

# Cards Against Society

## Milestone 2

SW Engineering CSC648/848 Fall 2019

Section 4

Team 203

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Milestone 2	Version 1	10/24/19
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Milestone 1	Version 1	10/3/19

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## **1. Data Definitions V2**

**Unregistered User :** A user who does not have an account or is not currently logged in. They are limited to only view on-going Game Rooms and the public chat on the application.

**Registered User :** A user who has an account and is currently logged in. These users have full access to all the functions the application will have. They can participate in public or private games, add friends, chat in public chat, view their “My Games” page, and host games.

**Host :** A user who creates and has control of a game room. The host initializes a room based on their choice of points to win, public or private match (whether the room will be listed as “open” on the lobby screen”, and the amount of players that may join the room. The host will also have access to and ability to change the current game’s setting: points to win, room size limit, private or public, and remove players from the room.

**Lobby :** The homepage for all registered users. The Lobby page will display all “Open” listed Game Rooms, along with the amount of current players in the room, points needed to win, and Game Room name. Next to the Game Room list, a Public Chat will be displayed and show all on going communication from other users on the Lobby screen. The Lobby will also display online friends on a separate tab of the Public Chat.

**Game Room :** A Game Room is a room created by a Registered User that becomes the Host of the current Game Room. The Game Room exists as a play space environment for the Registered Users, where the Host can start a game and a set number of cards are distributed to each player in the room. Inside exists a Game Room chat that only players in the Game Room can see, the player’s cards displayed for them – yet hidden from the other players, and the scoreboard and current Black Card holder.

**“My Games” Page :** Each user gets a specific “My Games” Page which will display all current on-going games the user is participating in. The user can view and rejoin any of the games displayed as long as the Game Room has not ended.

**Chat :** A chatting mechanism for all users to send messages in either a global or private room chat. This chat has little filter on what users may say.

**Admin :** A user that is preselected to moderate and have all power to modify all database entries, as well as to stop any on-going Game.

## **2. Functional Requirements V2**

### **★ Priority 1**

- Unregistered Users
  - Shall be able to create a new account
  - Shall be able to view Terms of Service
  - Shall be able to view the lobby
- Registered Users
  - Shall be able to log into their account
  - Shall be able to log out of their account
  - Shall be able to view all active games
  - Shall be able to join games
  - Shall be able to create new games
  - Shall be able to come back to a game at any time
  - Shall be able to create custom cards
- Hosts
  - Shall be able to set game rules on room creation
  - Shall be able to start a new round
- Lobby
  - Shall display all open games and its Room Name and the number of players in the room
  - Shall display public chat room
- “My Games” Page
  - Shall display all current active games for the logged in user
- Game Rooms
  - Shall display user’s cards
  - Shall display a private room chat
  - Shall display timer for player to submit a play
  - Shall show relevant game information to the player
- Admin
  - Shall be able to modify or remove data entries
  - Shall be able to stop on-going games
  - Shall be able to view all pages
  - Shall be able to delete users
  - Shall be able to see a list of all registered users
  - Shall be able to see a list of all on-going games
  - Shall be able to have access to admin navigation bar

### **★ Priority 2**

- Unregistered Users
  - Shall not be able to add another user as a friend
  - Shall be able to spectate an on-going match
- Registered Users
  - Shall be able to send messages through the chat

- Shall be able to participate in any amount of games concurrently
  - Shall be able to go back and forth between each game
  - Shall be able to add another user as a friend
  - Shall be able to delete friend
  - Shall be able to see profile settings
- Hosts
  - Shall be able to kick out users from a game room
  - Shall be able to edit game rules in game for next round
- Lobby
  - Users can access their account settings
- “My Games” Page
  - Shall allow the user to leave a game room
- Game Room
  - Shall have a AFK option for player who needs a timeout
  - Users can invite friends to the current Game Room
- Chat
  - Users can chat globally with random users
- Custom Cards
  - Users shall be able to vote for card decks
  - Users shall be able to create new decks
  - Users shall be able to edit decks

### ★ Priority 3

- Registered User
  - Shall be able to report users
  - Shall be able to create a profile
  - Shall be able to view friends' profiles
- “My Games” page
  - Shall display rooms that friends are in
  - Shall display friends currently online
  - Shall display number of players in rooms
- Custom Cards
  - Users shall be able to use set popular decks

### **3. UI Mockups and Storyboards**

Logged In Lobby

Cards Against Society	My Games	Help		\$USERNAME
-----------------------	----------	------	--	------------

Create Room

### Game Rooms Active

Room Name	Host:	Join
NewRoom	Admin	Join
Room2	User1	Join
Room3	User2	Join

user1  
hello

user2  
hi

user1  
hello

user1  
hello

user1  
hello

Type your message here...

Send

Profile

Custom Cards

Log Out

Drop down menu to navigate to user controls

Users can view all active rooms and join them by pressing "Join" button

Log in / Sign up

Cards Against Society	Help	Login!
<div><div>Login Enter your information</div><div>Username : <input type="text"/></div><div>Password : <input type="password"/></div><div><div>Remember me</div><div>Forgot Password / Username</div></div><div>Log In [button]</div><div>No Account? [Sign up here]</div></div>		

Log in / Sign up

Cards Against Society	Help	Login!
<div><div>Login Enter your information</div><div>Username : <input type="text"/></div><div>Password : <input type="password"/></div><div><div>Remember me</div><div>Forgot Password / Username</div></div><div>Log In [button]</div><div>No Account? [Sign up here]</div></div>		

Help/FAQ Page

Cards Against Society	My Games	Help		\$USERNAME
-----------------------	----------	------	--	------------

Help Against Society

Upon click, more information will be revealed to the user

What is Cards Against Society?
How does one play Cards Against Humanities?
Example Part 1
Example Part 2



## Create Room

Cards Against Society	My Games	Help	\$USERNAME
-----------------------	----------	------	------------

Setup Room

Room Name:

Private ☐

Game Rules

Points to win:

Room Size:

Custom Card Deck:

Create Room

Profile

Cards Against Society	My Games	Help	\$USERNAME
-----------------------	----------	------	------------

**Profile**

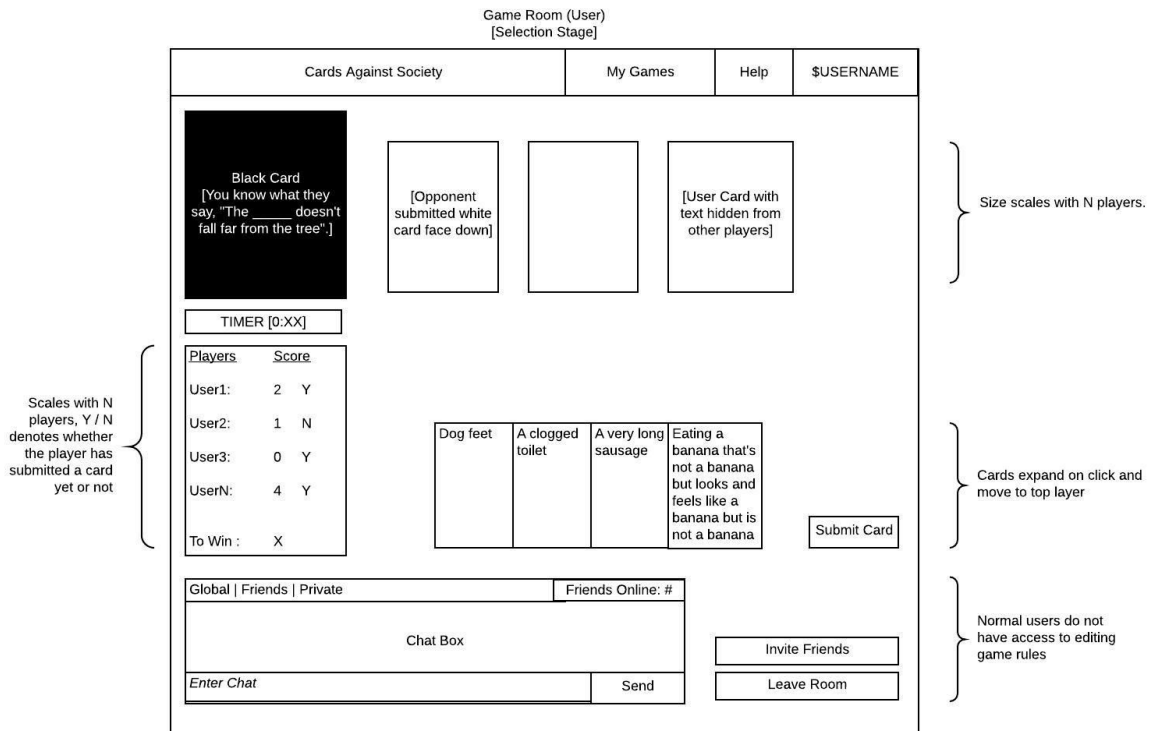
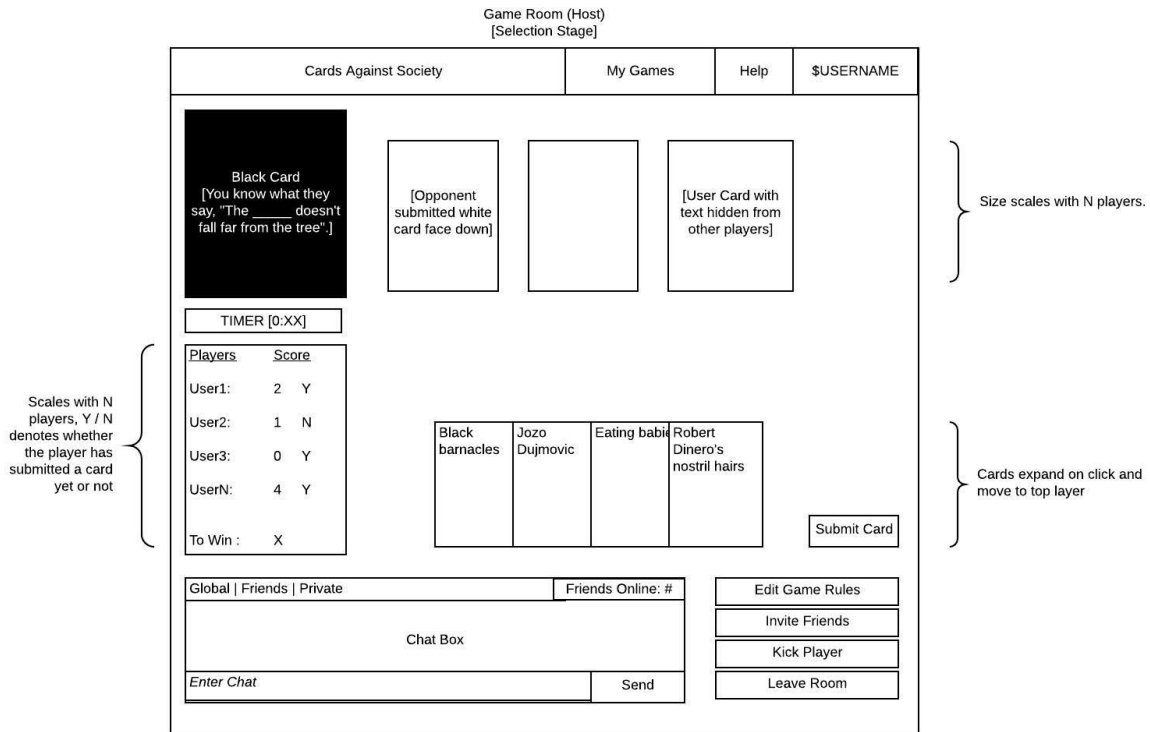
First Name

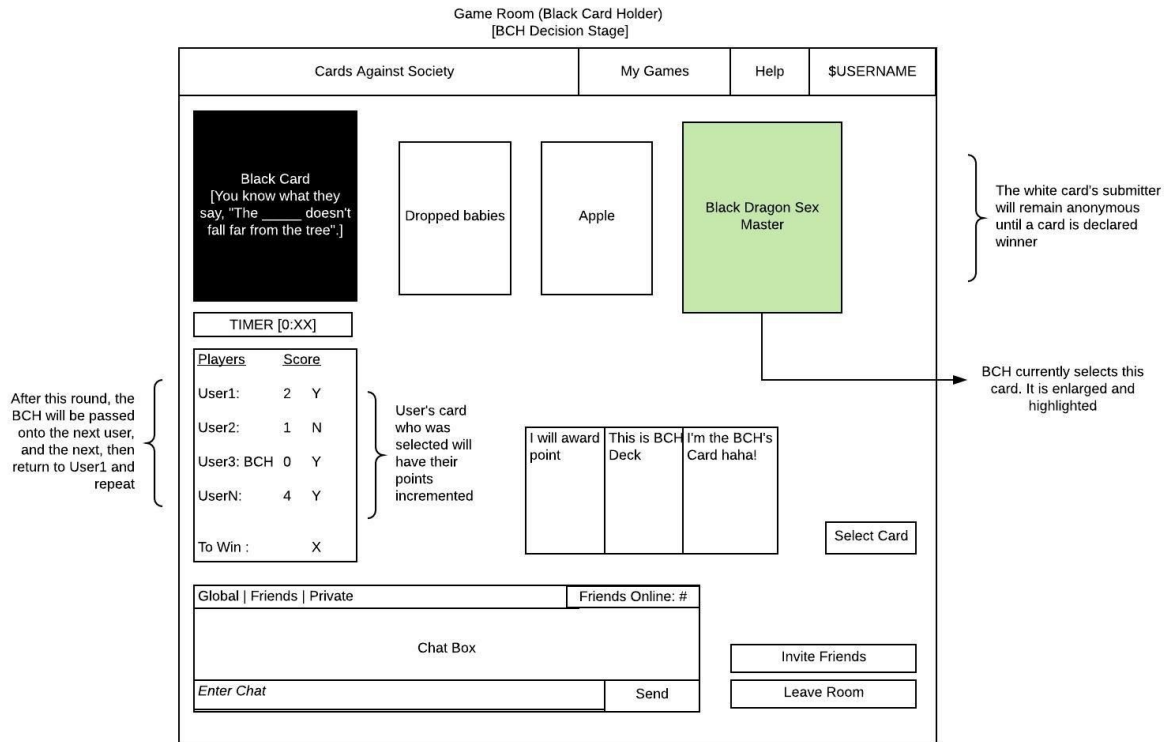
Last Name

Username

Email

Bio





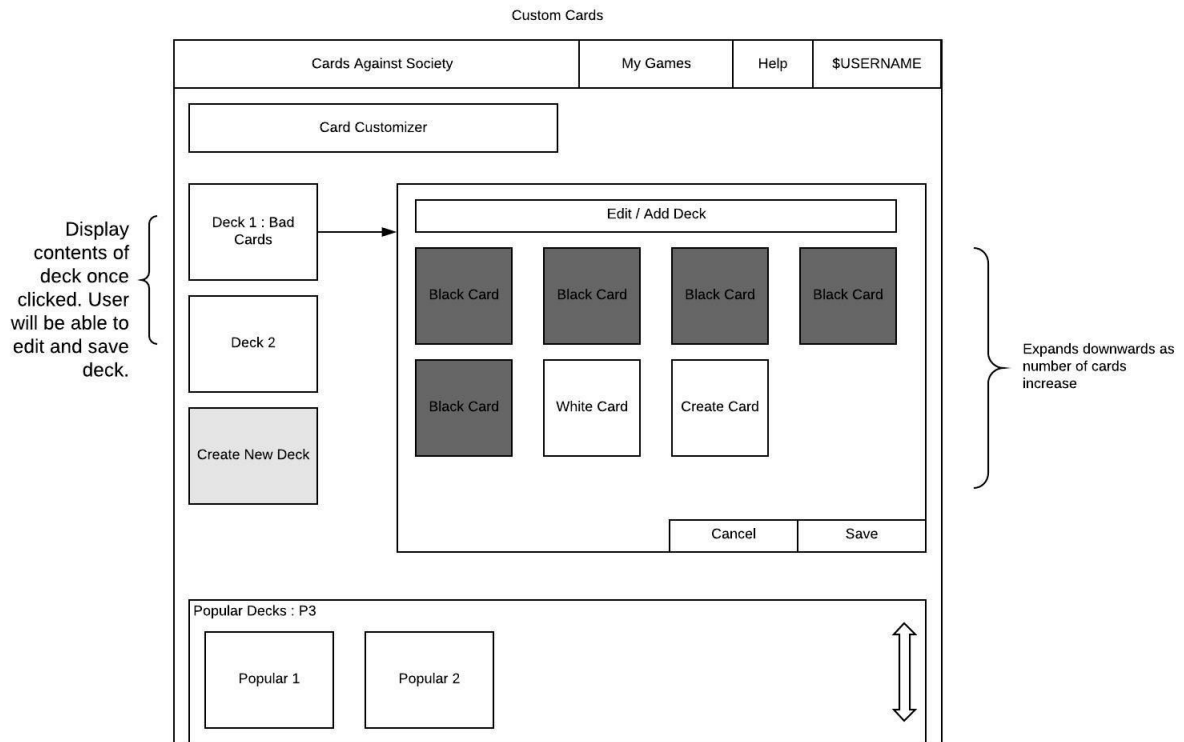
My Games Page

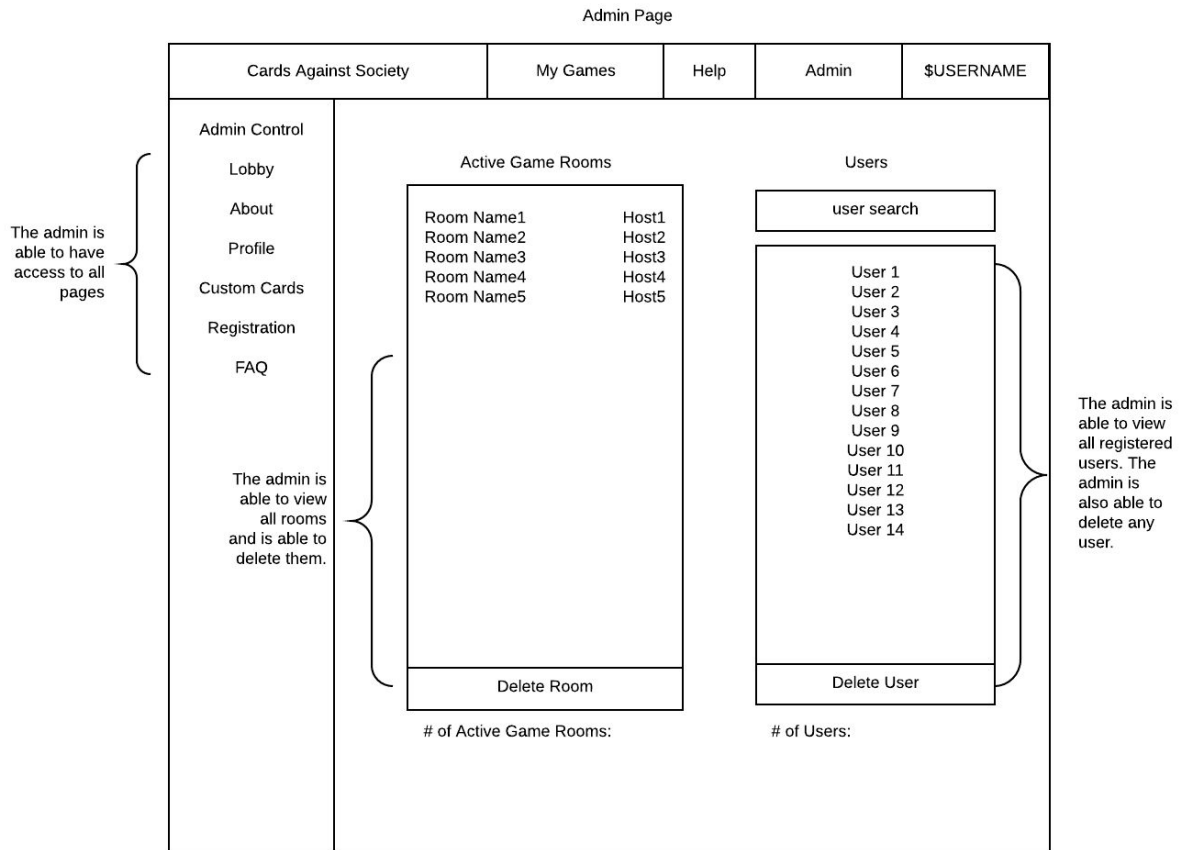
Cards Against Society	My Games	Help		\$USERNAME
-----------------------	----------	------	--	------------

Room Name	Host:	Join
Room1	Host1	Join

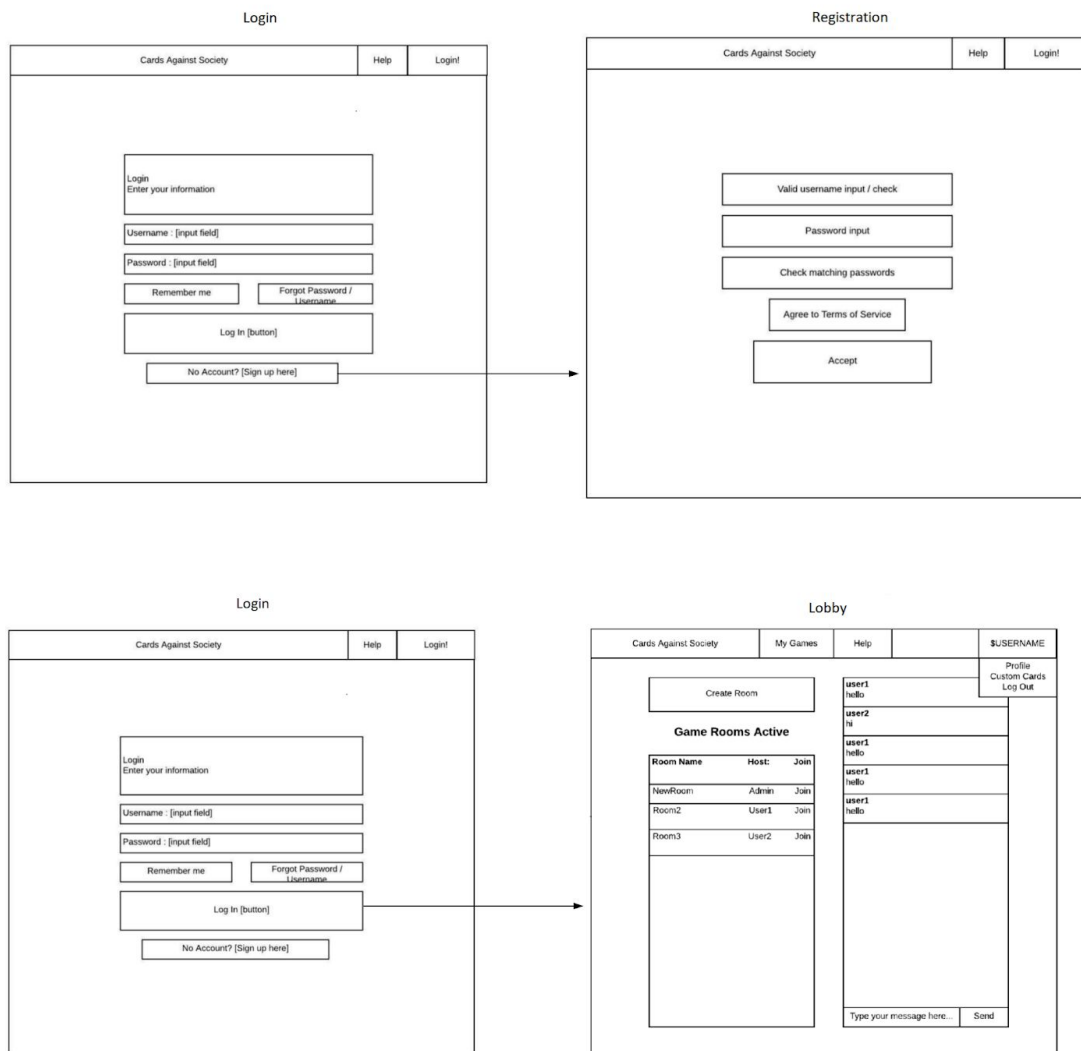
All active Game Rooms and Respective Hosts are displayed

Clicking the "Join" button will allow, the user to enter the game room

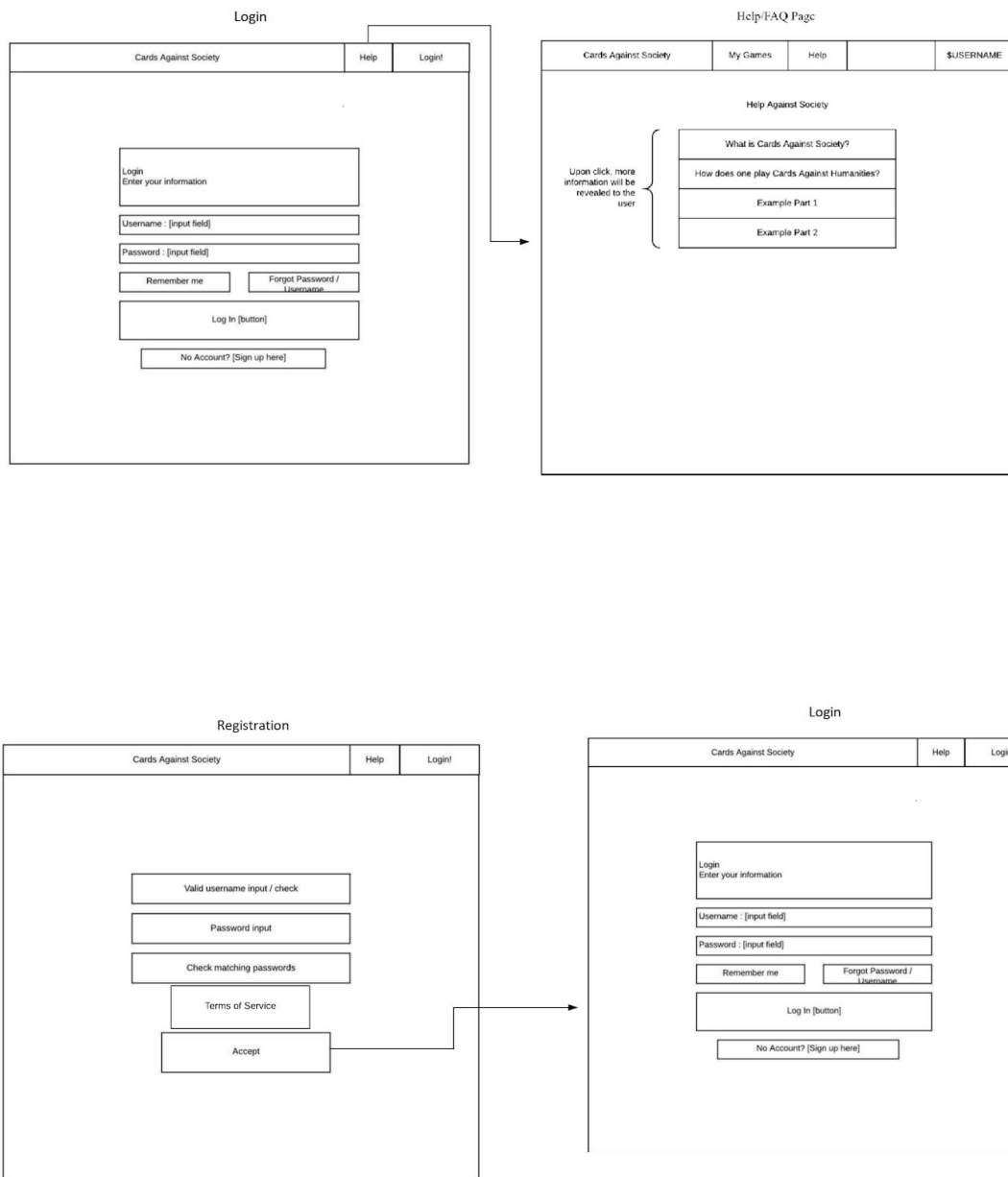


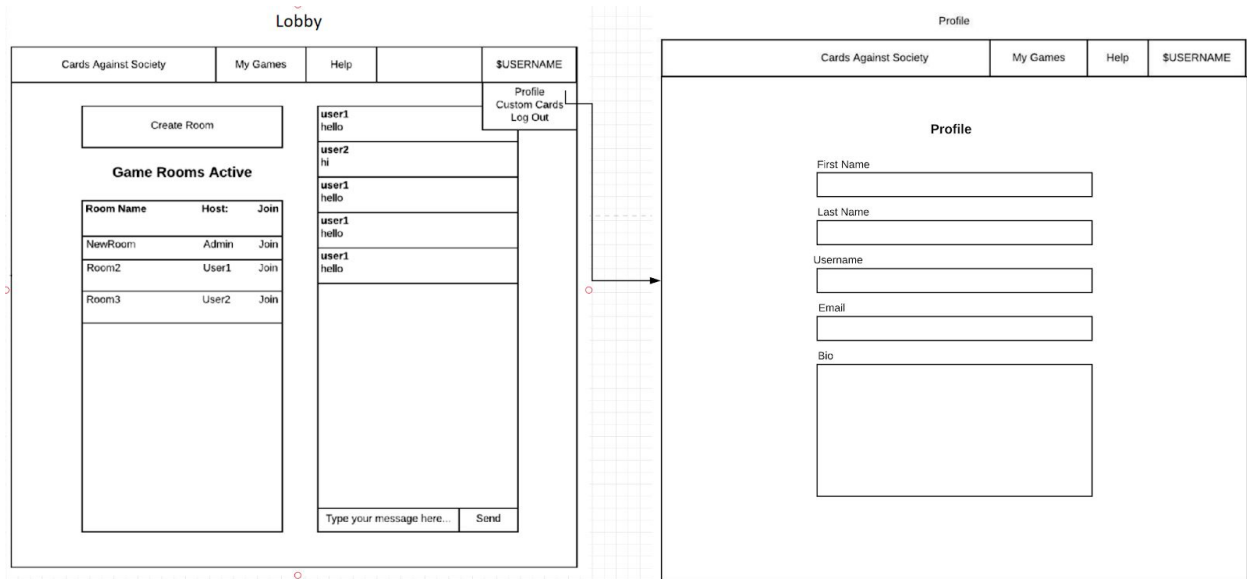
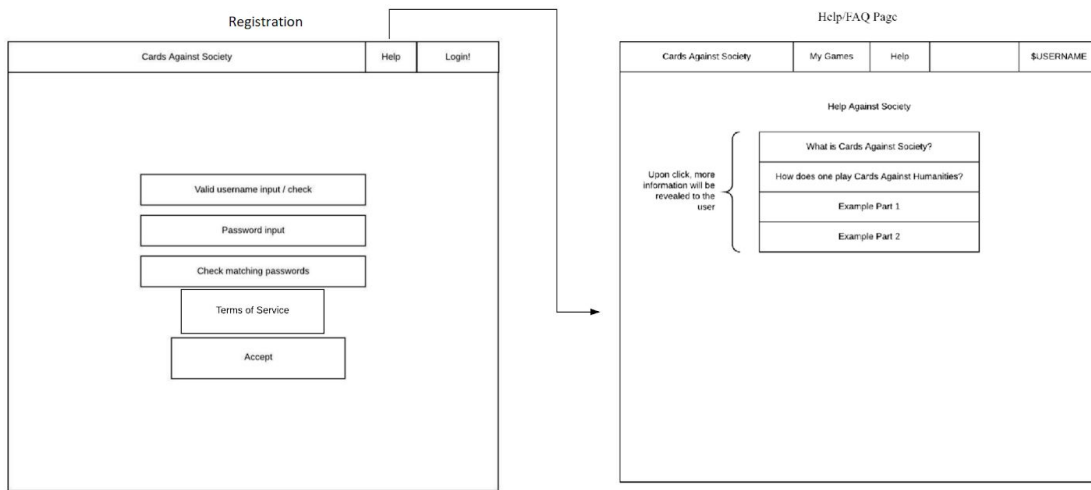


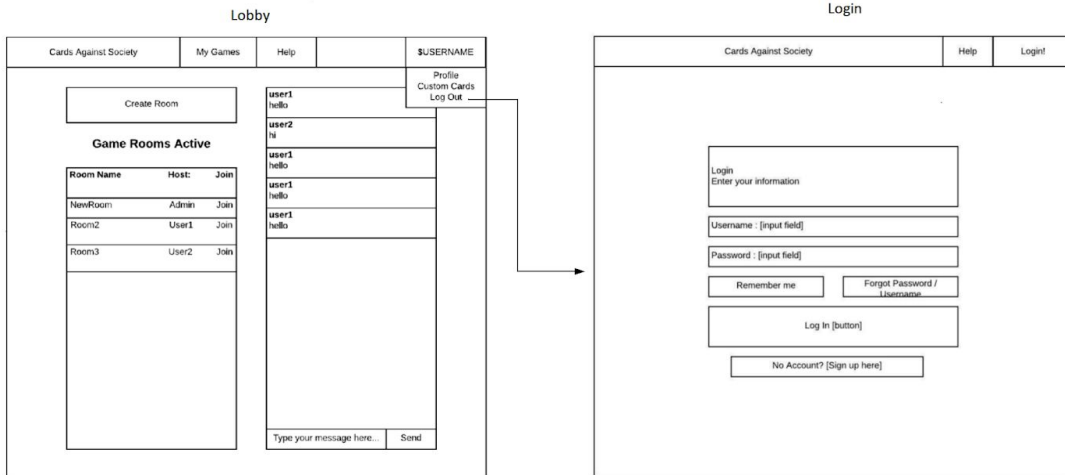
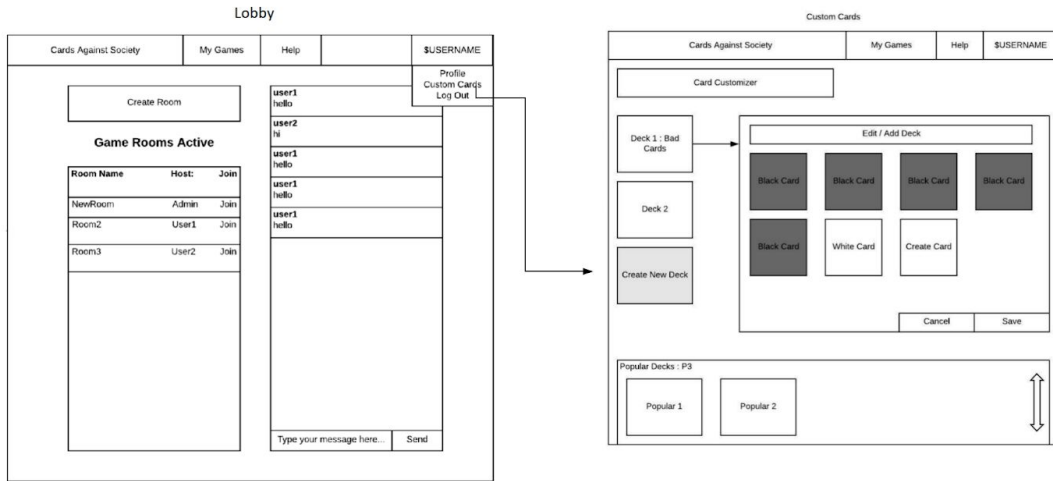
# STORYBOARDS

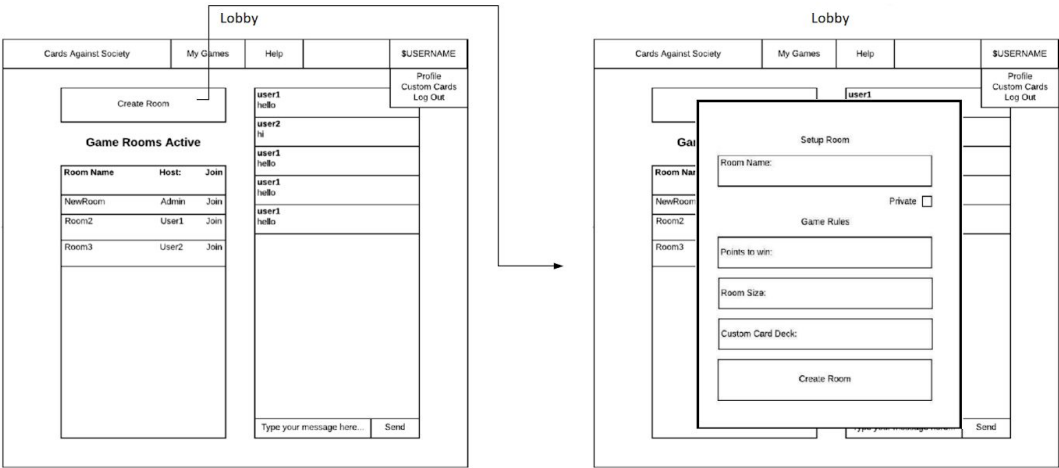




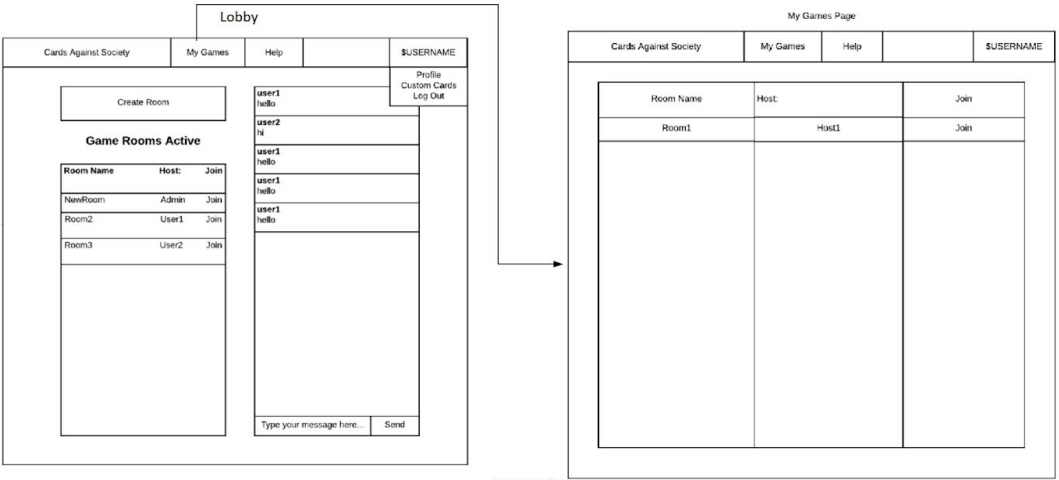


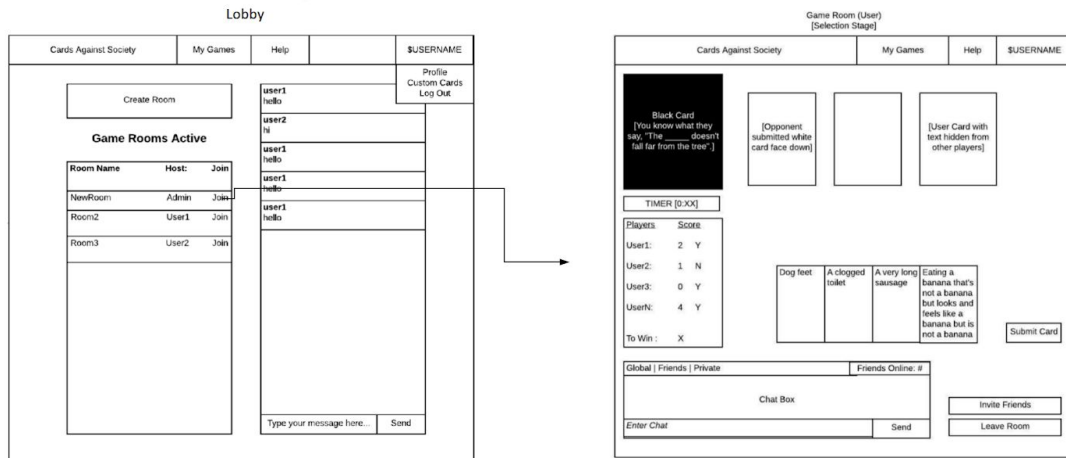
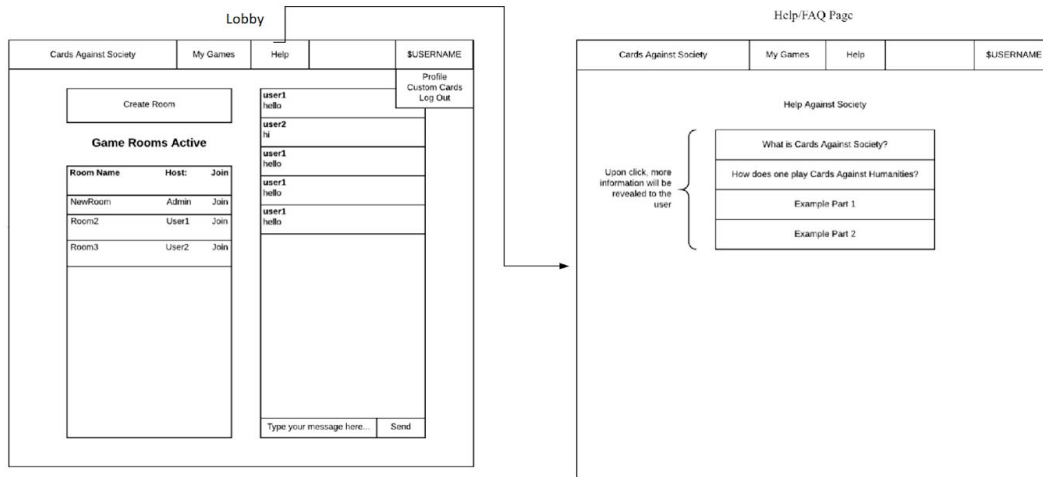






9





Game Room (Host)  
[Selection Stage]

Cards Against Society	My Games	Help	\$USERNAME
-----------------------	----------	------	------------

Black Card  
[You know what they say, "The \_\_\_\_\_ doesn't fall far from the tree"]

[Opponent submitted white card face down]

[User Card with text hidden from other players]

TIMER [0:XX]

Players	Score
User1: 2	Y
User2: 1	N
User3: 0	Y
UserN: 4	Y
To Win: X	

Black barnacles

Jozo Dujmovic

Eating babal

Robert Dihero's nostril hairs

Submit Card

Global | Friends | Private

Friends Online: #

Chat Box

Enter Chat      Send

Edit Game Rules

Invite Friends

Kick Player

Leave Room

Lobby

Cards Against Society	My Games	Help	\$USERNAME
-----------------------	----------	------	------------

user1

Room Name:

NewRoom:

Room2:

Room3:

Game Rules

Points to win:

Room Size:

Custom Card Deck:

Create Room

Profile

Custom Cards

Log Out

Send

Game Room (Host)  
[Selection Stage]

Cards Against Society	My Games	Help	\$USERNAME
-----------------------	----------	------	------------

Black Card  
[You know what they say, "The \_\_\_\_\_ doesn't fall far from the tree"]

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Lobby

Cards Against Society	My Games	Help	\$USERNAME
-----------------------	----------	------	------------

Create Room

Game Rooms Active

Room Name	Host	Join
NewRoom	Admin	Join
Room2	User1	Join
Room3	User2	Join

user1  
hello

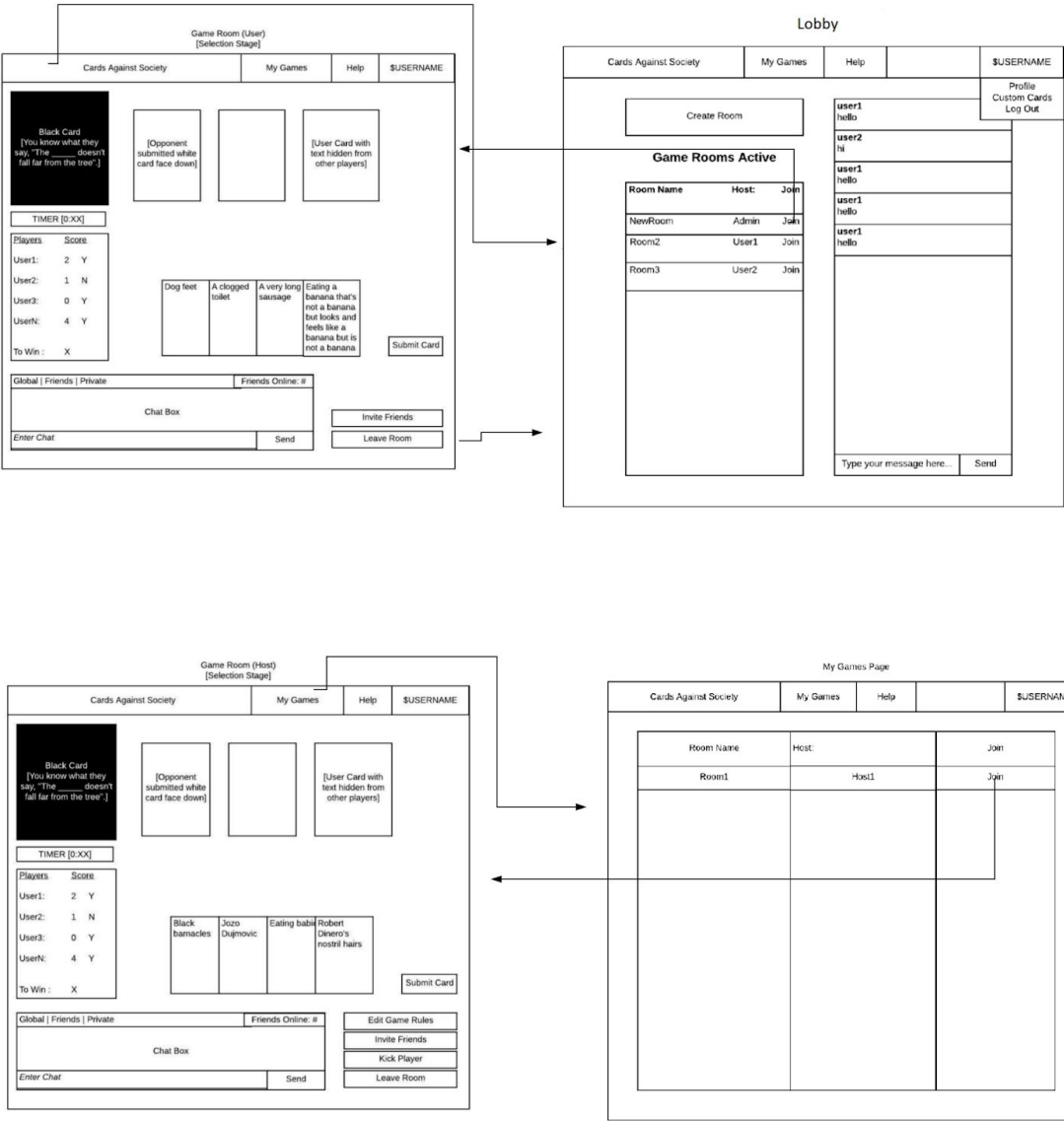
user2  
hi

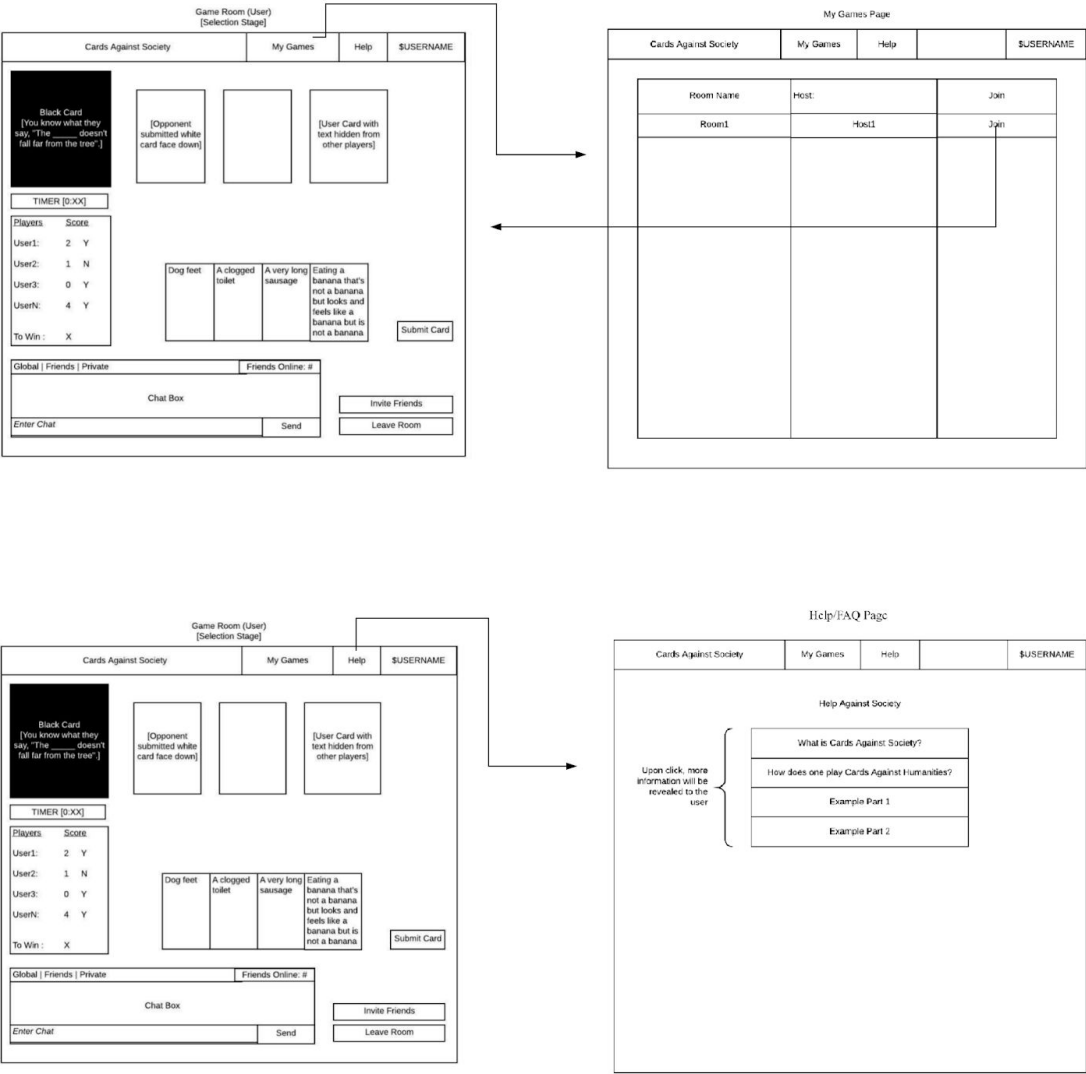
user1  
hello

user1  
hello

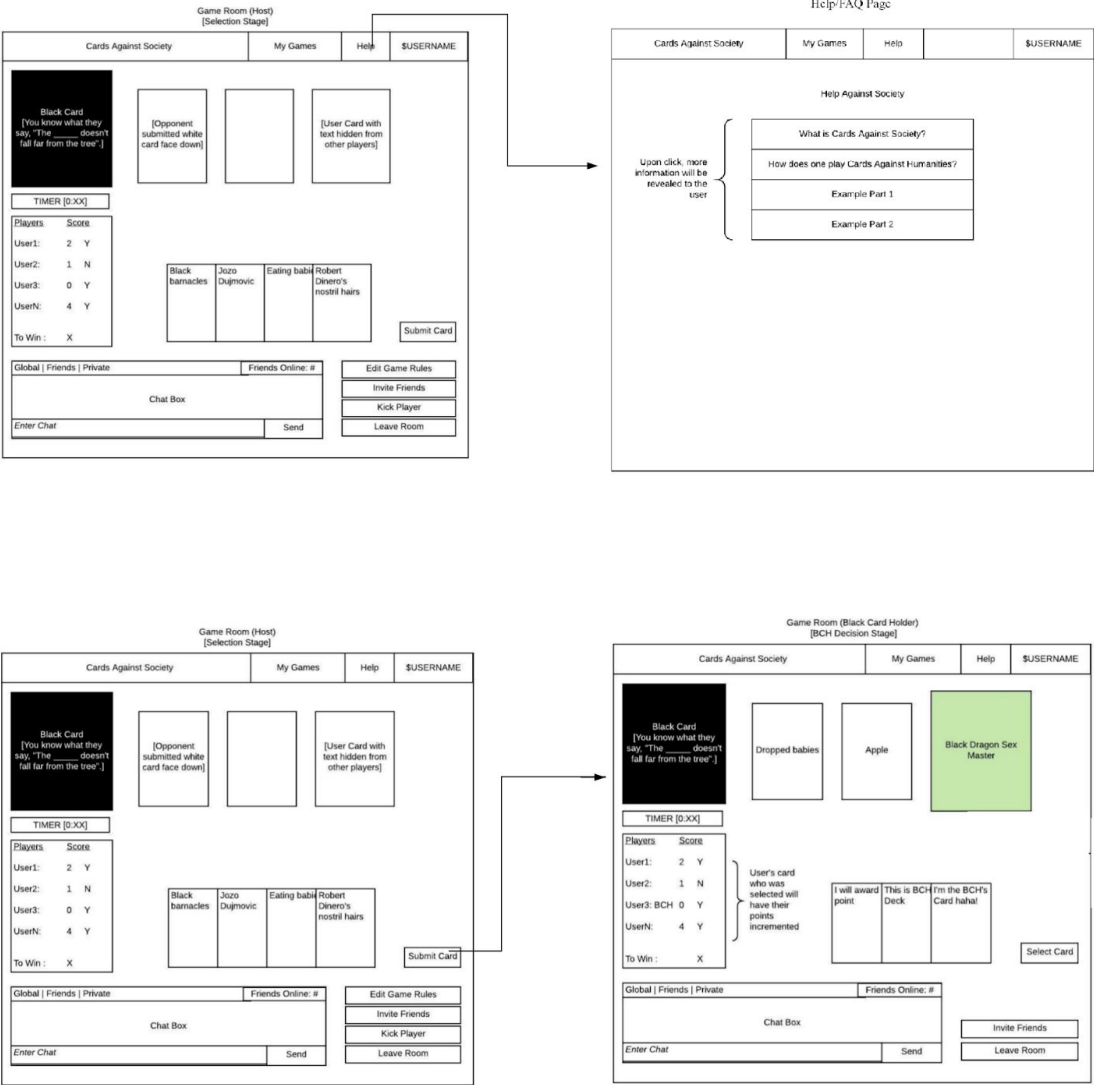
user1  
hello

Type your message here...      Send

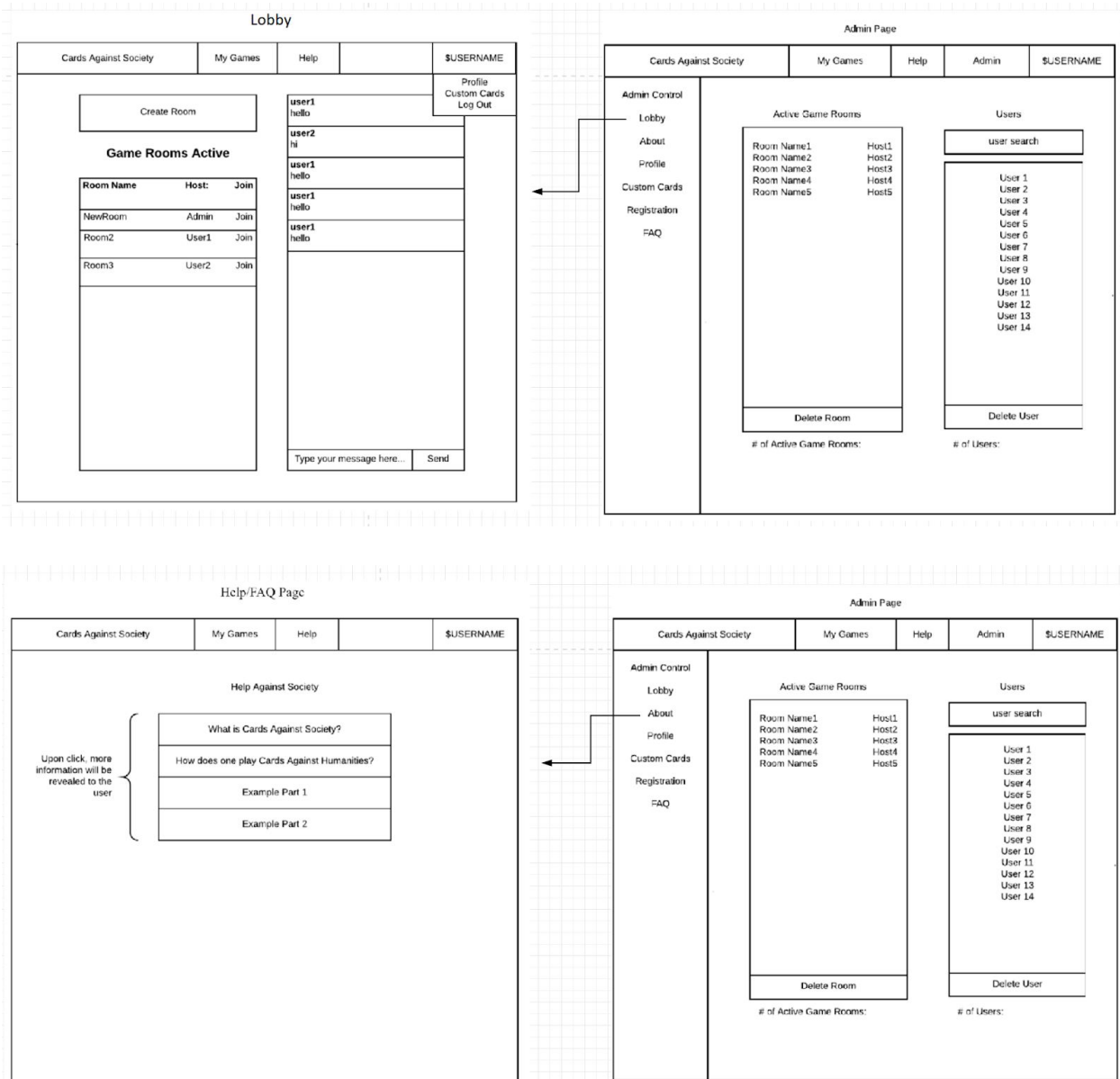


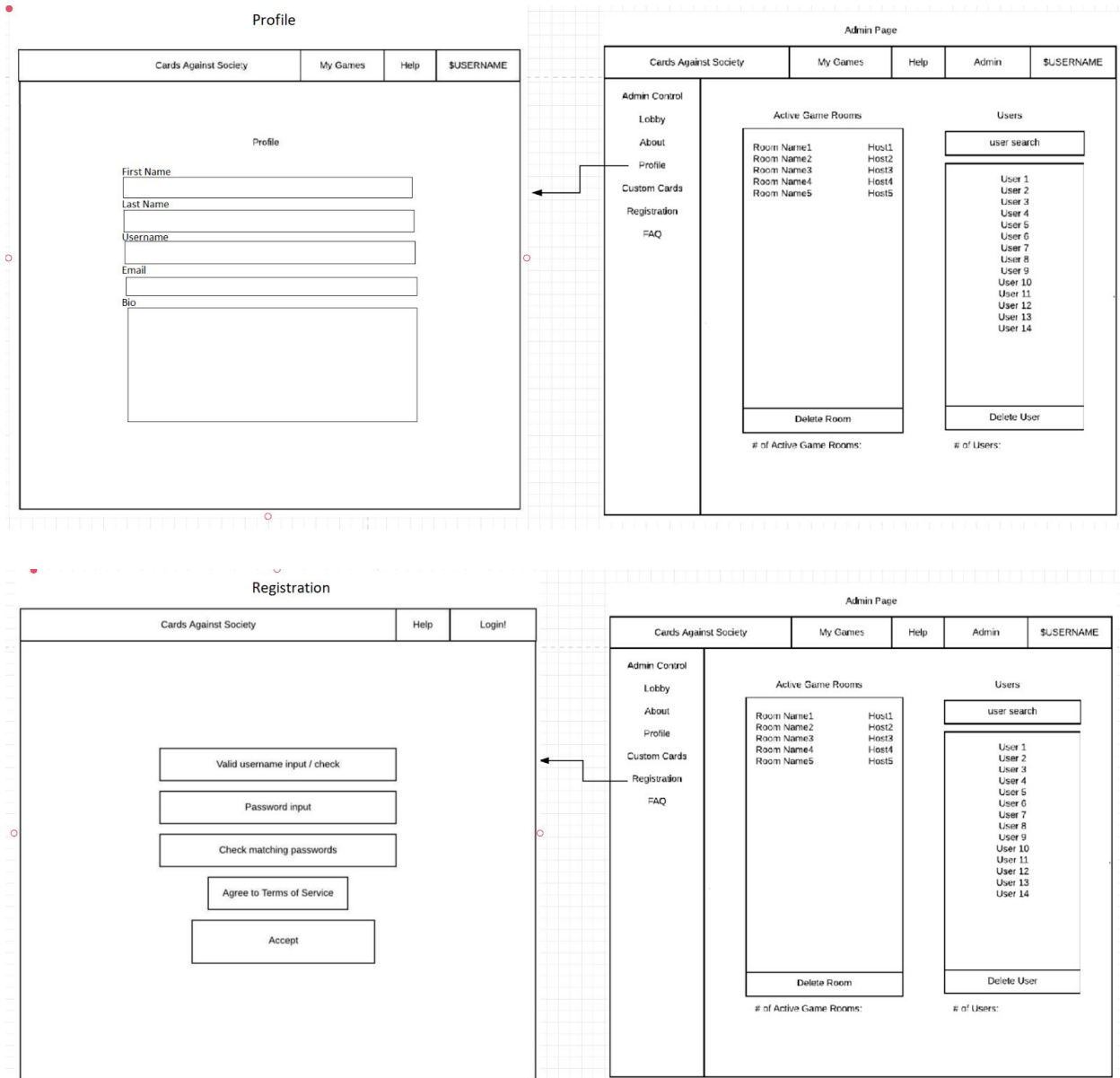


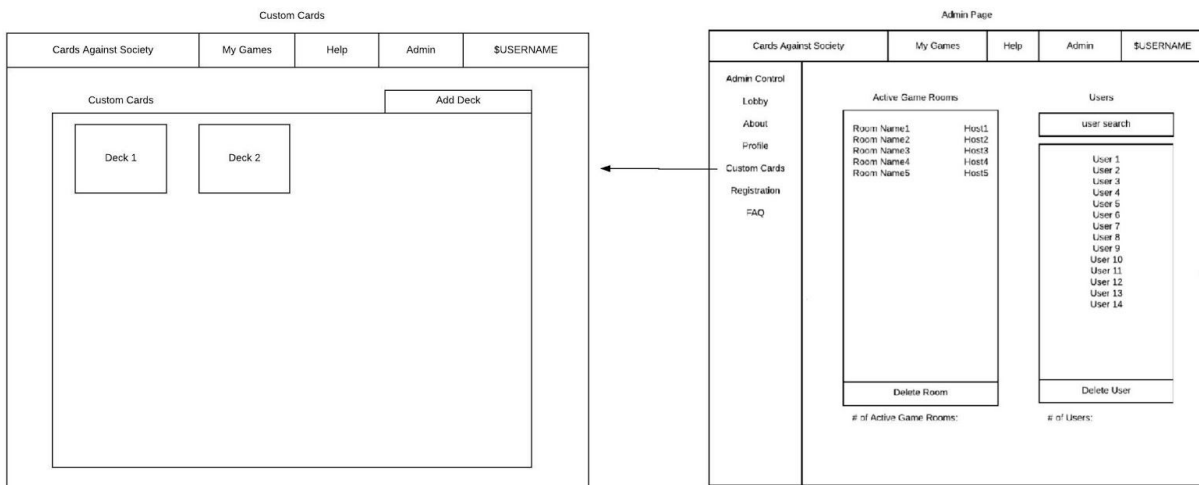
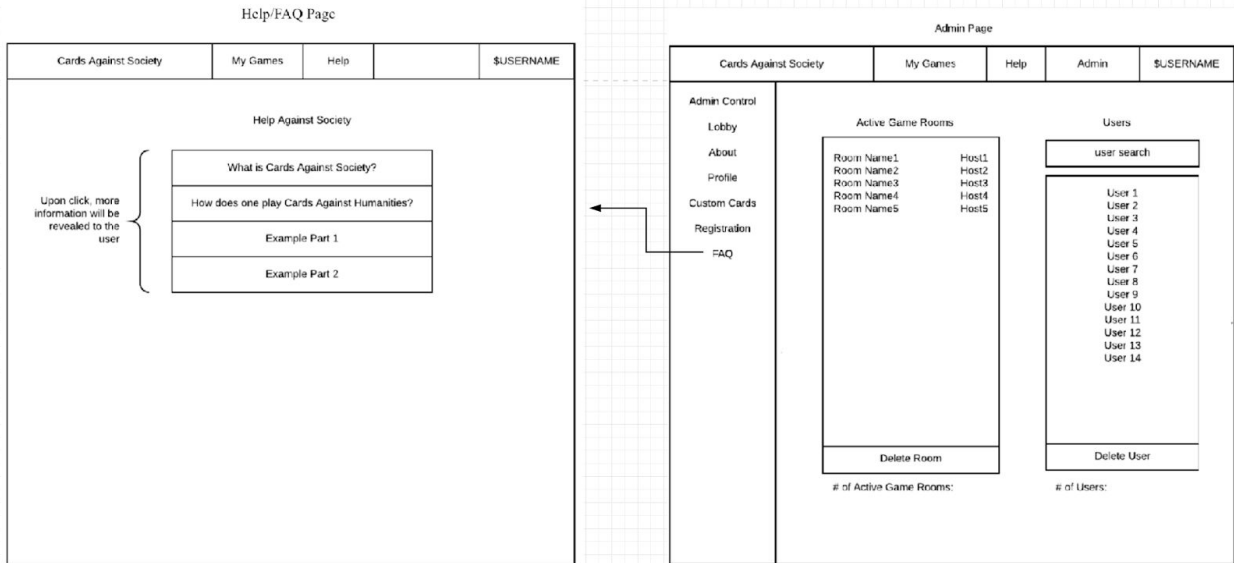


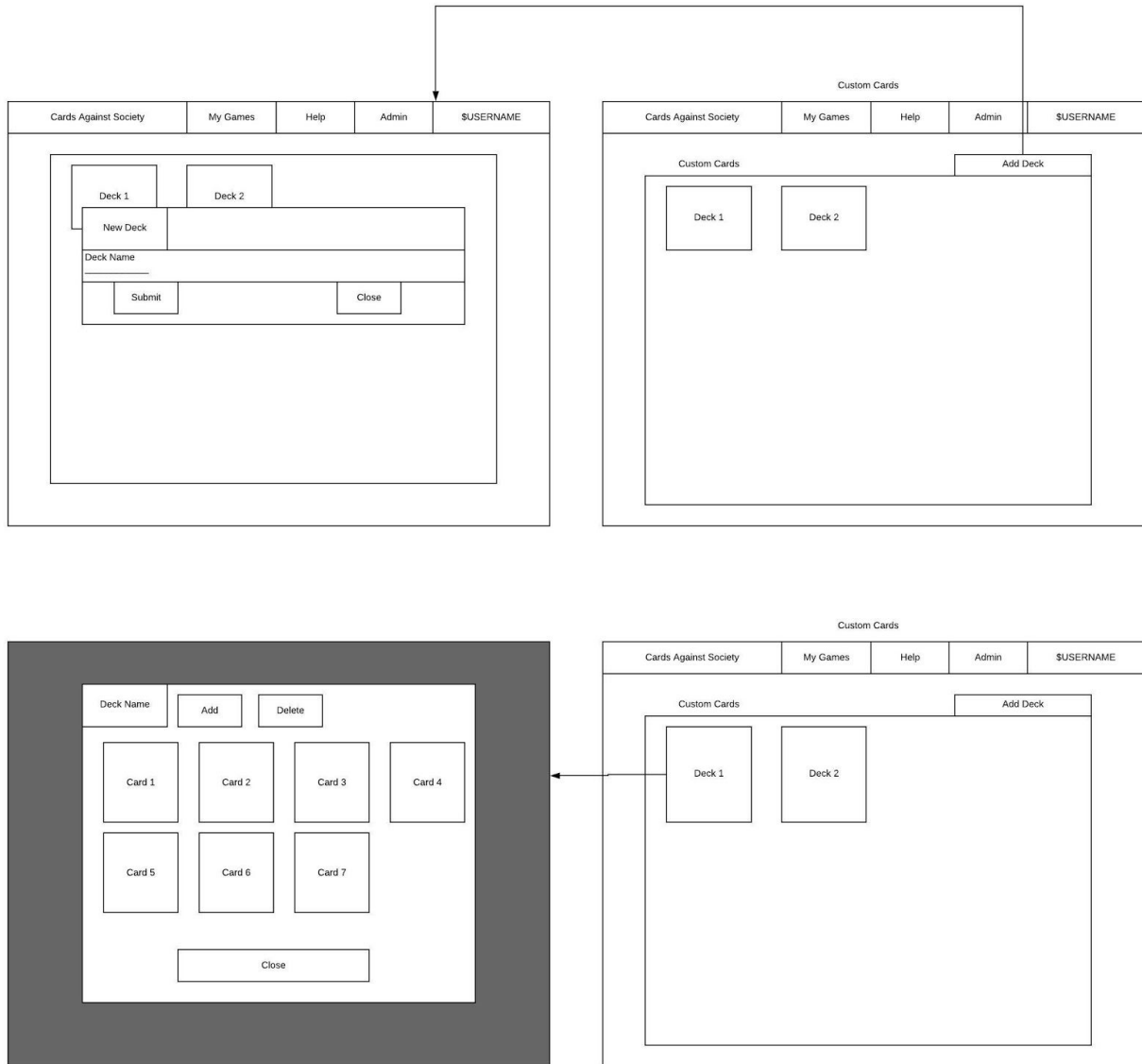


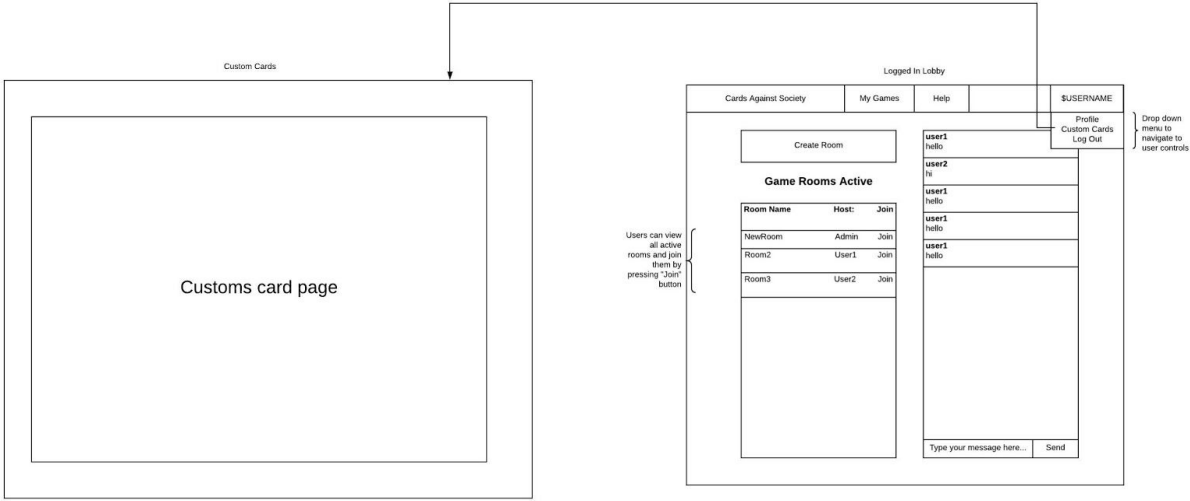
## Logged in as Admin











## **4. High Level Database Architecture and Organization**

### **Business Rules**

1. A User can have zero or many PlayerHands
2. A User can exist in zero or many GameSessions
3. A User can join zero or many PlayerTables
4. A PlayerTable belongs to one GameSession
5. A GameSession belongs to many PlayerTables
6. A GameSession contains one BlackCards
7. BlackCards are in many GameSessions
8. PlayerHands is one Hands
9. Hands contain one or many PlayerHands
10. Hands consist of one or many GamesHands
11. Many GamesHands belong to one GameSession
12. Hands belong to one or many HandsTables
13. HandsTable contains one WhiteCards
14. WhiteCards are in many HandsTables

### **Entities**

#### User

- Relationships :
  - has (PlayerHands)
  - joins (PlayerTable)
  - exists in (GameSession)
- Attributes :
  - User ID (PK, varchar, NN)
  - email (varchar, NN)
  - password (varchar, NN)

#### PlayerHands

- Relationships :
  - has (User)
  - Is A (Hands)
- Attributes :
  - Hand ID (PK, tinyint, NN)
  - User ID (FK, varchar, NN)

## PlayerTable

- Relationships :
  - joins (User)
  - belongs to (GameSession)
- Attributes :
  - GameSession ID (tinyint, NN)
  - Date (datetime, NN)
  - User ID (FK, varchar, NN)

## GameSession

- Relationships :
  - exists in (User)
  - belongs to (PlayerTable)
  - belongs to (GameHand)
  - contains (BlackCards)
- Attributes :
  - Game ID (PK, int, NN)
  - Room Name (varchar, NN)
  - Date (datetime, NN)
  - HostUser ID (varchar, NN)
  - BCHUser ID (varchar, NN)
  - CurrentBlackCard (int, NN)

## Hands

- Relationships :
  - Is A (PlayerHand)
  - consists (GameHand)
  - belongs to (HandsTable)
- Attributes :
  - Hand ID (PK, int, NN)
  - Date (datetime, NN)

## HandsTable

- Relationships :
  - belongs to (Hands)
  - contains (WhiteCards)
- Attributes :
  - Hand ID (FK, int, NN)
  - Date (datetime, NN)
  - White Card ID (FK, int, NN)



### GameHand

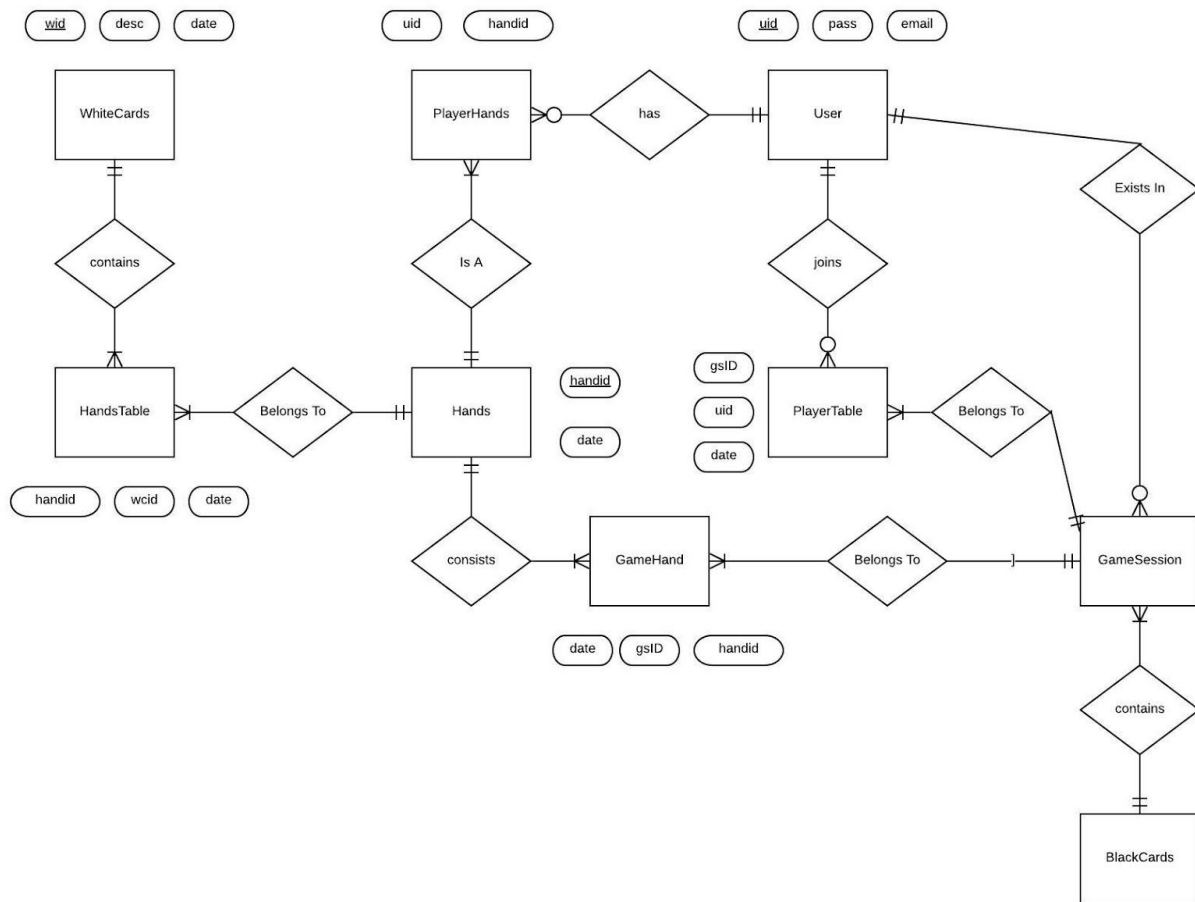
- Relationships :
  - consists (Hands)
  - belongs to (GameSession)
- Attributes :
  - GameSession ID (FK, tinyint, NN)
  - Date (datetime, NN)
  - Hand ID (FK, int, NN)

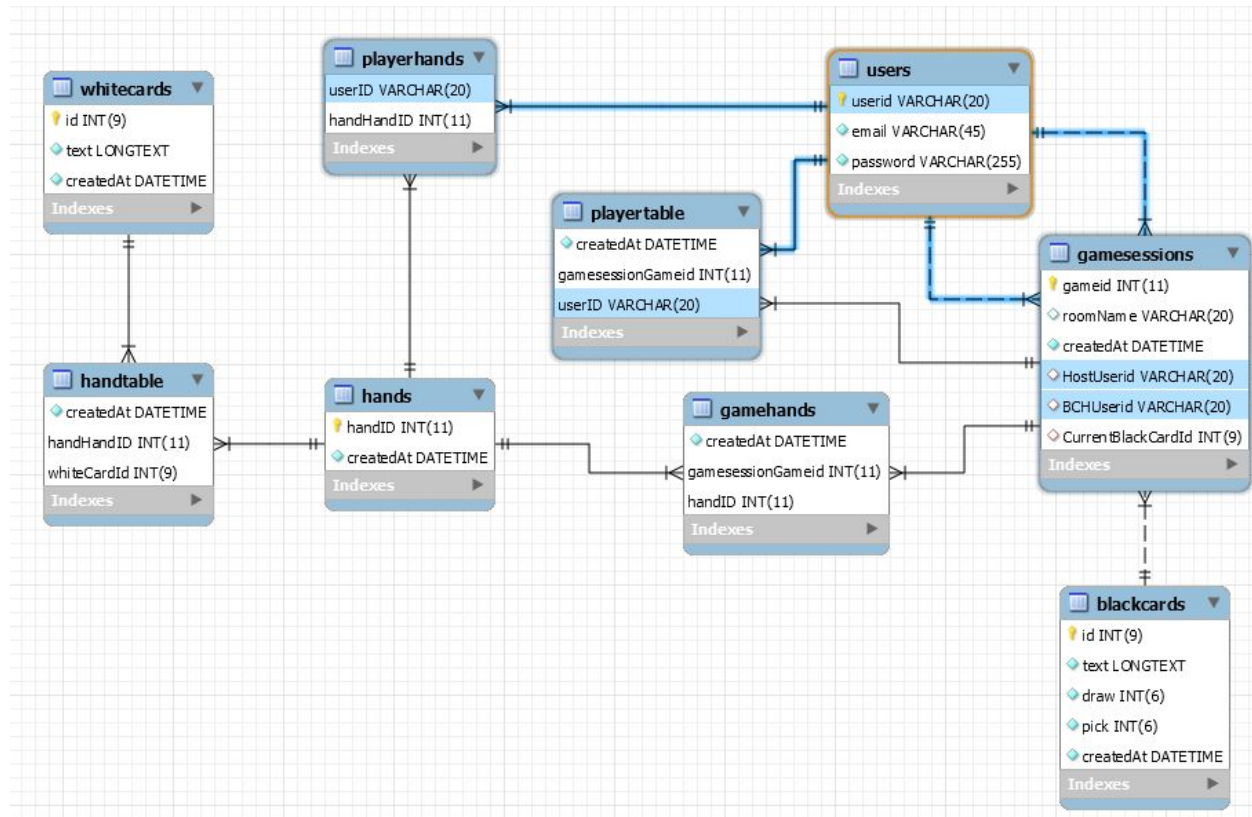
### WhiteCards

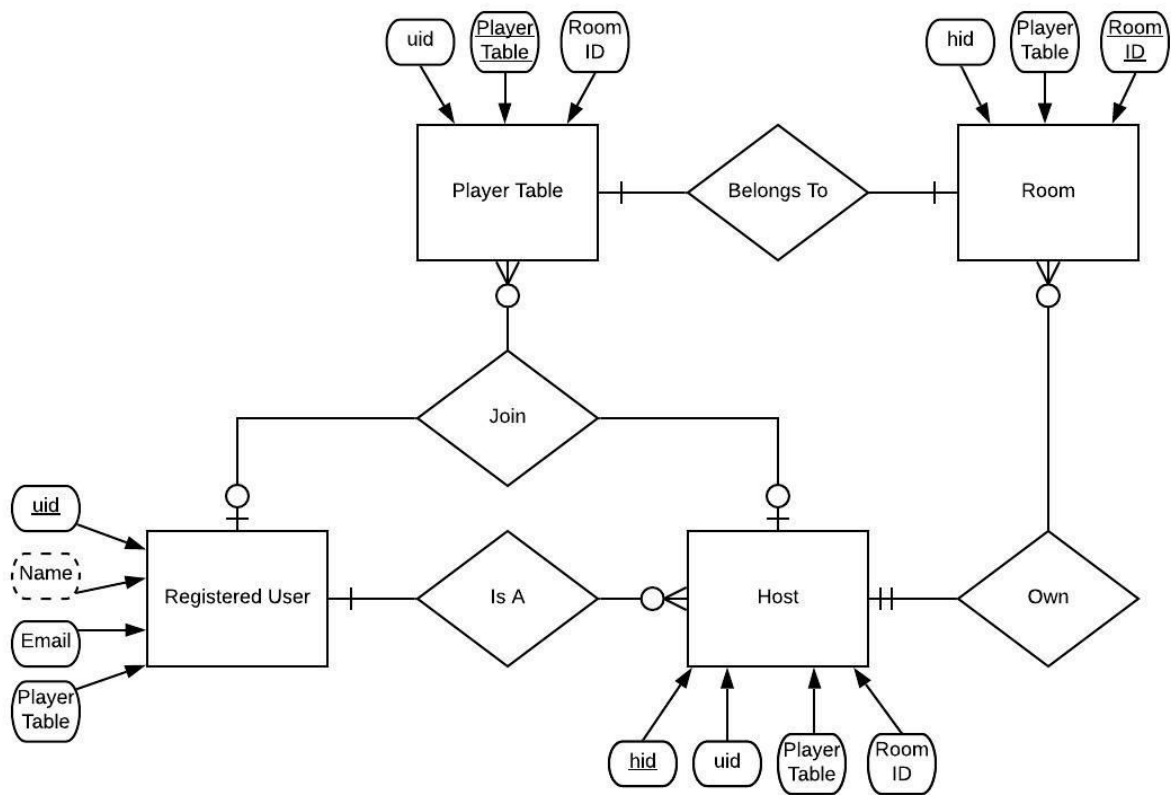
- Relationships :
  - contains (HandsTable)
- Attributes :
  - WhiteCard ID (PK, tinyint, NN)
  - Date (datetime, NN)
  - Description (longtext, NN)

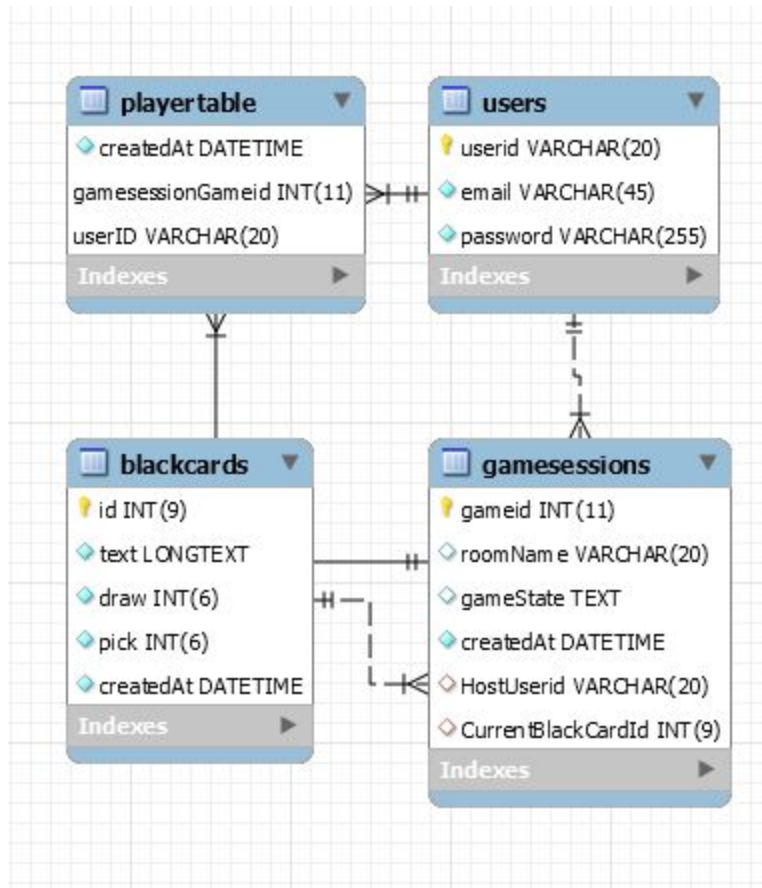
### BlackCards

- Relationships :
  - contains (GameSession)
- Attributes :
  - BlackCard ID (PK, tinyint, NN)
  - Date (datetime, NN)
  - Description (longtext, NN)









We will be using MySQL as our database as it will be very convenient and easy to use for our chosen software stack

Search algorithms apply to login and game room listings (all/for specific user). For the login, we use a sequelize find query where the user is exactly the user trying to log in. If the user does not exist, an error is thrown back. The password is then decrypted and checked against the input password. If both fields match, the user is granted access to the account. For all game room listings, we find all game rooms that have open spots for players, and return the set of those rooms to the client. For a specific user's games, we find all games where the user is either a player or a host, and return that set to the client.

## **5. High Level APIs and Algorithms**

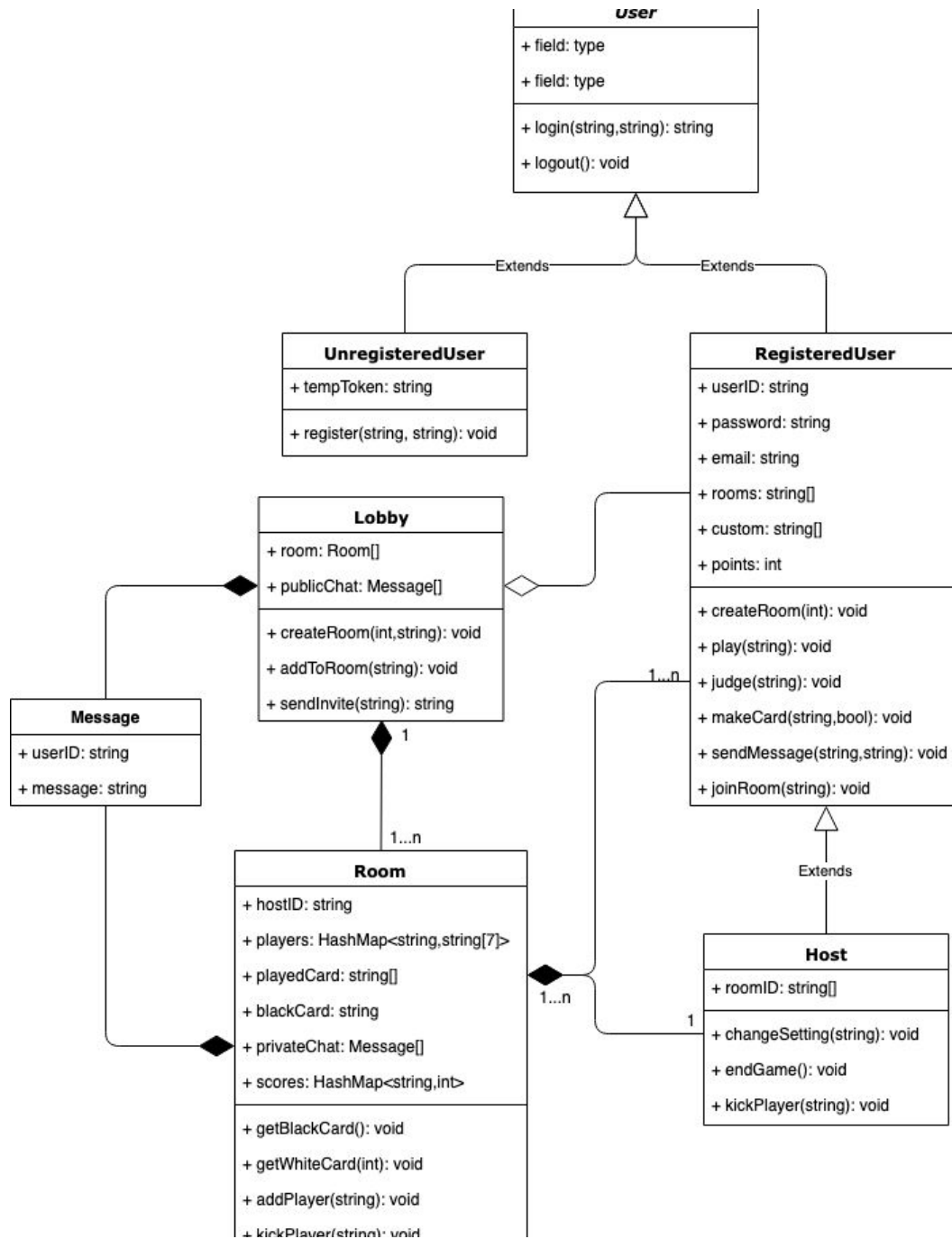
### **Algorithms**

- Randomizing card algorithm - a random card is pulled from its respective database
- Game Room ID's will be automatically incremented when a room is created.
- Card ID's will be automatically incremented when inserted into the database

### **New Frameworks**

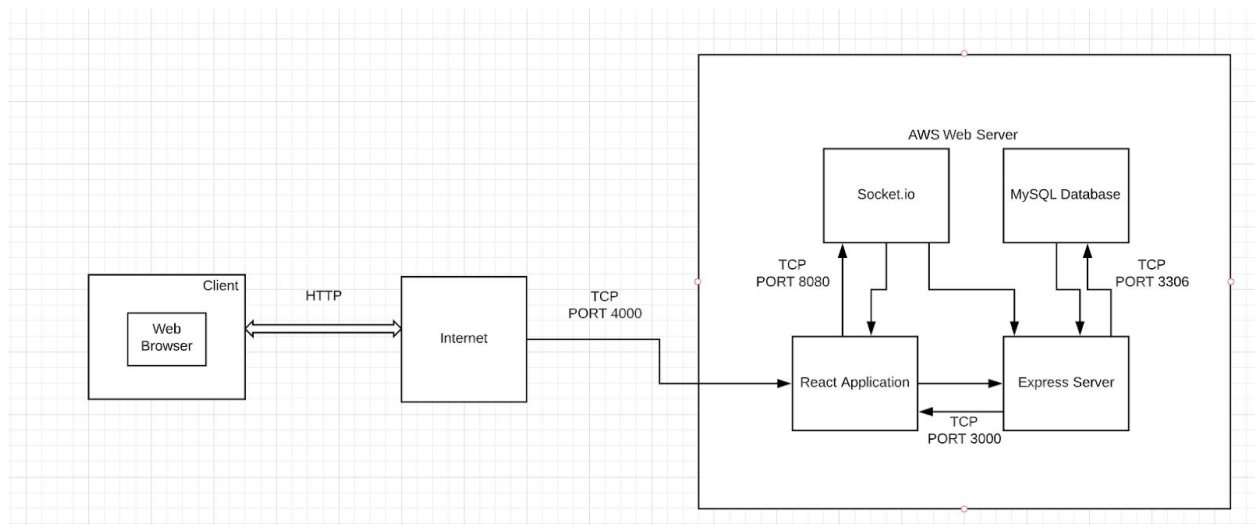
- We are now using Sequelize to manage our database.

## 6. High Level UML Diagram



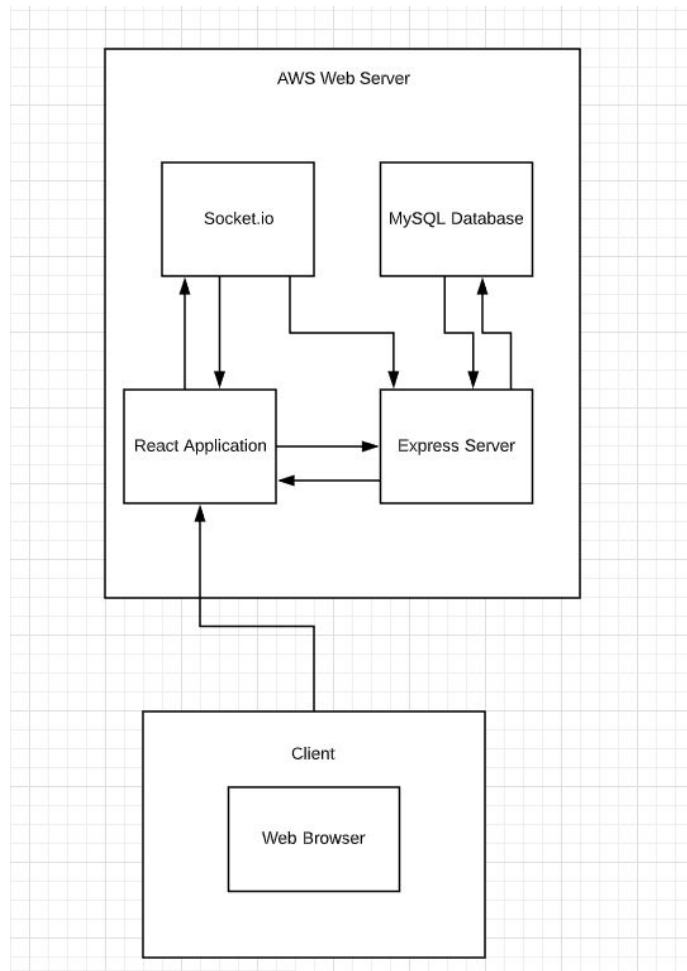
## 7. High Level Application Network and Deployment Diagrams

### Network Diagram





## Deployment Diagram



## **8. Identify *actual* Key Risks for Your Project at this time**

1. Most of our team has not worked with back end development or databases. While this may slow down back end development, this should not hurt the development process. Our application will be very front end heavy, so we will not need everyone to work on the back end to implement our requirements.
2. Our meeting times have been consistent and group communication has been very active. Given what we know and what we have so far, we don't see any big setbacks.
3. The technical risk we see is managing game states and game info. For example, which player's turn it is or which cards every player has. We have ideas to solve this problem, but we are looking for the most efficient way possible, as we plan to update this in real time for the user.
4. Our team has been working very closely together, and there are no teamwork risks.
5. We see no legal/content risks.

## **9. Project Management**

We managed tasks by picking one task each and working on those individually while receiving feedback from the rest of the group. For other parts, we worked collaboratively. In the future, we will need to assign tasks a bit more clearly as it might help our development process. However, everyone in our team is very involved, so task management will be very easy to track. We are using Trello for task management: <https://trello.com/b/2B8ZJ5C5/csc648>