CPSC 481 Fall 2020 – Team D

Project: Grocery Getters Stage 3

Tutorial 01

TA: Hessam Djavaherpour

Gabriel Martinez

Parker Wong

Duncan Tham

Matthew Tamkee

Camila Suarez Viltres

Project Description:

The Grocery Getters mobile application will focus on providing shoppers with a way to optimize their savings and time while getting their groceries by using their phone. Based on their current location, users can choose their preferred store that they are shopping at and create a list that will use that store's specific inventory system. Our app allows for creating multiple grocery lists that allow users to check what items are on clearance and on sale, as well as show what the grocery store has in stock. From the store inventory menu, the user can add it directly to their grocery list and it can display the estimated prices for everything that is in their list. Previous grocery lists will be saved in the app and the user can go back to those lists to copy items into future lists. The primary target users of our app are students and older individuals that like to shop for sale items or move quickly through the store.

Updated User Tasks:

We will first list the user tasks that we prototyped vertically.

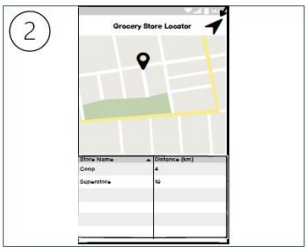
- User adds items to their grocery list
    - Add item button will take them to the item search menu where users can then search store inventory
    - Remove item button that will give users the option to take out items from their grocery list
    - Users can tap on an item on their list and then press the price compare button to do a direct price comparison of that item
    - Can sort the list alphabetically, price, quantity and if item is completed
- Users can search for items on sale and clearance using their grocery list
    - App will display sale price in green and then the regular price in strikethrough red
    - When searching sale items, they can directly filter the search by specifying "Only Sale Items"
    - Users are free to remove the filter at any point by tapping the cancel icon
- Users can connect to the grocery store's inventory system to see total stock for an item
    - On the item search menu, users can see the available quantity for the items that they are searching for
    - When searching items, users can filter the search by specifying "Exclude Sold Out" and the query will remove any items with the quantity of zero

These are the remaining user tasks that were prototyped horizontally.

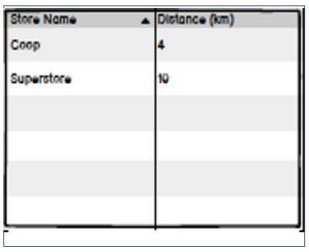
- For each grocery list, users can specify what grocery store they are shopping in and then have the option to set it as their preferred store
    - Each list will be specific to one store location upon creation but can be changed at any point in the settings
- Users can search for where items are located in the store
    - Users can click on an item on the Item Search menu which will then display the general section in the store and the product description in more detail
- Users can choose to price compare to grocery store competitors
    - User clicks on an item in their grocery list or the item search menu and there is a price compare button which will directly search up prices of the exact same item for different stores and then display the respective store name and distance

Storyboard:

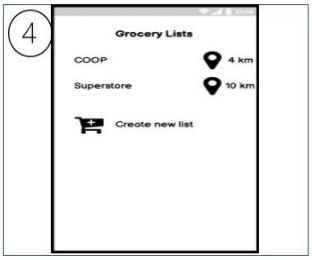
Joe is a 29-year-old man who likes to optimize his savings and time at the grocery store. He uses the Grocery Getters app to find savings in items and creates multiple lists for different grocery stores.



Before Joe goes out shopping, he opens the Grocery Getters app and it displays the main menu.

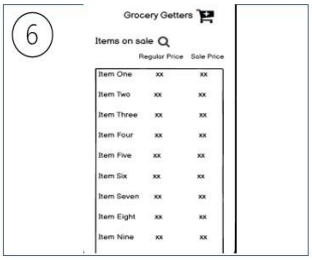


Joe will use the map feature to decide which grocery stores he will shop at. Ideally, he will shop at both Coop and Superstore to maximize his time and savings.

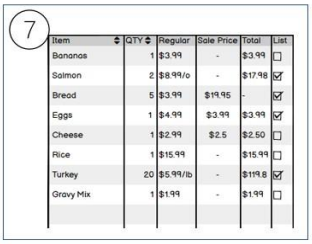


Joe creates one of his lists associated with the first store he selected.

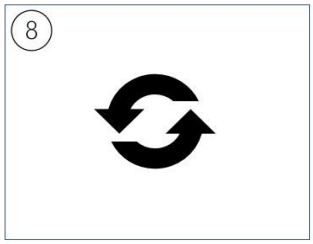
In the search bar, he will query the grocery item he wants to buy.



Using the filter, he only searches for items that are on sale or clearance for that specific store. He will also exclude items that are sold out.



After finding the item he wants at a reasonable price, Joe adds it to his list.



Joe repeats steps 4-7 for his second list to optimize his savings.

Joe sees the estimated total of the items in his grocery lists and is satisfied with the savings.

Joe has completed making both of his grocery lists and is ready to go out shopping.

Cognitive Evaluation Process:

In Stage Two, we separated the user task for how users can search for either clearance items or sale items and then categorized them differently. After some discussion with the group and

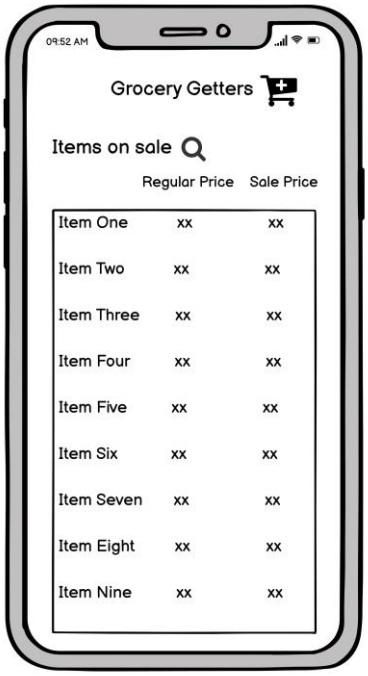
then reevaluating the process in which users can search for items, it made more sense to combine the two user tasks together instead of separating them. Overall, the majority of user tasks made sense such that almost all steps do not require specific user training or knowledge. We justify that these steps can be completed by the user such that most our design choices are based on user's current experience with common patterns within mobile applications and the typical intuition behind these choices. Each of these tasks have highly motivated steps for the user mainly because the user will not have to think very hard about how to navigate the menu or decide how to use app. After laying out the details for the user tasks, we observed that there were some overlapping steps with some of our tasks which we think is helpful to the user. For example, we can see that the task step "User clicks on the Add Item button in the list" is used frequently. This is mainly because they will be more familiar with the system in less time which allows for them to keep their motivation high to begin with and maintain it while they use the rest of the application's features. In conclusion, the cognitive evaluation process allowed us to refine our low-fidelity prototype to make the design simpler for the user.

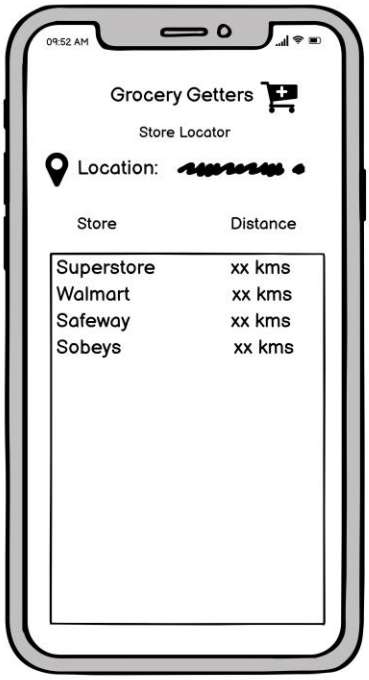
Reflection:

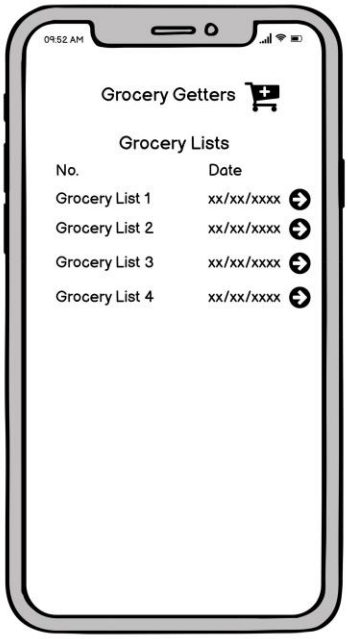
For Stage Three, we started by meeting up as a group to brainstorm and sketch about the features and implementations of the Grocery Getters app. This proved to be quite useful as it allowed us to come up with a large variety of ideas which helped in visualizing and getting a better understanding of the project. From those sketches, we were able to successfully create an affinity diagram to better categorize all our ideas and decide which would be the most significant towards the app's purpose. Although it took a few tries and the help of Hessam to explain the process, we were able to create an affinity diagram to narrow down our app's most important functions in order to make a detailed storyboard. The storyboard went well as we had a much clearer understanding of how we wanted Grocery Getters to operate at that point. Making a storyboard allowed us to better visualize what steps a standard user would go through in order to operate a key feature of our app: creating a grocery list and adding an item to it. From there, we were able to develop a working Low-Fidelity prototype for the Grocery Getters app to simulate how it would function. Finally, we went over a cognitive evaluation of all our user tasks in which we figured out how easily the average users would operate the app. This evaluation in turn helped to refine our prototype as well. Overall, almost everyone in our group participated which made the entire ideation process successful in helping us plan and design our app. The only thing that we would do differently would be to have everyone make more sketches due to the lack of participation of one of our members and to make a more detailed affinity diagram. Doing these things better would have allowed us to get a bigger sample size of ideas to work with and analyze better.

Appendix:

Initial Sketches:







Select Grocery List

Home page

Grocery Getters

Preferred Store: Save On Foods

Store Location: University District

Weekly Flyer | Coupons

My List | Browse Categories

My list menu

My Grocery List

Preferred Store: Save On Foods

Store Location: University District

Create New List

View Previous Lists

New list

Current Date: List

Add Items

Need:	QTY	Unit Cost	Total
Bread	5	$3.99	$19.95
Rice	1	$15.99	$15.99
Milk	1	$4.99	$4.99

Gotten:	QTY	Unit Cost	Total
chicken	2	$4.99	$9.98
beef	2	$4.99	$9.98
toothbrush	1	$1.99	$1.99

Estimated Total: $62.88

Previous List

October 25th: Bday List

Copy items to new list

Need:	QTY	Unit Cost	Total
Flour	1	$3.99	$3.99
butter	1	$5.99	$5.99
Milk	1	$4.99	$4.99
sugar	1	$4.99	$4.98
Chocolate	2	$4.99	$9.98
eggs	1	$3.99	$3.99

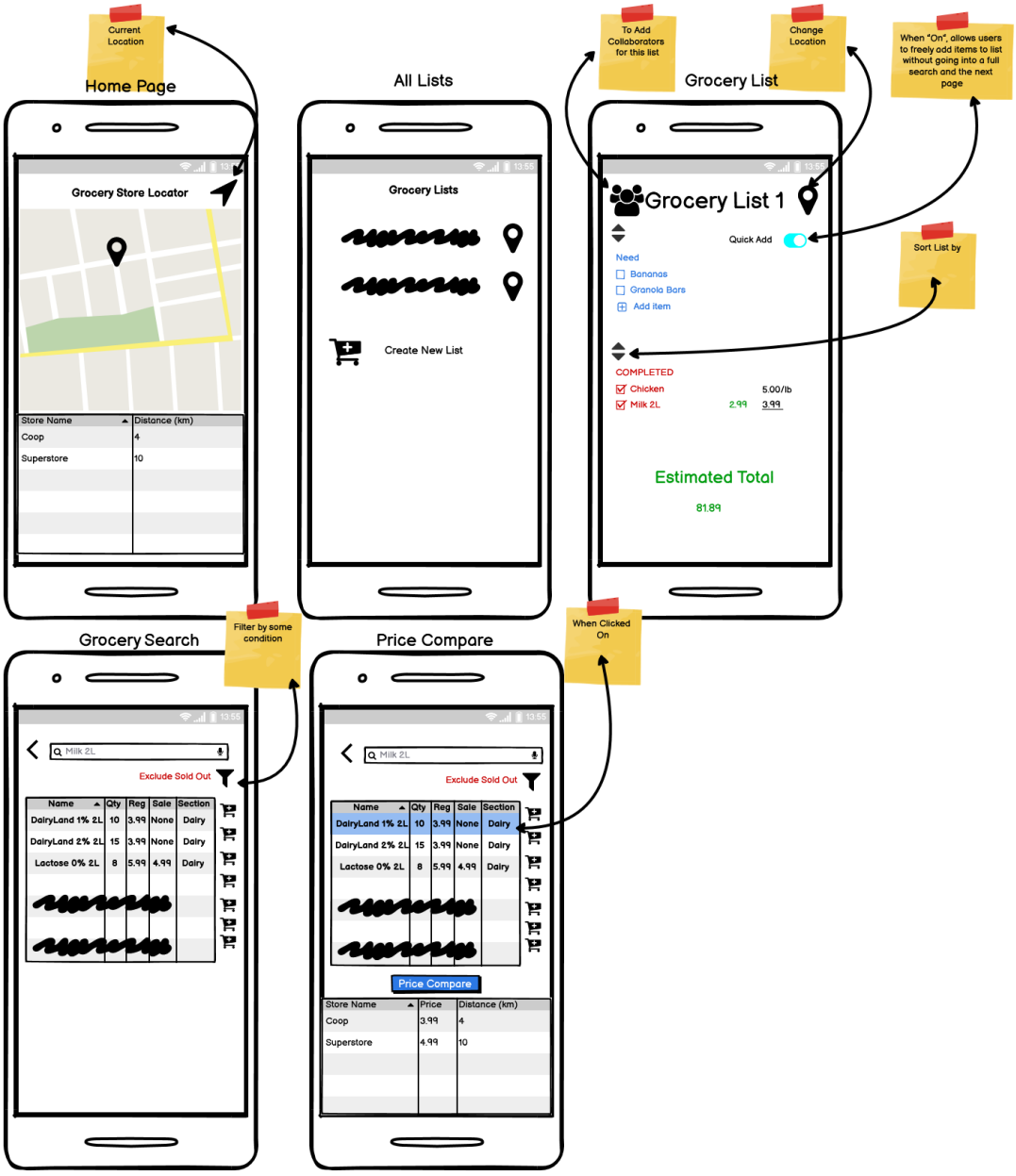
Estimated Total: $32.92

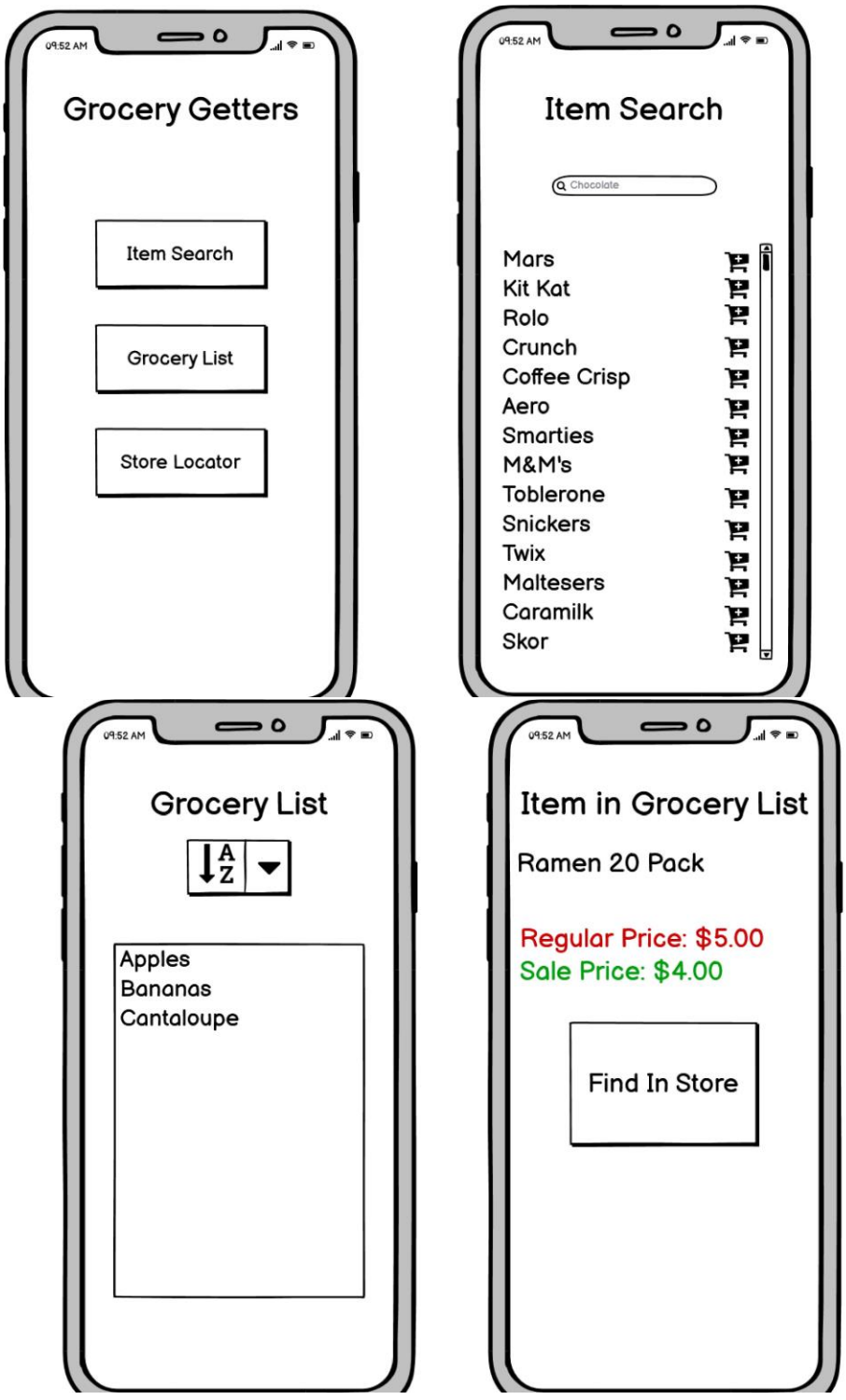
Price Comparison

Search [ ] Go

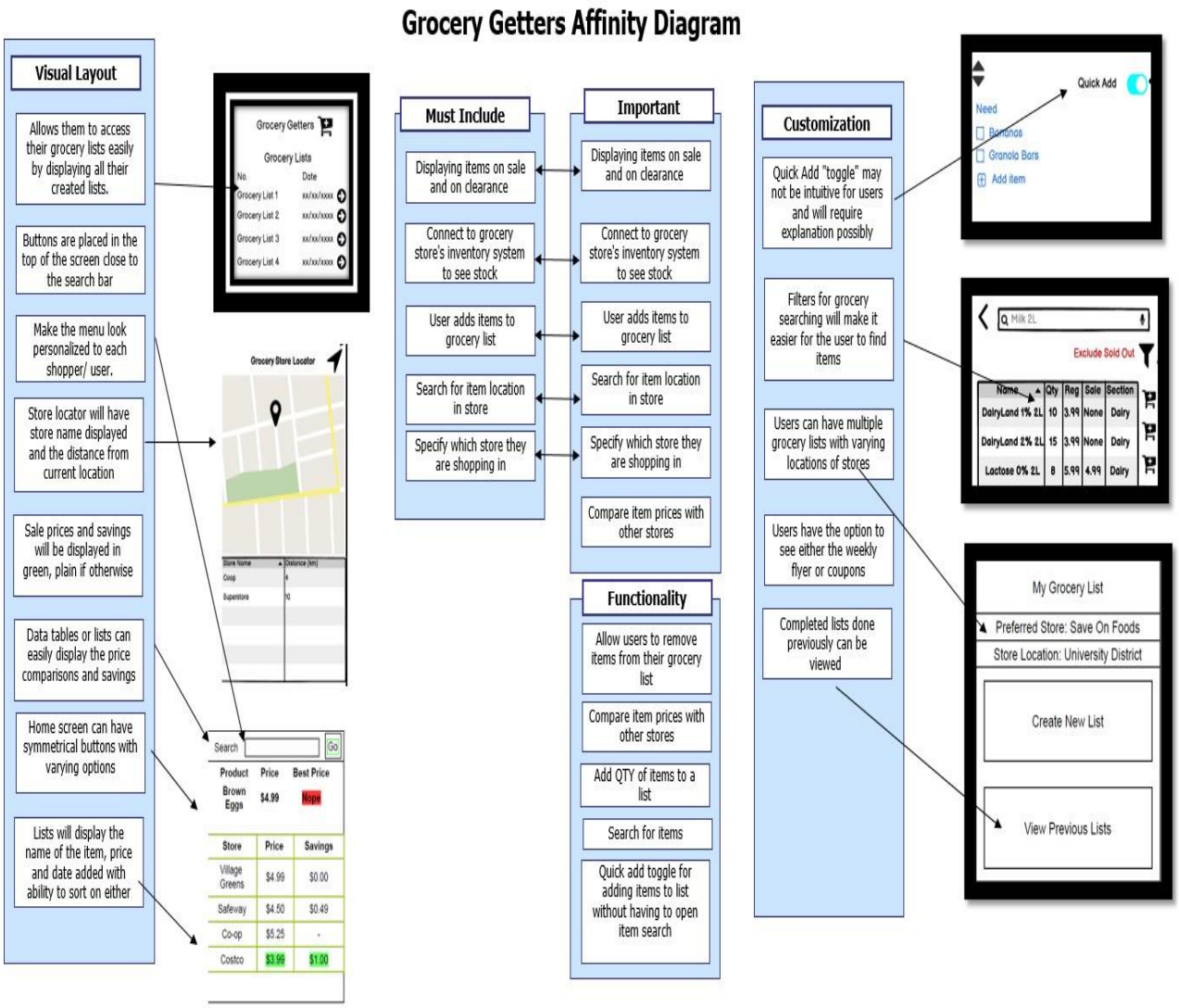
Product	Price	Best Price
Brown Eggs	$4.99	Nope

Store	Price	Savings
Village Greens	$4.99	$0.00
Safeway	$4.50	$0.49
Co-op	$5.25	-
Costco	$3.99	$1.00


Current Location
Home Page
Grocery Store Locator
Store Name
Distance (km)
Coop
4
Superstore
10
All Lists
Grocery Lists
Create New List
To Add Collaborators for this list
Change Location
When "On", allows users to freely add items to list without going into a full search and the next page
Grocery List
Grocery List 1
Quick Add
Need
Bananas
Granola Bars
Add item
Sort List by
COMPLETED
Chicken
5.00/lb
Milk 2L
2.99
3.99
Estimated Total
81.89
Filter by some condition
Grocery Search
Milk 2L
Exclude Sold Out
Name
Qty
Reg
Sale
Section
DairyLand 1% 2L
10
3.99
None
Dairy
DairyLand 2% 2L
15
3.99
None
Dairy
Lactose 0% 2L
8
5.99
4.99
Dairy
When Clicked On
Price Compare
Price
Distance (km)
Coop
3.99
4
Superstore
4.99
10



Affinity Diagram



Cognitive Walkthrough

User adds items to their grocery list

Description of task step	Does user have training or knowledge to do this step?	Is it believable that they would do it?	are they motivated?	Comments (including possible solutions)
User selects which store they want to shop	Probably, there is a menu button to do it and they just search for their store in Google Maps.	Yes, the app is intuitive, and Google Maps isn't hard to use	Yes	There will be a map feature accessed through the main menu which will be the same function as Google maps.
User creates their list associated with the store they chose	Yes, they tap a button to confirm that their list and name it	Yes, a pop-up to create and name the list will show up	Yes	User presses a button after selecting a store and name their newly created list.
User searches for the item they want added	Yes, they simply use a search bar to find their item	Yes, a blank screen with a search bar will show up	Yes	User types into a search bar what item they want. It can be generic like 'chocolate' or specific like 'Kit Kat'.
User uses the filters to sort the items that are available	Yes, they use a drop-down menu	Yes, near the search bar will be the sort option button	Yes	User uses the drop-down menu at the top to select how they want to sort: alphabetical, price range, etc.
User looks at the item information to make sure they want it	Yes, they just need to read	Yes, tap the name of the item from the search list	Yes	User looks at the description provided by the store to make sure it is available. Otherwise, make a new list to find that item at another store that has it in stock.
User adds the item to their list	Yes, they press a button	Yes, tap the cart button	Yes	User selects the quantity of the item they want and presses the "Add to List" button to add the item to their list.

User searches for items on sale or clearance using their grocery list

Description of task step	Does user have training or knowledge to do this step?	Is it believable that they would do it?	are they motivated?	Comments (including possible solutions)
User creates a new list or opens a previous grocery list	Yes, the Create List button will be obvious and previous lists will be kept	Yes, they must use their list to search for items	Yes	Depending on the store location that is specified to the list, the item search will be limited to only that store
User clicks on the Add Item button in the list	Yes, most list apps have this feature	Yes, the button will be clear and intuitive	Yes	Clicking on the Add Item button will bring them to the Store Search/Inventory menu where grocery item information is displayed
User will filter searches to only sale or clearance items	Yes, the filter button will be close to the search bar	Yes, if they search without a filter, they will immediately notice that not all are sale items	Yes, they are actively looking for sales/clearance	The filter settings will include sale items and clearance items as separate filters, but users can use both at the same time if needed. We define sales as promotional items or reduced prices. Clearance is discontinued items or items for quick sale (e.g. soon to be expired items).
User types in the search bar the item they want to look for on sale or clearance	Yes, this is common knowledge	Yes, they should be capable of using normal words to search	Yes	Search will go through the store inventory with the current sale or clearance filter.

User connects to the grocery store's inventory system to see total stock of an item

Description of task step	Does user have training or knowledge to do this step?	Is it believable that they would do it?	are they motivated?	Comments (including possible solutions)
User creates a new list or opens a previous grocery list	Yes, the Create List button will be obvious and previous lists will be kept	Yes, they must use their list to search for items	Yes	Depending on the store location that is specified to the list, the item search will be limited to only that store
User clicks on the Add Item button in the list	Yes, most list apps have this feature	Yes, the button will be clear and intuitive	Yes	Clicking on the Add Item button will bring them to the Store Search/Inventory menu where grocery item information is displayed
User types in the search bar the items they want to see in stock	Yes, this is common knowledge	Yes, they should be capable of using normal words to search	Yes	By default, the search will first sort by name when displaying the results
User can sort searched items by quantity available	Yes, most apps have the drop-down icon to sort lists	Yes, given that they have knowledge from using other apps with sort by functions	Possibly not, if the search brings up items in stock there is no need to use this	This will depend on the current inventory of one item and how it is prioritized by the user. If the item has low stock perhaps this feature would be used more to determine what to buy.
User can remove sold out items from the search query	Yes, this option is common for online shopping	Yes, given that they have knowledge from using other apps with a similar function	Yes, this is helpful for the user to know to save them time when looking at the store	This is separate from sorting by quantity available as this filter will completely remove any items from the list. Sorting by quantity will show everything even if the stock is zero.

User searches for where an item is located in the store

Description of task step	Does user have training or knowledge to do this step?	Is it believable that they would do it?	are they motivated?	Comments (including possible solutions)
User creates a new list or opens a previous grocery list	Yes, the Create List button will be obvious and previous lists will be kept	Yes, they must use their list to search for items	Yes	Depending on the store location that is specified to the list, the item search will be limited to only that store
User clicks on the Add Item button in the list	Yes, most list apps have this feature	Yes, the button will be clear and intuitive	Yes	Clicking on the Add Item button will bring them to the Store Search/Inventory menu where grocery item information is displayed
User searches for the item they want to look for in store	Yes, just use the search bar after creating a list	Yes, there will be an obvious search bar	Yes	Having already created a list, the user uses the search bar for their item.
User selects the item from the list	Yes, tap the item name	Yes, they would tap to find out more	Yes	The user taps the name of the item they want to find in the store.
User checks the item location	Yes, read the location information	Yes, in order to find the location	Yes	The user scrolls down the information of the item and finds the aisle/section the store's system provides to the app.

User specifies which grocery store they are going to shop in

Description of task step	Does user have training or knowledge to do this step?	Is it believable that they would do it?	are they motivated?	Comments (including possible solutions)
User selects to search for grocery store from the menu	Yes, just tap the button on the menu	Yes, to find their store	Yes	The menu is easily readable.
User uses Google Maps to find their store	Probably, they should be able to use Google Maps to find their store	Yes, Google Maps isn't hard to use	Yes	The map feature is just Google Maps.
User confirms that the store they found is where they want to shop	Yes, just tap the confirmation button	Yes, a pop-up shows up for the user to confirm	Yes	A pop-up appears so that the user confirms that the store they selected is where they want to shop.

User compares item prices between stores

Description of task step	Does user have training or knowledge to do this step?	Is it believable that they would do it?	are they motivated?	Comments (including possible solutions)
User creates a new list or opens a previous grocery list	Yes, the Create List button will be obvious and previous lists will be kept	Yes, they must use their list to search for items	Yes	Depending on the store location that is specified to the list, the item search will be limited to only that store
User clicks on the Add Item button in the list	Yes, most list apps have this feature	Yes, the button will be clear and intuitive	Yes	Clicking on the Add Item button will bring them to the Store Search/Inventory menu where grocery item information is displayed
User types in the search bar the items they want to price compare	Yes, this is common knowledge	Yes, they should be capable of using normal words to search	Yes	By default, the search will first sort by name when displaying the results
User selects the item from the list	Yes, tap the item name	Yes, they would tap to find out more	Yes	The user taps the name of the item to give them the price compare option.
User clicks on the price compare button	Yes, the button will be obvious	Yes, they would tap the button	Yes	The price compare button will look at other store's prices for that specific item and display the comparison.

User compares item prices between stores (ALTERNATIVE)

Description of task step	Does user have training or knowledge to do this step?	Is it believable that they would do it?	are they motivated?	Comments (including possible solutions)
User opens a previous grocery list	Yes, previous lists will be kept	Yes, they must use their list to search for items	Yes	Depending on the store location that is specified to the list, the item search will be limited to only that store
User clicks on a current item in their grocery list	Yes, most list apps have this feature	Yes, the button will be clear and intuitive	Yes	Clicking on the Add Item button will bring them to the Store Search/Inventory menu where grocery item information is displayed
User clicks on the option to do a price compare for that selected item	Possibly not, the user will have to know that they have several options when selecting an item in their list	No, the feature is slightly unique and other apps users frequent may not have this	Yes, task is highly motivated but not obvious for user	Possible Solution: Like other apps, including a small tutorial/sticky note just for this feature may be helpful for the user