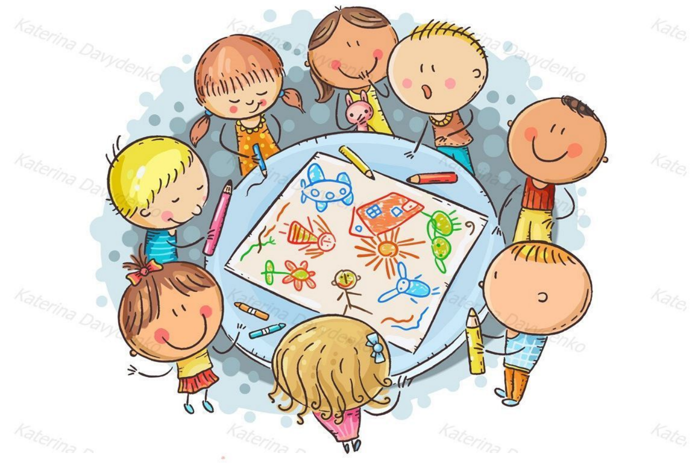
# RDraw

Team: Triple 1.0
Jon Cohen, Alexandra Ferguson, Michelle Kim, Nathan Kregstein, Ramon Martinez, Gabriela Tolosa Ramirez
April  23, 2020

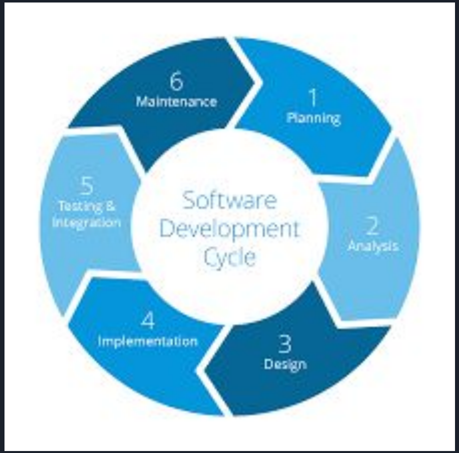
# Concept

RDraw is a  web based environment to connect with strangers to draw together



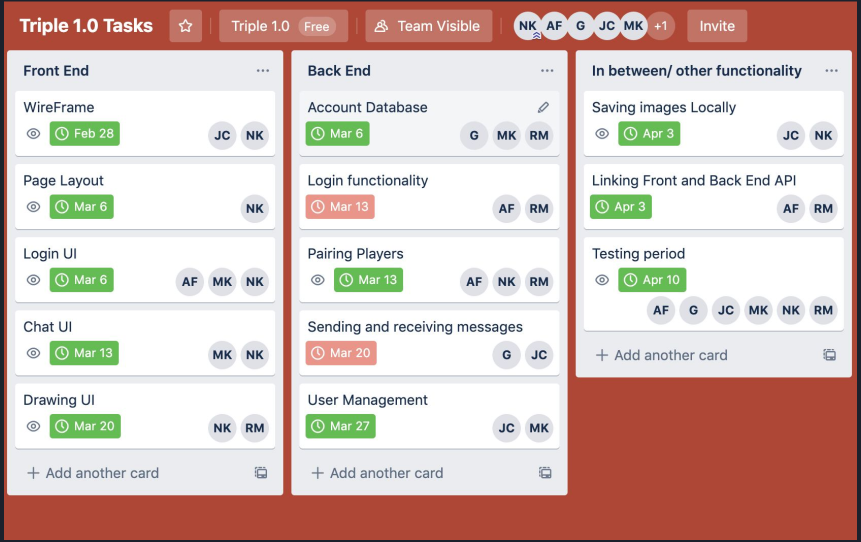
# Methodology

- AGILE
  - Twice a week SCRUM meetings
  - Discuss roadblocks and status of project
- Pair Programming
  - Working in teams to accomplish goals
  - Helps with debugging
  - Only push code to Git or Heroku that works to prevent conflicts



# Trello

- Trello was used to track progress on the project
- Keeps track of deadlines, roles and different aspects of the development



Triple 1.0 Tasks ☆ | Triple 1.0 Free | Team Visible | NK AF G JC MK +1 | Invite

**Front End**

- WireFrame — Feb 28 — JC NK
- Page Layout — Mar 6 — NK
- Login UI — Mar 6 — AF MK NK
- Chat UI — Mar 13 — MK NK
- Drawing UI — Mar 20 — NK RM

+ Add another card

**Back End**

- Account Database — Mar 6 — G MK RM
- Login functionality — Mar 13 — AF RM
- Pairing Players — Mar 13 — AF NK RM
- Sending and receiving messages — Mar 20 — G JC
- User Management — Mar 27 — JC MK

+ Add another card

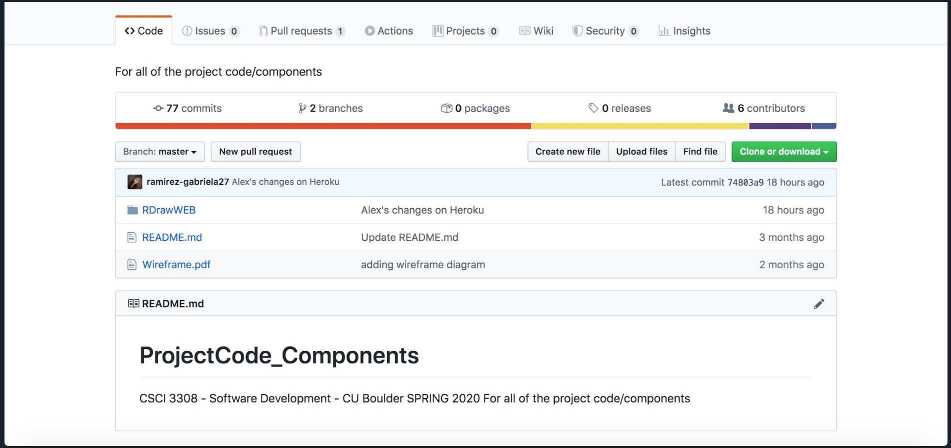
**In between/ other functionality**

- Saving images Locally — Apr 3 — JC NK
- Linking Front and Back End API — Apr 3 — AF RM
- Testing period — Apr 10 — AF G JC MK NK RM

+ Add another card

# GitHub Repository

- Used for code repository
- Easy sharing for development
- Allows for simultaneous development and deployment of code
- Easy to use and is an industry standard



For all of the project code/components

ramirez-gabriela27 Alex's changes on Heroku — Latest commit 74803a9 18 hours ago

| | | |
|---|---|---|
| RDrawWEB | Alex's changes on Heroku | 18 hours ago |
| README.md | Update README.md | 3 months ago |
| Wireframe.pdf | adding wireframe diagram | 2 months ago |

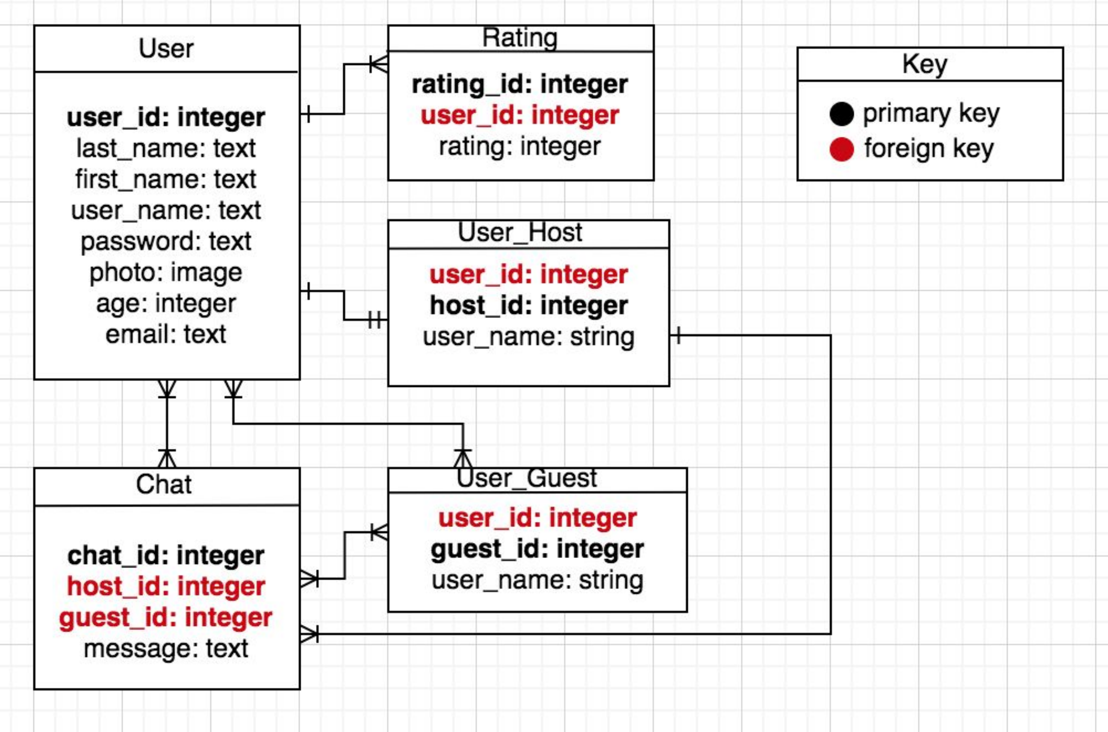
README.md

## ProjectCode_Components

CSCI 3308 - Software Development - CU Boulder SPRING 2020 For all of the project code/components

# PostgreSQL Database

- Use of PostgreSQL for database and storing user information
  - Customize account and save data so user can build rating score and profile



User

**user_id: integer**
last_name: text
first_name: text
user_name: text
password: text
photo: image
age: integer
email: text

Rating

**rating_id: integer**
**user_id: integer**
rating: integer

Key

● primary key
🔴 foreign key

User_Host

**user_id: integer**
**host_id: integer**
user_name: string

Chat

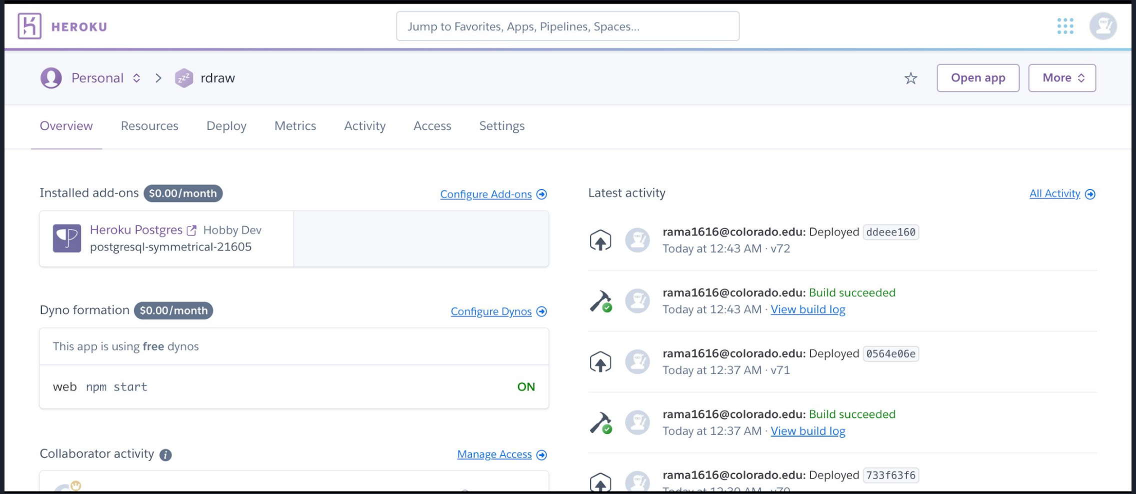
**chat_id: integer**
**host_id: integer**
**guest_id: integer**
message: text

User_Guest

**user_id: integer**
**guest_id: integer**
user_name: string

# Heroku Deployment Tool

- Used for web development
- Created a new repository of code that gets deployed online
- Easy way to see app development in real time
- Industry standard and easy to use



Installed add-ons $0.00/month

Heroku Postgres Hobby Dev
postgresql-symmetrical-21605

Dyno formation $0.00/month

This app is using **free** dynos

web npm start ON

Collaborator activity

Latest activity

rama1616@colorado.edu: Deployed ddeee160
Today at 12:43 AM · v72

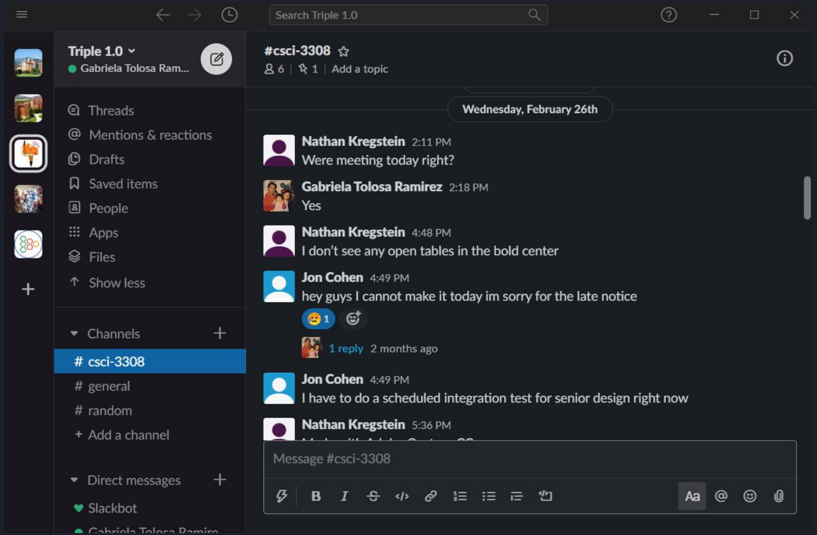
rama1616@colorado.edu: Build succeeded
Today at 12:43 AM · View build log

rama1616@colorado.edu: Deployed 0564e06e
Today at 12:37 AM · v71

rama1616@colorado.edu: Build succeeded
Today at 12:37 AM · View build log

rama1616@colorado.edu: Deployed 733f63f6
Today at 12:30 AM · v70

- Communication was Vital
  - Slack Workspace was created with various Channels
- Extremely accessible and easy to use.



Wednesday, February 26th

**Nathan Kregstein** 2:11 PM
Were meeting today right?

**Gabriela Tolosa Ramirez** 2:18 PM
Yes

**Nathan Kregstein** 4:48 PM
I don't see any open tables in the bold center

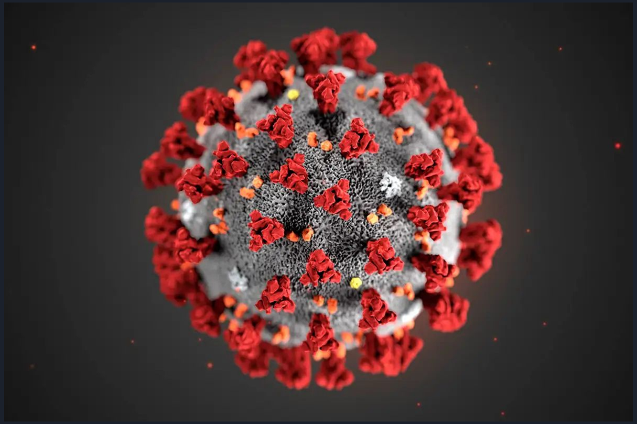
**Jon Cohen** 4:49 PM
hey guys I cannot make it today im sorry for the late notice
1
1 reply 2 months ago

**Jon Cohen** 4:49 PM
I have to do a scheduled integration test for senior design right now

**Nathan Kregstein** 5:36 PM

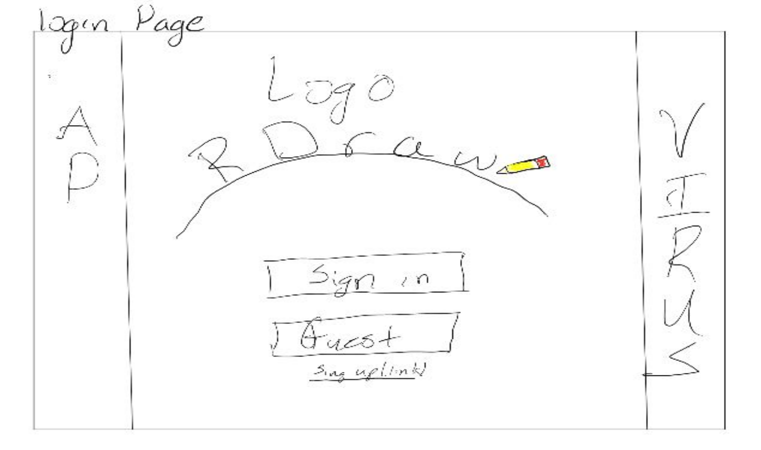
# Challenges

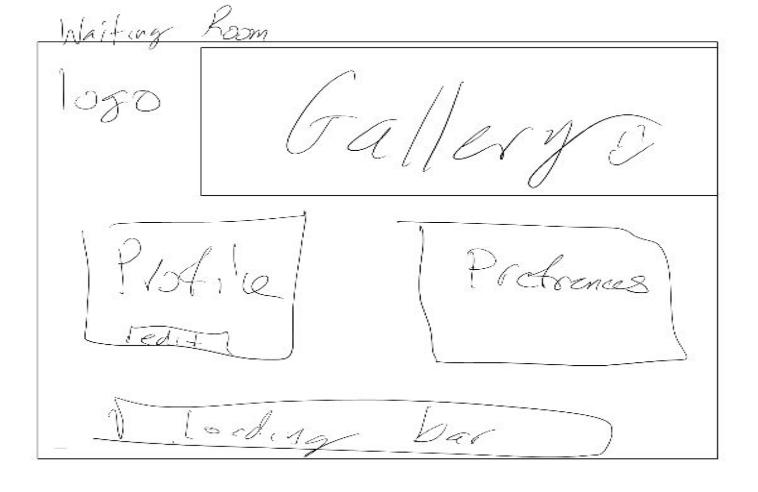
- Integration with the backend
    - Database connectivity issues
- Deployment to Heroku
    - Website behaves differently on the local machine vs. Heroku platform
- Frontend/Backend
    - Transformation from pure html to node.js and express javascript format
    - Database challenges throughout development
- Campus closure and transition to remote learning

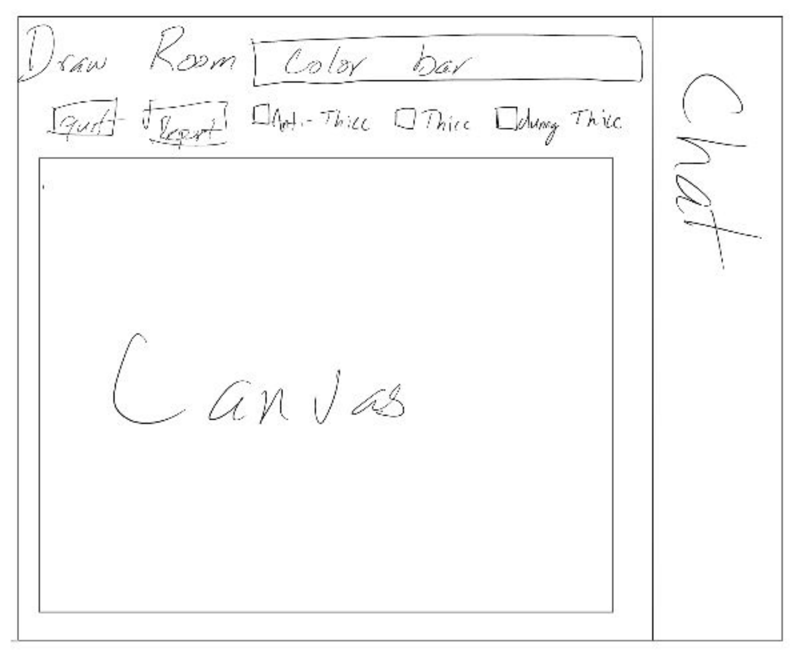


# Demo

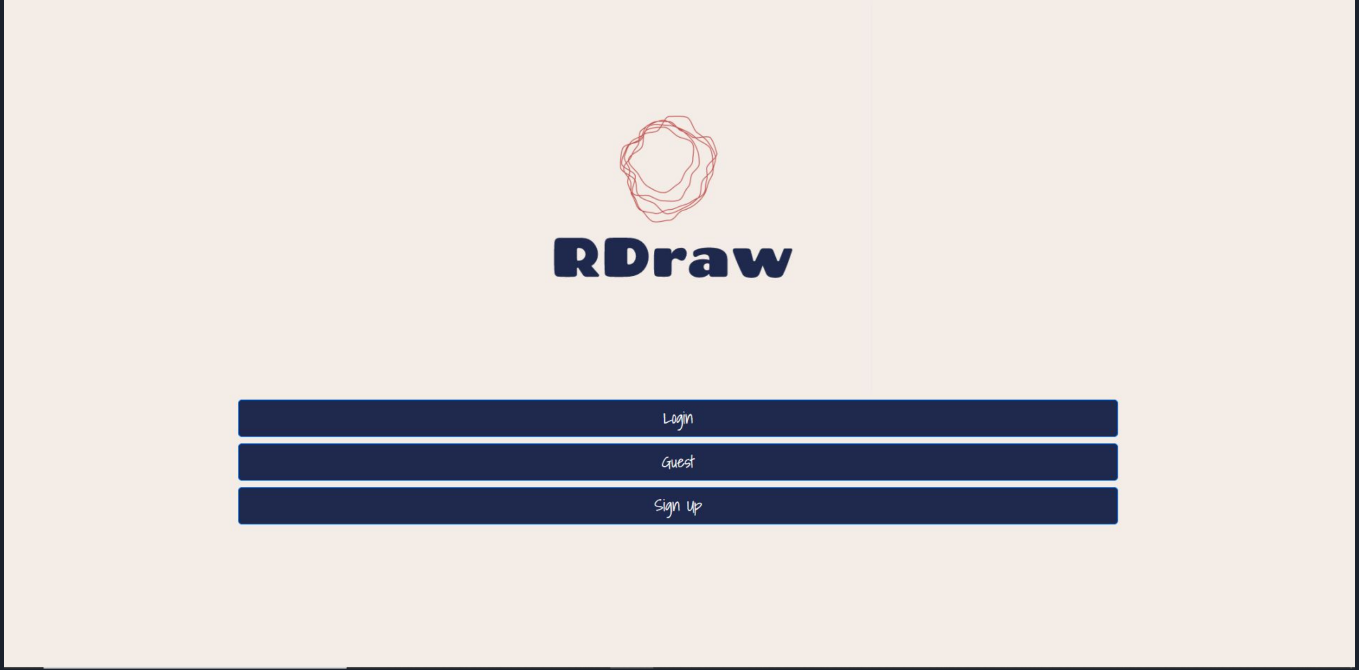
# Project WireFrame







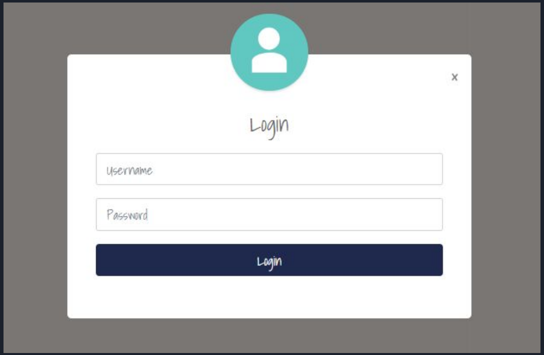
# UI - Login/Sign Up

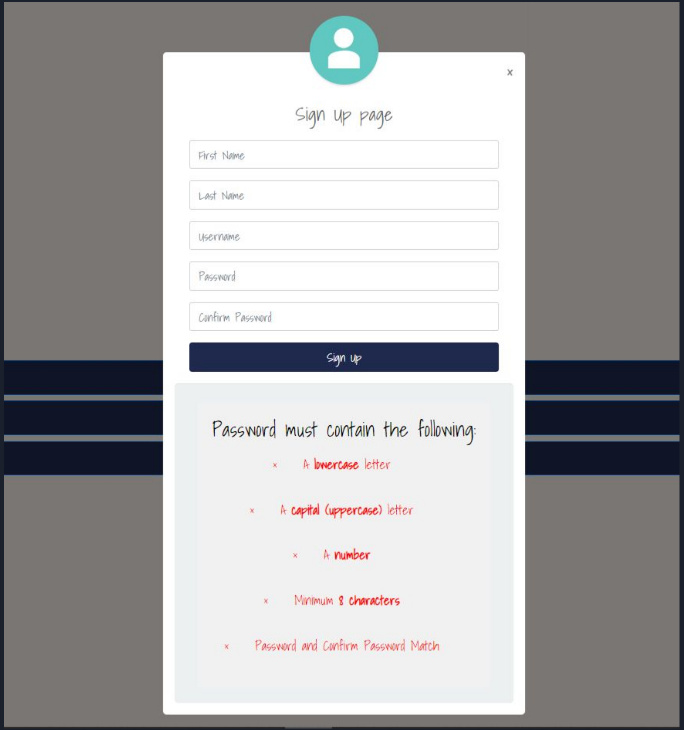


The login/signup page functions as the first frontend to backend connection. Through the signup form, the application collects the user information and stores it into the database. There is an option for “guest” as well.

# Login and Sign Up

- Login/Sign Up pop ups
  - Password requirements for sign up
  - Incorrect login
- Links user information to database

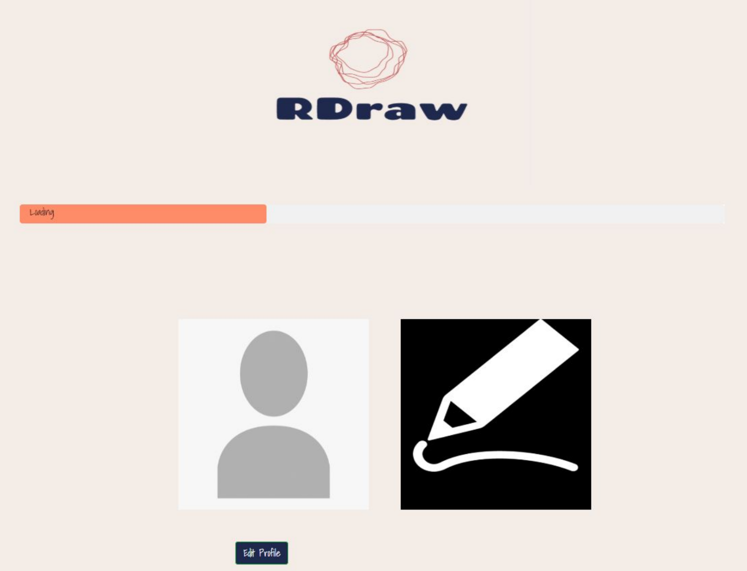




Password must contain the following:

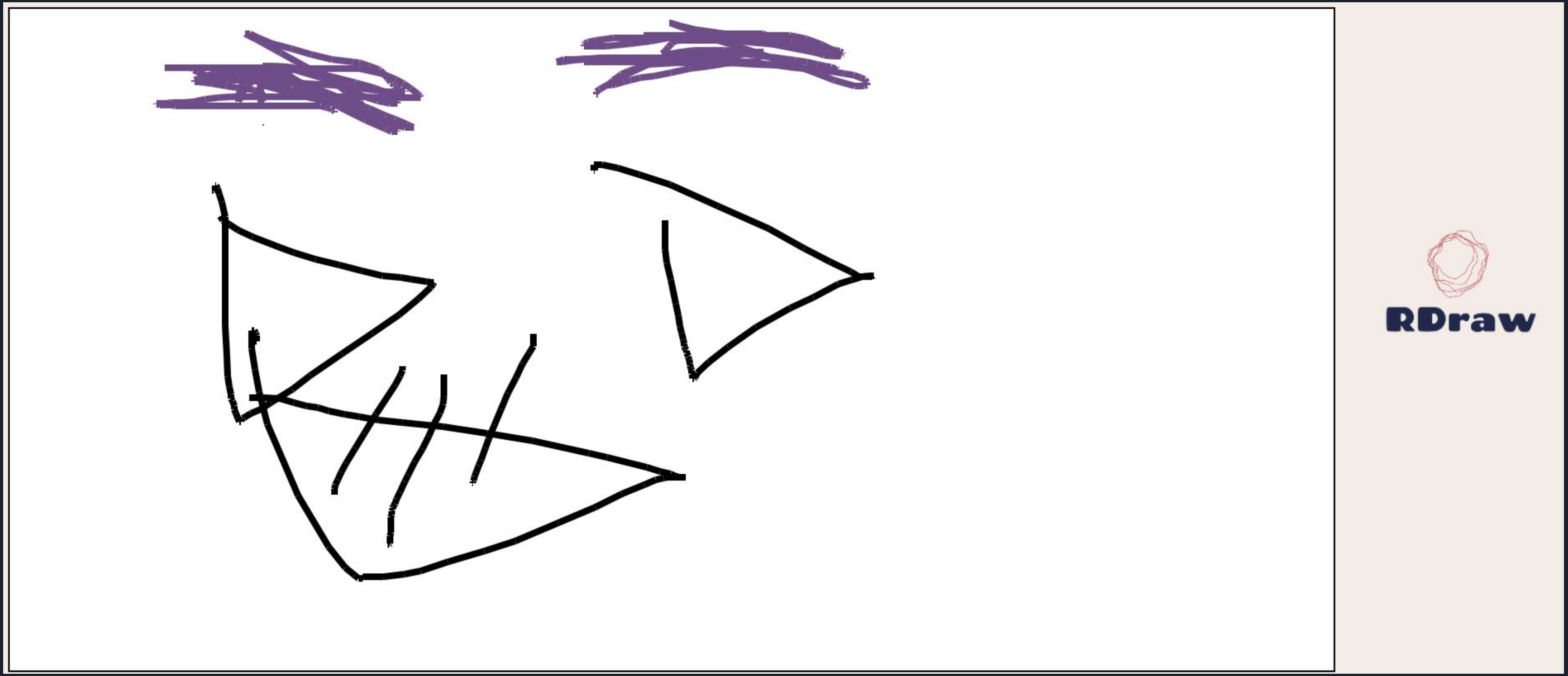
- × A **lowercase** letter
- × A **capital (uppercase)** letter
- × A **number**
- × Minimum **8 characters**
- × Password and Confirm Password Match

# UI - Waiting Room

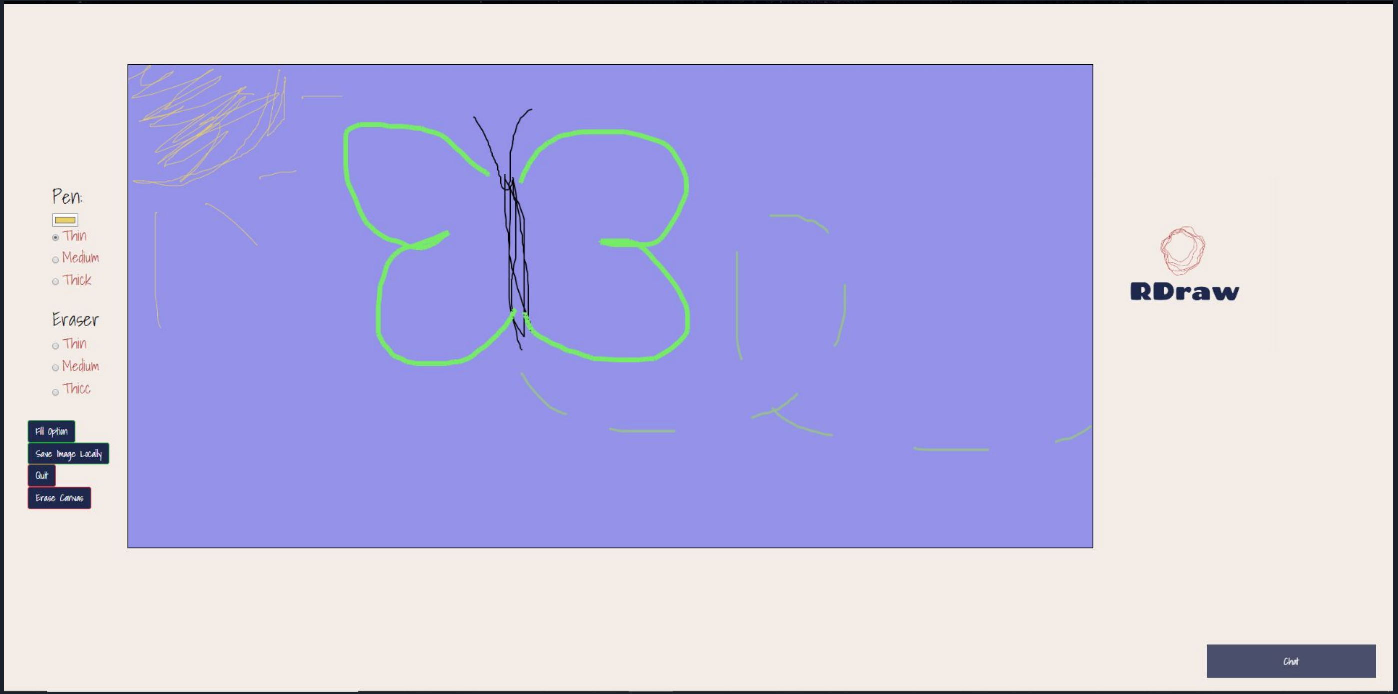


Once the user proceeds, there is a waiting room in which users wait to be paired with other players; they also have the option to edit their profile.

# Drawing in RDraw



# UI - Draw Room



The main feature is the drawing room. The user has the option to draw, erase the canvas, save the image, and chat.

# Framework - Node.js

- Used to connect  to our database and host the application to a local web server port
- Processes HTTP requests for login, drawroom, and waiting pages

# Server

- Node.js used to run server-side scripts
- Communication between the server and frontend using Express JS
    - GET and POST requests to get information to and from the frontend
- Server also allows connection to database, so the frontend can both access and insert data

# Thank You

# Project Milestone 6

Team Number: 111

Team Name: Triple 1.0

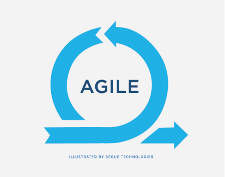
Team Members: Jon Cohen, Alexandra Ferguson, Michelle Kim, Nathan Kregstein, Ramon Martinez, Gabriela Tolosa Ramirez

Application Name: RDraw

**Tools used by our group:**

- Trello
  - Organizational tool - utilized for deadline tracking and project management.
  - Kept team on track with set deadlines and reminders. Customizable cards helped with the division of work.
  - **RATING:** ☆☆☆☆☆
    - 5 out of 5 stars
    - Trello gave consistent e-mail reminders and informed the team about deadlines as well as the urgency of upcoming deadlines. It also provided one consistent location for everything we had to do.
- GitHub/Git
  - VCS Repository - Meeting Notes, Milestone Submissions, and Project Code Components.
  - Kept code all in one place, up to date, and consistent. The use of Git with both GitHub and Heroku made code available to all team members
  - **RATING:** ☆☆☆☆☆
    - 5 out of 5 stars
    - Git commands were challenging to learn, but the accessibility of up-to-date code was extremely beneficial--especially when remote learning was put in action. Everyone had the ability to access all parts of the project from their own devices and work with ease.
- Heroku
  - Online Deployment.
  - Once hosted, our application could be modified and tested with ease.
  - **RATING:** ☆☆☆☆
    - 4 out of 5 stars
    - Although Heroku made it extremely easy to utilize and test our web application, building a connection with GitHub proved challenging. When code changes were made, they had to be pushed to both Heroku and GitHub, and code had to be pulled from both locations with precision in order to maintain the most up-to-date changes in all locations and everyone's devices.

- PostgreSQL
  - Database.
  - Managed the backend portion of the project and handled user information as well as other database aspects.
  - **RATING:** ☆☆☆☆
    - 4 out of 5 stars
    - PostgreSQL was useful when creating a functional database for RDraw. It was compatible with Heroku -- our deployment tool -- and was easy to utilize. The biggest challenge with PostgreSQL was hosting a database that could be accessed on both a host device as well as on the server-side through the application.
- Agile
  - Methodology
  - Agile is an industry-standard approach to team organization, software testing, and product delivery. It requires a team to participate in frequent SCRUM meetings to go over roadblocks and team progress. Every few weeks a sprint meeting is planned to go over team members' tasks for the next sprint and make sure everyone is on task.



  - **RATING:** ☆☆☆☆☆
    - 5 out of 5 stars
    - Agile proved beneficial for our team because it gave us a method to efficiently organize tasks for everyone. Additionally, it opened up the path for more communication on the team. Having frequent meetings allowed for everyone to know the status of the project and any issues that people were having.
- Node.js
  - Framework
  - Node.js is a multi-purpose server-side processing engine that lets users run a local webserver with Javascript as the server-side scripting language. It can generate dynamic page content and collect/process form data from an HTML page.
  - **RATING:** ☆☆☆☆☆
    - 5 out of 5 stars
    - Node.js was useful to test our application before deployment on Heroku. It helped us see how our application looks like and test the functionality of the login, drawing room, and loading page. We were

        able to set a connection to the database and process requests for each individual page.

- Slack
    - Communication
    - Industry-standard communication app. With both Desktop/Web and Mobile apps, it is accessible and effective.
    - **RATING:** ☆☆☆☆☆
        - 5 out of 5 stars
        - Slack was utilized by our team since the beginning of the semester. We have our workspace with multiple channels and available reactions. You can share files, images, thread messages and reactions.

**Challenges we encountered:**

- Backend/Frontend Integration
    - Database connectivity issues were persistent and hard to solve. Tying the front end and back end was the most challenging part of this project, especially since it was the last thing to do and due to the circumstances that flared up at the end of the semester, we were unable to get the assistance and help we needed.
- Application Deployment on Heroku
    - The application has different behaviors on a host machine compared to the online deployment. The overall creation of an app on Heroku was also challenging, rather than connecting to GitHub directly, we had to initialize a new repo, push our code, and make sure we updated both Heroku and Github every time changes were made.
- Frontend
    - Making everything aesthetic and appealing was challenging with going from html, to node.js and expressing javascript format. A challenge arose when we went from making a template into making it a fully functional web app.
- Backend
    - Database issues were consistent throughout the development and challenging to debug.
- Transition to “remote” classes and campus closure
    - The biggest challenge our team had to face was the transition to remote learning and campus closure. With everyone moving back home to their

families, and campus closing due to the current circumstances, it was challenging to still work on a team project. Resources weren't as available as before and it was challenging to maneuver. It was also difficult to find a balance between all other commitments every team member had, personal, academic, and professional commitments kept the team form working in the same way we had worked before.

**Demo:**

- We have prepared a presentation in the form of a PowerPoint and will be taking 10 minutes to present. We will follow the presentation with 5 minutes of Q&A.