

# ***CalNourish***

## ***Design 06***

### **Group 17**

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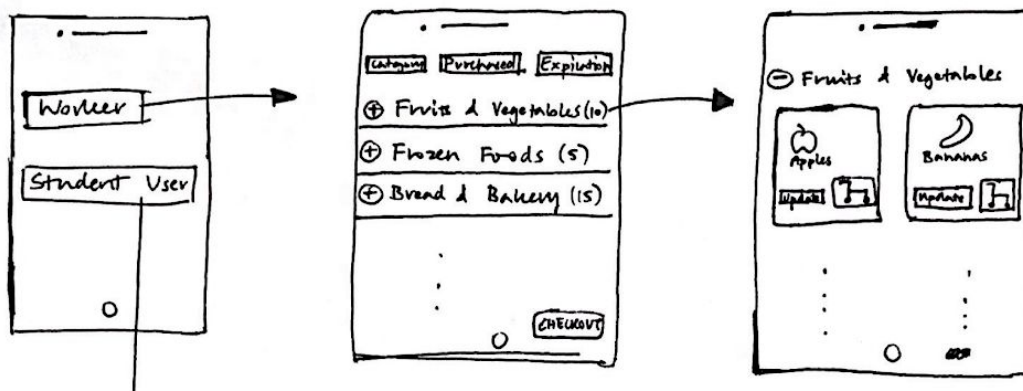
Kushal Singh



# Paper Sketches

## The Beginning

We began by discussing how we would break up the application between workers and pantry users, and what the key functions would be based on our user interviews. We couldn't just make an account based application because we needed to preserve the anonymity of users. So, the first point to address was distinguishing users from workers. We decided the quickest approach for now was a homescreen where the user chooses between being a "worker" or "student user" - we still needed to design a way to make sure pantry users click "worker."



A worker clicks on being a worker and organizes the inventory

## Worker Needs

We began sketching the app based on the needs of workers. We identified to main functionalities

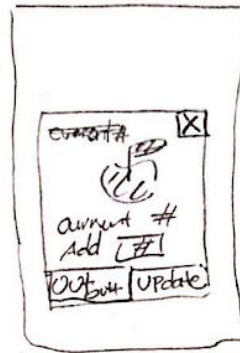
1. Organizing and updating the inventory
2. Sending live notifications
3. Viewing and analyzing user data

The above sketch represents one iteration of how we thought the inventory could be organized through an app. We thought it was best to view all the products in a grid format.

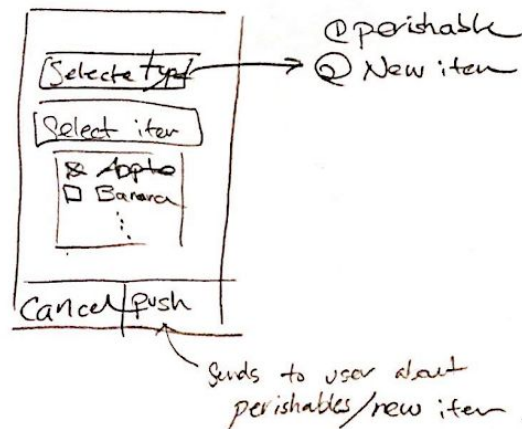
In another iteration of the inventory screen, we introduced a search bar to allow for quick filtering, and sketched what it would look like to update an item and send users notifications.



Filter with search bar

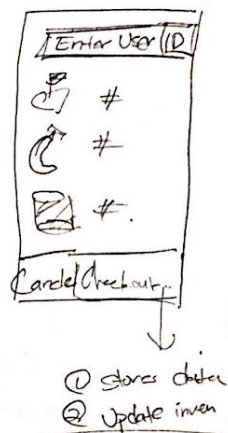


updating the inventory of an item



Options for sending push notifications to pantry users

We also sketched a possible interface for how a worker might update the live inventory when a user checks out their items.



See **appendix** for full interaction flow (see fig. W1) and one of our first iterations on the grid view for inventory (see fig. W2).

We continued to iterate on and discuss the possible ways to display the inventory such that it was easy for the workers to navigate and update. During this time, we also tried to determine how a worker could analyze data visualizations on a mobile device, which appeared to be a difficult task coupled with the amount of inventory: **there was too much to display and manipulate on such a tiny screen**. After much thought, we realized that we were attempting to force a mobile solution upon the users rather than responding to their needs appropriately. The workers have a computer accessible to them, and they use it to currently check out pantry users. **The most convenient and appropriate way to address the worker needs, we decided, is through a web app.**

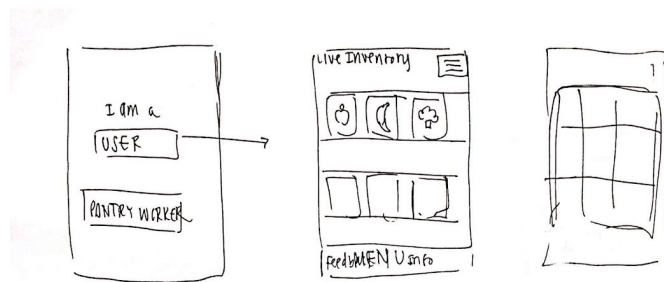
After this revelation, **we decided to focus on developing a much needed mobile application just for pantry users**, rather than a two-sided app for pantry users and pantry workers. This also resolved our issue on how to distinguish between workers and pantry users.

### Pantry User Needs

Focusing solely on pantry users for a mobile app, we started to determine the main functions:

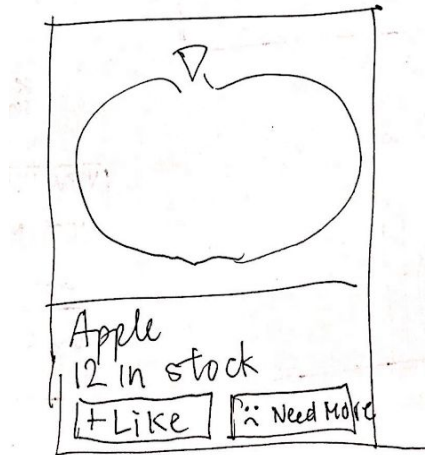
1. Live inventory updates
2. Receiving notifications on restock and deliveries
3. Giving feedback to the pantry (on experience as well as when inventory is running low)
4. Accessing information on the food pantry
5. Potentially find resources to address food insecurity
6. And after interviews with food pantry workers, how we could introduce a food recovery feature to retrieve leftover food from on campus events

For users, what would be the best way to navigate the available stock? We thought of side scrolling, similar to Amazon's main page, or just a large grid ( 2 items wide for smaller devices).



*Middle screen shows the side scrolling option; Right screen shows grid view*

We then discussed the best way to view each item. In the view shown below, a user can “like” an item, providing valuable information to the pantry. They can also indicate an item is low in stock, which would allow workers time to see if they have more in stock or send a push notification to other users to indicate they are low.



### Higher Fidelity Sketches

As we refined our ideas, we decided upon the follow features and interactions in a simple user flow.

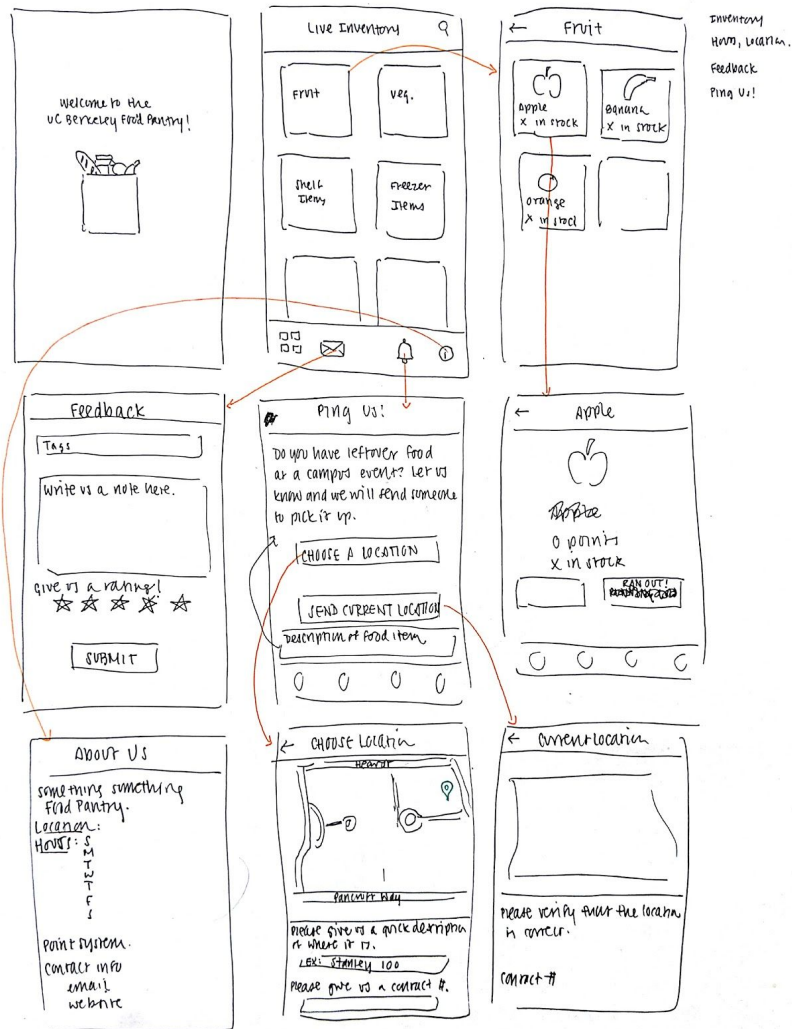
**Search:** View available items in a grid. Users can search by pressing the search icon on the top right or choosing from the preset categories

**Item Info:** Click on an item to get more info on it, indicate it is out stock to workers, or like it

**Feedback:** submit feedback on your experience in the pantry

**Food Recovery:** choose between sending your current location or specifying a location. In each scenario, the user must also specify contact info

**Pantry Info:** For pantry hours and location



## Final Paper Prototype

We made some detailed changes below on the next iteration.

**Search:** One of the more significant alterations was changing the grid view to a vertical, infinite scroll option, like we use for social media, because it is most natural to us, and is easiest for when holding a device. We kept the grid view for the categories page, but changed to a vertical scrolling once you've entered a category or searched an item.

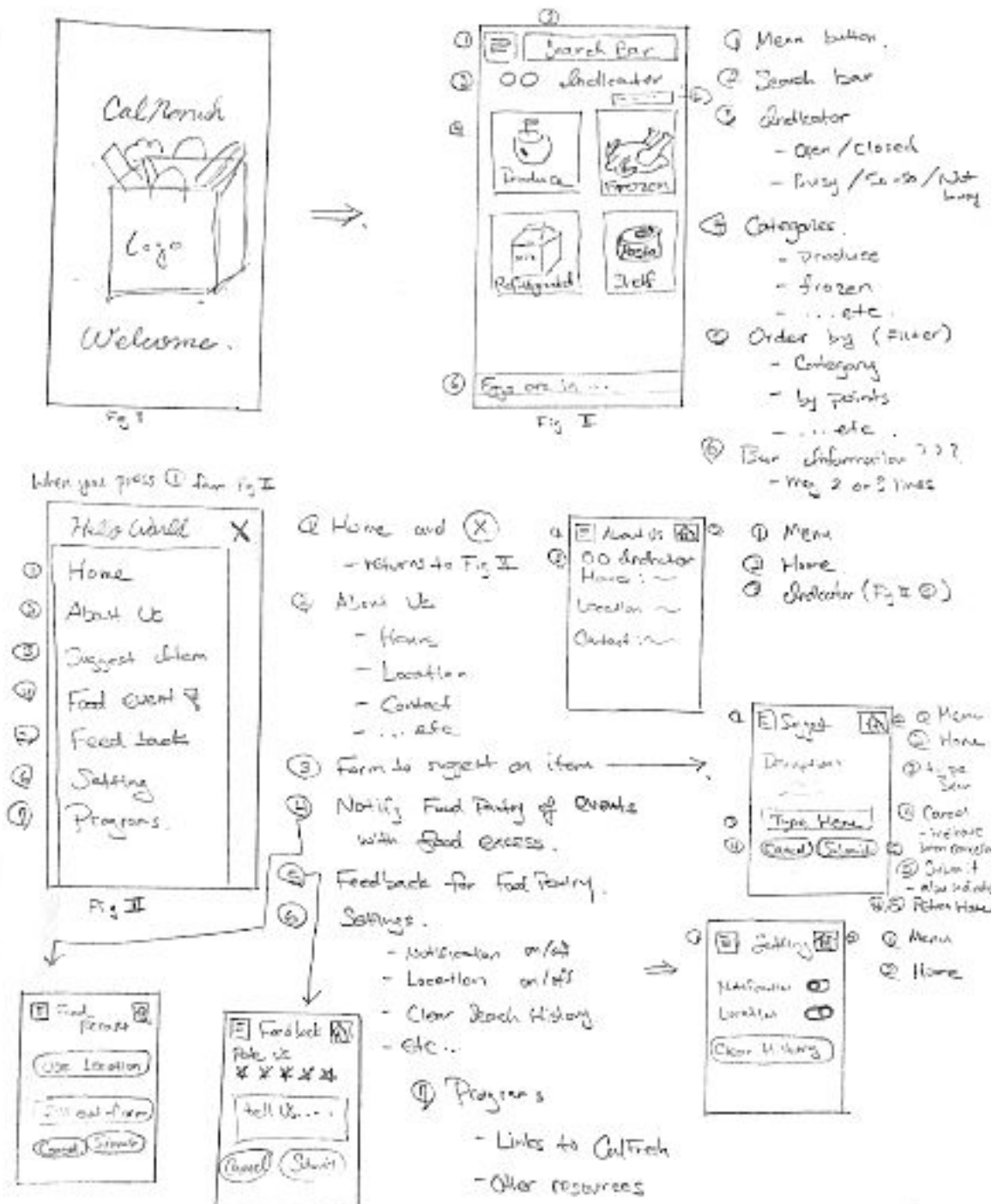
**Item Info:** By changing the way we presented the information on the search screen, it freed up space to include more information about each item. As a result, there is no longer a need to click the item to get more information - everything is visible and can be interacted with on the one view.

**Feedback:** The feedback interface stayed mostly the same, although we introduced new categories of feedback, like suggesting an item.

**Food Recovery:** The food recovery interface also stayed mostly the same

**Pantry Info:** stayed the same

**Menu:** We realized we had too many screens for just a fixed lower menu, so we introduced a side menu.



What you click ⑩ on Fig II



Fig II

- ① Menu
- ② Search bar
- ③ filter
- ④ Filter (order by).
  - by points
  - by Availability
  - by most like/dislike
  - by must check out
  - ... etc
- ⑤ Like
- ⑥ Dislike
- ⑦ Misinformed
  - when it says available when it is not

For functions:

- Pushed notification → to phone
- Maybe a little bar moving across OR some way of telling news about Food Pantry inside the App.
  - Like pushed notification in the App
  - OR anything Food Pantry want to say.



# Figma Wireframes

Link to Figma Prototype:

<https://www.figma.com/file/RudML2gAUDVNKMhfVyKeMuAY/CAL-NOURISH?node-id=0%3A1>

Link to Figma Walkthrough:

<https://www.figma.com/proto/RudML2gAUDVNKMhfVyKeMuAY/CAL-NOURISH?node-id=8%3A2&scaling=contain>

Link to Invision Mobile Walkthrough:

<https://projects.invisionapp.com/share/XQOWSCCCSMU#/screens>

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## Interaction 1 | Live Inventory

Live inventory is an important function of our application because the pantry currently has no way of indicating what they have in stock when those items are in stock. The pantry's current method is to post pictures to social media, but pantry users have no way of knowing if the items will still be there when they visit the pantry. This way, users can always see what's in stock.

## Interaction 2 | Feedback

Currently, the only interaction between pantry users and the pantry is during checkout. This feedback system will allow the pantry to obtain valuable information on what pantry users like and dislike about what is in stock and about their overall experience. With this data, the pantry can better adjust the user experience of the pantry to better meet the needs of pantry users. Furthermore, by allowing users to indicate if an item is spoiled or out of stock, this can help update the live inventory.

## Interaction 3 | Food Recovery

The intention of the food recovery interaction is to promote community involvement with the UC Berkeley Food Pantry and food insecure students. There many faculty and student events on campus with leftover food. By using this functionality, they can indicate to pantry workers what food is available and when it can be recovered.

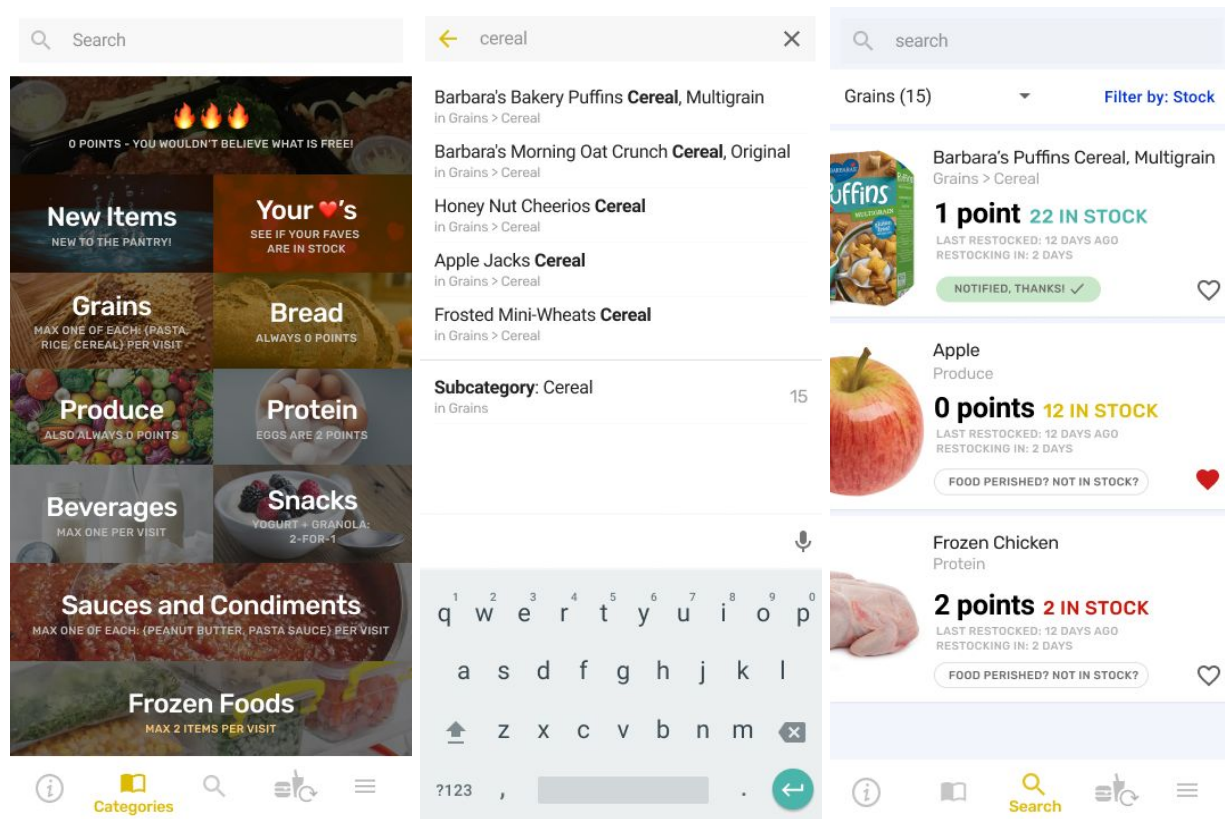
## Interaction 4 | Push Notifications

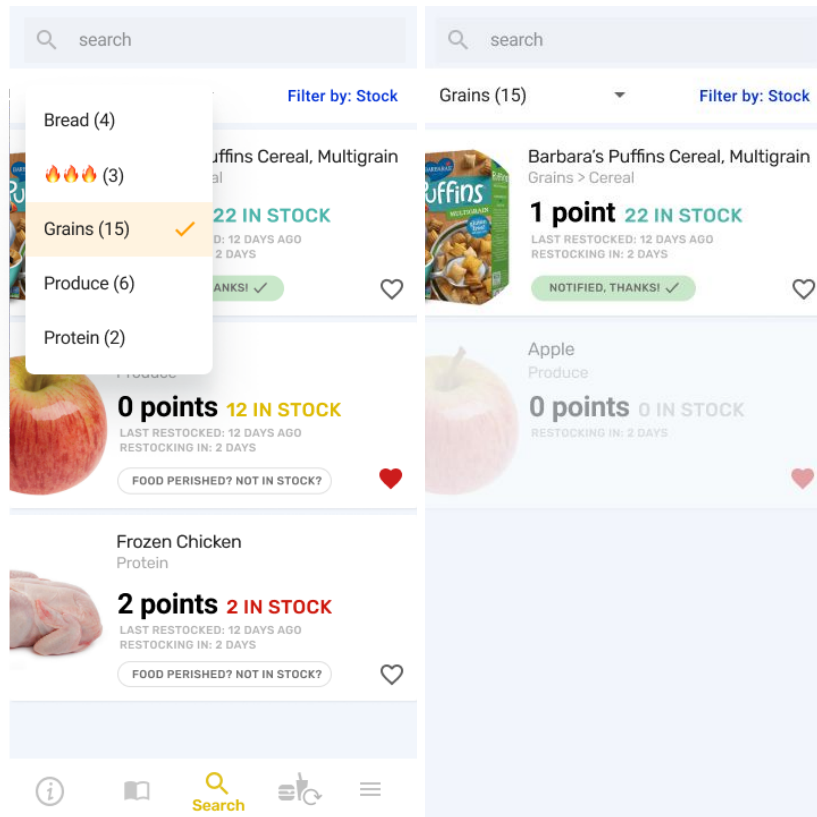
Another functionality is push notifications. We chose this for similar reasons for the live inventory. Rather than having to check Facebook, pantry users can receive direct notifications from the pantry when they've been restocked, when there are special donations, when there may be too much in stock, and more. This is an important form of communication between pantry workers and pantry users that does not yet exist, but can help address food insecurity.

### Interaction 1 + 2: Live inventory and Feedback (part 1)

**Live Inventory:** Pantry users can search through categories or the search screen to check if specific items are in the pantry before going

**Feedback:** Pantry users can notify pantry workers when something is out of stock and can also "favorite" items that they like, providing valuable info to the pantry





## Interaction 2: Feedback (part 2)

In addition to providing immediate feedback on if an item is low in stock or has perished, the user can provide direct feedback on their overall experience so the pantry can continue to meet user needs. Users navigate to this screen from the menu and can submit feedback or cancel.

Feedback

Rating:
 

★ ★ ★ ★ ★

Tell us how we are doing
 

Hello World

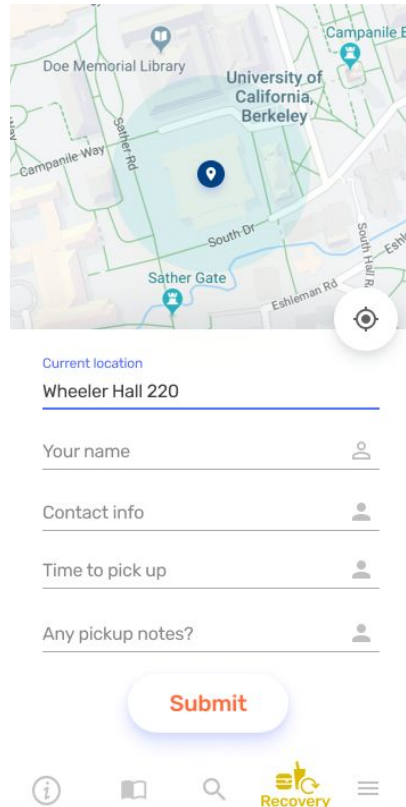
Cancel

Submit

1 2 3 4 5 6 7 8 9 0  
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### Interaction 3: Food Recovery

This part of the app is to encourage community members to help address food insecurity by notifying the pantry of events with leftover food items. Once the recovery has been submitted, and pantry worker would be notified when and where to pick up the items.



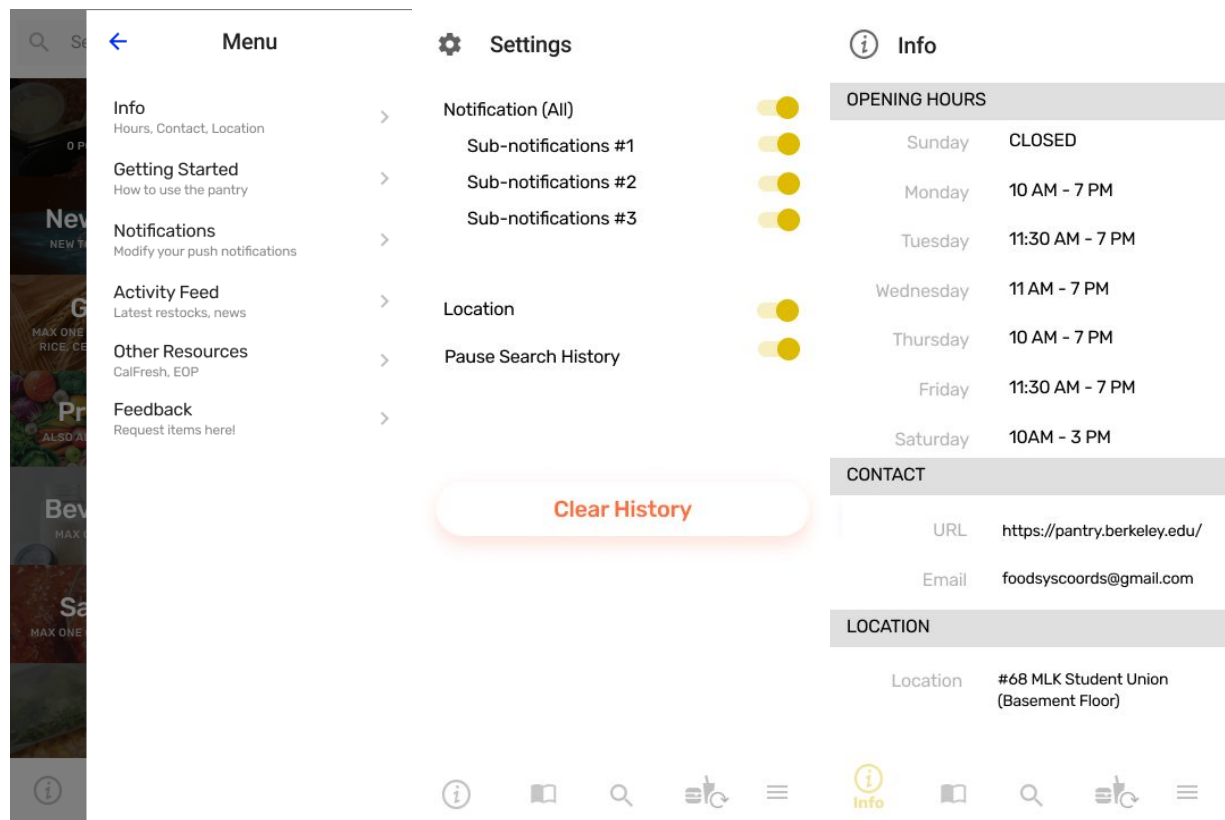
### Interaction 4: Push notifications

Not pictured because it is not physically in the app, but still a crucial interaction for the app, are the push notifications that pantry workers will send to pantry users to indicate when a restock has occurred or a delivery has been made.

### Other Details & Screens:

We decided to have a lower menu bar with the following main options in order from left to right,

1. Info on the pantry
2. Category screen
3. Search screen
4. Food Recovery Screen
5. Open the sidebar menu to select from more options



## User Feedback

### Process

For each user test, we met with the user on campus and had them **think aloud** as they walked through a mobile prototype of our application. Before testing with users who had not interviewed previously, we briefly prefaced that the app was in collaboration with the UC Berkeley Food Pantry. See **appendix** for **critical incident log**.

### User Test 1

Stakeholder: UCB Food Pantry Coordinator

Previously Interviewed: Yes

#### Summary

Overall the pantry coordinator seemed excited by the potential of the application. Her main concern was about the accuracy of the information that we present to the users. The information we are presenting is crucial and very helpful to the users, but maintaining the

accuracy would be very difficult in her opinion. It needs to be easy for volunteers. Additionally, she informed us that the feedback feature would provide them valuable information, but suggested not using a star system. On another note, she mentioned a few points where we could change our wording, like for the “donations” parts of the app.

## User Test 2

Stakeholder: UCB Food Pantry Volunteer

Previously Interviewed: No

### Summary

The volunteer found the application extremely user friendly, colorful, and fun. The emojis, give off a fun vibe. Additionally, they found the whole navigation seamless and that it made sense to them going from screen to screen. The volunteer also really liked our icons for the menu bar. The food recovery system is a great concept and, in their opinion, would be a great addition to the efforts of the pantry. They voiced a concern about how they notify people about what's in stock, so we mentioned the ability to send push notifications, which seemed to be really significant for them. While they liked the inventory screen, they became concerned with the level of extra training that would be required of them to operate the pantry. They did not think it would be possible to be that accurate on their end. Finally, when it came to the reviews, they suggested we don't do a star system because they are a volunteer service and are trying their best, and bad reviews happen and could potentially hurt their cause.

## User Test 3

Stakeholder: Pantry User

Previously Interviewed: No

### Summary

Similar to the pantry worker, the pantry user found the interface very friendly and welcoming. The layout and grid system was clear and allowed for them to quickly get started using the application to find what they were looking for. They had some good input regarding the different states of the search screen. Furthermore, they actually thought the inventory screen was a checkout screen. They wanted to add their food to a cart and checkout. They liked the layout of the recovery screen, but thought it could benefit from an in-chat function to communicate with the pantry worker who is coming to recover the food. Lastly, they wanted some more info from the info interface, like when certain items get restocked in general so they can plan accordingly.

## User Test 4

Stakeholder: Pantry User

Previously Interviewed: Yes

### Summary

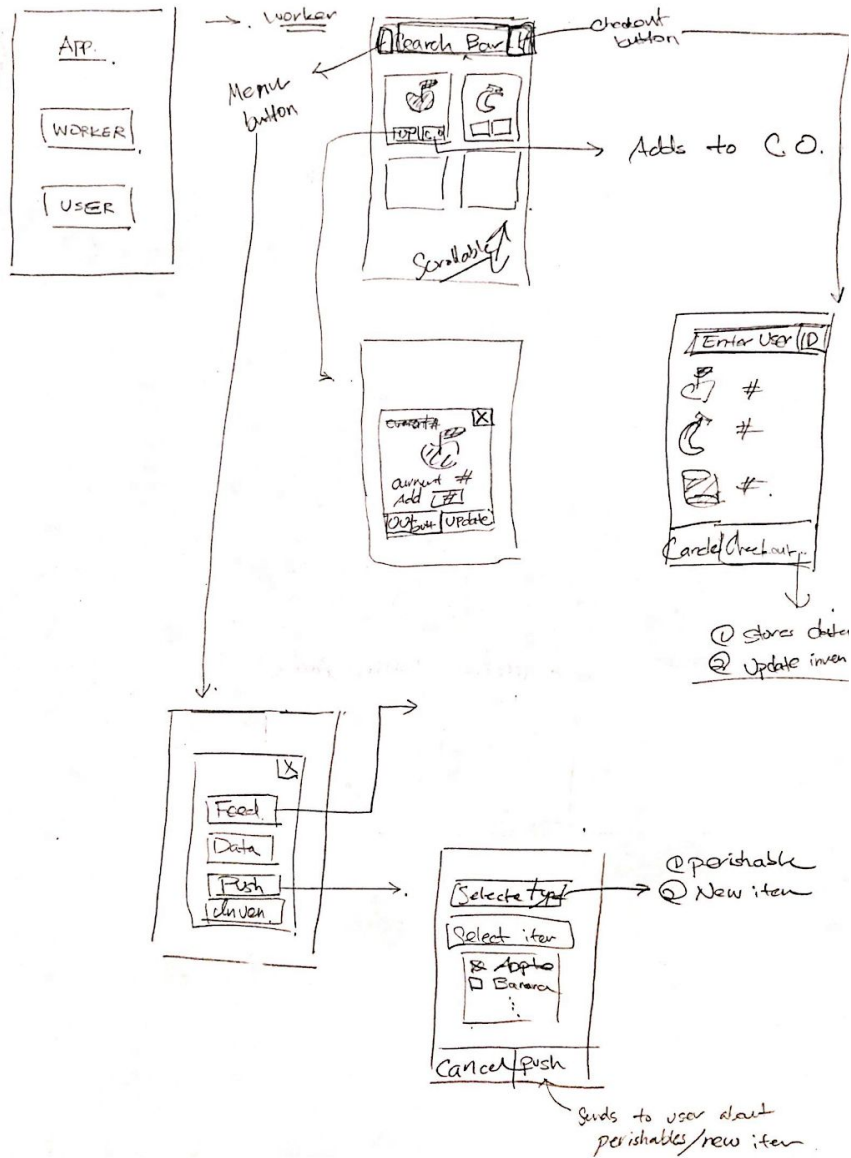
The user seemed very happy with the current prototype and was able to navigate it without any issues. They found the interface intuitive, but had some questions about the filters. The main thing that they seem to seek from the application was personal touches and customizability. Like rearranging the grid so the more important categories to them are at the top. Additionally, they thought displaying the points was good, but would like to have the rules as a refresher. And would like to know how many points they were using – which is kind of similar to the checkout feature the previous user wanted, except this user did not explicitly talk about checking out, they just wanted to know the points they were using in the moment or if they could plan out what points they wanted to use. Their interaction and lack of certain interactions leaves some good feedback for us: they did not attempt to press the button to notify workers about the stock and the heart seemed to be an afterthought. They also did not know what to expect from the recovery button until they saw the screen. Finally, they were not a fan of the sidebar button location.

# Appendix

## Paper Sketches

Figure W1

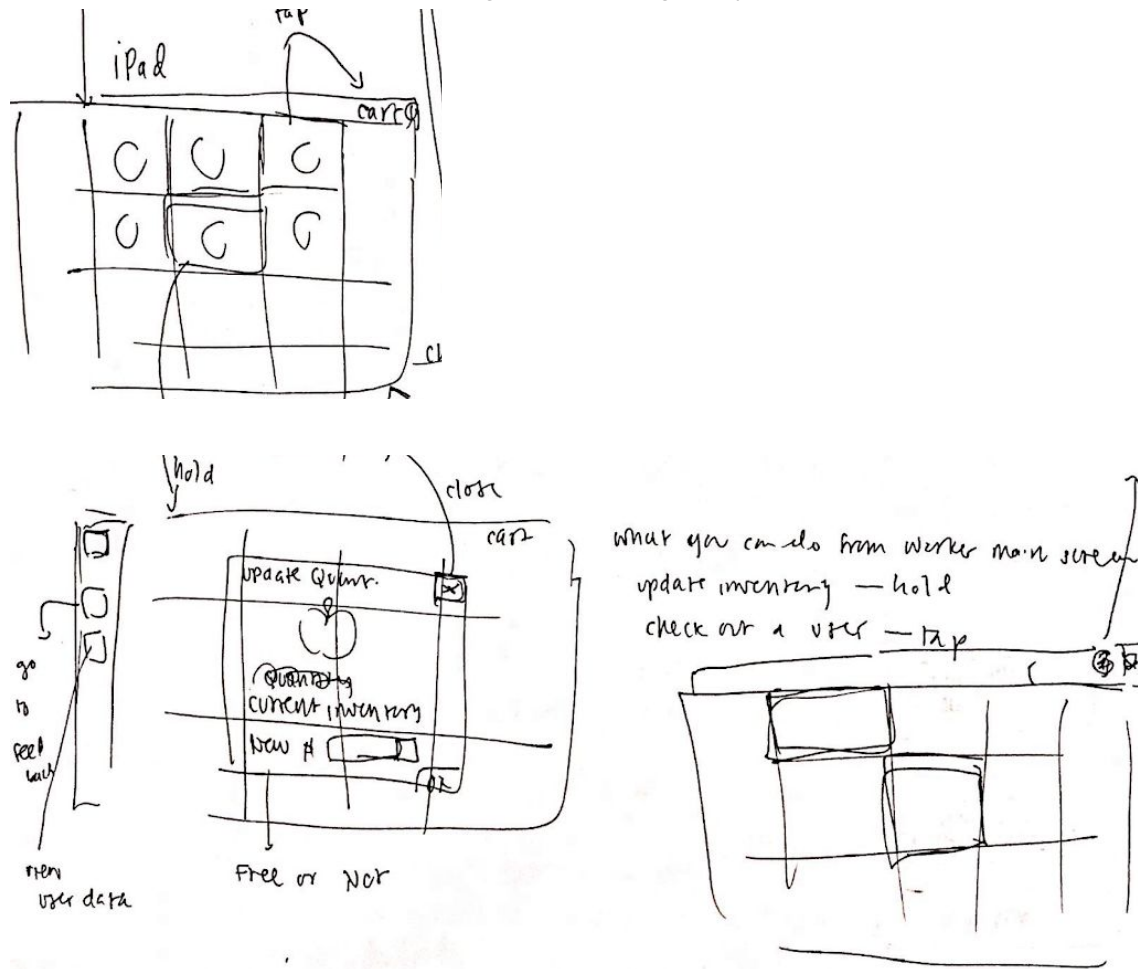
Example of a possible worker interaction





**Figure W2**

One of our first iterations demonstrating the possible grid layout and how a worker would update items



## User Testing

### User Test 1 Feedback & Critical Incident Log

Feedback/Incident	Further Insight/Analysis
Was not a fan of using "free" → suggested using "0 points"	
The info on the inventory screen is "great" but requires a lot of accuracy	Her suggestion was the the opening and closing shift could update stock counts, but may be too difficult during the day
Liked the "last restock" and "restocking"	

next". It's valuable to know this.	
Maybe there could be a separate page for restock information?	
Thought the "food perished/not in stock" is good idea, but exclude for now until more info available. "Not everyone has the same view on what is perished." There is no added benefit for this button.	No comment on the design of the button though, so that could be good in terms of style
Main concern was with efficiency during checkout and how this inventory system could help	We could introduce a barcode scanner? To expedite stock counts and checkout
At feedback screen → "This is nice! We really value the feedback from people who use the pantry." However, was not a fan of the stars, suggested using smiley faces	
Go to the sidebar → "What would be in the resources?"	Still need to develop this feature
Really liked the overall experience, felt it was friendly for pantry users, but was generally concerned about the accuracy of the information and how to manage it	

### User Test 2 Feedback & Critical Incident Log

Feedback/Incident	Further Insight/Analysis
On category screen, loves the use of the emojis	
"The interface is very user friendly. It has very friendly vibe"	Should the vibe be more friendly or serious? What is the conversation and theme we are demonstrating
The navigation is very intuitive	Use of grid and pics are helpful
Once reaching the search/inventory screen: "okay, cool!"	
Found the inventory information super helpful - had no trouble handling the information	
Really liked the level detail, but was	Volunteers have to maintain the stock info,

concerned with maintenance	but to what degree is possible?
Higher accuracy and detail means it would require more training for volunteers	Volunteers may not be too satisfied by more training
“Ooo” when looking at the filters. Filters are helpful for people to find things	
“Nice menu bar”	
Really liked the food recovery concept and interface	Likes the idea, mentioned that they are working with Berkeley to do something similar
Found the “ping” idea to be very cool to update volunteers	Live communication is key
Was confused by the notification settings	Required explanation from us, may need to be more specific
Mentioned how just using facebook to reach out is not ideal, so this push notification would be very helpful	
After reaching the feedback interface: “Oh sweet, feedback system.” Liked the use of stars	
But then rethought the stars... because could lead to bad reviews	They want to do better, but they don’t want harsh criticism that would result in other people not using the pantry
This is free, and we are trying our best	In reference to the review system
Looking at the lower menu icons → “That’s so lit!”	

### User Test 3 Feedback & Critical Incident Log

Feedback/Incident	Further Insight/Analysis
Really liked the the separation on the category screen → “It’s really clear”	
“The colors are friendly”	
What does the search look like when nothing is entered?	

Can it list all the items? Or do you need to select a category?	
On the search/inventory screen: “Okay, I want chicken, what do I do now? What does the heart do? Do I click the heart?”	User thought it was for checking out items, not just viewing what is in stock
Thought the notification button was cool, but seems like a lot of power for the user. Should the worker know this info? What happens right the button is pressed?	
Got to recover screen → “This is great!”	
It would be really nice if there were in-app chat for the recovery	
When hitting the hamburger menu, thought it would go back to the “splash screen”	Maybe they misinterpreted the splash screen? Maybe they thought it would go back to the category screen instead of open up a side menu
Tried clicking the “other resources” button but it’s not functional. “This is super important”	We may need to revisit the importance of this functionality. What do the users want from it?
Like the ability to give feedback but did not think the star system was appropriate for a food pantry	
Go to the info screen → “Awesome! But what about when they get restocked?”	Finds the info very helpful, but would like more info. Like when they get restocked.
Did not like that they had to navigate to the sidebar to learn about how to use the pantry	

#### User Test 4 Feedback & Critical Incident Log

Feedback/Incident	Further Insight/Analysis
Asked “What does 0 points mean?” when looking at the category screen	User was not sure whether it was how many points they had or used, or if it was the cost of the items
Looking at category screen, the user commented how <b>clean and clear</b> the categories were. Liked the colors and images.	

While on category screen asked “Where can I find the rules on how to use points?”	Could potentially add how to use the pantry on the category screen
On category screen, <b>did not understand the top category</b> and also <b>felt it was weird that it was larger than the rest of the grid</b>	
Looking at points of each item on search/inventory screen, <b>thought it was cool and liked all the info</b> , but <b>felt like it might be difficult to keep track of all the points</b> he would be using	Possibly allow the user to select items that they plan on checking out so they know how many points they are using
The user <b>never attempted to touch the buttons – and did not comment on them –</b> on the inventory screen	Was there no urge to press them? Was there no call to action?
He did eventually comment on the heart → “Oh that’s cool, so I can favorite an item and it will show up on the home screen”	Understood the “favorite” functionality and recognized the category screen as the home screen
Tapped the filter button on the search/inventory screen → “So what does this do?”	
Back on the category screen, mentioned that “produce, protein, and frozen goods are most important to me, so I feel like I would want those categories near the top”	
<b>Hovered finger over the food recovery icon in menu bar and asked “what is this?”</b> When got to the food recovery screen, hesitated for a moment to try and understand it. Then said, “ohhhh, cool” when he realized the functionality	The icon for food recover is confusing
When clicked sidebar button of the menu and the sidebar popped out, was surprised: “I didn’t expect that.” He mentioned that he felt it was more natural to have the sidebar button in the top left.	Sidebar button position was not natural for the user
Clicked on the info button: “Sweet. This is great”	User often doesn’t know when the pantry is open, so this is helpful
Would be cool to be able to plan ahead and know when the pantry is restocking on the	The pantry has little emojis on the facebook page calendar to show when they get

info screen	restocked for certain items. Possible include this on the info page?
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