

Food Roots

Harvest

Meet the Team



Chandra Suresh
Developer Lead



Helen Wang
Developer Lead



James He
Developer



Jeff Lu
Developer



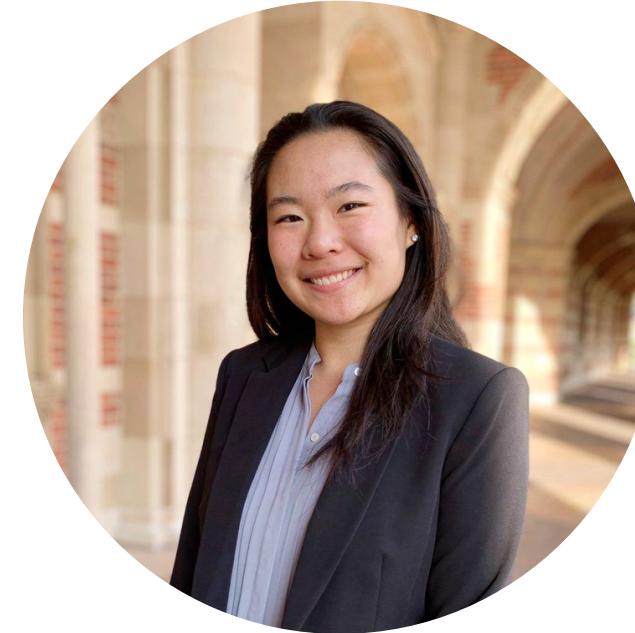
Genevieve Chin
Developer



Aaron Shi
Developer



Kaylee Tran
Developer



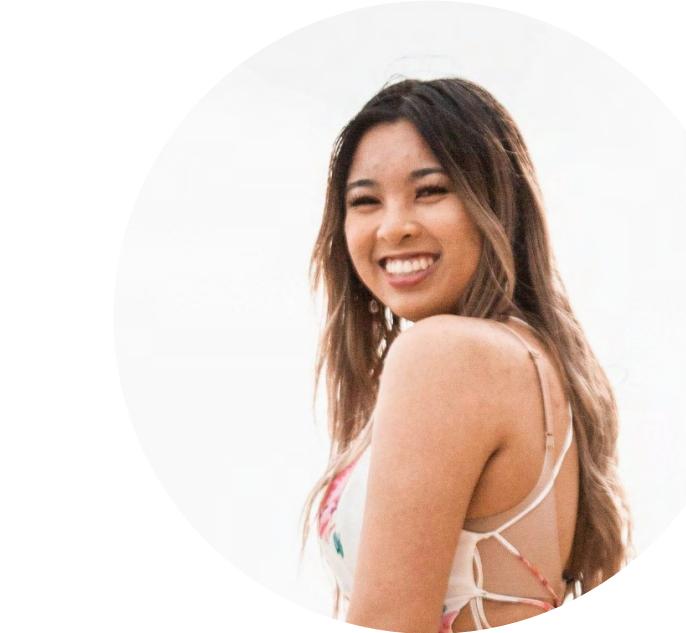
Grace Ma
Developer



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1

Defining the Problem Space



What is APIFM and Food Roots Harvest?

Asian Pacific Islander Forward Movement (APIFM) is a nonprofit local to LA that aims to empower Asian and Pacific Islander communities.

Our project specifically works with the **Food Roots Harvest** program of APIFM, which works to connect local and sustainably grown Asian specialty foods to communities and businesses in the greater LA area while supporting Asian American small farms and other farmers of color in California. They are a food hub, where they coordinate orders between farmers and the local businesses. Food Roots Harvest are currently working with a network of 4 farms and 15+ clients, including nonprofits, restaurants, hospitals, and schools. Any revenue made from these sales goes right into supporting the programs they produce to cultivate healthy API communities.

The Problem

Currently, orders can only be placed through a spreadsheet, which is an **inconvenience for both Food Roots and their clients.**

With a large number of orders coming in each week, the ordering process--including updating inventory, managing spreadsheet formulas, keeping track of delivery dates--are **subject to human error.**

For clients, it can also be **frustrating** to order using a spreadsheet as it's easy to place orders in the wrong cell and hard to filter through the available produce.

Previous Process

Cells needed to be manually deleted and reentered each order.



Order Tracker - Week of 5/10/2022 - 5/17/2022

Delivery Date/Time	Client	CODE		QTY	Unit	Order Verified	Notes
11/29/21	Motivating Action Leadership Opportur	MAL01	Egg Cartons (Full Dozen)	30	Unit	<input type="checkbox"/>	Bulk
10am-12pm	ATTN: Lolofti Soakai	MAL02	Eggs CEI (Medium A - Unit - Full Dozen)	30	carton	<input type="checkbox"/>	
Driver: Pickup	Phone: (909)202-3691	MAL03	Organic Bok Choy (Shanghai)	30	lbs	<input type="checkbox"/>	
		MAL04	Organic Carrots	30	lbs	<input type="checkbox"/>	
		MAL05	Organic Cucumber (Persian)	30	lbs	<input type="checkbox"/>	
		MAL06	Organic Onion (Yellow)	30	lbs	<input type="checkbox"/>	
		MAL07	Organic Tomatoes (Beef Steak)	30	lbs	<input type="checkbox"/>	
11/29/21	Alliance - DTLA Main	ALDT_1	Egg Cartons (Full Dozen)	30	Unit	<input type="checkbox"/>	Bagged
12pm-2pm	515 Columbia Ave #200	ALDT_2	Eggs CEI (Medium A - Unit - Full Dozen)	30	carton	<input type="checkbox"/>	
Driver: Kevin	Los Angeles, CA 90017	ALDT_3	Organic Bell Peppers (Green)	30	lbs	<input type="checkbox"/>	
	Phone: 213-249-9388	ALDT_4	Organic Carrots	30	lbs	<input type="checkbox"/>	
		ALDT_5	Organic Onion (Red)	30	lbs	<input type="checkbox"/>	
		ALDT_6	Organic Sweet Potato (Japanese)	30	lbs	<input type="checkbox"/>	
		ALDT_7	Organic Tomatoes (Roma)	30	lbs	<input type="checkbox"/>	

01. Automatic sort from Order Track			Date	Farm #	02. Copy, Paste, then Manual Sort	QTY	Unit	03. Add to Receiving Log
Egg Cartons (Full Dozen)	180	Unit	11/30/2021	GSF-01	Eggs GSF (Medium A - Unit)	60	carton	NO
Eggs CEI (Medium A - Unit - Full Dozen)	120	carton	11/30/2021	YCF-01	Organic Bok Choy (Baby-White Stem)	60	lbs	NO
Eggs GSF (Medium A - Unit)	60	carton	11/30/2021	YCF-01	Organic Bok Choy (Shanghai)	60	lbs	NO
Organic Bell Peppers (Green)	30	lbs	11/30/2021	YCF-01	Organic Broccoli	30	lbs	NO
Organic Bitter Melon	60	lbs	11/30/2021	YCF-01	Organic Cabbage (Napa)	30	lbs	NO
Organic Bok Choy (Baby-White Stem)	60	lbs	11/30/2021	YCF-01	Organic Cabbage (Taiwanese)	30	lbs	NO
Organic Bok Choy (Shanghai)	150	lbs	11/30/2021	YCF-01	Organic Carrots	60	lbs	#REF!
Organic Broccoli	30	lbs	11/30/2021	YCF-01	Organic Cucumber (Persian)	120	lbs	NO
Organic Cabbage (Napa)	30	lbs	11/30/2021	YCF-01	Organic Cucumber (Taiwanese)	30	lbs	NO
Organic Cabbage (Taiwanese)	30	lbs	11/30/2021	YCF-01	Organic Daikon	30	lbs	NO
Organic Carrots	120	lbs	11/30/2021	YCF-01	Organic Eggplant (Chinese)	30	lbs	NO
Organic Cucumber (Persian)	150	lbs	11/30/2021	YCF-01	Organic Onion (Yellow)	60	lbs	YES
Organic Cucumber (Taiwanese)	30	lbs	11/30/2021	YCF-01	Organic Squash (Kabocha)	60	lbs	#REF!
Organic Daikon	30	lbs	11/30/2021	YCF-01	Organic Tomatoes (Beef Steak)	60	lbs	NO
Organic Eggplant (Chinese)	90	lbs	11/30/2021	YCF-01	Organic Tomatoes (Roma)	30	lbs	#REF!
Organic Gai Choy (Chinese Mustard Greens)	60	lbs						NO

- Information gets copy and pasted from one sheet to the next
- Orders go through multiple columns and sheets with formulas

Proposed Solution

We aim to help APIFM connect local organizations and the larger APIFM community to APIFM's food hub— and by proxy, the farmers.

- Our mobile application clearly **displays available produce in a marketplace** and allows users to **browse, checkout, and manage their orders**.
- To streamline APIFM's client management, users should be able to **save their personal information and delivery address as well**.

Initial Constraints



Before we began designing, we were informed of important constraints to keep in mind as we work.

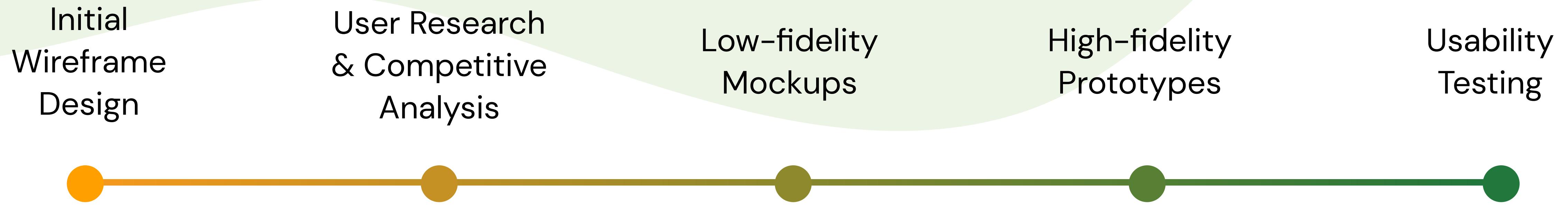
- **Order deadlines:** For an order to be delivered by a certain date, users need to order X days and hours in advance so that APIFM has time to fulfill the orders.
- **No search bar:** Due to technical constraints and time concern, our app could not include a search bar for users to look for specific produce items.



To design around these constraints, we proposed the following solutions:

- **Calendar:** Ask users to select a delivery date *before* they begin browsing to create an order deadline reminder.
- **Produce filtering:** Include a thorough filter & sort feature that enables users to quickly find their desired produce.

Design Process





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User Research

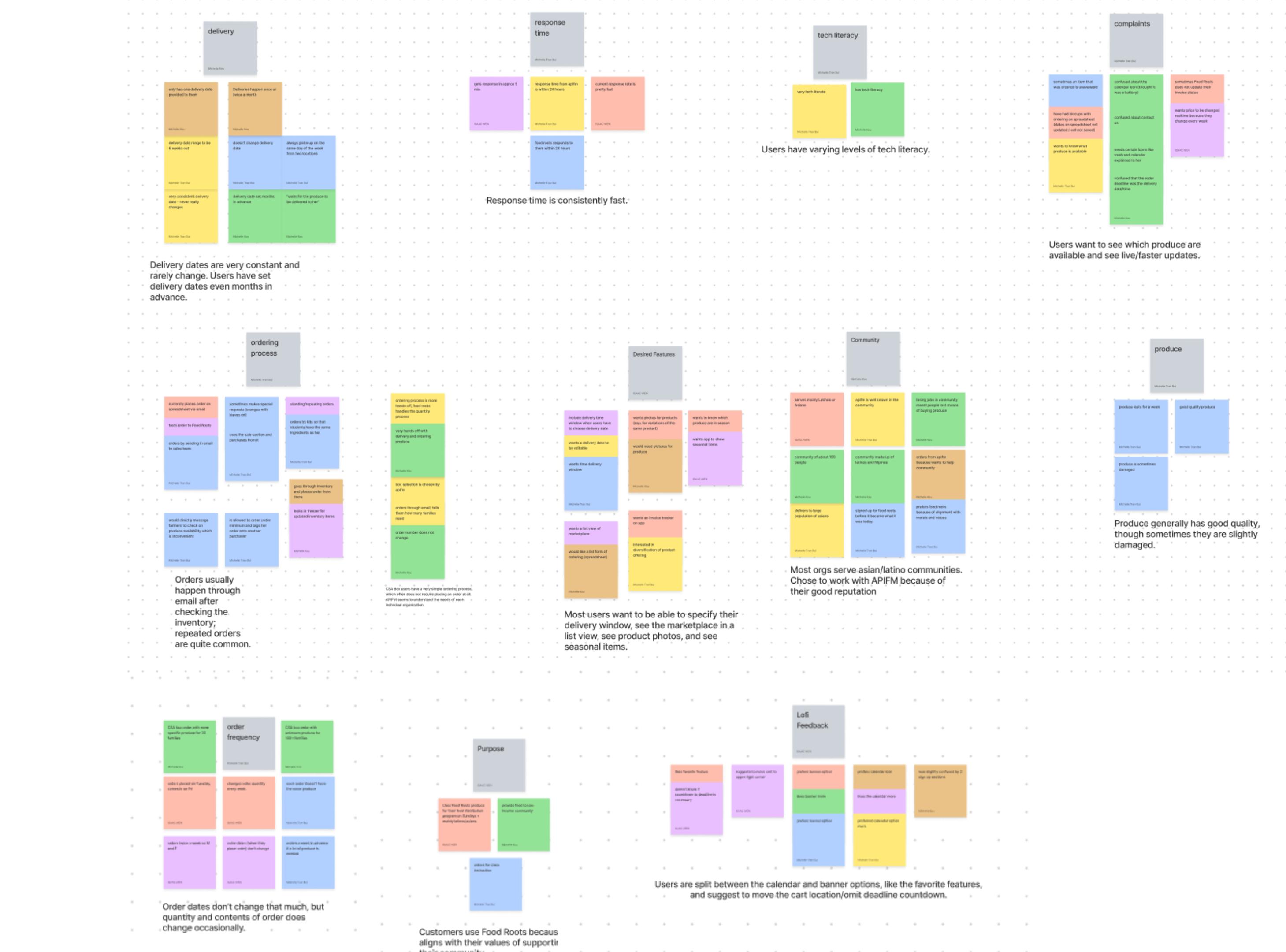
User Research

User Interview

- 5 interviews with Food Roots users
 - Asked about their experience with existing ordering process
 - Showed lo-fi screens

Affinity Map

- Organized interview insights into categories to analyze overarching patterns & extract key takeaways.



Key Takeaways

1

Order dates don't change that much, but **quantity and contents** of order does **change** occasionally.

2

Users want to be able to **see more items** at once and to select **frequently-purchased** items easily.

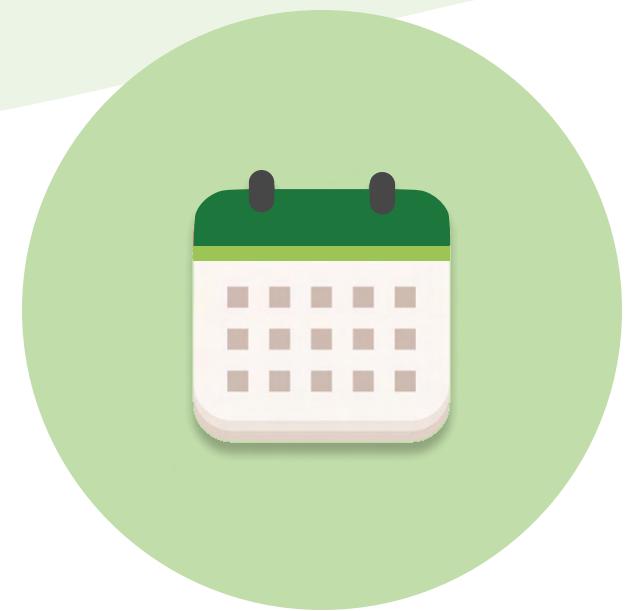
3

Users want to see which produce are **available** and see faster updates.

4

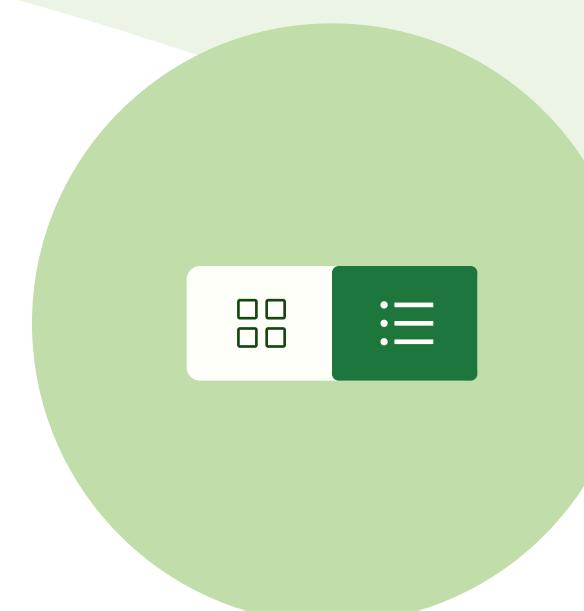
Customers use Food Roots because it aligns with their values of **supporting their community**.

Proposed solution



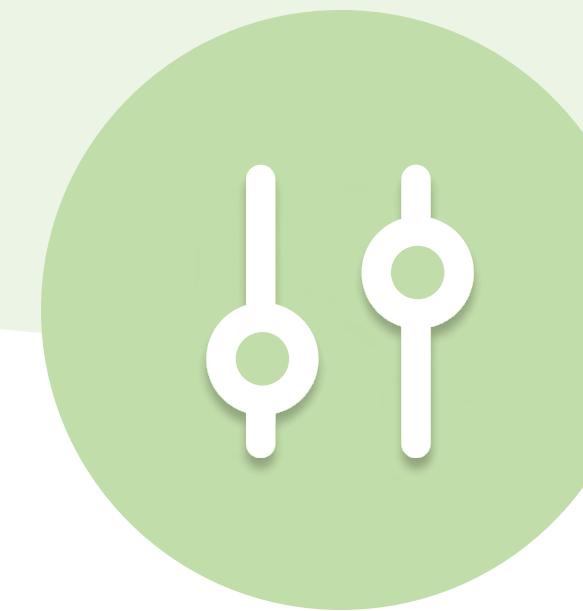
Subscription

Place **recurring** orders that are **editable**, accomodating for changing demand.



List View + Favorites

Enable quick scrolling to **view multiple items** at once. Allow users to select **favorited** items quickly.



Filter

Easily identify **seasonal** items without the use of a search bar.



Community

Reinforce community support through including **farmer's names**.

Competitor Analysis

We performed a competitor analysis on 9 grocery/produce delivery apps to compare and contrast features and note strengths and weaknesses to better inform our own designs.

	General Description	Subscription	Saved Orders	Produce Details	Marketplace	Cart	Delivery / Order Deadline	CSA Boxes	Menu	Visual Appeal
Instacart	Grocery Delivery & Pickup services from a variety of stores	N/A	- buy it again section with previous orders - "your recipes" includes ordered and favorited	- Popup - If it's packaged, section includes "details" (a quirky pitch), "ingredients," "directions" (how to store/preserve), and nutrition facts - If single item, then there's basically no details besides price/lb and price each (est.)	"Shop" - a couple of featured items sorted by broad categories each product thumbnail includes price, title, and quantity/order "Aisle" - sorted by categories (like aisles in a store) can't see individual products - Plus sign to add to cart Once clicked, quantity toggle appears	- Upper right corner - Order minimum enforced--Go to Checkout button is greyed out - Delivery fee minimum is at the top of the screen - Choose delivery time and instructions in Checkout	Order deadline time at the top of the screen	N/A	Navigation Bar: Shop, Aisles, Deals, Recipes, Buy it Again	Sleek, modern design
Amazon	Ecommerce Company	- in product details, there are two options: one-time purchase and Subscribe & Save: - Choose quantity and deliver every 1-7 weeks, 2-6 months notifies user which option is the most common	- "Buy again" tab in cart - each item has an "add to cart" button - filters and search	- rating - size, price/lb - delivery address - stock - total est. price - store/seller - brand, weight, diet, type	- Delivery name/zip code at top of screen - Items sorted by categories partially based off of buying history - Deal of the Day, self-care essentials, similar to your past purchases, buy it again, etc. - Tabs: groceries, pharmacy, in-store code, alexa lists	- Tabs: cart, buy again, in-store code, whole foods, Amazon Go - You can clip coupons - Change quantity/delete - switch like button, left side is trash, center is quantity, right side is add sign - Save for later section - delete or move to cart	N/A	N/A	- Navigation bar: home, profile, cart, hamburger menu - Hamburger menu contains search bar, common search categories/filters, shortcuts	- Overall, kind of cluttered - Weird layout for cart/checkout (button closer to the top) - Not a very coordinated color palette
WEEE!	- produce delivery app specializing in ethnic foods (asian, mexican, etc) - sells dry goods and random products as well	N/A	- can save within product details access saved list through profile - my wishlist	product details - made in: - unit quantity - freshness guarantee - bookmark feature - reviews - description - nav bar at the top to jump between sections	Can select delivery date from here + address - lots of different browsing collections - category filters (veggie, meat) can add to cart directly in marketplace - description - search bar	- type in quantity - X to delete item - recommendations and bought before - floating cart button - can change delivery date here - add \$XX for free shipping	- select delivery date by bubble format - can only go one week ahead can select on marketplace - can change in cart - shows warning when changing date would remove an item	N/A	- home (collections, browsing material) - explore (search) - restaurant - community (social media) - account (past orders, reviews, posts) - all in a nav bar at the bottom-	- clean, whites and blue-ish greys - cute icons for categories - kinda chaotic though, too many promo materials
Imperfect Foods	- sustainable grocery delivery app with a customizable subscription service that aims to reduce food waste at home - Delivers grocery week with recycled boxes. (take back the packaging after dropping off the order)	Yes. 1-2 people: 14-18 items 3-4 people: 16-21 items 5+ people: 18-25 items They prefill the box with curated items and then the customer can customize by adding/removing items from the cart.	- past order section "previous"	- high-quality image of selected item - price per x lb - add/remove quantity using the plus/minus button - "add to every order" button - produce details	- search, filter, cart located on the top right bar - "weekly deals" page is the very first standard page after signing up/logging in - plus button on the right hand side to add items to cart - various browsing categories	- [if subscribe to box] pre-selected groceries are already in the cart and the user can customize by adding/deleting each item - items selected from the marketplace in the cart	- enter zip code while signing up (very first step) and that will determine the delivery date - banner located on the tap to indicate the delivery date and when to expect the arrival - can change the box delivery frequency in the manage subscription tab	N/A	FILTER Featured category produce meat/fish dairy/deli snacks etc Weekly deals, game day groceries, valentine's treats, just arrived, last chance	- clean layout with cute illustration details - a lot text (feels cluttered?) & kind of confusing to navigate - has to include payment info before signing up
Local Harvest	Online produce delivery service that partners with local farms and restaurants	Yes, CSA subscription box - multiple boxes listed from different farms - customers choose a specific CSA box from a specific farm	N/A	- includes price per x lbs - add quantity by typing in description - organic items identified	- catalog - full list of items displayed on the right-hand side of the screen - customer can click on it and it shows the produce from multiple farms - items divided by farms (sort by distance, best selling, alphabetical, price) - to [zip/city], free shipping check	- edit quantity using the drop down bar - doesn't show a delivery date - subtotal, order total	N/A	Yes	home shop CSA farms farmersmarkets events newsletters photos search bar search specific produce or farms	- white background, green accents - clean, easy to navigate - old (early 2000s website design)
Open Food Network	online marketplace with anyone who grows, sells, and buys food. open source, nationwide products	- some shops have subscription orders - order minimum - edit order is redirected to another site - items are called 'shares' - duration of delivery is chosen	N/A	- title - item description - small business - unit price - total price - weight/size - organic	- list of items - filter by options changes by shop - shows if orders are open and when they're ready for	- review order - when order is ready by - login/guest checkout - cart summary - pop-up when trying to open another 'hub'	- shop is the only one with 'CSA ONLY' in its name - includes extra cost - special instructions/comments - products have a cost	stores map producers groups about donate english spanish	- white background, salmon accents - more modern and sleek design - infrastructure is a little weird	
Sprouts Farmers Market	App for supermarket chain	N/A	- purchase history section/ buy it again filter	4 tabs: May We Suggest, Ingredients, Nutrition Information, Reviews	- 4 Modes: Delivery, Pickup, Shopping List, Party Trays - First 3 look the same: grouped by categories: - Shop Organic Goodness, Game Day Snacks, Perfect Potato Pairings - Quick searches: on sale, buy it again, new, sprout brands, and other filters - 4 buttons: my list, purchase history, departments, get inspired with collections	- Pretty standard, can edit quantity, but CAN'T DELETE besides holding minus button - Can click + or - button or type to edit quantity - Doesn't allow user to proceed if order does not reach minimum - Informs user of time slot, editable	- Enter address when you click delivery mode - Or when you sign up	N/A	Weekly Ad Digital Coupons Departments Articles and Resources Recipes Download App Login/Register	- Unnecessarily complex, esp with the 4 different modes - Very LAGGY - weird information structure - hard to navigate without nav bar
Farm Fresh To You	produce subscription box program	- different sizes of boxes (small, regular, large) with different amounts of produce - select size and delivery - subscription appears before sign up	N/A	produce box details after clicking on "i" to find out more	N/A	N/A	- section in beginning to determine whether business or house delivery, with different days of delivery for each - can select day of the week for delivery + start date through barrel scroller	no CSA (not free) but still has produce boxes, only thing they offer	N/A	dark mode vibes orange and blacks



Mark Reyes

The Pragmatist

AGE	48
LOCATION	Glendale, CA
ETHNICITY	Filipino
STATUS	Married with family of 4
OCCUPATION	Kitchen Manager

Familiarity

Produce



Spreadsheets



Food Roots Ordering



Tech



Who is Mark?

Mark currently works as a kitchen manager at a local Taiwanese restaurant. His daily responsibilities include supervising the food prep and cooking, maintaining a fully-stocked kitchen inventory, and complying with safety and cleanliness standards. Currently, he orders produce twice a week from Food Roots. He usually orders the same items with the occasional addition of seasonal produce, though item quantity can slightly vary from week to week.

Goals & Motivations

- **Re-order previous deliveries** with slightly different quantities reflecting inventory changes
- Place orders without **spending too much time** specifying delivery date
- **View seasonal items** that are not always available

Frustrations

- Gets **confused by the clutter** of the current excel sheet
- Doesn't want to have to **manually reorder** the same items every week
- Doesn't know which seasonal items are offered on a week-by-week basis
- **Not familiar with icons and typical paths** of mobile apps

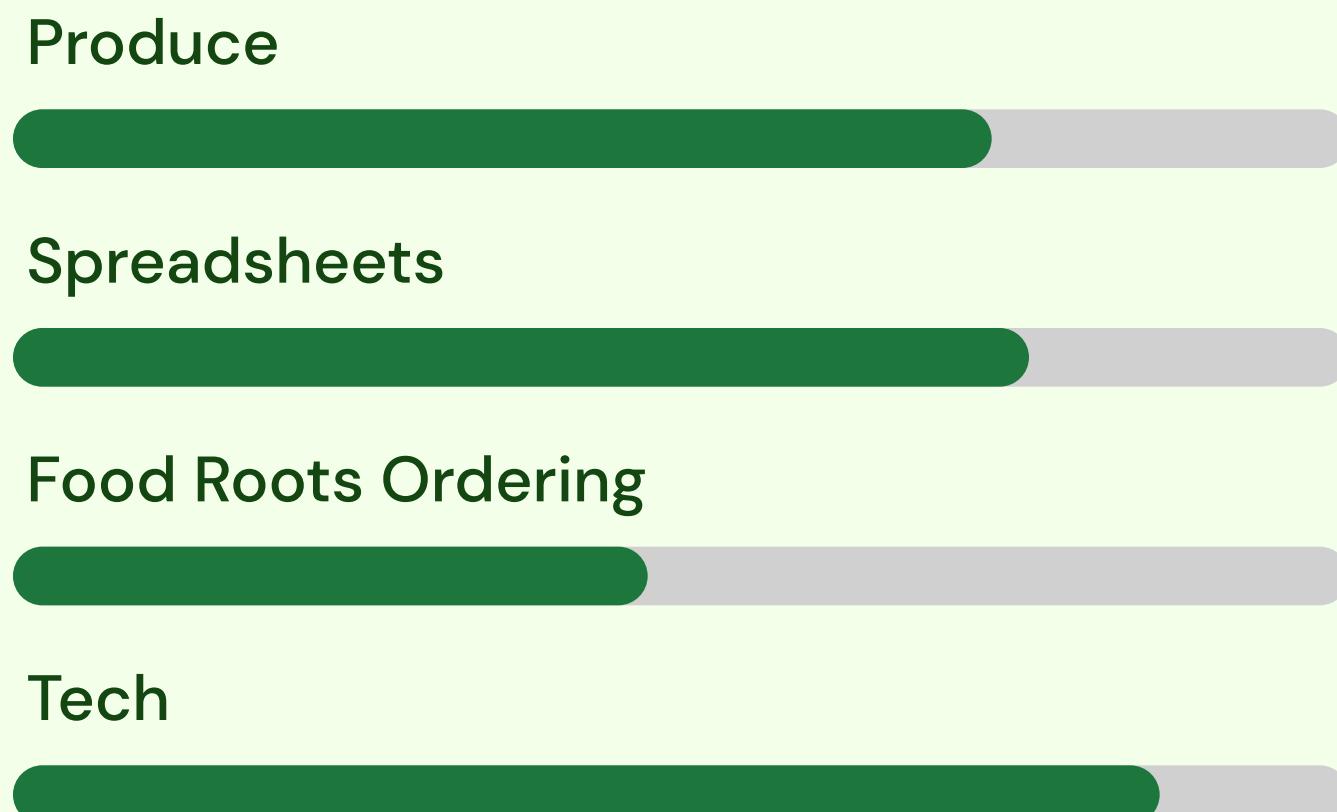


Seline Nguyen

The Entrepreneur

AGE	32
LOCATION	Los Angeles, CA
ETHNICITY	Vietnamese
STATUS	Dating, living alone
OCCUPATION	Cooking instructor, micro entrepreneur

Familiarity



Who is Seline?

Seline is a cooking instructor who teaches classes about pickling and fermentation. She orders produce for her students, so the specific items of each order depend on what class she is teaching and the quantity depends on the number of people who sign up. She tends to place her orders on the day of the deadline to accomodate last minute sign ups for her class. Since her orders tend to be quite small, she usually tags her order to a larger restaurant that also orders from Food Roots.

Goals & Motivations

- Be aware of **order deadlines** as she does not order consistently.
- Be able to leave **specific requests** for certain recipes.
- **Track previous orders** so she can get expenses reimbursed

Frustrations

- Does not like how she has to **re-enter contact information** every time she orders
- Is not familiar with **order minimums**
- Struggles with keeping track of **past orders**

Low-Fidelity Wireframes

The wireframes illustrate the user flow and interface design for the Food Roots mobile application.

1. Login Screen: Displays a large white background with a stylized white radish icon. Includes fields for Username (blueprint@ucla.edu) and Password, a Login button, and links for Forgot your password? and Don't have an account? Sign up.

2. Marketplace Screen: Shows a header with the time (7:02) and notification icons. It features a "Hello Sarah, Order your produce here!" message, a navigation bar with MARKETPLACE and SUBSCRIPTIONS tabs, and a grid of produce items. A central modal window displays an "Order Successful!" message with a placeholder image and a note about shipping.

3. Subscriptions Screen: Shows a header with the time (7:02) and notification icons. It features a "Good evening Sarah" message, a MARKETPLACE tab, and a SUBSCRIPTIONS tab. It lists two subscription plans: "Name for Sub" (Arrives every Monday and Friday, Bok Choy, Carrots + 3 more) and "Name for Sub" (Arrives every month, Ong Choy, Onions + 5 more).

4. Cart Screen: Shows a header with a back arrow and the word "Cart". It includes a note to add \$20.00 worth of produce for free shipping, a list of items in the cart (Produce \$100, Produce \$200, Produce \$200), a "Subscribe" toggle, and fields for Subscription Name, Repeat every (1 week), Repeat on (S M T W R F S), and Ends after (1 month). A Subtotal of \$500 is shown at the bottom.

5. Product Details Screen: Shows a large product image for "Produce XXXX farm" (\$4.99 ea). It includes a quantity selector (1), an "Add to Cart" button, and a "Continue" button.

Unexpected Challenges

1. Because of limited staff, Food Roots can only deliver on Mondays and Fridays.
2. Because produce availability is always changing, users cannot order one week in advance, making repeated orders/subscriptions difficult for Food Roots.
3. Due to a tight timeline, our team did not have the bandwidth to develop a subscription model.



Subscription

Place **recurring** orders that are **editable**, accomodating for changing demand.

Past Orders

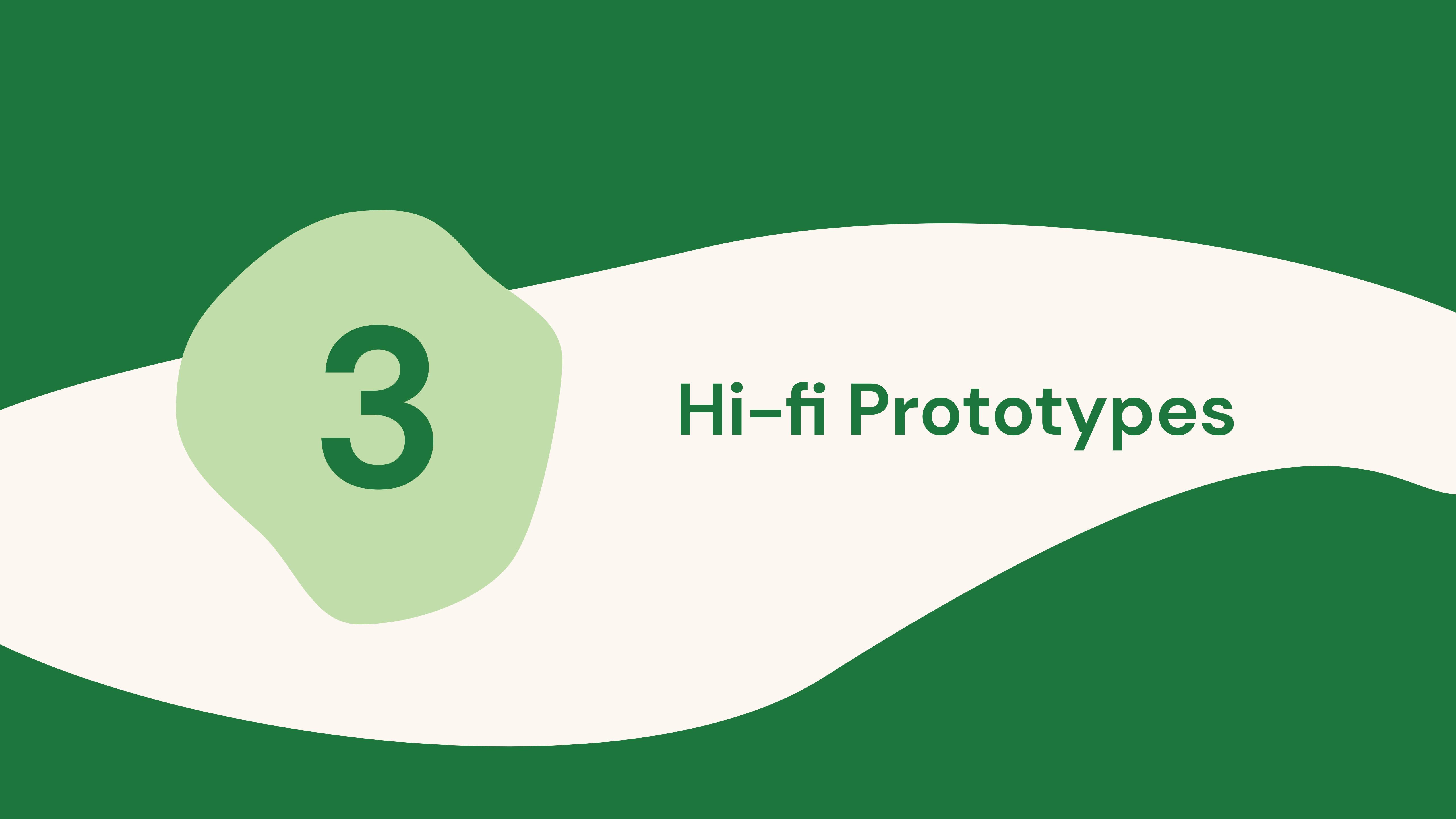
Access **previous orders**, make **adjustments**, and reorder according to changing demand.

Usability Testing

After we completed our hi-fidelity prototype, we conducted usability testing over Zoom to identify pain points and successes users are experiencing while navigating the app.

Key Findings

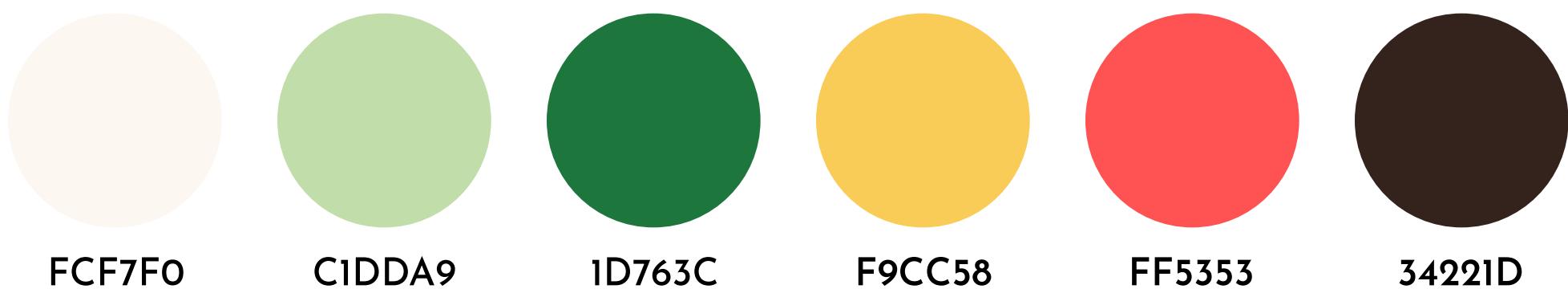
1. The overall design is **efficient, easy to use, and visually appealing.**
2. Past orders screen should include an **editable** quantity flow.
 - a. Restaurants are always changing stock. Although they may need the same item, the quantity varies by what is still available in their stock
3. For the quantity count of total items in the cart, the number should represent **total pounds** as a quantity.
 - a. Clients use the total pounds as an indicator of **how much they've ordered in total**, rather than individual unique items.



3

Hi-fi Prototypes

Colors



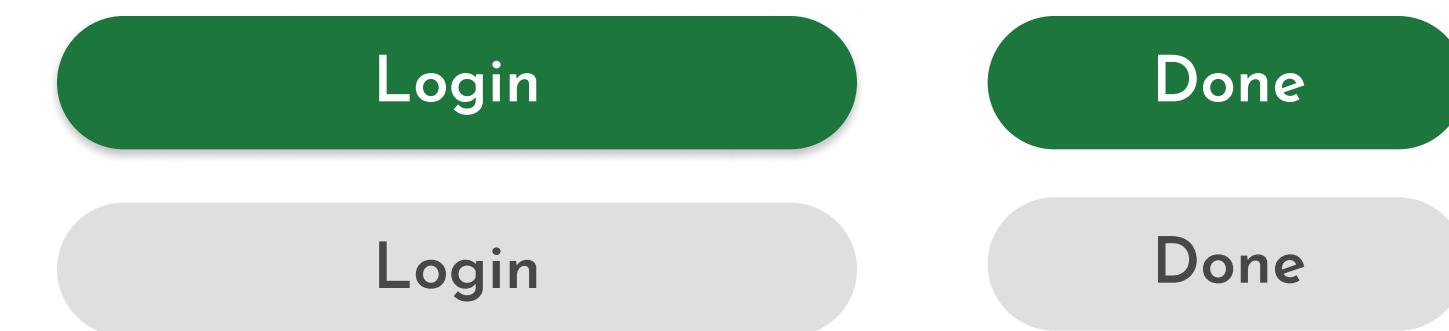
Branding



Ideaology

Design with a clean, fresh and simple look that is easy to use & create shapes with an organic flow that leave a comforting impression on users.

Buttons



Typography

Header - SemiBold, 24 pt

Subheading - Semibold, 18 pt

Regular text - Regular, 16 pt

Tiny text - Regular, 14 pt

01. Login & Onboarding

When users first open the app, they will be directed to the Onboarding process to make an account.

Users will be prompted to add personal information necessary for the purchasing process, as well as delivery details and reading the Terms of Conditions.

Once users are finished signing up, their accounts will be pending approval by Food Roots Harvest before they can start browsing the mobile app.

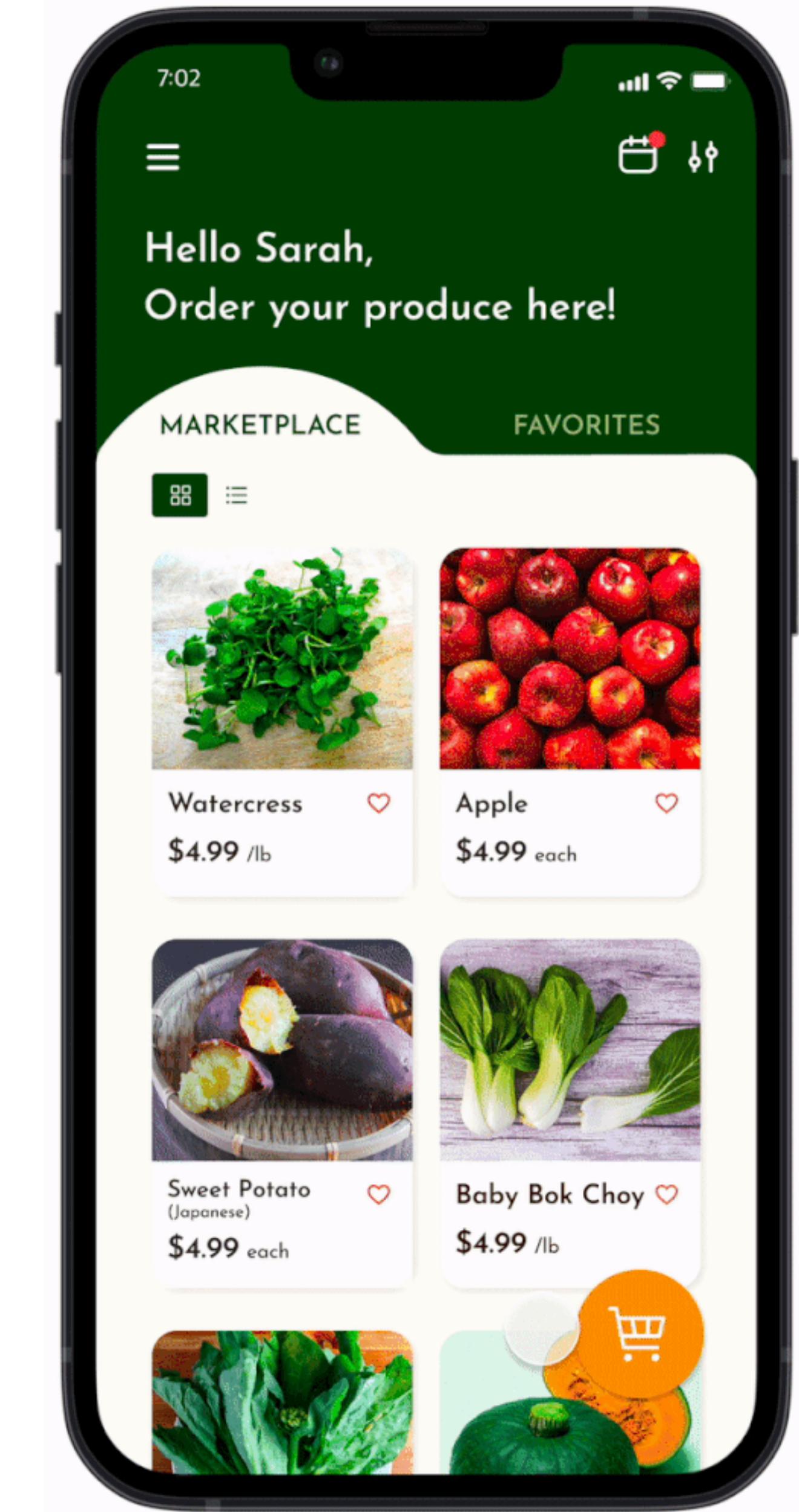


02. Marketplace

The Marketplace is where users can browse, favorite, and purchase produce from Food Roots Harvest.

Our design team implemented a few features to help smoothen the user experience, such as:

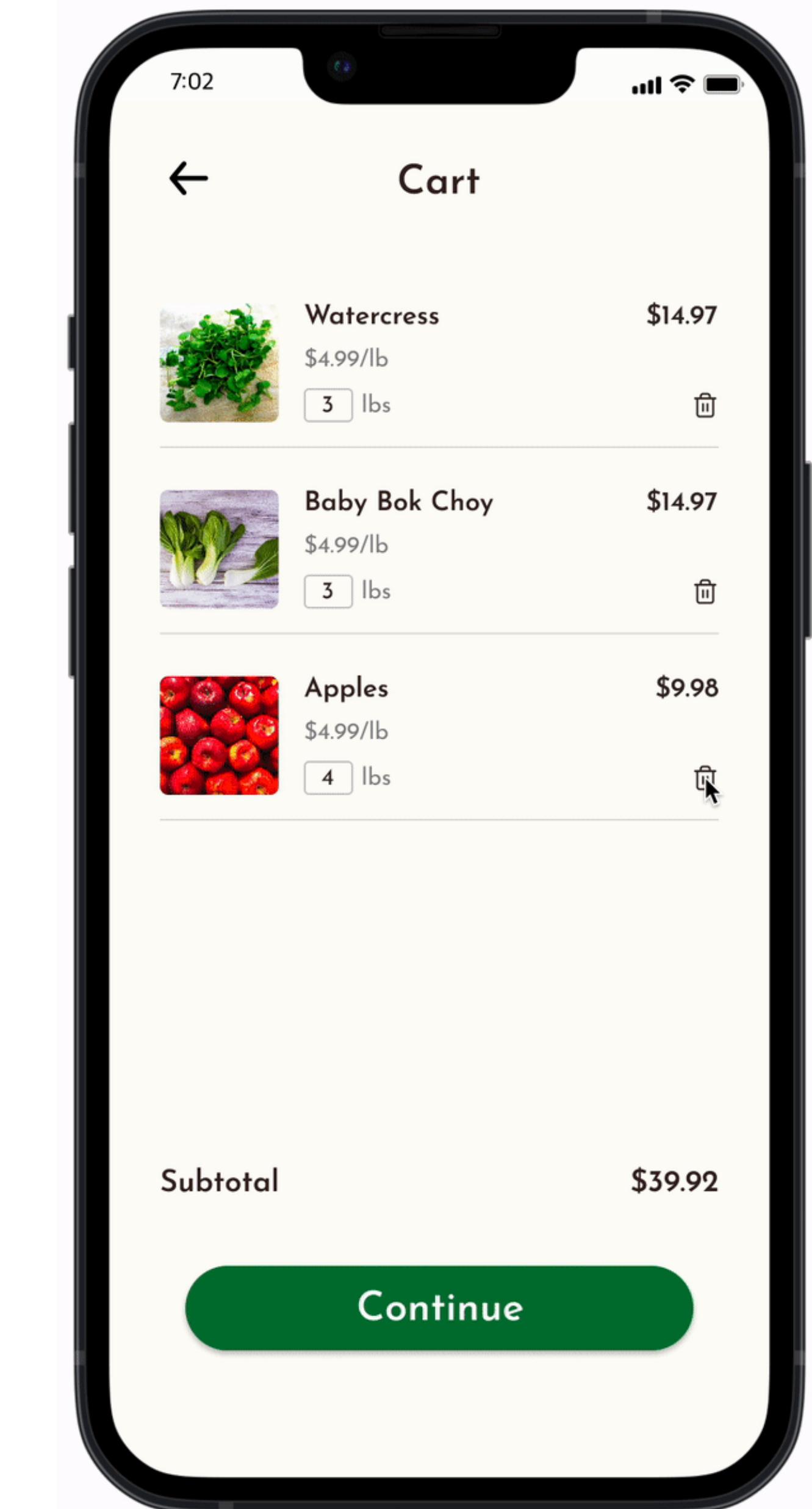
- Calendar: ensures users are aware of order deadlines.
- Sort & Filter: categorize and organize items in different ways.
- List View: help users view multiple items quickly.
- Favorites: enables buyers to find frequently-purchased items.



03. Cart

The Cart is where the buyer can see all of the produce they added to purchase, and where they can finalize checkout details.

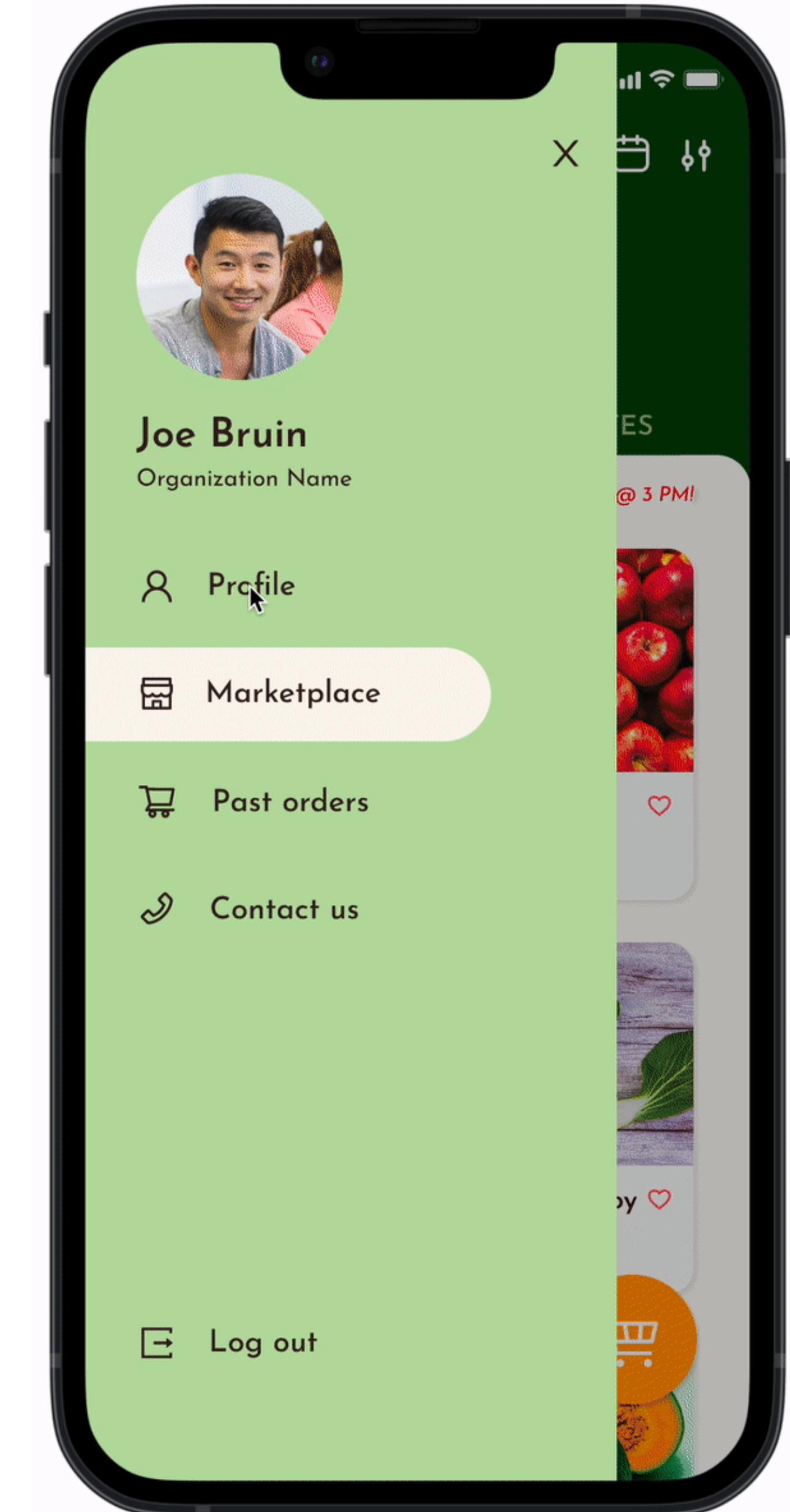
Within the Cart, users are given multiple opportunities to review their items and respective costs before finalizing their purchase, and are able to edit item quantity, remove unwanted produce, and edit/add delivery addresses.



04. Profile

If a user needs to change any of the personal information that was first inputted during the Onboarding process, they can do so through their Profile.

Contact information, delivery addresses, and avatar images can be edited here. The avatar images were designed and created by our own team!

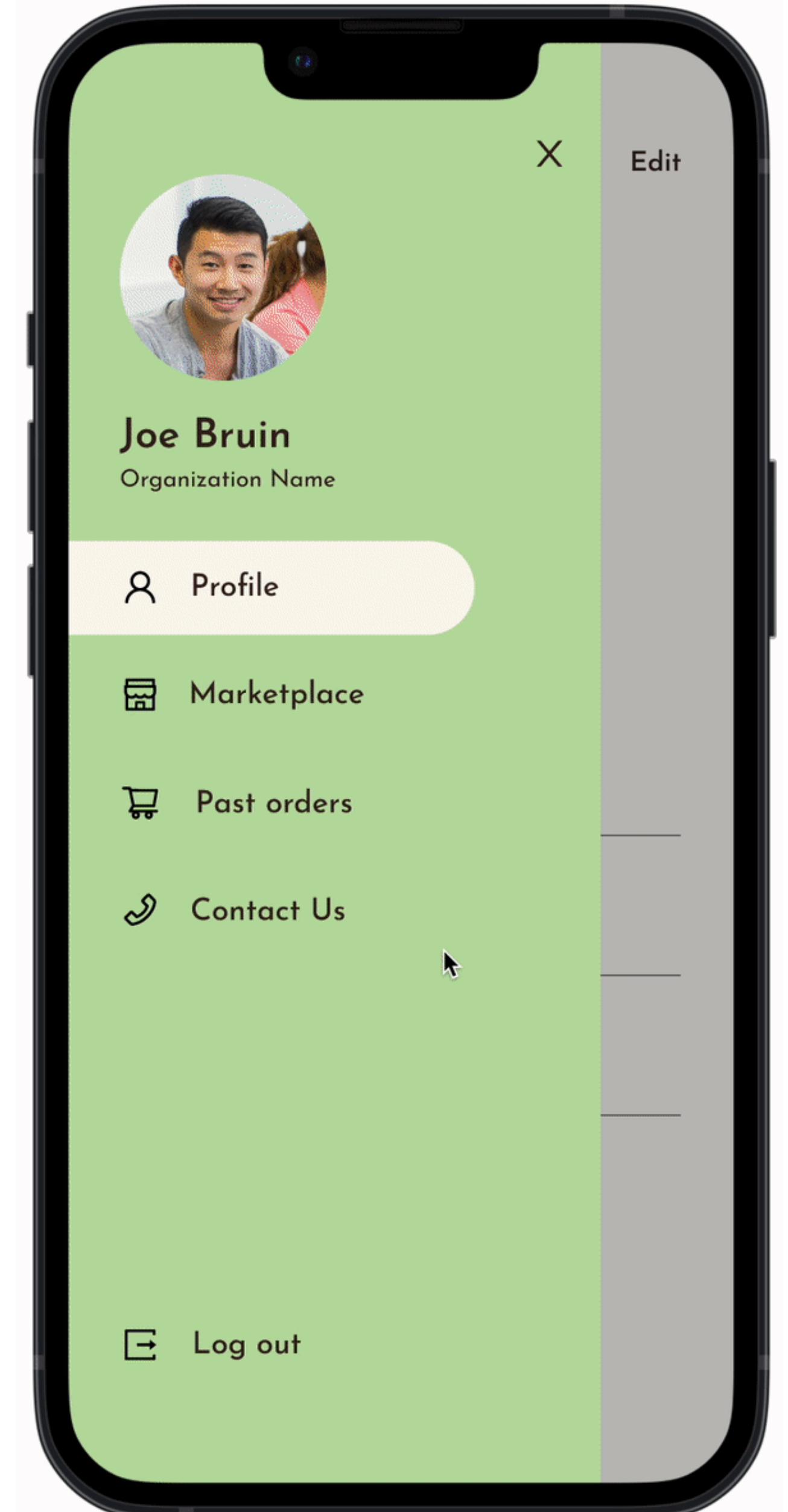


05. Past Orders

In the case that customers typically have similar orders as weeks go by, they can quicken their purchasing process by accessing Past Orders.

Here, all of the users' past orders will be stored and customers can place the same order again, with the ability to remove items or adjust quantity if needed.

Past orders can also be ordered on a different date, but customers must be wary as some items are only available for specific delivery dates.





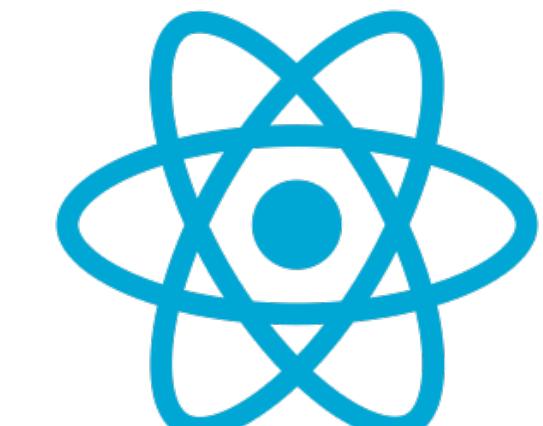
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Dev Demos!

Our Tech

Mobile Application: React Native

- For frontend and mobile development



React Native

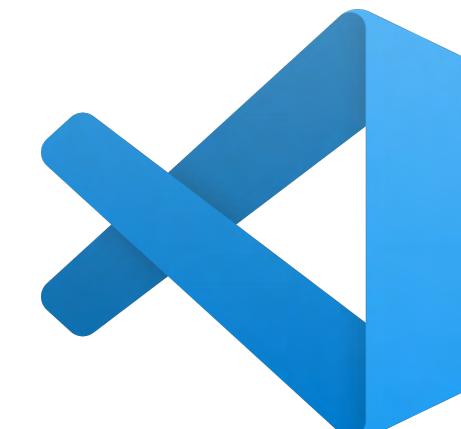
Cloud Provider: Airtable

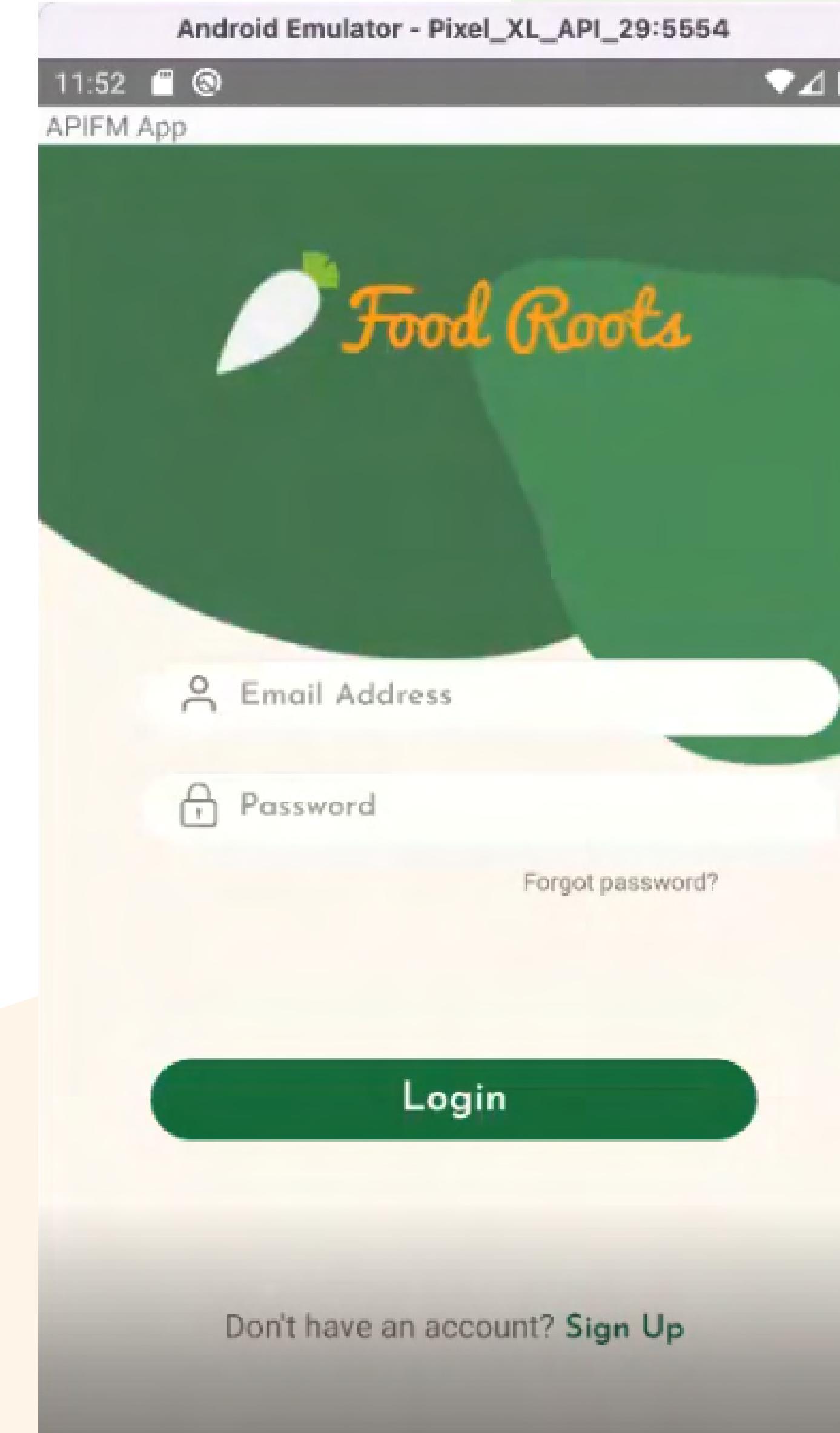
- For backend and database management



Server Support: Airlock

- For added security and middleware support



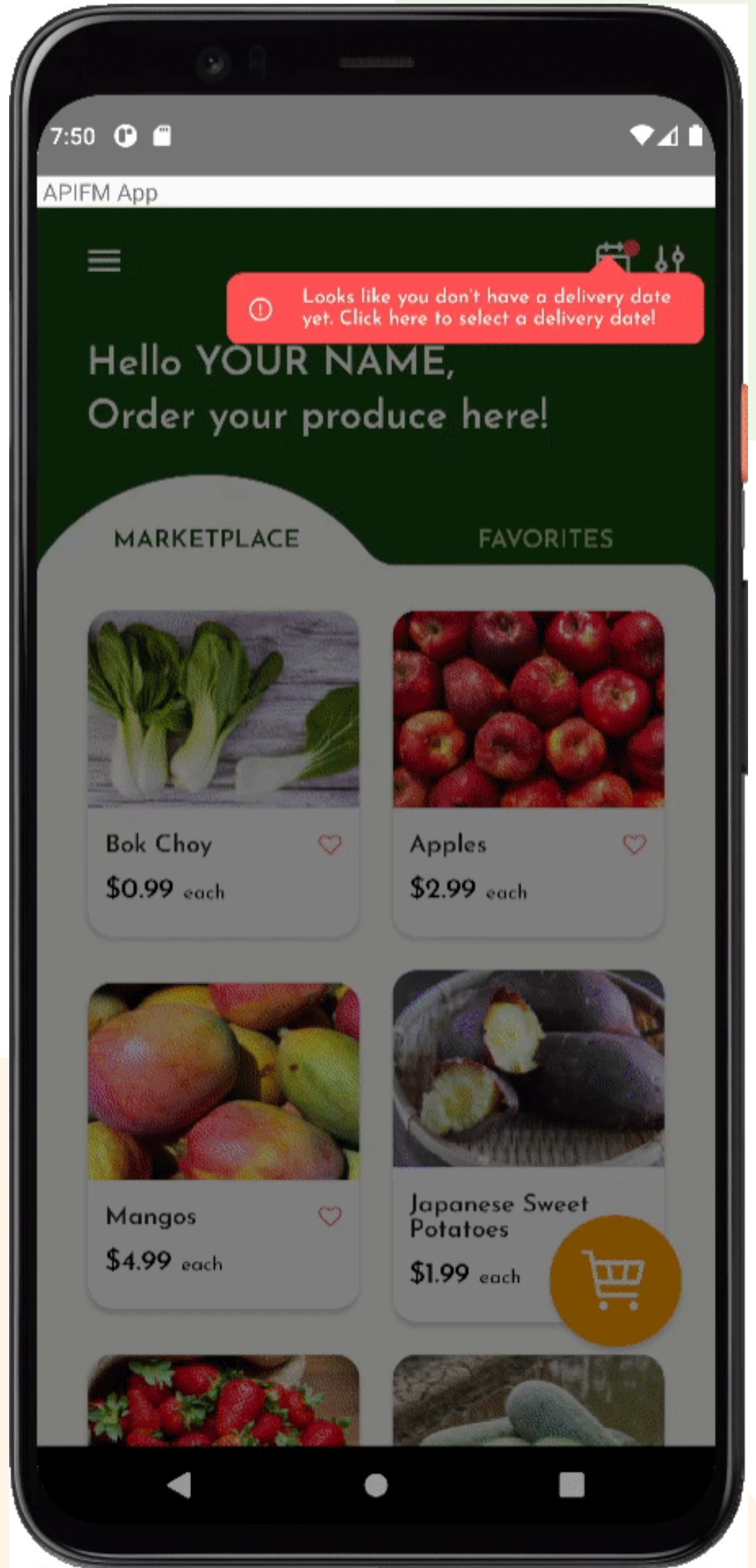


01. Login & Onboarding

Upon opening the app, users will come to the Landing Page where they can either login as an existing user, or create a new account.

The sign up form has multiple pages of user info, and performs content checking on each user input. For example, phone numbers must be the right length and all numerical values. These features utilized conditional rendering, text input, and string/regex parsing.

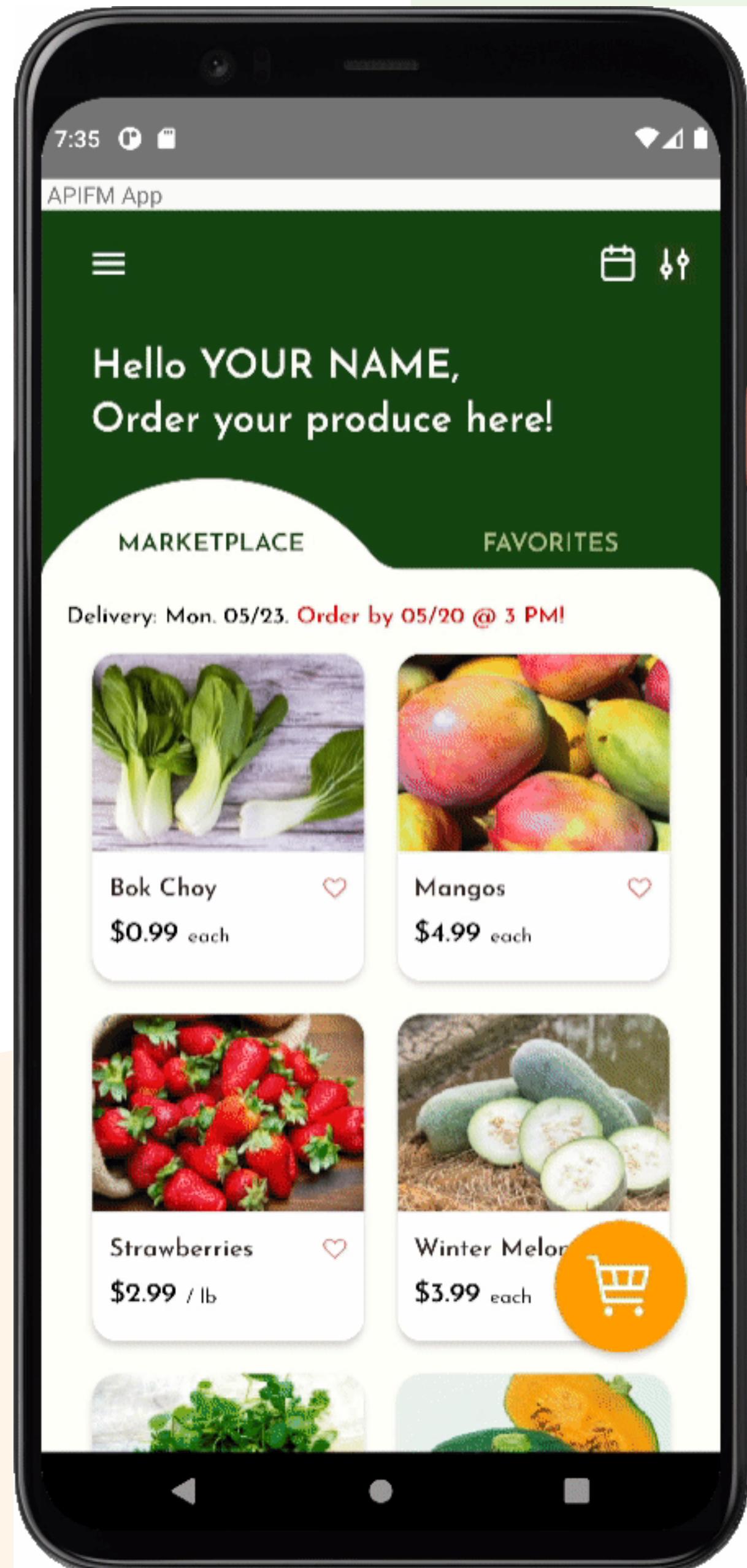
02. Marketplace & Favoriting



On the marketplace landing screen, an individual has the options of selecting the calendar, filtering the produce, viewing their favorites, and accessing the cart screen.

The cart icon in the bottom right takes the user to the cart screen.

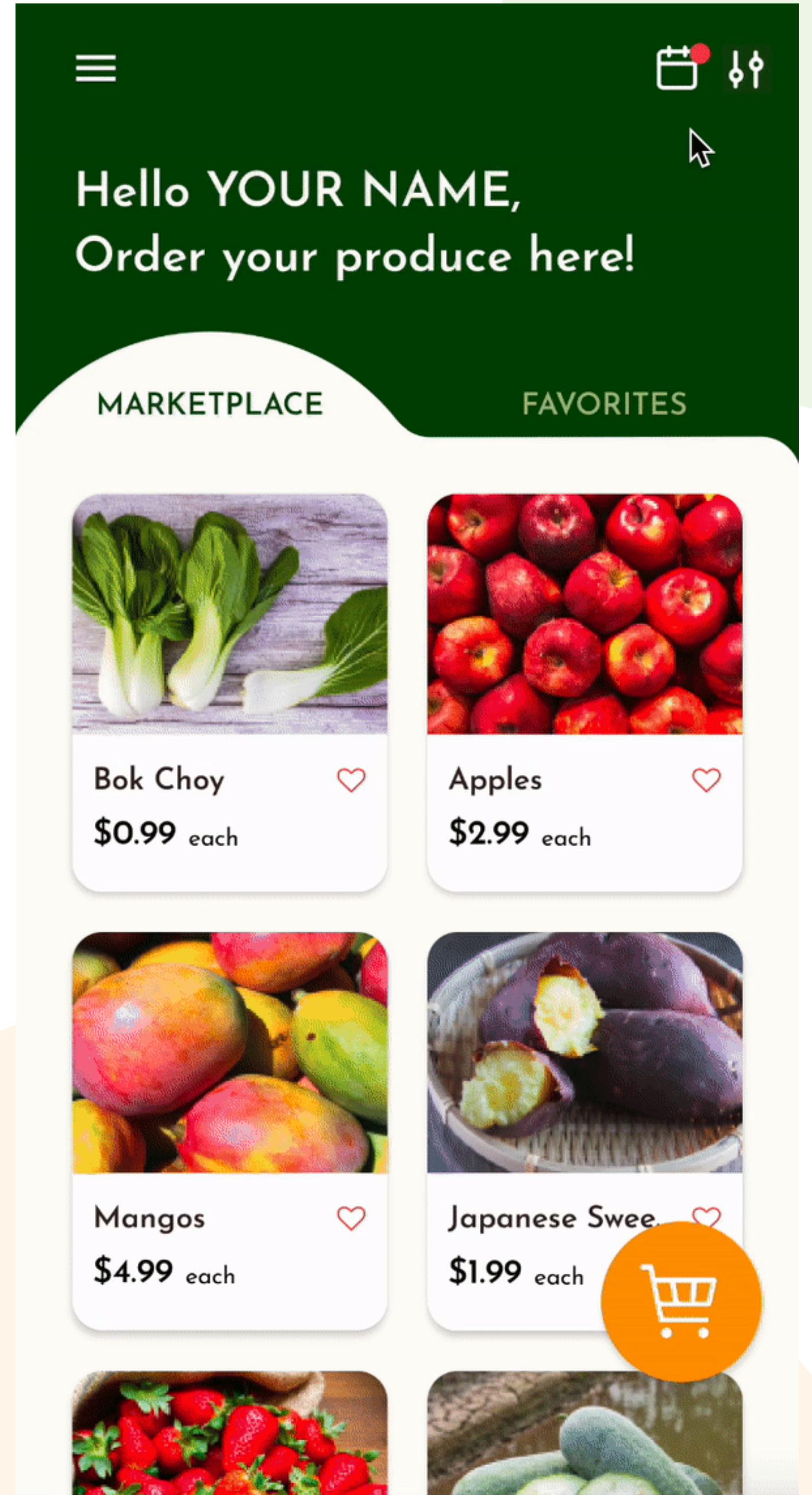
03. Produce Details



Tapping on a Produce Card allows a user to access details on the produce, specifying the produce's seller, produce tags, units, and price.

On the screen, a user can add to their favorites list or adjust the quantity they want to order using either the increment or decrement buttons or in the input box.

In addition, this is where a user can add produce to their cart for checkout.

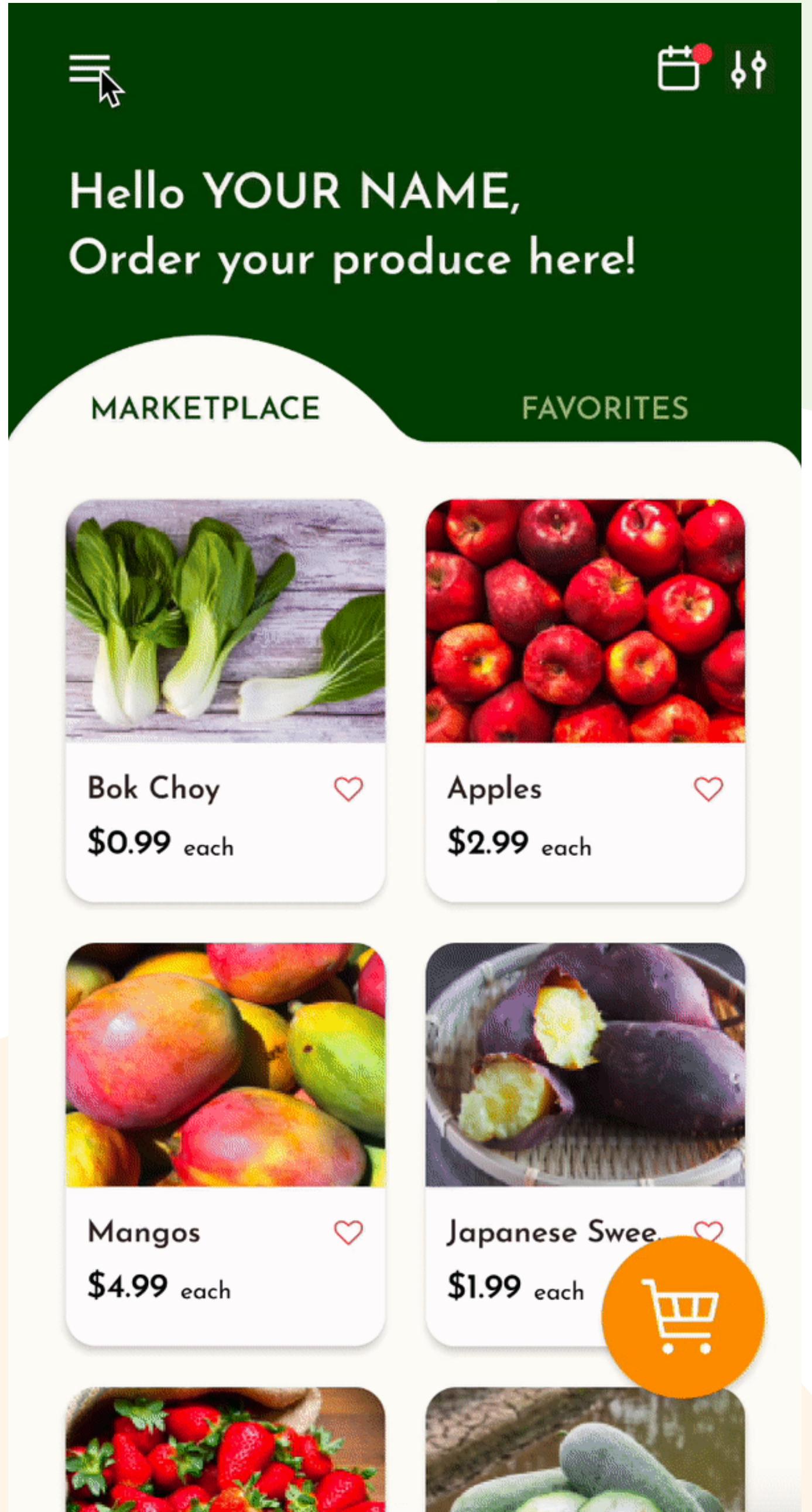


04. Calendar & Filter

Setting desired delivery date will display a message telling the user when to order by, and show only produce options that can be delivered by the selected date

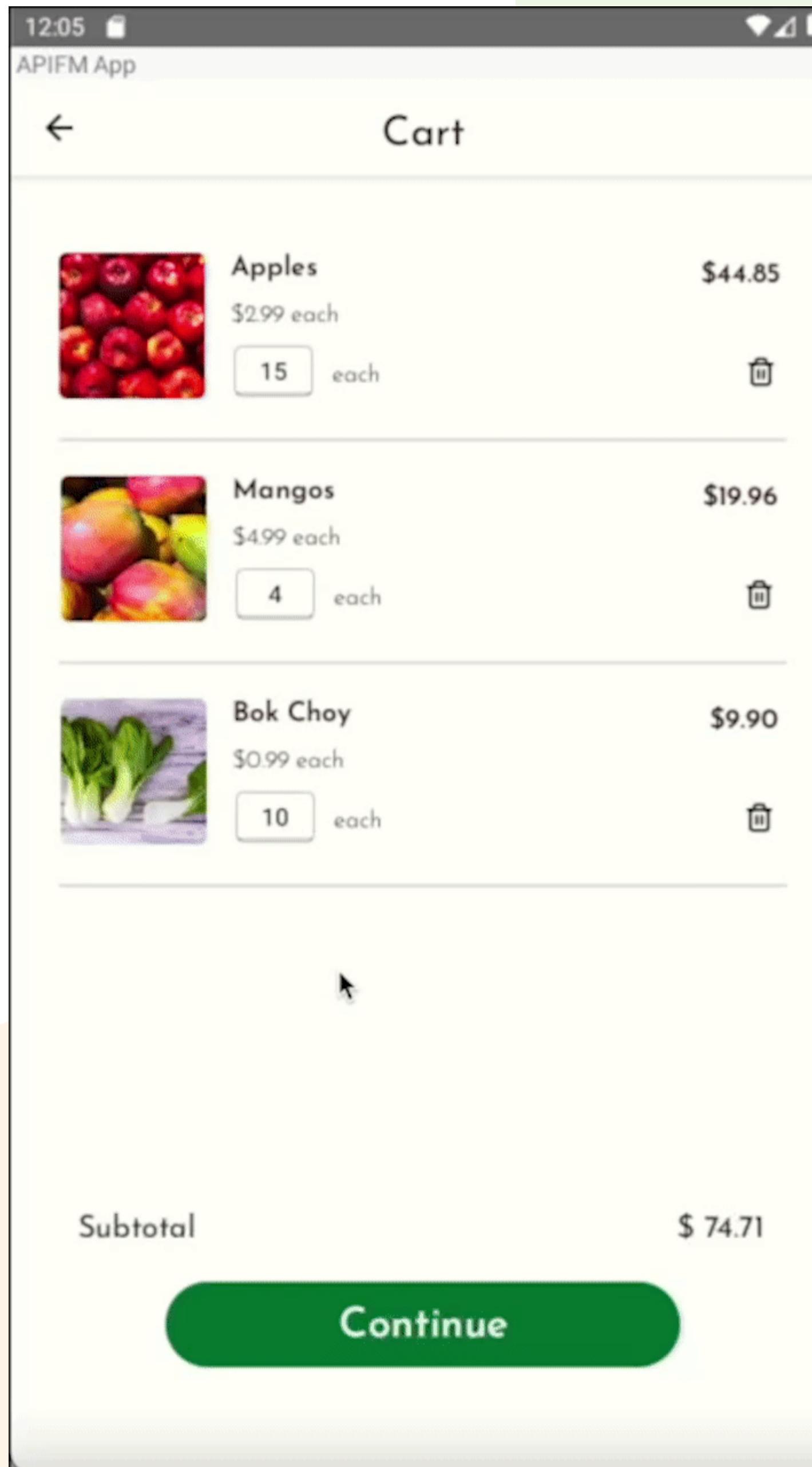
The filter menu contains options to sort produce alphabetically or by price, as well as filtering by vegetable, fruit, or seasonable produce

05. Hamburger



Navigation menu that can take the user between commonly used screens in the app, or sign out

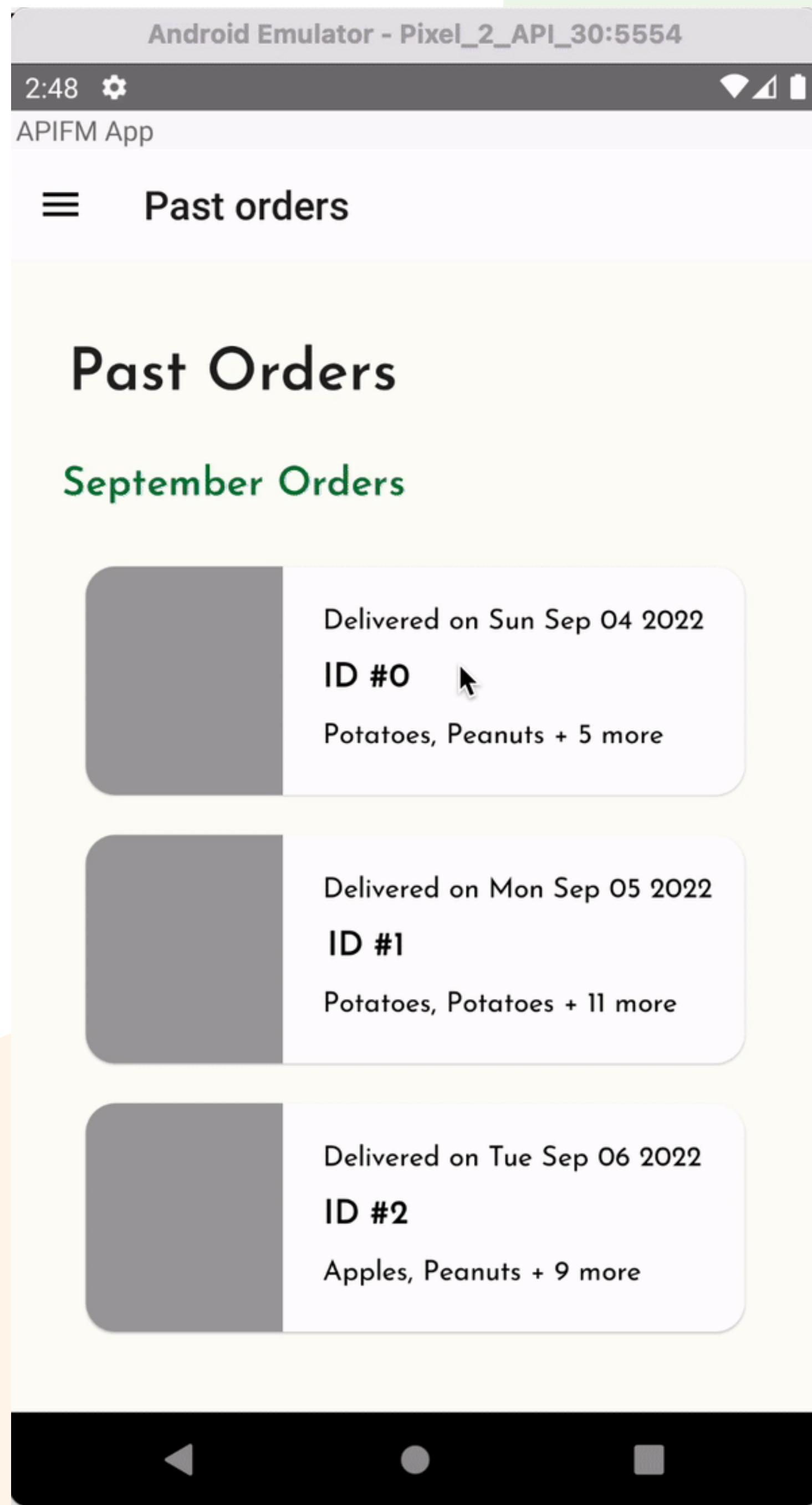
06. Cart



Clicking Cart icon in upper right corner of Marketplace takes you to your personal shopping cart

From there, you can edit item quantity and delete items

By clicking "Continue", you are taken to the Checkout screen where you can see your final price and then checkout officially, which sends your order to Food Roots



07. Past Orders

The Past Orders screen can be accessed through the hamburger menu. The main screen displays cards for each of the past orders that the user has placed, sorted by date. The cards display a sneak peak of the items that were ordered.

The user can click on any of these cards to see the order summary in detail. They can also optionally click the order again button, which populates the items in this order into their cart, and takes them to the cart screen.



Thanks to...

