**How-to Play Rock, Paper, Scissors**

In the following sections, we'll walk you through how to start a server, how to connect to a server, how to create a game, and finally how to join and play a game.

Starting a Server:

Prior to starting the server, you need to make sure that Java JDK, JRE, and Python 3 are installed and able to run on your machine.

To start the server, simply run python file on the machine that you would like the server to run on. The server will then be open to communications on port 5000.

Since the current version of the client is hardcoded to attach to a specific server, you will need to change the connection IP to your server's IP address to allow the client to connect to your server.

Starting a Client:

To start a connection with the server, run Client.java and the client will ask you to register with a username. If the username is already taken, they will be asked to change their registered username.

If the username is found to be unique, you will then be registered within the server.

After Successful Registration:

After successfully registering with the server, you will be able to freely talk to all users in the server's chat channel, privately message other users, create a game for others to join,

list available users for a game, challenge other users to a game of RPS, check the leaderboard, and unregister. Below are the respective text commands.

'/all (msg)'

'/msg (username to msg) (msg)'

'/creategame'

'/listgames'

'/join (username to join)'

'/leaderboard'

'/unregister'

Creating a game

Users will be able to create a game by using the function '/creategame', opening their messages to challenges.

Joining a game

In order to join a game, you must challenge an available player. Available games are found using '/listgames'. Keep in mind, the challenged player has the right to reject your challenge / join.

Playing the game

Player1 will first be prompted to type "r" for rock, "p" for paper, and "s" for scissors. Then, Player2 will be prompted the same. Results will be displayed after.

Exit game

Players in a game may use command '/q' to forfeit and exit the game

Other commands

'y' while being challenged will accept the challenge

'n' while being challenged will decline

'/q' while in a game to leave and forfeit the match

UI Implementation

TO BE COMPLETED

**Rock Paper Scissors Network Protocol**

The following strings are the expected commands that either the client and/or the server is expecting. They are grouped by which functions are used first.

## 1. Register Messages

These are the messages that are used during the registration process.

### Client Messages

These are messages that the client sends to the server.

#### Register Username

To allow the user to pick a personalized username, the server first sends a

message to the client asking to register a unique username. The client responds

with their desired username.

If the username is taken by another user, the server will prompt the client to

submit another username until a unique username has been entered and stored.

If the username is successful the server will notify the client by saying

"That's a great username (desired username)!"

Personal Rubric

| **Criteria** | **Possible points** | **Desired Points** | **Reasoning** |
| --- | --- | --- | --- |
| working application-level game | 5.0 pts | 5.0 pts | Our game is a working application-level game |
| required network architecture | 5.0 pts | 5.0 pts | Our game is a client-server network architecture |
| no crash in play | 5.0 pts | 5.0 pts | There was no crash in play even when testing multiple test cases |
| required feature - register | 5.0 pts | 5.0 pts | Unique ID registration is prompted at the start of client execution |
| required feature - list games | 5.0 pts | 5.0 pts | /games function will list available games (players open to a game) |
| required feature - create game | 5.0 pts | 5.0 pts | /creategame opens the current player’s lobby to other players to join |
| required feature - join game | 5.0 pts | 5.0 pts | /join <username> allows a client to join the specified username’s game if they have already created a game |
| required feature - exit game | 5.0 pts | 5.0 pts | /q allows for players to forfeit and quit their current game. Test cases included different inputs in combination with /q. Both players may quit to result in a tie. |
| Required feature - unregister | 5.0 pts | 5.0 pts | /unregister will remove the player from the registered players list |
| required feature - application specific protocol | 20.0 pts | 17.0 pts |  |
| bonus feature - chat | 5.0 pts | 5.0 pts | Our chat has 2 functions, private messaging to a registered user and a message to all |
| bonus feature - scoreboard | 5.0 pts | 5.0 pts | /leaderboard will pull up all registered players and their wins in descending order of wins |
| bonus feature - game video | 5.0 pts | 0 pts | Not implemented |
| documentation | 10.0 pts | 10.0 pts | Our how to play provides a step by step and protocol is TBD |
| Best Game Bonus | 10.0 pts | 2 pts | We believe we got top 3 or higher compared to other groups due to completion, GUI, and lack of errors or crashes. |

Total Points: