

---

# Pool - carpooling app

SW Engineering CSC648-848-05 Fall 2023

## Milestone 3 | 11/02/2023

1. **Team Lead:** Zoe Rivka Panagopoulos | zpanagopoulos@sfsu.edu
2. **UX Expert:** Isiah Alfonso Paul-McGlothin | ipaulmcglothin@mail.sfsu.edu
3. **Fullstack Lead:** Kristian Goranov | kgoranov@sfsu.edu
4. **Fullstack Support:** Kendrick Alexis Rivas | krivas2@sfsu.edu
5. **Backend Baron:** Phillip Diec | gdiec@sfsu.edu
6. **Database Duke:** Jonathan Sum | jsum@sfsu.edu
7. **Frontend Lead:** Xuan Duy Anh Nguyen | anguyen96@sfsu.edu

## History Table

Milestone	Date
M3V2	11/25/23
M3V1	11/02/23
M2V2	11/02/23
M2V1	10/12/23
M1V2	10/8/23
M1V1	9/21/23

---

## 1. Data Definitions

User: browsing capabilities only, doesn't require an account

Account: can be created by user, required for drivers and passengers

Driver: user with an account, registers vehicles and submits trips

Passenger: user with an account, must be ID verified, requests rides in many trips

Profile: associated with a user who has an account, visible to drivers and passengers within a common pool, and after a trip for a limited time

Crew: a common group of people who pool together

Car: registered to one driver, associated with many pools

Pool: created by a driver, can have passengers, can be converted into a crew

Ratings: for drivers and passengers to rate each other

Ride request: how passengers request to be admitted into a pool

Payment: preferred methods of payment which allow passengers and drivers to exchange compensation for pool services off platform

Notifications: the way through which users are notified of updates pertaining to on-platform actions they have taken

---

## 2. Reprioritized Functional Requirements

### Priority 1

#### 1. User

- 1.1 A user shall create an account
- 1.2 A user shall register as a driver
- 1.3 A user shall register as a passenger
- 1.4 A user shall sign in
- 1.5 A user shall log out

#### 2. Profile

- 2.1 A profile shall belong to a passenger
- 2.2 A profile shall belong to a driver
- 2.3 A profile shall contain user details
- 2.4 A profile shall be viewed by the user it is associated with

#### 3. Driver

- 3.1 A driver shall be Fastrak verified
- 3.2 A driver shall create zero or many pools
- 3.3 A driver shall have zero or many crews
- 3.4 A driver shall have a driver's license
- 3.5 A driver shall view the pools they posted
- 3.6 A driver shall view the crews they are a member of
- 3.7 A driver shall leave the crews they are a member of

#### 4. Passenger

- 4.1 A passenger shall join many pools
- 4.2 A passenger shall have many crews
- 4.3 A passenger shall view the pools they have joined
- 4.4 A passenger shall view the crews they are a member of
- 4.5 A passenger shall leave the crews they are a member of
- 4.6 A passenger shall leave the pools they are a member of

---

## 5. Crew

- 5.1 A crew shall be created by one user
- 5.2 A crew shall have a description
- 5.3 A crew shall have members

## 6. Pool

- 6.1 A pool shall have a description
- 6.2 A pool shall have a start time.
- 6.3 A pool shall have passengers.
- 6.4 A pool shall have one driver
- 6.5 A pool shall have a start location
- 6.6 A pool shall have an end location
- 6.7 A pool shall be deleted by its driver

## **Priority 2**

### 1. User

- 1.1. A user shall be able to view their passenger ratings received
- 1.2. A user shall be able to view their driver ratings received
- 1.3. A user shall be able to view their passenger feedbacks received
- 1.4. A user shall be able to view their driver feedbacks received

### 2. Profile

- 2.1. A profile shall contain payment details
- 2.2. A profile shall display the average rating
- 2.3. A profile shall display ride history

### 3. Driver

- 3.1. A driver shall have ratings
- 3.2. A driver shall send ride requests for their pool(s)

### 4. Passenger

- 4.1. A passenger shall have ratings
- 4.2. A passenger shall send invites for crews.

---

5. Crew

- 5.1. A crew creator shall be able to remove users from their crew
- 5.2. A crew invite shall be accepted
- 5.3. A crew invite shall be declined

6. Pool

- 6.1. A pool shall have an occurrence rate.
- 6.2. A pool shall have a total distance in miles
- 6.3. A pool shall have an estimated trip duration
- 6.4. A pool shall have ride requests.

7. Ratings

- 7.1. A rating shall have a numerical value of 1-5
- 7.2. A rating for a driver shall be provided by a passenger belonging to a common pool
- 7.3. A rating for a passenger shall be provided by a driver belonging to a common pool
- 7.4. A rating for a car shall be provided by a passenger belonging to a common pool

8. Ride Requests

- 8.1. A ride request shall have seats
- 8.2. A ride request shall contain the description associated with the requesting Crew
- 8.3. A ride request shall contain a clickable name of the profile associated with the requesting Passenger(s) or Crew
- 8.4. A ride request shall contain the description associated with the requesting Crew
- 8.5. A ride request shall have zero or one pickup location(s)
- 8.6. A ride request shall have zero or one dropoff location(s)
- 8.7. A ride request shall be made by passengers
- 8.8. A ride request shall be made for a Crew
- 8.9. A ride request shall be made for a Pool

---

8.10. A ride request shall be accepted

8.11. A ride request shall be declined

9. Notifications

9.1. Notifications may be triggered by many actions.

**Priority 3**

1. User

1.1. A user shall have an emergency contact

1.2. A user shall be able to file a report ticket

1.3. A user shall be able to chat with support

1.4. A user shall be able to report any feedbacks

1.5. A user shall be able to delete their account

2. Driver

2.1. A driver shall have one or more cars

3. Car

3.1. A car shall be associated with a driver

3.2. A car shall be registered

3.3. A car shall have ratings

4. Profile

4.1. A profile shall display total distance traveled

4.2. A profile shall display total environmental impact

4.3. A profile shall display total number of crews with membership

5. Pool

5.1. A pool shall have a car

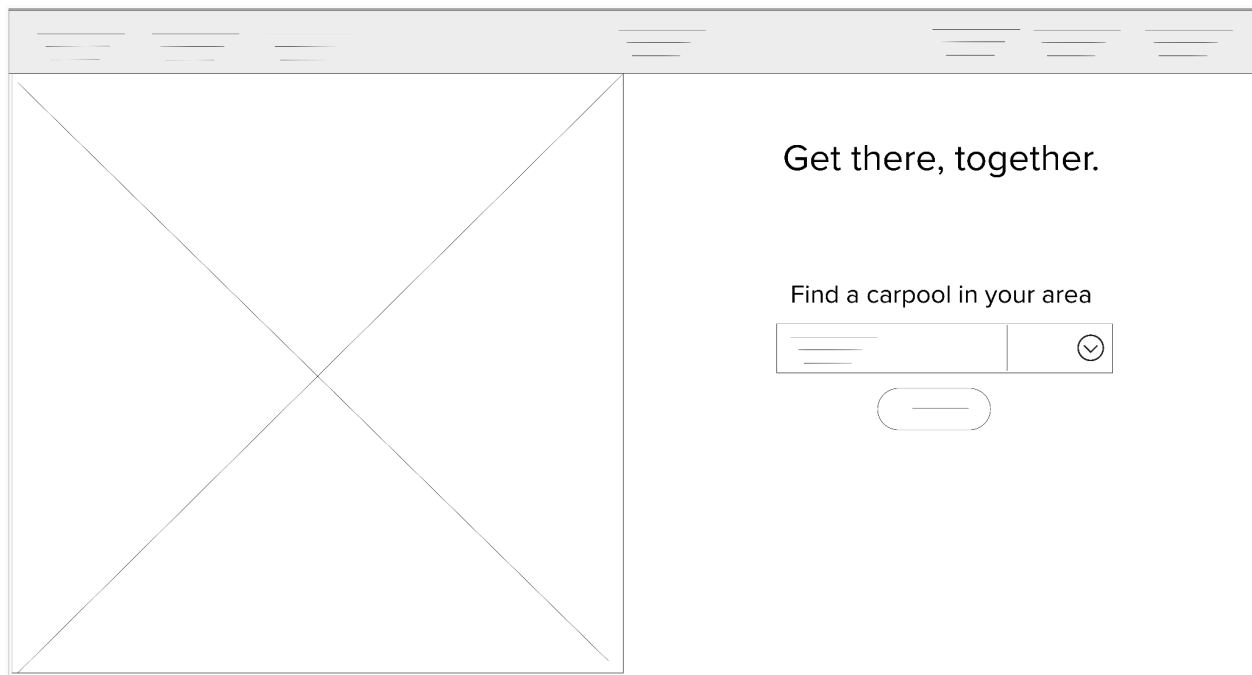
5.2. A pool shall be one-time or recurring.

6. Notifications

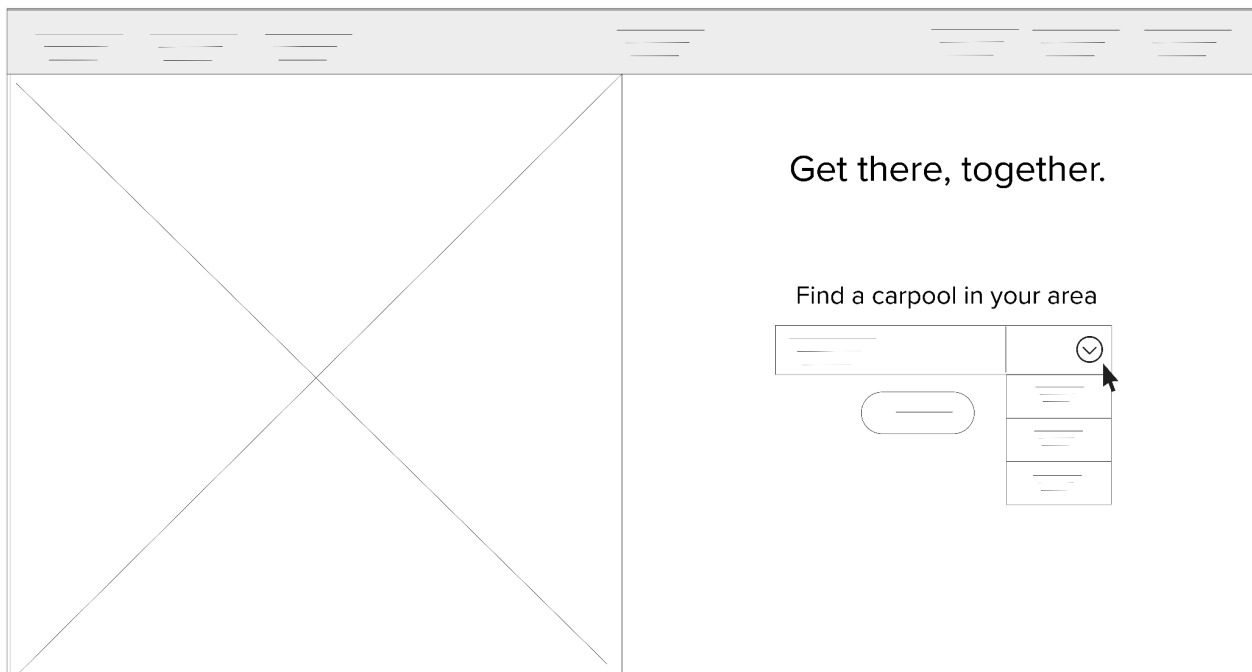
6.1. Notifications may be toggled on or off per account.

### 3. Wireframes

#### Home page



#### Home page with pulldown open (same screen)



## Home page with search results (same screen)

Get there, together.

Find a carpool in your area

The wireframe shows a header with navigation links. The main content area is split into two columns. The left column is a large placeholder with a diagonal 'X'. The right column contains the heading 'Get there, together.', the subheading 'Find a carpool in your area', a search bar with a checkmark icon, a right arrow button, a list of search results, and a 'Join Pool' button. A red line connects the 'Join Pool' button to the 'Sign up' section below.

If user is not signed in, they will be redirected to "Sign up" when trying to join a pool.

☐ Sign up

☐

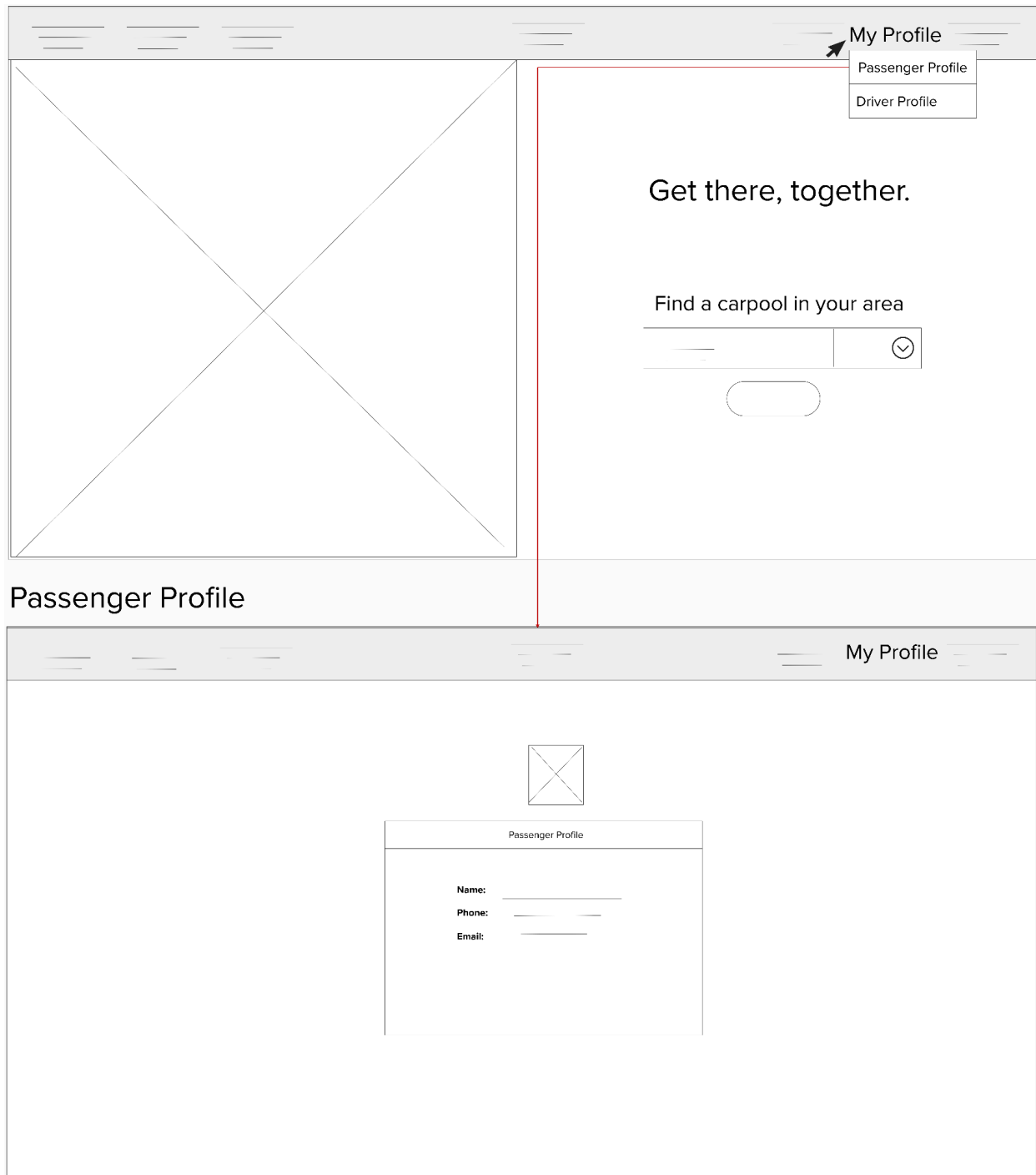
The wireframe shows a header with navigation links. The main content area is split into two columns. The left column contains a 'Sign up' link with a checkbox icon, a form with five text input fields, and a right arrow button. The right column is a large placeholder with a diagonal 'X'.



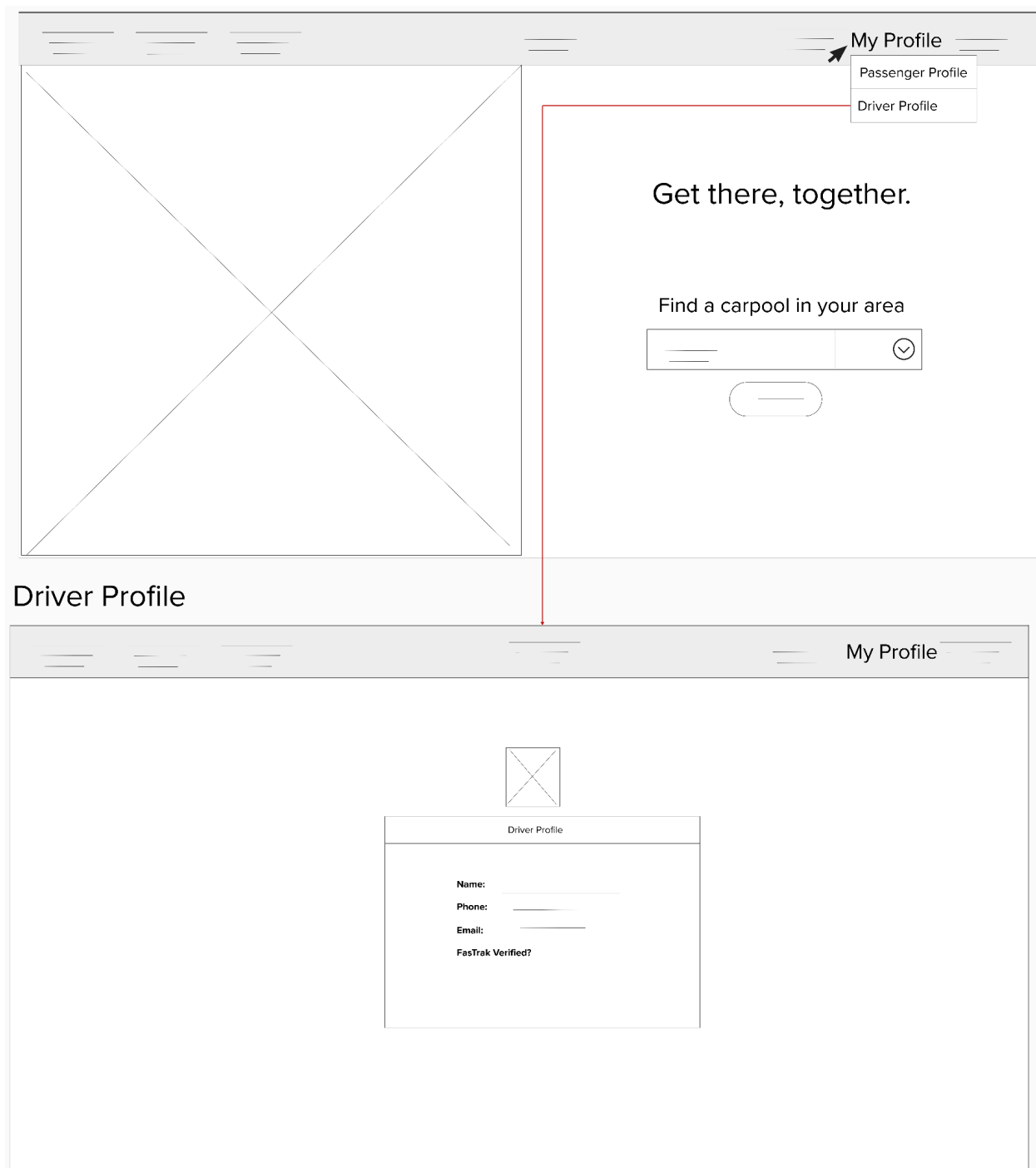
---

**After signing up, user is redirected to the Sign in screen.**

View passenger profile (new screen): once signed in, user is redirected to the home page where “My Profile” now displays in header menu



View driver profile (new screen): once signed in, user is redirected to the home page where “My Profile” now displays in header menu



Post a pool: blank state and pool name (accessible from any page via header menu for authenticated users registered as a driver)

The image displays two wireframe versions of a web form titled "Post a Pool".

**Top Wireframe (Blank State):**

- Header:** A grey bar at the top contains the text "Post a Pool" with a small arrow pointing to it.
- Form Title:** The form itself has a title "Post a Pool" centered at the top.
- Form Fields:** A vertical list of five expandable sections, each with a plus icon and a label:
  - Pool Name
  - Start Location
  - End Location
  - Date & Time
  - Privacy Settings
- Submit Button:** A rounded rectangular button is located below the list of sections.

**Bottom Wireframe (Expanded State):**

- Header:** Similar to the top wireframe, with "Post a Pool" in the header bar.
- Form Title:** The form title "Post a Pool" is centered at the top.
- Form Fields:** The "Pool Name" section is expanded, showing a text input field with the placeholder text "SF Commute". Below the input field is a rounded rectangular button. The other four sections (Start Location, End Location, Date & Time, Privacy Settings) remain collapsed.

Post a pool: pool name (filled) and selecting & filling start location (same screen as previous page)

Post a Pool

Post a Pool

- + SF Commute
- + Start Location
- + End Location
- + Date & Time
- + Privacy Settings

Post a Pool

Post a Pool

- + SF Commute
- + Start Location
  - Street Address
  - City
  - State Zip Code
- + End Location
- + Date & Time
- + Privacy Settings

Post a pool: start location (filled) and selecting & filling end location (same screen as previous page)

The image displays two sequential screenshots of a mobile application interface for posting a pool. Both screenshots feature a header bar with the text "Post a Pool" and a hamburger menu icon on the left, and three horizontal lines on the right. The main content area is titled "Post a Pool" and contains a list of options, each preceded by a plus icon in a circle:

- SF Commute
- 21 Broadway  
Oakland, CA
- End Location
- Date & Time
- Privacy Settings

In the top screenshot, a mouse cursor points to the "End Location" option. In the bottom screenshot, the "End Location" option is selected, and a red line connects it to a form below. The form consists of the following elements:

- A text input field labeled "Street Address".
- A text input field labeled "City".
- Two text input fields side-by-side labeled "State" and "Zip Code".
- A rounded rectangular button with a minus icon.
- Below the form, the "Date & Time" and "Privacy Settings" options remain visible.

Post a pool: end location (filled) and selecting and filling date/time (same screen as previous page)

Post a Pool

Post a Pool

SF Commute

21 Broadway  
Oakland, CA

9 Sansome St.  
San Francisco, CA

Date & Time

Privacy Settings

Post a Pool

SF Commute

21 Broadway  
Oakland, CA

9 Sansome St.  
San Francisco, CA

Date & Time

8 AM

:00

9 AM

:05

10 AM

:10

11 AM

:15

June 10, 2023 at 8:00 AM

Privacy Settings

Post a pool: date/time (filled) and selecting “public” under privacy settings (same screen as previous page)

The image displays two sequential screenshots of a web form titled "Post a Pool".

**Top Screenshot:** The form contains the following filled-in details:

- SF Commute
- 21 Broadway  
Oakland, CA
- 9 Sansome St.  
San Francisco, CA
- 6/10/23 10 AM
- Privacy Settings (indicated by a black arrow pointing to the plus icon)

**Bottom Screenshot:** This view shows the form after the details are filled. A red line connects the "Privacy Settings" plus icon from the top screenshot to the "Make your pool available to the public or to members of a crew" option in this screenshot. The form now includes:

- SF Commute
- 21 Broadway  
Oakland, CA
- 9 Sansome St.  
San Francisco, CA
- 6/10/23 10 AM
- Make your pool available to the public or to members of a crew
- Public (selected with a radio button and indicated by a black arrow)
- Private
- A submit button at the bottom



Post a pool: date/time (filled) and selecting & filling “private” under privacy settings (same screen as previous page)

The image displays two sequential screenshots of a web form titled "Post a Pool".

**Top Screenshot:** The form contains the following fields, each with a plus icon to its left:

- SF Commute
- 21 Broadway  
Oakland, CA
- 9 Sansome St.  
San Francisco, CA
- 6/10/23 10 AM
- Privacy Settings

A red arrow points to the "Privacy Settings" field.

**Bottom Screenshot:** This screenshot shows the same form, but with additional options revealed under the "Privacy Settings" section:

- Make your pool available to the public or to members of a crew
  - ☐ Public
  - ☒ Private
- Select a crew (dropdown menu)
  - Work crew
  - Soccer crew

A red arrow points to the "Private" radio button.

Post a pool: crew selected under privacy settings and filled (same screen as previous page)

The image displays two sequential screenshots of a web form titled "Post a Pool". A red line connects a dropdown menu in the first screenshot to a specific option in the second screenshot.

**Top Screenshot:**

- Title: Post a Pool
- Options with plus icons:
  - SF Commute
  - 21 Broadway  
Oakland, CA
  - 9 Sansome St.  
San Francisco, CA
  - 6/10/23 10 AM
- Privacy setting: "Make your pool available to the public or to members of a crew"
- Radio buttons: ☐ Public, ☒ Private
- Dropdown menu: "Select a crew" with a checkmark icon.
- Dropdown options: "Work crew" (highlighted with a red arrow), "Soccer crew"
- Empty input field at the bottom.

**Bottom Screenshot:**

- Title: Post a Pool
- Options with plus icons:
  - SF Commute
  - 21 Broadway  
Oakland, CA
  - 9 Sansome St.  
San Francisco, CA
  - 6/10/23 10 AM
- Option with plus icon: "Share with Work Crew" (highlighted with a red arrow)
- Empty input field at the bottom.

View pools as a driver: created pools display here, accessible to authenticated users from any page via header menu

My Pools

Driver: Fernando

Delete Pool

Driver: Sally

Delete Pool

Available Pools

Driver: Efe

Leave Pool

Past Pools

Driver: Jerome  
Passenger: Carlos  
Passenger: Gloria

Create Crew

View pools as a passenger: create crew with members of a past pool (same screen as previous page)

My Pools

Available Pools

Driver: Fernando

Leave Pool

Driver: Sally

Leave Pool

Driver: Efe

Join Pool

Past Pools

Driver: Jerome

Create Crew

19

View pools as passenger: crew created (same screen as previous page)

My Pools

Available Pools

Driver: Fernando

Leave Pool

Driver: Sally

Leave Pool

Driver: Efe

Join Pool

Past Pools

Driver: Jerome

Crew Created!

View crews: created crews are viewable here, this screen is accessible to authenticated users from any page via header menu

My Crews

**My Crews**

**Coworker Crew**  
Driver: Fernando  
Passenger: Dev  
Passenger: Lulu

Leave Crew

**Soccer Crew**  
Driver: Chai  
Passenger: Shreya  
Passenger: Sam

Leave Crew

**Tom Crews**  
Driver: Sal  
Passenger: Destiny  
Passenger: Calvin

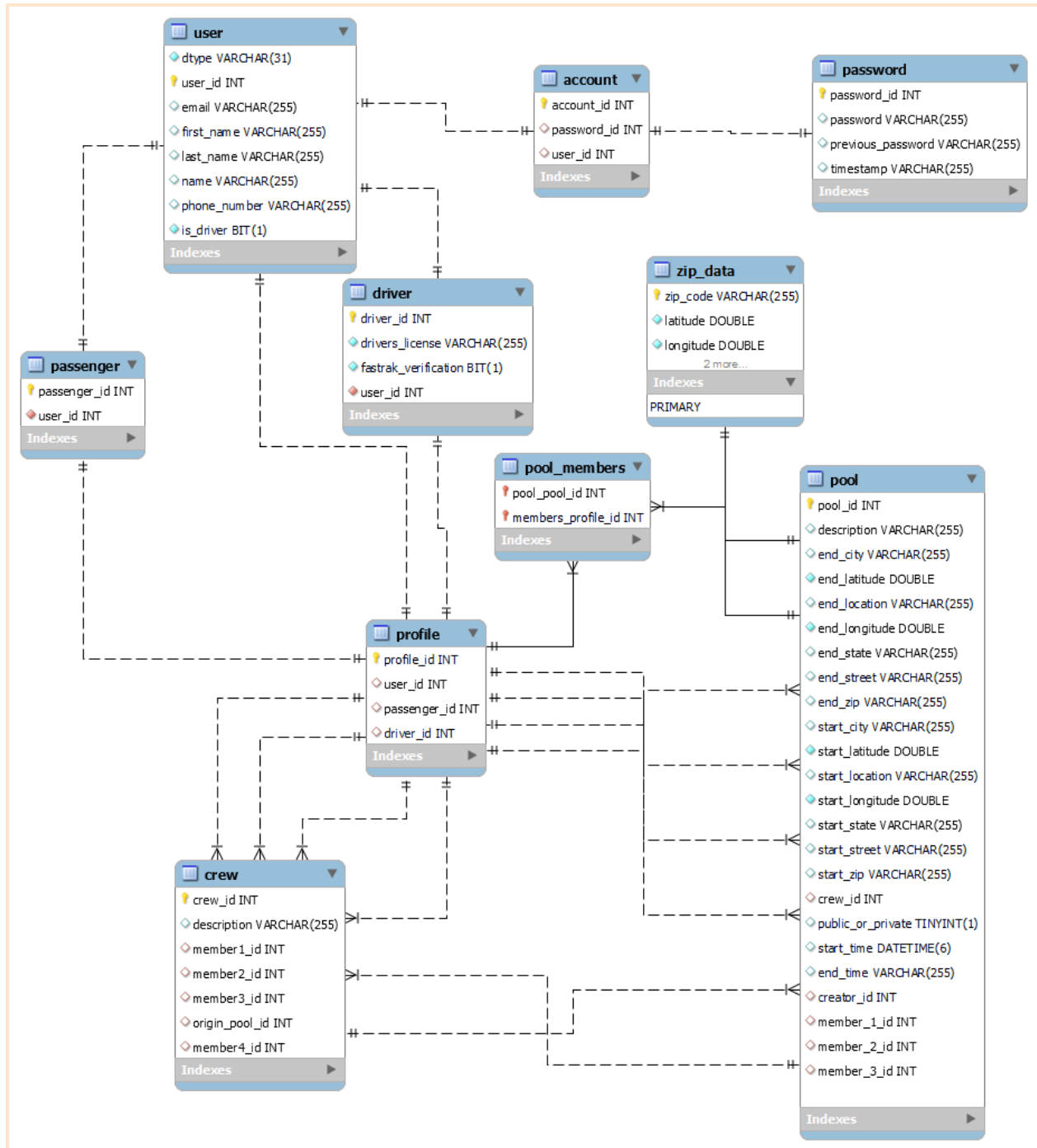
Leave Crew

**Airport Crew**  
Driver: Laquisha  
Passenger: Hector  
Passenger: Mei

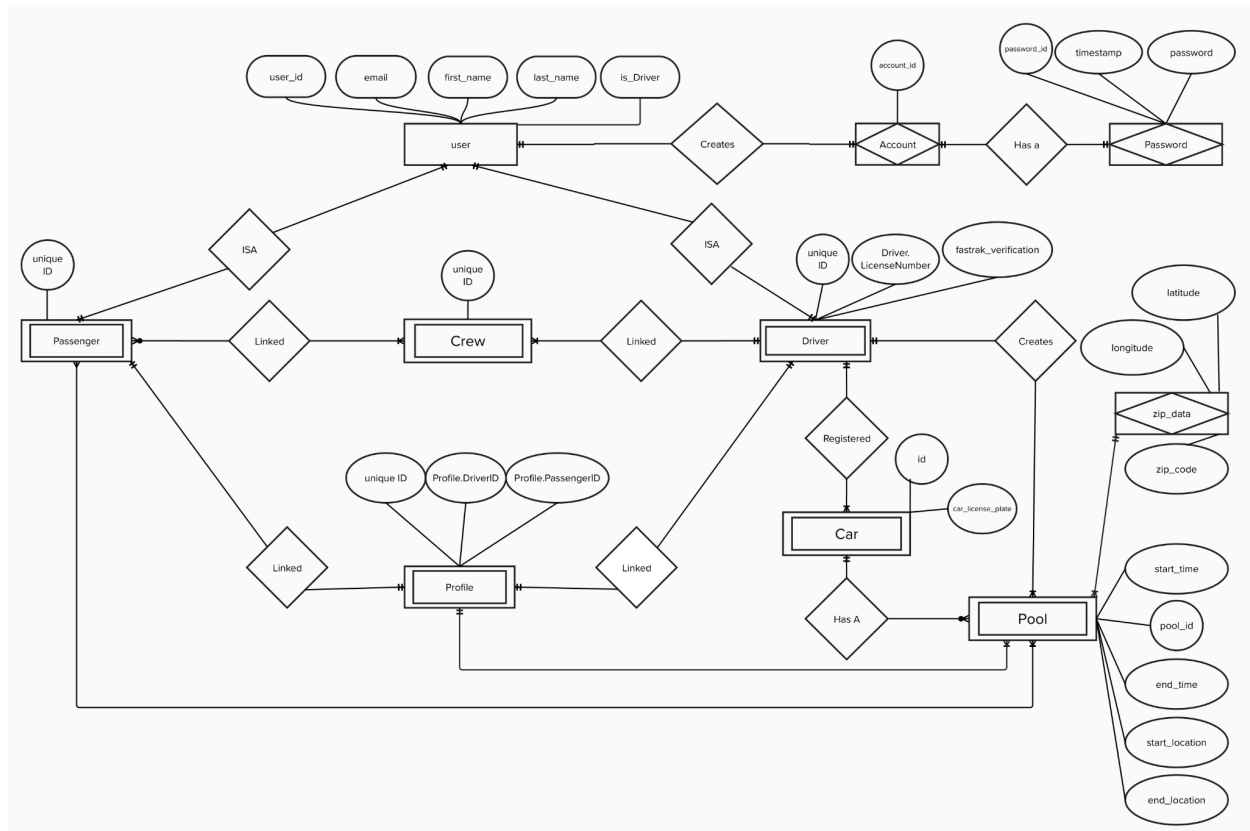
Leave Crew

## 4. High level database architecture and organization

### Entity Establishment Relationship Diagram (EER)



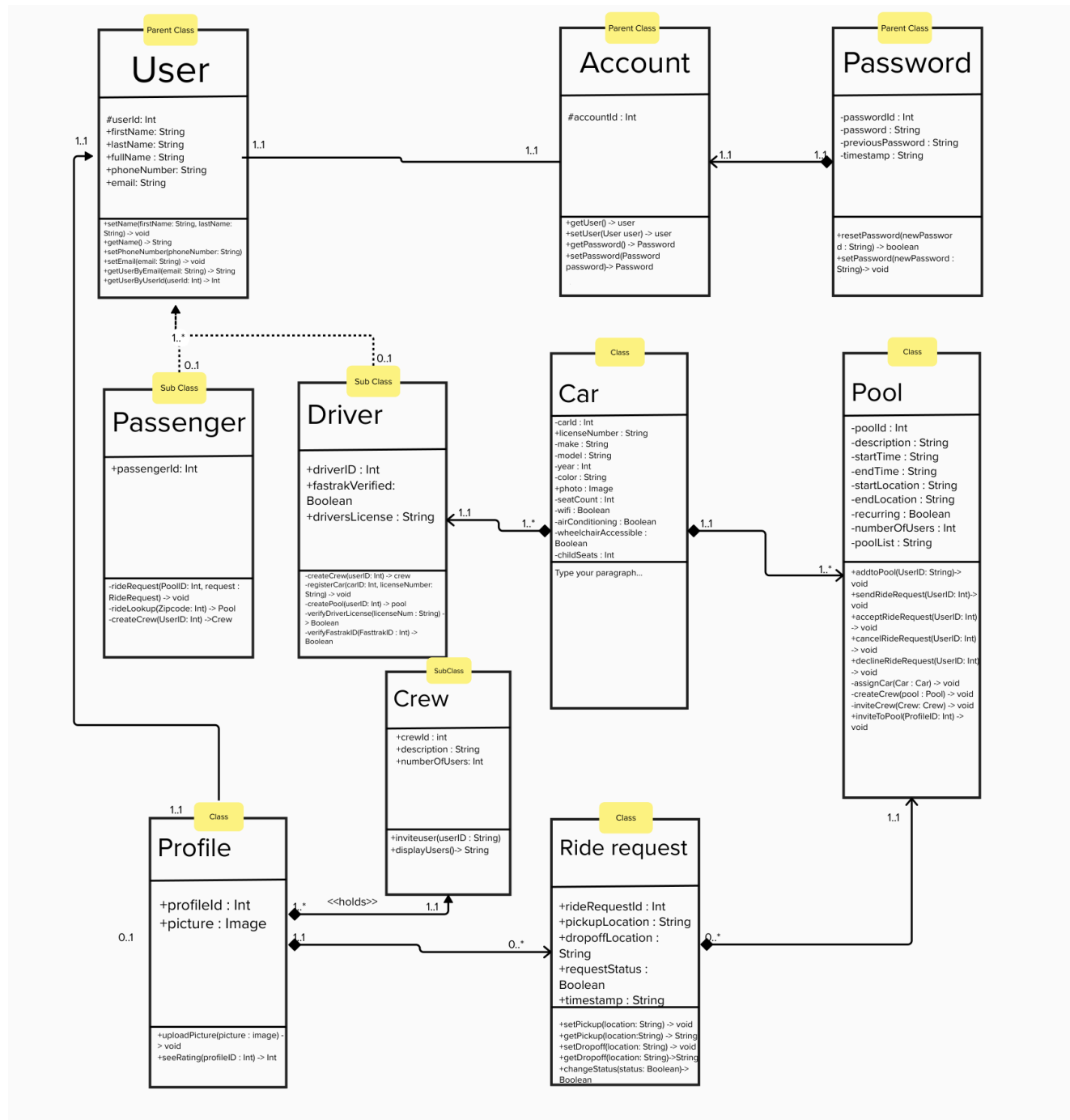
## Entity Relationship Diagram (ERD)



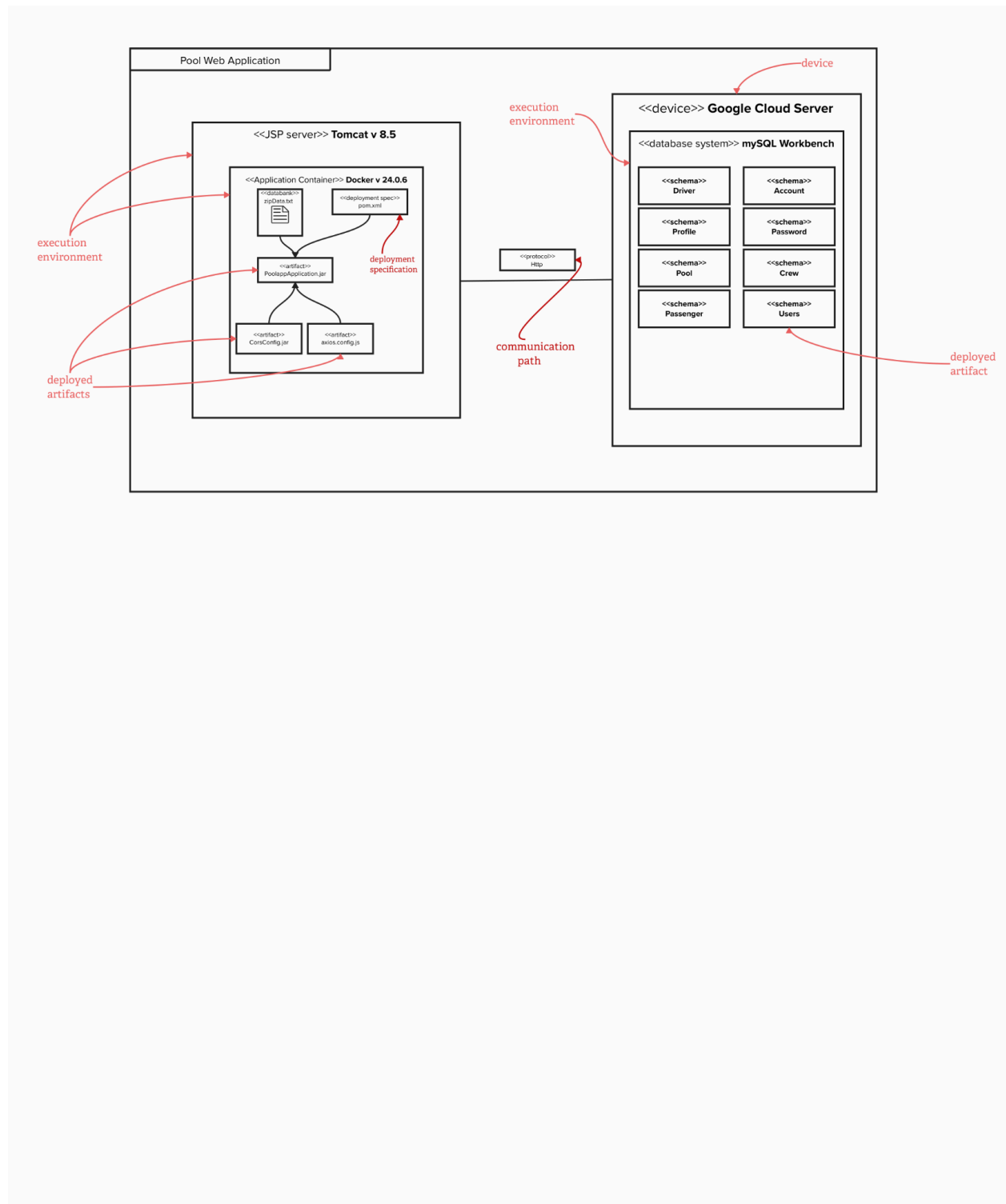


## 5. High Level Diagrams

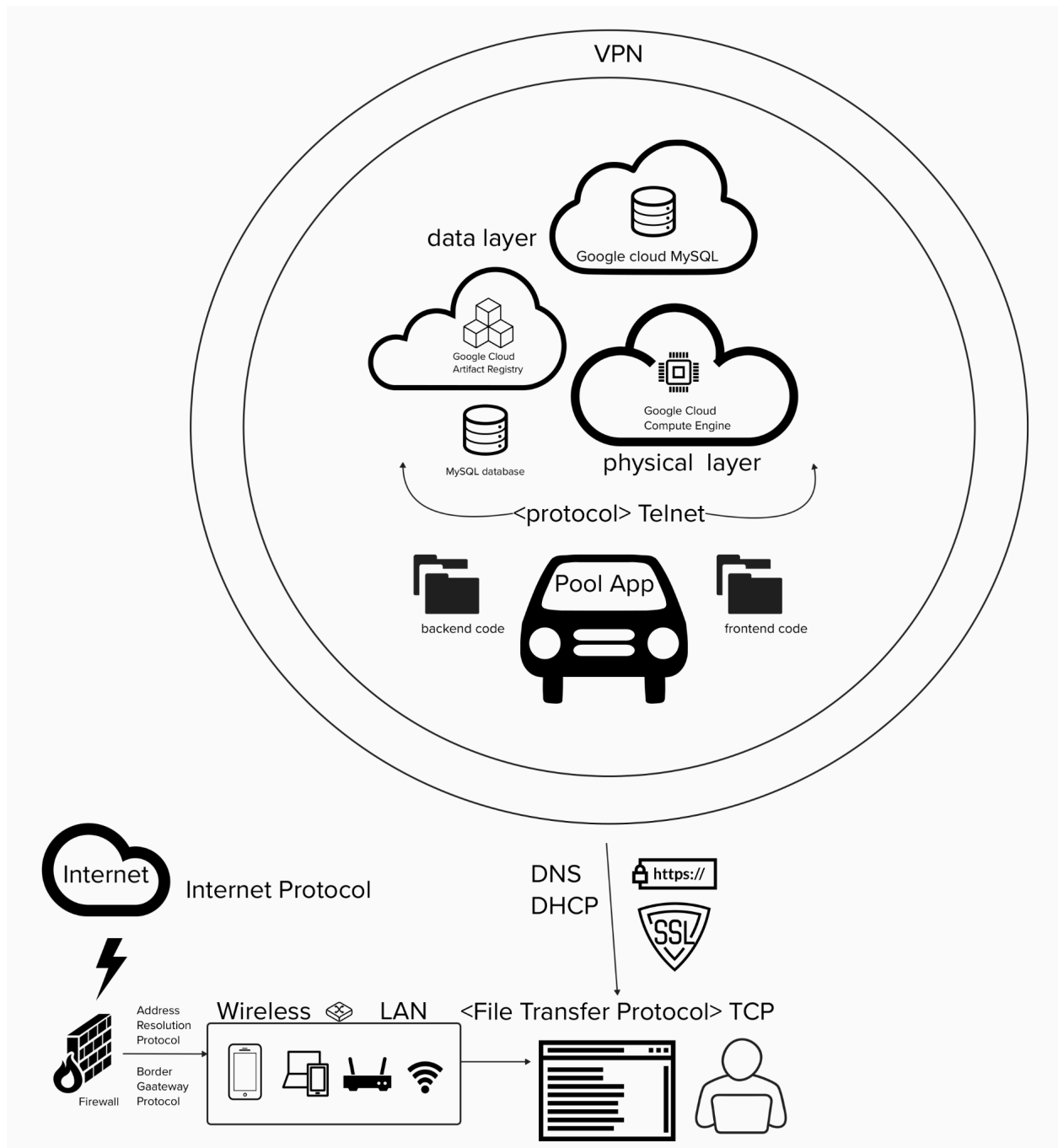
### UML Diagram



## Deployment Diagram



## Network Diagram



---

## 6. List of Contributions

### Team Contribution Scores

- Isiah: 10
- Jonathan: 10
- Kendrick: 8
- Kristian: 10
- Phillip: 10
- Xuan: 10

### Prioritized Functional Requirements

- ☒ Isiah: verbal contribution to full reprioritization during two collaborative sessions with full team
- ☒ Jonathan: verbal contribution to full reprioritization during two collaborative sessions with full team
- ☒ Kendrick: verbal contribution to full reprioritization during two collaborative sessions with full team
- ☒ Kristian: verbal contribution to full reprioritization during two collaborative sessions with full team
- ☒ Phillip: verbal contribution to full reprioritization during two collaborative sessions with full team
- ☒ Xuan: verbal contribution to full reprioritization during two collaborative sessions with full team
- ☒ Zoe: facilitated two collaborative sessions with full team

### Wireframes

- ☒ Isiah: Home page with pulldown open, Home page with search results
- ☒ Jonathan: Home page, Home page with pulldown open
- ☒ Kendrick: Signup
- ☒ Phillip: Login
- ☒ Zoe: Signup as driver, View passengerpProfile, View driver profile, Pool creation, Create crew, View pools, View crews (V1), all revisions to make wireframes more clearly connected (V2)

---

## High Level Database Architecture and Organization



- ☒ Isiah: Worked collaboratively deployment diagram on a team call using Mural
- ☒ Jonathan: Worked collaboratively deployment diagram on a team call using Mural, created EER
- ☒ Kendrick: Worked collaboratively deployment diagram on a team call using Mural

## Frontend Implementation


- ☒ Isiah:
  - [View Profile](#)
- ☒ Kendrick
  - [Add phone number to account creation screen](#)
  - [View Crews](#)
- ☒ Xuan
  - [Driver registration](#)
  - [Pool creation](#)
  - [Join pool](#)
  - [Create a crew](#)
  - [View Pools](#)
  - [User can switch from logged in to logged out state](#)
  - [Show "Select" in search pulldown by default](#)
  - [Add search button to home page](#)
  - [Update default values in create pool input fields](#)
  - [Shift search bar up to make room for results](#)

## Backend Implementation

- ☒ Jonathan:
  - [Passenger becomes pool member on "join pool"](#)
  - [Create passenger class](#)
  - [Create passenger endpoint and implement method](#)
  - [Create profile endpoint and implement method](#)
  - [Update pool class to accommodate public vs private pool](#)

- 
- [Update data type of pool.start\\_time and delete pool.end\\_time](#)
  - [Insert user, pool, and crew data](#)
  - [Clean up profile table and class](#)
  - [Create endpoint to delete user from crew](#)
  - [Create endpoint to add user to crew](#)
  - [Update crew to include a fourth member](#)
  - [Update passenger to remove profileId](#)
  - [Clean up pool table and class](#)
  - [Update profile to remove user\\_type](#)
  -  Kristian:
    - Optimized proximity based search method for pool search
    - Supported frontend and backend teams, ensured both systems were working together throughout the development lifecycle
    - [Update HTTP method returned in backend response](#)
    - [Create endpoint for "View pools"](#)
    - [Create pool endpoint](#)
    - [Update Sign-in endpoint to include profileId in response to frontend](#)
  -  Phillip:
    - [Create driver class](#)
    - [Create crew class](#)
    - [Create profile class](#)
    - [Create driver endpoint and implement method](#)
    - [Create crew endpoint and implement method](#)
    - [Create passenger or driver + profile on user creation](#)
    - [Create endpoint to add user to pool](#)
    - [Create endpoint for pool creation](#)

## Deployment

-  Xuan: with input from Zoe purchased a domain with Google managed DNS and SSL, updated build process, fully owned deployment for delivery