Exploratory Design Project

Gas Services Wayfinding

Problem Statement

Deciding when & where to get gasoline without sacrificing unnecessary time driving off-route is difficult for individuals driving long distances, particularly in unfamiliar places. This friction is exacerbated by poor road signage that does not cater to individual needs such as seeking restroom services, cost-efficiency or brand familiarity.

Research & Ideation Overview

PERSONAS REPRESENTED

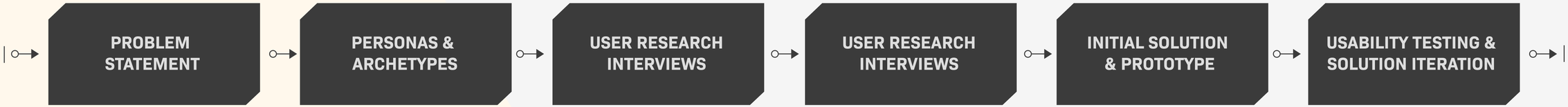
1. Individuals using rental cars
2. Individuals driving to a destination at least 200 miles from their origin location

USER RESEARCH INTERVIEWS

- 8-20 minute recorded interviews with exploratory research protocol tailored to the project
- 6 individuals who semi-regularly use rental cars or drive over 200 miles to a single destination

USABILITY TESTING & SOLUTION ITERATION

- In-person interviews of 10-20 minutes with 3 individuals who semi-regularly drive over 200 miles to a single destination
- Task-focused, guided usability protocol tailored to assessing the usability of the project's major appendages
- User Goal: “I want to add a car and change my preferences for route planning.”
- Major Beats: 1. Add a new vehicle, 2. Set a priority, 3. Add a Food & Drink preference, and 4. Add a payment method



Solution Overview

GAS SERVICES WAYFINDING PROTOTYPE

- Route planning that accounts for a specific vehicle's driving range and automatically provides turn-by-turn directions routed through efficiently-located gas stations / rest stops.
- Preferences cover: User priorities, operating hours, available amenities, brand preferences, and payment methods.
- Targets users seeking time efficiency, cost efficiency, familiarity, and/or decision-making aid
- Mobile-based appendage to pre-existing Google Maps wayfinding services

KEY WORDS TARGETED

Easy | Efficient | Cost | Close (Distance) | Quick | Familiarity | Wing It

VALUE PROPOSITION

- Decrease frustration with "winging it" when deciding where & when to stop for gas services
- Eliminate decision-making stress surrounding brand recognition, cost, distance, etc.
- Increase overall user satisfaction and engagement with the product by providing a more comprehensive experience
- Increase accuracy of ETA by accounting for periodic breaks during extended drives
- "Set and Forget" user experience that requires minimal time investment with unlimited ROI

MOST COMMON APPS USED

- Google Maps
- Apple Maps
- Waze

DECIDING FACTORS: WHEN

- Less Than 1/2 Tank
- Less Than 1/4 Tank

DECIDING FACTORS: WHERE

- Familiarity With Brand
- Efficiency (Least Time Off-Route)
- Nearby Food and Bathrooms
- Relative Cost
- Visibility (ex. Exit Signage)
- Payment Methods Accepted

Future-State User Journey

Solution Concept: Gas Services Wayfinding

Google Maps add-on that provides route planning which accounts for a vehicle's driving range and automatically provides turn-by-turn directions routed through efficiently-located gas stations or rest stops. A user can enter preferences related to cost, location, or brand such that only locations fitting the pre-set user preferences are suggested.

SOLUTION CONCEPT	An add-on to Google Maps that allows users to enter their vehicle's range so that destinations further than this range will automatically include turn-by-turn directions routed through efficiently-located gas stations or rest stops. A user can enter preferences such as prioritizing cost, location, or brand, only showing locations that fit the pre-set user preferences.														
FUTURE STATE	Gerald sees an update to his Google Maps application that allows him to enter his car's driving range (miles per gallon + gallons in tank).	Gerald enters his car's average range and gasoline type into the app.	Gerald is prompted to enter his gas station preferences. He checks off "Must have bathroom" and "Prioritize efficiency (over cost)". He enters his preferred payment method, Visa.	A couple weeks later, Gerald and his family decide to drive to the Grand Canyon for a family trip. This destination is 500+ miles from their origin.	Gerald and his family need to determine a route to travel. Gerald uses Google Maps to enter his destination. He gets step-by-step directions, arrival estimate, and traffic predictions.	This distance is outside Gerald's car range so he is automatically routed to appropriate gas stations along his route. These gas stations include bathrooms for his family to use.	After about 4 hours on the road, Google Maps suggests Gerald take the upcoming exit to the gas station nearby in order to maximize his car's efficiency and minimize time off-route.	The app suggests food and vendors nearby in case Gerald's family would like to stop for anything else in the vicinity.	Gerald's wife voices her desire to stop for food and looks thru the app's suggestions.	Gerald's wife finds a vendor she likes and presses the "+" button to add this vendor to the turn-by-turn directions.	Gerald follows the turn-by-turn directions to the gas station.	Gerald gets gas and his family uses the bathroom services.	Gerald follows turn-by-turn directions to the food vendor.	Gerald's family gets the food services they desire.	Gerald follows turn-by-turn directions back to the primary route where he resumes the trip.	Gerald's estimated destination arrival time remains unchanged because this stop was factored into the estimation.
EXPERIENCE	I am curious but unsure how useful this will be to me. I feel this may help take some decision-making stress off of me in the future.	I am not sure what my car's range is. I google this information for my car's make and model. I hope that this will allow me to stop more efficiently on long trips.	Some of these are necessities and some are just preferences. Can I mark some as preferred but not required?	We will need to stop for gas and bathroom/food breaks on this trip.	We will need to use an application to plan our route and avoid any traffic.	I am thrilled I don't have to worry about running out of gas or finding a gas station that has services meeting my needs. I feel more comfortable knowing I don't have to be monitoring this myself.	I feel at ease following my turn-by-turn directions to a vendor that provides gasoline fitting my vehicle and payment needs where my family is also able to use the restroom.	I am pleased by the local vendor suggestions that allow us to efficiently get food services on this stop without adding time to our trip.	My wife is able to scroll thru the food suggestions to find something that fits our preferences. I am relieved that the family will have their needs met without us wasting unnecessary time.	The process of adding the food vendor to our route is easy and seamless. We continue driving with little to no effort / stress dedicated to this route change.	I am confident about where I am going because the turn-by-turn directions are guiding me along the fastest route to our planned stops.	I am relieved that this stop has taken little time and meets all of our preferences. My payment was accepted, the gas station was in operation, and the bathrooms were available as noted.	The process of navigating to the food vendor is easy because the turn-by-turn directions are guiding me.	I am again relieved that this has maximized our efficiency while still satisfying the needs of the full family. Our food preferences were met without unnecessary time researching or driving off-route.	Getting back to the highway is easy because the turn-by-turn directions are guiding us along the fastest route.	I feel satisfied and stress-free because there has not been a delay to our arrival time as a result of stopping for gas and food. This was already factored into our trip.
	I am hopeful this benefits me in the future.	Again, I am hopeful this benefits me in the future.	Although I have managed in the past without them, it will be nice to not have to "wing it". I feel relieved to not have to find this information manually while also trying to drive.		I am most comfortable with Google Maps, so I'll use this to enter my destination and get turn-by-turn directions. I hope that my preference data helps predict where and when to stop to meet our needs.										

Solution Sitemap

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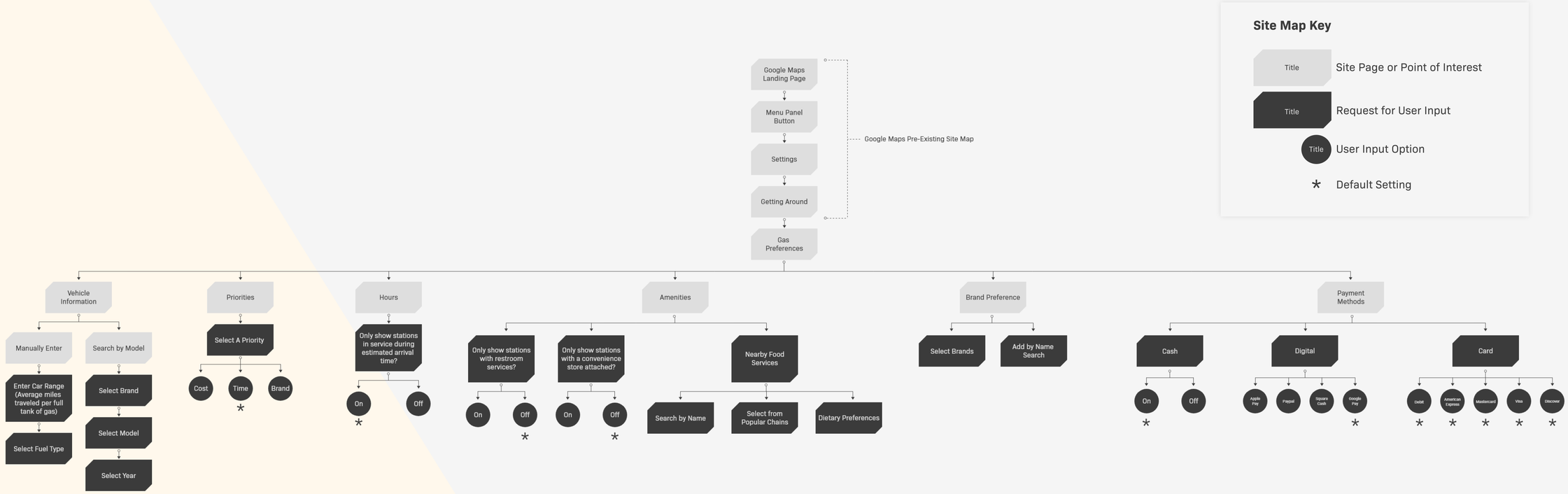
Google Maps add-on that provides route planning which accounts for a vehicle's driving range and automatically provides turn-by-turn directions routed through efficiently-located gas stations or rest stops. A user can enter preferences related to cost, location, or brand such that only locations fitting the pre-set user preferences are suggested.

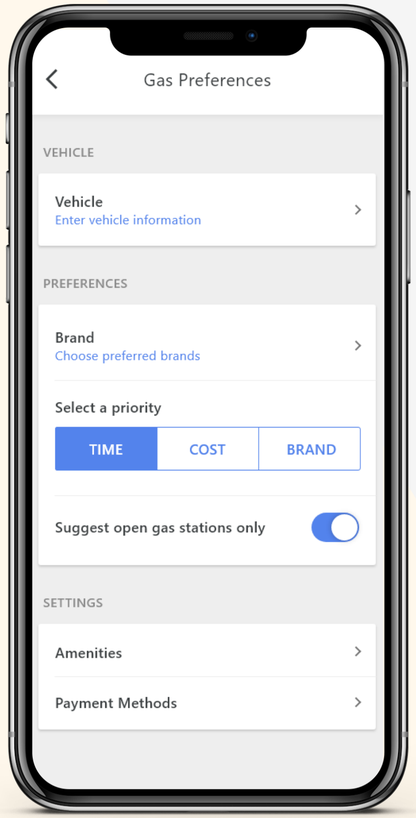


Key Prototype Screens

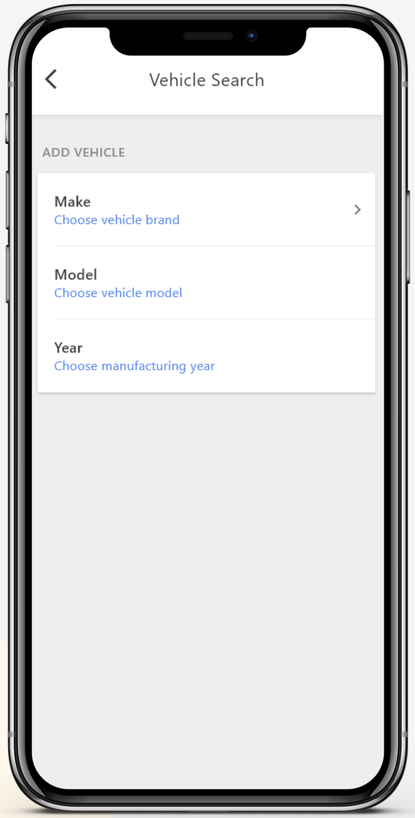
Solution Concept: Gas Services Wayfinding

* - Feature Changed Due to User Testing

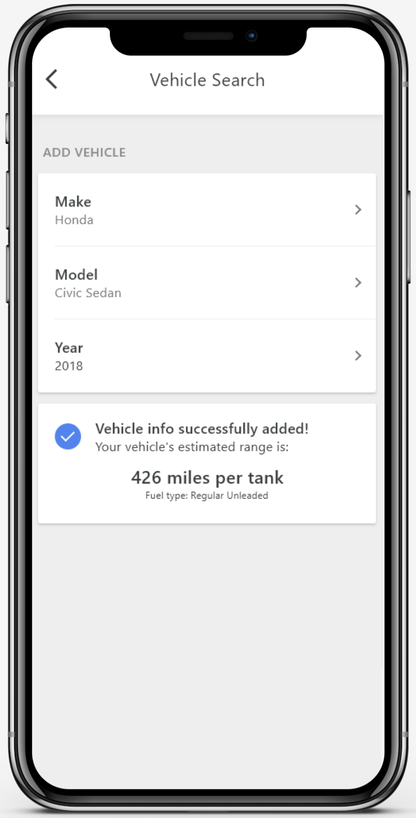
One primary component of these screens changed due to user testing. Originally, the application featured a "Save" button with successful save feedback. This breaks general iOS interaction standards wherein any input is expected to be automatically saved, rather than requiring an additional button press. Therefore, the "Save" button has been eliminated to limit confusion and regain parity with the rest of the Google Maps iOS app.



I. LANDING



II. ADD A VEHICLE



III. VEHICLE ADDED

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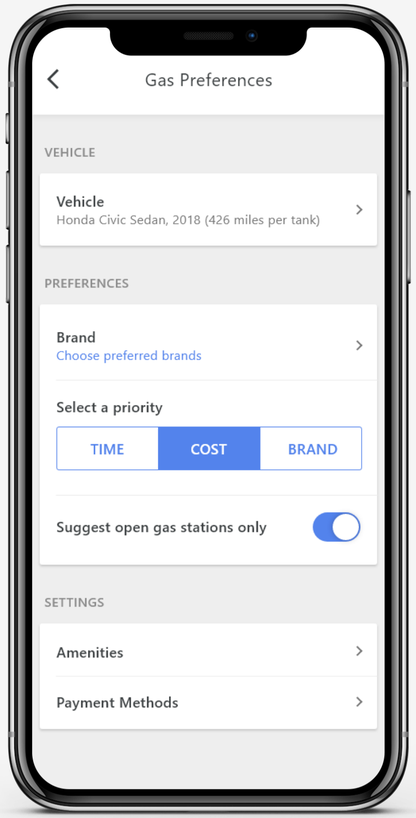

IV. CHANGE PRIORITY

Key Prototype Screens

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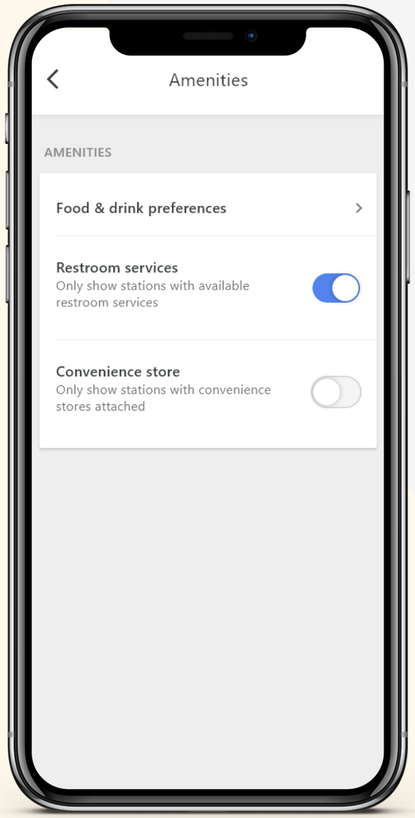
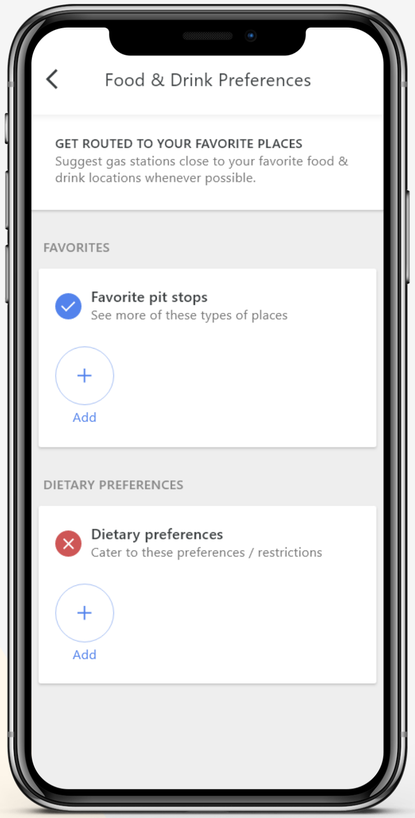
* - Feature Changed Due to User Testing

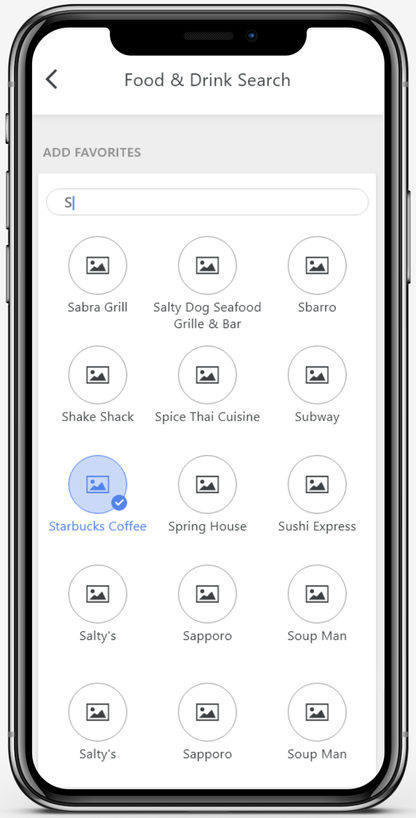
Two components of these screens changed due to user testing. First, The Food & Drink Preferences is re-homed under the general Food & Drink Preferences. By combining these, rather than having separate preferences, the need for users to perform duplicate work and the potential for confusion are both eliminated. Second, the food options buttons originally looked deselected. By adding temporary icons and saturated treatments, these clickable buttons have been given a more vibrant look that implies intractability.



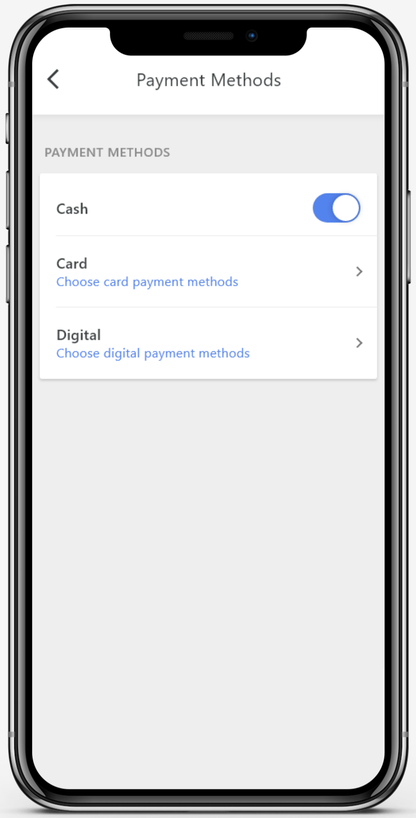
V. AMENITIES LANDING



VI. FOOD & DRINK PREFERENCES *



VII. ADD FOOD & DRINK PREFERENCE *



VIII. PAYMENT METHOD

THANK YOU!

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