

FINAL REPORT

1. Team information

Team number 16

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Team Name: FoodFinds

2. Target user population

The target user population is college students who are either in the possession of extra food, looking to get food or want to exchange food and are conscious about food waste. The population would be limited to students currently staying on or near campus, as they would be able to make food exchanges with each other. These target users are different from us in that we're not currently all living on or near campus, so we wouldn't be able to participate in food exchanges through the platform.

3. Project concept

FoodFinds is an app meant to be used by college students looking to give away their unused meal swipes for the week, get information about leftovers from club events, or find free food on campus either by picking it up directly from other people or from pantries.

FoodFinds seeks to address issues of food waste in a feel-good way, eliminating discomfort users may feel from revealing to their peers that they need an extra meal swipe or would be willing to take food items their peers had given away. FoodFinds is trying to reduce food waste by making its users aware of how much food they are potentially throwing away and making them feel good about having exchanged that food instead of throwing it away.

4. Ambition

We aim to provide a common solution for all Columbia students regardless of background and goals to share and get food that would otherwise be wasted on campus. We are aiming to cover all possible sources of food waste: club events food, unused meal swipes, personal items in a way that is convenient, friendly, social and inclusive. Moreover, encouraging safe exchanges with respect to allergies and other concerns, maintaining pantries and incentivizing our users to participate in the exchanges are challenges that our team is committed to overcoming for the greater aim of reducing food waste at Columbia.

5. Comparative analysis

In addition to Share Meals and Facebook groups / marketplace (please see Progress Report 1 for more details), two new competitors that came up were Olio (<https://olioex.com/>) and FreeBites (<https://free-bites.com/>).

5.1. Olio

Olio is a platform where people can share free stuff with others (both food and non-food items) by posting about it on the app and coordinating with interested users to schedule a pickup time / meetup details for the 1:1 item exchange. Olio also has a marketplace where people can post items for money.

Why is it that makes this solution not work to address the needs of college students when it comes to finding out about free food opportunities on campus:

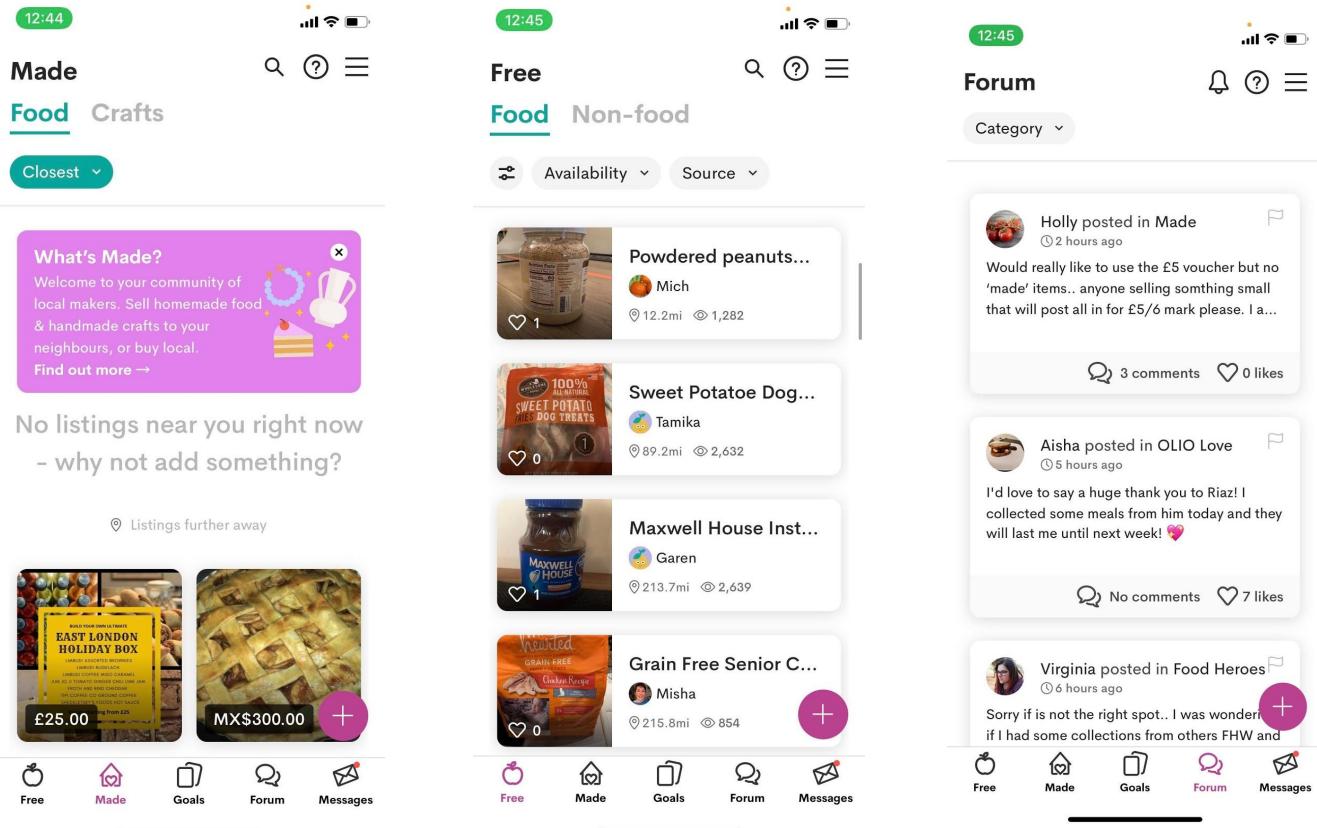
Olio is not targeted towards college students, but is rather for anyone in nearby communities, so think Nextdoor (neighborhood community app) but for free food and non-food items. It does not take into account the specific use cases for college students and campus-specific opportunities for free food (meal swipes and food left over from club events). Additionally, Olio doesn't have options for dropping food off at designated locations, and a user has to physically meet up with another user in order to exchange food, or at least coordinate with them 1:1 through dm about leaving food for pickup, which people may feel discomfort with.

What this solution does well:

It works well because they facilitate 1:1 exchanges of food quite well in their app, and have discussion forums where people can further share tips / ask questions / communicate with the larger community. In addition, they have a Food Waste Heroes program where volunteers can sign up to collect leftover food from the businesses that Olio partners with and be in charge of posting info on all the foods and distributing them, with the incentive of getting up to 10% of the collected food themselves. This program really makes a difference in incentivizing Olio's users to be active in the community when it comes to sharing food.

What our solution will need to include for users to choose our solution over this solution: Our app is tailored to the specific needs of college students and offers several avenues of different free food opportunities on campus-- in addition to 1:1 food item exchanges, we also feature shared meal swipes, food that's been dropped off in designated pantry locations around campus, and other postings about free food from club events.

Screenshots:



5.2: FreeBites

FreeBites is a platform for users to share excess food on campus by taking a photo, captioning the post, and posting it to the Instagram-like feed. Students will get a notification about the free food posting.

Why is it that makes this solution not work to address the needs of college students when it comes to finding out about free food opportunities on campus:

FreeBites is only tailored to a specific college campus and doesn't explore the other avenues for free food opportunities specific to college students (meal swipes, etc.).

What this solution does well:

FreeBites also utilizes an Instagram-feed format for food item postings, which is intuitive (both because of the ui and because people are used to using apps like Instagram).

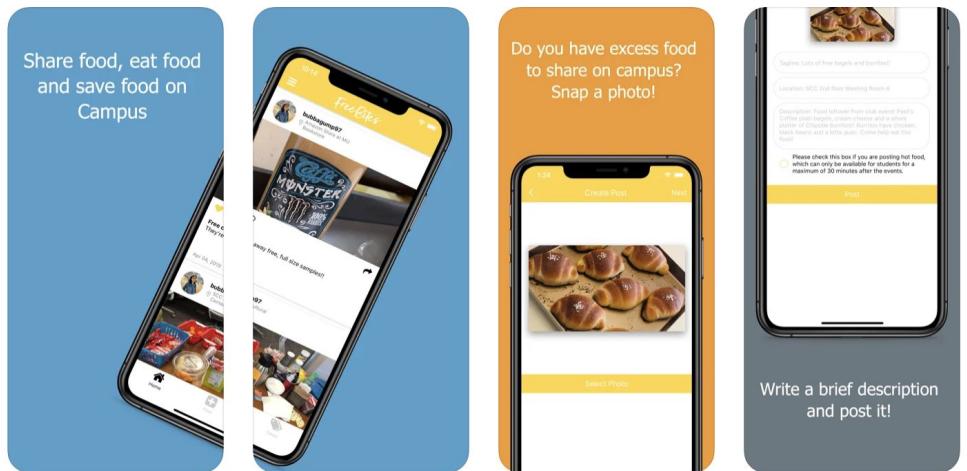
What our solution will need to include for users to choose our solution over this solution:

FoodFinds includes other functionalities (support for other avenues of free food opportunities that are not covered by FreeBites, in particular with the ability for users to locate designated

pantry locations around campus to drop off food in and to get free food items from, along with the ability to share meal swipes).

Screenshot:

(we were unable to physically access the app as the user was required to sign in with a ucd school email)



6. Explanation of design solution

Our design solution is a feed designed for four different use cases: meal swipes exchanges, individual items exchanges (either 1:1 exchange or using pantries) and events leftovers posts. For each use case, we designed both a list view of the available items/posts and a map view.

In the meal swipes exchanges sections, users can see the number of people willing to give meal swipes clustered on dining locations. Users request/ give a swipe and they are asked how much time they are willing to wait to meet with someone for a meal swipe. They are then matched with a person based on their location/ available time and are prompted to chat directly with that person.

In the 1:1 meetup and club-event feeds, users post images of food items they are sharing and can contact directly the people who posted those items. Once the exchange was completed, the people would receive +1 exchange completed shown in the profile page.

In the pantries section, users add one item to a pantry and they post a picture of the pantry to the pantry inventory screen. Users claim an item and pick it up. Users are also able to update the inventory of a pantry should they find expired items or report a missing item. These pantries are on specific shelves of cupboards in a specific floor in each student dorm, which were chosen as the best locations for students who are looking to get free food to grab food conveniently and privately.

Our design solution addresses non-covid 19 times. We chose to go this route as covid 19 times does not require significant design alterations from non-covid 19 times. However, designing for

non-covid times provides us more flexibility and allows more interesting solutions. During covid, we suggest users to prove that they have a Green Card obtained through Columbia ReopenCU app. This ensures a safe environment for exchanging food even in the covid 19 times.

The first thing that users will see when they open the app is the main feed in the Discover tab. Currently, the model is centered around the belief, with backing from user research interviews, that users will prioritize seeing live updates on food being shared vs. getting notifications about items placed into pantries.

The following is our organization of screens/features:

- *Explore page screen* with an interactive map and list view of food item posts
- *Activity feed screen* where users can see which food items have been claimed by other users on the app publicly
- *Create new food item posting screen*, where the user can post about a food item they want to share and include a photo, a description
- *A chat screen* where users can dm other users on the platform to coordinate a food meetup / learn more about the food item up for grabs
- *A user profile screen* where the user inputs their information and can see their impact as a result of using FoodFinds

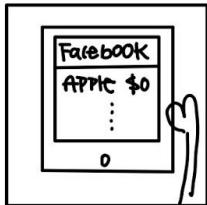
7. Storyboards



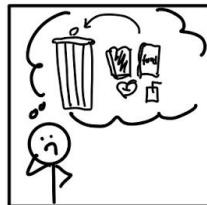
Students on campus often have extra food they can't finish



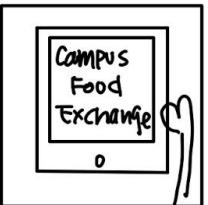
When they try to give the extra food to their friends, they may not find a person in need of the food.



When they post food on Facebook, it takes too long for others to respond and food can go bad.



However, it's a waste to throw perfectly good food away!



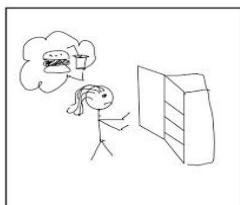
Instead of throwing the food away, they can find other students who need similar products!



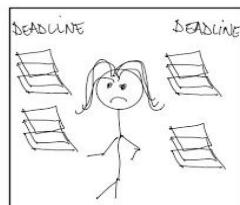
They can schedule times to drop off the food for others.



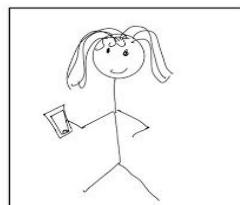
As a result, the food is not wasted and both the giver and the receiver are happy.



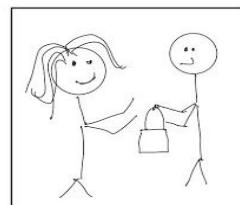
Hungry and broke student on campus



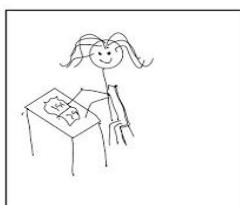
With schoolwork piling up, there is no time to take a job to get extra \$\$\$



With our food exchange app, college students in need of food can get it from other students



Students who have too much food are happy to give it to people in need and students who need it are happy to have food security and be able to focus on their studies



Students can happily go back to their studies and not worry about food security!

8. Current prototype

Interactive figma prototype:

<https://www.figma.com/proto/8JCJtpVgMyXwazvPNQrqum/Fig?node-id=6%3A6&scaling=scale-down>

(See prototyping phase for screenshots in section 11)

Github repo: <https://github.com/maradimo/FoodFinds>

Gif recordings of prototype:

Login/Onboarding: <http://g.recordit.co/tr9txU4Cb4.gif>

Food 1:1 meetup exchange: <http://g.recordit.co/f2afFEmbSf.gif>

Free food from club events: <http://g.recordit.co/aBtHDIAJpU.gif>

Meal Swipe Sharing and getting matched with your meal swipe buddy:

<http://g.recordit.co/XXs6oA9DMA.gif>

Updating inventory status of pantries: <http://g.recordit.co/E8GUILKtt8b.gif>

Creating different types of posts: <http://g.recordit.co/lxsttDPL3s.gif>

9. Risks to mitigate mitigated

- Risk #1: People feeling uncomfortable with sharing their identity when getting food because of food insecurity stigma
 - *Finding:* After conducting user interviews, we have identified that potential users would be more comfortable being anonymous if receiving food. The reverse is not necessarily true, people who would give away food were not concerned about sharing their identity.
 - *Action:* As a result, we decided to shift the direction of our design from overcoming food insecurity to reducing food waste. We decided to not give up on the social aspect of our app since it was one of the most motivating factors for most of our potential users. We decided to not differentiate users by allowing them to have anonymous accounts in order to not inflate the stigma around food insecurity. We wanted our app to feel as an equivalent experience for all of our users, not to differentiate them and deepen food insecurity stigma.
- Risk #2: How to incentivize people to actually share food
 - *Finding:* Based on our user interviews, we observed that people were more likely to be more motivated to give food if they saw the impact of their actions. A lot of people mentioned that seeing how much food is not wasted away and how much they help people in need would make them more likely to use the app. People would also feel motivated if they can visualize the need for food around them. A few people said that they would be motivated to give away food if there were some tangible benefits.
 - *Action:* We implemented a system in which users can see what impact they have after each transaction they make (how many meal swipes they have not wasted, how much food was saved, etc)

- Risk #3: The possibility that users who indicated they would pick up a food end up never showing, resulting in a waste of food.
 - *Finding:* Based on our user interviews, people were very willing to contribute to maintaining pantries clean or updating items in pantries if they see the impact of their actions. Generally we observed that people are very motivated to act when they can see the impact they have.
 - *Action:* We implemented a workflow to allow users to update pantry items if they see missing items or expired items. They get points for helping to maintain the cleanliness of the pantry and they can see their impact on their profiles.

10. Project tasks

Completed Tasks:

- Brainstorming: Coming up with the problem space (3 hr):
 - All members are involved
- Forming User Research Interview Questions (90min):
 - Sandy, Caitlyn and Divya
- Needfinding: Interviews (4 hr in total)
 - Each member (Caitlyn, Mara, Divya, Sandy) conducted an Interview
- Interview analysis (1hr):
 - consolidating on our problem space and solution idea (all members)
- Progress Report 1 write up (12hr):
 - all members contributed and worked through it together during a long zoom meeting and individually asynchronously
- Second iteration of prototype (Dec 2nd)
 - find ways to mitigate risks -- Mara (90min)
 - evaluate current design and user testing -- Sandy, Mara, Caitlyn (3hr in total)
 - Go to IA office hours to get more feedback -- Sandy, Caitlyn, Mara (1hr)
 - needfinding/ interviews -- Divya (1hr)
 - new prototype, interactive Figma prototype -- Mara, Caitlyn (6hr)
- Finish Progress Report 2 (Dec 2nd)
 - Divide up to write each section -all members (4hr)
- Final presentation (Dec 18th)
 - Writeup presentation script, any powerpoint slides -- all members (4hr)
 - Record demo walkthrough-- Caitlyn (2hr)
- Project Video (Dec 20th) --all members (2hr)
- Third iteration of prototype (Dec 20th)
 - new prototype, interactive Figma prototype -- Mara, Caitlyn (100hr)
- Implementation of prototype (Dec 20th)
 - Code frontend shell of prototype in HTML/CSS --Sandy and Divya (80hr)
- Final project report (Dec 21th) -- all members (15hr)

11. Design Process and Progress Report 1 Feedback Follow Up and Progress Report 2

Feedback Follow Up

Design Process Loop 1:

Design Phase:

Initially, we wanted to start with the general problem of food insecurity and food waste on college campuses. We wanted to address these problems because we realize there is a lot of food wasted from dining halls, club events, and individuals. In addition, food insecurity is a very serious problem and there are students with access to limited food variety or options when living on campus. Such a problem could be even more heightened due to covid. From talking to users, we realize that students usually throw away food they can't finish or don't want anymore, but most of them feel bad about it and want to change this behavior. However, it is often challenging to reduce food waste from the purchasing end due naturally large serving size and lack of planning beforehand. Users in general think exchanging (either sharing or receiving) food is a good idea but should be careful about the type of food exchanged to take into account allergies and dietary restrictions.

Prototype Phase (See detailed screenshots at the bottom of section 11):

Based on user's insights, we have decided to build a food exchange system for columbia students.

First, we made a paper prototype since it is cheap and allows fast iterations. The main functions include a list-view and a map-view of food availability on campus. The list-view is an instagram-feed like interface where users can look at the newest posts for food around them. The map-view categories the available food by location, so students can locate food sources around them. For each availability in both views, there is a picture, a brief description, and contact person. If anyone is interested, they can arrange a one-one-one meetup with the person of contact from a post and exchange food in this manner. In addition, users can filter for the kind of food they want, for example, packaged food, raw ingredients, cooked food, etc. Some secondary implementations include an activity feed, profile and chats. The activity feed is intended to create a social aspect for our App as each user's activity is logged and can be viewed by his/her friends (Venmo activity feed inspired). The profile stores the user's personal information and a summary of their recent activity.

A Balsamiq prototype is also made in conjunction with the paper prototype to hash out more design variations for the functionalities mentioned above. In addition to the main functionalities, it also includes an on-boarding experience before log in.

Evaluation Phase:

We got advice from both IA (Sharon) and our users.

Feedback from Sharon for Progress Report 1 follow-up:

We learned that we need to make more obvious distinctions between our current design versus existing design solutions, like FB marketplace, by incorporating more unique features

when addressing pain points. An important aspect we need to consider is dealing with no shows and incorporating appropriate safety measures to establish trust from our users.

Another risk is potentially dealing with the stigma of food insecurity, especially people might not want to get food from someone they already know on campus. Building on the food insecurity aspect, the activity feed not might be beneficial because food insecurity is not something people want to share, it should be more personal that better fits the needs of the users.

In terms of covid times, there can be larger individual differences that are beyond our capacity to deal with, so it is ok to design for a post-covid time and might lead to more interesting solutions.

One possible idea is to create a common market place for food sharing, such as a community fridge, where people can take or put in food. One other thing we started thinking about is if all items should be free or there are monetary exchanges on our platform.

(A more detailed explanation of how to use Sharon's advice to iterate on our design is shown in design phase of Design loop 2)

Feedback from Users:

From interviews with users, we learned that the design for list and map can lead to potential confusions. For example, how is the list view mapped to the map view and what are the special features for each view. While users think the filter tags can help them find food they need more quickly, they want to have even clearer category distinctions to help them navigate through all the options in the posts.

Design Loop 2:

Design Phase:

Based on the evaluation phase in the first design loop, we focused on addressing the following problems with our current design. We have decided to focus on a non-covid era design because it allows more interesting solutions and subparts of the design can also be used during covid. First, we want to distinguish ourselves from the traditional FB marketplace, we want to mitigate risks that come with food insecurity stigma, and we want to make the categorization and organization more distinctive in our design.

Therefore, we narrowed down our focus from addressing both food insecurity and food waste to only addressing food waste. Our problem space then becomes how might we help on-campus students to exchange extra food resources and in term reduce food waste on campus? The primary objective is facilitating the food sharing process. The secondary objective is to help shape awareness around reducing food waste on campus and motivate our users to keep achieving that goal through using our App. From interviews with three users in total, we have learned that their needs align with our expected adjustments. All users showed interest in learning more about the environmental impact of food waste and want to understand how their usage of the App can help reduce food waste. Users also said this component would motivate them to use our design. After removing the layer of food insecurity as part of our goal, users

also became more acceptive to receiving food from others. An additional insight we got from users are their interest in a more varied form of food resources and more flexible pickup options.

Prototype Phase (See detailed screenshots at the bottom of section 11):

Based on user insights, we made the figma prototype with the following changes. First, we made a clearer distinction between each category of food with colored tags. Each color is associated with one category of food. For example, the category for packaged pickup food is marked with pink tags. The color fidelity is preserved in the map-view as well where we also colored the information and pins on the map accordingly.

Second, we expanded the range of food resources from just individual food resources to also including meal swipes, club events leftovers. Students can post when they want to share a meal swipe, and clubs can post when they have extra food. These posts are integrated together with the previous individual food shares.

In addition, to provide more flexible exchange options, we added a pantry section, where students who don't prefer 1:1 meetups can leave and get food at a common fridge of a common shelf around campus. Although there are more categories added, we tried to use the color tags to facilitate the easiness navigating through our App. The addition of this feature also helps mitigate the risk of stigma for food insecurity. Although addressing food insecurity is no longer the focus of our design, we still want to make sure students can exchange food comfortably if they don't like the 1:1 meetup option.

Finally, we also modified our activity feed design. To protect people's preferences in sharing their activity logs associated with their names, there is now one public activity feed that logs all activities happening on the App through all users. All activities are shared anonymously so that it protects the user identities. The activity is framed from an "environmental" perspective instead of a food insecurity perspective. Therefore, the log serves as a sharing space to keep track of the environmental impact made from all users collectively.

When taking all these changes into account together, we hope to distinguish from the FB Marketplace by facilitating a more college campus targeted exchange platform with more varied options and resources that can be accessed comfortably in real time.

Evaluation Phase:

We attended office hours for feedback on our current Figma prototype and got feedback from both Prof. Smith and Sharon. We also talked to users and asked for feedback on our prototype.

Feedback from Users:

Different users had different priority in sharing or receiving food. While some prioritize location (ex: vicinity, convenience), others would choose food quality over location. Therefore, it is important to keep in mind the difference in use cases when designing. While users like the idea of a pantry, they wanted more clarity on the kind of food they should expect there. It is currently unclear how to find a list of food items for each pantry. Some users also reported being a little overwhelmed by the number of possible filters and the colors are hard to keep track. However, all liked the expansion of variety to include meal swipes and the added pantry option for more flexibility.

Feedback from Sharon for Progress Report 2 follow-up:

Sharon suggested that we need to think about what to prioritize: is it providing food to students on campus or efficiently and effectively? Or is it maintaining the social media structure of live postings? Maybe there can be notifications for selected features. Currently, the design is focused on the spontaneous aspect. Maybe there can be another feature set that provides resource lists (ex: for a particular pantry).

For Meal Swipes, we need to think about how to facilitate meal swipe requests and meal swipe share matches. Should the process become more anonymous?

Sharon agreed with our users that there are too many filters. Therefore, we need to redesign representation of the possible options. This is the case for both map view and list view. We also need to think of a way to filter for the map view that makes the representation of pins easy to interpret.

Our Takeaways from Sharon's feedback:

We learned that we need to prioritize the experience of sharing food for users. This can mean redesigning and recategorizing options in the current design. In addition to focusing on the spontaneous aspect, should also focus on other aspects to help users reach their goal (ex: look at options in a pantry). This would require further user interviews to find out whether users prefer live postings or consolidated lists for pantries and meal swipes. We also learned that we need to replace the colored filter with other designs that are more simplistic and meaningful.

Feedback from Prof. Smith:

Professor Smith said that the map view is currently showing a variation of the list instead a distinctive map view. Therefore, we thought about how to display different information in the two sections because users don't want to go to a map and see a list. The pins can be more descriptive. For example, when clicking on the pin, more details show up. Colored pins can potentially be a good idea. It is also important to keep the usefulness of the application in mind when designing. Therefore, we can think of ways to perform contextualized inquiry on this food exchange idea to test it out. Some Wizard of Oz prototypes would work here. From the contextual inquiry, we can then decide to focus on the features we need the most.

From Prof. Smith's suggestions, we decide to begin the next design loop with contextual inquiry and think about the usefulness of the general idea and the individual features. We also decided to make a bigger distinction between the list and map view.

Design Loop 3:

Design Phase:

Contextual Inquiry:

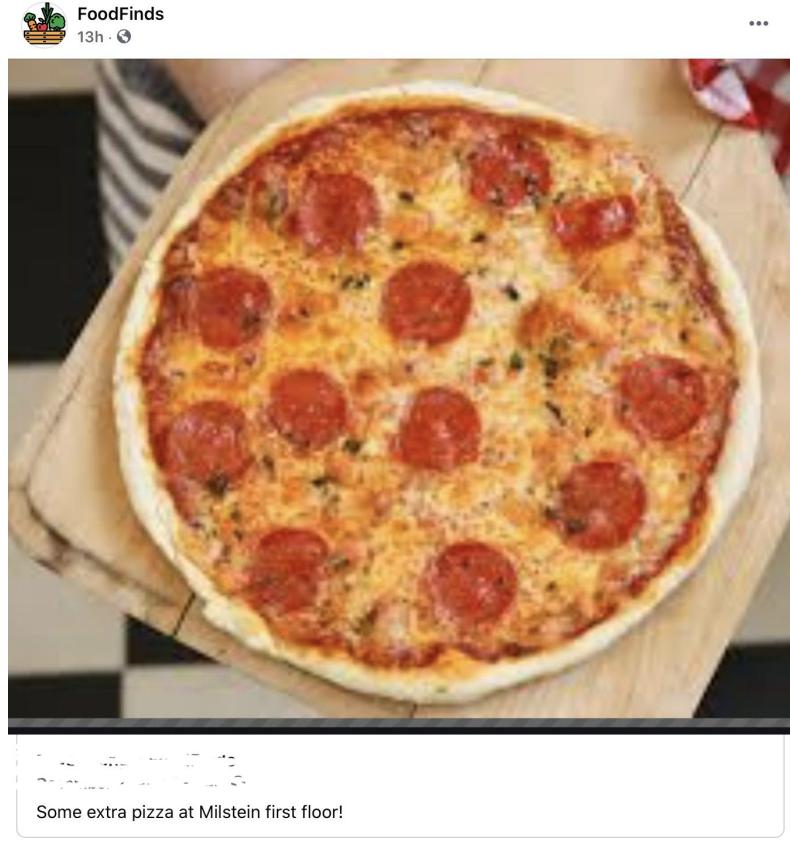
From Prof. Smith's suggestions and after realizing we needed to validate not only the usability but also the usefulness of our design, we created a Facebook Group and invited users to post on the site for extra food they have (we also allowed users off-campus to participate since most students are currently off campus). We were able to gauge a general interest for engaging in sharing and receiving food. We got interesting posts about sharing food and users reported they had fun creating a post and felt good after sharing. Most people posted about their individual food as opposed to meal swipes and club event food because they have very limited exposure to these resources right now. However, based on the positive feedback and responses for individual food shares, we hypothesized the enthusiasm and interest can generalize to include meal swipe club event foods when we move back to the on campus setting.

Here are some example posts from real users (User information erased for identity protection):





Looking for a healthy snack? This delicious Chobani (and I mean .. peachy bottom 🍑 delicious) is your best option: only 110 calories and you get 11g of protein. Message me if you want it delivered to your door!!



Taking other feedback from Sharon, Prof. Smith and users, we decided to make the following changes. First, change the design for meal swipe and pantry so the design differs from that of 1:1 meetups. This applies to both list and map view. For example, this includes possibly abandoning the live post feature for some of the features. Second, get rid of the colored tag design and reduce to no more 4 distinct categories. Third, distinguish map view from list view, so that the map view no longer looks like a “list”.

Prototype Phase (See detailed screenshots and descriptions at the bottom of section 11):
Here we made both the figma prototype and the CSS/html implementation.

Modification of the list + map view include the following:

1. We replaced the filters with four main categories: 1:1 Meetups, ClubEvents, Pantries and MealSwipes. The four categories are distinct because each has their own representation (in contrast with our previous design which had all information jammed in the same feed).
2. For each category, it has a different list and map design that is customized for the unique functionality of each category. For example, we abandoned the active feed design for MealSwipe and Pantry. For MealSwipe, we display the total number of available free swipes instead of individual postings of swipes. In this way, our platform automatically matches students for sharing and receiving, making the matching process very easy and stress free. For pantries, we are now showing a list of the full repository of food instead

of individual postings. In this way, users are able to get a very comprehensive view of the available foods.

3. Map view is more based on location than “list” right now. The map view informs the location of availability for each category instead of providing a list-focused carousel representation.
4. We completed the design by adding additional features, such as creating a post for a category, chat, marking an exchange as complete, profile page, etc. The prototype now captures the complete user experience and takes different use cases into account.
5. A feature worth noting is a review system for each user. This rating is used especially for 1:1 meetups to discourage people from not showing up or providing bad quality food.

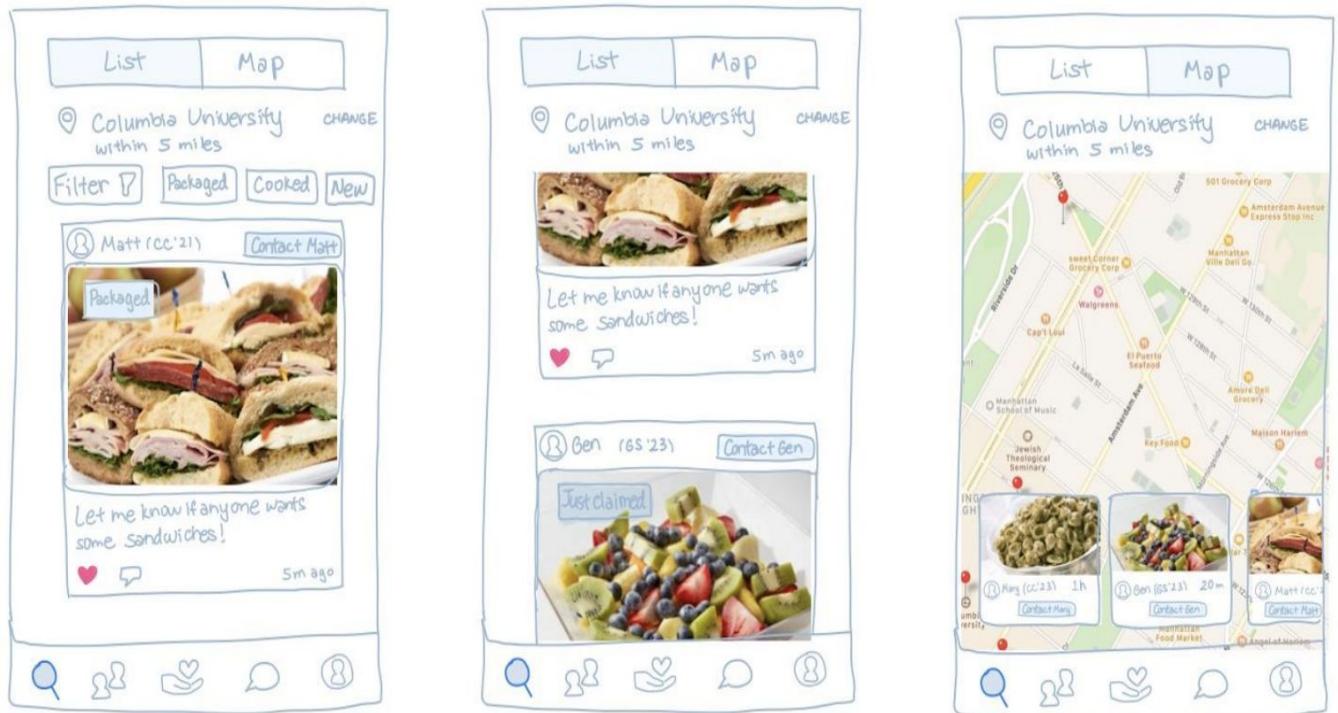
Evaluation Phase:

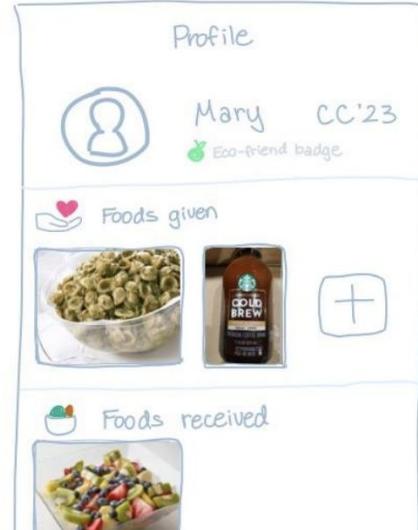
We have gathered opinions from classmates for quick feedback and refinement, but have yet reached out to users. However, we have gotten positive feedback about the current design in terms of clarity and simplicity. We have learned that the map view can potentially become a subpart of the list view.

Prototype Showcase: The Following are screenshots of for prototype from each design loop

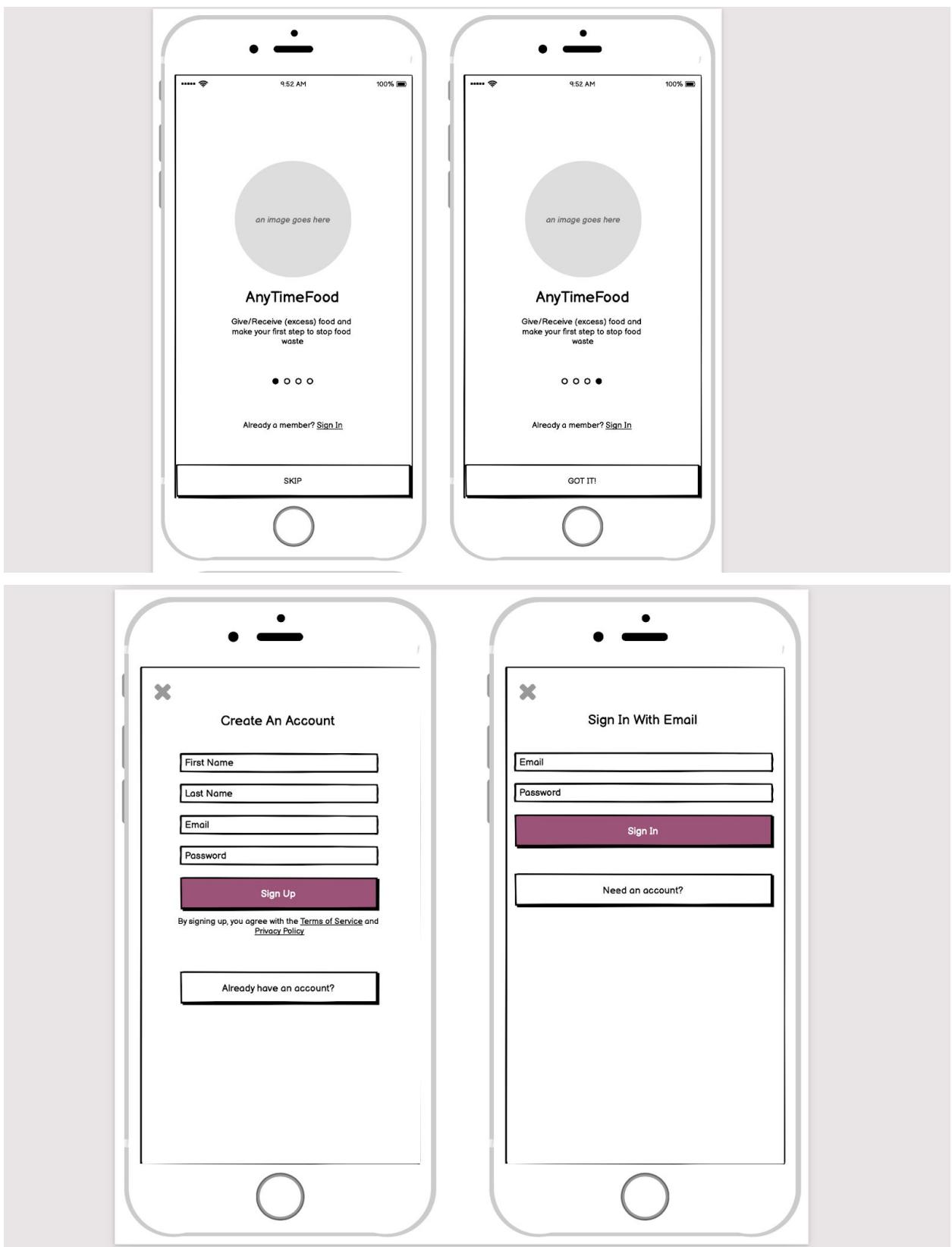
Prototype for Design Loop 1:

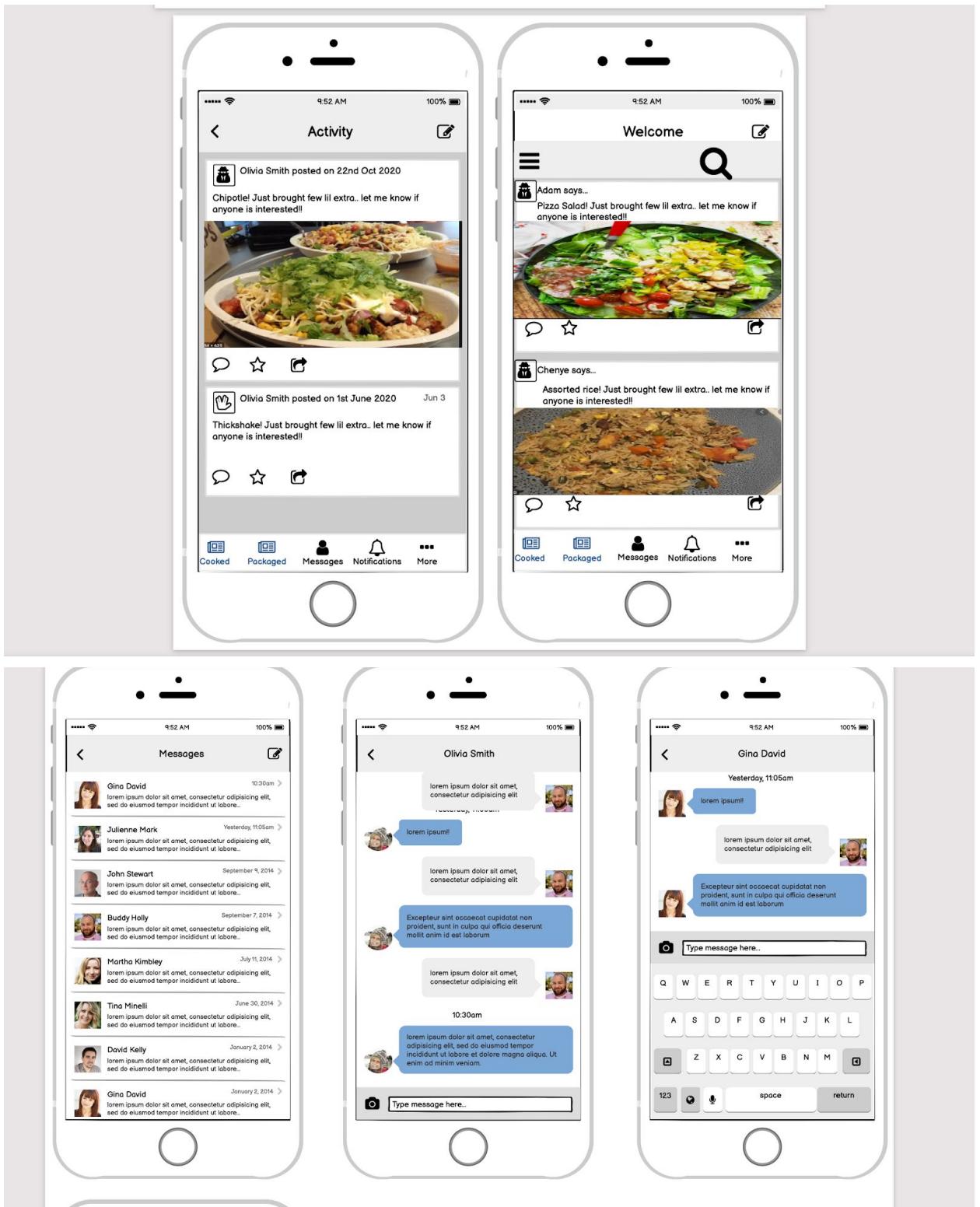
Paper Prototype :

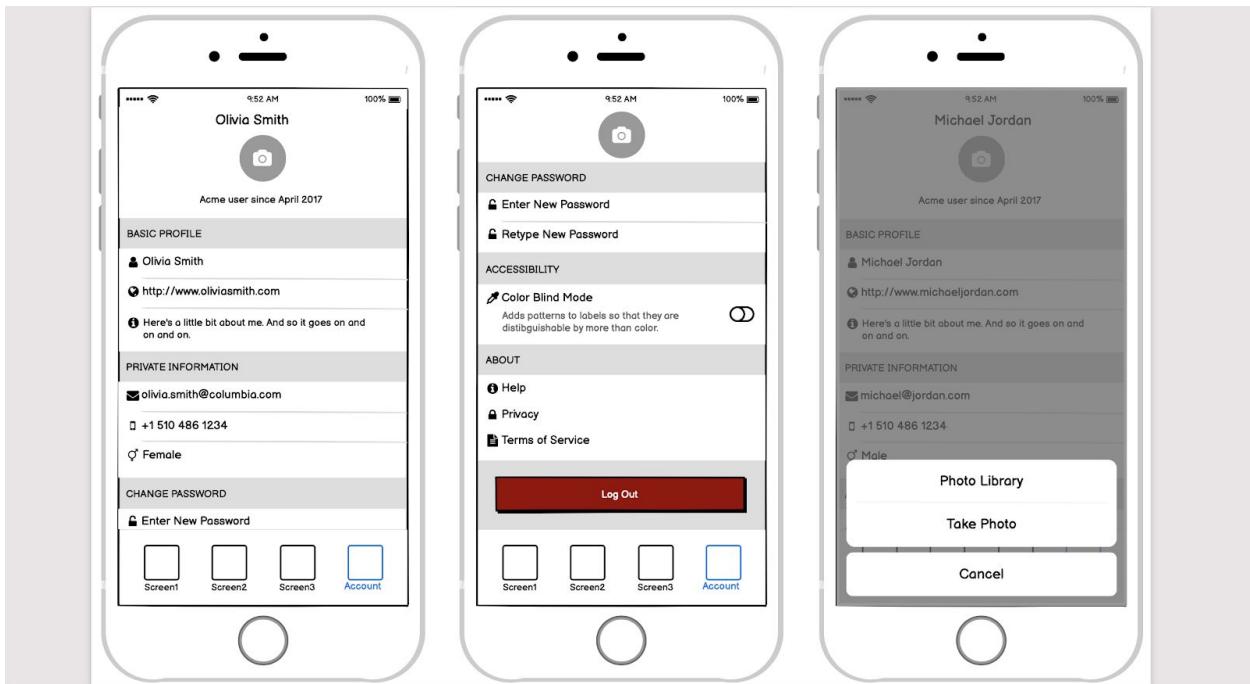




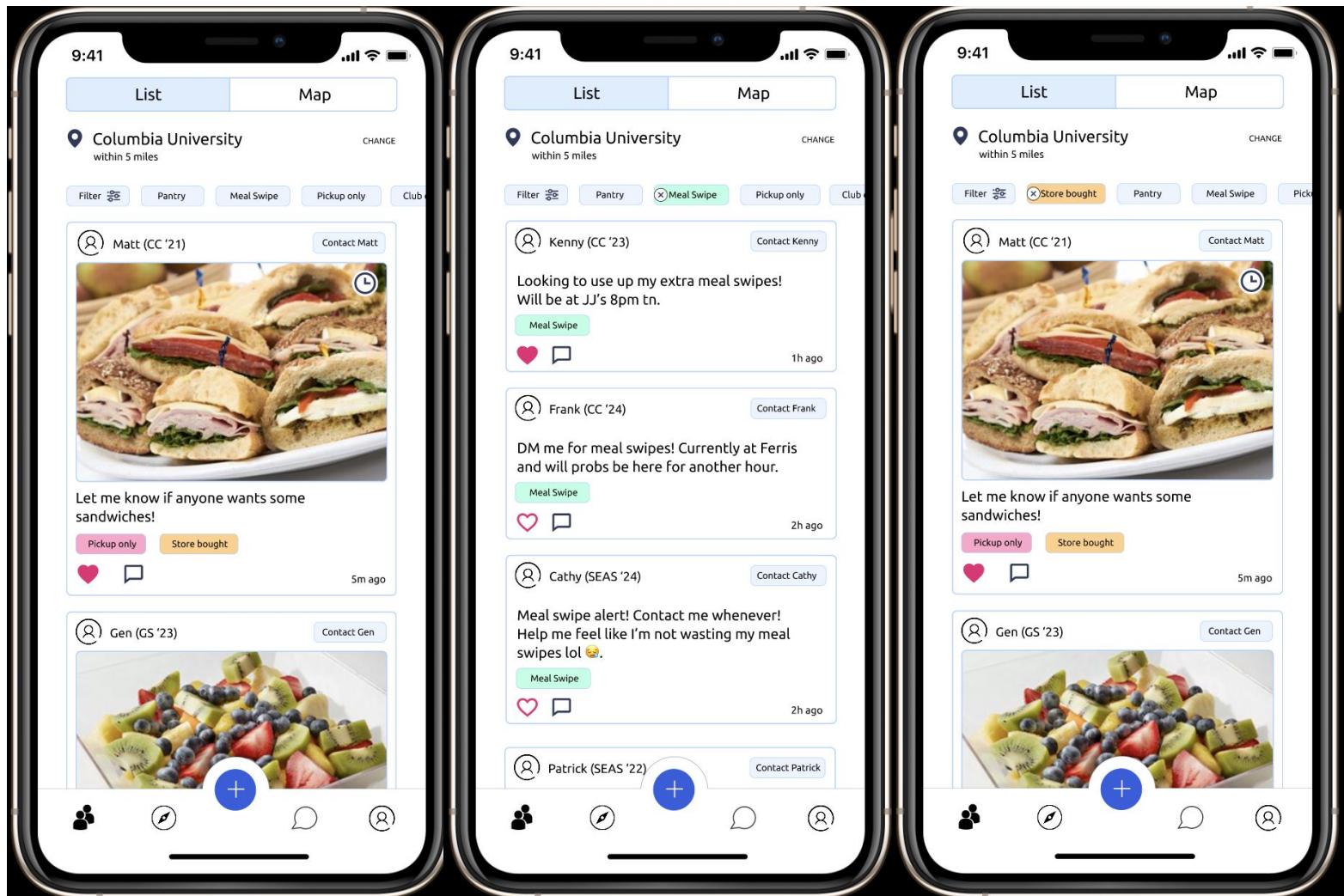
Balsamiq Prototype:

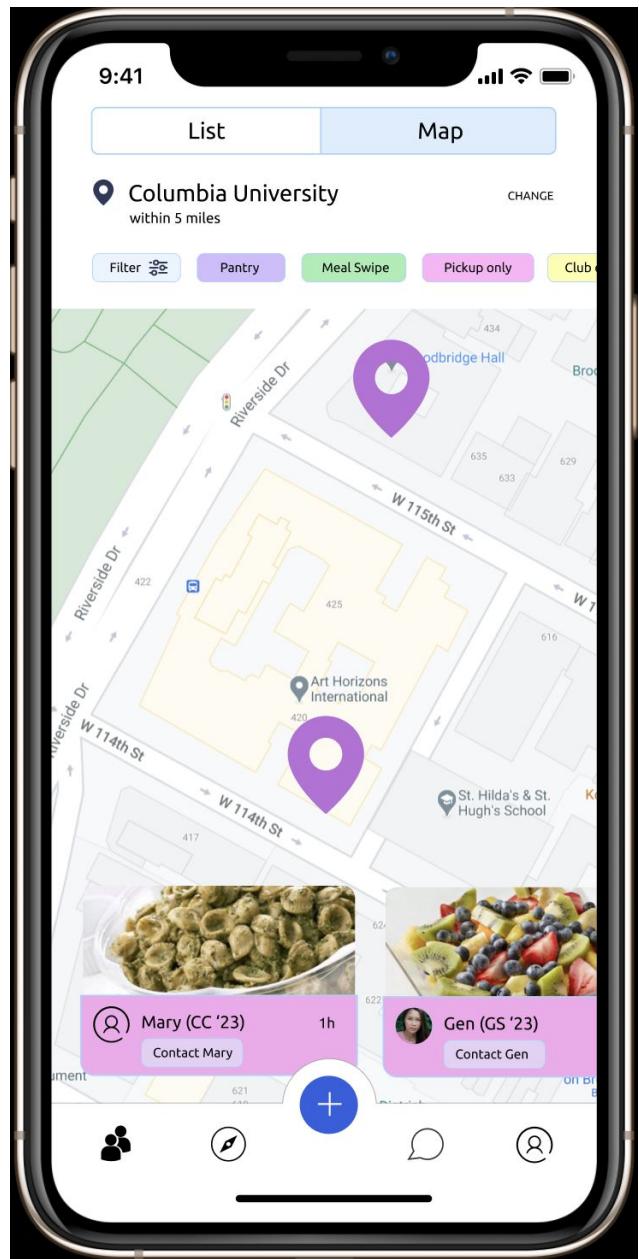
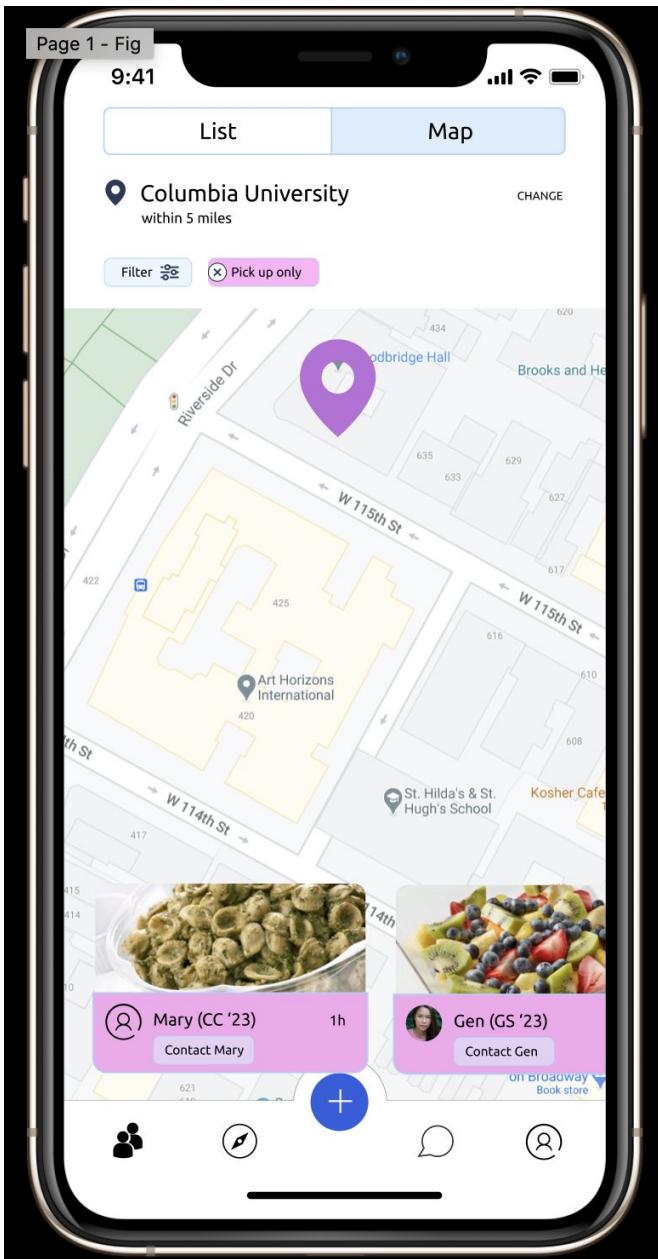


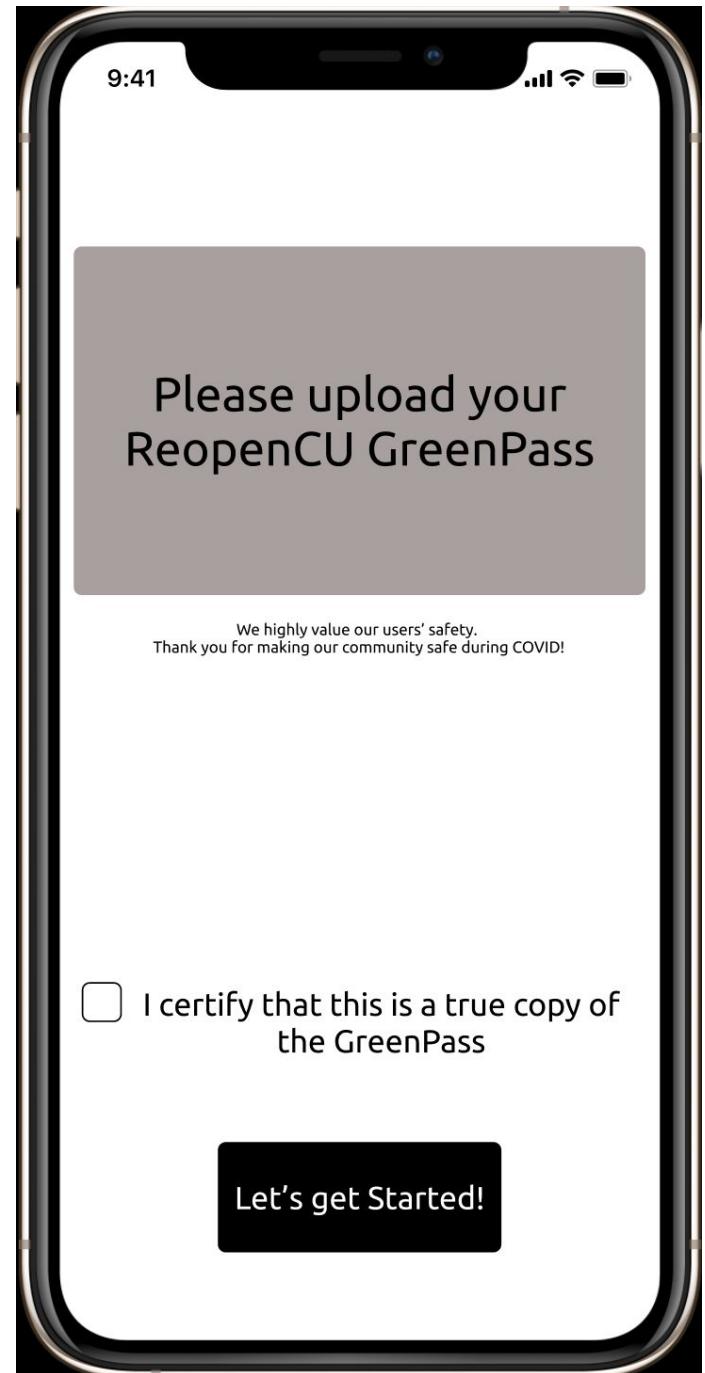




Prototype for Design Loop 2: Screenshots of First Figma prototype







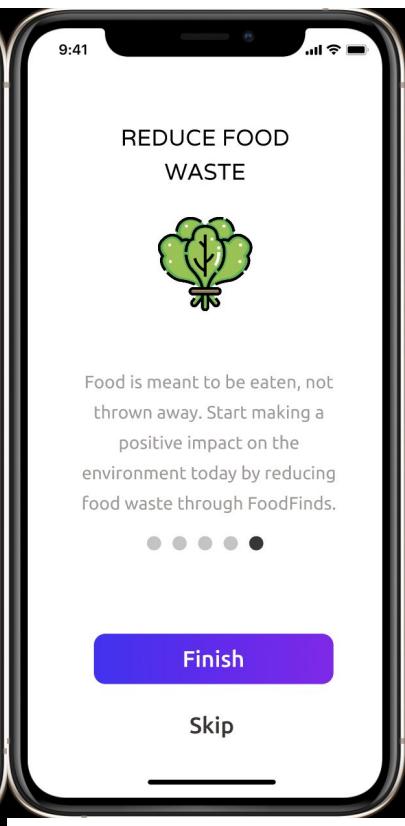
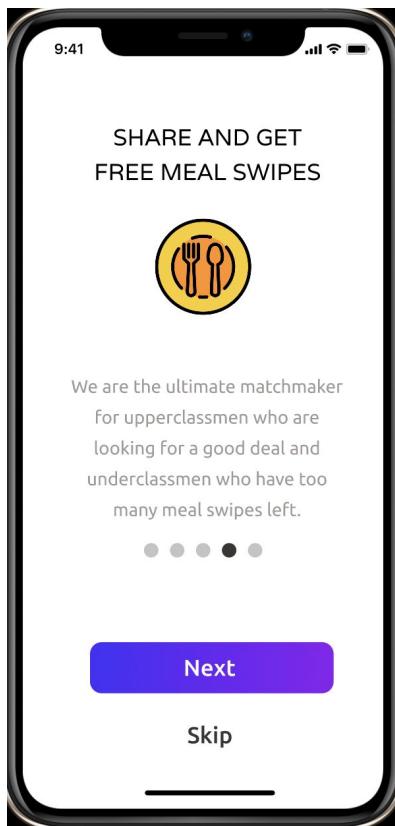
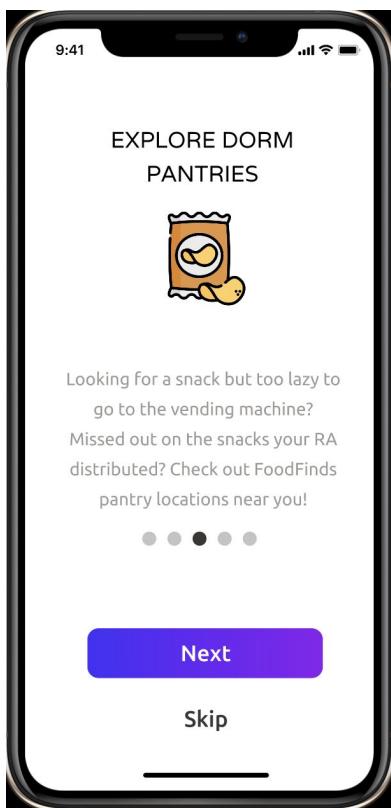
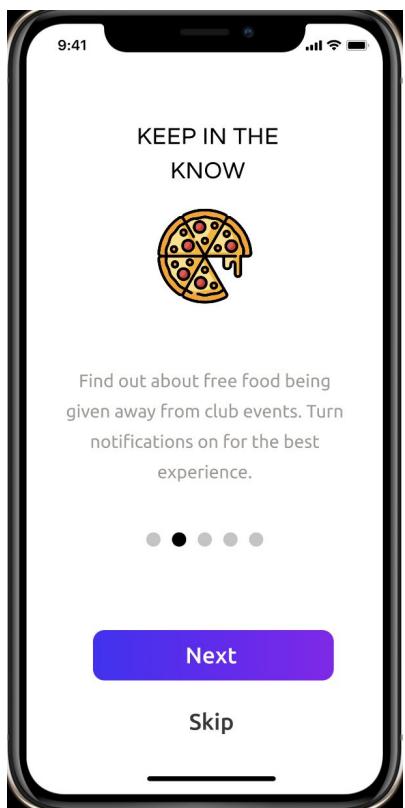
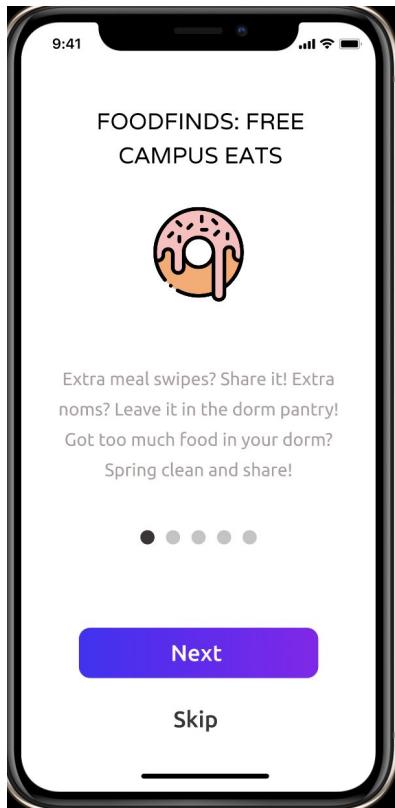
Prototype for Design Loop 3: Screenshots of current Figma prototype, organized by user flow:

Login / Onboarding



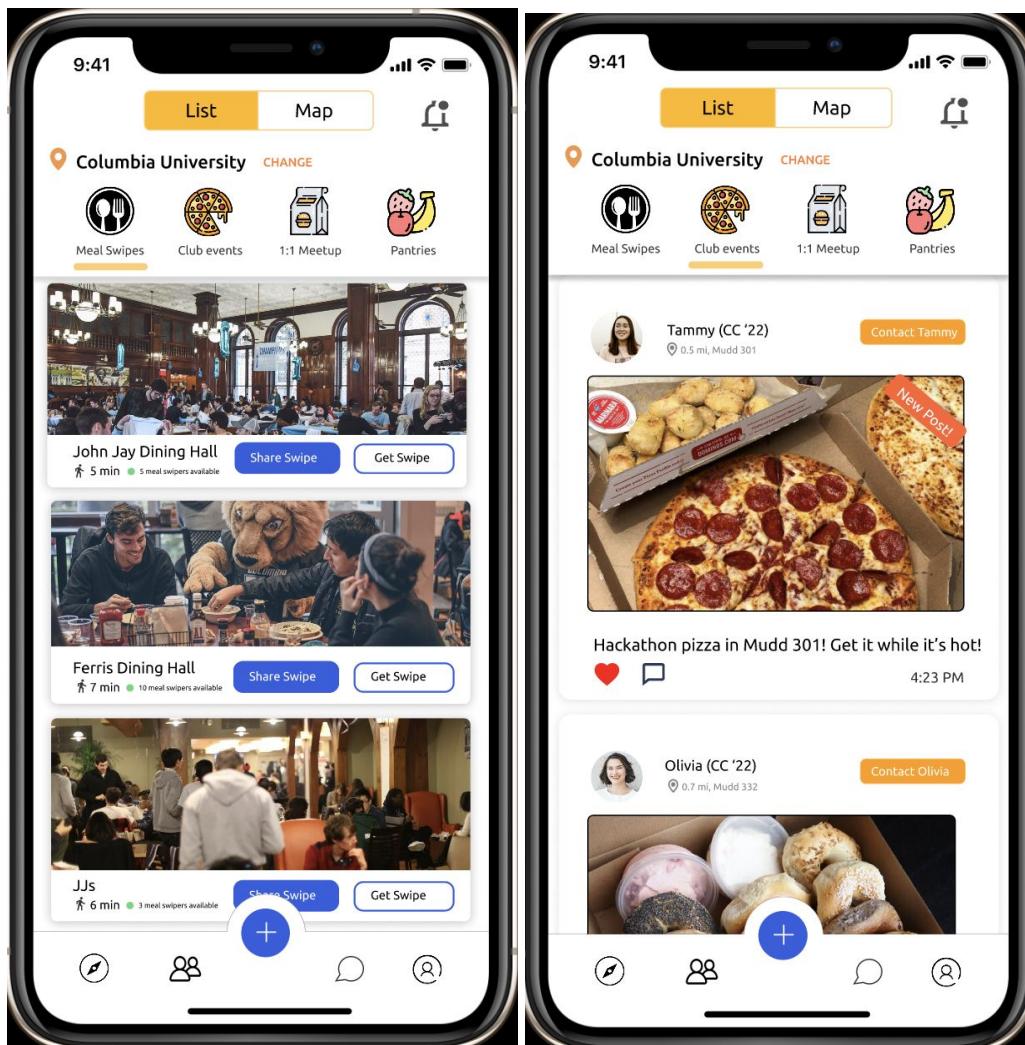
Features:

- an animated splash screen
- onboarding screens showcasing the various use cases for the app and the value prop for FoodFinds



List Views for:

1. Meal Swipe Sharing
2. Free Food left over from Club Events
3. Food Items to be given away through 1:1 meetup exchanges
4. Inventories of Dorm Pantries around campus where people can drop off food



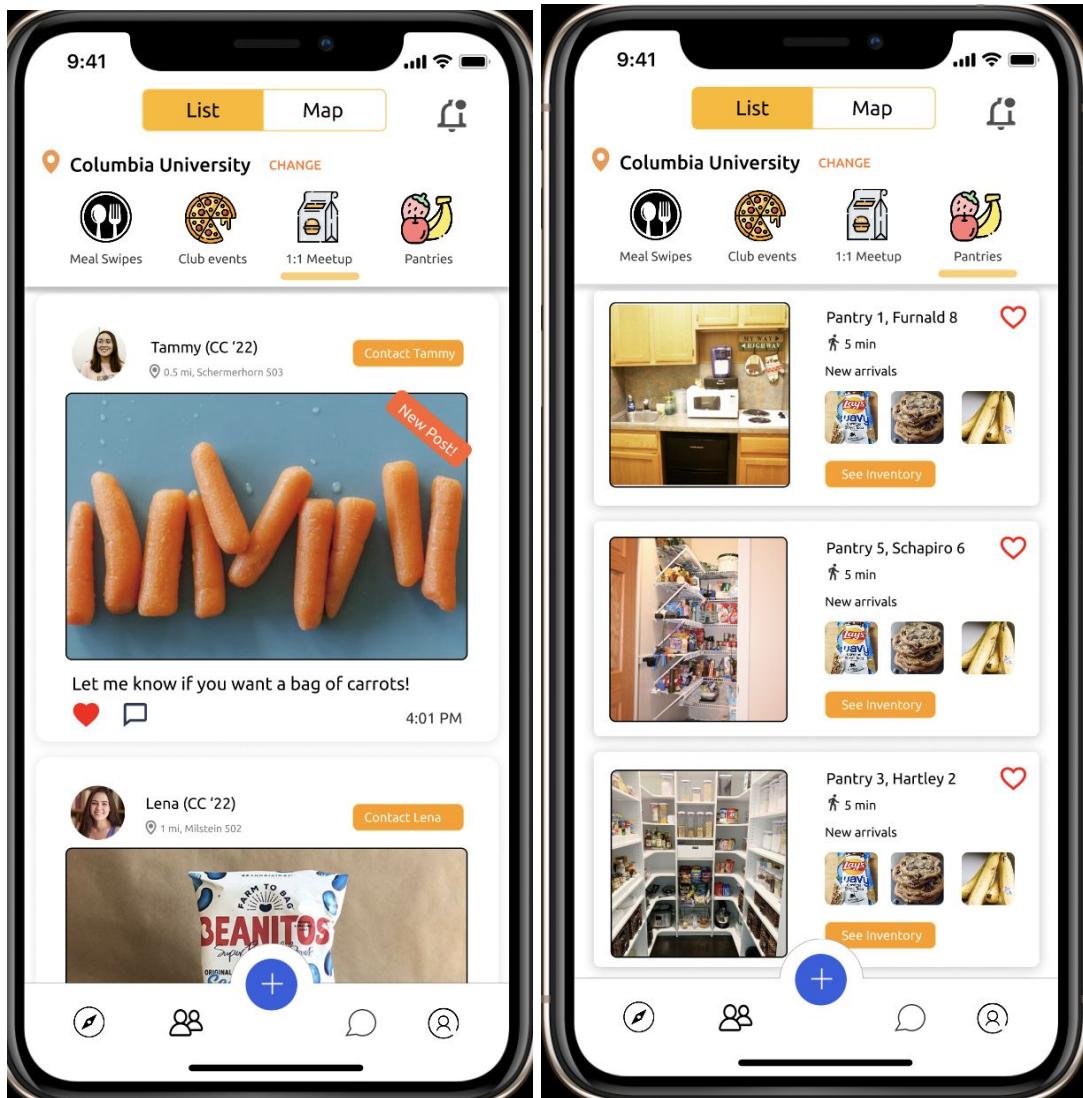
(Pictured above: 1. Meal Swipe Sharing and 2. Free Food left over from Club Events postings)

Meal Swipe Screen Features:

- Ability to see at a glance the current number of swipes being shared at various dining locations around campus
- Seamless process for the user to either share a swipe or get a swipe (just one tap away)

Free Food left over from Club Events postings Features:

- Social-media like postings of free food opportunities around campus, particularly for the use case of extra food left over from club events, as that is



(Pictured above: 3. Food Items to be given away through 1:1 meetup exchanges and 4. Inventories of Dorm Pantries around campus where people can drop off food)

1:1 Meetup Food Item Exchanges Screen Features:

- Similar to free food left over from club events postings, but we decided to make this a separate toggle view because the difference is that with club event food postings, the person posting often isn't the person providing the food, so that screen is more of an informational forum to share, while the purpose of the 1:1 meetup exchanges screen is to connect two users in food exchanges

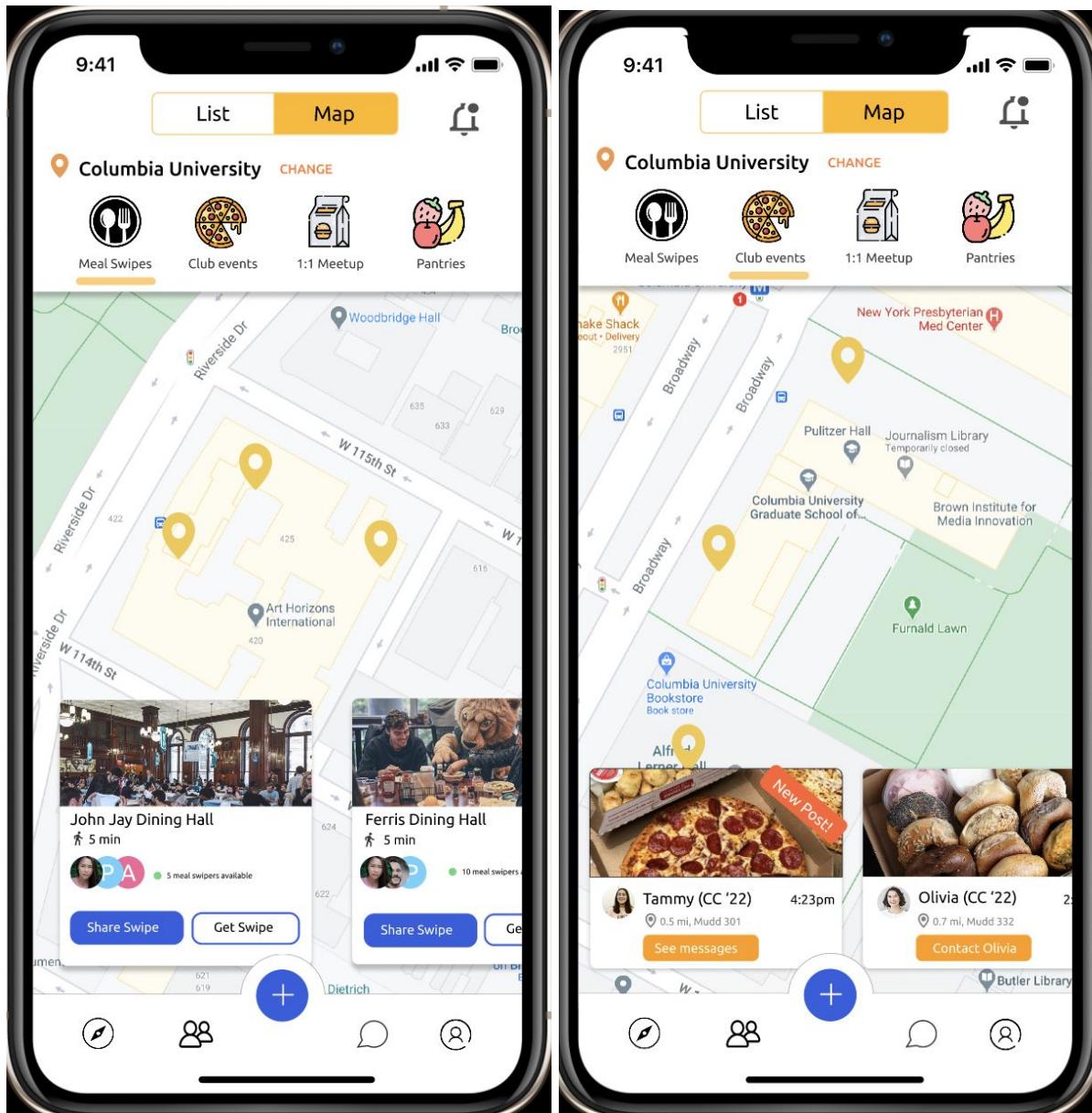
Pantry Screen Features:

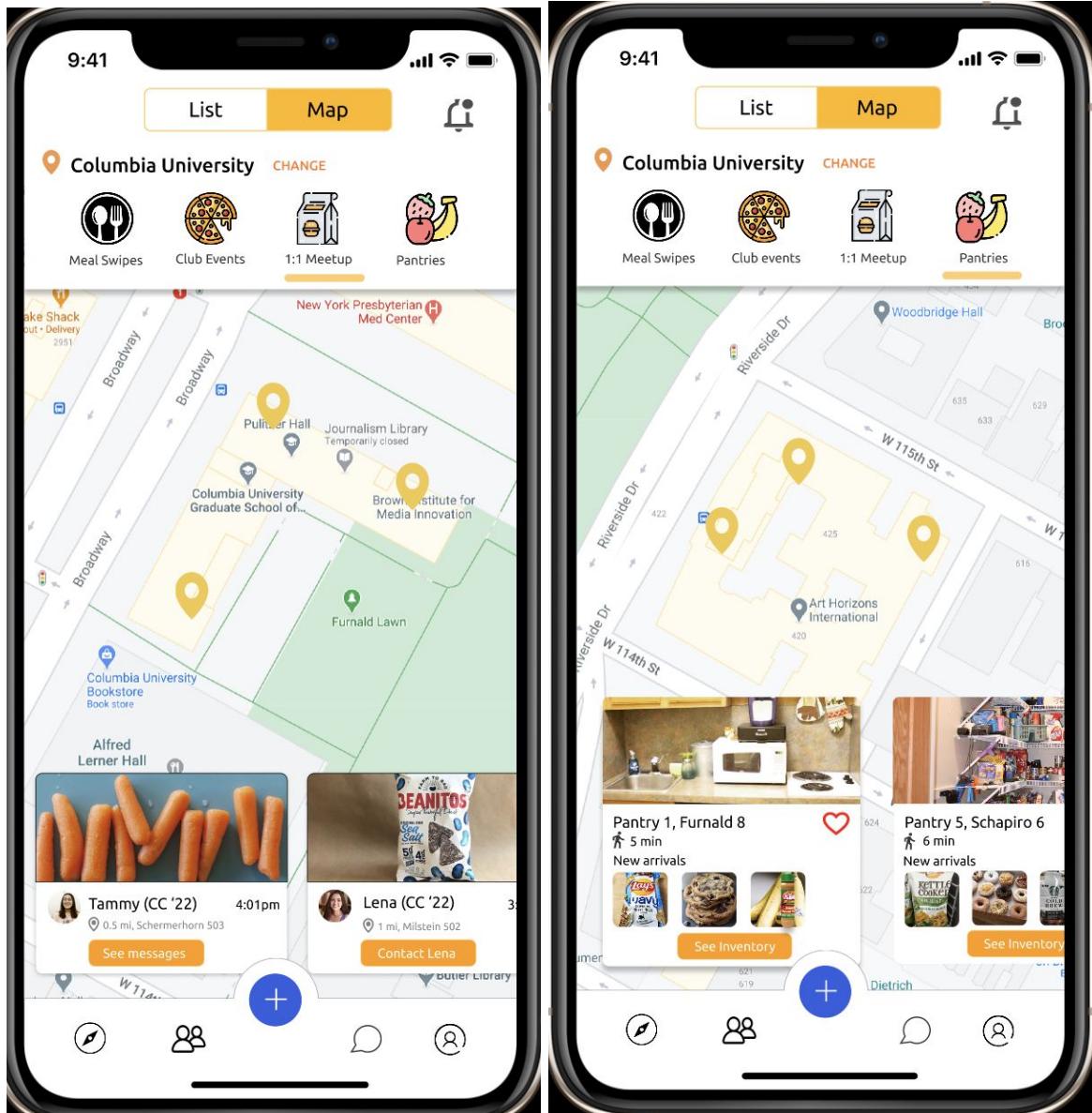
- List of pantries around campus and the most recent food items dropped off at those pantries
- The locations of the pantries would be in a designated shelf in the shared kitchen cupboard for a particular floor of a dorm. That way, people are able to drop off food items

super conveniently. To ensure quality control, we limit food items to be pre-packaged foods and indicate how long ago a food item was dropped off at a particular pantry.

Map View versions of the previous List View content:

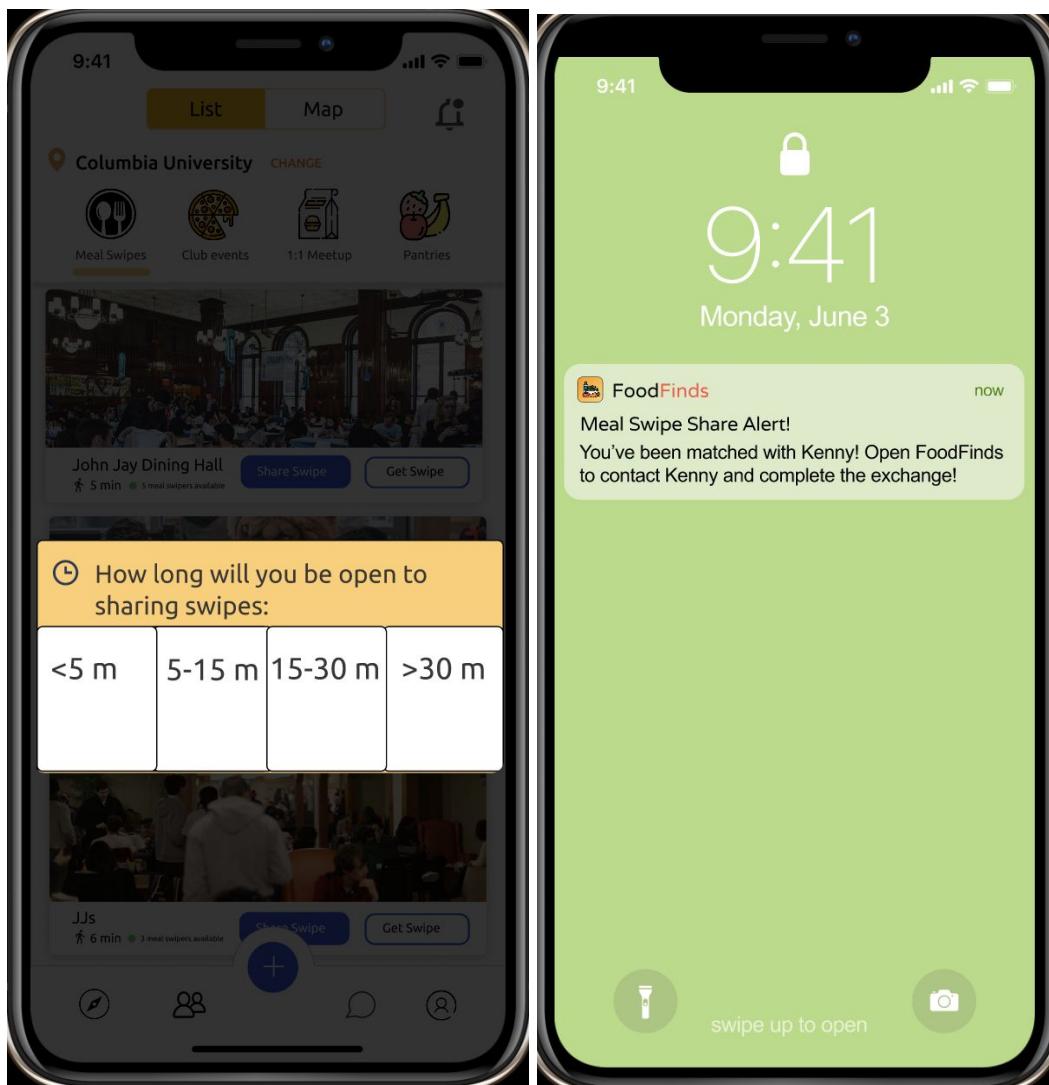
- We decided that having a map view representation of information was necessary for users to view at a glance, what food opportunities are both available and accessible to them based on their own location



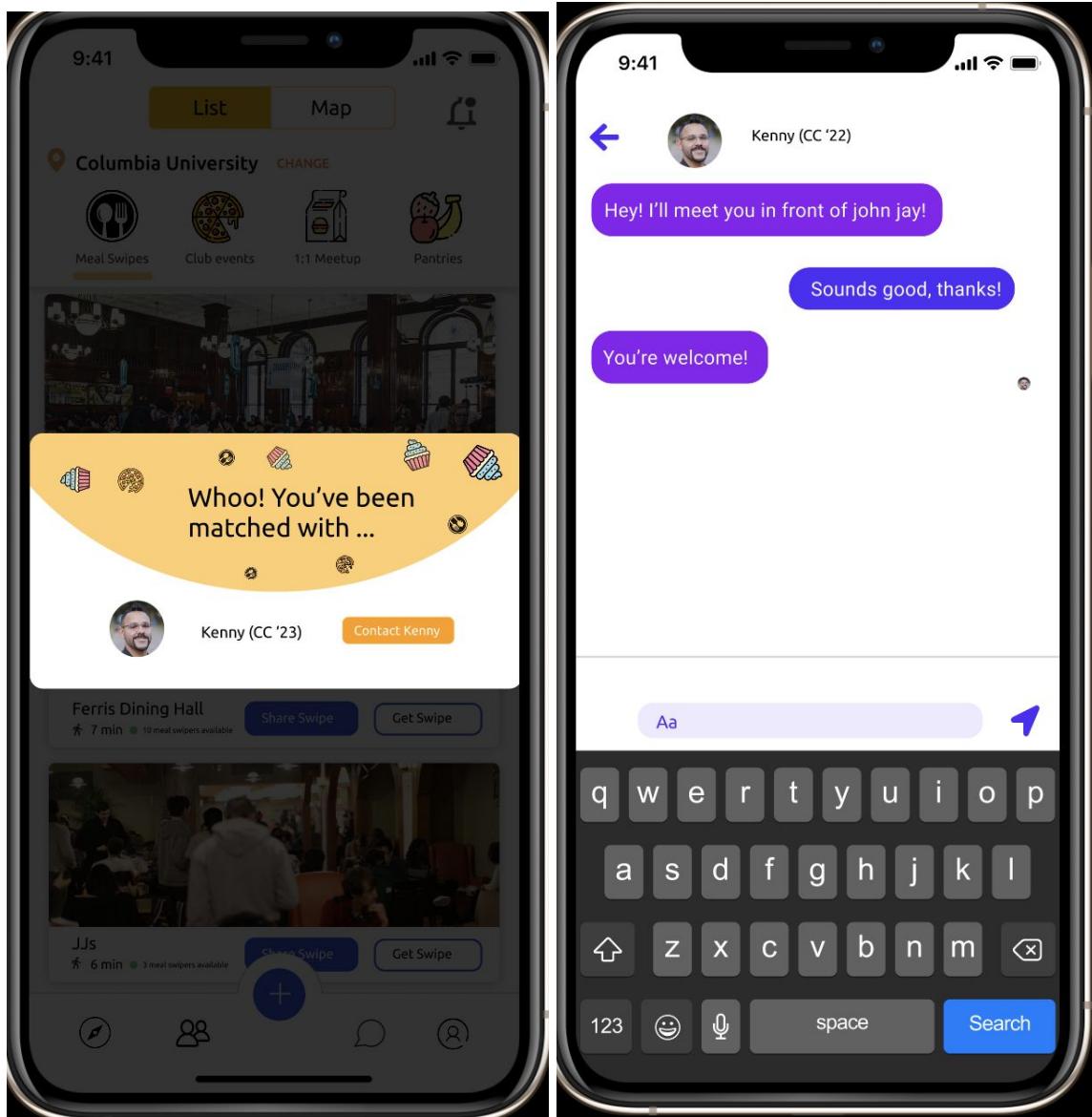


User Workflow for Sharing / Getting Meal Swipes:

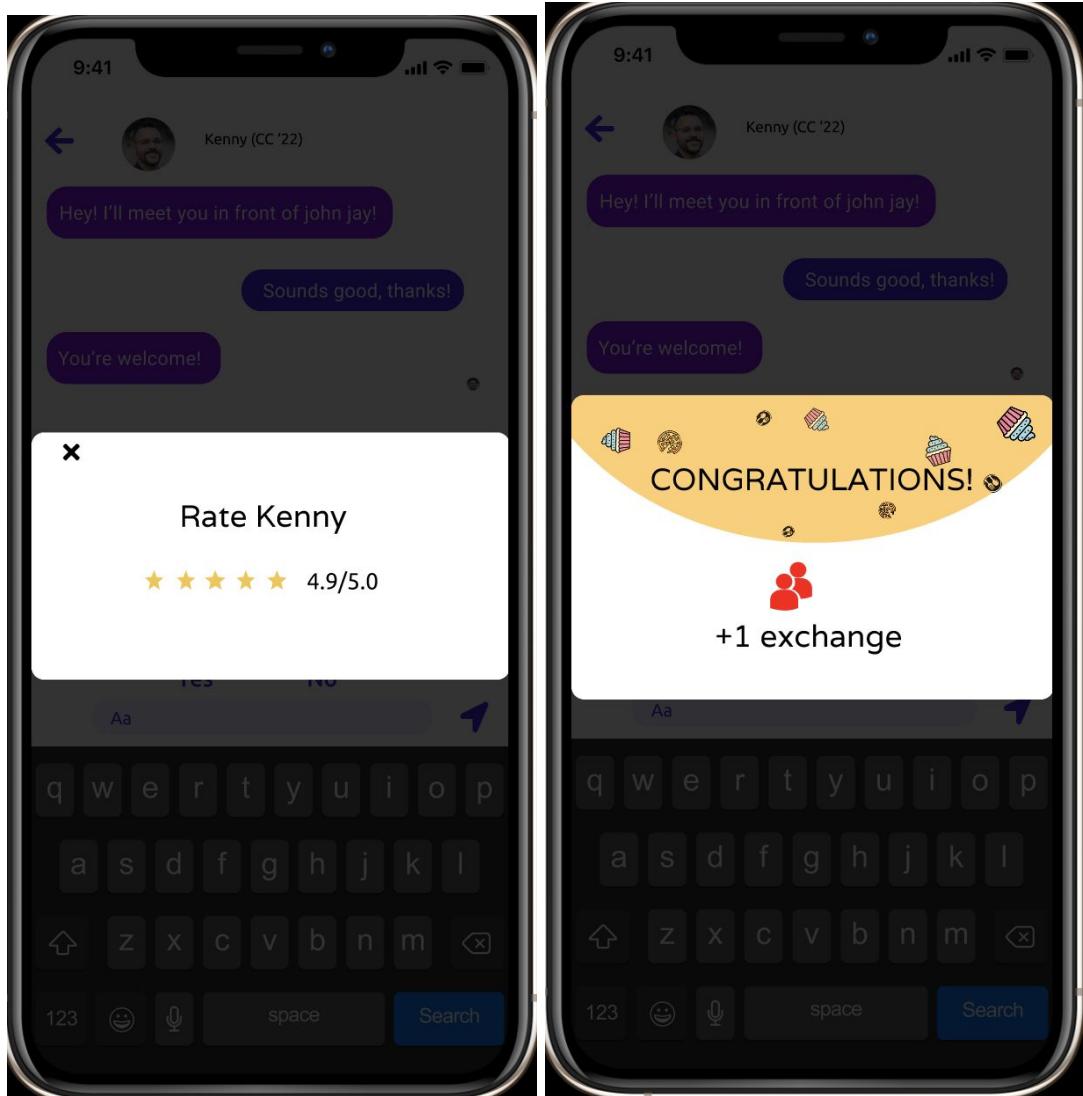
List View Version:



After the user taps on the Share Swipe button, they are presented with a popup from which they can select the time frame within which they will be available to share their meal swipe. The app will then notify the user when another user opts for getting a meal swipe and connects the users.

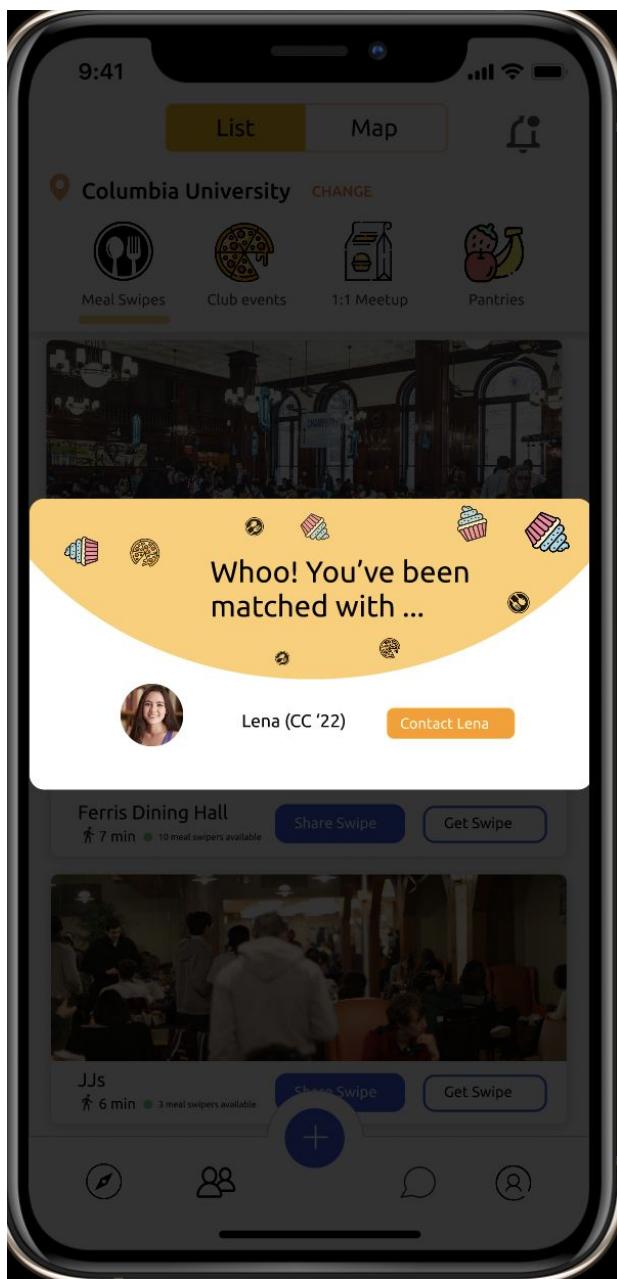


FoodFinds then prompts both users to confirm if the exchange was successfully made and to give a user rating, which helps to ensure quality, friendly, and productive interactions.

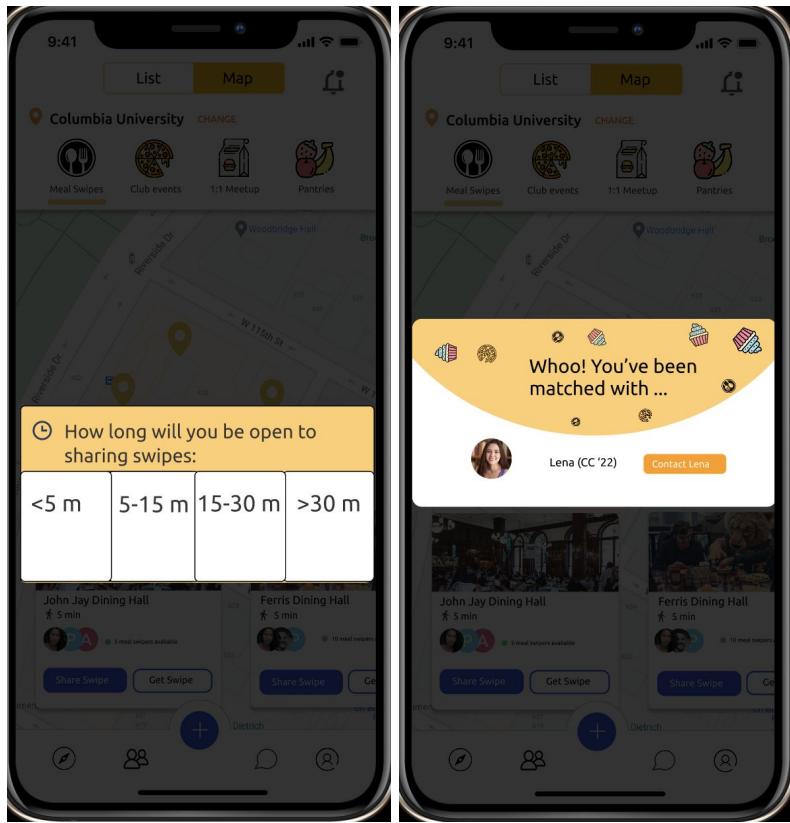


Getting a Meal Swipe:

- Similar to user workflow for sharing meal swipes (after the user taps on the Get Swipe button):



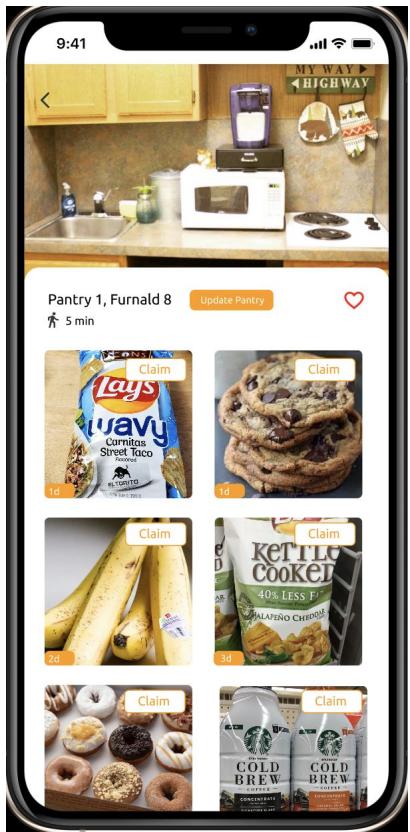
Sharing / Getting Meal Swipes Workflow in Map View Version:



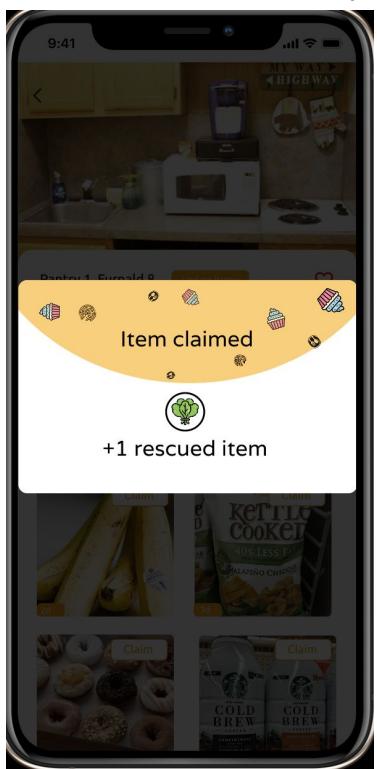
Pantry Inventory Details View and Workflow for Updating the Inventory Status for a Pantry:

(The user accesses the pantry inventory details view from clicking into the View Inventory button on a given pantry card)

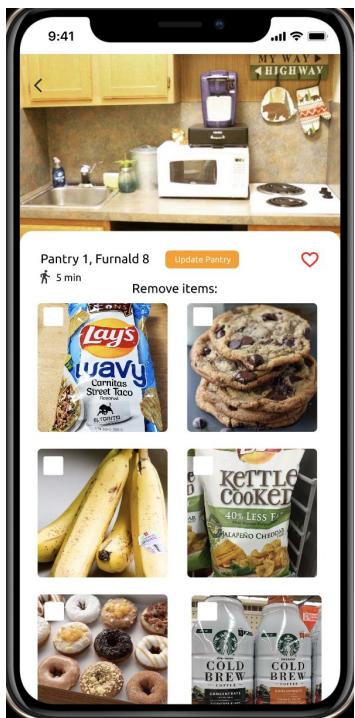
- Both the map view of the pantry and the list view of the pantry will directed to the same inventory details screen



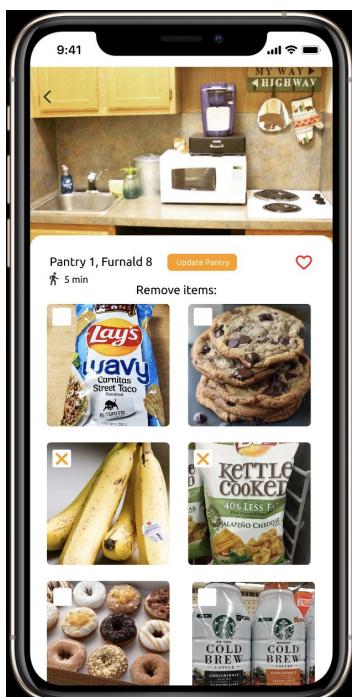
The user can claim a pantry item by pressing the claim button:



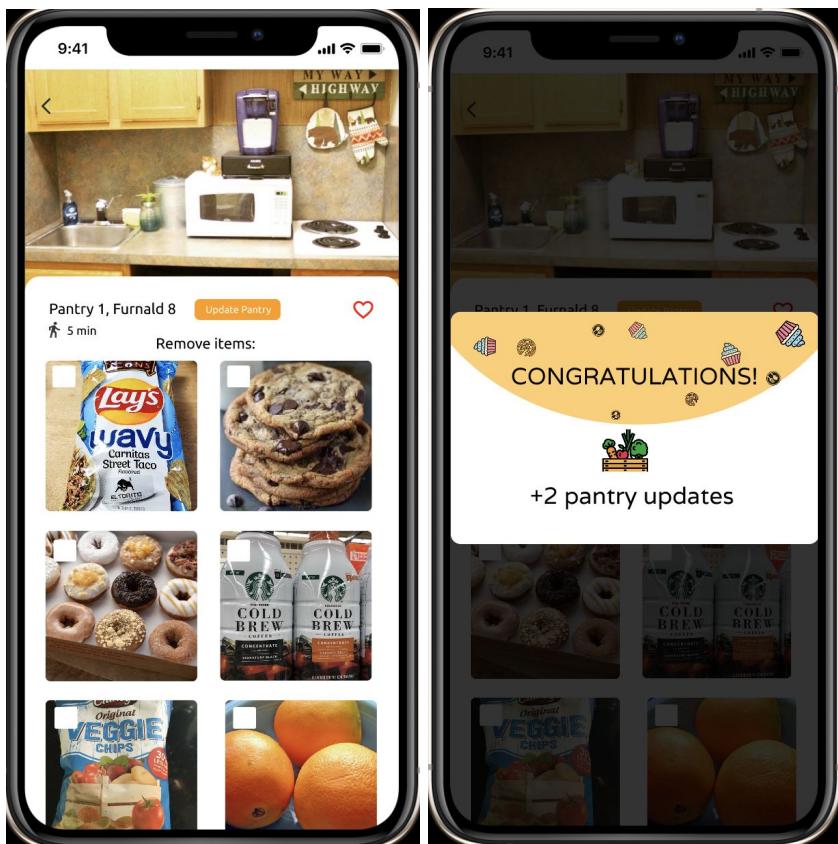
To update the inventory status of the pantry, the user would tap on the Update Pantry button:



The user can cross off the items they want to indicate as being removed (either because the food item is no longer there in the pantry but the inventory hadn't been updated to reflect as such, or because the item has expired)

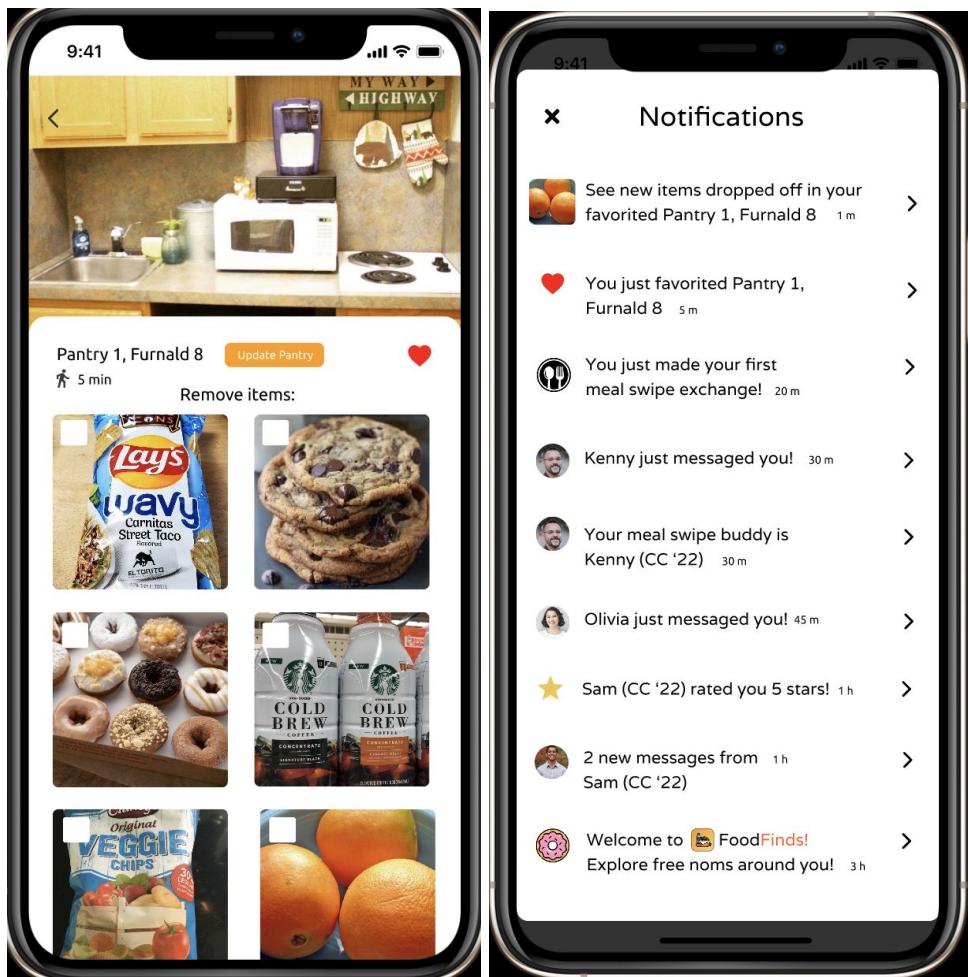


After tapping on the Update Pantry button again to confirm removal of the items, the user will see the change reflected immediately in the inventory screen and gets a congrats confirmation popup.



(^ the banana and kettle chips are gone)

Another thing the user is able to do is favorite their go-to pantries. This way, they will get direct notifications about new food items that have been recently dropped off or food items that are almost expiring for the pantries most relevant to them.



(pictured on the right: notifications screen popup when the user clicks on the notification button in the upper right corner of the screen)

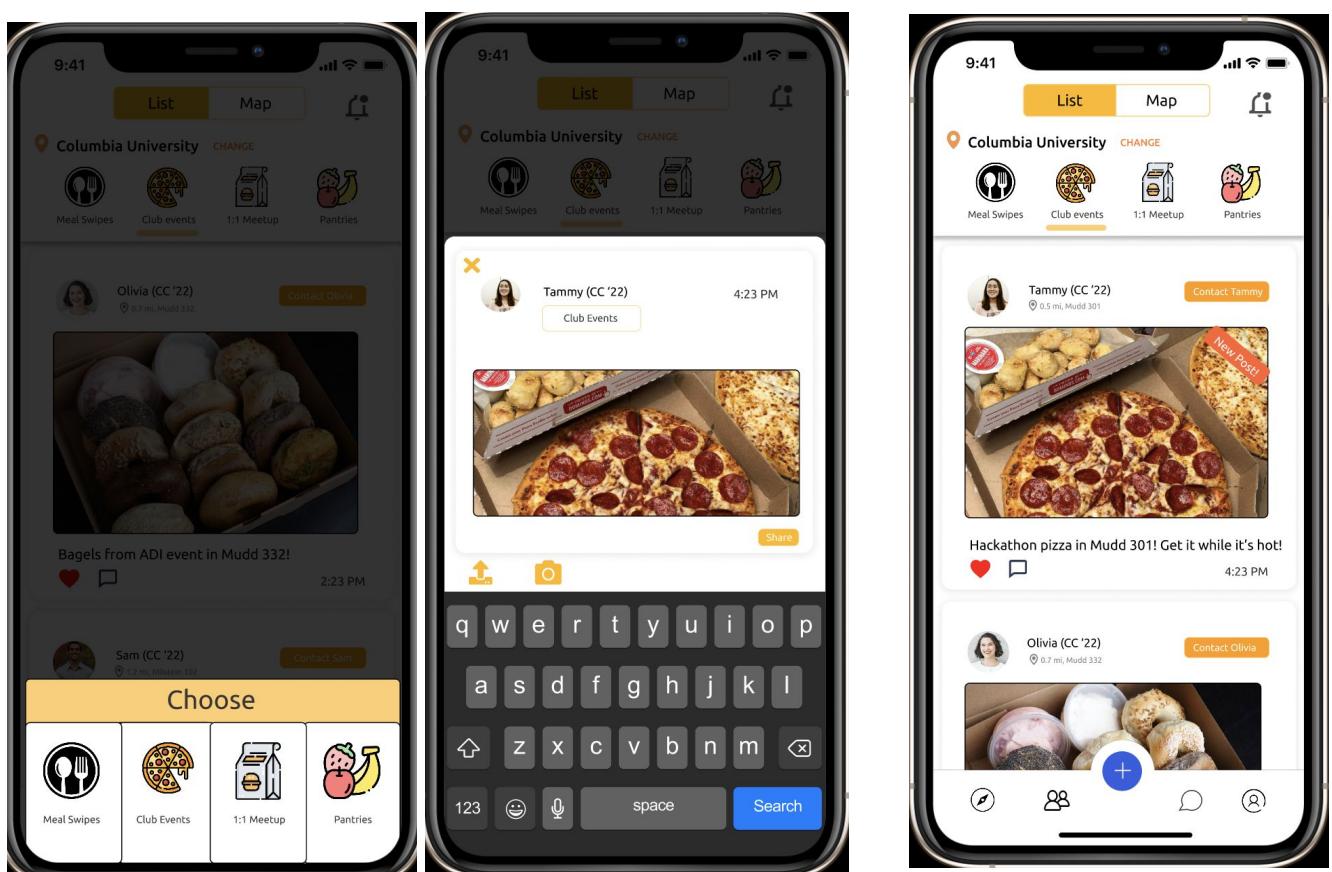
Creating different types of posts:

Meal Swipe Share Post:

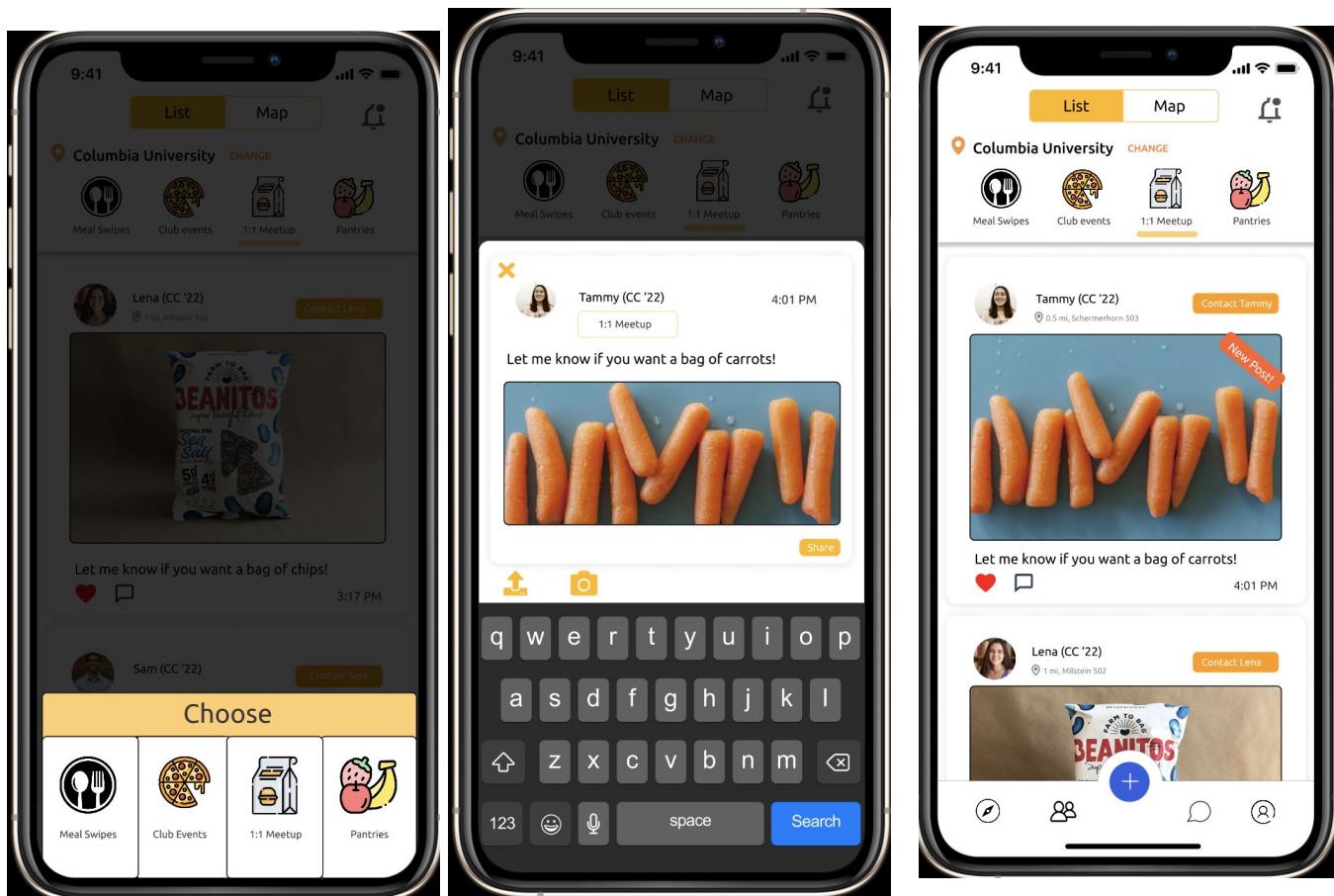
The user will just get redirected to the meal swipe sharing screen when they tap on the Meal Swipe option as they can just directly share or request swipes from there.

Free Food from Club Event Post:

After selecting the Club Events option in the popup, the user uploads the picture of the food and then submits the post by pressing the Share button.



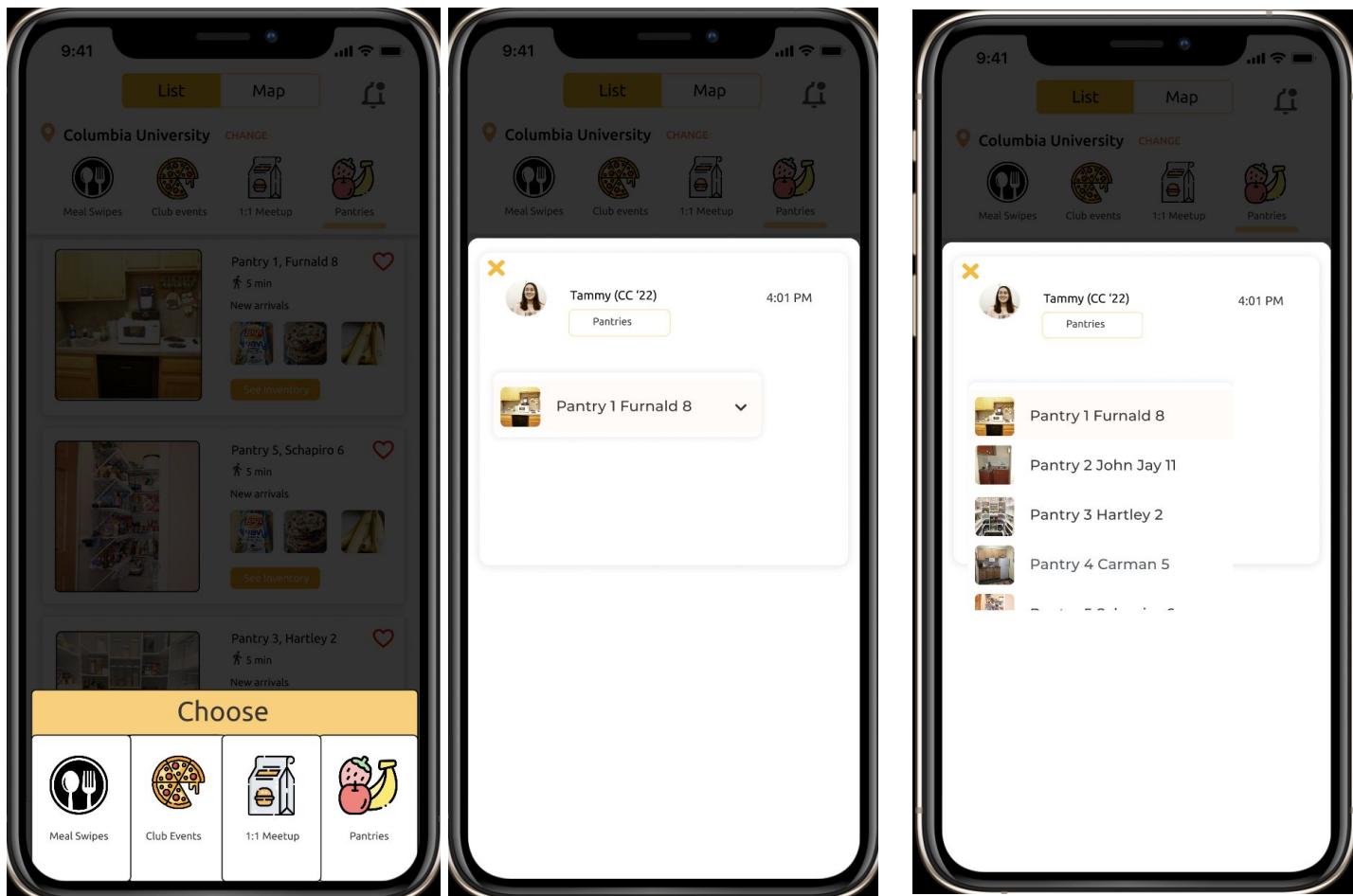
1:1 Food Meetup Exchange Post:

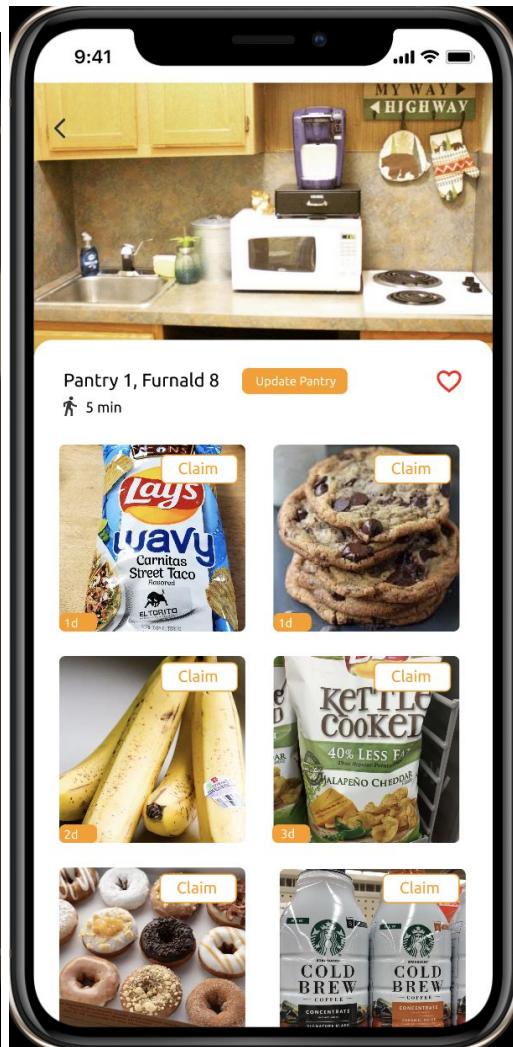


Pantry Drop-off Food Item Post:

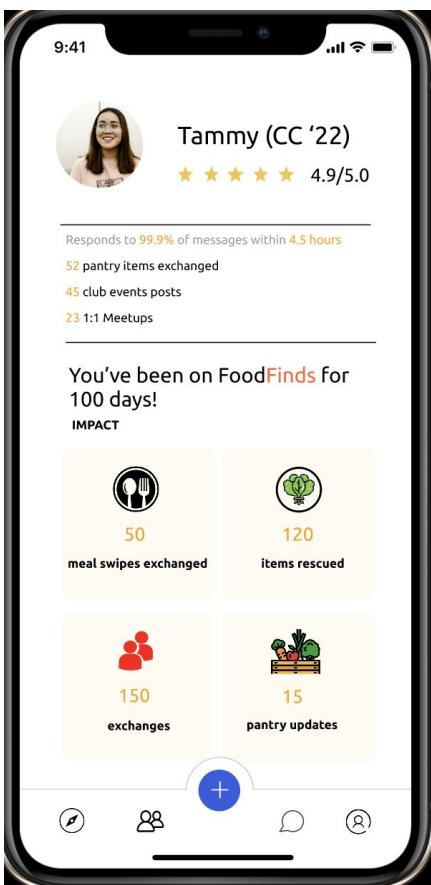
Features:

- drop down menu to select the pantry the user is dropping off the food item at, from a list of all the available pantries on campus

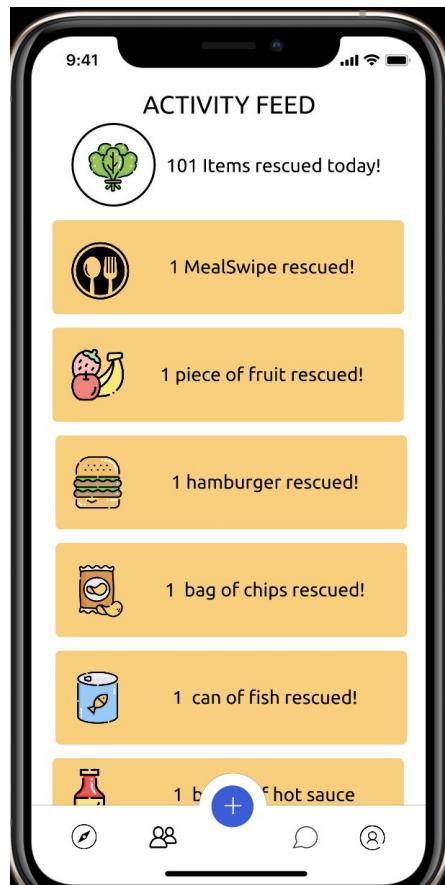




Profile Screen:



Activity Feed Screen:



Profile Screen Features:

- How the user has interacted with the platform
- User rating

Activity Feed Screen Features:

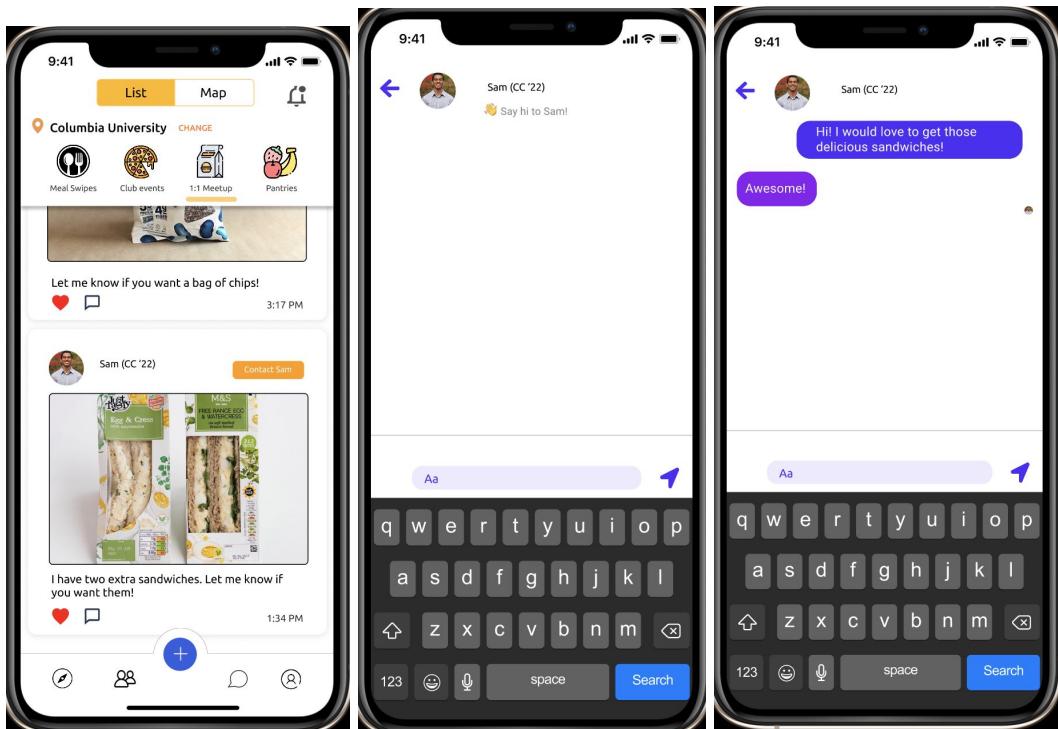
- Gives a social aspect to the app and makes the user aware of the foods that have been saved from going to waste around them and how other people are interacting with the platform, all anonymously

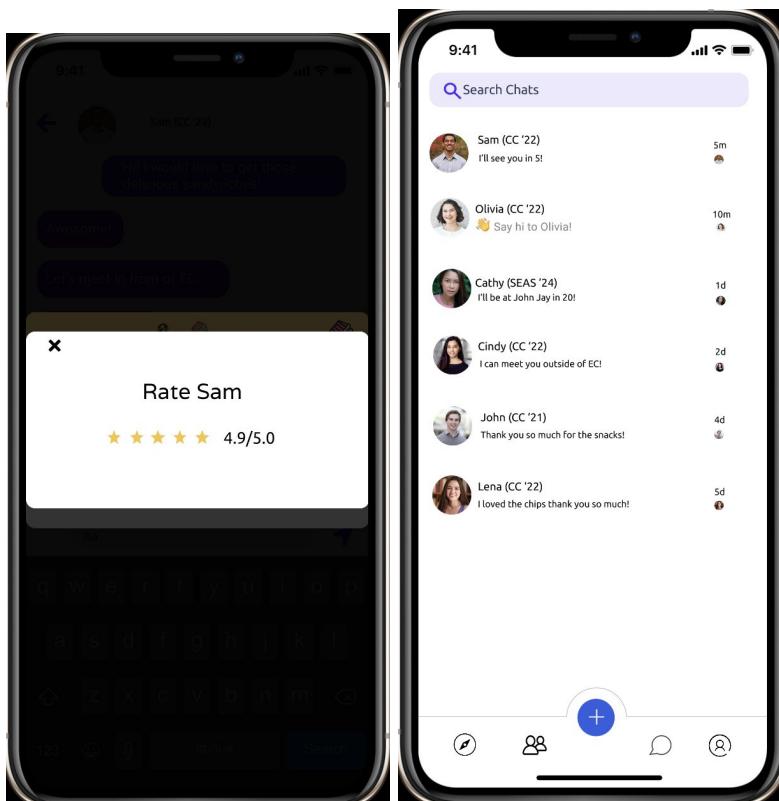
Chat Screen

- Usage: connecting for meal swipe shares, getting more info about food left over from a club event, coordinating food meetup exchanges, etc.

User Interaction for a 1:1 food meetup exchange:

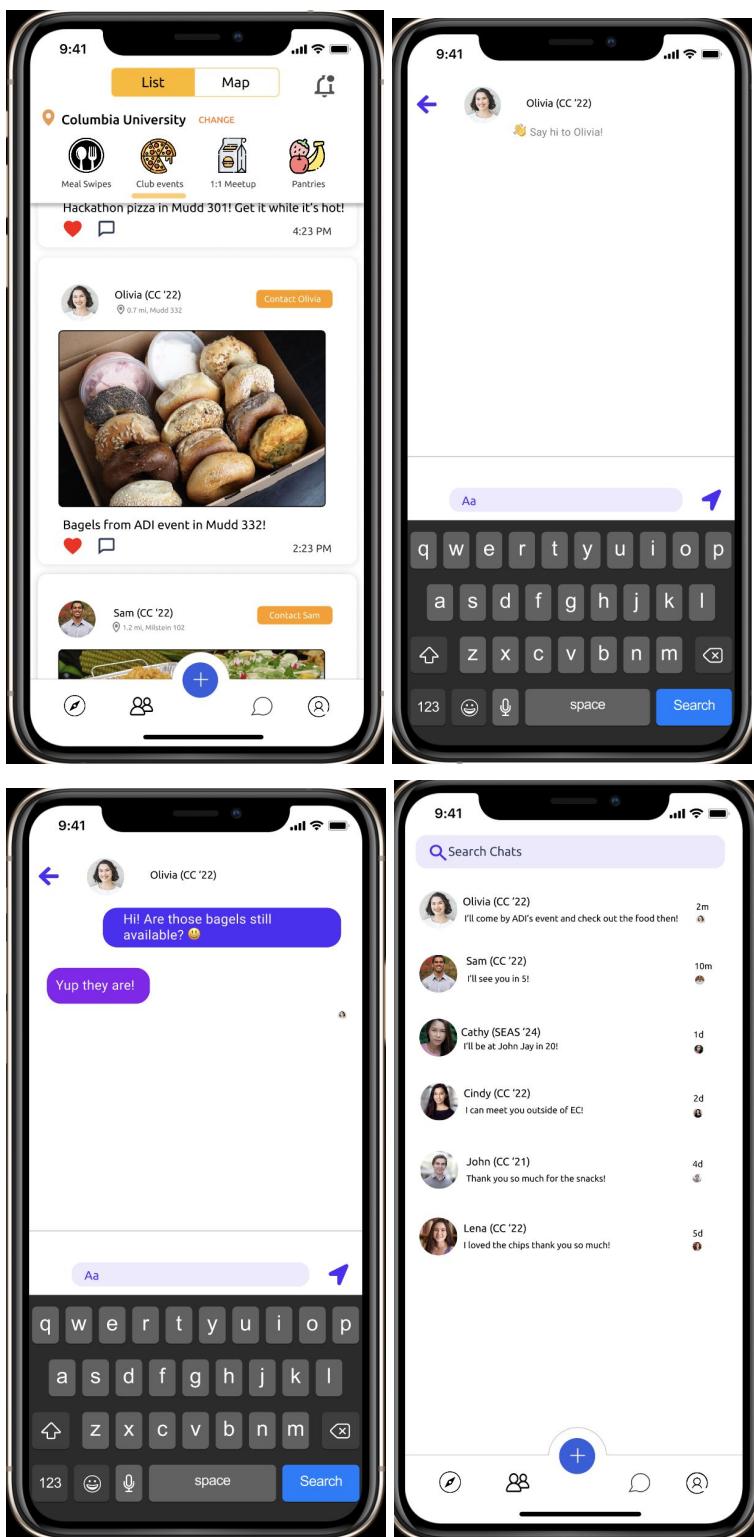
(Contact Sam)





User Interaction for getting more info about free food left over from a club event:

(Contact Olivia)



HTML/CSS Implementation:

ListView for Club Events:

List **Map**

📍 Columbia University [CHANGE](#)

[Meal Swipes](#)

[Club Events](#)

[1:1 Meetup](#)

[Pantry](#)

**Tammy (CC'22)**
[Contact Tammy](#)

📍 1 mi, Milstein 502



Mudd 301! Get it while it's hot!

4:01PM

**Olivia (CC'22)**
[Contact Olivia](#)

📍 0.5 mi, Mudd 301



MapView for ClubEvents:

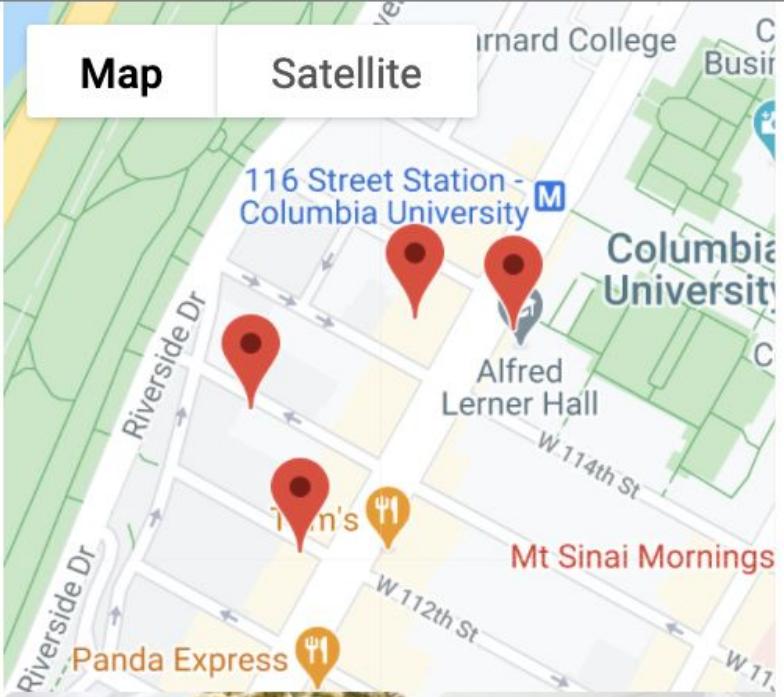
List Map

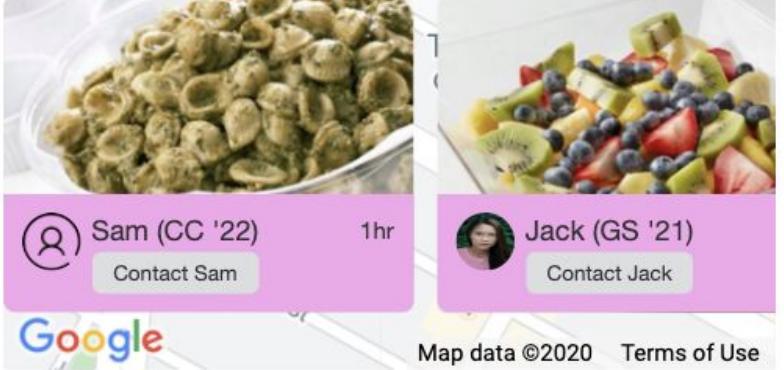
📍 Columbia University CHANGE

 Meal Swipes Club Events 1:1 Meetup Pantries

Map

Satellite





List **Map**

📍 Columbia University CHANGE

Meal Swipes Club Events 1:1 Meetup Pantries

John (CC'21) Contact John

Let me know if you want a bag of carrots!

4:01PM

Olivia (CC'22) Contact Olivia

ListView for 1-1 meetups:

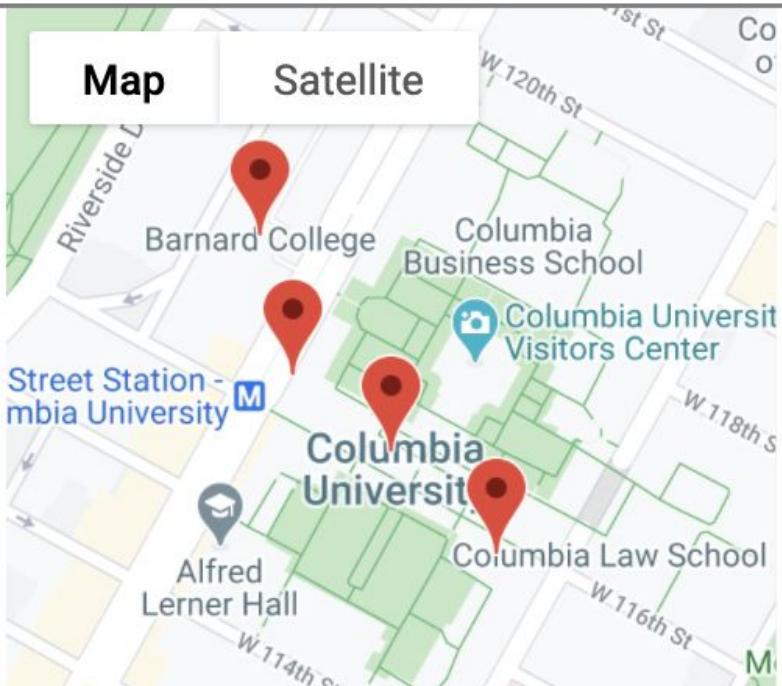
MapView for 1-1 meetups:

ListMap

📍 Columbia University CHANGE

 Meal Swipes Club Events 1:1 Meetup Pantries

MapSatellite



The map displays the Columbia University campus and surrounding areas. Labeled locations include Barnard College, Columbia Business School, Columbia University Visitors Center, Alfred Lerner Hall, and Columbia Law School. A street station for Columbia University is also marked. The map shows several red pin locations, likely indicating meeting points or landmarks.

 Mary (CC '23)
Contact Mary Gen (GS '23)
Contact Gen

Map data ©2020 [Terms of Use](#)

ListView for Pantry:

List Map

📍 Columbia University CHANGE


Meal Swipes
Club Events
1:1 Meetup
Pantry



Pantry 1, Furnald 8 ❤

🚶 5 min

New Arrivals



See Inventory



Pantry 5, Schapiro 6 ❤

🚶 5 min

New Arrivals



See Inventory



Pantry 3, Hartley 2 ❤

🚶 5 min

New Arrivals



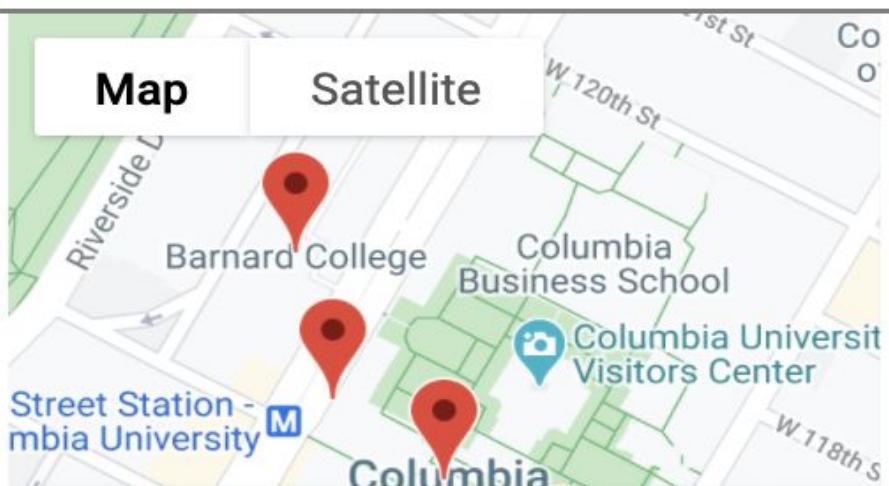
MapView for Pantry:

List **Map**

📍 Columbia University CHANGE

 Meal Swipes  Club Events  1:1 Meetup  Pantries

Map **Satellite**



Pantry 1, Furnald 8 

步行 5 min New Arrivals

See Inventory

Pantry 5, Schapiro 

步行 5 min New Arrivals

See Inventory

 Map data ©2020 Terms of Use

Mealswipes Listview:

ListMap

📍 Columbia University CHANGE

 Meal Swipes Club Events 1:1 Meetup Pantries



John Jay Dining Hall

5 min • 5 meal swipers available

Share Swipe Get Swipe



Ferris Dining Hall

7 min • 10 meal swipers available

Share Swipe Get Swipe



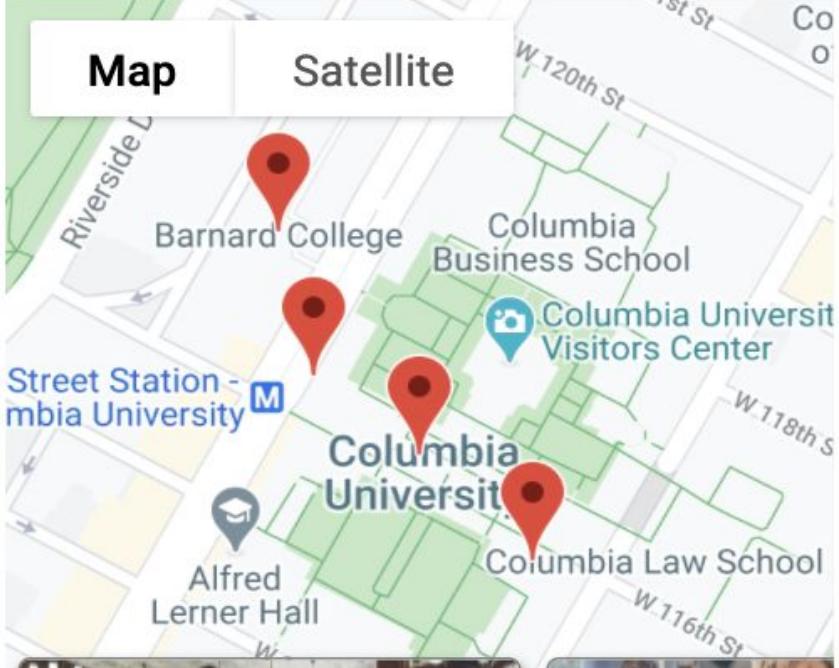
Mealswipes MapView:

List Map

📍 Columbia University CHANGE

 Meal Swipes Club Events 1:1 Meetup Pantries

Map Satellite



The map shows the Columbia University campus area with several red location pins indicating meal swipe availability. Labeled locations include Barnard College, Columbia Business School, Columbia University Visitors Center, Street Station - Columbia University (with an M icon), Alfred Lerner Hall, and Columbia Law School. The map also shows surrounding streets like Riverside Dr, W 120th St, W 118th St, and W 116th St.



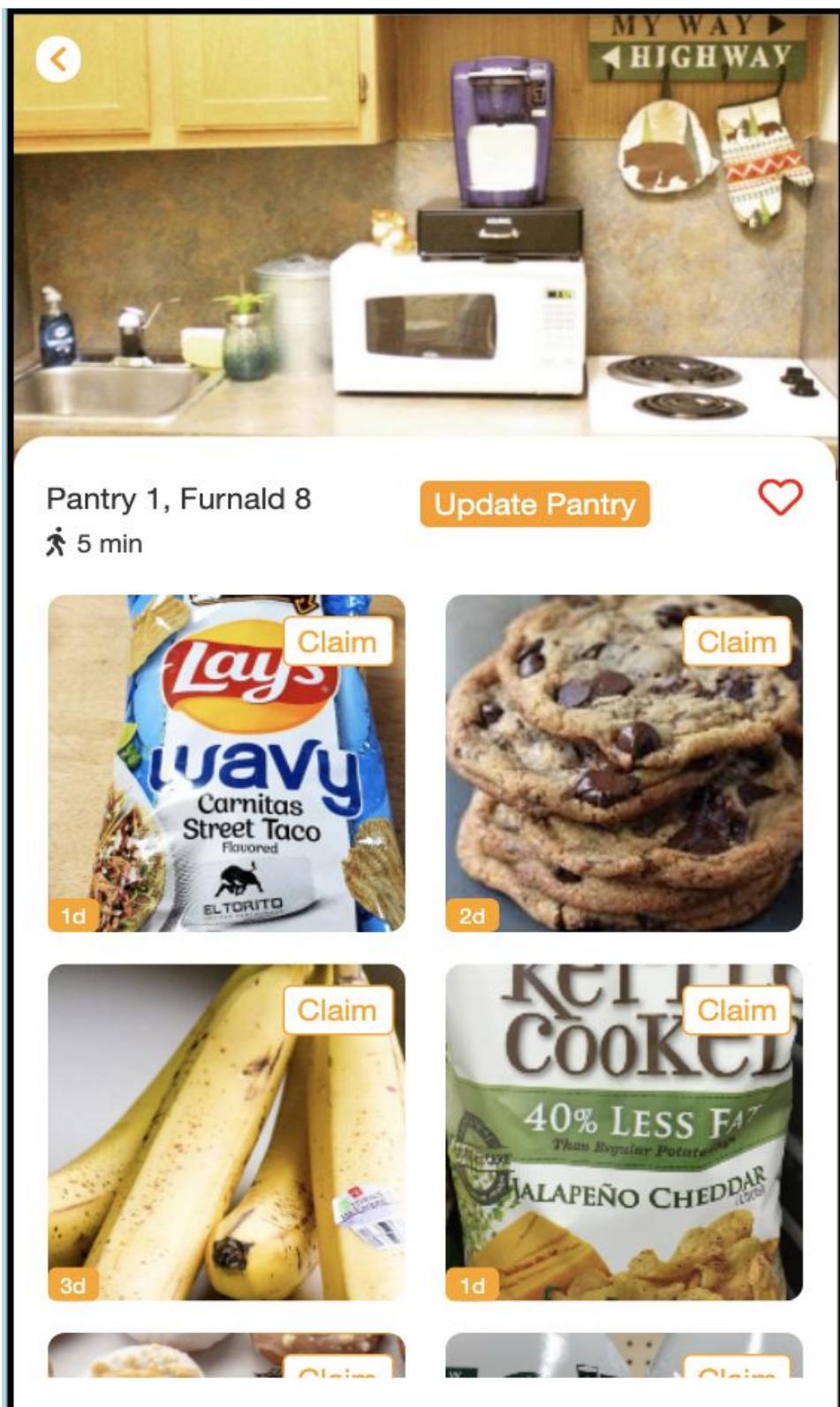
John Jay Dining Hall
5 min
 5 meal swipers available
[Share Swipe](#) [Get Swipe](#)



Ferris Dining Hall
7 min
 10 meal swipers available
[Share Swipe](#) [Get Swipe](#)

Map data ©2020 [Terms of Use](#)

Inventory Details View:



Activity Feed:

ACTIVITY FEED



101 Items rescued today!



1 MealSwipe rescued!



1 piece of fruit rescued!



1 hamburger rescued!



1 bag of chips rescued!



1 can of fish rescued!

13. Code Implementation Details

The implementation of our design is coded using HTML and CSS. We used Atom as the editor and used Github to synchronize our codes.

To create the dynamic list and map view toggle button, code was adapted from

<https://gist.github.com/brickbones/0b447985b10f143a160bcf2e1d69726a>. All other codes are written by our own group members.

14. Instructions to Run Your Program

To run the program, click on the following pages to access them respectively through the web browser since all screens are interconnected.

1-1Meetup.html--For 1-1 Meetups view

ClubEvents.html--For ClubEvents view

MealSwipe.html--For MealSwipes view

Pantries.html--For Pantries view

See-inventory.html---For see inventory details

15. Post mortems

Caitlyn Chen -

What went wrong: I think it would have been helpful to set up a hypothetical pantry to see how users would react and make use of it. Given that we were all remote and mostly off campus however, that would have been a challenge to actually implement.

What went well: Our strengths really complemented each other's as a team and as we kept working together, we became more efficient in pairing off and collaborating together, and were able to iterate more quickly as a result. The figma prototype also turned out really well!

What I would do differently: Try to perform more contextual inquiry, but again, given the current environment it would have been very challenging to do so for our specific project idea. So in the future, when hopefully things are safe enough to interact in person again, I would be able to perform more in depth contextual inquiries for this kind of project.

Mara Dimofte - What went wrong: I would have started the facebook group experiment earlier in the semester. What went well: figma prototype for iOS app turned out to be a great way to make our design interactive.

Bingpu(Sandy) Zhao -

Things went wrong: I think we should have spent more time iterating on the paper prototype and conducting contextual inquiries at the beginning stage of the design process. By doing so, we would have gauged the user's actual experience with our idea (usefulness) and with our design (usability) early on to help us locate problems and iterate more efficiently.

Things went well: As a team, we collaborated together and kept everyone in synch about each stage of the project. Everyone was able to focus on their strengths. Together, we listened to each of the team members' suggestions and iterated collectively.

Divya Pabba -

What went well: Firstly I really liked the way we adapted to the design problem based on our contextual inquiries. Starting from the sole idea of building an app to reduce food-waste to

ending up by building an app that not only meets the expected needs but also takes into consideration the stigma associated with such an idea. We incorporated all the necessary features such as (drop-off locations etc) to mitigate them at an individual level.

Next, the team bonding and collaboration especially in these stressful times was amazing. I was able to meet amazingly hard working people during this time.

Finally, the design process and implementation turned out to be excellent.

Improvement Areas:

Given a chance, I would like to work more on the evaluation part of our design by reaching out to more audience and conducting more surveys and would definitely be interested in running a UCD loop once again.

16. Permission to the professor

**“[Caitlyn Chen (ckc2143), Mara Dimofte (md3713), Bingpu(Sandy) Zhao (bz2328),
Divya Pabba (dp3060)] give Prof. Brian A. Smith permission to
feature this project in his teaching materials. Prof. Smith may refer to
[Caitlyn Chen (ckc2143), Mara Dimofte (md3713), Bingpu(Sandy) Zhao (bz2328), Divya
Pabba (dp3060)] by name when describing the
project.”**