Forager

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With the rise of COVID-19, we have seen dramatic changes in the shopper behavior while browsing for, selecting, and purchasing groceries. The changing and evolving context of the pandemic offered a compelling opportunity for our responsive design endeavor to address. As a shopper today, it is common to see and experience the many precautionary measures implemented to address safety concerns and combat the rapid spread of coronavirus. There was sure to be ways to improve the grocery shopping process that could help both customers and stores alike.

We set out to understand users' experiences with grocery shopping during COVID. We planned to create a service that would reduce user's pain points while grocery shopping during COVID (and like) times. In order to do this, we needed to understand customer behaviors when grocery shopping, both before and after the pandemic, to get a sense of any areas our design could address.

We conducted pop-up interviews with volunteer participants via Zoom. The questions prompted the participants to speak about their experiences, particularly the pain points and how their behavior has evolved with the current COVID-19 pandemic. Our goal was to learn about people's grocery shopping experience, specifically, how their shopping behavior has been affected by COVID-19. After conducting our interviews, we mapped our notes on to individual customer journey maps. Following the structure of our interviews, we divided the journey into three main stages: pre-shopping, while-shopping, and post-shopping.

Our key findings included:

1) People do not make formal lists every time they grocery shop.

2) When people do make lists, they tend to any medium that is close by an available (i.e., their phone or a loose piece of paper).

3) Customers are willing to do extra prep to minimize the risk of contracting COVID-19 while in the store.

4) When in store, customers would rather head directly to desired items rather than browse freely.

Phase	Phase I Pre-shopping			Phase II While-shopping			Phase III Post-shopping		
Customer Goals	Figure out things to buy	Take precautions against COVID		Get everything I need from the store	Keep myself safe while shopping		Get home safe with all my groceries	Find alternatives for physical shopping	
Customer Actions	Check for missing items in the fridge	Wear mask, gloves, jacket with hat	Never call a Uber after COVID (only walk)	Find the right sections	Put items in the cart and plastic bags	Always keep social distancing	Walk home while carrying items in plastic bags	Look for online shopping platforms	
Customer Experience	Need to priorize the items I need to buy since I can carry at most 3 large bags at a time			Almost always go directly to the sections I want, only occasionally wander around	Items typically very easy to find--do not need instructions from employees		Have the anxiety of having to use things up before the next shopping		
	Go alone on a casual Friday afternoon or Saturday morning, not pre-planned			Get nervous during checkout (worried of cashiers touching things)			Not a lot of options shopping online--less desire for shopping		
	Prefer nearby stores after COVID for both convenience and safety			Some unpleasant experiences of having boxes not sealed well, leading to leakages			Find online shopping annoying-- shipping fees, all sorts of sales ads, etc.		
Touchpoints	Fridge	Safety supplies	Path to store	Cart	Plastic bags	Grocery items	Path to home	Plastic bags	Amazon & Yamibuy

Example Customer Journey Map

Phase 1 - Planning

Goals	Remember all needed grocery items	Remember safety protocols and items
Actions	Build grocery list	Gather mask, gloves, and hand sanitizer
	Drive to grocery store	Put on mask and clean cart
Thoughts/Feelings	"I'm not overworried about COVID but I know I should be careful."	

Phase 2 - Shopping

Goals	Find all desired items	Stay safe
Actions	Enter the store	Go to the sections that have items they need
	Avoid sections that have too many people in them	Only talk to employees
Thoughts/Feelings	Where are the items on my list	"I just want to get out of here as quickly as possible"

Safety

Phase 3 - Checking Out

Goals	Have a hassle-free checkout process	Put away groceries as soon as possible	
Actions	Go through self-checkout line	Load items into car	Drive home
	Unload items from car	Clean and put items away	Realize he forgot certain items on the grocery list
Thoughts/Feelings	"Shopping takes a lot of energy and I just want to go back home."	"Oh no! I forgot to buy this item!"	

**INITIAL RESEARCH -- REFINED MAP**

Our discussion led to us centering our user-value on COVID safety. We created a tool which built most optimal path through the store that would cut down on the time and distance traveled by an in-store customer. This would **provide value to the customer by decreasing the potential exposure to disease**, and setting them up for an **efficient and successful store visit**.

We updated our customer journey map to include the most important goals, actions, and thoughts/feelings in each phase of the process. We incorporated them into an image of a stylized and sleek shopping cart to reflect the value of streamlining the shopping process for users. In the planning phase, we wanted to convey the unease that customers felt when preparing to go to the store. That feeling was then escalated in the shopping phase, where customers focused on getting their items as quickly as possible. Then, in the checkout phase, customers didn't want to extend their time at the store any more than they needed to.
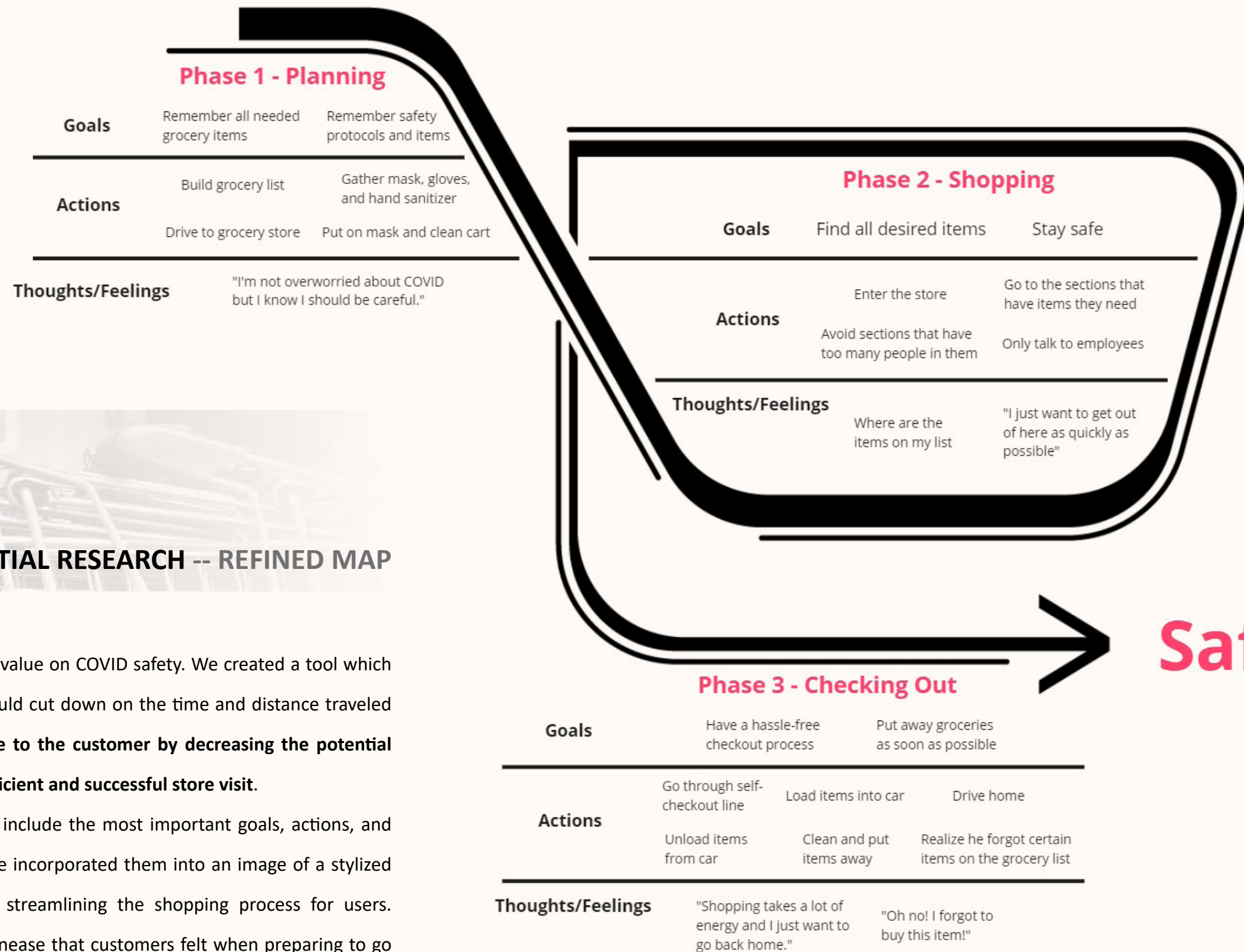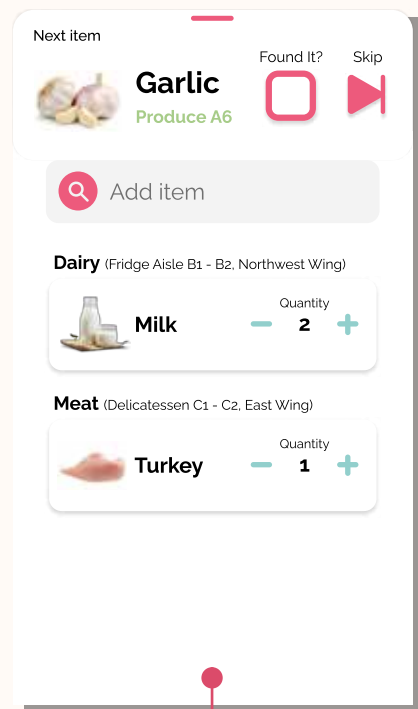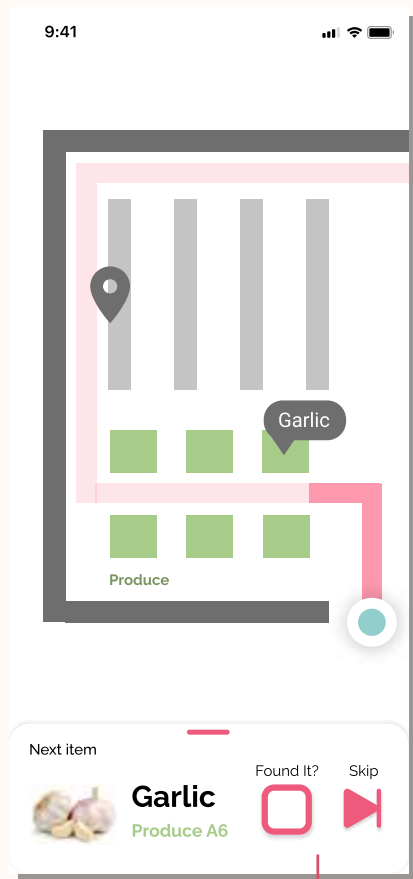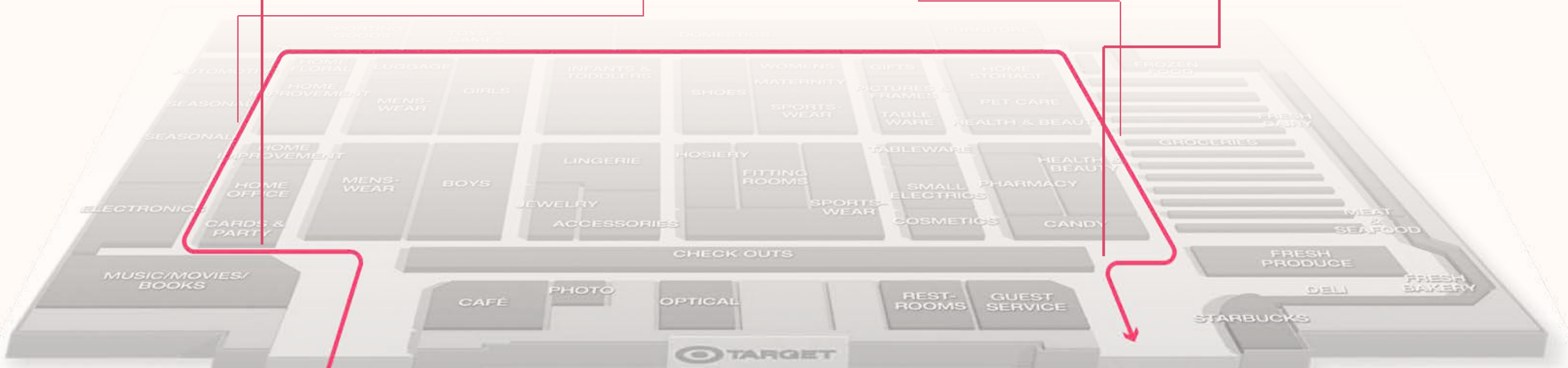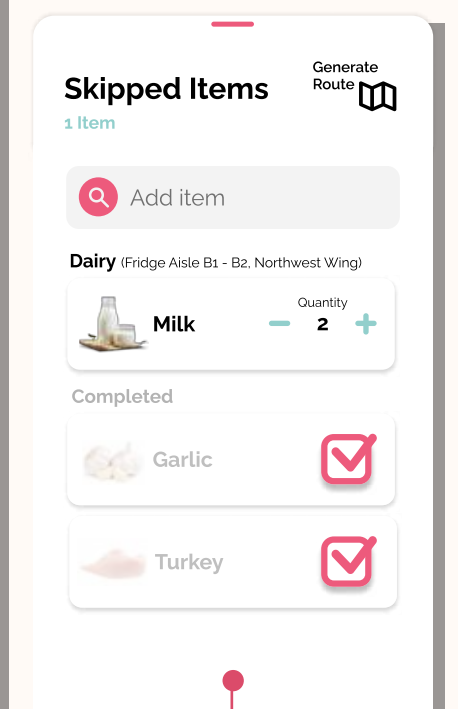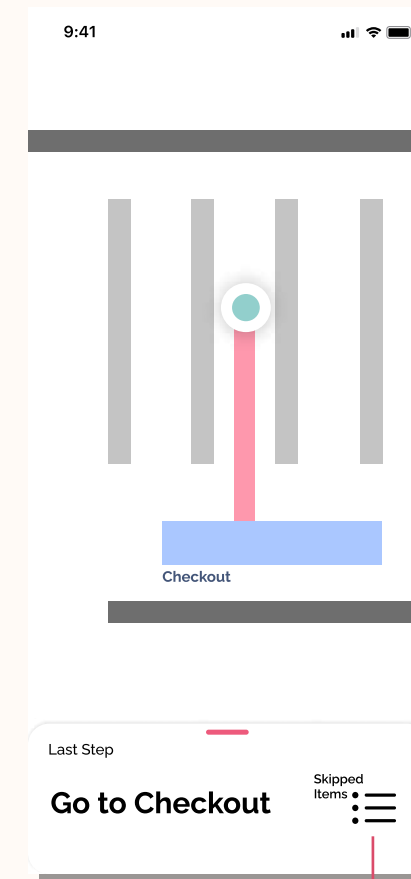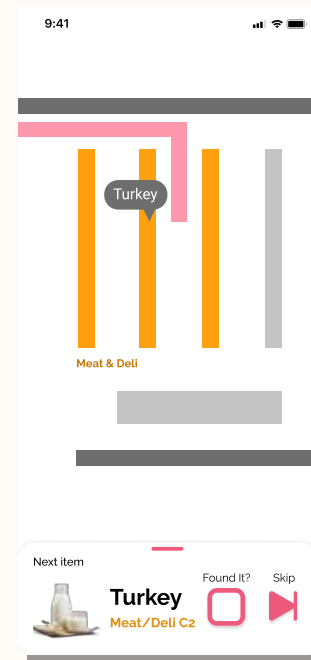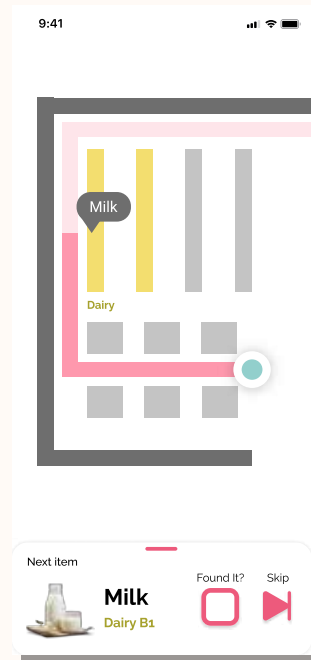
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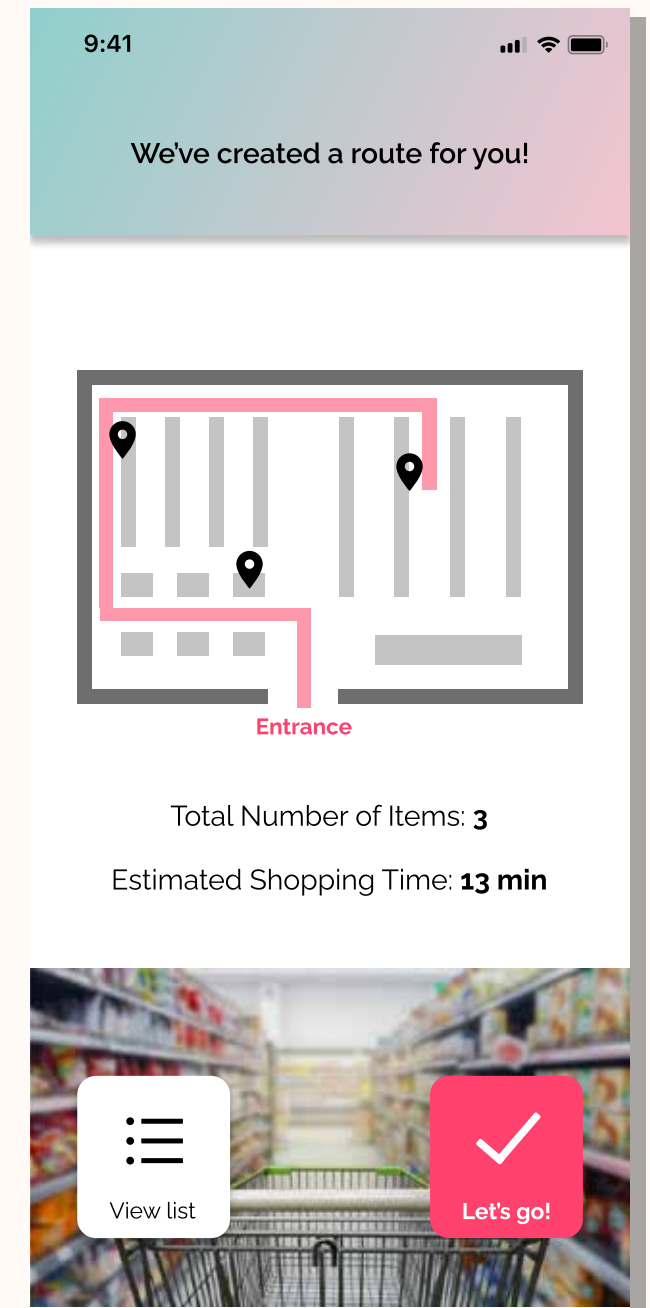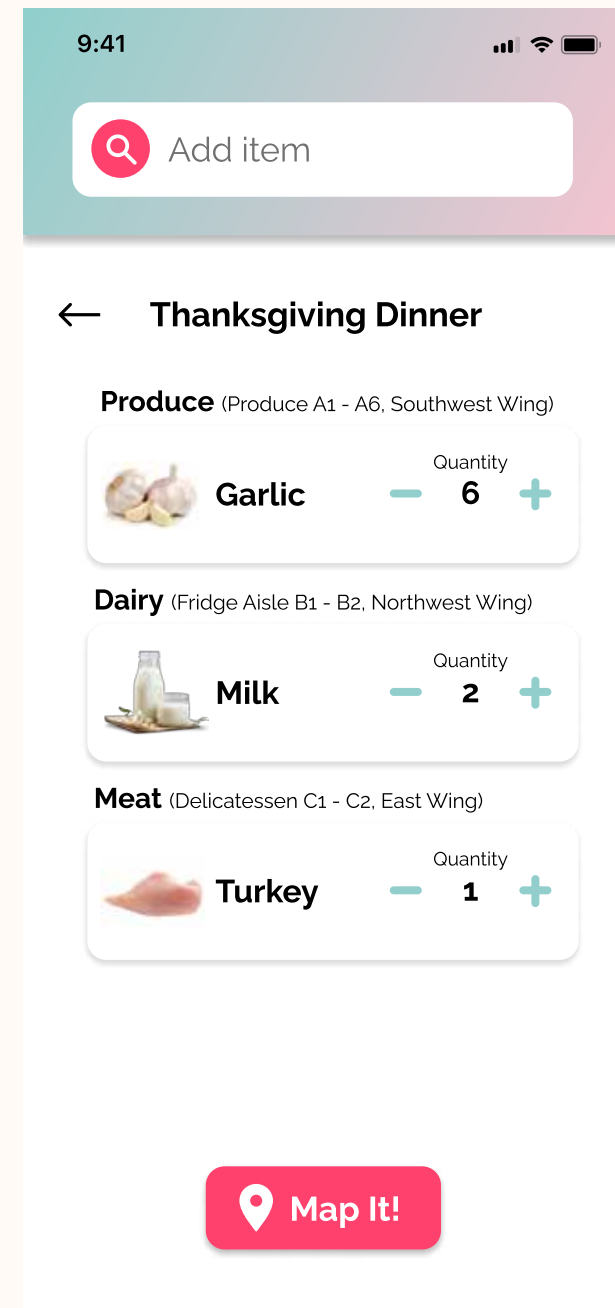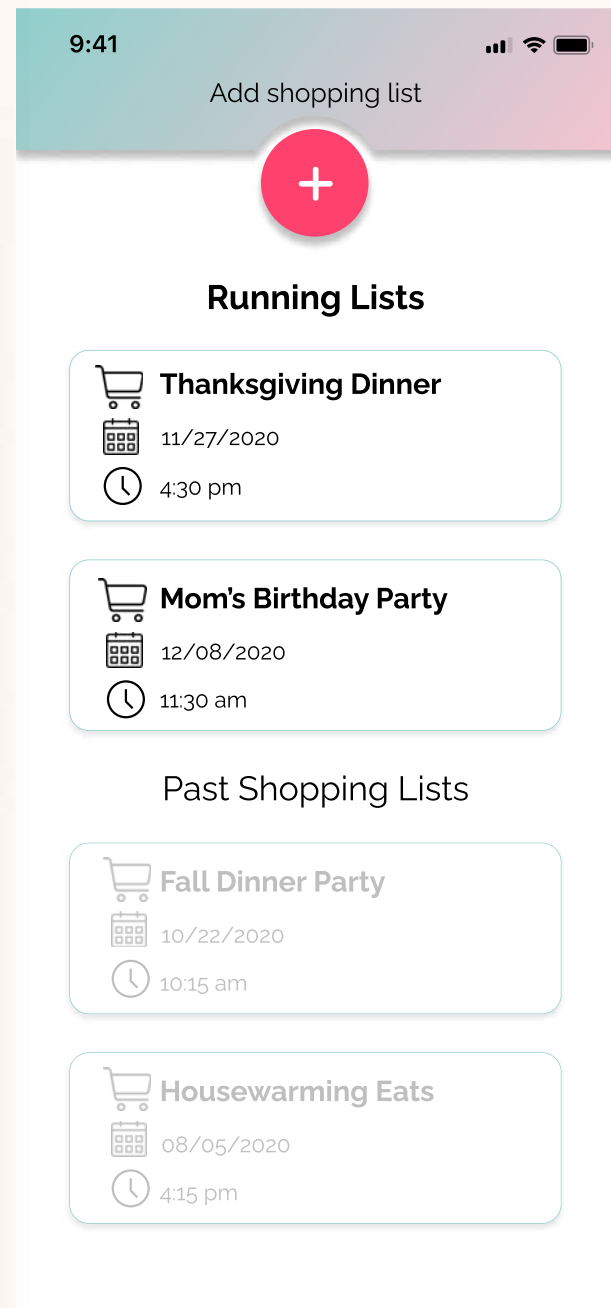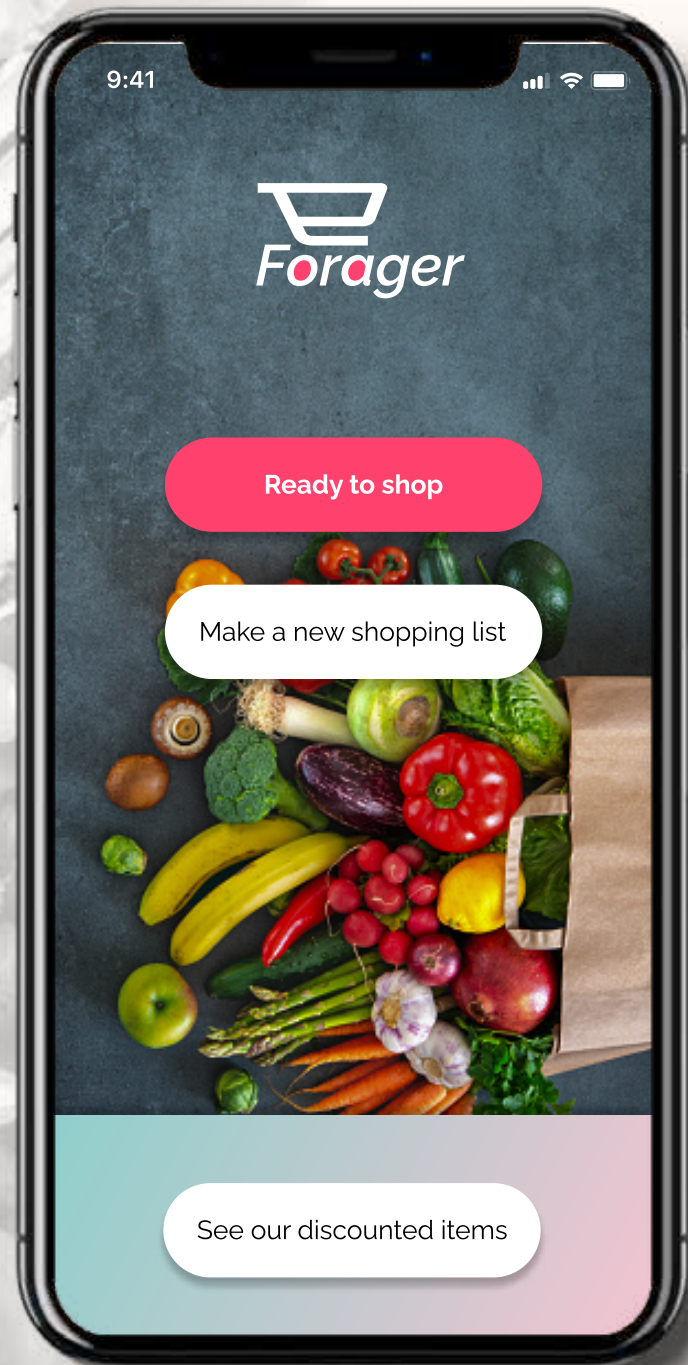
Based on our initial research, we developed our design solution in an effort to reduce the pain points customers experience while grocery shopping, especially the second phase of our customer journey. The primary design idea is to allow customers to create their own shopping lists and generate a one-time shopping route for them based on their lists--this route is based on an algorithm that would minimize both the time spent and direct contact with other customers to maximize efficiency and safety. This route uses a abstract plan of the grocery store and guides customers to the items they need--whenever the customer finds the item in the correct section, they would hit "found it" and the route would shift to the next item; they could also choose to "skip" the item and it would automatically add to their skipped item list. At the end of their journey, customers are guided to the checkout aisle and the skipped item list would prompt so that they could go back to search for these items (with a new route generated).

The route our app generates for the customers, although limited to one-time, would allow them to navigate through the store and find the items they want with maximal ease and safety.

We also created a responsive design for a smartwatch which offered several new benefits for users:

- Users would not need to continually pick up their phone when shopping for groceries. Pushing a shopping cart or picking up items can require more than one hand, and having your customer's grocery list on a wearable device allows for more freedom when collecting items.

- The items and their locations are shown in the most direct and efficient order, which helps the customer move quickly through the store without needing to frequently reference the map. It also saves the customer time and energy when building their grocery list; they don't need to worry about adding or organizing their items in a specific order.

- Users can use voice commands to mark off items to further minimize touch interactions and keep their hands free. This can be helpful particularly when they only have a few items and want to carry them without a hand-basket or cart.