



TheQueensChess ONLINE V2

Team Name: Queen's Gambit

Team 18

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Software Title: TheQueensChess ONLINE

Version: V2

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Glossary

Client Software - A specific application that can be used to communicate to another piece of software over a network

Chat Rooms - An area of the internet where computer network users can communicate

Extranet - An intranet that can be partially accessed by authorized users, allowing a secure exchange of information between businesses

Internet - A global computer network providing a variety of information and communication facilities comprised of interconnected networks

Intranet- A local area network, restricted communications network

Login - Process by which an individual gains access to a computer system by identifying and authenticating themselves

Network - A system to connect computers together in order to share information

Server - A computer program that manages accessibility within a centralized network

World Wide Web - System of interlinked hypertext documents accessed via the Internet

1. Installation

1.1 System Requirements

1. This application will be run off of the UCI EECS Servers, which is running CentOS version 6.10
2. The program requires 1M

1.2 Setup and Configuration

1. Unzip the tar file with the command “tar -xvzf Chess.tar.gz”
2. Run the makefile command “make”
3. Depending on who is running the server and the client, run either:

- a. `./bin/server <port>`
 - b. `./bin/client <server name> <port>`
4. The server name will be whatever server the “server runner” is connected to (EX: zuma, bondi, etc) and the port will be specified by the server.

1.3 Uninstalling

1. Delete the file that you unzipped from the tarball by changing directories out of it with:
 - a. `'cd ..'`
2. Remove the unzipped file with:
 - a. `'rm -r Chess'`
3. Remove the tarball with:
 - a. `'rm Chess.tar.gz'`

2. Chess - Client

2.1 Overview of Features

This program will act as a social networking app for our chess game. Therefore, there will be account management throughout the entire program. The most important part about this program is the ability for the user to have access/ability to modify their settings to have a better online chess experience.

2.2 Logging In/registering

For our main menu, the user will have an option to either log in or sign-up. The sign-up button will be in the menu where they have the option to log-in, create a new account, edit user settings and start the game.. For users that already have accounts we will simply ask for their username first, followed by their password. Once the users are logged in their data will be stored and they can now edit their settings in the main menu.

2.3 Getting Started

The players will be able to share a screen and see the moves the other players are making.

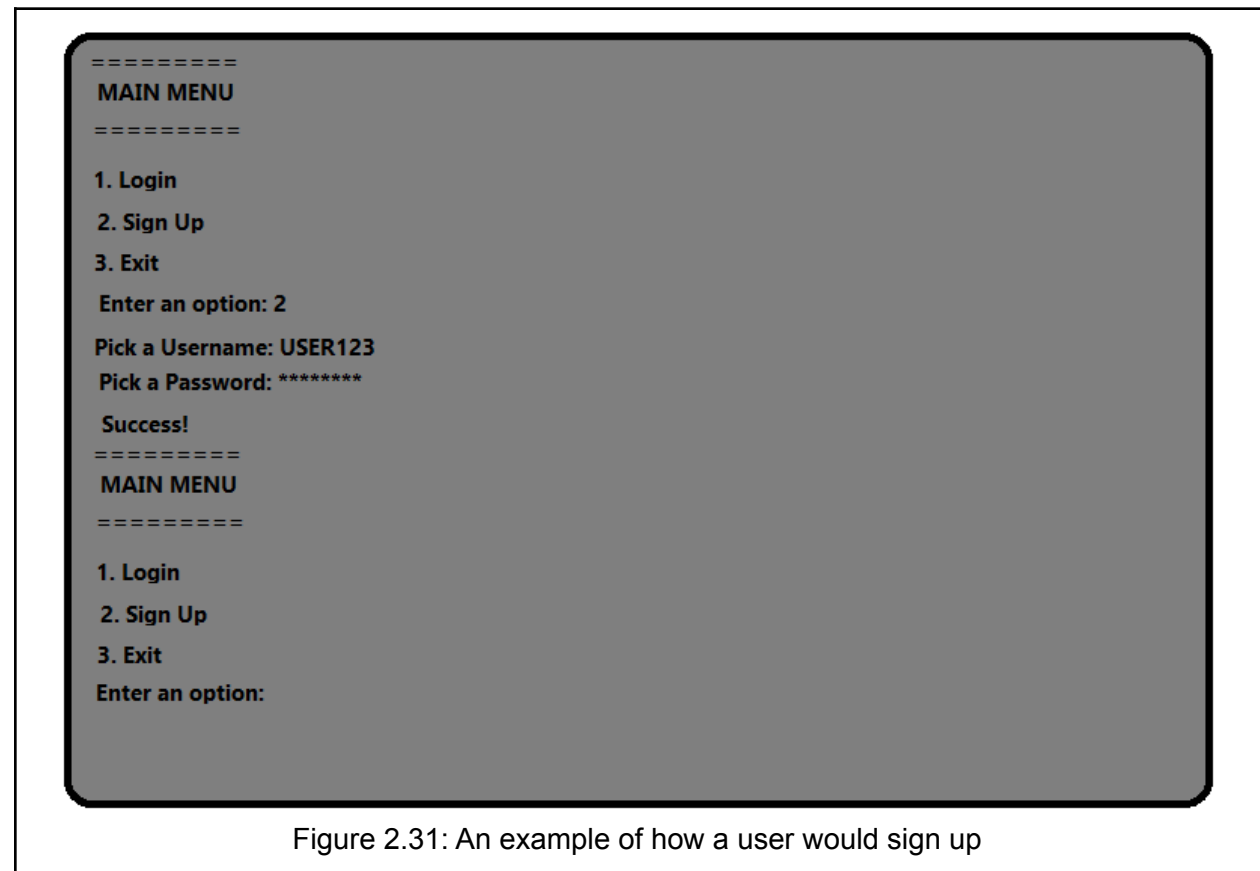


Figure 2.31: An example of how a user would sign up

```

a b c d e f g h
Player 1 please choose your piece to move: e5
Player 1 please choose your final move: f5

+---+---+---+---+---+---+---+
8 | bR | bN |   | bQ |   |   | bR |
+---+---+---+---+---+---+---+
7 | bP |   |   |   |   | bP | bK |
+---+---+---+---+---+---+---+
6 | bB |   | bP |   |   | bP |   |
+---+---+---+---+---+---+---+
5 |   |   |   |   |   | wQ |   |
+---+---+---+---+---+---+---+
4 |   |   |   |   | wP |   | wN |
+---+---+---+---+---+---+---+
3 |   | bP |   |   |   |   | wB |
+---+---+---+---+---+---+---+
2 | wP | wP | wP |   |   | wK | wP |
+---+---+---+---+---+---+---+
1 | wR | wN | wB |   |   |   |   |
+---+---+---+---+---+---+---+
a b c d e f g h
Player 2 please choose your piece to move: c6
Player 2 please choose your final move: c5

+---+---+---+---+---+---+---+
8 | bR | bN |   | bQ |   |   | bR |
+---+---+---+---+---+---+---+
7 | bP |   |   |   |   | bP | bK |
+---+---+---+---+---+---+---+
6 | bB |   |   |   |   | bP |   |
+---+---+---+---+---+---+---+
5 |   |   | bP |   |   | wQ |   |
+---+---+---+---+---+---+---+
4 |   |   |   |   | wP |   | wN |
+---+---+---+---+---+---+---+
3 |   | bP |   |   |   |   | wB |
+---+---+---+---+---+---+---+
2 | wP | wP | wP |   |   | wK | wP |
+---+---+---+---+---+---+---+
1 | wR | wN | wB |   |   |   |   |
+---+---+---+---+---+---+---+
a b c d e f g h
Player 1 please choose your piece to move: a2

```

Figure 2.32: Screenshot of what a typical game should look like on either side of the client

2.4 Usage Scenario

In the main menu, the users are able to login to their accounts or sign up for new accounts. Then, the users can change the settings and start the game from the menu. During the game, the users will see the board and the pieces on the board. They can decide their move by inputting the initial and final positions, and see their opponents' move.

3. Chess - Server

3.1 Overview of Features

This program will act as the host for the chess game. From here we will be waiting for a connection from the client executable. Once a client is connected and logged into our chess

game, the server will see the main menu and be able to start a game versus the client connected.

3.2 Usage Scenario - Server

We plan to have a unique username to distinguish between clients and identify them. We plan to store the usernames in a simple database. The client will enter in their username and password, and if both are valid the user can log in. If the user does not have an account, they can create an account.

3.3 Chess Integration

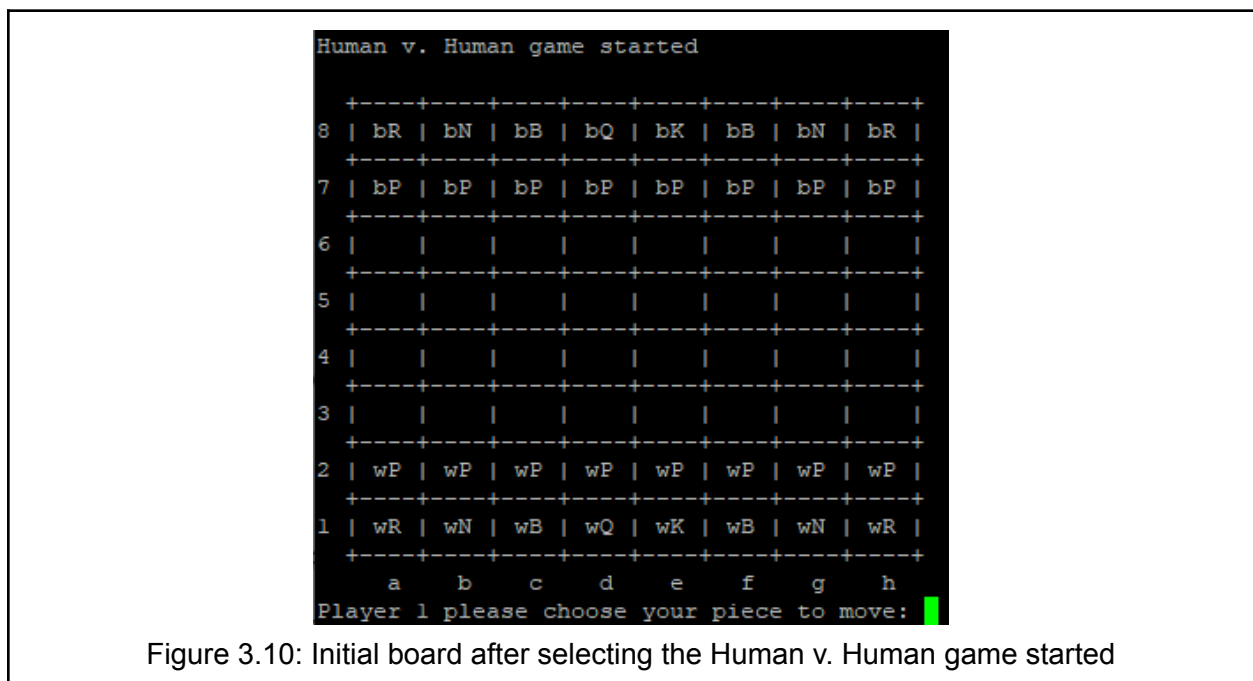


Figure 3.10: Initial board after selecting the Human v. Human game started

```

Player 2 please choose your piece to move: e7
Player 2 please choose your final move: e5

+---+---+---+---+---+---+---+---+
8 | bR | bN | bB | bQ | bK | bB | bN | bR |
+---+---+---+---+---+---+---+---+
7 | bP | bP | bP | bP |   | bP | bP | bP |
+---+---+---+---+---+---+---+---+
6 |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+
5 |   |   |   |   | bP |   |   |   |
+---+---+---+---+---+---+---+---+
4 |   |   |   | wP |   |   |   |   |
+---+---+---+---+---+---+---+---+
3 |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+
2 | wP | wP | wP |   | wP | wP | wP | wP |
+---+---+---+---+---+---+---+---+
1 | wR | wN | wB | wQ | wK | wB | wN | wR |
+---+---+---+---+---+---+---+---+
  a   b   c   d   e   f   g   h
Player 1 please choose your piece to move: 

```

Figure 3.11: Player moves will exchange continually until there is a winner

```

[Player 1 please choose your piece to move: h5
[Player 1 please choose your final move: f7

+---+---+---+---+---+---+---+---+
8 | bR |   | bB | bQ | bK | bB |   | bR |
+---+---+---+---+---+---+---+---+
7 | bP | bP | bP | bP |   | wQ | bP | bP |
+---+---+---+---+---+---+---+---+
6 |   |   | bN |   |   | bN |   |   |
+---+---+---+---+---+---+---+---+
5 |   |   |   |   | bP |   |   |   |
+---+---+---+---+---+---+---+---+
4 |   |   | wB |   | wP |   |   |   |
+---+---+---+---+---+---+---+---+
3 |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+
2 | wP | wP | wP | wP |   | wP | wP | wP |
+---+---+---+---+---+---+---+---+
1 | wR | wN | wB |   | wK |   | wN | wR |
+---+---+---+---+---+---+---+---+
  a   b   c   d   e   f   g   h
PLAYER 1 HAS WON, THANKS FOR PLAYING!

```

Figure 3.12: Player 1 Wins the game as the black King is in checkmate

4. Back Matter

4.1 Copyright

The entire chess program is Copyright © 2021 Queen's Gambit. All Rights Reserved.
The codes and files may not be copied or duplicated in whole or part by any means without
permissions from Queen's Gambit.

4.2 Error Messages

```
+---+---+---+---+---+---+---+---+
8 | bR | bN | bB | bQ | bK | bB | bN | bR |
+---+---+---+---+---+---+---+---+
7 | bP | bP | bP | bP |   | bP | bP | bP |
+---+---+---+---+---+---+---+---+
6 |   |   |   |   | bP |   |   |   |
+---+---+---+---+---+---+---+---+
5 |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+
4 |   |   |   |   |   |   |   |   |
+---+---+---+---+---+---+---+---+
3 |   |   |   | wP |   |   |   |   |
+---+---+---+---+---+---+---+---+
2 | wP | wP | wP |   | wP | wP | wP | wP |
+---+---+---+---+---+---+---+---+
1 | wR | wN | wB | wQ | wK | wB | wN | wR |
+---+---+---+---+---+---+---+---+
  a   b   c   d   e   f   g   h
[Player 1 please choose your piece to move: f7
[Player 1 please choose your final move: f6
That's not your piece! Please choose your own piece to move.
Player 1 please choose your piece to move: █
```

ERROR CODE 1: That's not your piece! Please choose your own piece to move.
When this error occurs, please retry a move that moves your own piece and not the opposing
sides.

```
+-----+-----+-----+-----+-----+-----+-----+-----+
5 |      |      |      |      |      |      |      |      |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 |      |      |      |      |      |      |      |      |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 |      |      |      | wP |      |      |      |      |
+-----+-----+-----+-----+-----+-----+-----+-----+
2 | wP | wP | wP |      | wP | wP | wP | wP |
+-----+-----+-----+-----+-----+-----+-----+-----+
1 | wR | wN | wB | wQ | wK | wB | wN | wR |
+-----+-----+-----+-----+-----+-----+-----+-----+
  a   b   c   d   e   f   g   h
Player 1 please choose your piece to move: f7
Player 1 please choose your final move: f6
That's not your piece! Please choose your own piece to move.
Player 1 please choose your piece to move: e1
Player 1 please choose your final move: c3
Invalid Move! Please try again.
Player 1 please choose your piece to move: █
```

ERROR CODE 2: Invalid Move! Please try again.
When this error occurs, you have made an invalid move.

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