

A background image of a white bowl filled with granola, strawberries, and a slice of banana. The text 'KitchenList' is overlaid on the image.

KitchenList

A Household Inventory and Shopping List App

Problem Statement

When there are several people living in the same household, sometimes it is unclear which household and grocery items are already stocked and which ones need to be purchased.

Without proper communication, people may forget to purchase items or mistakenly buy too much of something.

Proposed Solution

The proposed solution is an app where users can create and manage a household and grocery inventory and shopping lists.

These can be synced with other household members. Users can receive notifications if household members update lists.

Users can also send push notifications to let their household members know they are going grocery shopping or that the shopping has been done.

Proposed Solutions

A Household Inventory Section

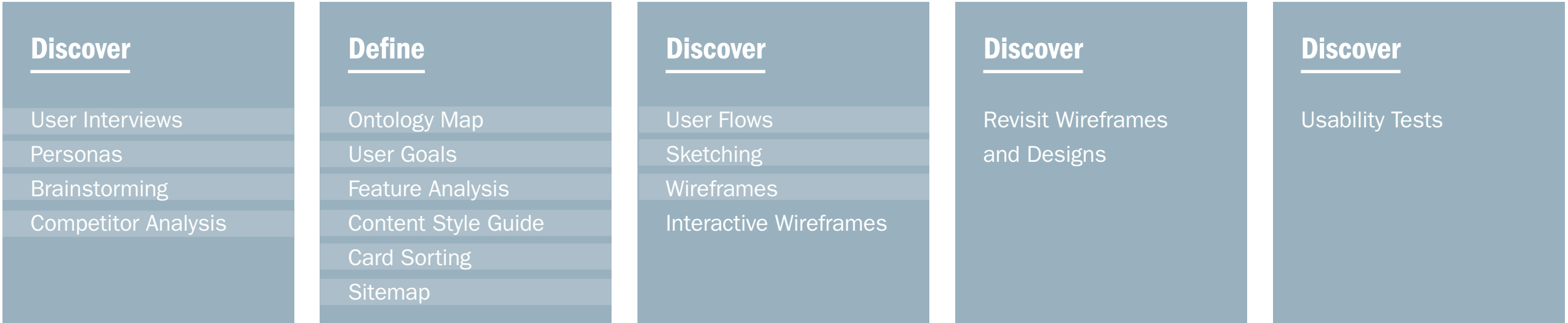
- Users can add an item by scanning it's barcode or entering information manually.
- Users can add or update item quantity, unit of measurement, a category, take an optional photo, an expiration date, and add additional comments to items in the inventory.
- Users can create an account and have their inventory and shopping list synced with other users they invite to the app.
- When favorite items in the inventory become depleted, they automatically get added to the shopping list.
- Users can receive notifications if inventory list has been updated by household members.
- Overtime users will be rewarded with achievements based on usage statistics.

A Shopping List Section

- Users can add an item by scanning it's barcode or entering information manually.
- Users can input item quantity needed, units of measurement, a category, take an optional photo, include a price or show price history, set a priority and add additional comments to items in the shopping list.
- Users can create an account and have their inventory and shopping list synced with other users they invite to the app.
- When favorite items are marked as purchased, they can automatically be moved into the inventory section.
- Users can receive notifications if shopping list has been updated by household members let them know they are going shopping or that the shopping has been done.
- Users will can search for deals through local grocery stores or an option to purchase items from online retailers such as Amazon for grocery items on their shopping list.
- Overtime users will be rewarded with achievements based on usage statistics.

Waterfall

Process Method and List of Activities to Complete.



In order to complete this project, I have chosen to use a linear process. Time was spent on user interviews, developing personas, working out the logic for user goals, working out the user flows, and static wireframes.

Target audience?

People who are tend to be more organized or people who
aspire to become organized. Individuals between the
ages of 18 to 45 years old. People who are tend to be more
organized or people who aspire to become organized.

Target groups of people are couples, families, or roommates
who share household grocery shopping responsibilities.

This service could also be used by coworkers who use a
shared space in the workplace.

User Interviews

User interviews were conducted with four individuals and two couples between the ages of 27-62. Majority of users were between the ages of 29-40. From these interviews, two primary and three secondary personas were created.

Personality Types

About half of the individuals interviewed tend to shop generally knowing what they need to buy before making a trip to the store. The rest tend to wander the store to purchase things they may or may not need. About half prefer to be organized and are natural planners while the other half tend to be less organized and more spontaneous. The majority of individuals are concerned about the price of items and budgeting when they are shopping.

What are their pain points?

- Keeping track of their household inventory
- Figuring out what they need to buy
- Forgetting to buy items
- Accidentally buying too much or too little
- Buying things they don't actually need
- Keeping household members involved
- Communicating purchasing needs to other household members

Primary Persona 1



“I’d like to stay organized so I know exactly what I need to buy at the store”

Names:
Daniel and Lisa Marquez

Occupation:
Daniel is a Financial Analyst
Lisa is a Paralegal

Age:
Daniel is 35
Lisa is 34

Location:
Skokie, IL

Personality Type



Scenario

It’s Monday afternoon and Daniel’s client meeting ends early so he decides to run errands. As the sole grocery shopper in the family, he usually goes to the grocery store on Thursdays but since he has time, he decides to go now. When he gets to the grocery store he takes out his phone and looks at his shopping list he made on his note-taking app. While shopping for the items on his list, Daniel suddenly remembers that the milk carton felt a little light earlier this morning when he poured his cereal. He wonders if he should buy milk but can’t remember if they have an extra carton already. He calls his wife, Lisa, at work to ask if she knows if they have anymore milk but she cannot remember either. Daniel decides to buy the milk anyways even though he worries they might end up with more than they can drink before it expires. He also makes a note on his phone to remind himself to make a list of things they have in their kitchen so he can be even more organized.

Goals/Needs

- To keep an updated shopping list on phone.
- To keep an updated inventory of items in the kitchen.
- To make sure he always has essential grocery items at home.
- To get his wife involved in keeping track of their groceries at home too.

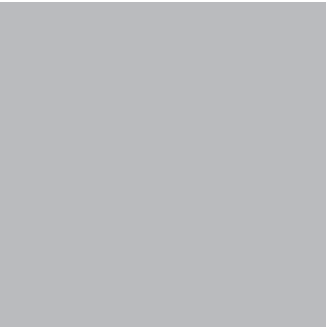
Pain Points

- He only adds to his shopping list when items are depleted (no early warning).
- He does not have a reliable way to check on item quantities unless he or his wife are at home.
- Potential over-buying makes him worry that groceries might expire before they are used.

Ideal Features

- Ability to keep an updated kitchen inventory.
- Ability to keep an updated shopping list.
- Ability to track expiration dates and quantity of items in the kitchen inventory.
- Ability to check inventory remotely.
- Ability to have the kitchen inventory and shopping list synced with his wife.

Primary Persona 2



“I want my roommates to know what groceries I’m buying when I buy it”

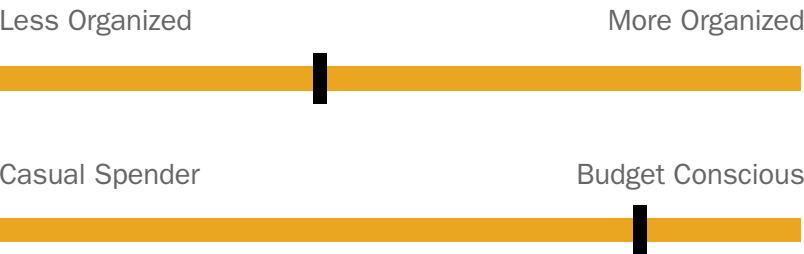
Names:
Michelle

Occupation:
Graduate School Student

Age:
Michelle 26

Location:
Boston, Massachusetts

Personality Type



Scenario

It Saturday afternoon, and Michelle decides to go grocery shopping. She uses her phone to take a photo of the shopping list that she and her roommates (who all share grocery shopping responsibilities) keep updated on a whiteboard. Both of her roommates told her they would be out for the day so she goes out by herself. At the grocery store, Michelle looks at the photo of their shopping list and realizes it is a little blurry and hard to read. One of her roommates also has very bad handwriting which makes Michelle wish that the list was typed rather than handwritten. One of the items on the list was too hard to make out so she skipped it. When Michelle gets home from shopping she notices that her roommate Sarah has come home early and is watching TV. As Michelle starts to put the groceries away, she opens the refrigerator and discovers that there is already a new loaf of bread, new carton of eggs, and a new tub of Greek yogurt inside, items that she has just purchased herself. At that moment, Sarah walks into the kitchen and casually mentions that she picked a few things up on the way home that remembered from their shopping list on the whiteboard. As Sarah goes back to watch TV, Michelle finishes putting the groceries away annoyed that they now have duplicate items. Michelle wishes she and her roommates would coordinate their shopping trips better to avoid wasting money and food.

Goals/Needs

- Michelle wants a typed shopping list that is easy to read.
- She wants a shopping list can keep on her phone.
- She wants a way to coordinate shopping responsibilities with her roommates.

Pain Points

- Her shopping list can only be updated from the kitchen whiteboard.
- Her roommate has bad handwriting.
- Lack of communication between roommates
- More than one roommate wasting money by buying the same items

Ideal Features

- Ability to create a remotely updatable shopping list on her phone
- Ability to synchronize a shopping list with her roommates
- Ability to automatically alert roommates when she is at the grocery store

Primary Persona 3



“I easily forget what I need to buy at the store”

Names: The Lee Family
Parents: Matt and Amy
Kids: Ethan and Elizabeth

Occupation:
Matt is a Mechanic, Amy is a Registered Nurse, and the kids are students

Age:
Matt is 43
Amy is 42
Ethan is 16
Elizabeth is 14

Location:
Kenosha, WI

Personality Type



Scenario

It’s Sunday afternoon at the Lee household and the kids are watching a show on TV. Amy is busy finishing the laundry. Matt wants to go out to buy some groceries for the week while his family is occupied. He takes a quick look inside the refrigerator and mentally notes that he needs to buy more eggs, orange juice, and the necessities to makes sandwiches for the kids lunches. He announces to his wife and kids that he is going to the grocery store and asks if they need anything. Ethan tells his Dad that he wants frozen pizza bagels and Elizabeth says she wants some too. Amy asks for extra virgin olive oil and paper towels. After mentally nothing his family’s requests, Matt goes to the grocery store. When he arrives, his first thought is that he wishes he made a list of what his family asked for. Matt proceeds to pick up some eggs, orange juice, and things to make sandwiches. He remembers to pick up the pizza bagels in the frozen food isle and then decides that he might as well pick up some ice cream sandwiches since they are on sale. Matt then gets a paper towel roll and proceeds to the checkout line. When he gets home, Matt announces that he’s back from the store. He realizes he forgot to buy the extra virgin olive oil after seeing his wife.

Goals/Needs

- To keep an updated shopping list
- To get the family involved in updating a shopping list
- To make his shopping trips more organized

Pain Points

- He only mentally notes what he needs to buy at the store
- He frequently forgets to buy things
- His wife is annoyed that he forgets to buy what she asked for

Ideal Features

- Ability to create and manage a shopping list
- Ability to have a shopping list synced with his family members
- Ability to have the family update the shopping list

Secondary Persona 1



“Everything keeps spoiling in my refrigerator!”

Names:
Maria

Occupation:
Wedding Planner

Age:
34

Location:
Las Vegas, NV

Personality Type



Scenario

After a long day’s work, it’s Thursday night. Because her dinner plans with her best friends fell through, this is the first day this month that Maria is not eating out. Maria opens her refrigerator for the first time this week to make a sandwich. She takes out cold cuts, bread, cheese, and lettuce and puts them on the counter. Then she goes back to get the mayonnaise and she realizes that she doesn’t have any. Maria unwraps the cold cuts and finds that they have gone slimy and have a strange smell. Then she notices mold on both the bread and the lettuce. The cheese is fine but it’s not enough to make a meal so she puts it back in the refrigerator. Maria wishes she could keep track of the expiration dates of her food. She opens up the freezer and finds nothing because she ate her last frozen dinner six weeks ago. She then opens up her pantry to find one can of tomato paste, a jar of olives, and one packet of instant noodles. As Maria eats her instant noodles, she tells herself that she will go grocery shopping tomorrow. She takes out her daily planner and finds some free space on a page and jots down a quick shopping list of groceries to buy.

- ### Goals/Needs
- Maria wants to keep track of what she has in her kitchen.
 - She wants to keep track of food expiration dates.
 - She wants a way to be alerted when food is nearing its expiration date.
 - She wants to make a shopping list.

- ### Pain Points
- Her food expires without her knowing.
 - She is too busy to regularly check expiration dates of her food.
 - She doesn’t want to run out of ready-to-eat meals like instant noodles and frozen dinners.
 - Her daily planner is getting too crowded with her work schedule so there is little room for a shopping list.

- ### Ideal Features
- Ability to keep an inventory of her food including remaining quantity
 - Ability to track the expiration dates of her food.
 - Ability to get automatic alerts when food is nearing its expiration date.
 - Ability to make a shopping list that is not dependent on her daily planner.

Secondary Persona 2



“I need a better way to separate my home and work shopping lists.”

Names:
Oliver

Occupation:
Administrative Assistant

Age:
24

Location:
Chicago, IL

Personality Type



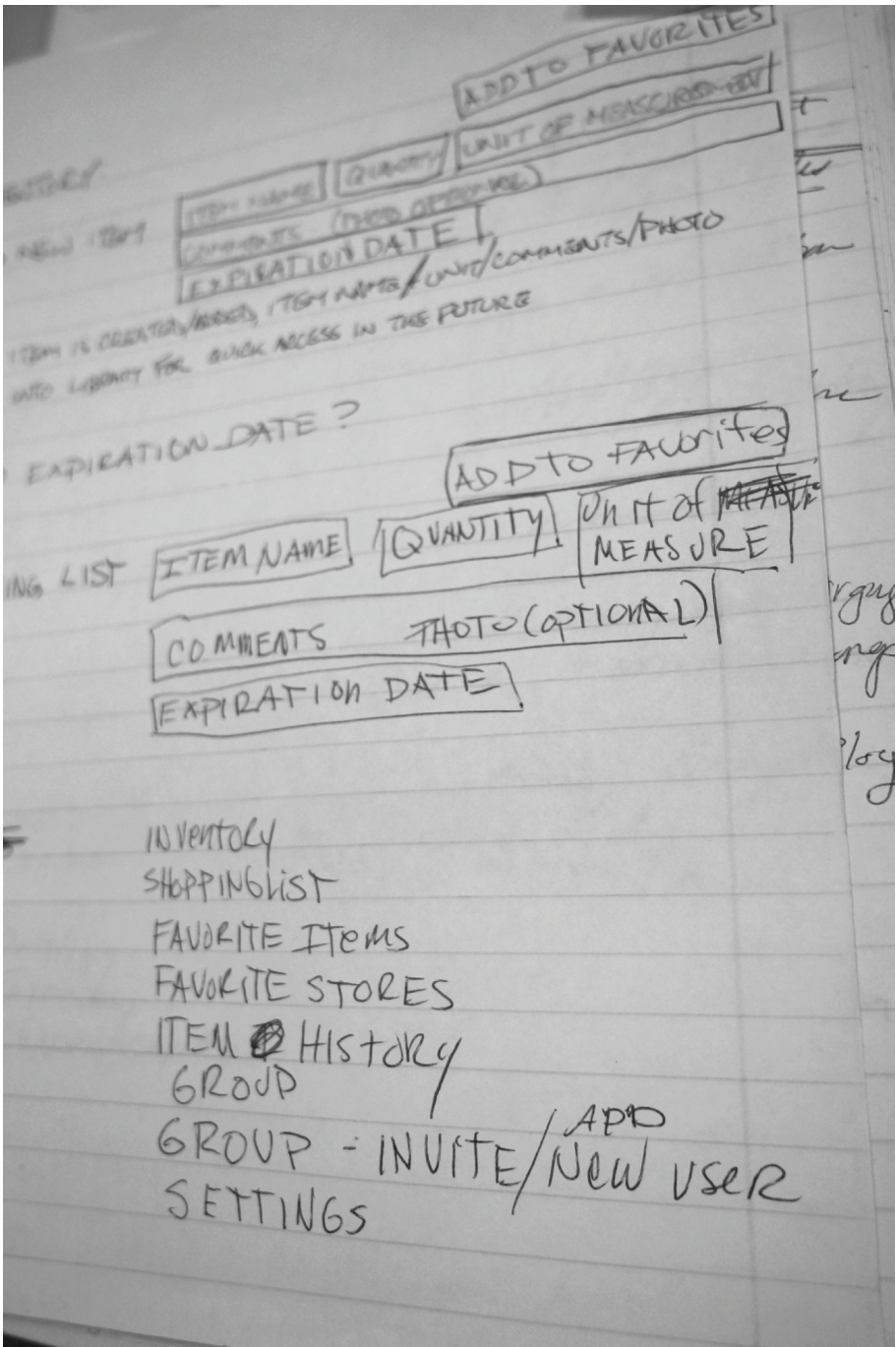
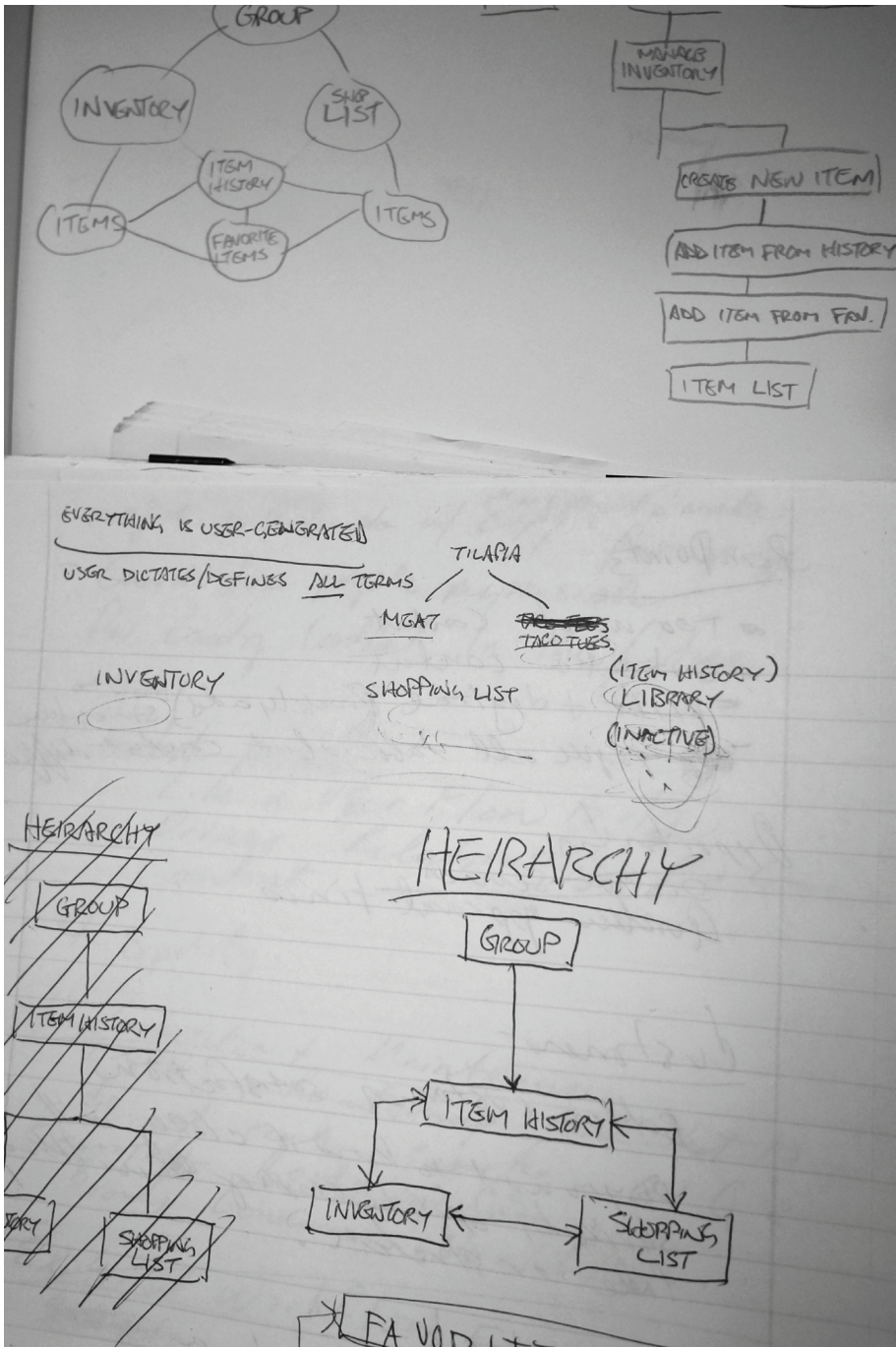
Scenario

As an administrative assistant at a small company, one of Oliver’s duties is to make sure that the break room is always stocked with coffee making supplies, condiments, and disposable cups, plates, and utensils. It’s Friday afternoon and Oliver is reviewing the inventory list for the break room. He notices the coffee creamer is running low and that there are no more plastic spoons so he makes a note of it on his clipboard. Oliver frequently wonders if there is an app that could replace the clipboard but never investigates further because he is so used to it. Once he makes sure they are not going to run out of anything else, he adds plastic spoons and coffee creamer to his personal shopping list, making sure to label them clearly so he doesn’t confuse it with his personal shopping. Last week he accidentally paid for break room supplies along with his personal shopping in cash instead of separating it and using the company’s credit card.

- Goals/Needs
- Oliver wants to an efficient inventory tracking solution for the office break room.
 - He wants to find an easy way to manage separate shopping lists for work and personal use.
 - He needs to make a break room shopping list based on inventory.
- Pain Points
- He frequently mixes up his work and personal shopping lists.
 - He wishes there was an easier way to translate inventory needs to a shopping list.
- Ideal Features
- Ability to efficiently manage the inventory system on his phone.
 - An option to transfer items from an inventory list to a shopping list.
 - Ability to easily create and manage separate shopping lists

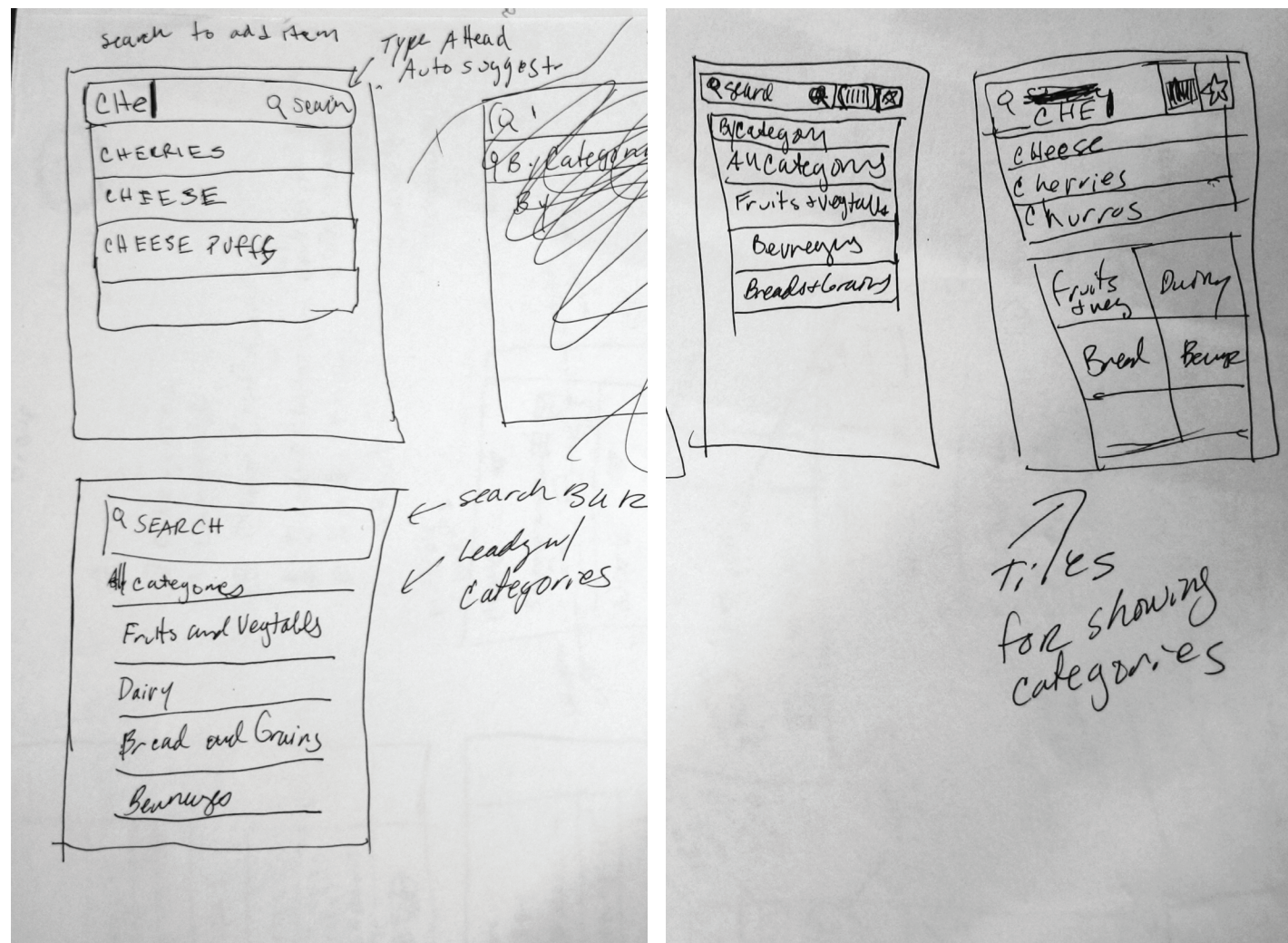
Brainstorming

Sketching

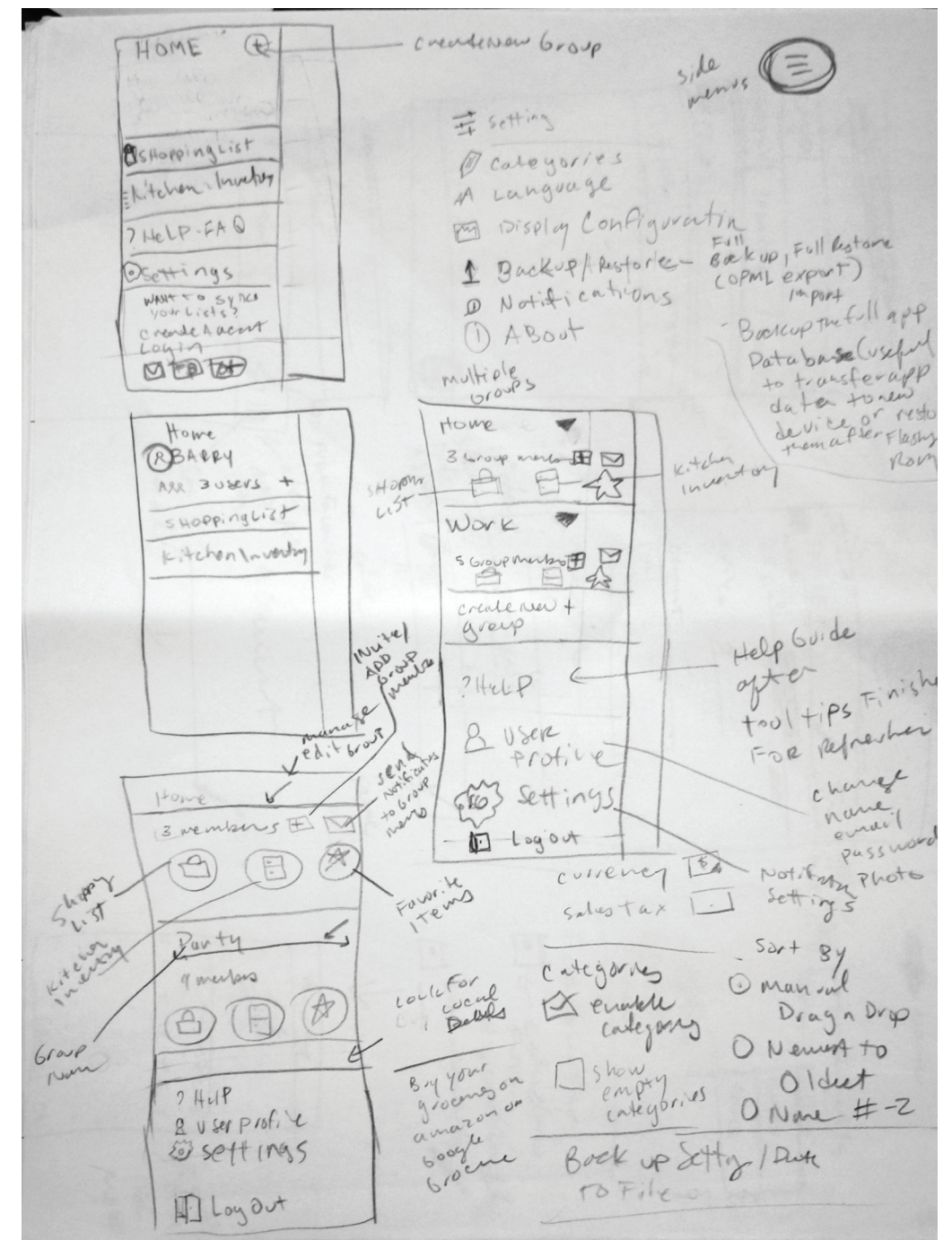


Brainstorming

Sketching Navigation and Wireframe Interfaces



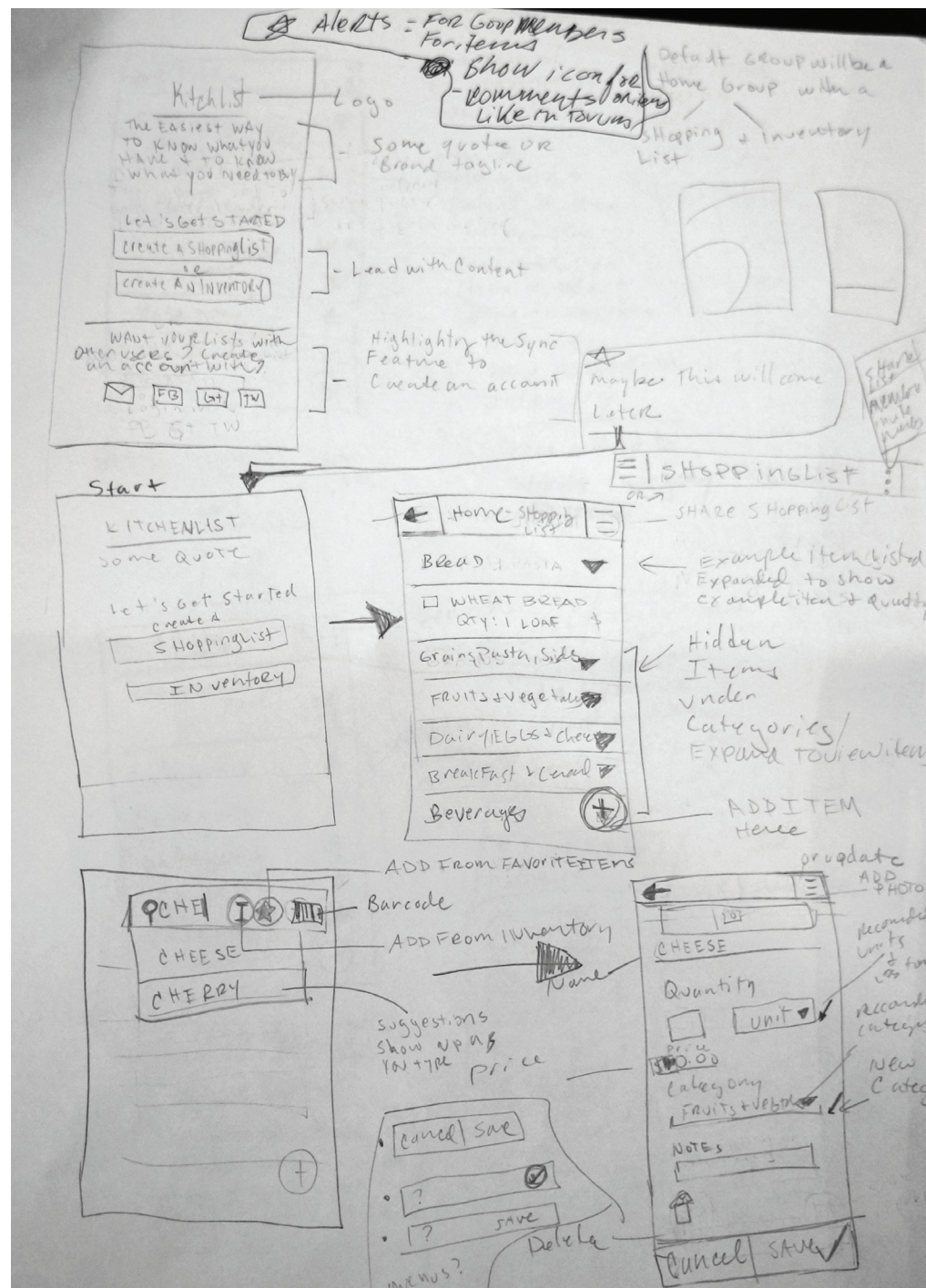
Search or Type to Add items to lists using type ahead and options to choose item by categories in a tile navigation.



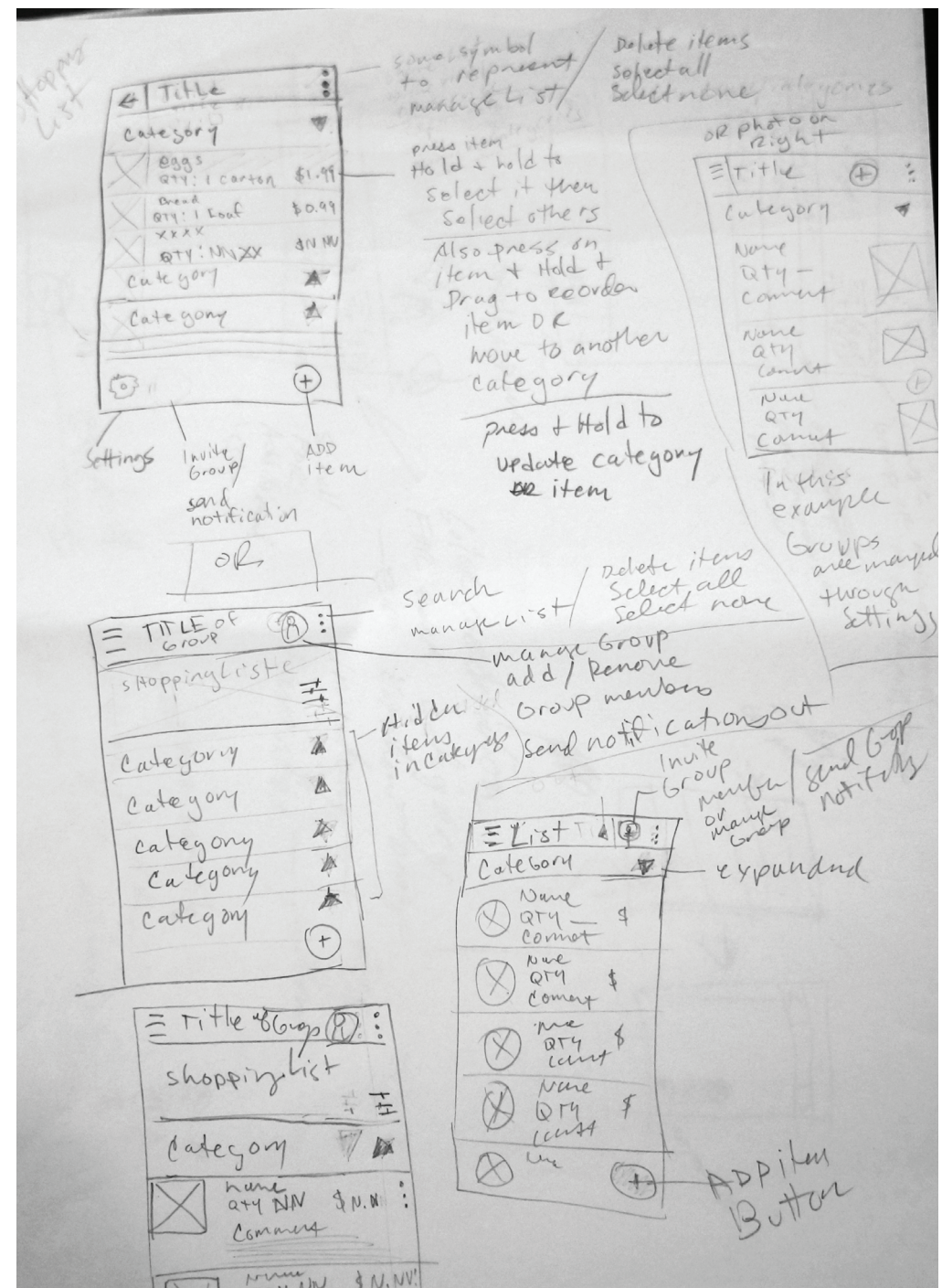
Sketching ideas for the Settings Menu

Brainstorming

Sketching the Home Screen and List Style



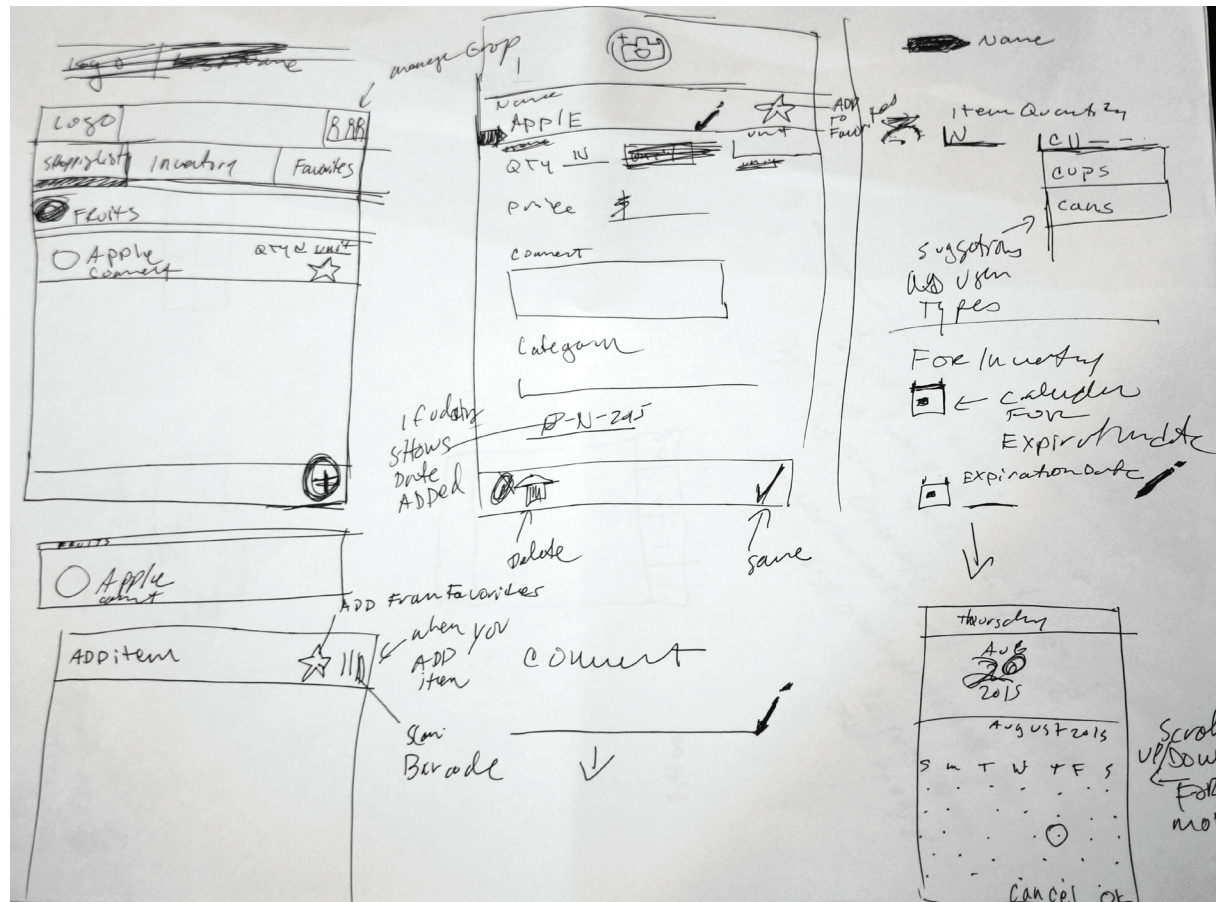
Ideas for the homescreen, list style, and type ahead and adding an item form.



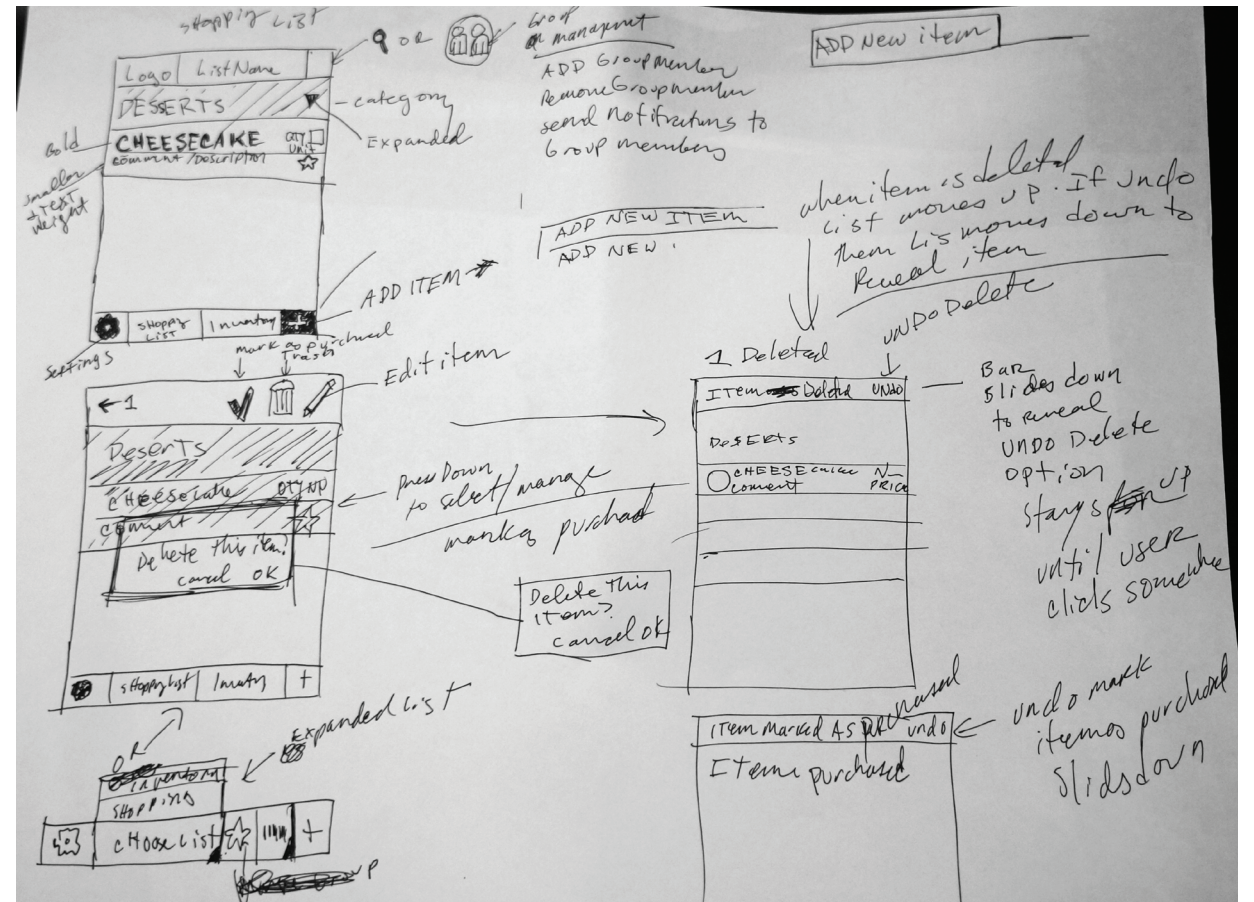
Ideas for contents of items in the shopping list

Brainstorming

Sketching the adding item form and deleting an item.



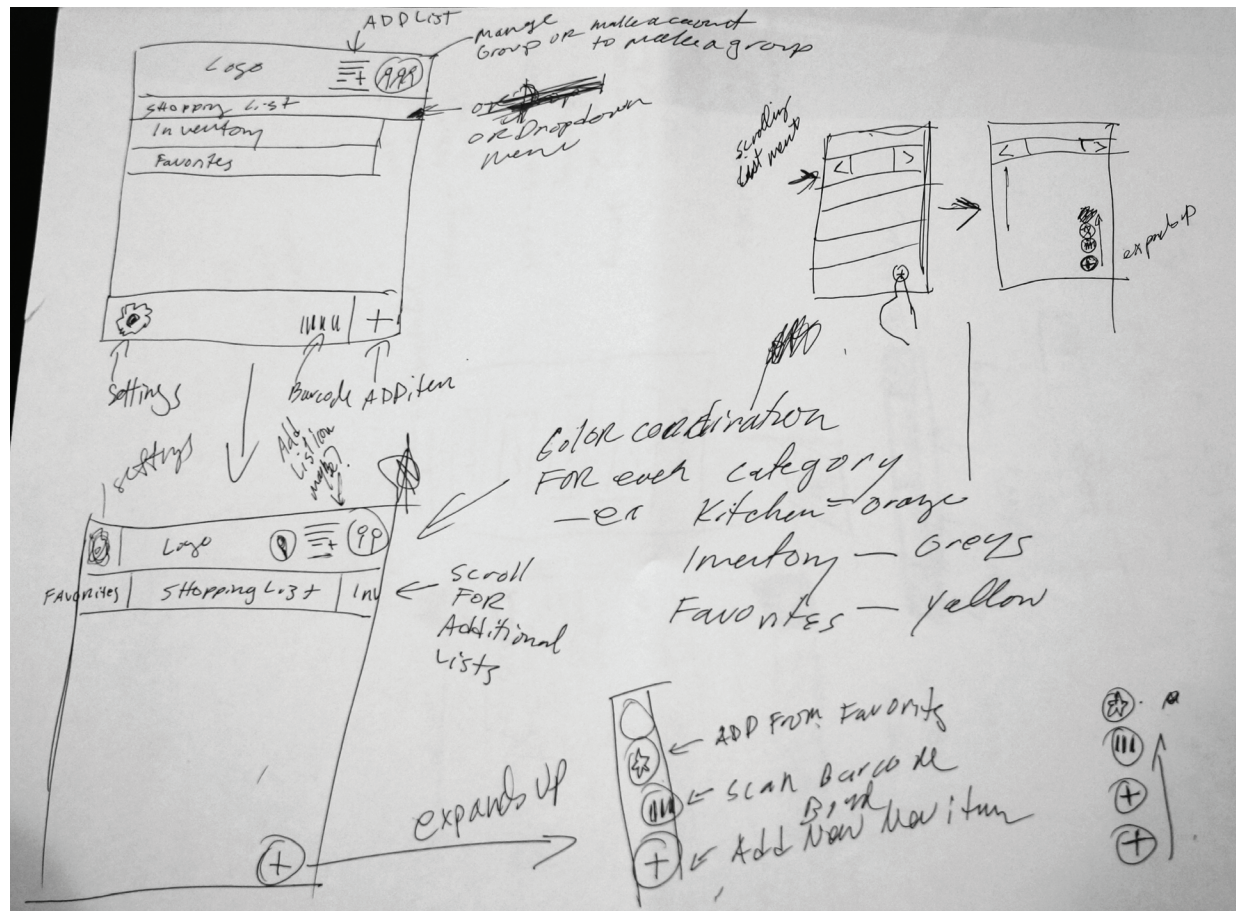
Adding an item form ideas.



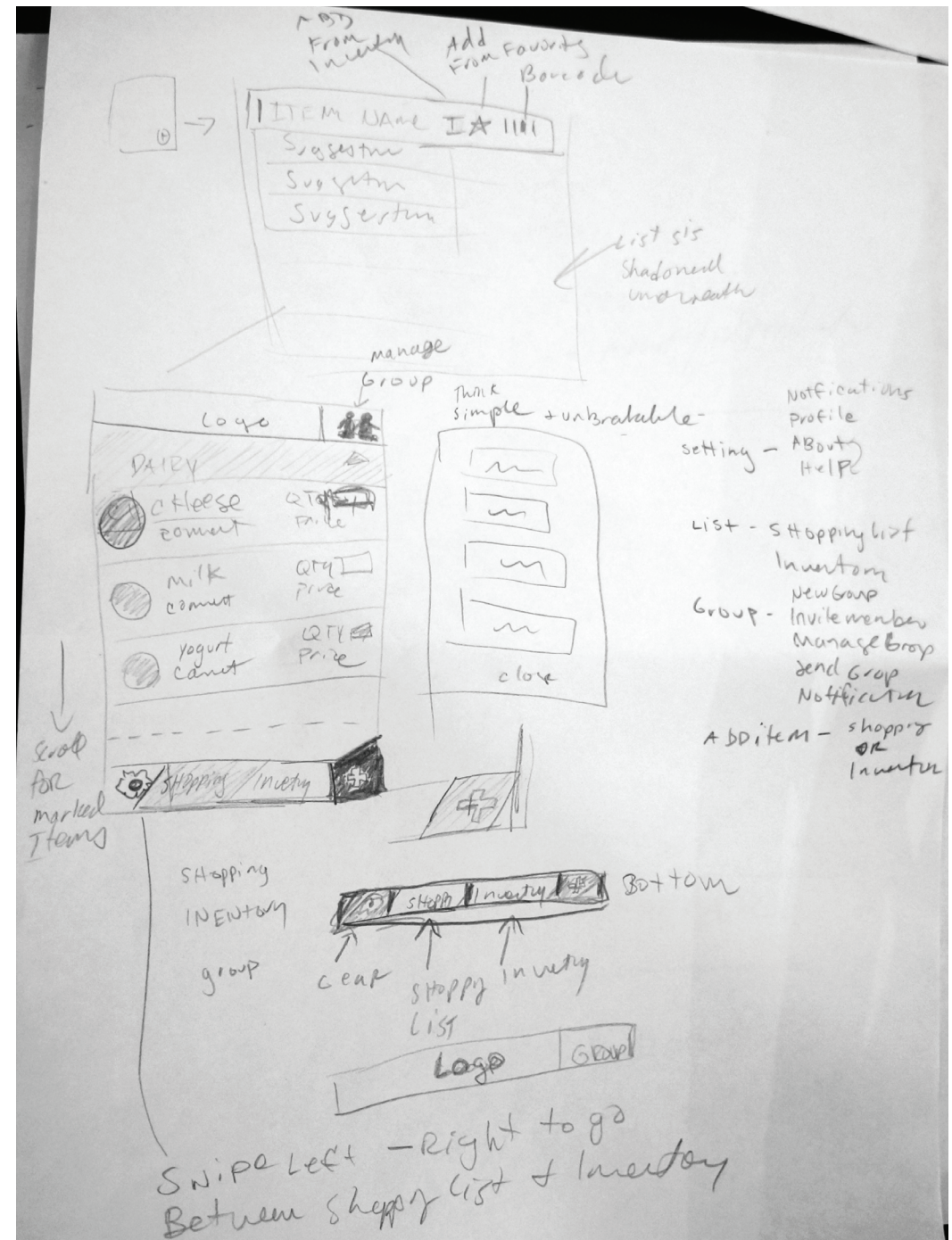
Deleting an item

Brainstorming

Sketching Navigation Options



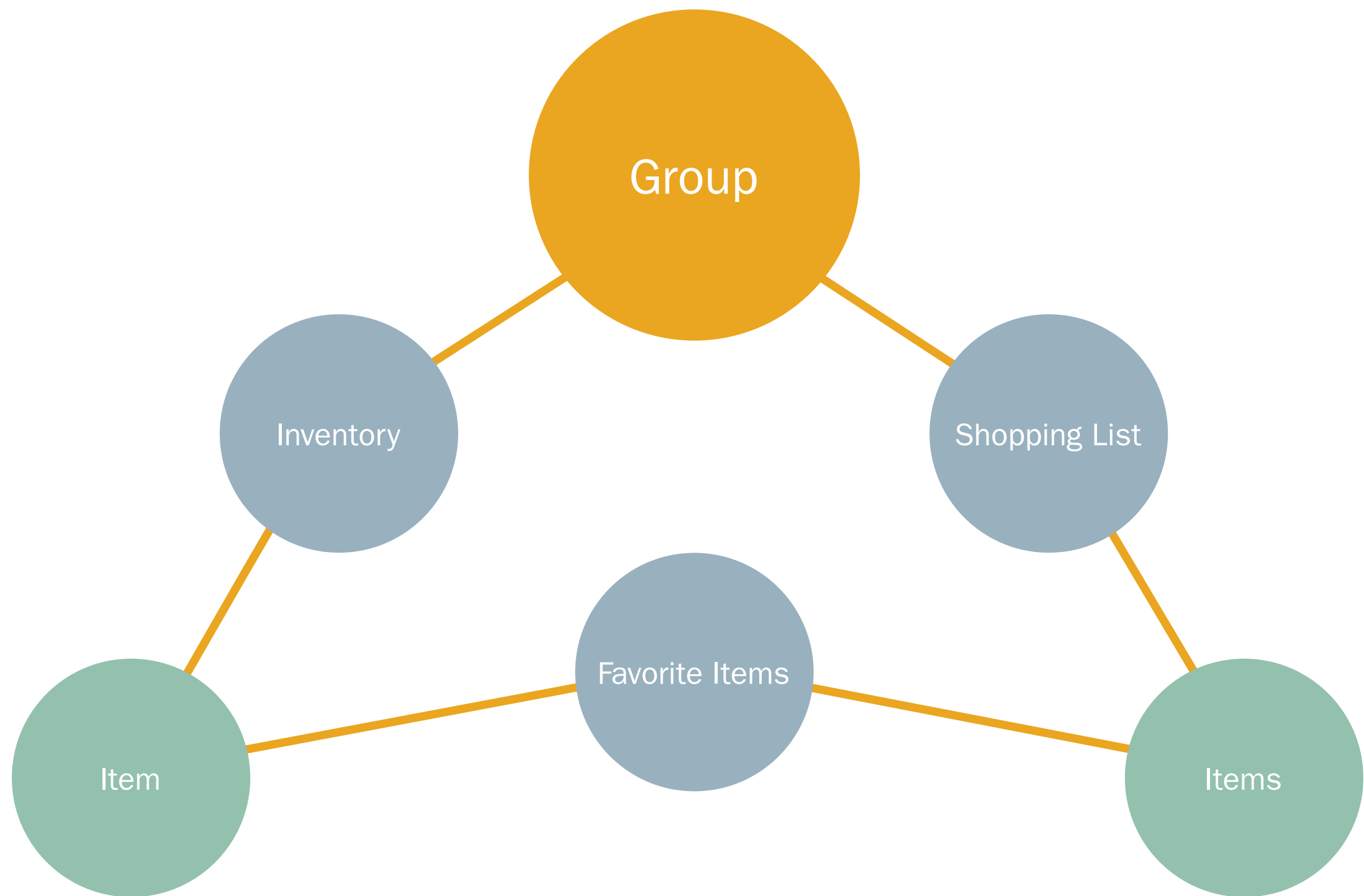
Navigation options



Ideas for list design and navigation menus.

Ontology

KitchenList Concept Map



User Goals

First Time Users

Primary Goal: Users need to create an Inventory of household items

Goal: Add new item

- Methods
 - new item name
 - suggested items
- quantity
- unit of measurement
- assign to category
 - Method
 - select from existing categories
 - create new category
 - suggested categories
- (optional) expiration date
- (optional) description/comment
- (optional) add to Favorite Items

Goal: Add item from Barcode Scan

- Methods
 - Scan barcode

Primary Goal: Users need to create a Shopping List

Goal: Add new item

- Methods
 - new item name
 - suggested items
- quantity
- unit of measurement
- assign to category
 - Method
 - select from existing categories
 - create new category
 - suggested categories
- (optional) description/comment
- (optional) add a photo
- (optional) add to Favorite Items
- (optional) priority

Goal: Add item from Barcode Scan

- Methods
 - Scan barcode

2nd/3rd Time Users (continued)

Primary Goal: Users need to create an account to access additional features such as automatic sync and to invite users to Group

- name
- email address
- password
- Facebook Login
- Google+ Login

Primary Goal: Users create a Group

- Methods
 - create Group name
 - invite users through their email addresses
 - if existing user then notification will appear
 - if non-user then they will receive an invitation email to download the app and sign up.
 - once invited user installs app and signs up, they will receive an app notification that the were invited to a new Group by an existing user. Invited user will choose to accept or decline invitation to join the Group.

Primary Goal: User manages users in Group

Goal: Add users through their email addresses
—if existing user then notification will appear

—if non-user then they will receive an invitation email to download the app and sign up.
—once invited user installs app and signs up, they will receive an app notification that the were invited to a new Group by an existing user. Invited user will choose to accept or decline invitation to join the Group.

Goal: Remove users

- select from list of users in Group
- (optional) undo

Goal: Send push notifications to Group members

- Methods
 - select push notification from list of options
 - select Group members from member list

User Goals

2nd/3rd Time Users (continued)

Primary Goal: Users manage Group Inventory of household items

Goal: Add brand new item

- Methods
 - new item name
 - suggested items
 - quantity
 - unit of measurement
 - assign to category
 - Method
 - select from existing categories
 - create new category
 - suggested categories
 - (optional) expiration date
 - (optional) description/comment
 - (optional) add a photo
 - (optional) add to Favorite Items

Goal: Add item from Favorite Items

- Methods
 - search from list of Favorite Items

Goal: Add item from Barcode Scan

- Methods
 - Scan barcode

Goal: Update quantity of existing item

- Methods
 - search
 - edit existing quantity

Goal: Delete item from Inventory

- Methods
 - search
 - delete item
 - (optional) quick-add deleted item to Shopping List
 - (optional) undo

Goal: Arrange category order and item order

- Methods
 - Click and drag category or item names to rearrange

Primary Goal: Users manage Group Shopping List

Goal: Add brand new item

- Methods
 - new item name
 - suggested items
 - quantity
 - unit of measurement
 - assign to category
 - Method
 - select from existing categories
 - create new category
 - suggested categories
 - (optional) description/comment
 - (optional) add a photo
 - (optional) add to Favorite Items
 - (optional) priority

Goal: Add item from Favorite Items

- Methods
 - search from list of Favorite Items
 - quantity
 - (optional) priority

Goal: Add item from Barcode Scan

- Methods
 - Scan barcode

Goal: Update quantity of existing item

- Methods
 - search
 - edit existing quantity

Goal: Mark item as purchased

- Methods
 - search
 - mark as purchased (marked item is automatically moved to a Shopping Cart Section)
 - (optional) undo

Goal: Delete item from Shopping List

- Methods
 - search
 - delete item
 - (optional) undo

Goal: Manage Shopping Cart Section

- Methods
 - select from items
 - (optional) clear item from Shopping Cart Section
 - (optional) move Item back to Shopping List
 - (optional) add to Inventory

Goal: Arrange category order and item order

- Methods
 - Click and drag category or item names to rearrange

Competitive Research

When brainstorming the idea for this project, my idea for was a simple app with a shopping list and kitchen inventory log where items can be moved between the two. Also to have the ability to invite users to update and edit the lists. My assumption was most competitor apps would have a shopping list but lack a kitchen inventory with detailed logging. Upon further research, I found that there are quite a few apps out there that do exactly what my project has called for. My goal for this competitive analysis is to discover useful features other apps have that I can include into my project, evaluate competing apps for areas that need improvement, and using this data to construct an app with a unique combination of features.

Competitive Analysis

App/Description

Pros

Cons

Evernote

<https://evernote.com/>

- Flexibility and customizability. It has a wide variety of uses for organization, note taking, and productivity.
- Automatic cloud backup and syncing.
- Easy to share and chat with other users.

- Lists can become disorganized quickly between multiple users.
- Checklist feature needs more options.
- Some features only available to paid users.

Out of Milk

<http://outofmilk.com/>

- Can login with Facebook, Google+, or email
- Easy to share with other user and have the update lists
- Clean Layout and menus
- Has ability to make a shopping list, pantry list, to-do list, and add recipes.
- Section to view local grocery deals and preferred stores.
- Add item to lists by search and suggestions, scanning a barcode, or add an item from history.
- Input item details such as quantity, category, price, notes, and a check box for sales tax and coupon
- Has the ability to show price history.
- Ability to move items between shopping list and pantry lists

- Does not have a place to input quantity type/units of measurement.
- No ability to add an expiration date in the Pantry
- Default list view shows few details.
- The Recipe section is the least useful feature.
- Cannot rearrange the order of categories.
- Pantry item amount can only be marked as low or full.
- No ability to backup data to file or recovery from file.
- No ability to send notifications or messages to invited users

Bring! Shopping List

<http://getbring.com/#!/app>

- Create an account with email
- Easy to share with other user and have the update lists

- Cannot login with Facebook or Google+
- Cannot rearrange the order of categories.

Fridge and Shopping

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

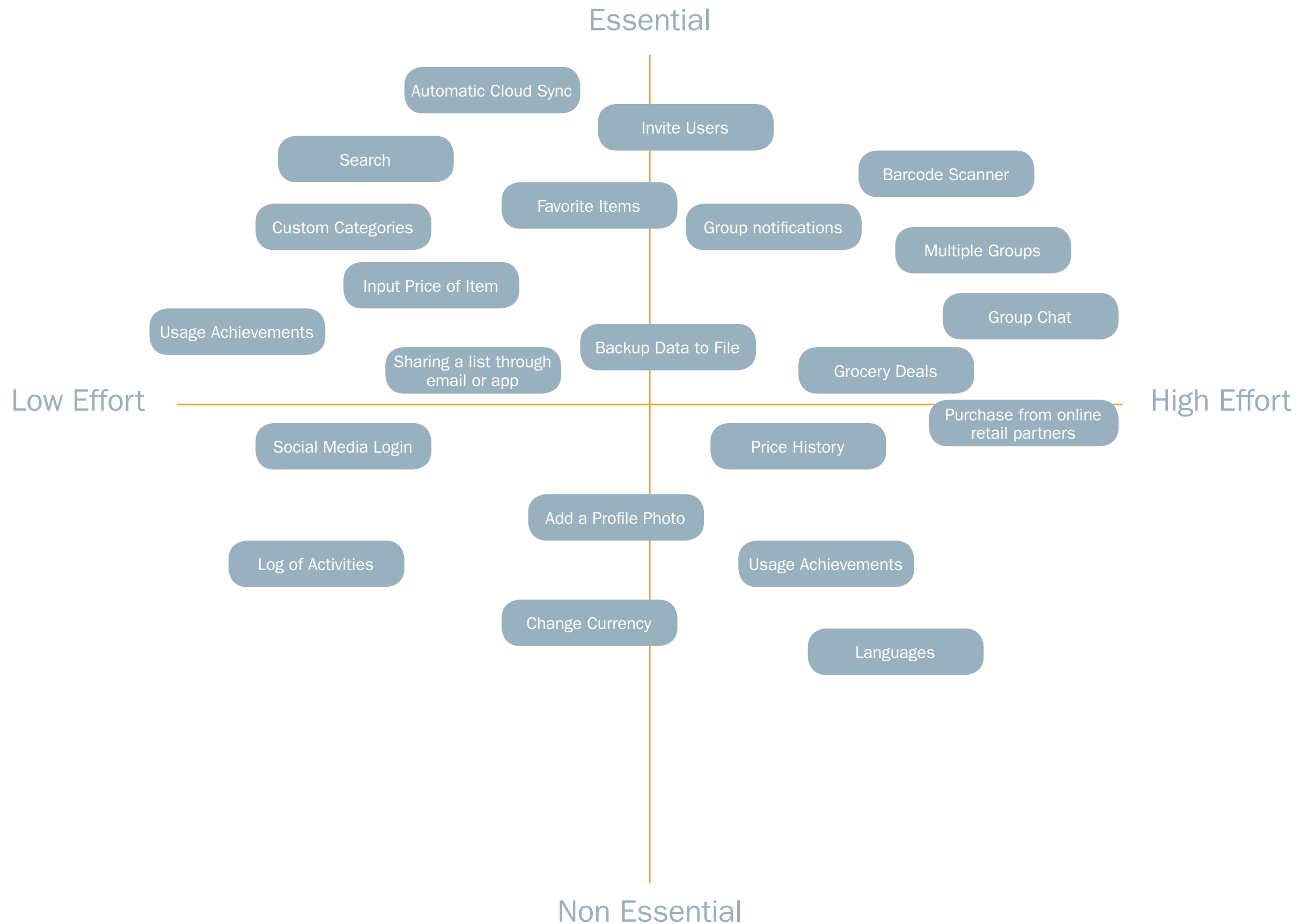
Grocery Tracker Shopping

<http://www.grocery-tracker.com/>

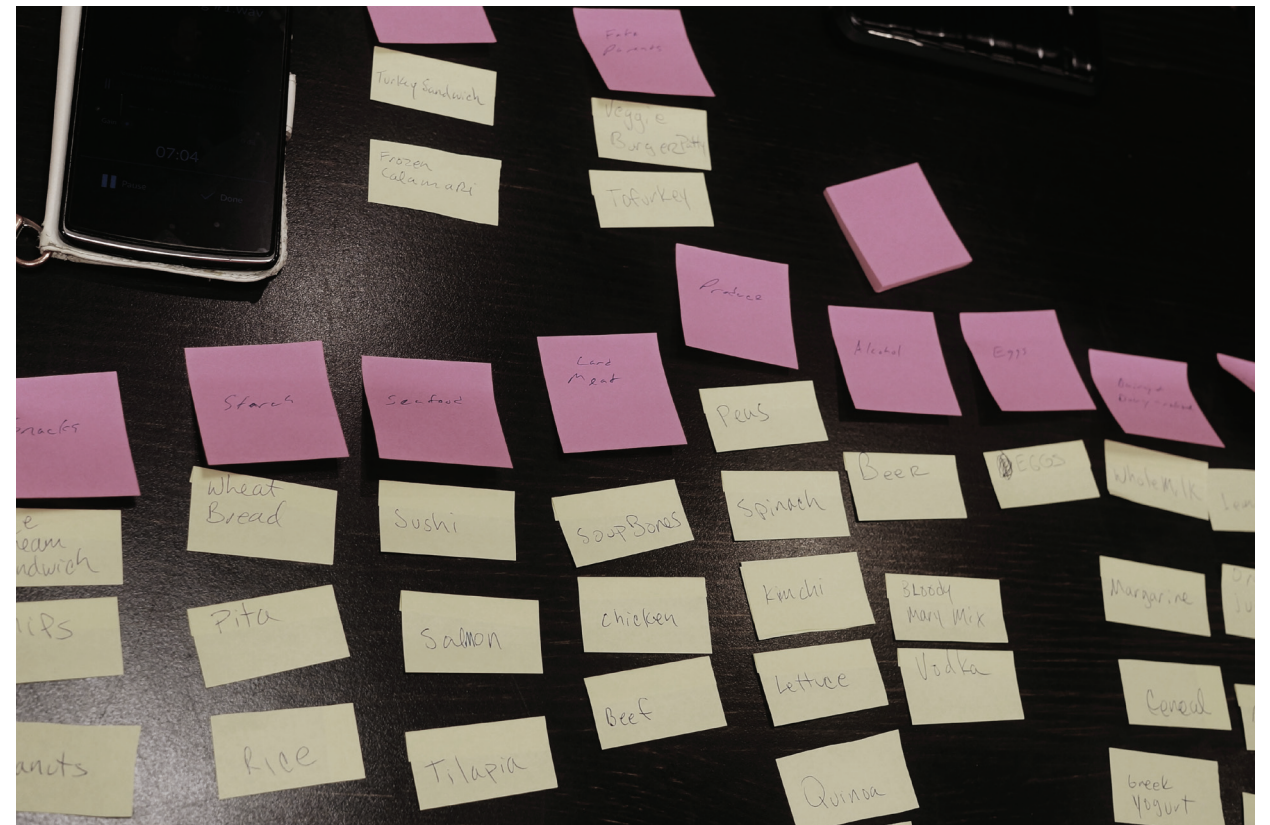
Our Groceries

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

Feature Analysis



Card Sorting



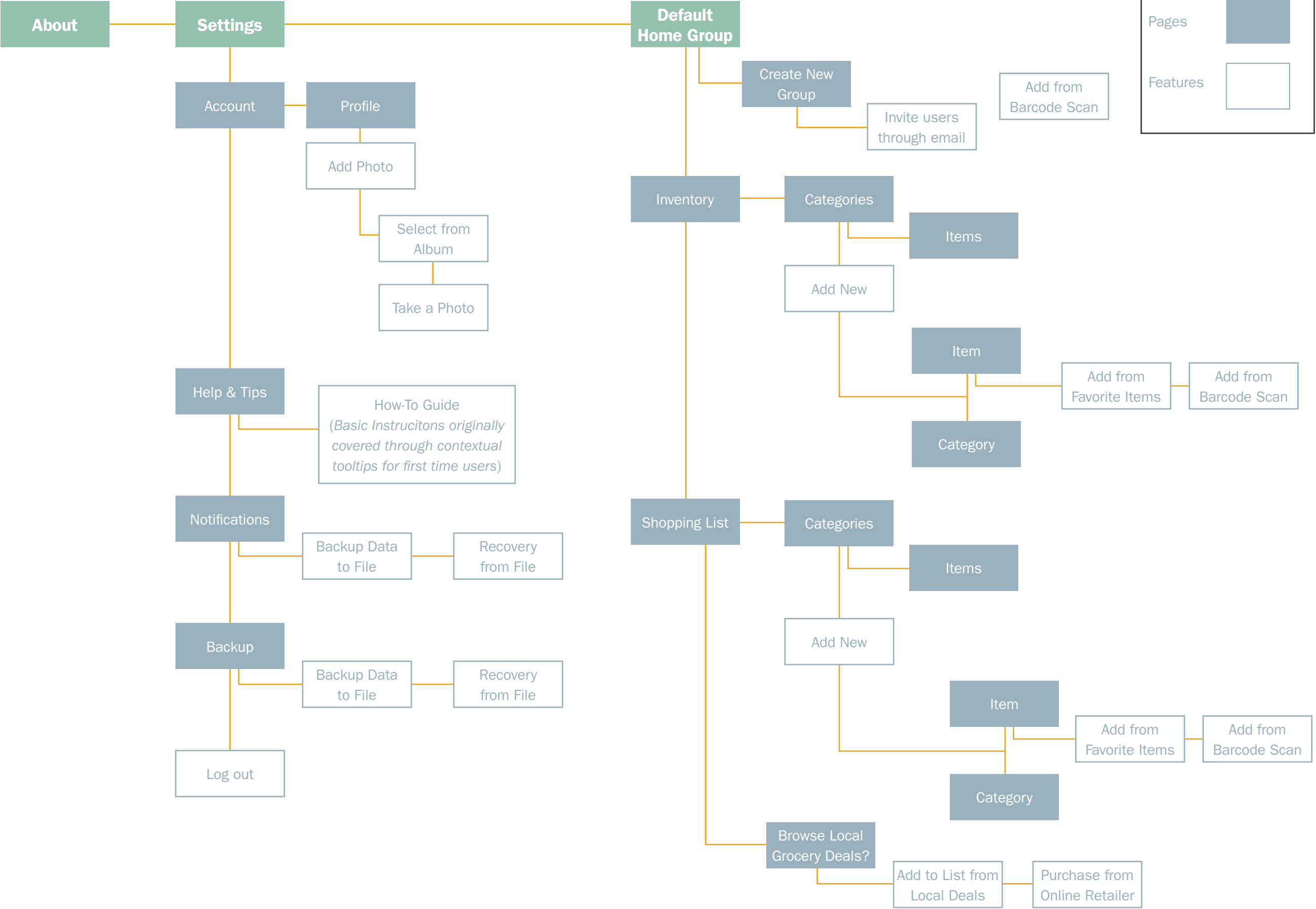
Open Card Sorting

The objective of the open card sorting exercise is to show that having a short default list of grocery categories for users to choose from is too restrictive. The assumption is that users want the ability to dictate their own categories and prioritization. I find that similar shopping list apps don't always allow for customized categories for their users.

Participants were given a list of grocery items (including some items that are difficult to definitively classify) and observing how they group them together and name their categories.

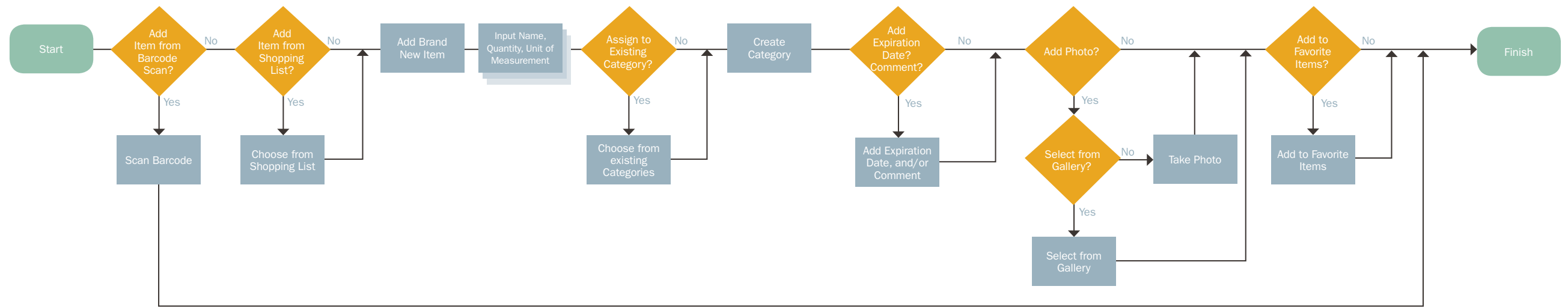
The results of the open card sorting activity confirmed assumptions that users categorize some items differently from others and have different priorities for certain items and categories. Participants moved items with obscure categories around a lot more until they felt comfortable with it than more clear cut items. Participants tend to group commonly well known items similarly to each other, but they prioritize them differently.

Sitemap



User Flow

KitchenList Technical User Flow

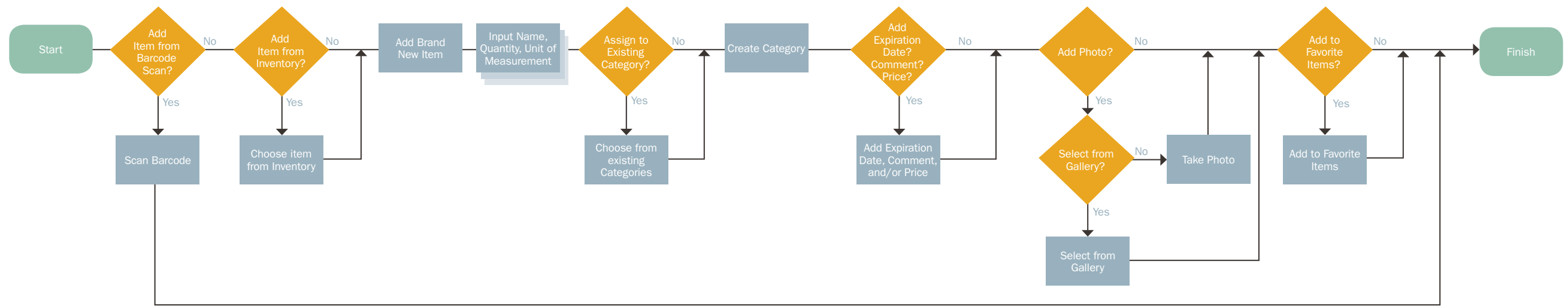


First Time Users: Adds a new item to Inventory.

For this task flow, the users can either add a new item to their kitchen Inventory by scanning an item in with a barcode or go through the manual process in detail. For a detailed item listing, users has the option of adding in the quantity, unit of measurement, expiration date, comments, and a photo. The user can also add the item to their Favorite Items list.

User Flow

KitchenList Technical User Flow



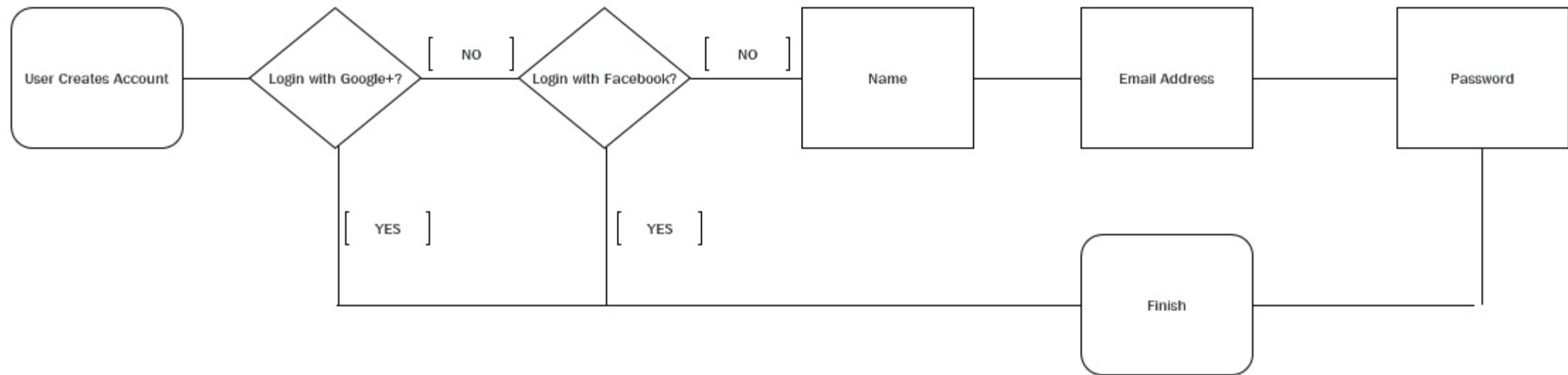
First Time Users: Adds a new item to Shopping List.

For this task flow, the users can either add a new item to the shopping list by scanning an item in with a barcode or go through the manual process in detail. For a detailed item listing, users has the option of adding in the quantity, unit of measurement, expiration date, comments, a photo, and price. The user can also add the item to their Favorite Items list.

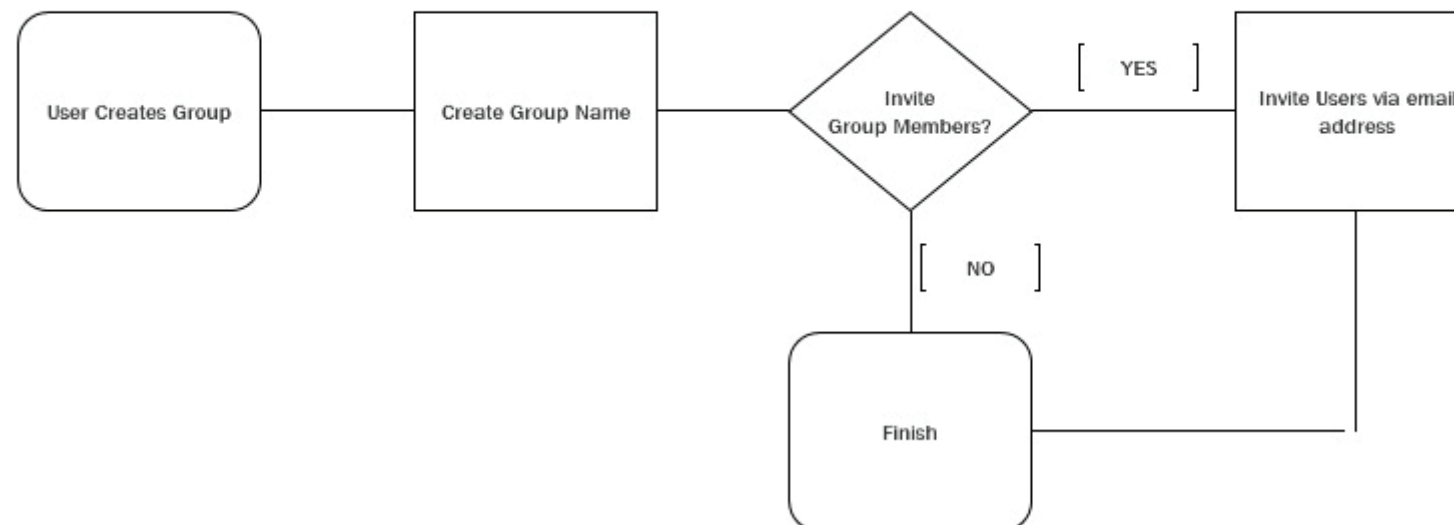
User Flow

Drafts

First Time Users: User Creates Account



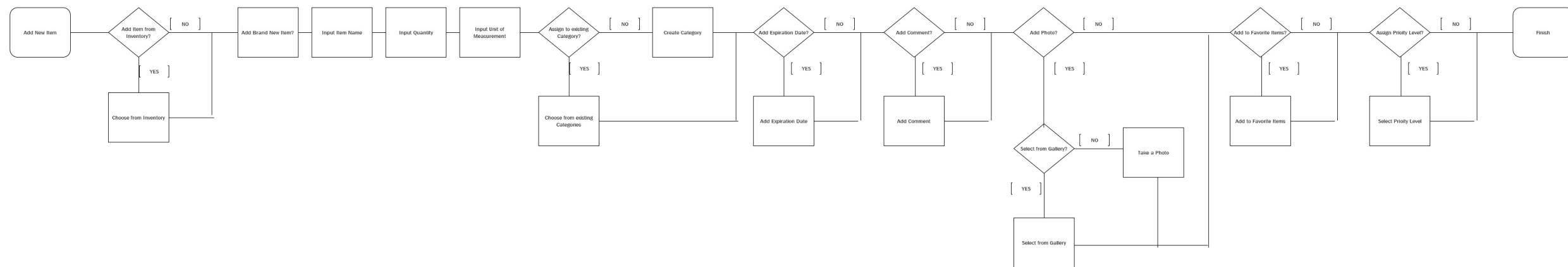
First Time Users: User Creates Group



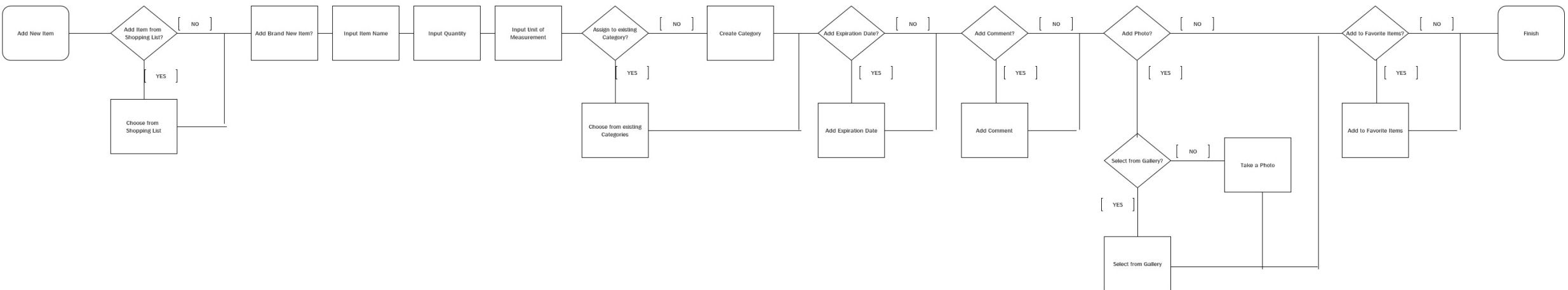
User Flow

Drafts

First Time Users: User Adds New Item to Shopping List



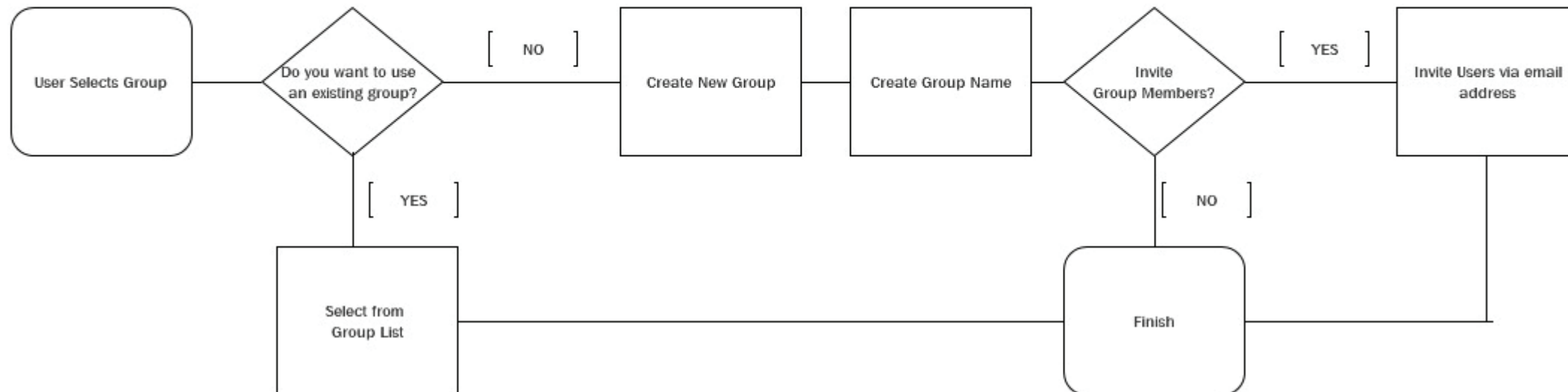
First Time Users: User Adds New Item to Inventory



User Flow

Drafts

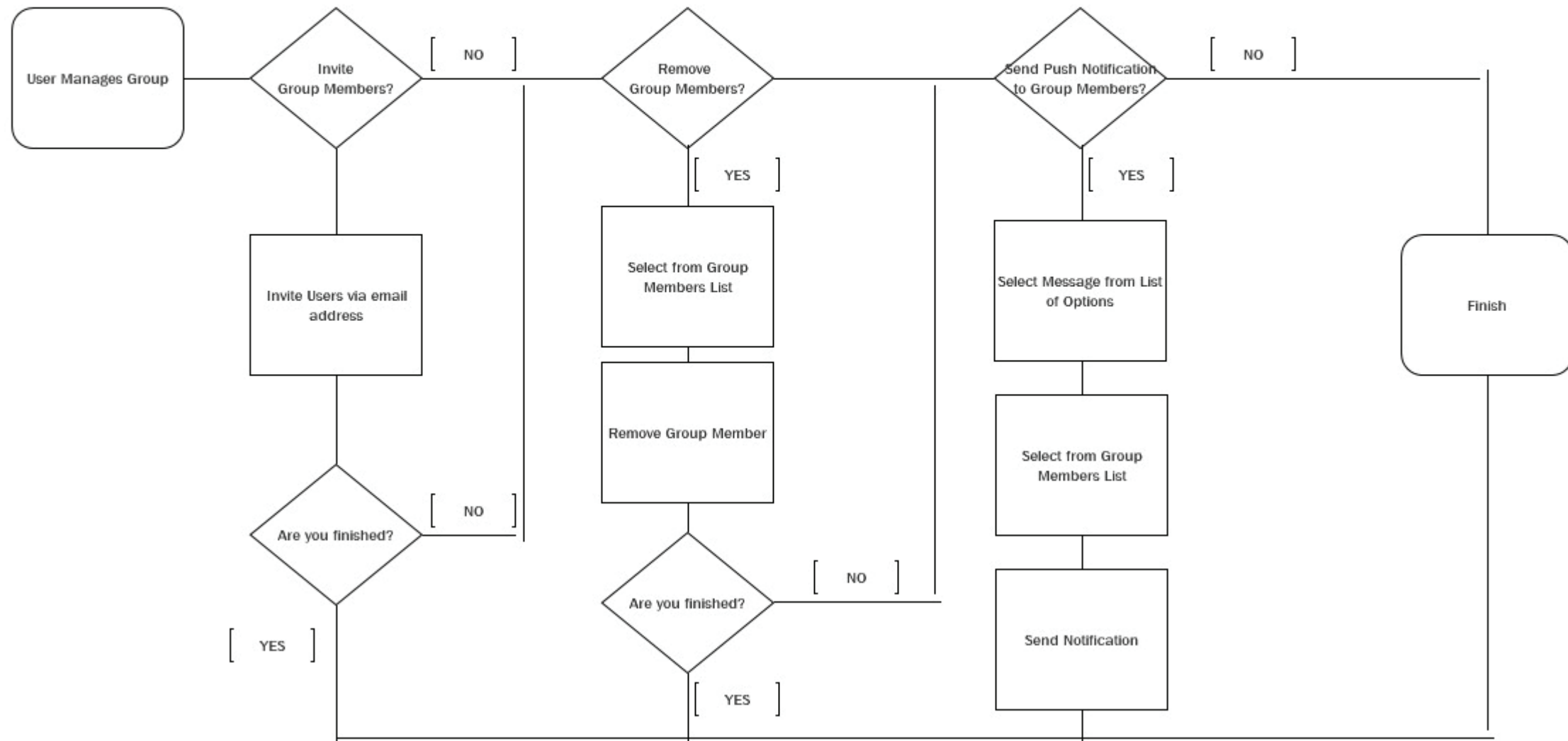
2nd/3rd Time Users: User Selects Group



User Flow

Drafts

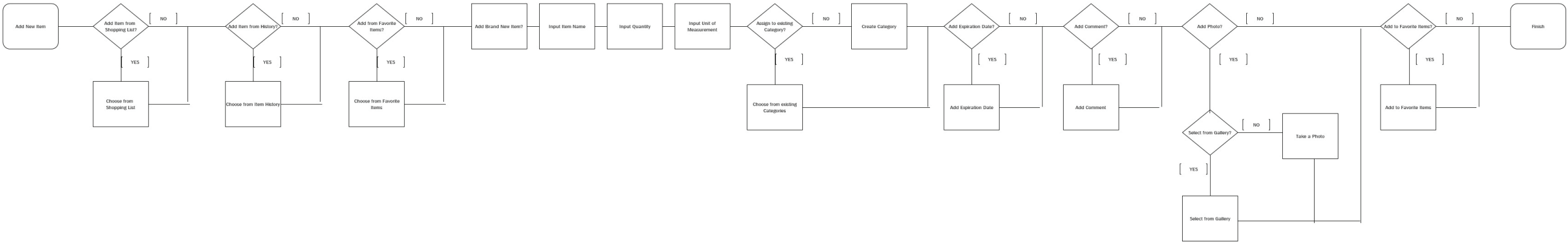
2nd/3rd Time Users: User Manages Group



User Flow

Drafts

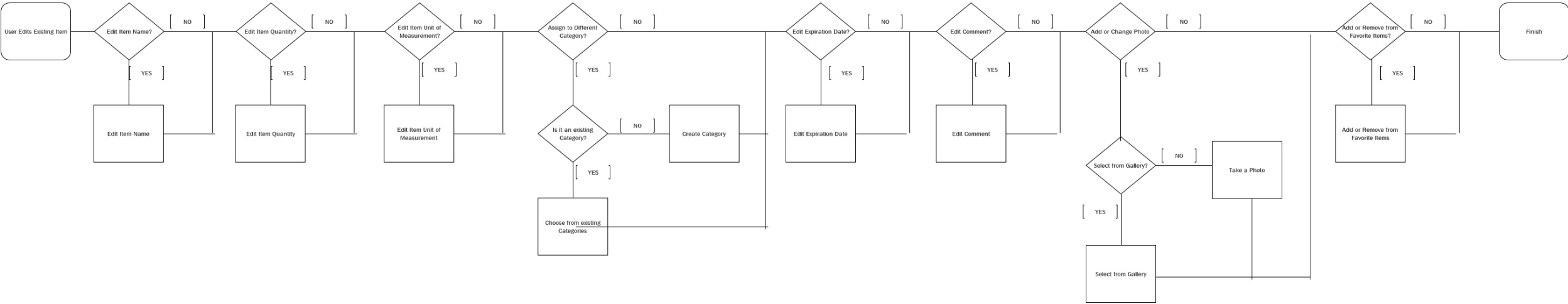
2nd/3rd Time Users: User Adds New Item to Inventory



User Flow

Drafts

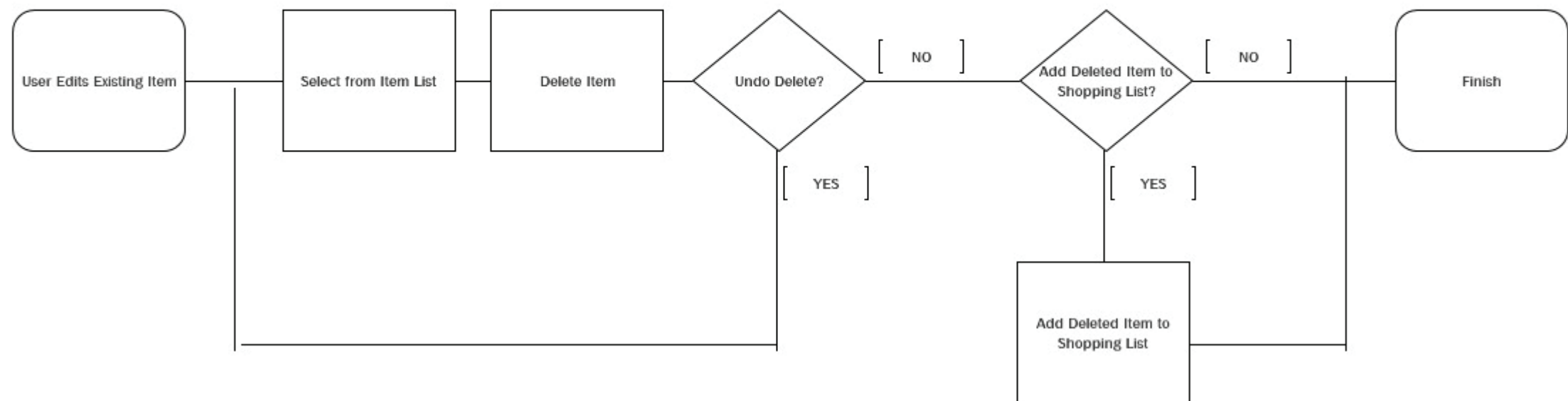
2nd/3rd Time Users: User Edits Existing Item from Inventory



User Flow

Drafts

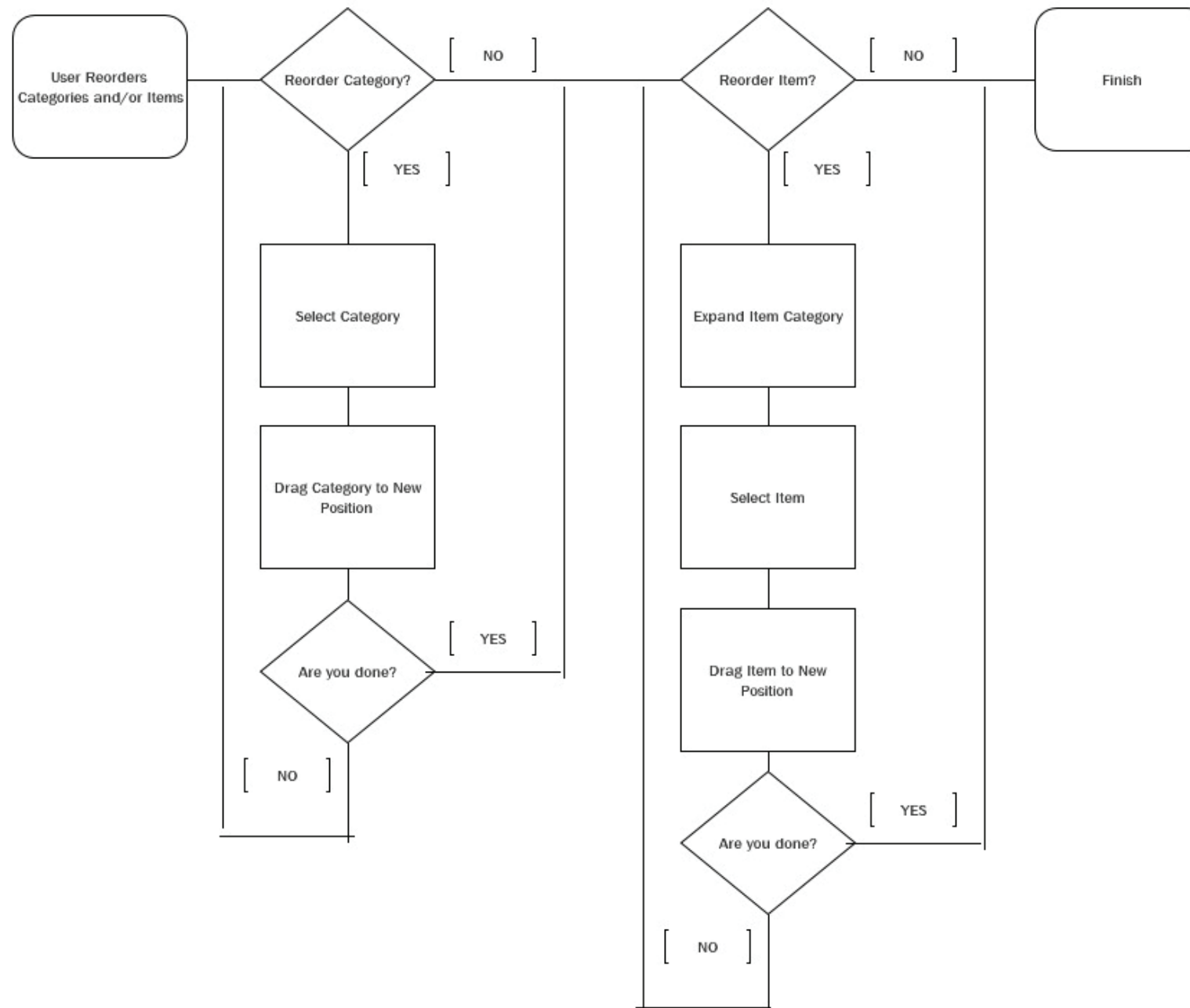
2nd/3rd Time Users: User Removes item from Inventory



User Flow

Drafts

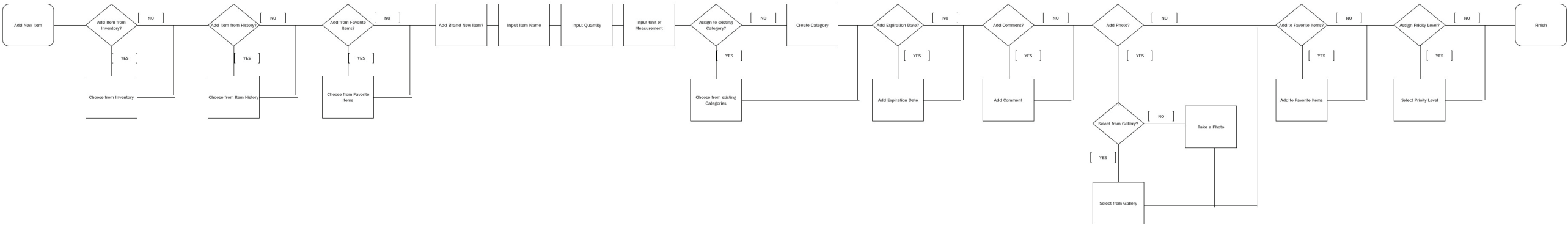
2nd/3rd Time Users: User Reorders Categories and/or Items in Inventory



User Flow

Drafts

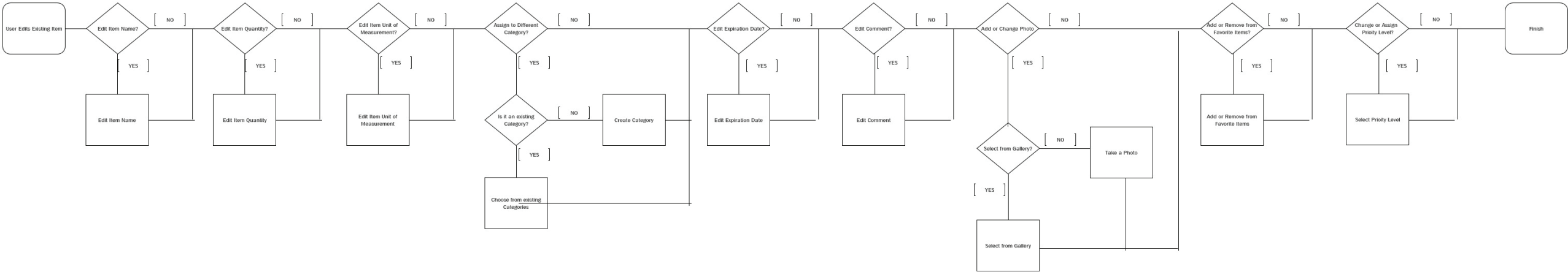
2nd/3rd Time Users: User Adds New Item to Shopping List



User Flow

Drafts

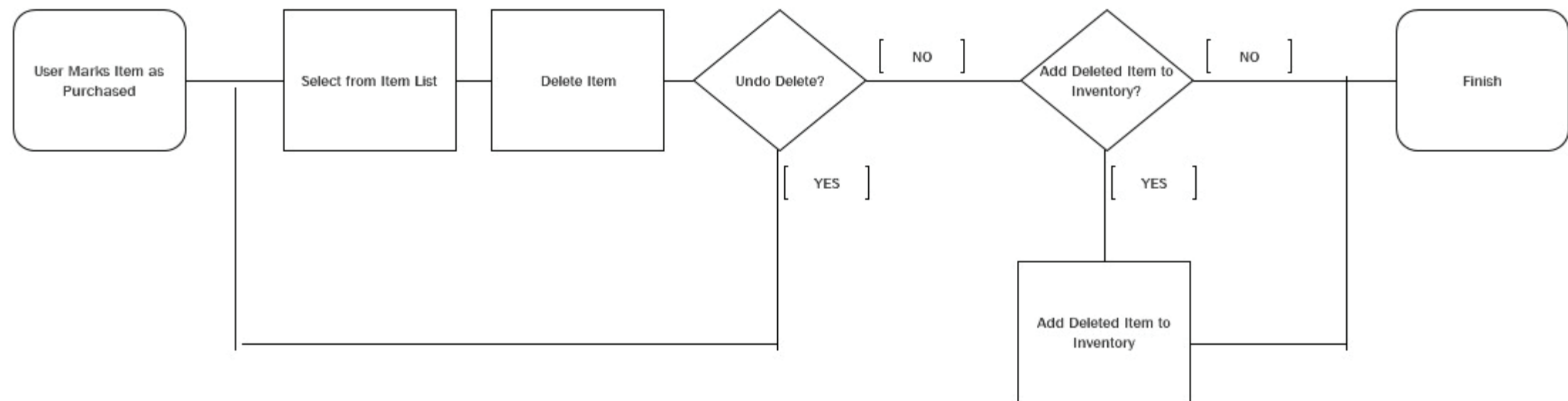
2nd/3rd Time Users: User Edits Existing Item from Shopping List



User Flow

Drafts

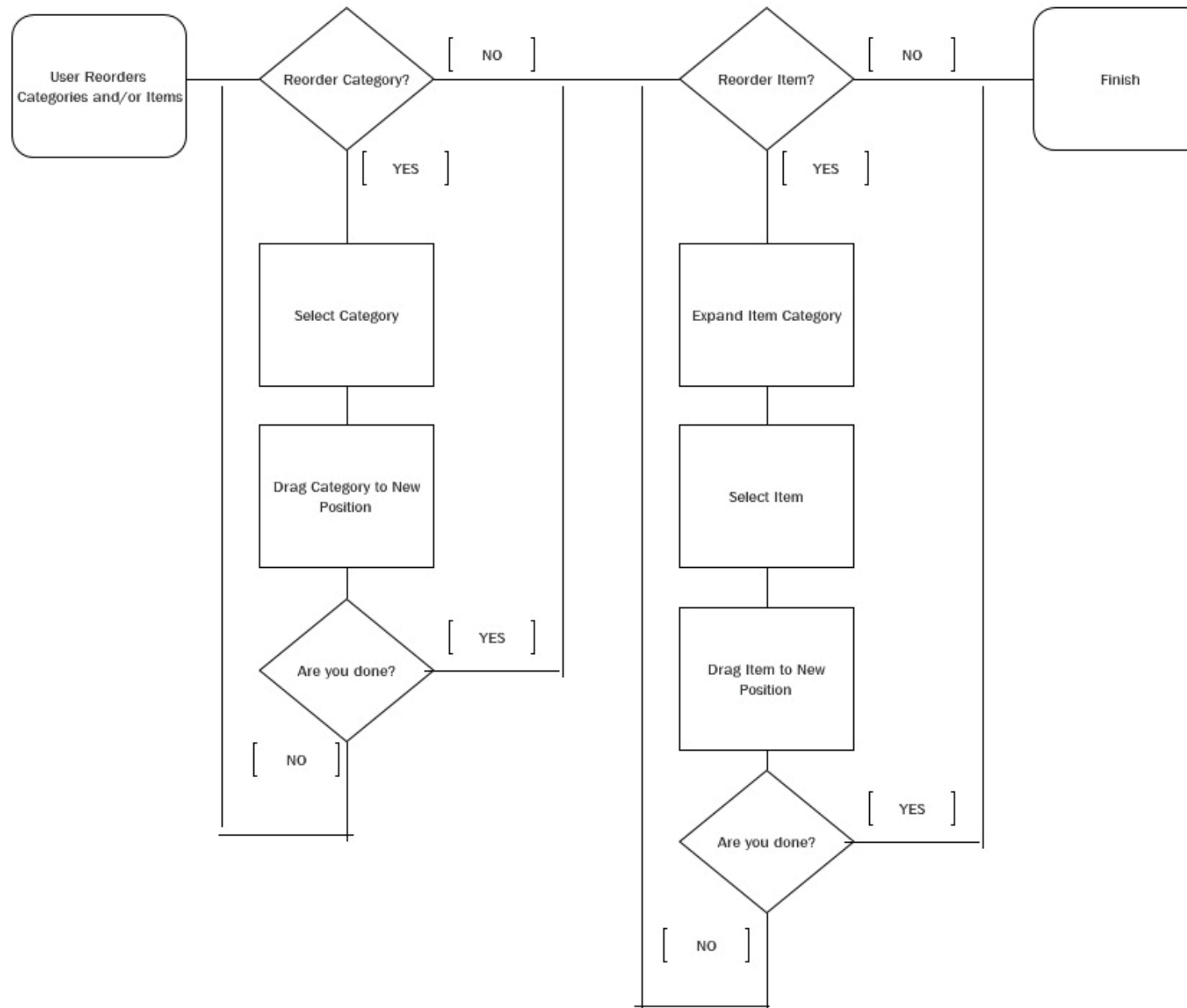
2nd/3rd Time Users: User Marks Item as Purchased in Shopping List



User Flow

Drafts

2nd/3rd Time Users: User Reorders Categories and/or Items in Shopping List



User Flow

Drafts

2nd/3rd Time Users: User Removes item from Shopping List

