TITLE: P4RK

WHO:

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DESCRIPTION:

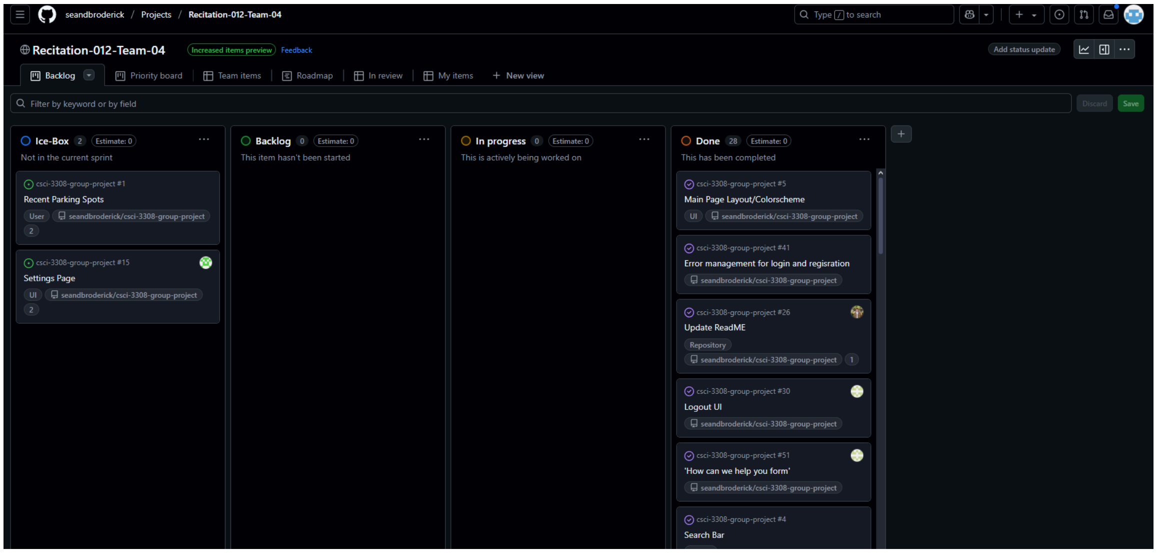
P4rk provides an intuitive interactive map interface that allows users to find the best available parking at any time. Simply share your location, search for a destination, or browse for parking in your area to get immediate results.

Key Features:

- Interactive Map: View parking spots in real-time with availability status
- Detailed Information: Get pricing, operating hours, and capacity information for each parking location
- Navigation: Get instant directions to your chosen parking spot
- Animated UI: Enjoy a modern, responsive interface with smooth animations and transitions
- Parking Details: View comprehensive information about each parking facility including payment methods, features, and walking distance

P4rk uses the HERE API to provide accurate parking information and Google Maps for visualization and directions, creating a seamless experience for finding and navigating to parking spots.

Project Tracker: https://github.com/users/seandbroderick/projects/2



Ice-Box 2 Estimate: 0
Not in the current sprint

csci-3308-group-project #1
Recent Parking Spots
User | seandbroderick/csci-3308-group-project | 2

csci-3308-group-project #15
Settings Page
UI | seandbroderick/csci-3308-group-project | 2

Backlog 0 Estimate: 0
This item hasn't been started

In progress 0 Estimate: 0
This is actively being worked on

Done 28 Estimate: 0
This has been completed

csci-3308-group-project #5
Main Page Layout/Colorscheme
UI | seandbroderick/csci-3308-group-project

csci-3308-group-project #41
Error management for login and regisration
seandbroderick/csci-3308-group-project

csci-3308-group-project #26
Update ReadME
Repository | seandbroderick/csci-3308-group-project | 1

csci-3308-group-project #30
Logout UI
seandbroderick/csci-3308-group-project

csci-3308-group-project #51
'How can we help you form'
seandbroderick/csci-3308-group-project

csci-3308-group-project #4
Search Bar

Video Demonstration:

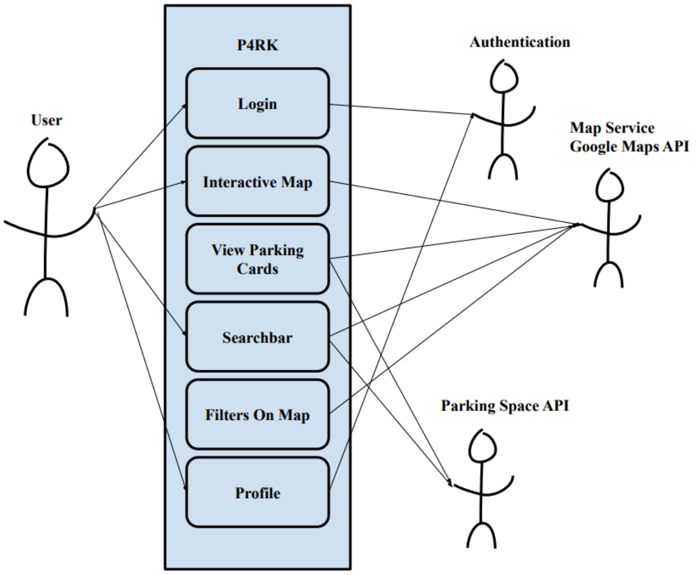
https://github.com/seandbroderick/csci-3308-group-project/blob/main/MilestoneSubmissions/FinalSubmission/groupproject-demo-video.mp4

VCS: https://github.com/seandbroderick/csci-3308-group-project

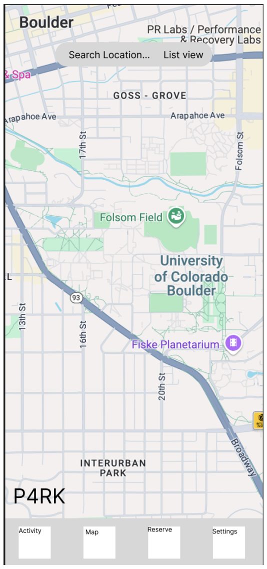
Contributions:

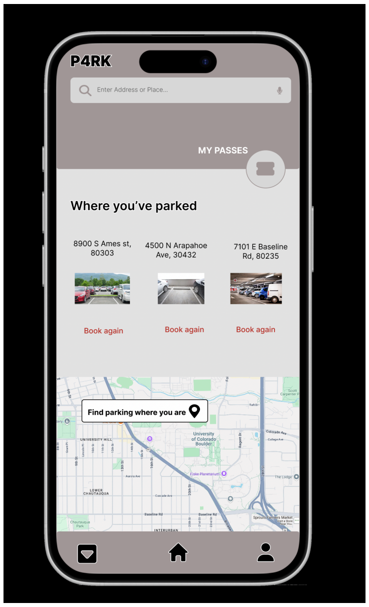
- Timothy Berman: Helped with developing the user database and routes for login/logout, sanitized all inputs for security, implemented account password change functionality.
- Sean Broderick: Spent time working on the implementation of Google Maps and the HERE APIs in order to get the project working, spent time adjusting the Home Page and the Map page before it got integrated. Also spent significant time working on the presentation.
- Ethan Meli: Helped with implementation of Google Map and HERE APIs to locate parking locations. Also created the details modal for specific parking location and touched up on the CSS for the Home Page.
- Israt Jaman: Helped design the home page and created the first few iterations of the page.
- Razvan Maioru: Helped implement authentication and rerouting the user on login/registration based on input. Returned error messages for various scenarios as well (such as error: not logged in as username was not found in database).
- Logan Kernan: Worked on wireframes early and helped with partials we used on the Main page. Corrected some broken buttons and areas where double interfaces appeared.

Use Case Diagram:



Wireframes:




P4RK
Enter Address or Place...
MY PASSES
Where you've parked
8900 S Ames st, 80303
4500 N Arapahoe Ave, 30432
7101 E Baseline Rd, 80235
Book again
Book again
Book again
Find parking where you are
University of Colorado Boulder
UNIVERSITY HILL

Test Results:

Feature 1: Parking Spot Card Display

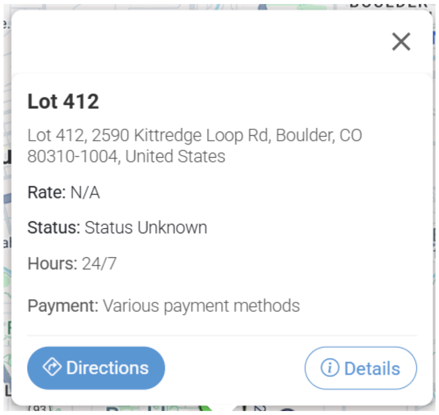
Objective:

Ensure each parking spot card displays all required information clearly (e.g., location, price, availability).

Test Cases:

1. **View card info**
   - **Steps:** Navigate to homepage and examine card details
   - **Expected Result:** All cards display location, price, and availability
2. **Check layout consistency**
   - **Steps:** Compare layout of multiple cards
   - **Expected Result:** All cards follow a consistent design
3. **Update data reflection**
   - **Steps:** Change values in backend (e.g., spot price), then reload frontend
   - **Expected Result:** Updated values show up correctly on cards

Results: All cards display correct information including location, price, and availability in a consistent format. API tier prevented complete implementation as data was blocked by a paywall.



Lot 412

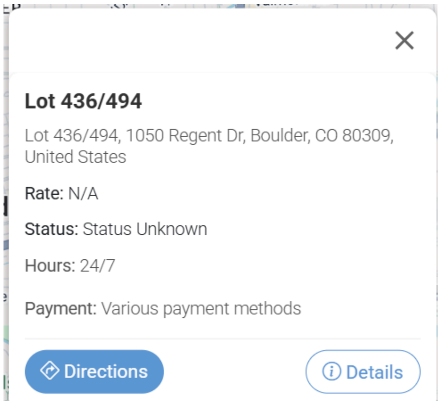
Lot 412, 2590 Kittredge Loop Rd, Boulder, CO 80310-1004, United States

Rate: N/A

Status: Status Unknown

Hours: 24/7

Payment: Various payment methods



Lot 436/494

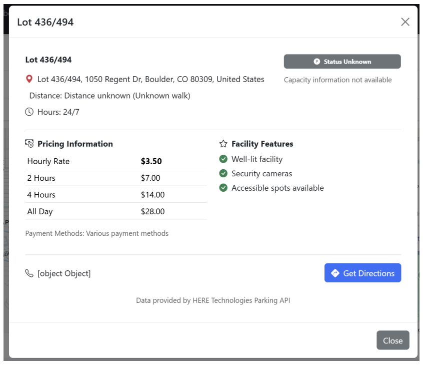
Lot 436/494, 1050 Regent Dr, Boulder, CO 80309, United States

Rate: N/A

Status: Status Unknown

Hours: 24/7

Payment: Various payment methods



Lot 436/494

Lot 436/494

Status Unknown

Capacity information not available

Lot 436/494, 1050 Regent Dr, Boulder, CO 80309, United States

Distance: Distance unknown (Unknown walk)

Hours: 24/7

Pricing Information

Hourly Rate	**$3.50**
2 Hours	$7.00
4 Hours	$14.00
All Day	$28.00

Payment Methods: Various payment methods

Facility Features

- ✓ Well-lit facility
- ✓ Security cameras
- ✓ Accessible spots available

[object Object]

Data provided by HERE Technologies Parking API

Feature 2: Search Bar Functionality

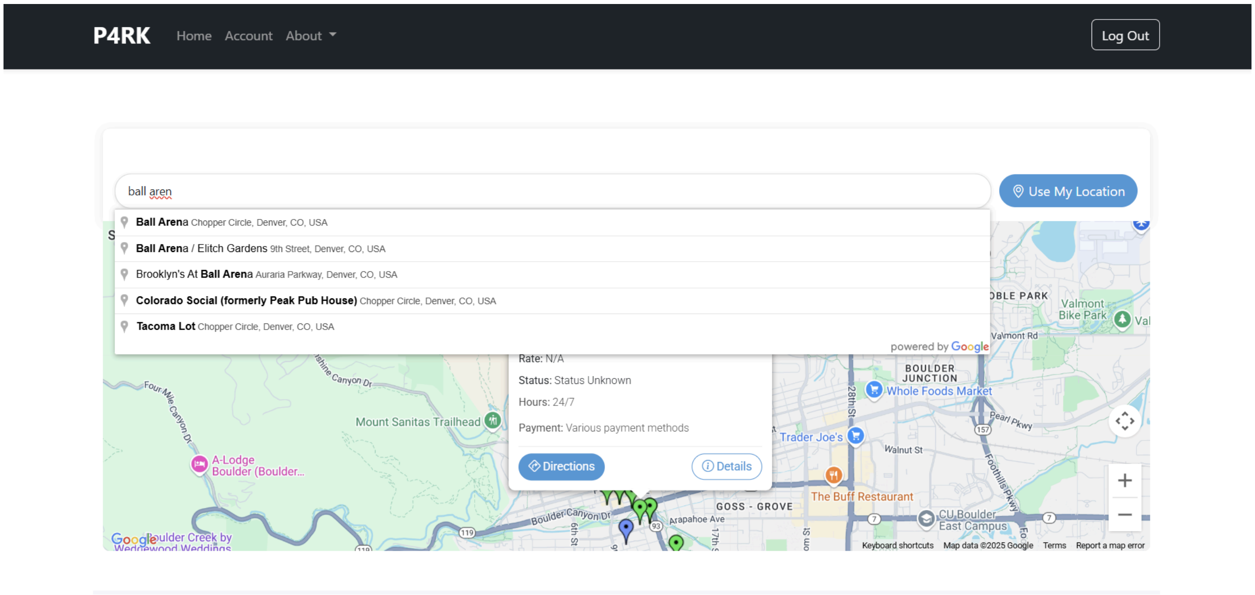
Objective:

Ensure search results are returned accurately based on user input.

Test Cases:

1. **Search with valid input**
   - **Steps:** Type "Downtown" in the search bar and hit Enter
   - **Expected Result:** All displayed spots are in or related to "Downtown"
2. **Search with blank/invalid input**
   - **Steps:** Submit an empty string or random characters
   - **Expected Result:** "No results found" message or graceful fallback
3. **Case insensitivity**
   - **Steps:** Search using "downtown" and "DOWNTOWN"
   - **Expected Result:** Same results are shown

Results: Search input auto completes user's input, and returns valid locations. Inputting an empty string does nothing. Input is not case sensitive, all upper or lower case returns the same result.



ball aren

Ball Arena Chopper Circle, Denver, CO, USA

Ball Arena / Elitch Gardens 9th Street, Denver, CO, USA

Brooklyn's At **Ball Arena** Auraria Parkway, Denver, CO, USA

Colorado Social (formerly Peak Pub House) Chopper Circle, Denver, CO, USA

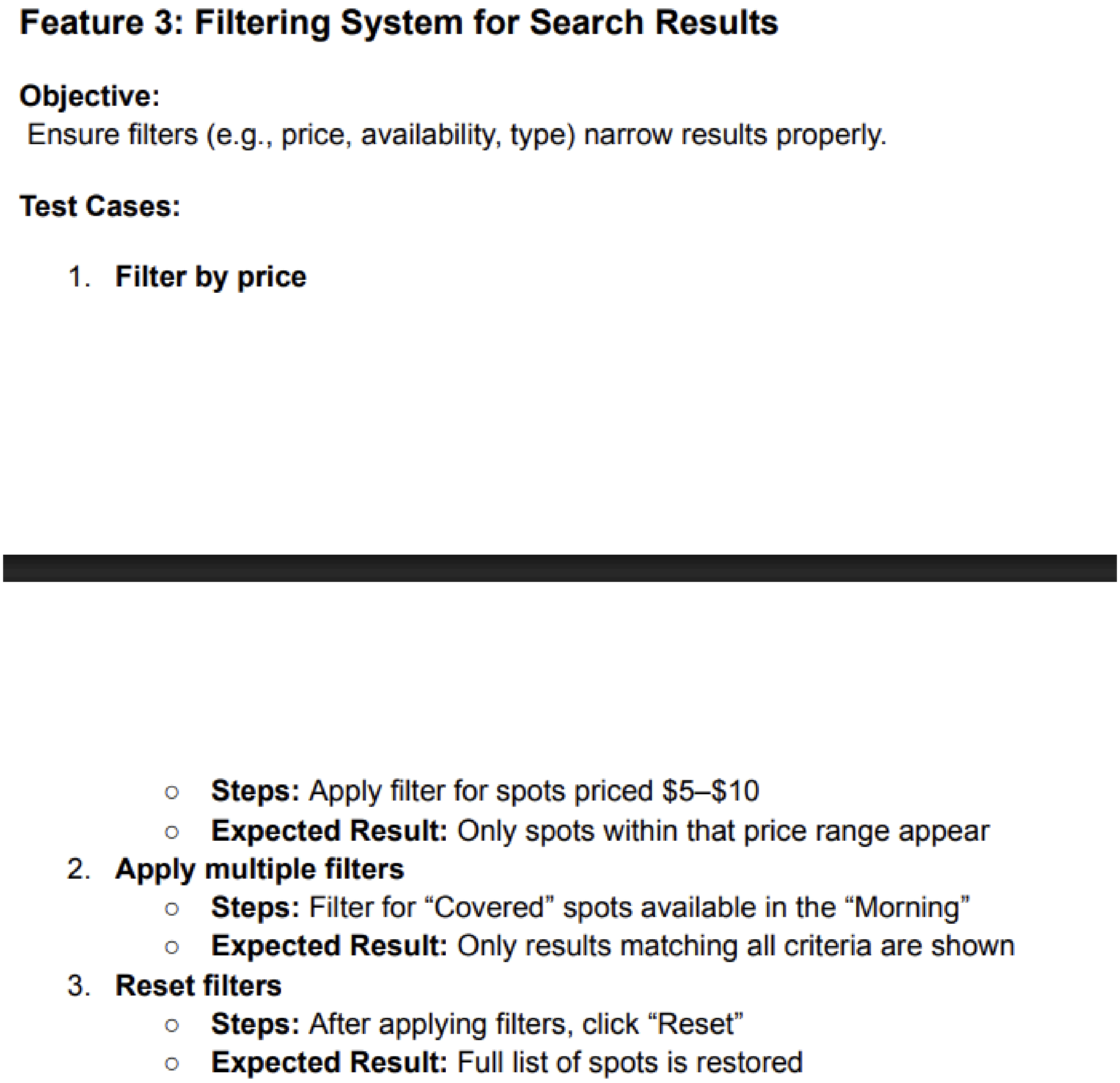
Tacoma Lot Chopper Circle, Denver, CO, USA

Rate: N/A

Status: Status Unknown

Hours: 24/7

Payment: Various payment methods



Feature 3: Filtering System for Search Results

Objective:
Ensure filters (e.g., price, availability, type) narrow results properly.

Test Cases:

1. **Filter by price**
   - **Steps:** Apply filter for spots priced $5–$10
   - **Expected Result:** Only spots within that price range appear
2. **Apply multiple filters**
   - **Steps:** Filter for “Covered” spots available in the “Morning”
   - **Expected Result:** Only results matching all criteria are shown
3. **Reset filters**
   - **Steps:** After applying filters, click “Reset”
   - **Expected Result:** Full list of spots is restored

Results: This feature was never implemented.

Deployment:
https://csci-3308-group-project.onrender.com/login?reason=not_logged_in