



CASE STUDY: PARKFINDER

MY ROLE

User Research
User Interviews
Journey Mapping
Sketching
Wireframing
Screen Flows
Visual Design

PLATFORMS

Mobile App

YEAR

2017



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App Features: Options
App Features: Payment
App Features: Reminder
App Features: Reservation
Visual Design



ParkFinder

Help users find the parking spot in San Francisco
Parking Finder will help you best parking spot as you select any options



Can you find parking garage with options you need in 1 minute?

Since I live near the city, I often need to find a parking spot and always feel frustrated and spend a lot of time looking for it. I found some parking payment app in the app store, so I tried but I could not find what I needed such as I was looking for a parking garage that has safety camera, restroom, enough parking space for my minivan, close to the destination and good ratings. But it's hard to use the app for looking for those options at once. This case study examines an existing app's UX and offers suggestions for improvement, as well as a redesigned UI.



PARKFINDER – DISCOVERY

The Approach

Overview

User Survey

Affinity Map

Target Audience

Competitive Analysis

Solutions

30%

of city's traffic
finding parking spot

20min

takes finding
parking spot

950,000miles

a year drives looking
for parking

< Parking Problems >

One 2011 IBM +0.94% study found that 30 percent of a city's traffic is attributable to people hunting for parking with a third of New York City drivers reporting they search for 20 minutes on average. Research conducted by Professor Shoup found that drivers looking for parking in a particular 15-block district in Los Angeles drove an estimated 950,000 miles a year, equivalent to four trips to the moon. < Donald Shoup - UCLA >

Parking finder helps you find the best parking spot. It will give you options to filter the result and select them right on the map. App has a simple function that finds the parking spot, make a payment, reservation and getting you to your destination easily and without fuss. Here are benefits of using parking app.

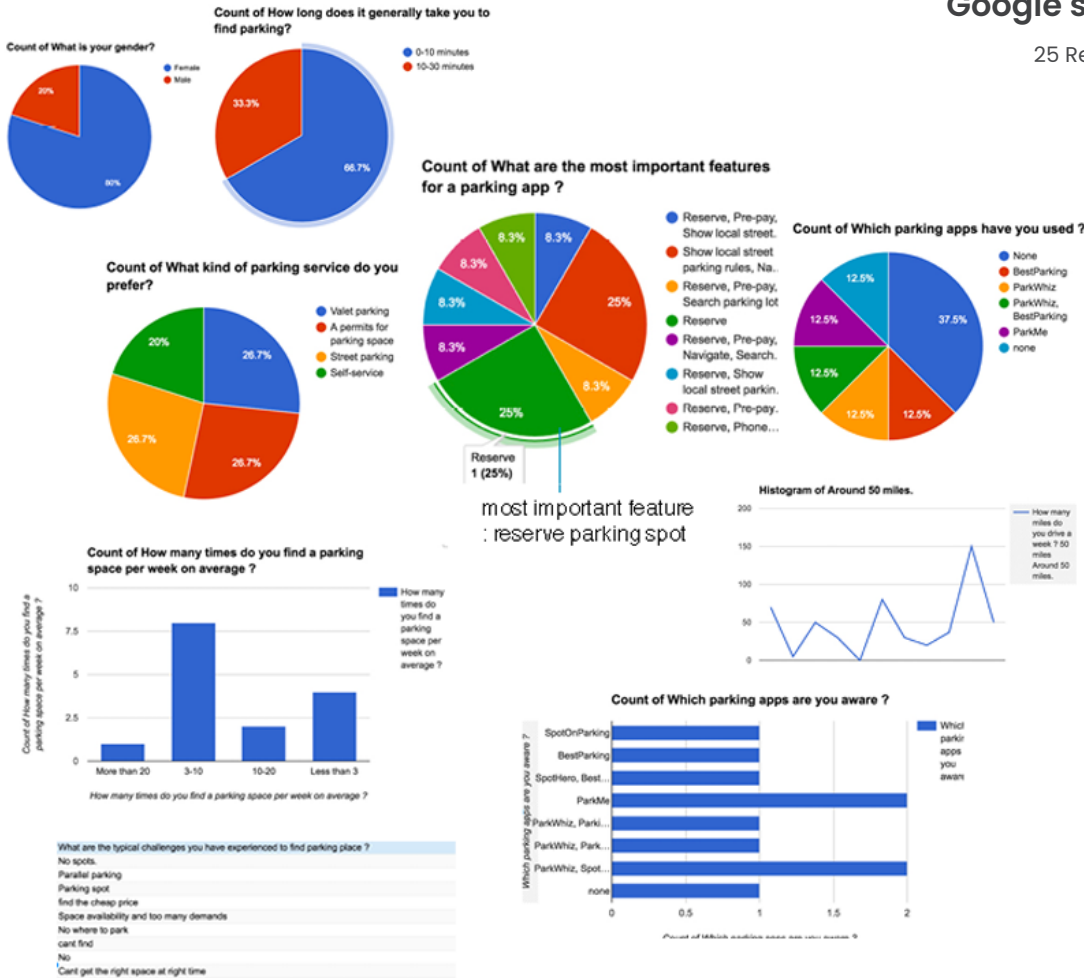
1. Average parking rates were lower
2. Parking availability improved
3. Easy to find a parking space
4. Easy to pay and avoids parking citation



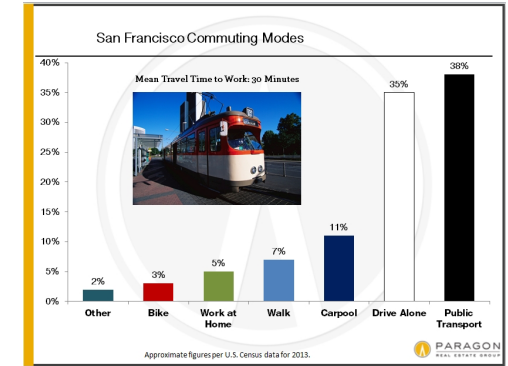
Google survey

25 Responses

*Google form <https://forms.gle/VFMwDwR7WRnAKU789>
In-person Interview



most important feature : reserve parking spot



Another research :
35 % of San francisco commuters drives alone
It means lots of people needs parking spots for long-term.

Based on our survey I could conclude that people often need a help to find the parking spot and some of them use mobile apps. A few of them know several parking apps but do not actively use them. The survey shows that 75% of participants consider the reservation is the most important feature for the parking app.



Based on survey and analyzed current competitors, brainstorming what kind of features needed most to users and how to solve the problems. Using affinity mapping tool and categorized a similar group of experiences. From find parking spot to park their car, I need to think carefully how users feel and act on every status.

1. Driving commuters who works in the city, they need parking spots for long-term or daily rates. Number of people looking for long-term parking space has been increased year of year.
2. Visitors and tourists needs parking spots. Especially big city like San francisco, there are lots of sightseeing and popular landmarks. So people needs a safe , resonable price for parking.
3. Owner of parking garage or lots needs parking app. They want to make profit and advertise for their buisness.

Primary Target Audiences



Driving Commuters



Tourists/Visitors



Parking Garage owner (Secondary)

ParkWhiz

- Lots of reviews from app store, reservation system is not stable It often happened parking space is not available when users are arrived
- Every parking spots shows same color, users can not see what is different between them
- Information is not enough for reservation and users can not choose options for filtered results
- There is no other activities for retaining users
- + Most benefit of this app has lists of venues and schedule of events: users can find ongoing or upcoming event so prepare parking before they go.
- + UI design is intuitive and delightful

SpotHero

- Parking garages and lots are not many available, Users can not read other users reviews.
- Information is not enough for reservation and users can not choose options for filtered results
- There is no other activities for retaining users
- + Promotions and coupons gives extra parking session
- + User flow simple, clean, Information easily found, Monthly/ hourly options available
- + UI design is intuitive and delightful

BestParking

- Parking description is hard to understand and too many information
- UI design is not intuitive and delightful
- Can not see exact location, No need to show unavailable parking spots, Map view is too crowded
- + Monthly/ daily options available
- + Filtered different options available, Users can choose their options, Get coupons for report inaccurate information

Pain Point 1 :
Need more interactive place for users and parking lots

Pain Point 2 :
Activities for retaining users

Pain Point 3 :
Post - using app activities

Solutions

- Easy check-in or without sign-up
- Easy payment or pay at parking
- Filtered results shows on the map view (Responsive Results)
- Get notification before parking expired



PARKFINDER – DEFINE

Persona 1

User Flow 1

Persona 2

User Flow 2

User Journey Map

Sketch

Work Flow

Information Architecture

Low-Fidelity Wireframe



"I need to rent a parking space for long-term so I can commute to city from my home"

Vehicle Information

Car : 2015 Nissan Leaf

Key Features

- Long-term Parking space
- Cheapest
- Electric Charging Station

Motivation

- Easy Commute to office
- Wants to enjoy social life without worrying a parking.
- Wants to save money on parking.

Mark

[Driving Commuter]

- Age** 32
- Occupation** Project Manager
- Status** Single
- Location** San jose, CA
- Previous Education** Graduate
- Salary** 150K

Frustrations

- Spend a lot of time to looking for parking garage.
- Often late for appointment in the city

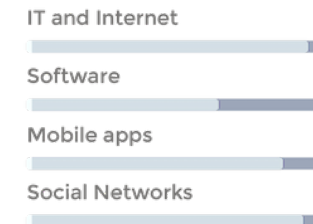
Scenario

Mark lives in Oakland CA. He works at technology company and usually commutes by his car. He often go to the city for business meeting. He often late attend meeting because he could not find parking spot near company. And he is very social guy. He likes to attends networking events in downtown San francisco. His main concern is just avoid getting tickets and do not want to spend a lot of time to looking for parking spot.

Personality



Technology

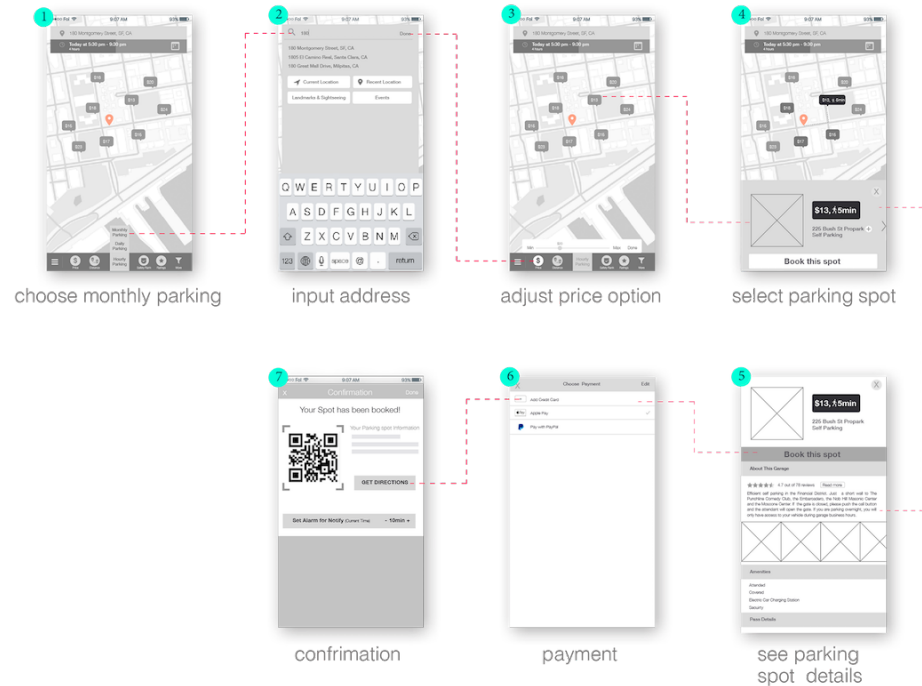


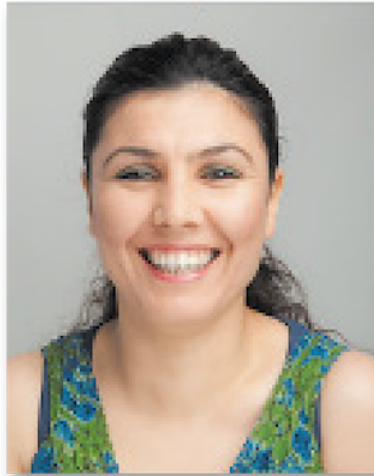
Story

Mark lives in San Jose, CA. He has an office in the San Francisco. He needs to find long-term parking space for his electrical car. He prefers to bring his car instead of taking a public transport. He wants to find cheapest and safe enough let his car until late night.

Goal

Find cheapest parking spot near destination for long-term rent, reserve it and make a payment





Lisa

[Visitors/Tourist]

Age 40
Occupation Part-time merchandiser
Status Married (Has Two children)
Location Sanjose, CA
Previous Education Undergraduate
Salary 70K

“I would choose to park my car on secure place and closest to the destination so can walk with my kids”

Vehicle Information

Car : 2016 Honda Oddesey(minivan)

Key Features

- Safety
- Distance
- Size of parking space
- Hourly Parking
- Extend parking time remotely

Frustrations

- Hard to find parking spot in the city and walk to the destination with kids
- Hard to know where is secure and provide accomodations

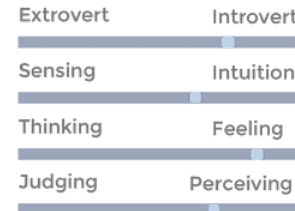
Scenario

Lisa lives in San jose, CA. She has 3 kids and works part-time at retail company and usually commutes by her car. On weekends, her family go to the AT&T park to watch the Giant game. Because she knows about parking situation in many area from past experience, she wants to looking for parking spot before leaving home. Her biggest concern is being close to her destination because getting from a parking lot into an auditorium is hard enough with 3 children, let alone walking them at least a block to their destination.

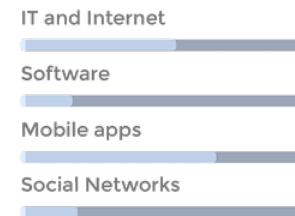
Motivation

- Wants to find closest parking space
- Wants to navigate to the destination easily
- Wants to find very secure parking garage

Personality



Technology

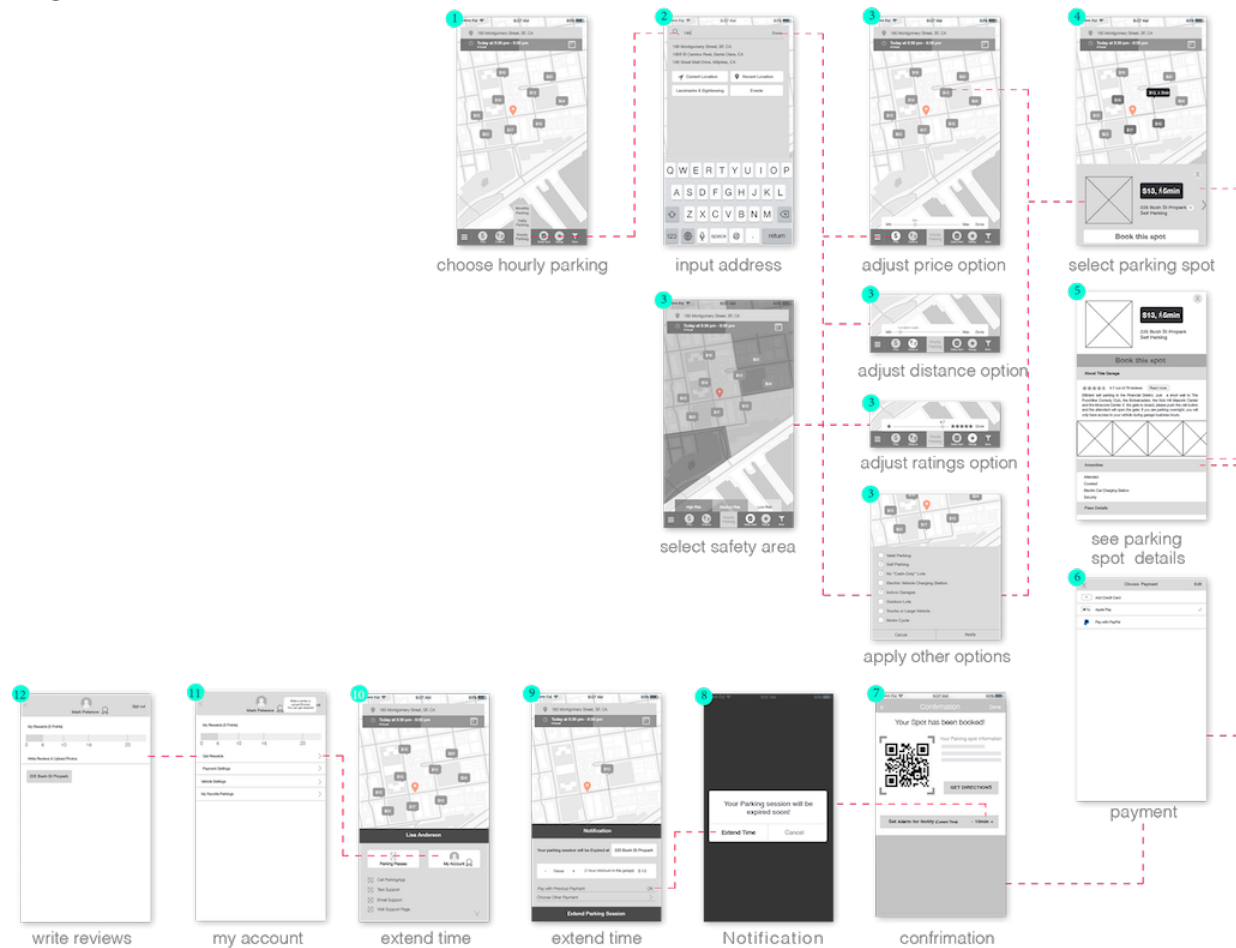


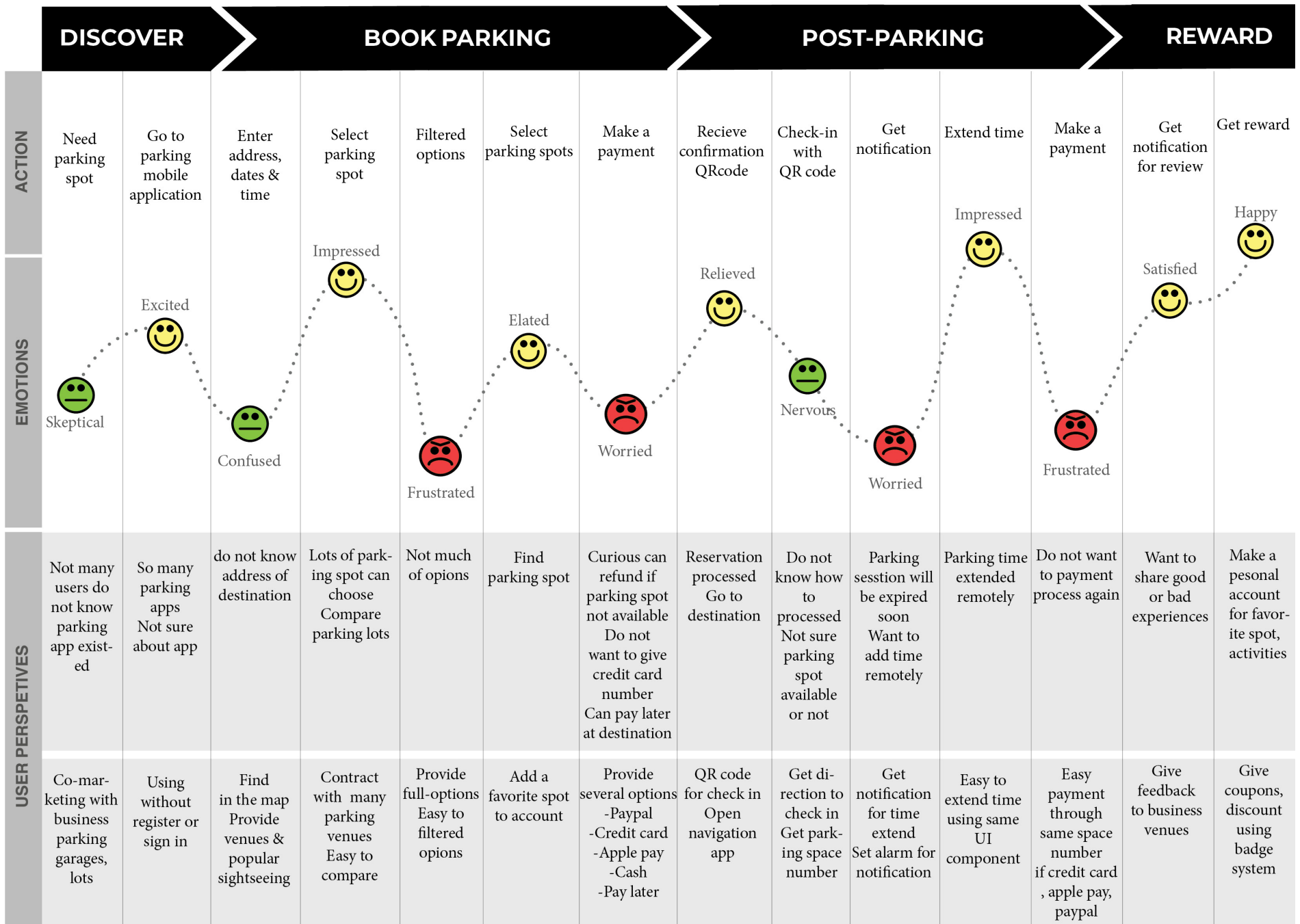
Story

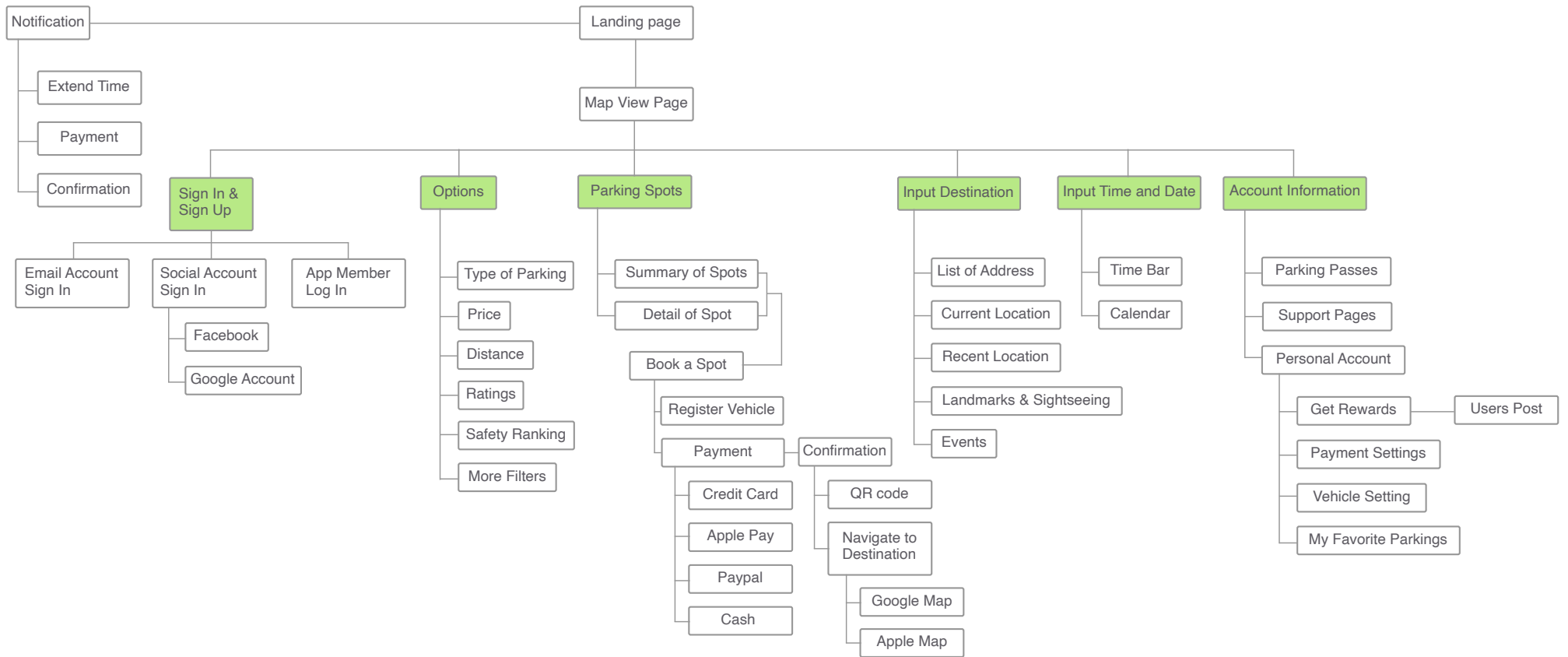
She has 3 kids and her family go to the AT&T park to watch the Giant game. She try to find spot closest to her destination. Her tasks are find closet parking spot, safety and size of parking space. She decided after look through the reviews, ratings and photos. After parking she extend parking session.

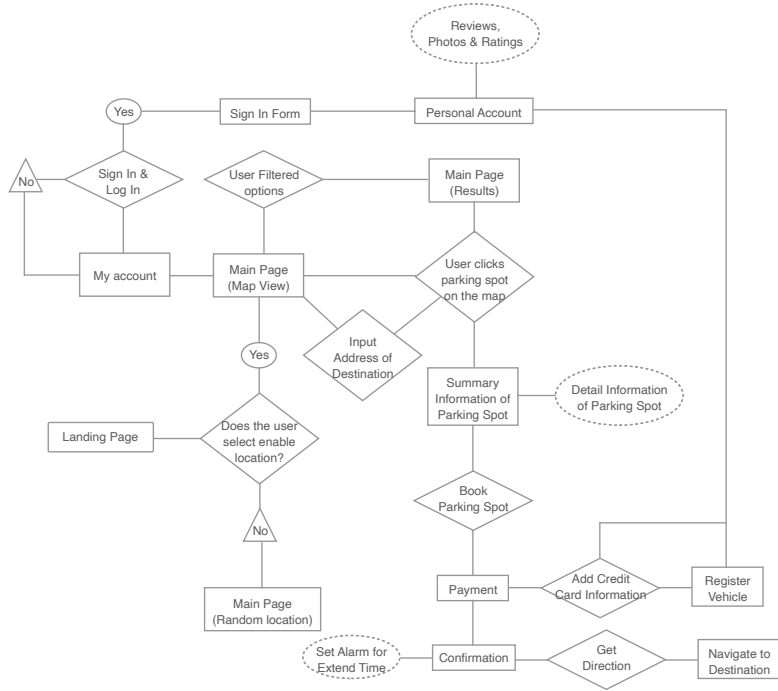
Goal

Find the nearest parking spot, safety, and size of parking space. See reviews, ratings, and photos. Extend parking time later.

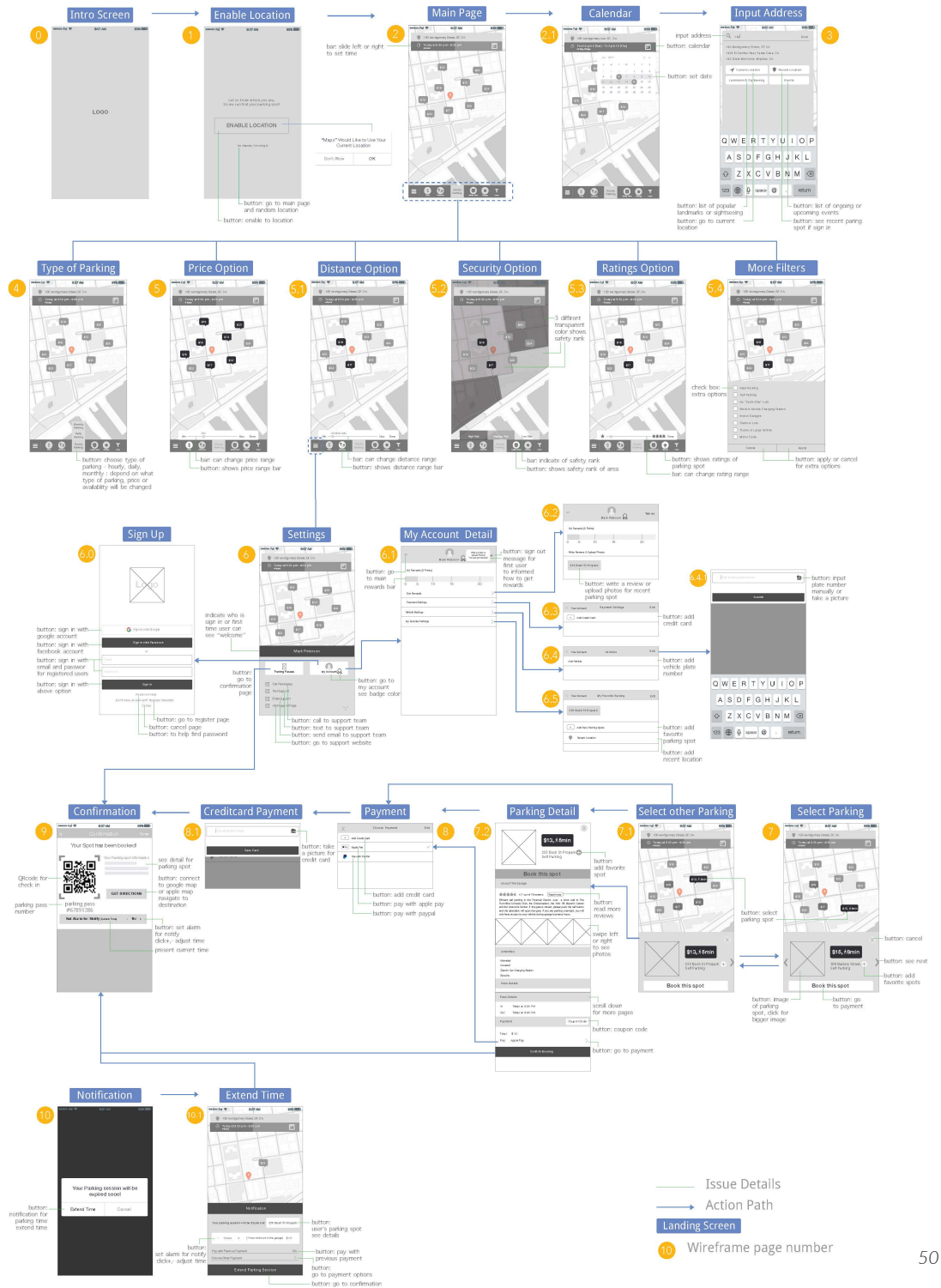








Workflow





PARKFINDER – DESIGN

User Testing

Design Iteration

App Features: Options

App Features: Payment

App Features: Reminder

App Features: Reservation

Visual Design

Resources

https://pixabay.com/p-314805/?no_redirect

<https://spothero.com/>

<https://www.parkwhiz.com/>

<https://www.parkopedia.com/>

<https://www.sfchronicle.com/politics/article/SF-may-begin-building-safe-parking-lot-for-14429797.php>

<https://unsplash.com/>

PAIN POINT	Before version 1 (Success Rate)	DESIGN SOLUTION	After version 2 (Success Rate)	Final version (Success Rate)
Choose parking options for filtered result	0 % (0/5 users)	Seperated from main options and extra options Make a intuitive icons	50% (2/5 users)	100% (5/5 users)
Extend Parking Session	60 % (3/5 users)	Provide +,- Icon for adjust time on the same page	100% (5/5 users)	100% (5/5 users)



User Task 1
Set parking Timeline
(1/5 users)



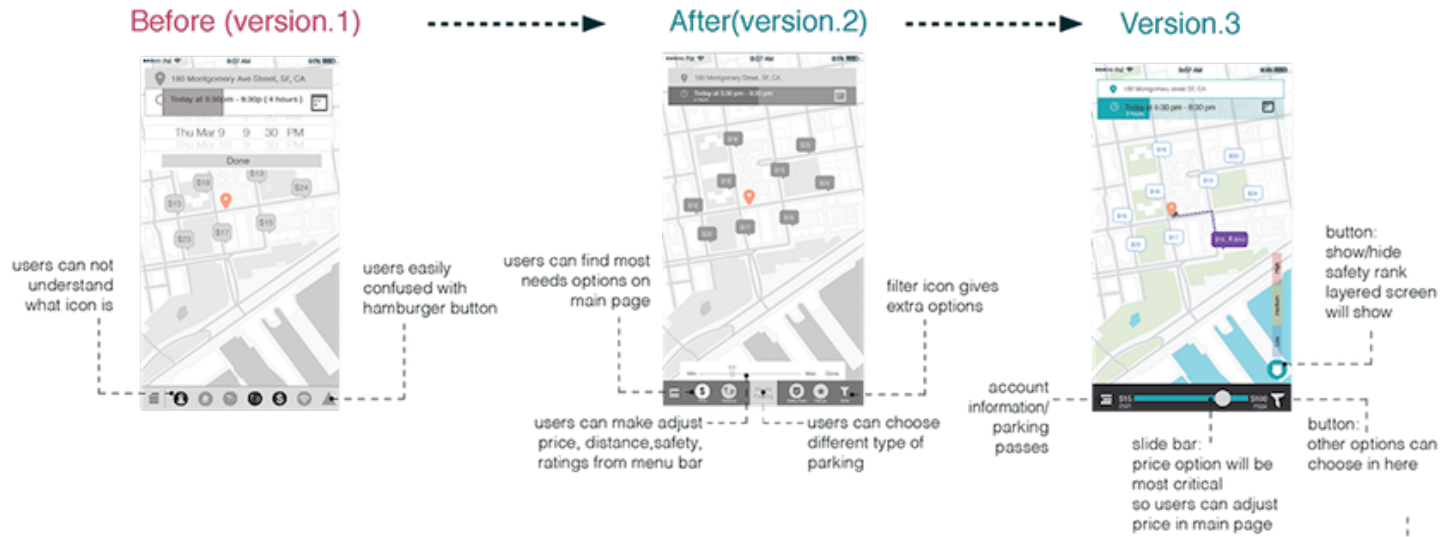
User Task 2
Choose parking options
(0/5 users)



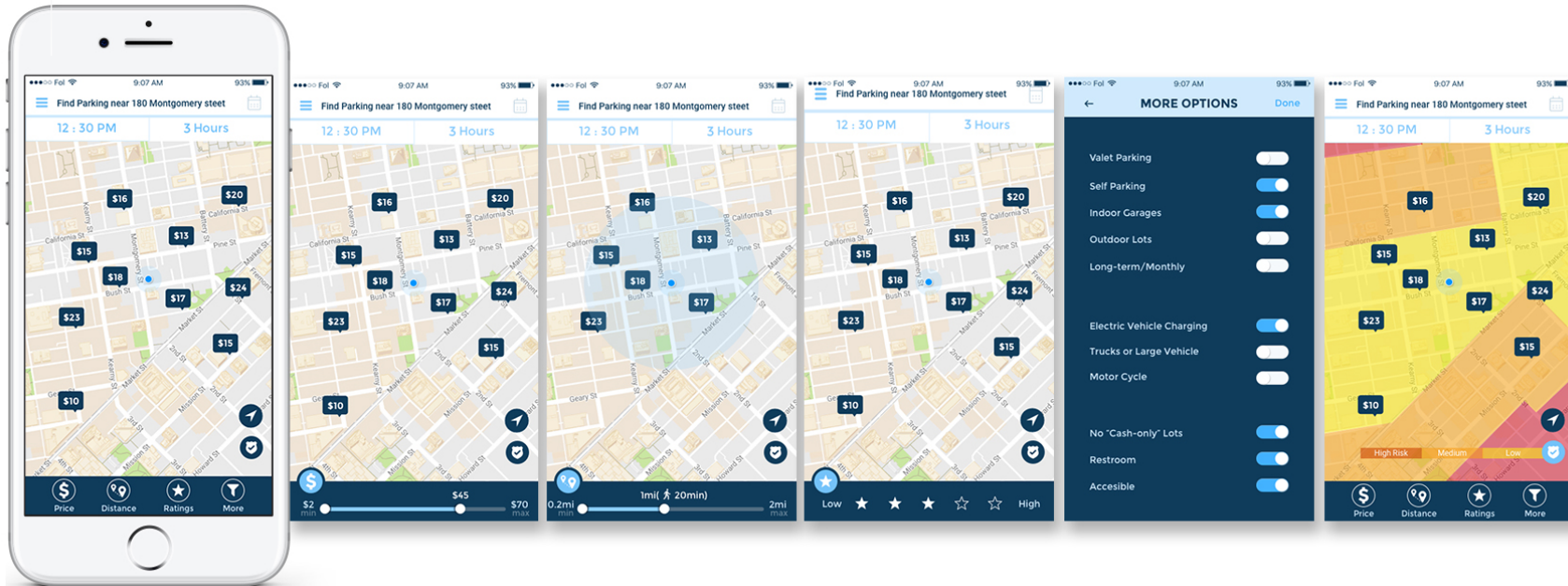
User Task 3
Extend Parking Times
(3/5 users)

[Version 1 user tesing demographic]

I tested the first version of wireframe to five closest friends and family. Two of testers are currently working and drive to go to their office. They sometimes go to the san Francisco for attending workshops or just hang out with friends. One of them already using a parking app but she did not fully satisfied. And another tester was used on demand parking app "luxe". But he did not use much, he feels not safe to give the car to strangers. So they were tested find parking spot with select several options and make a payment after they get notification make extend time. Last 3 of testers never used parking app before, so I tested simple process that finds a parking spot and make a payment, get confirmation. Most of the testers succeed to find a parking spot and make payment but struggle with finding filtered options. And they are satisfied after activities like notification for expired time or rewards system.



[Link to Prototype](#)



Filtered results by selecting options

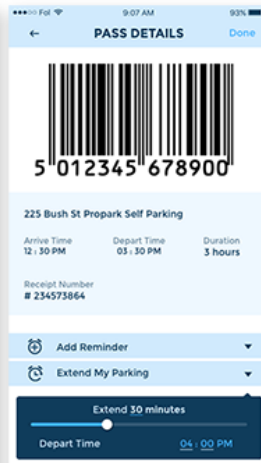
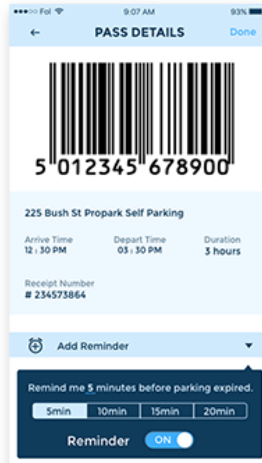
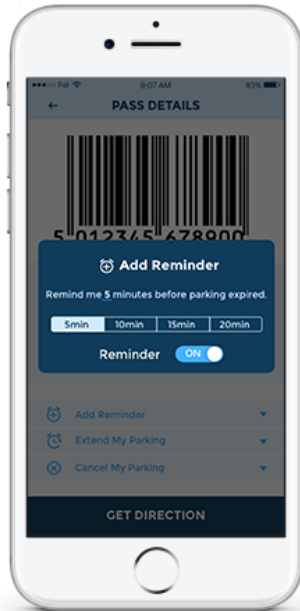
Tab bar

Main 3 options can adjust in the map view.

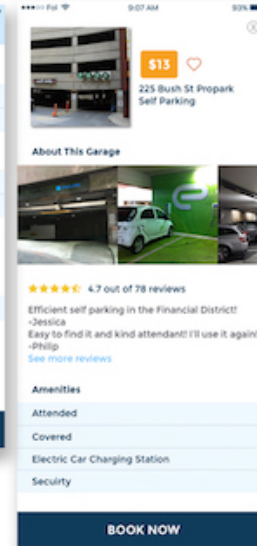
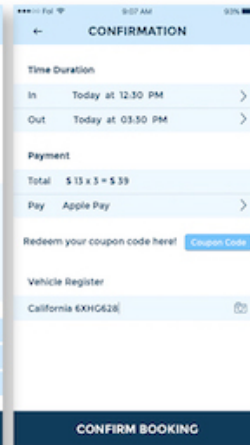
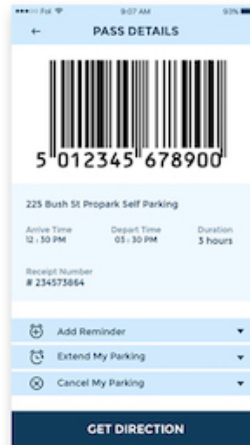
Adjustable Slider

Users can adjust a range of prices, distance to the parking spot and see the filtered results will be updated real-time

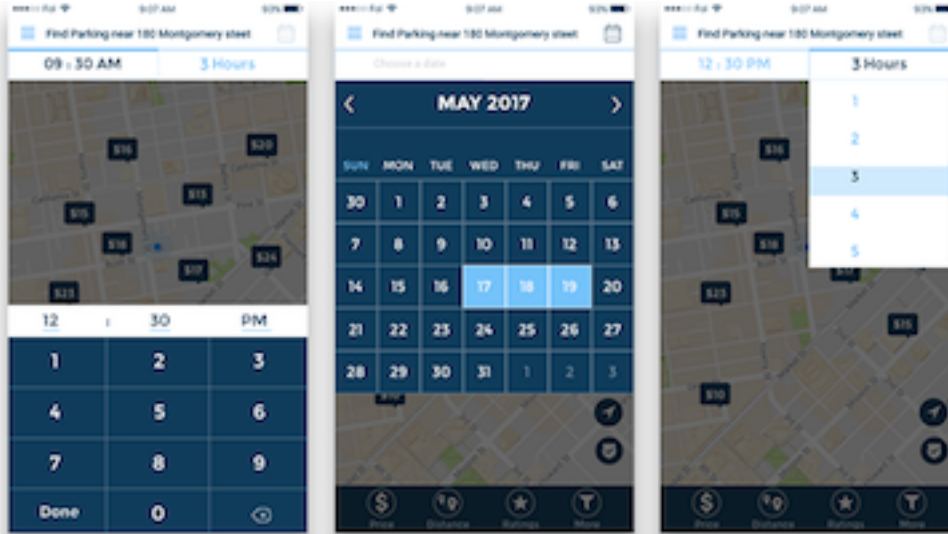
[Link to Prototype](#)



Notification and Set reminder

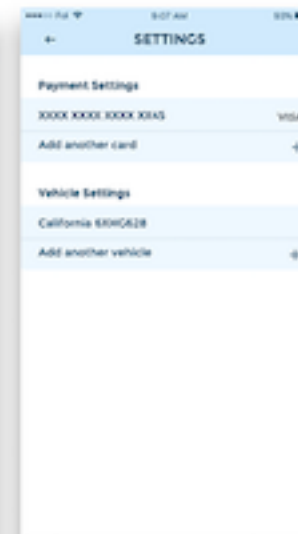
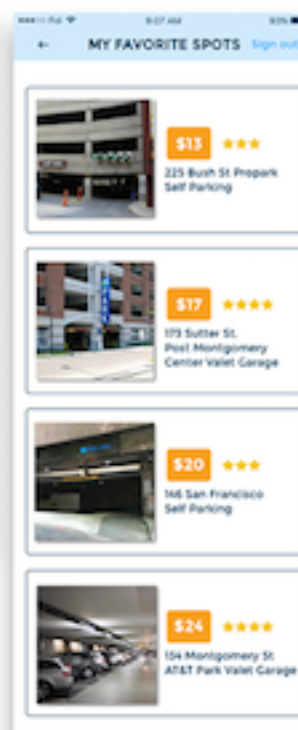
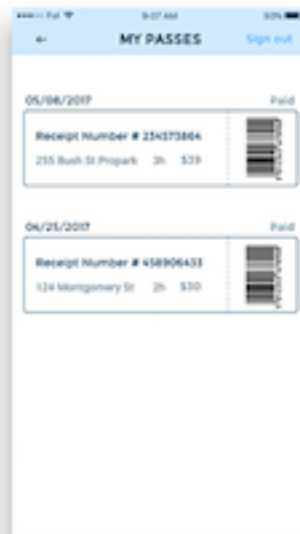
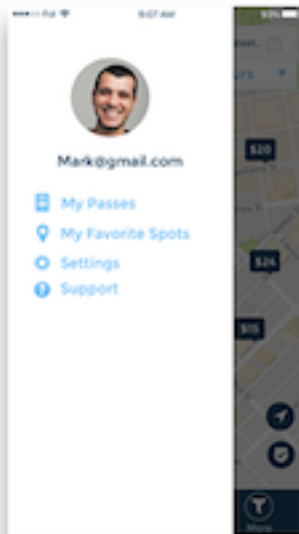


Make a Payment and Confirm



Reservation/Settings

[Link to Prototype](#)





D0EAFD



74C3FA



0F3B5A



F7A01F

Montserrat

Aa

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Roboto

Aa

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890



PARKING FINDER





“Find the parking options you want at once”

After several user testing, I categorized features from testing, which features or options most important. Price option can be difficult to filter but want to adjust preferred price range. Safety rank options also show the main page, users can click the button and shows the layered screen to which area is safe or not. Users can adjust a range of price and distance to their parking spots, also they can be filtered other options. I want to give users simple experience to filtered options and select where they want to go.



PARKFINDER

Citation

Articles

Anthony Ling, marketurbanism.com, "Interview with Parking Guru Donald Shoup" MAY 5, 2017

<https://marketurbanism.com/2017/05/05/interview-with-parking-guru-donald-shoup/>

Spothero Blog News

<https://blog.spothero.com/>

San Francisco Parking

<https://www.sftourismtips.com/san-francisco-parking.html>

"Census Bureau Reports 265,000 Workers Commute into San Francisco County, Calif, Each Day", census.gov, MARCH 05 2013

<https://www.census.gov/newsroom/press-releases/2013/cb13-r22.html>

Images

https://pixabay.com/p-314805/?no_redirect