# ParkNow

Requirements ☑

1. As an occasional city visitor, I want the app to provide **accurate directions** to available parking spots so that I can navigate efficiently since I'm not familiar with the streets.
2. As an electric vehicle driver, I want the app to allow me to **filter** parking spots near **EV charging stations** so I can charge my car while I'm away.
3. As a commuter using public transit, I want to know parking availability **near transit stations** so that I may easily integrate my various forms of transportation.
4. As an adult having a family and kids, I want the app to provide information on **parking spot sizes** to ensure they can accommodate my minivan sized vehicle.
5. As a bicyclist, I want to identify **secure bike parking options** so that my bike is safe while I'm away.

Persona
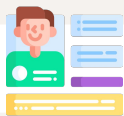
"Finding a parking spot shouldn't be as complex as my day job. I need quick, reliable parking so I can focus on what truly matters"

Profile

Name: Julianna Nevarez
Age: 34
Status: In a Relationship
Location: Irving Park, Illinois
Occupation: Clinical Therapist
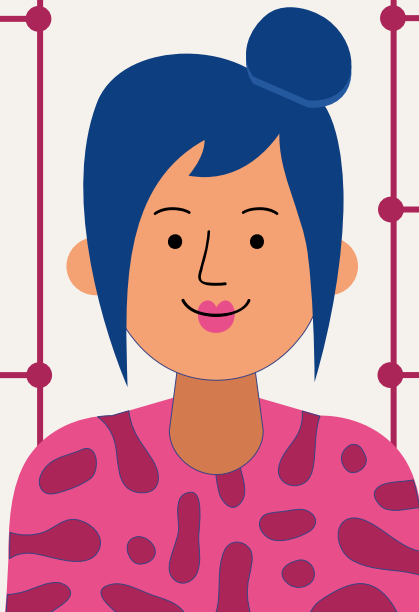**Vehicle:** Toyota Sienna

Personality

Safety-conscious
Extrovert
Urban Navigation
Independent

Bio

As a clinical therapist, Julianna's workday in Irving Park requires flexibility and mobility. Her minivan is her trusty companion, but it's not just about size-it's about finding a secure spot swiftly to stay on schedule.

Goals

* To identify parking options that are secure, accessible, and tailored to her schedule.
* To leverage an app that simplifies her search with real-time availability for any vehicle size.
* To ensure her focus remains on her clients, not the hunt for parking.

Current Challenges

Currently uses SpotHero but finds it challenging to navigate through it. She seeks an app that not only considers her vehicle's dimensions but also integrates seamlessly into her fast-paced lifestyle.

Persona
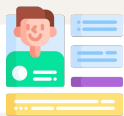
"I need an app that guides me to the nearest available spot with an EV charger – no hassle, just efficiency"

Profile

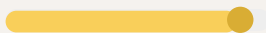**Name:** Carson Goodwin
Age: 22
Status: Single
Location: Chicago, Illinois
Occupation: Software Engineer
Vehicle: Tesla Model X

Bio

Navigating the urban landscapes, Carson applies his problem-solving skills from the tech world to city driving. He's often in and out of town for work and fun, always looking for a smart, quick place to park and charge his Tesla.

Goals

* To find parking spots that are easy to navigate to, even in unfamiliar parts of the city.
* To easily locate and access parking spots with EV charging stations for his Tesla.

Personality

Tech-Savvy

Eco-Conscious

Strategic Thinker

Patience

Current Challenges

Carson often encounters a lack of real-time information on parking availability, especially near EV charging spots and transit hubs, which hinders his ability to plan efficiently. He also seeks a parking solution that's quick to navigate, reflective of his need for swift, user-friendly interactions.

Scenario 1

Miles Allison, a **dedicated urban cyclist** in Chicago, embraces the freedom his bicycle provides for both his daily commute and social activities, while navigating **concerns about finding secure parking** in the city.
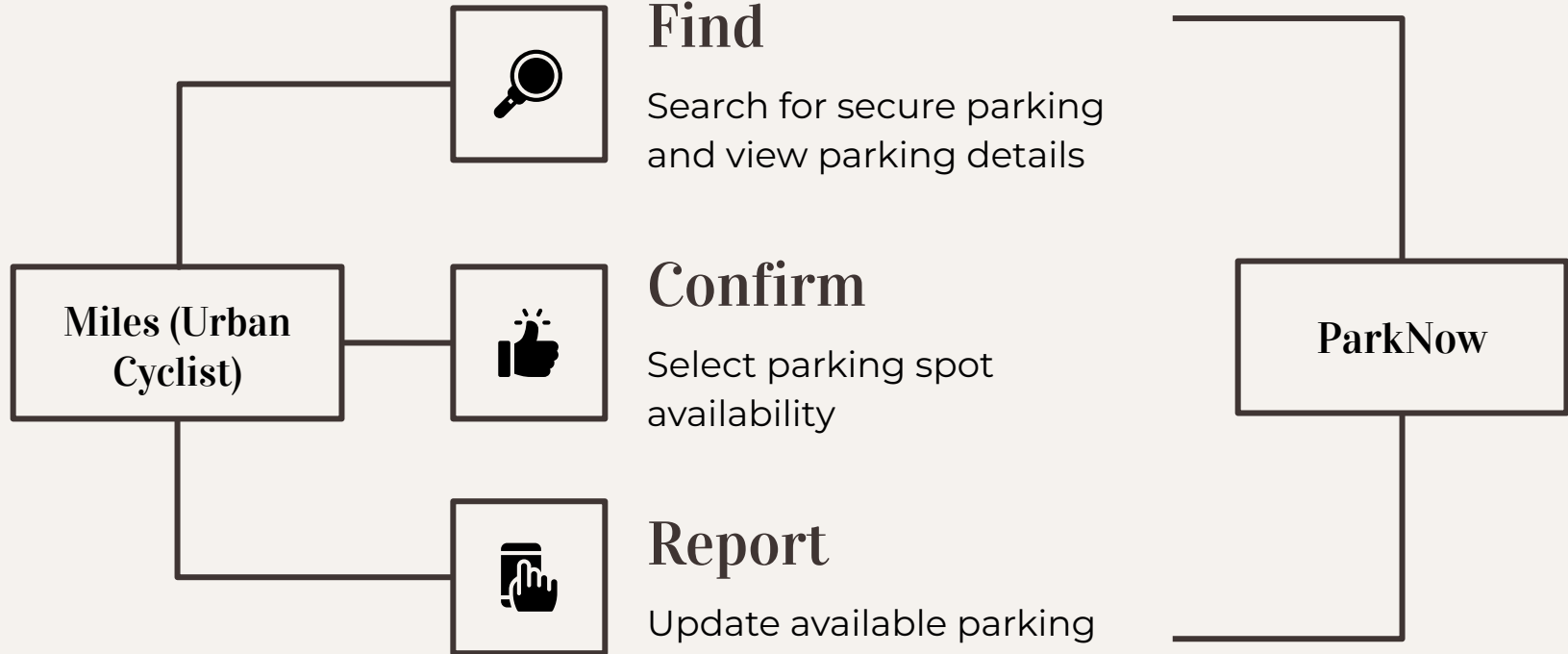
On a Friday evening, Miles heads to Nutella Cafe Chicago to meet friends, relying on **ParkNow, a community-driven platform for urban cyclists**, to locate a **secure parking** spot near the café. It was a simple process – **find the location on ParkNow, note the spot, and then ride there.**

Despite initial worries about spot availability, he successfully **finds a secure spot recommended by ParkNow**, allowing him to enjoy his evening free from concerns about his bike safety.

Returning to his bicycle, still **securely parked,** Miles is relieved. Just before leaving, he decides to **contribute to ParkNow by posting his soon to be unoccupied parking spot**. The ParkNow website has proven reliable.

Use Case – Parking Systems

Find

Search for secure parking and view parking details

Confirm

Select parking spot availability

Report

Update available parking
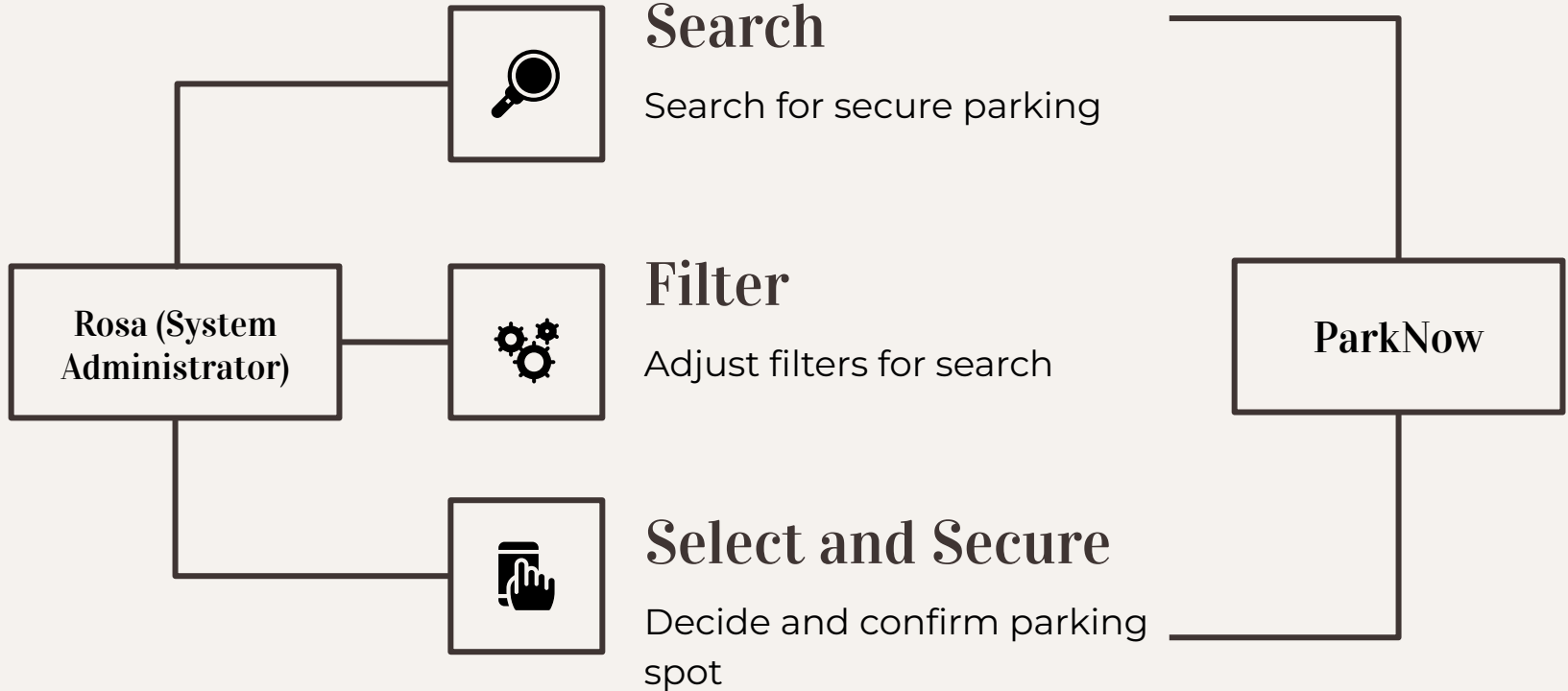
Miles (Urban Cyclist)

ParkNow

Scenario 2

Rosa, a dedicated system administrator for Bank of America, forgot to set her alarm after celebrating her promotion. Rushing to work the next morning, she realized she hadn't **reserved parking** downtown. With **SpotHero prices too high**, she turned to **ParkNow site on her mobile browser**.

Quickly **adjusting filters**, she found an **affordable spot close to her office**. Relieved, she parked and made it to her meeting on time. The ParkNow **interface was straightforward**, showing **real-time availability of parking spots, with clear indications of price and location**.
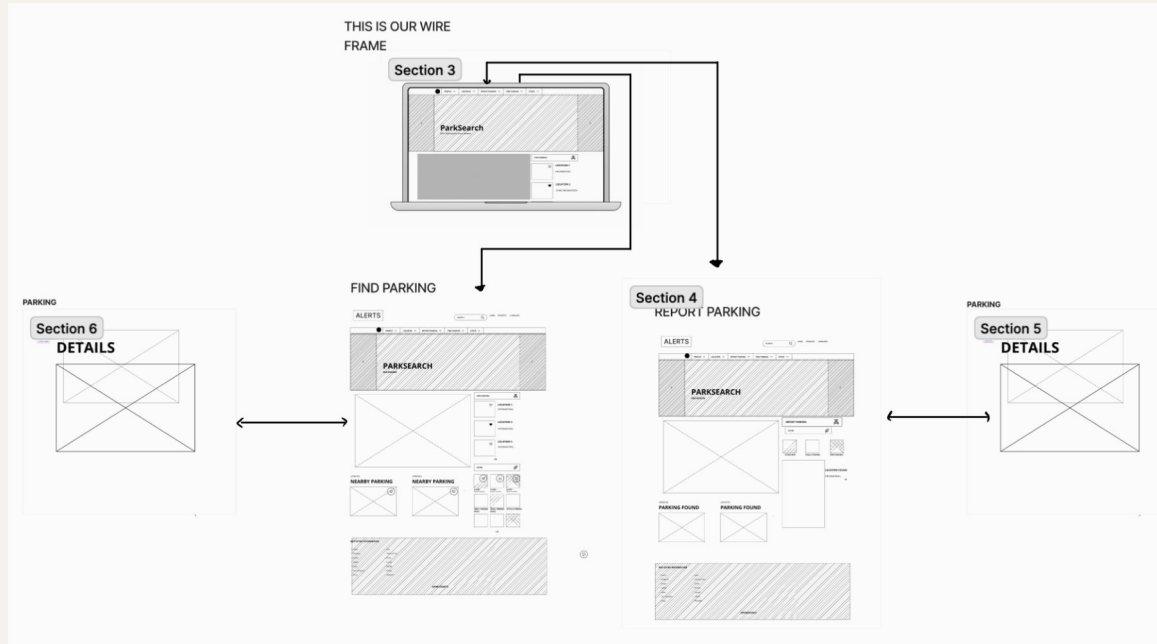
ParkNow **displayed several affordable options** within walking distance to her office. Navigating directly to the chosen lot, she found the **ParkNow-listed space waiting for her and secured her car.** Thanks to ParkNow, she was able to attend her meeting without further hassle.

Use Case – Parking Systems

Search

Search for secure parking

Rosa (System Administrator)

Filter

Adjust filters for search

Select and Secure

Decide and confirm parking spot

ParkNow

ParkNow Design Implications – Wireframe

There is a **main page** with tabs across the top to different pages: Profile, Report Parking, Find Parking, and Other
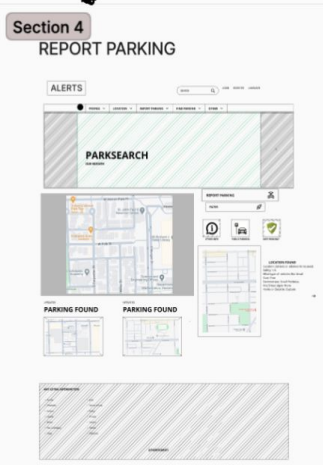
Report Parking takes the user to input a description of available parking for a system update.

Find Parking takes the user to input their preferences and outputs available spaces

ParkNow Design Implication – Mock Up
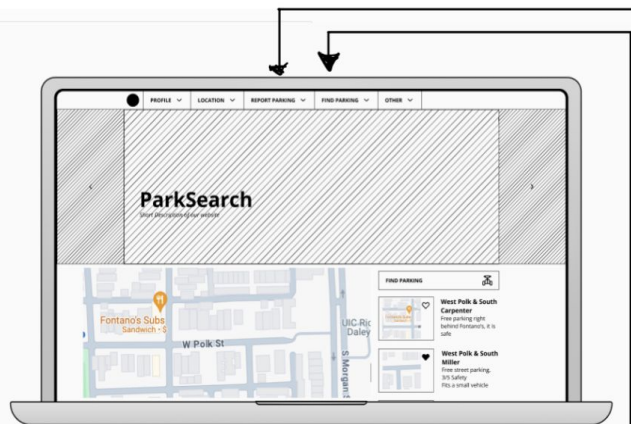
Report Parking has a reporting section with a description input for community updates.

Find Parking has list of open parking that is description based and a filtering system with the ability to favorite items.

Both pages have a **map API** to view the user's current location and a mapview updates section.

DEMO: Latest Version

🔍

Login   Register

You can find the link for the application:
https://cs442-parknow.web.app

Design Reflection

Success

Implementation of main components
- Report parking
- Find parking
- Filtering Options

Challenges

Working on the implementation of our maps API

Key Aspects of ParkNow UI Design

Consistency

Uniformity in design elements such as fonts and colors following the same theme throughout the website

Navigation

Minimalist interface that presents only essential navigation options to avoid overwhelming users with too many unnecessary elements

Coherence

Information structured in a logical and coherent way. E.g. Larger portion of the screen allocated to primary component such as the map with pinpoints and reserve a smaller size panel for secondary component such as search results.

Analyzing Functional Prototype

Fulfilled

- Accurate map interface displaying available parking spots using separate markers.
- Fully operational 'Find Parking' and 'Report Parking' functionalities including confirmation message.
- Advanced filters for vehicle type, size, and EV-charging stations are operational and effective
- Enhanced navigation across sections, incorporating feedback from User Study 1
- Real-time database updates reflect user reports and selections, ensuring current parking information is always available.

Unfulfilled

- Clear directions from source to destination
- EV charging stations filtering (Although we have the filter, it's solely from Report Parking & manual searching)
- Parking report form and filter options
  - Proximity
  - Nearby public transport stations
  - 'Safety' – very user specific

Refinement Roadmap

Unfulfilled

- Clear directions from source to destination
- EV charging stations filtering
  (Although we have the filter, it's solely from Report Parking & manual searching)
- Parking report form and filter options
  - Proximity
  - Nearby public transport stations
  - 'Safety' – very user specific

Integrating additional features of Google Maps API to get polyline directions

Integrate an EV charging station API to enhance the map's functionality. The system would cross-checks distances using coordinates and updates parking spots with nearby charging options in real time, improving the EV filter feature.

* Once polyline directions are obtained, proximity can be determined.

* Integrate a Public Transport Stations API onto the map.

* Delving into User Study 2 to understand user perceptions of 'safety' in parking environments.