



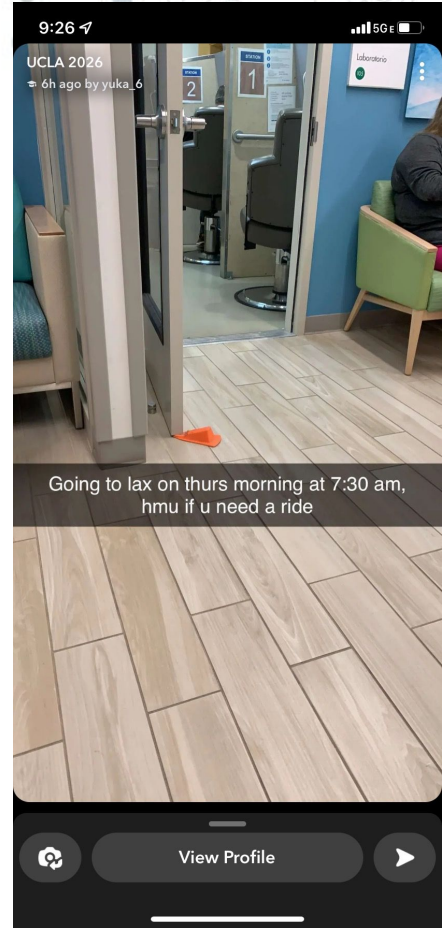
Bruin Cruisin

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Dhruva Sankhe, Satvik Eltepu, Howard Huang**

Purpose

- 🎯 Book Rides conveniently
- 🎯 Reduce Carbon Footprint
- 🎯 Save Money

Mission: Make Carpooling a stress-free experience



Authentication

- ◎ Chakra UI Components
- ◎ Collect Inputs with Hook forms
- ◎ Error Checking: doesn't allow mismatching passwords/ short names
- ◎ Send Data to API for validation/registration

Log in to your account

Don't have an account?

[Sign up](#)

Username

Password

Sign in

Sign up for an account

Have an Account?

[Log in](#)

Full Name

Username

Email

Password

Confirm Password

Sign up

Home Page

- Navbar
- HeroSection
- Redirecting Button
- Footer

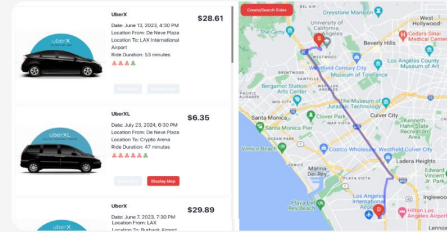
Home Create Ride

Profile

Welcome to BruinCruisin

Create or find carpools with fellow Bruins in an instant!

Click here to Get Started!



Steps for searching/creating a ride

1. Decide what you want your ride to be. You can choose the pick-up location, destination, time, and number of riders.
2. Next, we'll let you know if there's a similar ride that other BruinCruisin users are taking at this time.
3. If a similar ride exists, go ahead and join to save money and reduce carbon emissions!
4. If we don't have a similar ride for you, go ahead and click create so that other users may join your ride.
5. Either way, you'll receive an email shortly after confirming your ride with the price for it!

Accessing Profile Page

1. Your profile page contains all of your personal information, especially including your rides
2. Here, you'll be able to see your upcoming rides. You can update the time if you created it or leave the ride if you would like.
3. You'll also be able to see your previous rides if you ever want to take a look back to where you've been.
4. Lastly, here you can see some pretty cool pieces of information, such as how much money and carbon you've saved!

Ride History

Existing Rides


Start:	UCLA
End:	LAX
Date:	July 5, 2023, 9:30 AM
Update Ride Leave Ride	

Profile Information

Full Name:	Parthiv Patel
Email:	parthiv25@gmail.com
Username:	passwords12345
Money Saved:	\$150
Carbon Saved:	0 kg CO2
Number of Rides:	7

Main Page - Create/Search Ride Page

[Home](#) [Create Ride](#) [Profile](#)




uberX
THE LOW-COST UBER

UberX **\$28.61**

Date: June 13, 2023, 4:30 PM
Location From: De Neve Plaza
Location To: LAX International Airport
Ride Duration: 53 minutes

👤 👤 👤

[Book Ride](#) [Display Map](#)




uberXL
SPACIOUS, CONVENIENT COMFORT

UberXL **\$5.29**

Date: July 23, 2024, 6:30 PM
Location From: De Neve Plaza
Location To: Crypto Arena
Ride Duration: 47 minutes

👤 👤 👤 👤 👤

[Book Ride](#) [Display Map](#)



uberX

UberX **\$29.89**

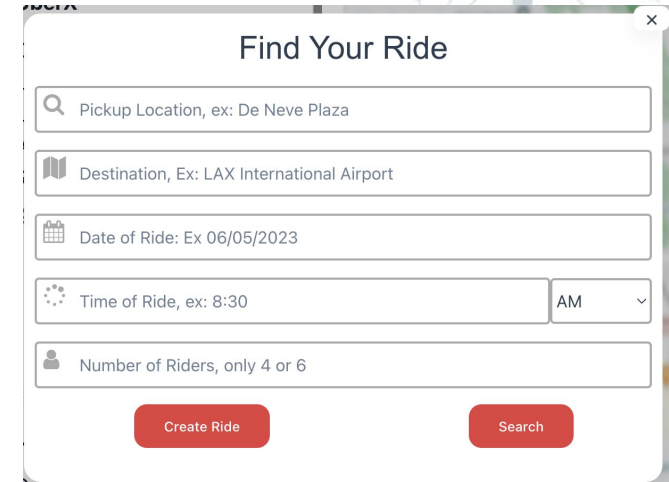
Date: June 7, 2023, 7:30 PM
Location From: LAX
Location To: Burbank Airport

[Create/Search Rides](#)

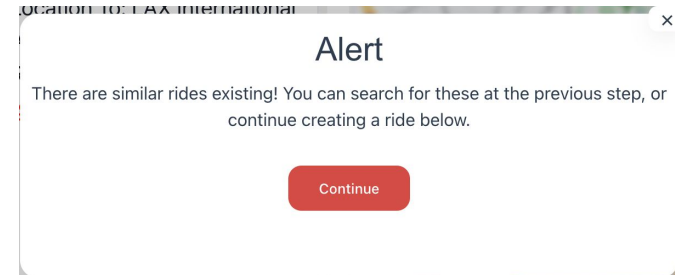


Create/Search Ride Modal

- Field Inputting
- Create Ride Button
 - Data upload with Backend Validation (ex: invalid location)
- Cool Feature: Similar Ride Warning
 - 'X' Button
 - Continue Button
 - Data search
- Search Ride Button
 - Data search




A screenshot of a web modal titled "Find Your Ride" with a close button (X) in the top right corner. The modal contains five input fields: "Pickup Location, ex: De Neve Plaza" with a magnifying glass icon, "Destination, Ex: LAX International Airport" with a book icon, "Date of Ride: Ex 06/05/2023" with a calendar icon, "Time of Ride, ex: 8:30" with a clock icon and an "AM" dropdown menu, and "Number of Riders, only 4 or 6" with a person icon. At the bottom, there are two red buttons: "Create Ride" on the left and "Search" on the right.



A screenshot of a web modal titled "Alert" with a close button (X) in the top right corner. The modal contains a text message: "There are similar rides existing! You can search for these at the previous step, or continue creating a ride below." At the bottom, there is a single red button labeled "Continue".

Ride Stack


- Each ride is displayed in the Ride Stack with the relevant information
 - Estimated price you would pay if you were to join the ride
- Buttons for
 - booking the ride
 - displaying the map




uberX
THE LOW-COST OPTION

UberX **\$28.61**

Date: June 13, 2023, 4:30 PM
Location From: De Neve Plaza
Location To: LAX International Airport
Ride Duration: 53 minutes




[Book Ride](#) [Display Map](#)




uberXL
SPACIOUS, CONVENIENT, COMFORT

UberXL **\$5.29**

Date: July 23, 2024, 6:30 PM
Location From: De Neve Plaza
Location To: Crypto Arena
Ride Duration: 47 minutes




[Book Ride](#) [Display Map](#)



uberX
THE LOW-COST OPTION

UberX **\$29.89**

Date: June 7, 2023, 7:30 PM
Location From: LAX
Location To: Burbank Airport
Ride Duration: 50 minutes



[Book Ride](#) [Display Map](#)

Profile Page

- Dynamic data display
 - Profile Information
 - Carbon Saved
 - Money saved on app
 - Ride History
 - Update Ride button
 - Leave Ride button

Logout Button

Profile Information	
Full Name:	Parthiv Nair
Email:	parthivn25@gmail.com
Username:	passwordis"12345"
Money Saved:	\$126
Carbon Saved:	7 kg CO2
Number of Rides:	4

Ride History

Existing Rides

Start:	De Neve Plaza
End:	LAX International Airport
Date:	June 13, 2023, 4:30 PM
<div>Update Ride</div> <div>Leave Ride</div>	
Start:	San Diego Airport
End:	UCSD
Date:	June 14, 2023, 4:30 PM
<div>Update Ride</div> <div>Leave Ride</div>	

Past Rides

Start:	LAX
End:	Olympic Hall
Date:	April 23, 2023, 5:00 PM
Start:	Hedrick Summit
End:	Crypto Arena
Date:	May 23, 2023, 4:00 PM

Logout

Update Your Ride

Time of Ride, ex: 8:30

AM

Number of Riders, only 4 or 6

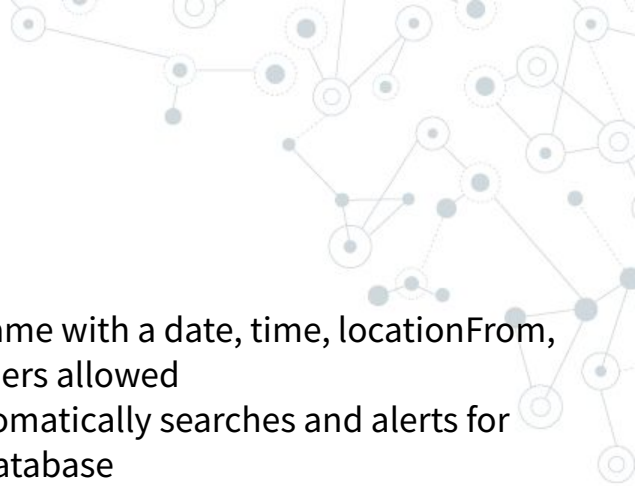

Update Ride

Backend APIs

- POST : create-user
- POST : login
- GET : user-data
- GET : rides-for-user

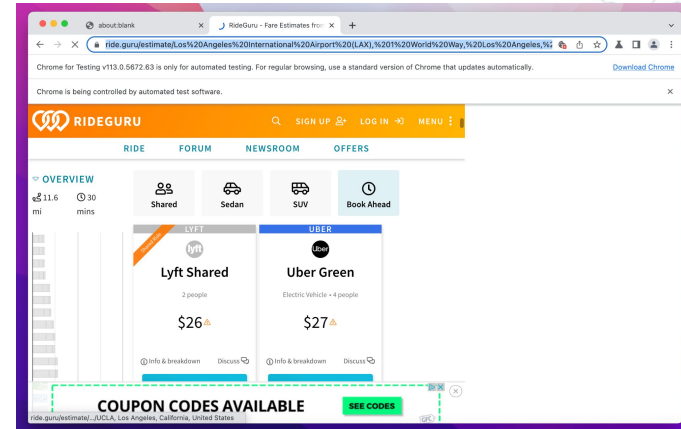
- Users made with a username, password, full name and email.
- Passwords are encrypted and stored in our database.
- Takes a username and password in the request
- Compares their values against those in the database - returns true if successful
- Finds a user in the database using the username
- Returns calculations based off rides, such as carbon saved and money saved using the site.
- Designed to be called by the frontend profile page to return an array of rides that a given username is in.

Backend APIs (Rides)

- 
- 
- POST - create-ride →
- POST - join-ride →
- POST - leave-ride →
- PUT - update-ride →
- GET - search-ride →
- GET - ride-image →
- Rides created by a username with a date, time, locationFrom, locationTo, number of riders allowed
 - Includes feature that automatically searches and alerts for similar rides existing in database
 - Takes a username to join/leave from a ride
 - Ride Creator can update the current ride's time and number of riders allowed.
 - Searches for rides within 15 minutes, within 0.5 mile pickup, same destination.
 - Returns a static google maps image for the ride route

Feature 1 - Web Scraper

- ⦿ Built web scraper using Node Puppeteer library
- ⦿ Web scraper goes to rideguru.com to scrape ride price data
- ⦿ High Level Control-Flow
 - Open rideguru.com (with encoded parameters) in a new browser
 - Wait for the website to stabilize
 - Look for certain HTML tags containing price data



```
'<div class="fare ng-binding">$50</div>'  
'<div class="fare ng-binding">$50</div>'  
'<div class="fare ng-binding">$55</div>'  
'<div class="fare ng-binding">$56</div>'  
'<div class="fare ng-binding">$60</div>'  
'<div class="fare ng-binding">$66</div>'  
'<div class="fare ng-binding">$74</div>'  
'<div class="fare ng-binding">$74</div>'  
'<div class="fare ng-binding">$77</div>'  
'<div class="fare ng-binding">$88</div>'  
'<div class="fare ng-binding">$92</div>'  
'<div class="fare ng-binding">$95</div>'  
'<div class="fare ng-binding">$105</div>'
```

```
] fare: 26  
Webpage downloaded and saved as rg.html
```

Feature 2 - Email Client

- ◎ Built email service using Nodemailer
- ◎ Whenever a user creates or updates a ride, they will get an email containing the details
 - Pickup Location
 - Destination
 - Date/Time
 - **Web Scraped Price**



rohil.kalra@gmail.com

to parthivn25 ▼

Dear Parthiv Nair,

Here is the information for the ride you created.

Pickup Location: California High School, San Ramon

Destination: Dougherty Valley High School, San Ramon

Date: 06/28/2023.

Based on newly received data, your estimated ride price is \$16.



rohil.kalra@gmail.com

to parthivn25 ▼

Dear Parthiv Nair,

Your ride has been updated.

Pickup Location: UCLA

Destination: USC

Date: 06/17/2023.

Based on newly received data, your estimated ride price is \$29.

Thank you for using BruinCruisin!

Sincerely,

BruinCruisin Team

Feature 3 - Nearby Ride Optimization

- ◎ Suppose you're Ubering from LAX to UCLA on a holiday weekend
 - Surge Pricing at the Airport → you walk five minutes to a local hotel and call an uber from there which is much cheaper
- ◎ Implemented a greedy randomized algorithm which computes ~50 nearby pickup locations and destinations, and returns the cheapest one
- ◎ Roughly 10,000 calls to web scraper to load 100 common rides into the database → migrated this script to a GCP VM instance
- ◎ Difficulties: Max of 1,000 web scrapes per IP address



rohil.kalra@gmail.com

to parthivn25 ▼

Dear Parthiv Nair,

Here is the information for the ride you created.

Pickup Location: LAX

Destination: Olympic Hall

Date: 07/23/2024.

Based on newly received data, your estimated ride price is \$32.

However, we found a **cheaper** ride for you with a similar pickup location and destination (less than half a mile away)!

Alternate Pickup Location: Sheraton Gateway Los Angeles

Alternate Destination: Olympic Hall

Alternate Ride Price: \$23.

Thank you for using BruinCruisin!

Best Regards,

BruinCruisin Team

Thu, Jun 8, 6:19 PM (14 hours ago)

In Review - Difficulties faced/Possible improvements

- ◎ We had trouble connecting the frontend and backend because our documentation became quickly outdated as we made changes
 - Be consistent with documentation next time
- ◎ MongoDB had server connectivity issues, solved by using different wifis, but probably use another DB next time
- ◎ With more time, we would have liked to add a sorting feature for displaying rides

Thank you for listening!

Demo time :)



Bruin Cruisin