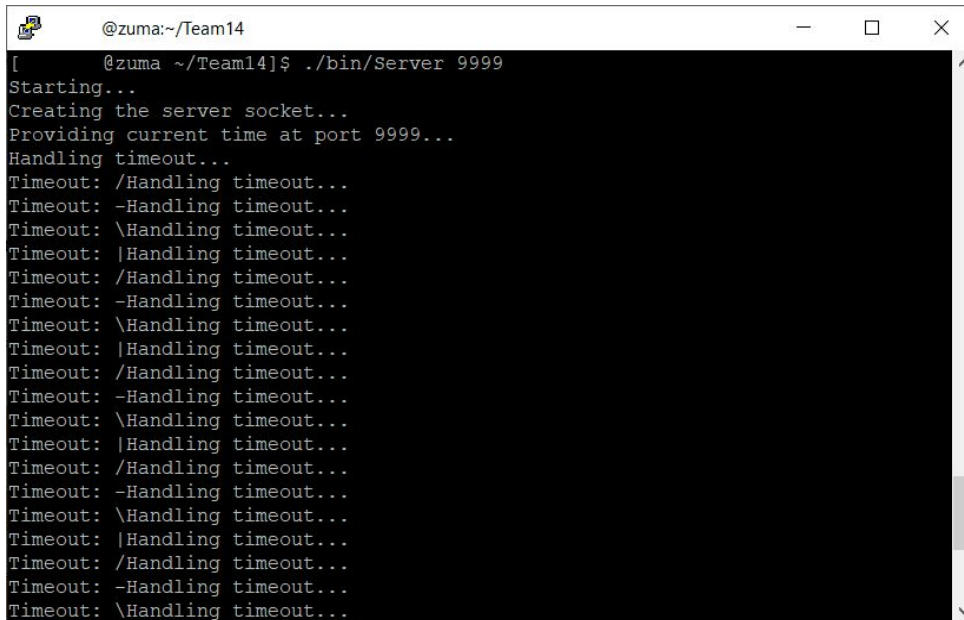
request

A solicitation from one user to another to be mutually added to each other's Friends lists

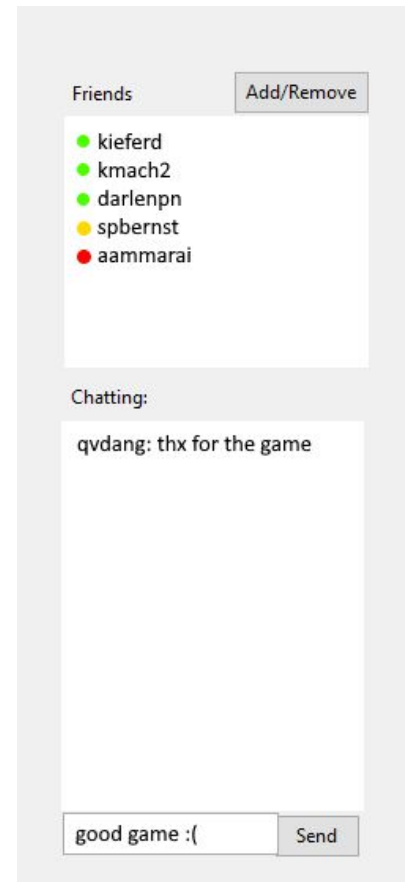
1. Instant Messaging

1.1 Usage Scenario

Server terminal (*below*); a client's friend list (*right*).



```
@zuma:~/Team14
[ @zuma ~/Team14]$ ./bin/Server 9999
Starting...
Creating the server socket...
Providing current time at port 9999...
Handling timeout...
Timeout: /Handling timeout...
Timeout: -Handling timeout...
Timeout: \Handling timeout...
Timeout: |Handling timeout...
Timeout: /Handling timeout...
Timeout: -Handling timeout...
Timeout: \Handling timeout...
Timeout: |Handling timeout...
Timeout: /Handling timeout...
Timeout: -Handling timeout...
Timeout: \Handling timeout...
Timeout: |Handling timeout...
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Timeout: /Handling timeout...
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Timeout: -Handling timeout...
Timeout: \Handling timeout...
```



1.2 Goals

Mephisto Soul is a client/server application that allows users to register an account and play chess games with online users in their friends list. Using their friends list, users can also send messages to their friends using a text chat interface.

1.3 Features

- Basic Features
 - Each client is able to create an account with the provider.
 - Each client is able to log in to the user app.
 - Each client can add, delete, and view a list of friends.
 - The client app is a graphical user interface.
 - The server listens to any requests from client app(s)
 - The server is able to manage the user account information and status.
 - The server responds to users' requests with necessary data.
 - The server checks a new user sign-up and accepts existing user log-in.

Otherwise, it rejects the login.

- Display Features
 - Users will initially be prompted with a login menu to play as guest, create an account, or log in if they are already registered.
 - Registered users can see their friends list and chat or send game requests
 - In game, users can still chat with their friends

2. Installation

2.1 System Requirements

- 5 MB free disk space, minimal hardware requirements
- Operating system: Access to a Linux server via Windows or macOS

2.2 Setup and Configuration

- Binary release:
 - Download 'Chat_Alpha.tar.gz' and Xming (Windows) or XQuartz (macOS)
 - Enable X11 forwarding on the terminal
 - Unpack with the command 'tar -xvzf Chat_Alpha.tar.gz'
 - Run the server executable with the command 'bin/Server <portno>'
 - Ex: bin/Server 14222
 - Port number must be greater than 2000
 - It is recommended to choose a port number between 14000 and 14999
 - Run the client executable with the command 'bin/Client <serveraddress> <portno>'
 - ex: bin/Client bondi.eecs.uci.edu 14222
 - Port number must be the same as used for server port number
- Source code release:
 - Download 'Chat_Alpha_src.tar.gz' and Xming (Windows) or XQuartz (macOS)
 - Enable X11 forwarding on the terminal
 - Unpack with the command 'tar -xvzf Chat_Alpha_src.tar.gz'
 - Make the executables with command 'make' or 'make all'
 - Run the server executable with the command 'bin/Server <portno>'
 - Ex: bin/Server 14222
 - Port number must be greater than 2000
 - It is recommended to choose a port number between 14000 and 14999
 - Run the client executable with the command 'bin/Client <serveraddress> <portno>'
 - ex: bin/Client bondi.eecs.uci.edu 14222

- Port number must be the same as used for server port number

2.3 Uninstalling

- Binary and source code release:
 - Delete the program and all related files.

3. Chat Program Functions and Features

3.1 Client and server communication

The server will keep track of online users and their friends list, allowing them to chat or send game requests. To add a user to friends, a client must send a request to the server by clicking an 'Add' button. The recipient may accept or reject the request. If they accept the friend request, the two users may send messages to each other, view each other's status (online/offline), and directly request games of chess.

3.2 Detailed description of logging in

To login, a user must first register an account. Once this has been done, the user is able to login by correctly entering their username and password on the Login Menu and selecting "Login". If the username and password match a registration stored on the server, the user has access to their friend's list, is able to add and remove friends, and is able to chat and request games with their friends.



3.3 Detailed description of chess game integration



The chess interface is click-to-move, meaning the user will click the piece to move and then the destination square to move. The program will check if the move is valid

and, if so, move the piece; otherwise, no move will be made and an error message will be displayed.

Once a piece is captured, it will be removed from the chess board and added to the captured pieces “graveyard”.

During the chess game, the user will be able to access in-game menu features such as ‘Get hint’ and ‘Undo move’, as well as view rules via the ‘Help’ button. The user will be able to chat with their opponent regardless of whether or not they are logged into an account or playing as a guest. If the user is logged into an account, they will be able to view their friends list, add and remove friends, and chat with multiple friends while they play.

4. Chess Program Functions and Features

4.1 Main Menus

Start Splash Menu



Login Menu

ClientMephisto

Mephisto Soul

Username: sofia

Password: ●●●●●●●●

Create account Play as guest Login

Create account : Selecting this option will open a window where the user can register a new account name and password

Play as guest : Users can play games without making an account. Guest users have no friend functionality within Mephisto Soul

Login : Registered users can enter their username and password to play under their account

Create New Account Window

ClientMephisto

Mephisto Soul

Passwords do not match. Please try again.

Username: sofia

Password: ●●●●●●

Confirm password: ●●●●●●

Create account Return

Create account : New users will be prompted to enter a unique username and password

Return : Returns the user back to Login window

Main Menu Window



Login: If the user is playing as a guest, selecting 'Login' opens up the Login menu.

Logout: If the user is logged into an account, selecting 'Logout' logs out the user out and returns to Main Menu as a guest

New Game: Users will be matched with a random online user

Load Game: Users can load a game from a log file or locally saved game file

Quit: Quits the program

Add/Remove Friend Window



Add: Adds the friend of the username from their friend's list

Remove: Removes the friend of the username from their friend's list

Game Request Window



Accept: Accepts the game request and is moved to the chess game

Reject: Rejects the game request and remains in the main menu

Friend Request Window



Accept: Accepts the friend request and is added to their friend's list

Reject: Rejects the friend request and remains in the main menu

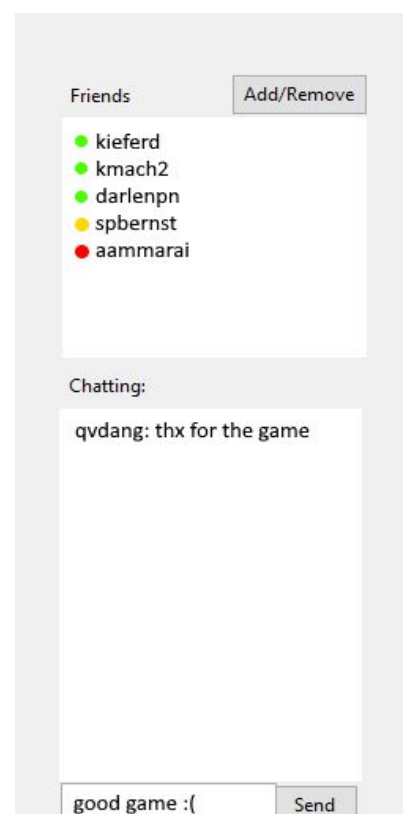
Game Result Window



Ok: Returned to the main menu window

4.2 Friends List

- Adding a friend
 - To add a friend, the user can directly add their friend's username into their friend's list or they can view other users online and add them by clicking an icon next to the user's name.
- Removing a friend
 - To remove a friend from their friend's list, the user can select 'Remove' from the 'Friends' section in the Main Menu Window or the In Game Window. A pop-up will appear and allow the user to remove friends.
- View friends
 - If the user is logged in to a registered account, their friends list will appear on the northeast corner of the Main Menu Window and In Game Window



4.3 Instant Messaging

- A user who is currently logged into an account can use Mephisto Soul's instant message feature by selecting a friend from their Friends List (displayed in northeast corner of Main Menu Window and In Game Window). Then, they will use the chat box at the southeast corner of these windows to type a message into the entry box and send the message to the selected friend by clicking on the 'Send' button. Received messages will appear in the textbox of the 'Chat' section, and a New Message icon will appear next to Friends' names once a new message is received to alert the user of the message.
- If a user is not logged in but is playing as a Guest, they will be unable to use the chat feature in the Main Menu Window. However, while playing a chess game, they will be able to chat directly with their opponent.

4.4 Chess Program



- Basic features:
 - The game follows the official rules of chess
 - The program shows a game interface where the players can see the game board and make moves
 - User colors are randomly chosen

- The program keeps a human readable log of all the moves (in a text file). The log file contains the most recently played game, and the user can permanently save their game to a text file to load from or review.
- Display features:
 - Highlighting last move: the most recent move will be highlighted for reference
 - Captured pieces: the captured pieces for both sides are shown
- Gameplay features:
 - Color: there is a display of color to show whether a white or black piece is being played; a highlighted square shows the most recent move.

Copyright Information

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Error Messages

Incorrect username or password. Please try again.

Username not found or password incorrect. Try again, or create an account.

Username taken. Please try a different username.

User is attempting to create an account with a username that already exists.

Invalid username. Please try a different username.

User is attempting to create an account with an invalid username.

Entered passwords don't match.

The password to make an account must be reentered.

Connection to server not found

Program failed to find or create a connection with the server.

User not found.

Username not found when attempting to add a friend.

No users online

There are no other users online to chat or play with.

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