

# Royal Flush

## User Manual



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# Glossary of Poker Terms

## General Game Terms

**Call** - To contribute the minimum amount of points to the pot necessary to continue playing a hand.

**Raise** - To wager more than the minimum required to call, forcing other players to put in more points as well.

**Fold** - To give up by placing your cards face down on the table, losing whatever you have bet so far. You only fold when you think your hand is too weak to compete against the other players.

**Showdown** - When, after the final round of betting, players turn their hands face-up. A poker hand will only reach a showdown if there are callers in the last round of betting, or if someone is all-in prior to the last betting round. The aim of the game is to make the best hand at showdown.

**Hand** - Five cards, made of a player's pocket cards and the community cards.

## Hand Ranking

1. **Royal Flush** - The best possible hand in Texas hold'em is the combination of ten, jack, queen, king, ace, all of the same suit.
2. **Straight Flush** - Five cards of the same suit in sequential order.
3. **Four of a Kind** - Any four numerically matching cards.
4. **Full House** - Combination of three of a kind and a pair in the same hand.
5. **Flush** - Five cards of the same suit, in any order.
6. **Straight** - Five cards of any suit, in sequential order.
7. **Three of a Kind** - Any three numerically matching cards.
8. **Two Pair** - Two different pairs in the same hand.
9. **Pair** - Any two numerically matching cards.
10. **High Card** - The highest ranked card in your hand with an ace being the highest and two being the lowest.

# Online Poker

## Usage Scenario

Example of Usage:

- One would play this game when he or she cannot meet others in person to play a game of poker.
- Wanting to practice a game of poker to learn about the rules would cause one to play this game as well.
- Sketch of a typical screenshot

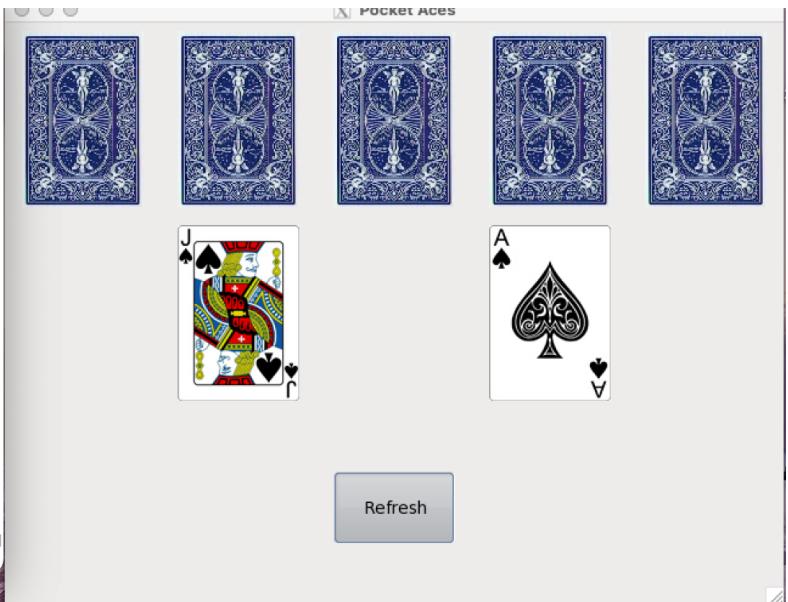
```
Number of players: 1
Number of players not folded: 2
The pot is currently: 0 points
The minimum bet is currently: 1 points
Your total bet right now is: 0 points
You currently have: 20 points
```

```
=====
assets/images/jack_of_spades.jpg
assets/images/ace_of_spades.jpg
===== Game/User Info =====
```

```
Your player id: 0
Number of players: 1
Number of players not folded: 2
The pot is currently: 0 points
The minimum bet is currently: 1 points
Your total bet right now is: 0 points
You currently have: 20 points
```

```
=====
assets/images/jack_of_spades.jpg
assets/images/ace_of_spades.jpg
You have 20 points. The minimum bet is 1 points.
What would you like to do?
1 - Call
2 - Raise
3 - Fold
```

```
[Enter your input here: 1]
```



## Goals

- The eventual goal of this project is to have a functioning game of poker where two or more people can play against one another online.
- We will have a points system that resembles each player's currency but it will not have any monetary value.
- Our poker game should be able to start and end the game without any segmentation faults.
- At the end of each game, our game will be able to calculate who the winner is.
- We will implement the GUI into our game so the game resembles somewhat of a real-life poker game.
- Our user manual will thoroughly explain how the game functions and detail each of our functions to a reader.

## **Features**

- Points system that resembles an in-game currency
  - Will display the points of every player
- Random player will be chosen to be a dealer
- Options to raise, call, or fold
- A visible table that shows all the cards and players
  - Only the user's hand will be displayed face up to the user.
  - Hands of opponents will be displayed face down to the user.

# Installation

## System Requirements

- Linux OS running gcc version 1.7.1 or newer
- 100mb of disk space
- 100kb of free RAM
- Stable internet connection

## Setup and Installation

To set up the Royal Flush program, type ‘tar -xvzf Poker V1.0.tar.gz’. Launch the ‘pkaces\_client’ and the ‘pkaces\_server’ executable files in order to launch the game. Run ‘pkaces\_client’ from the command line with the arguments <hostname> and <hostport> (ex. <crystalcove.eecs.uci.edu> for the hostname and <10190> for the hostport).

Example execution:

```
./bin/pkaces_server  
./bin/pkaces_client crystalcove.eecs.uci.edu 10190
```

Further explanation:

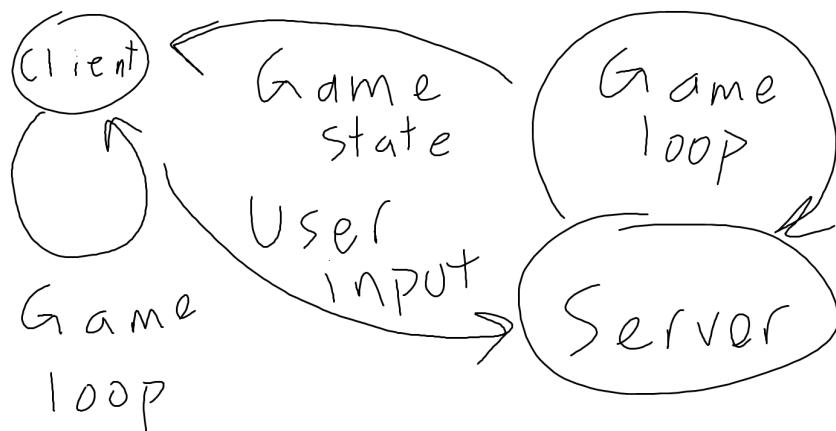
The server executable will print out what port is currently open once it is run. The port printed is what the user will enter in the port argument when running the program from the command line. The port is different for every user.

# Program Functions and Features

## Client and Server Communication

The server will be in charge of handling all of the packets from the users, calculating how the game should respond, and then sending out updates to every user. There is a game loop for the user application so that the server will only be sent packets at the appropriate time.

Sample Client/Server Communication Illustration:



## Dealer Choice and Card Distribution

The deck will be generated and then randomized at the beginning of every in-game 'round'. The cards will be handed out to users sequentially based on position. The dealer will just be a random player initially and will become an option for the users to select at some point in the future. The state of the game will be broadcasted to each of the players once everyone's input has been sent to the server.

## Poker Game Integration

Once players have joined the lobby and the game has started, cards will be dealt, each player will be prompted for an action in a certain order, and then the server will calculate the next game state and send it out to all of the players, this will continue until the game ends. The clients each must click the refresh button to get new data from the server.

```
===== Game/User Info =====  
Your player id: 1  
Number of players: 2  
Number of players not folded: 2  
The pot is currently: 0 points  
The minimum bet is currently: 1 points  
You are the Dealer so you do not bet!  
  
===== assets/images/back.jpg =====  
assets/images/back.jpg  
assets/images/back.jpg  
===== Game/User Info =====  
Your player id: 1  
Number of players: 2  
Number of players not folded: 2  
The pot is currently: 1 points  
The minimum bet is currently: 1 points  
You are the Dealer so you do not bet!  
  
===== assets/images/back.jpg =====  
assets/images/back.jpg  
assets/images/back.jpg
```



# **License and Disclaimers**

**NOTICE:** The code used in this program, as well as other programs from the Royal Flush Team, is not meant for public commercial use. This work is licensed under a CC-BY-NC license. Any use of this code for the monetary benefit of others will be severely punished.

**\*Presented images may not represent the actual program\***

# Error Messages

**“Error, no such host”** - The host address given on the client does not exist.

**“Error connecting”** - The host is not accepting connections on the port specified.

**“Error reading from socket”** - The socket cannot be read from, most likely a disconnect from the server side.

**“Error writing to socket”** - The socket cannot be written to, most likely a disconnect from the server side.

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