

# Assignment 5

## ShopKeep: Low-fi Prototyping and Pilot Usability Testing

Adam H. | Tyler Y. | Joy Y.

### Introduction

#### Value Proposition

*Shop Like an Expert.*

#### Mission Statement

Our goal is to empower customers with the tools they need to shop more efficiently and allow shopkeepers to do what they love: interact with their customers.

#### Problem/Solution Overview

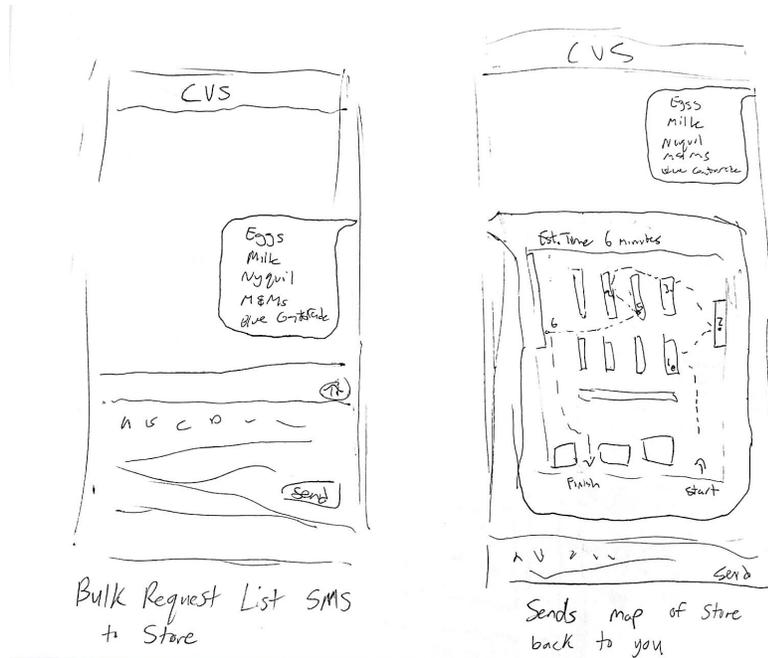
To many, shopping is a necessary evil. While some enjoy shopping, others see it an endless chore that involves doing research online, navigating huge stores, and wasting lots of time. They find shopping painful because they don't have the store knowledge and product expertise that would allow them to shop quickly and confidently. Shopkeepers and store workers love to interact with customers and possess the knowledge that customers need. Our solution is focused on providing shoppers with that knowledge at the touch of a button. Therefore, we are building an app that enterprises can provide to their shoppers, which will help shoppers navigate stores and get assistance quickly.

To begin pursuing our idea of ShopKeep, we developed a series of sketches of various ways, crazy and realistic, of achieving the shopping experience conveyed in our video.

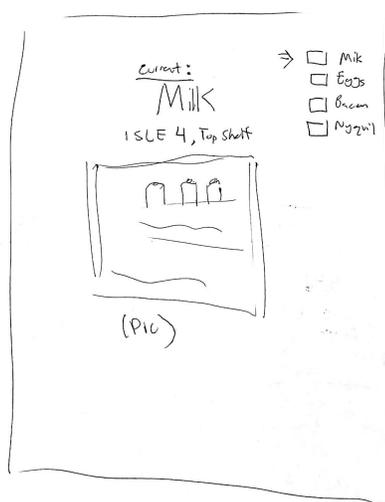
# Brainstorming Sketches

In our initial brainstorm, which we started in studio, we alternated coming up with one stretch idea and one more realistic idea from each person. We found that this process made our creative ideas more creative, and made the more realistic ideas keep the overarching experience of the product in mind.

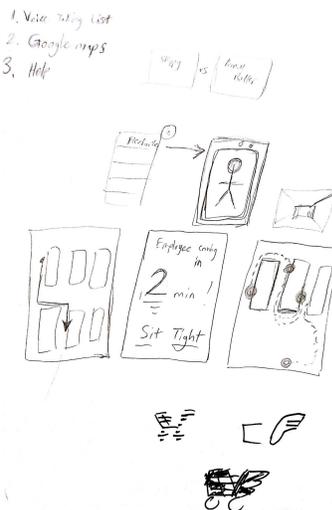
## SMS-Based Chat Bot (Task 1 and 2)



## I-Spy Checklist (Task 2)

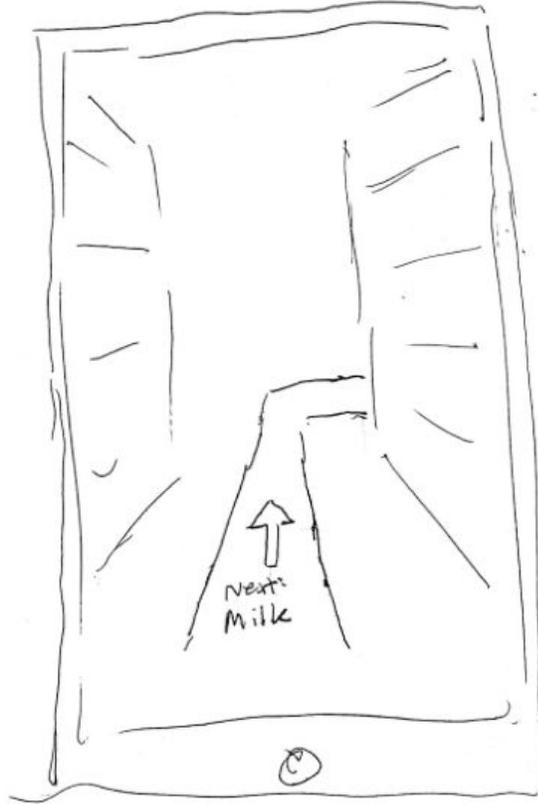
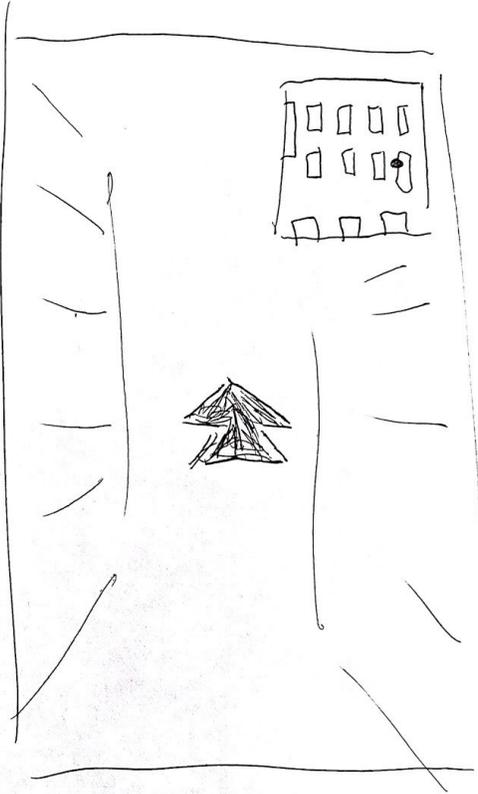


## Uber for in-store help (Task 3)



1st-Person Adventure-Game (Task 2)

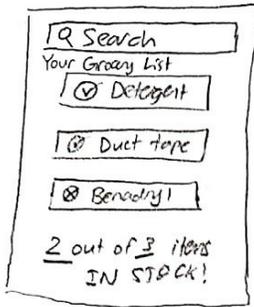
AR-Navigation (Task 2)



## Checking items and alternatives (Task 1 and 3)

### Items in Stock?

①



Manual Text Entry

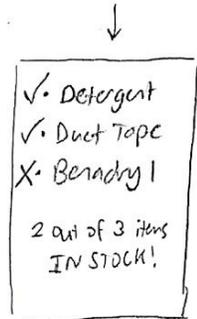
②



③



Texting App Chatbot



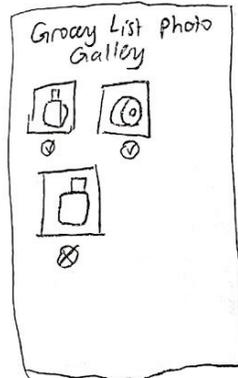
Picture of Written List

④



Location Search for Matching Item (suggest store at end)

⑤

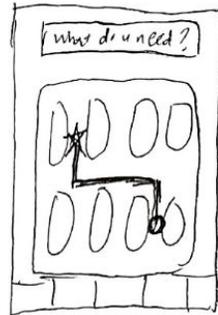


Choose from Pictures

**Drone Assistant**  
Task 1, 2, 3

Personal Assistant

Reminds you if you forget something. Automatically checks out, takes item to your car.



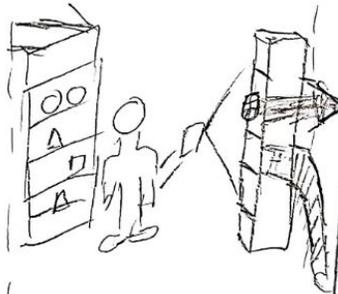
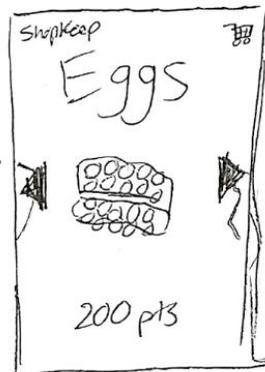
Uber for store workers

Drone follows you around

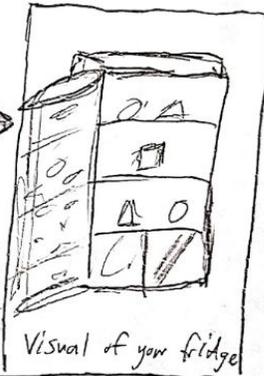


leads

**Scavenger Hunt**  
Task 2, 3

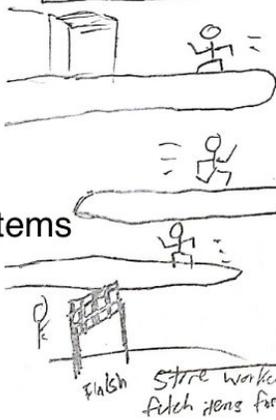


Laundry Chute Grocery Delivery



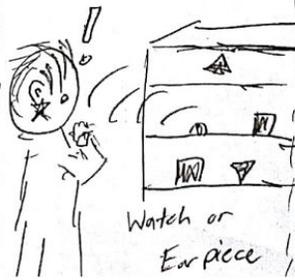
Visual of your fridge

**FindMyItems**  
Task 2, 3



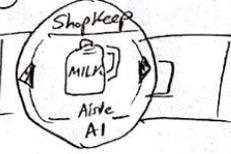
Find Store workers fetch items for you

Ringing items & head in that direction.

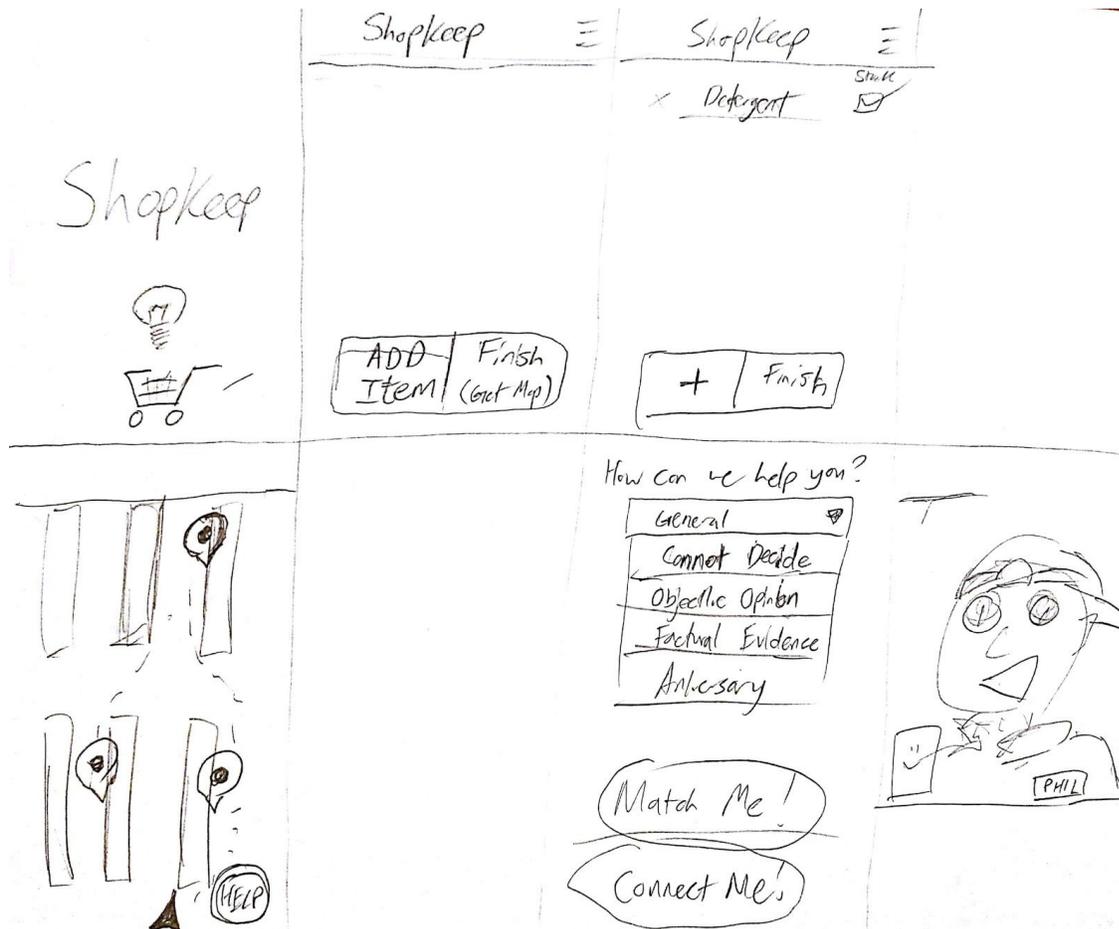


Watch or Ear piece

Watch to keep track of items & Pricing for you.



# Storyboards + Rationale

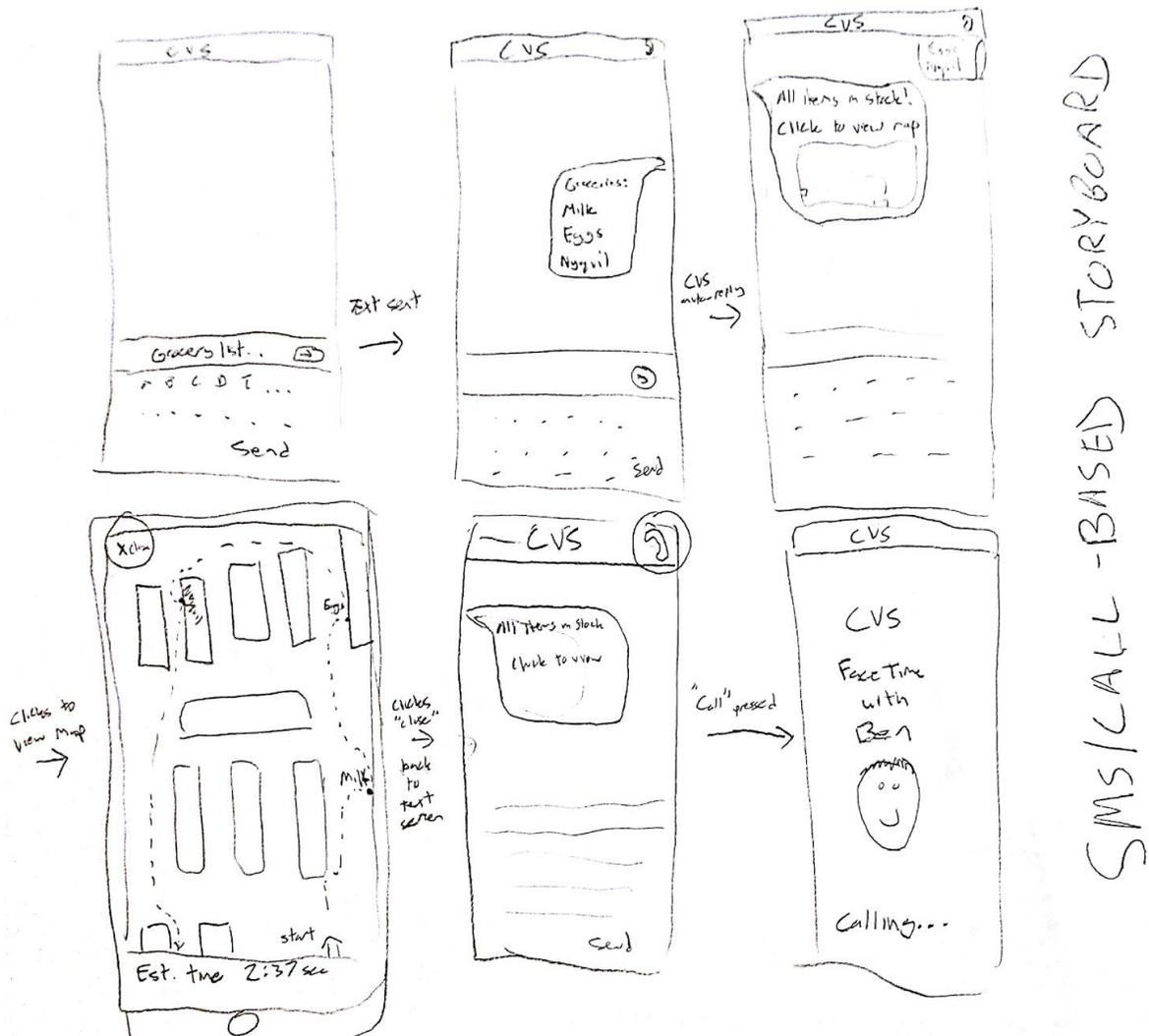


## Pros:

- In-app map can be dynamic and interactive. For example, it could show the users location within the store in real-time
- Being able to list all items via a voice command is very efficient
- App can provide in-app help and information, such as prices.

## Cons:

- Having to download an app and sign up is a lot of friction. It may be difficult to convince people to download an app when they arrive at the store.



SMS/CALL-BASED STORYBOARD

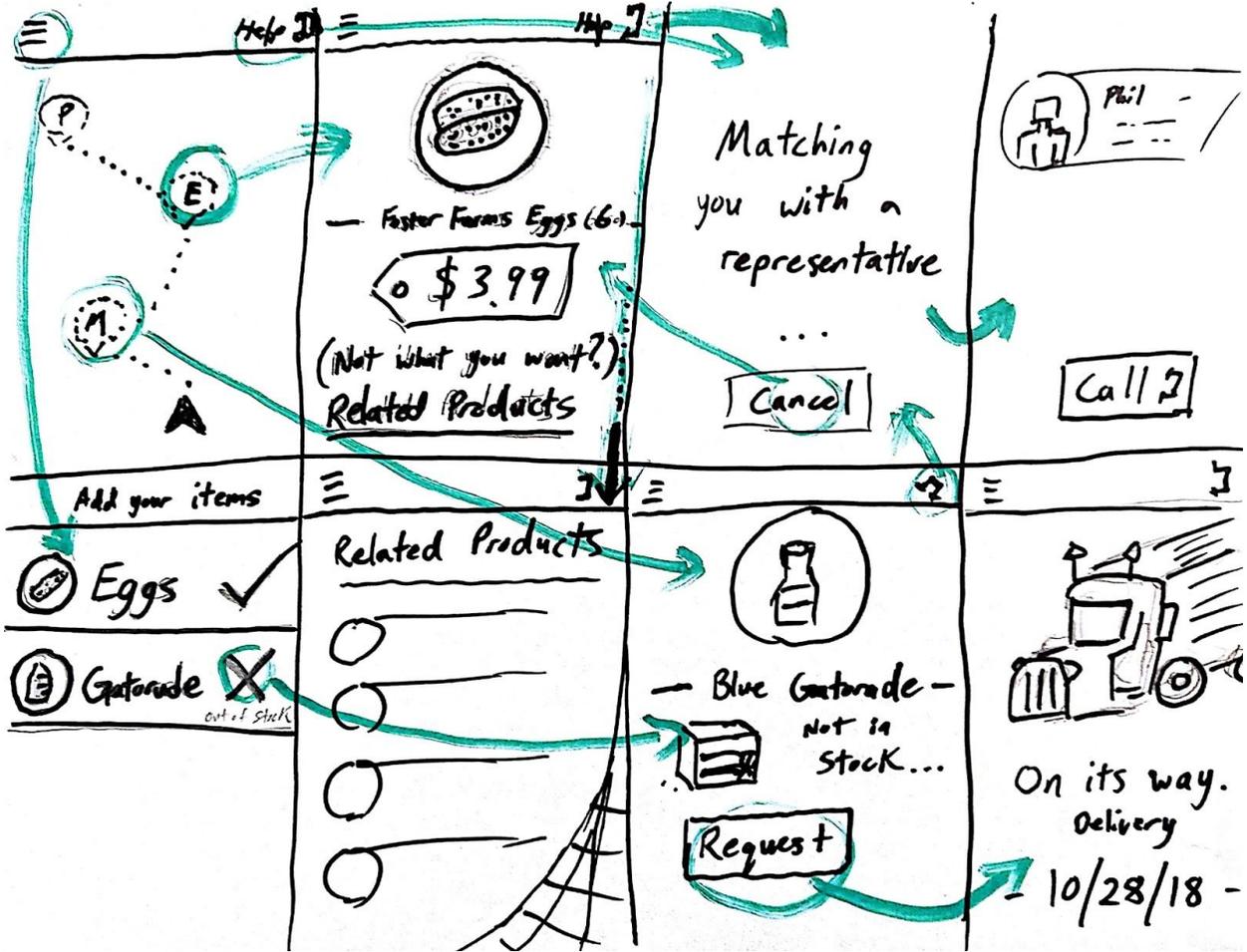
Pros:

- Users don't need to download anything, so it will likely be easier to onboard new users
- Uses familiar features (SMS, FaceTime) to accomplish tasks, so it should be relatively simple and intuitive for first-time users

Cons:

- Provides a static PDF map, which is less helpful to users than real-time navigation
- SMS-based app not optimized to provide in-app help and information. For example, it takes longer to find out price information with an SMS chat bot compared to a native app.
- There could be potential issues with bad cell reception, preventing SMS from working.

# Selected Design Interface:



We chose the native app design because it can offer flexible, interactive assistance whereas the SMS-based design was limited in its capabilities. We determined that the benefit of offering in-app information and real-time navigation outweighed the added friction of downloading an app.

# Method

## Participants

We found participants shopping at CVS at Town & Country, as our prototype was specifically designed for that store. Our target customer is tech-savvy and focused on shopping efficiently, so we chose millennial shoppers who were alone. We approached our participants while they were shopping at the store and did not compensate them.

## Experiment

We handed the participants a slip of paper with a grocery list of four items, and instructed the participants to accomplish the following tasks using our prototype, without taking a step:

1. Check if the items on the grocery list are in stock (Simple)
2. Locate the items in the store (Moderate)
3. Find the cheapest egg brand (Complex)

We did not speak to the participants in the researcher role after explaining the prompt.

The 3rd task, “find the cheapest eggs”, was designed to simulate the complex task of getting help from the store. Instead of instructing participants to “get help from an employee”, we gave participants a task that would require help to accomplish. Traditionally, this information could be found by talking with an employee. To find the cheapest eggs, the user had to get help by clicking on the help button to video call with an employee.

(See Appendix for prototype cards)

## Team Member Roles

### **Adam - Greeter / Facilitator**

Adam approached each of our test subjects and explained the scenario to them.

### **Tyler - Computer**

Tyler swapped out the screens as the user pressed buttons or issued commands, and made occasional sound effects to simulate the app’s inner workings. He also took careful note of which screens were ambiguous and where the flow didn’t make sense.

### **Joy - Observer**

Joy held the platform that the test subject used to interact with our app, and noted down key insights and details that the user said or revealed while using our product.

# Results

## Zachary, 17



Zachary was successfully able to check if the items on the grocery list were in stock, although he ran into some confusion. Initially his process was to add one item, then find it on the map, then go back to the list view to add the next item. After the second item, he realized it was more efficient to add all the items on the list first, and then find all items on the map at once. Eventually, he was able to locate all the items.

He did seem a little lost after navigating to the map screen, and his first reaction was to press the back button. This made it difficult for him to accomplish the complex task. After staring at the map screen for about 20-30 seconds, he finally clicked the “help” icon and was able to find out the cheapest eggs by FaceTiming with an “employee,” one of us.

In summary, Zachary was able to accomplish all three tasks, but the interface was confusing for him. As a result it took Zachary 4-5 minutes to finish all 3 tasks, and involved a lot of back-and-forth between the list and map view.

### Jordan, 29



Jordan was able to accomplish all three tasks very successfully. He quickly added all the items to the list, and proceeded to locate them on the map. The only confusion was that he expected he could add all the items using a single voice command, whereas the prototype was designed so that items had to be added one at a time.

Once on the map screen, he was quickly able to find the cheapest eggs - his first instinct was to click the eggs icon, and from there he connected with an employee and got the price. Jordan was able to navigate the app efficiently, finishing all three tasks in under two minutes.

### Nicolas, 19



Nicolas had some trouble with the voice commands on task 1, getting confused as to when he had to press the microphone button. Initially he tried to list all items at once, but after that did not work, he prematurely pressed "Finish" and entered the map view with only one item added

to his list. After some confusion and clicking around, he was able to navigate back to the list and add the remaining items.

After finishing tasks 1 and 2, he was able to find the cheapest eggs by clicking the “help” button on the map screen after looking around for 20 seconds or so. When getting help, he also used the opportunity to ask about the cheapest milk, what alternatives to blue powerade were available, and where to find yellow powerade.

Nicolas finished in roughly 4 minutes.

## Discussion

We designed the prototype with the expectation that users would press the microphone button each time they wanted to add another item. However, in testing this assumption, we saw that both Jordan’s and Nicolas’ initial instinct was to click on the mic button once, and say all of their items in a row as a single voice command. This behavior was clearly more intuitive for users, and it was significantly more efficient than our original design. Based on this insight, in our next iteration we plan to allow users to add multiple items in a single voice command. Once pressed, the recording should continually listen until the person is done with their list.

In creating the prototype, we had to determine the best way to deliver “help” to the customer when they need it. Based on our interviews, our assumption was that due to differences in personality and tech-savviness, some people would be better suited by speaking with an employee while others would prefer to find the information online.

We also looked for ways to encourage users to reach out to employees when they needed help. In our initial studies, we found that most shoppers did not interact with employees as frequently as we expected, yet employees told us that limited interaction was the highlight of their day. Our app design fosters this communication by providing a fast and easy way to connect customers to an employee. This open connection proved effective in our testing.

Zach found out the cheapest eggs by facetimeing with an employee, which he accessed at the map view. Jordan, a smart and tech-savvy fellow, was able to find out the cheapest eggs by finding the information in-app. Even though Nicolas did successfully navigate to the screen that listed the egg brands and prices, once there, he chose to facetime with an employee regardless. In doing so, he not only found out about the cheapest eggs, but he also asked about the cheapest milk and about what other flavors of powerade are in stock (given that the blue powerade on the grocery list was out of stock).

Testing our prototype underscored how valuable employees are for helping customers. The ‘Facetime an employee’ feature proved to be an effective fallback that enabled all users to finish

all three tasks, and was the most popular feature with the users. Getting help by finding information online can be fast, but we also saw how inflexible it can be hard for non-tech-savvy users. However, a sure-fire way to get any question answered is by asking a store employee, whether it's about inventory, navigation, or advice. Based off these learnings, we will explore how we might revise the interface to make this feature always-accessible.

# Appendix



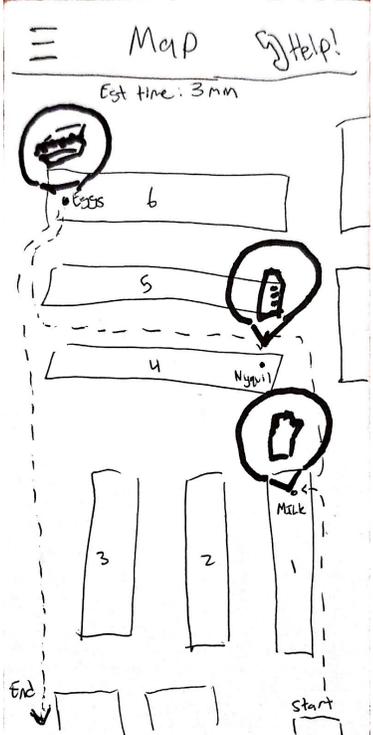
Add your items	Add your items
	Eggs ✓
(🎤) } FINISH	(🎤) } FINISH

Add your items
Eggs ✓
Nyquil ✓
(🎤) } FINISH

Add your items
Eggs ✓
Nyquil ✓
Blue Powerade ✗ OUT of stock
(🎤) } FINISH

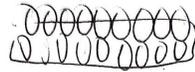
Add your items
Eggs ✓
Nyquil ✓
Blue Powerade ✗ OUT of stock
1l. Milk ✓
(🎤) } FINISH

Tell me your next item.



Back

Eggs



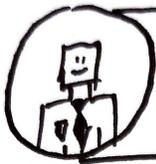
IN Stock

Jumbo - Brand \$8.59

Horizon \$7.60

Eggs - R-US \$6.90

Get Help



Adam, 3<sup>rd</sup> year  
Store associate  
Tech Expert

Adam can help you find the items you're looking for. Call Adam?

Call



YOU

END CALL

1. Add Grocery List

- Eggs
- 1% Milk
- Blue Powerade
- Nyquil

2. Find your items (find  
the cheapest eggs ...  
ask for help!)

Your Grocery List

- Eggs
- Blue Powerade
- 1% Milk
- Nyquil