

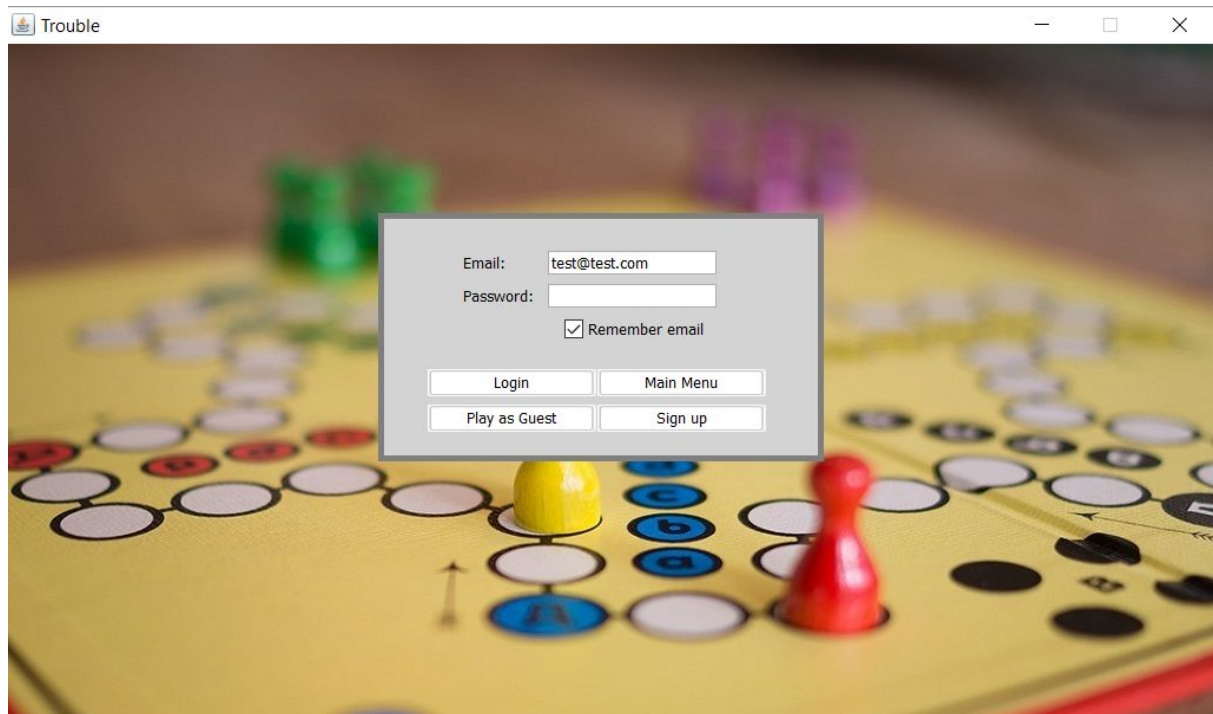
# Trouble Game User Guide

## In-Game Controls:

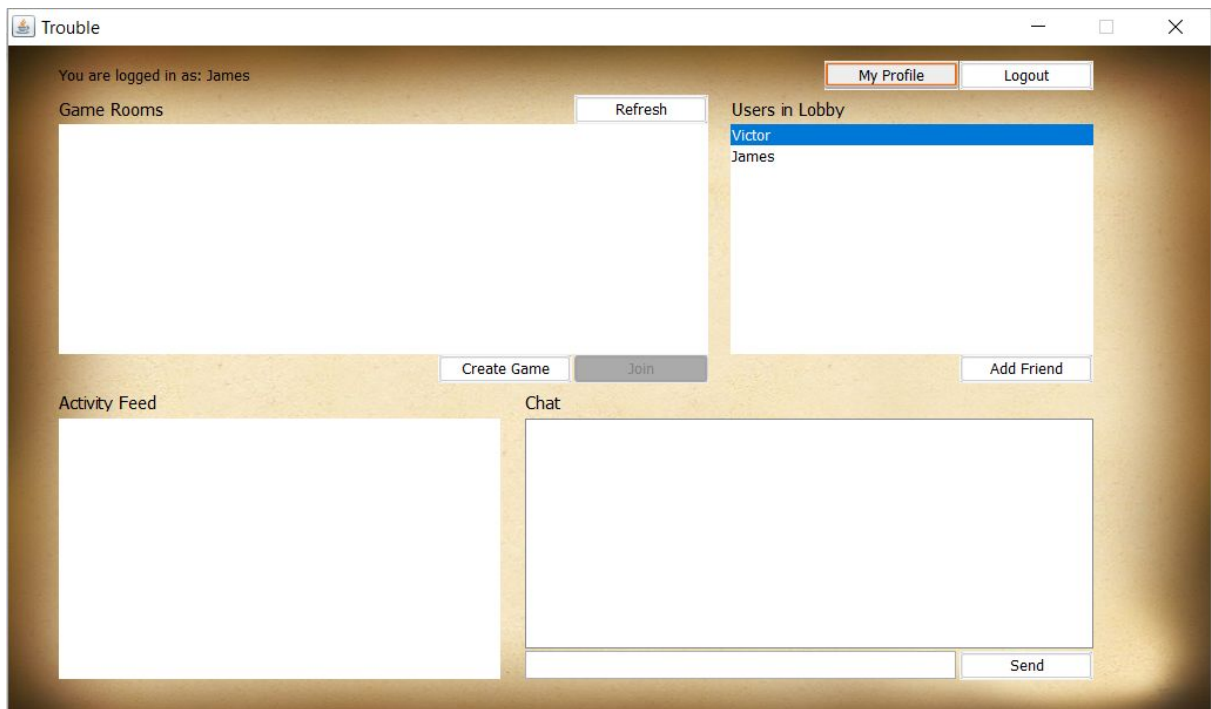
- Left Mouse Click on:
  - Tokens to select them
  - Centre die to roll it
- Keyboard:
  - Type in the chat to communicate with other players
  - Escape Key/'P' key: Show Pause Menu

To play, you have 3 options. Either

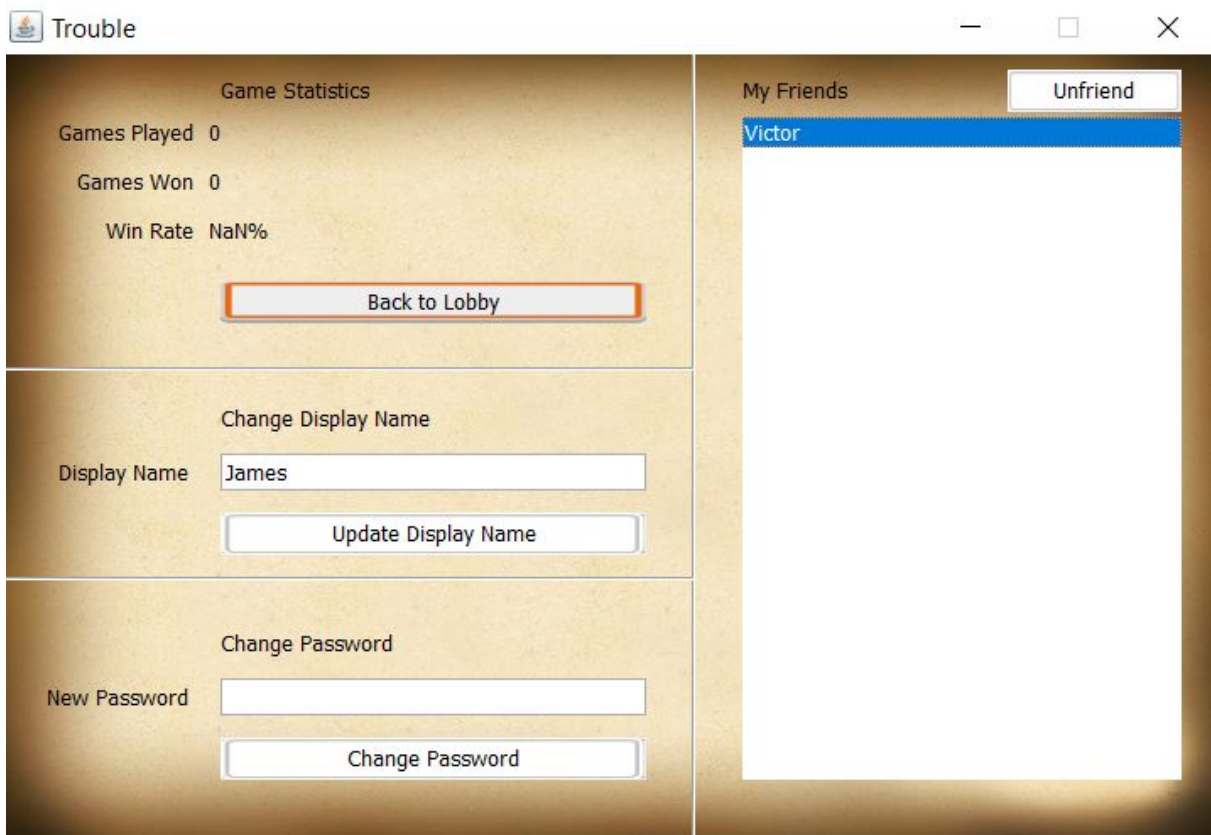
- Register new account
- Sign in to an existing account
- Play as a guest



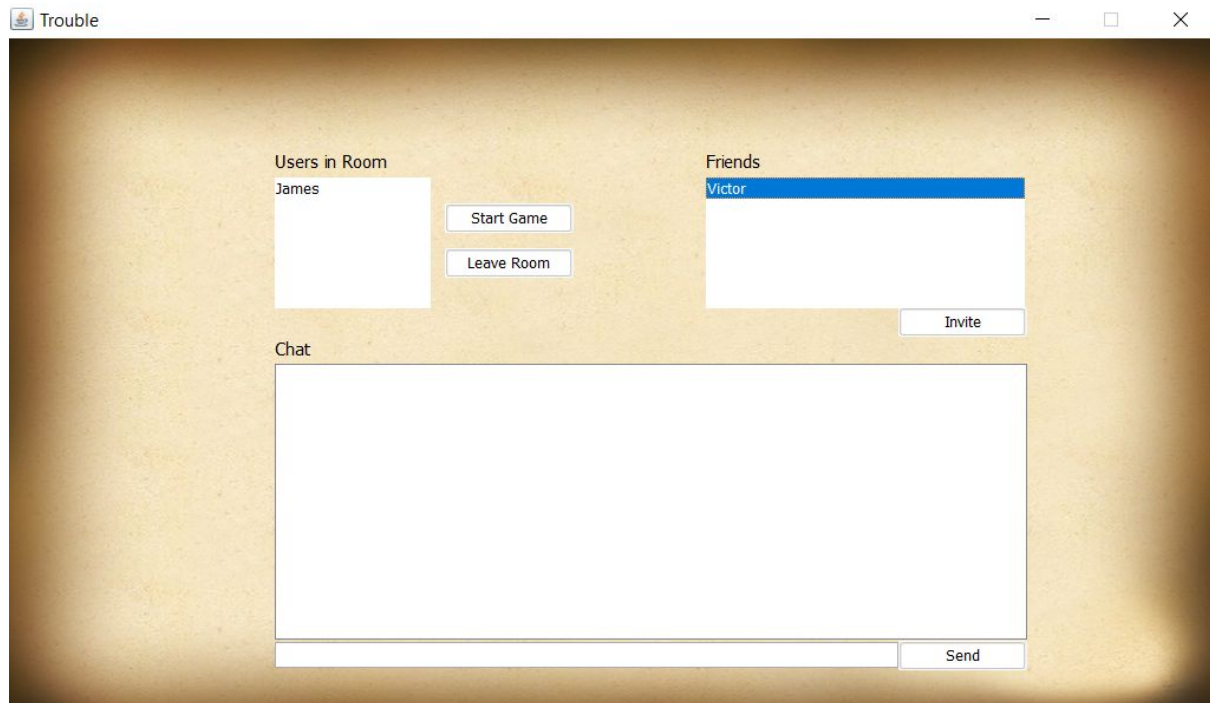
After logging in, you will be at the game lobby where users wait for games. Clicking on "Create Game" makes you the host of a game! Only lobby owners will be able to start that game. You can also click on other users in lobby and the option to add them as a friend would appear.



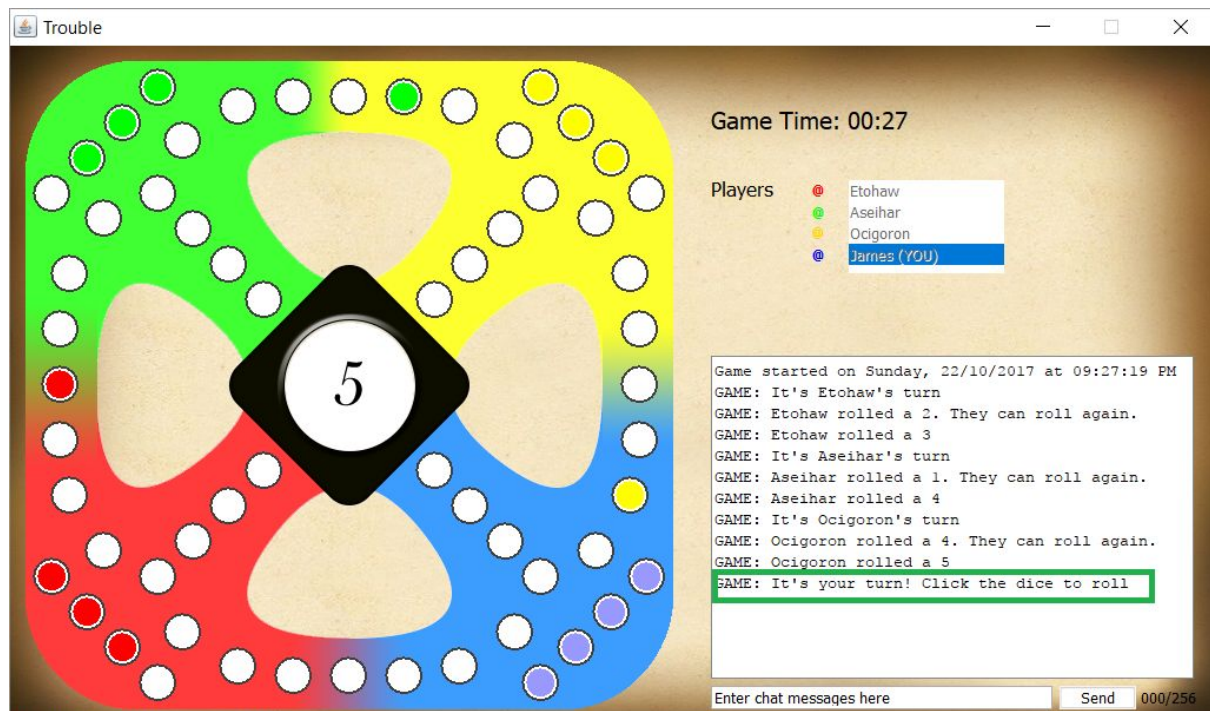
Going to my Profile allows you to view your game statistics, change display name and password, as well as manage your friend list. Click on Unfriend to remove a user from your friend list.



In the game room, you can invite your friends to join for a game. Friends will only be invite if they are online. Only the host may start the game.

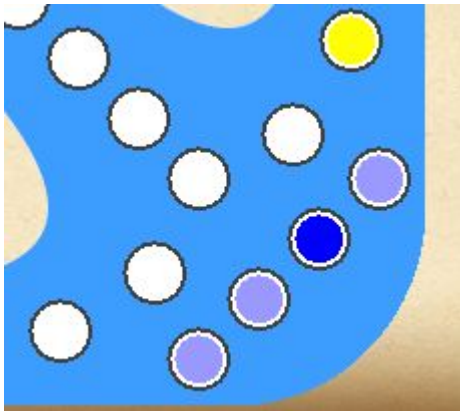


Starting a game with less than 4 players will automatically set all remaining colors to be computer players. The current player's turn will always be highlighted, in addition to the game prompt messages in the chatbox.



**Before** clicking on the centre die to roll, you have to select a token to move. Tokens that can be selected will be in a lighter colour and tokens selected will be darkened.





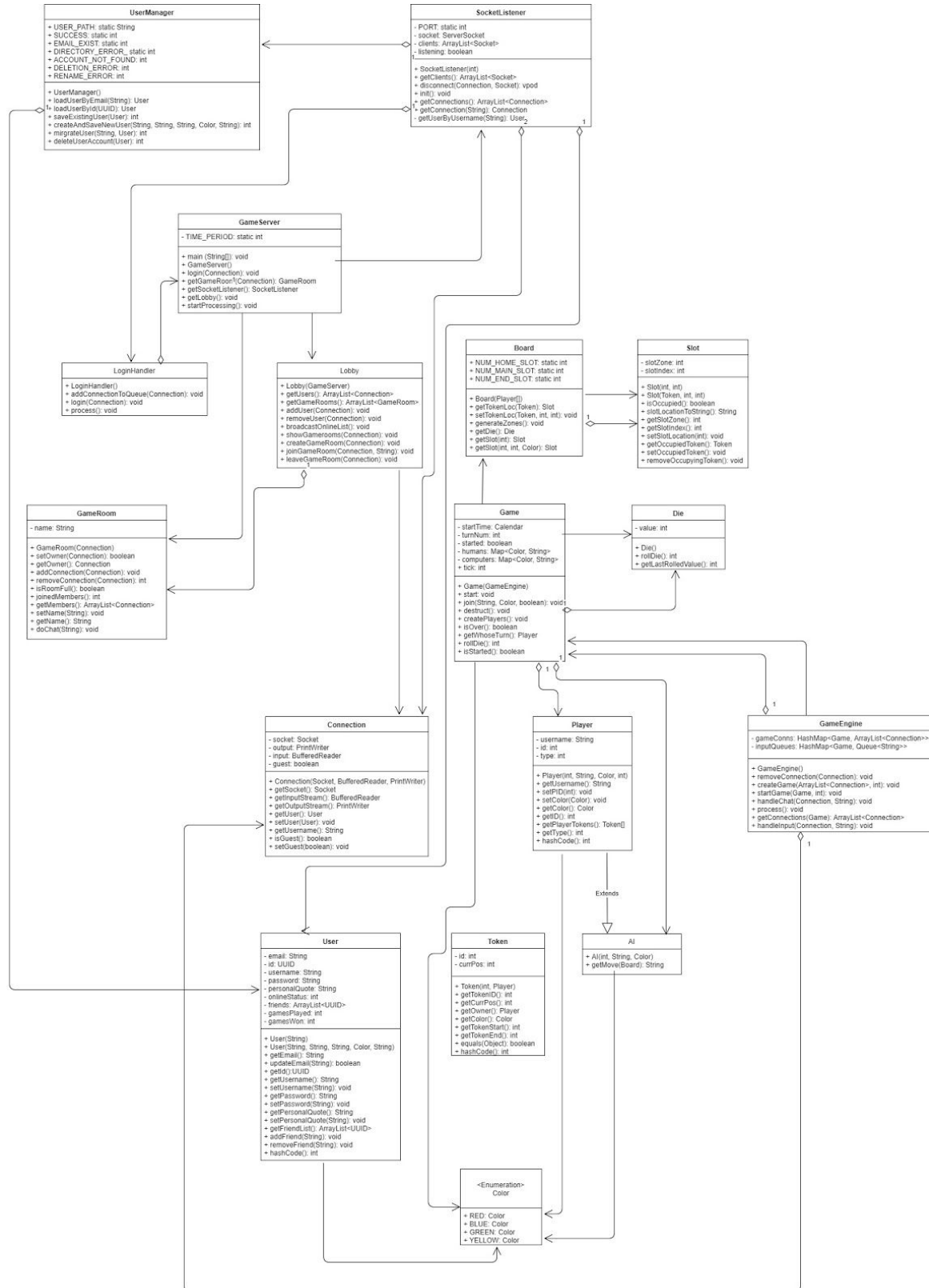
The goal of the game is to get your tokens from your home zone (marked in yellow circle), to the end zones located in the area marked by the red circle. Each player has their own home and end zone as marked by their colour.

However, on the way to your end zone, if your token is landed on by another player's, it will be sent back to your home zone!

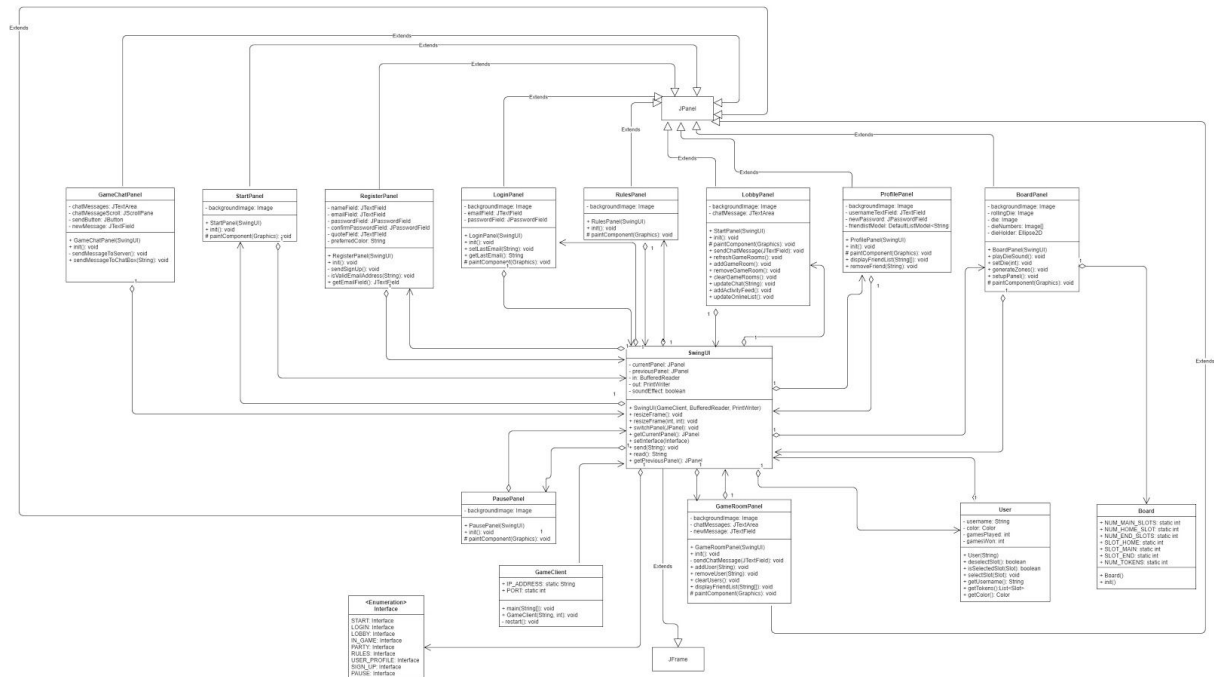


# Program design

## Server Architecture



## Client Architecture



## Server-Client communication protocol

```
// Lobby
```

```
public static final String LOBBY_CHAT = "[LOBBY_CHAT]";
public static final String LOBBY_ONLINE_LIST = "[LOBBY_ONLINE_LIST]";
public static final String LOBBY_ACTIVITY_FEED = "[LOBBY_ACTIVITY_FEED]";
```

```
//friends
```

```
public static final String FRIEND_ADD_ATTEMPT = "[FRIEND_ADD_ATTEMPT]";
public static final String FRIEND_ADD_FAIL = "[FRIEND_ADD_FAIL]";
public static final String FRIEND_ADD_SUCCESS = "[FRIEND_ADD_SUCCESS]";
public static final String FRIENDS_ALREADY = "[FRIENDS_ALREADY]";
public static final String FRIEND_INVITE = "[FRIEND_INVITE]";
public static final String UNFRIEND = "[UNFRIEND]";
public static final String UNFRIEND_SUCCESS = "[UNFRIEND_SUCCESS]";
public static final String UNFRIEND_FAIL = "[UNFRIEND_FAIL]";
public static final String FRIENDS_GET_LIST = "[FRIENDS_GET_LIST]";
```

```
// Login constants
```

```
public static final String LOGIN_REQUEST = "[LOGIN]";
public static final String LOGIN_SUCCESS = "[LOGIN SUCCESS]";
```

```

public static final String LOGIN_ERROR = "[LOGIN_ERROR]";
public static final String LOGIN_GUEST = "[LOGIN_GUEST]";

// Logout constants
public static final String LOGOUT_REQUEST = "[LOGOUT]";
public static final String LOGOUT_SUCCESS = "[LOGOUT_SUCCESS]";
public static final String LOGOUT_ERROR = "[LOGOUT_ERROR]";

// Game room constants
public static final String GAME_ROOM_OPEN = "[GAME_ROOM_OPEN]";
public static final String GAME_ROOM_QUERY = "[GAME_ROOM_QUERY]";
public static final String GAME_ROOM_NEW = "[GAME_ROOM_NEW]";
public static final String GAME_ROOM_CHAT = "[GAME_ROOM_CHAT]";
public static final String GAME_ROOM_INFO = "[GAME_ROOM_INFO]";
public static final String GAME_ROOM_JOIN = "[GAME_ROOM_JOIN]";
public static final String GAME_ROOM_LEAVE = "[GAME_ROOM_LEAVE]";
public static final String GAME_ROOM_CLOSE = "[GAME_ROOM_CLOSE]";
public static final String GAME_ROOM_MEMBER = "[GAME_ROOM_MEMBER]";

// Game constants
public static final String GAME_INFO = "[GAME_INFO]";
public static final String GAME_ROLL = "[GAME_ROLL]";
public static final String GAME_START = "[GAME_START]";
public static final String GAME_START_FAIL = "[GAME_START_FAIL]";
public static final String GAME_TURN = "[GAME_TURN]";
public static final String GAME_COLORS = "[GAME_COLORS]";
public static final String GAME_SETUP = "[GAME_SETUP]";
public static final String GAME_ROLL_SUCCESS = "[GAME_ROLL_SUCCESS]";
public static final String GAME_ROLL_AGAIN = "[GAME_ROLL_AGAIN]";
public static final String GAME_ROLL_FAIL = "[GAME_ROLL_FAIL]";
public static final String GAME_EAT_TOKEN = "[GAME_EAT_TOKEN]";
public static final String GAME_CHAT = "[GAME_CHAT]";
public static final String GAME_OVER = "[GAME_OVER]";

// user profile
public static final String UPDATE_DISPLAYNAME = "[UPDATE_DISPLAYNAME]";
public static final String UPDATE_FAIL = "[UPDATE_FAIL]";
public static final String UPDATE_SUCCESS = "[UPDATE_SUCCESS]";
public static final String GET_STATISTICS = "[GET_STATISTICS]";
public static final String CHANGE_PASSWORD = "[CHANGE_PASSWORD]";
public static final String CHANGE_SUCCESS = "[CHANGE_SUCCESS]";

// Registration constants
public static final String REGISTER_REQUEST = "[REGISTER_REQUEST]";
public static final String REGISTER_ERROR = "[REGISTER_ERROR]";
public static final String REGISTER_SUCCESS = "[REGISTER_SUCCESS]";

```