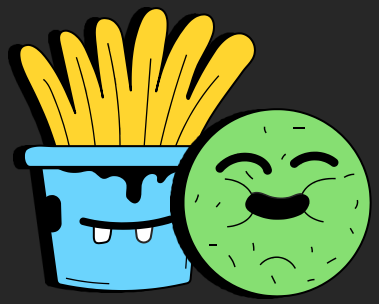
COGS187A FINAL PROJECT
Redesigning UC San Diego's Triton2Go MobileOrder App.



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AI was not used to generate any written content; it was solely used to facilitate the generation of prototypes and sketches. All ideas presented are ours.

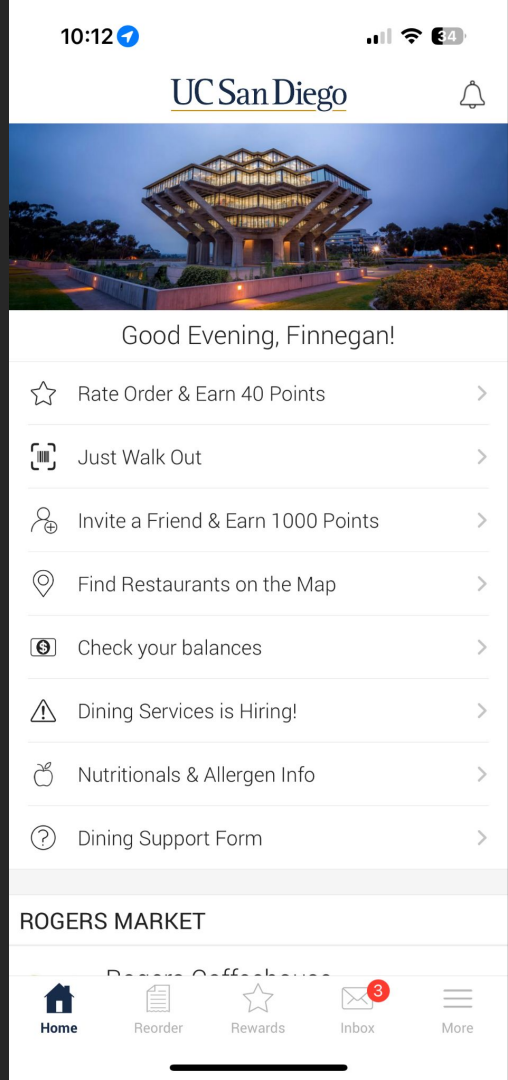
AGENDA

Enter Team Planning Document: Click Here for Link

Introduction

We decided to test the **Triton2Go mobile app**. The reason that we decided to test this app is because throughout our collective time at UCSD, we all managed to easily brainstorm multiple pain points that we ran into while using the app. Redesigning the UI for this app has potential implications in all of our future job prospects, so we figured that this app in particular makes for a productive project.

User testing: For user testing, we are selecting college students that have familiarity with mobile apps meant for ordering food. We decided that this would be an appropriate testing group because it will allow us to find major errors within the app as opposed to surface level violations, which will be more important to address in designing an app that has industry standard functionality and interfacing.



First User Testing Plan - Prep Phase

To begin the user testing plan, we started with three brief questions to understand each participant's background and habits related to food ordering:

1. Do you have any dietary restrictions or preferences?
2. If yes, how often do these affect what you order?
3. How confident do you usually feel ordering food through apps?

Data Capture Method

We will use multiple methods to capture insight, including user quotes, moments of hesitations, errors or confusion, and successful strategies.

- One facilitator will lead the interview and guide the participant through the tasks.
- One note-taker will observe, document behaviors, and capture direct quotes.

Each session will last approximately 10–15 minutes and follow a think-aloud protocol.

USER SELECTION CRITERIA

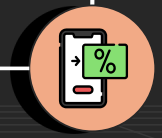
Mobile App Users

Participants should have prior experience in using mobile food-ordering apps. This ensures they are familiar with common ordering flows, menus, and filtering processes, allowing them to focus on evaluating the redesigned features rather than learning basic app mechanics. Their familiarity supports more efficient testing and richer feedback on usability and task completion.

Dietary-Aware Users

These users are ideal participants because they actively consider dietary restrictions or preferences, whether for medical, ethical, or lifestyle reasons. Their awareness allows them to provide informed feedback on the clarity, accuracy, and usability of dietary filters, ingredient labeling, and customization options. They can also highlight areas where the app's redesign either supports or hinders safe and confident food ordering.

Tech-Literate Users



Participants should be generally comfortable navigating digital interfaces, ensuring that difficulties observed are likely due to design issues rather than a lack of mobile or app literacy. This allows the test to more accurately evaluate the redesign's effectiveness, efficiency, and clarity.

Limitations: *Because all participants are digitally literate and experienced with food apps, the study may not fully capture usability issues faced by less tech-savvy users. Additionally, dietary-aware users may be more sensitive to labeling and filtering than the average user, which could exaggerate certain frustrations or highlight issues that casual users might not notice.*

CONSENT STATEMENT

Before beginning, participants will be informed that the session is voluntary and they may stop at any time. We will ask for explicit consent before recording video or audio. No personal information will be collected beyond the interview questions.

First User Testing Plan - Test Phase

Task 1: Exploration, Warm Up
Imagine you're on campus and want to order food quickly using the Triton MobileOrder app. Without changing any settings, browse the app and talk out loud about what you notice and what you would normally do next.

Task 2: Single Dietary Restriction
Now imagine, you need to order food that fits one dietary restriction (for example, vegetarian, vegan, gluten-free, or dairy-free, choose one that applies to you or pretend one does). Use the app to find something you would feel comfortable ordering.

Task 3: Multiple Restrictions
Now imagine you have two dietary concerns at the same time (for example, vegetarian and lactose-intolerant). Try to refine your search so that all remaining options meet both needs.

Task 4: Confidence and Verification
Choose one item you think meets your dietary needs. Walk us through how you would verify that the food is safe or appropriate for you. Explain anything that makes you uncertain.

Task 5: Reflection and Ideal System
Reflect on this experience. What was the most frustrating part of finding food that meets your diet? If you could change one thing about how the app supports dietary needs, what would it be?

USER 1 TOP 3 ERRORS

No Effective Filtering

The system lacks a meaningful structure of a semantic filtering model that maps dietary restrictions to menu categories, forcing manual inspection.

No Visibility in Choice Space

Users cannot see how many valid options remain, revealing an opaque information architecture that increases cognitive load, forcing trial-and-error methods of looking for applicable food items.

Fragmented Ingredient Information

Critical allergen data is buried across screens, indicating an information architecture that separates decision-critical info across inconsistent layers, particularly in “Build-Your-Own” orders.

USER 2 TOP 3 ERRORS

No Functional Dietary Filtering System, with Misleading Signifiers

This user tried icons, search bar, allergen information link, tapping items that appeared interactive but weren't, indicating inconsistent affordances.

Poor Navigation Model

Hidden gestures (double-tapping map), map inaccuracies (location bugs), and inconsistent menu access show a navigation structure with weak internal logic.

Inadequate Food Information

The user couldn't rely on existing information to verify whether items were safe. Unclear descriptions and non-standard icons reveal a semantic layer that fails to support dietary comprehension.

USER 3 TOP 3 ERRORS

No Ability to Hide Food That Do Not Meet Restrictions

Scrolling past item after item created frustration, cognitive overload, and slowed them down.

Double-Checking Multiple Screens to Verify Ingredients

Dietary states do not propagate reliably across screens.

Repeated Restaurant Switching for Safe Options

Users cannot check restriction-appropriate menus at a glance. The app offers no cross-catalog filtering or global overview of valid choices.

USER 4 TOP 3 ERRORS

No Reliable or Trustworthy Dietary Filtering Mechanism

The system lacks a dependable logic engine for multi-restriction needs, violating error prevention.

Effort Required for Ingredient Confirmation

Indicates a failure in information architecture and visibility of system status, because the system does not clearly indicate whether a dish satisfies the combination of restrictions the user has.

Difficulty Determining Viable Choices Quick

The information architecture provides no summaries or counts of valid options for user's needs, forcing inefficient navigation and guesswork.

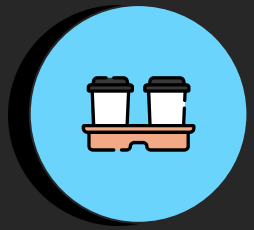
OVERALL MAJOR PROBLEMS

No Filter System

The app can't reliably filter by dietary needs, making safe selection nearly impossible.

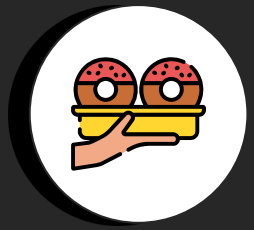
Manual Checking

Users must inspect items one-by-one, creating huge cognitive load and slowing decisions.



Allergen Information

Ingredient and allergen details are inconsistent and buried across multiple screens.



Option Visibility

The system never shows how many valid choices remain, forcing guesswork and repeated scanning.

Analysis 1: First User Testing

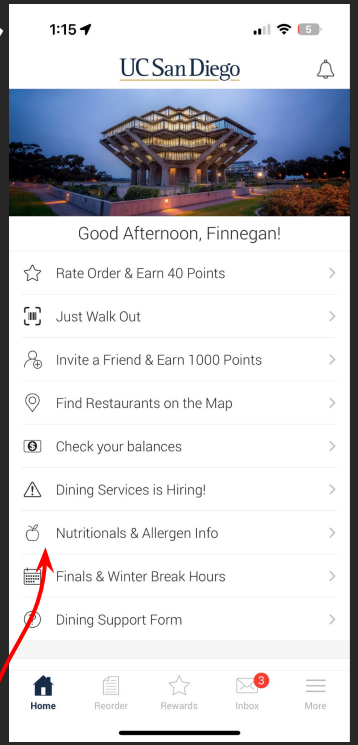
The most severe weakness is the **lack of a functional dietary filtering system**, which directly contradicts core usability principles such as efficiency of use, user control and freedom, and matching the system to real-world needs. Every participant attempted, in different ways, to narrow the menu to foods that fit their dietary restrictions, yet none were successful. Users 1 and 4 were forced into manual searching; User 2 tried icons, the search bar, and even external links, all without success; and User 3 explicitly wished the app would "not show food she can't eat." This failure made Tasks 2 and 3 essentially impossible, demonstrating a critical breakdown in primary user goals.

The second major weakness is that **users are forced to inspect items one-by-one**, creating excessive cognitive load and slowing the decision-making process. This problem violates usability principles like recognition over recall and visibility of system status. Instead of seeing at a glance which foods meet their needs, users must remember their dietary constraints while scanning long lists of irrelevant items. All users experienced this burden: User 1 spent minutes checking items individually; User 2 scrolled through entire menus looking for icon matches; User 3 repeatedly reopened items to double-check ingredient lists; and User 4 got very disappointed when they found that some restaurants don't even have any food item that matched her restriction, after manually searching whole menus. This one-by-one inspection pattern creates inefficiency, increases the likelihood of errors, and significantly reduces user confidence, especially for individuals with allergies or intolerances who cannot afford mistakes.

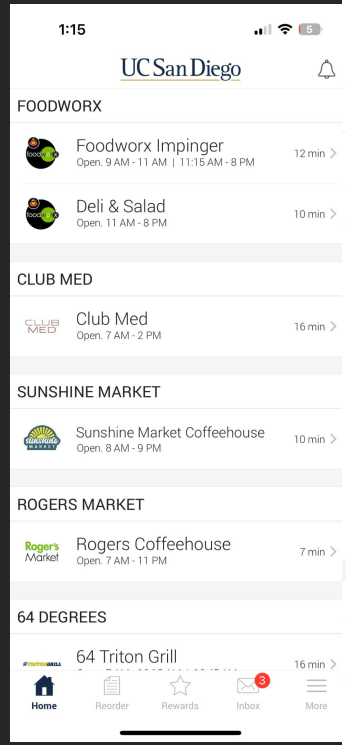
The third major weakness is the app's **poor information architecture around dietary content**, which includes unclear icons, incomplete descriptions, and inconsistent details across screens. This issue violates principles of consistency and standards, error prevention, and help/documentation. For example, User 2 didn't understand terms in food descriptions, questioned what the icons meant, and found the Allergen & Nutrition link misleading. User 1 had to navigate multiple layers just to confirm ingredients, while User 3 described the icons as adding cognitive overload because they required constant verification on multiple screens. While User 4 said they trust the labels, they mentioned that having additional pictures of food would be great for further details. When dietary information is unclear, inaccessible, or buried, users are unable to trust the system, which ultimately undermines the most critical step of the ordering process: verifying that the food is safe to consume.

Component Selection for Redesign

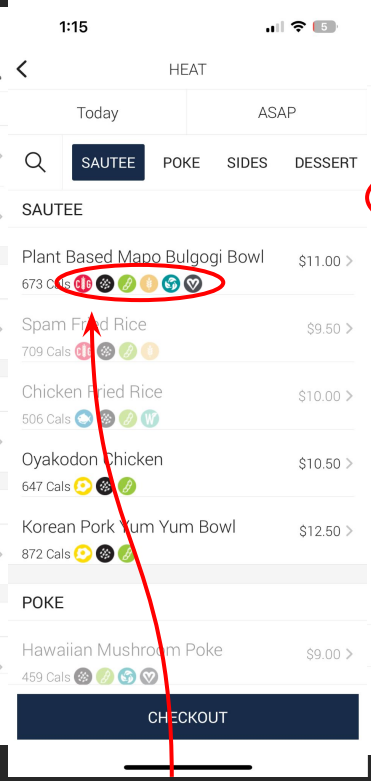
The biggest takeaway from our user testing was that finding food as someone with dietary restrictions / preferences is a huge pain point. Users are forced to navigate through multiple pages in order to find information on whether the food contains particular allergens or things that someone might want to avoid. While there are little icons, it is not a very robust system, and lacks efficiency, and ease of use.



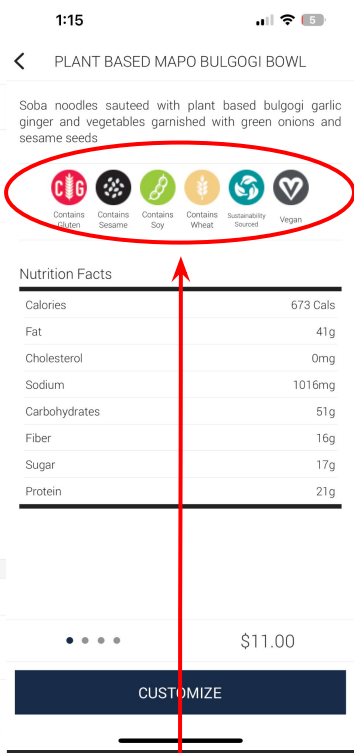
First page doesn't offer dietary information, this button is misleading, it doesn't display nutritional or allergen information



After scrolling down, you can see that restaurants also lack dietary information



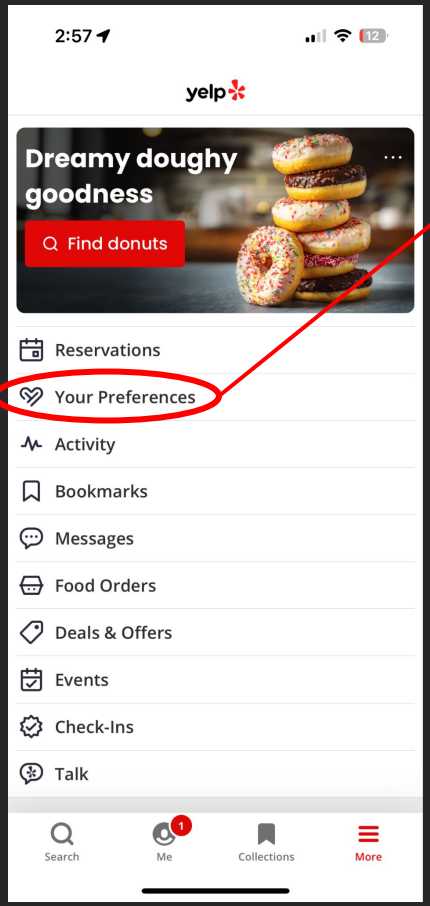
After clicking into a restaurant, you can see what is offered, but dietary options are only shown in little icons

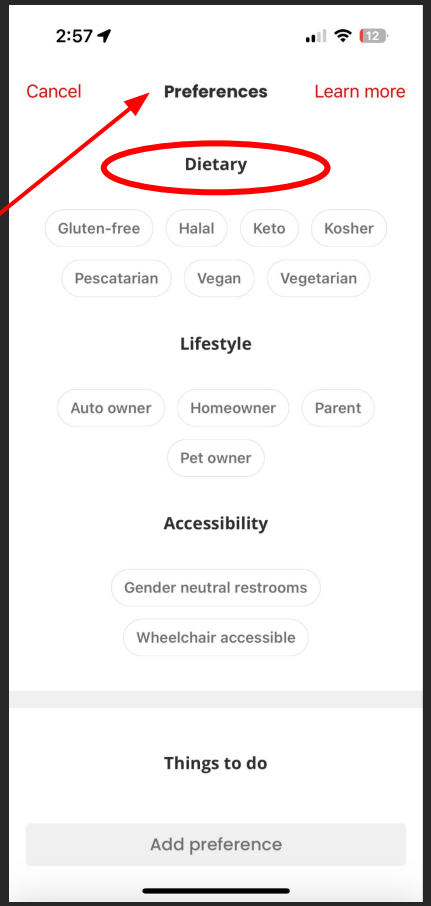


Finally after clicking on a food item, you can clearly see nutritional information and what allergens the food contains.

Competitive Analysis: Yelp

To address the issue of food allergies and filtering out options based on personal preferences, Yelp has a rather creative approach. On Yelp, if you navigate to the more section, you can find a "Your Preferences" menu that allows you to get better results and recommendations when exploring food options.



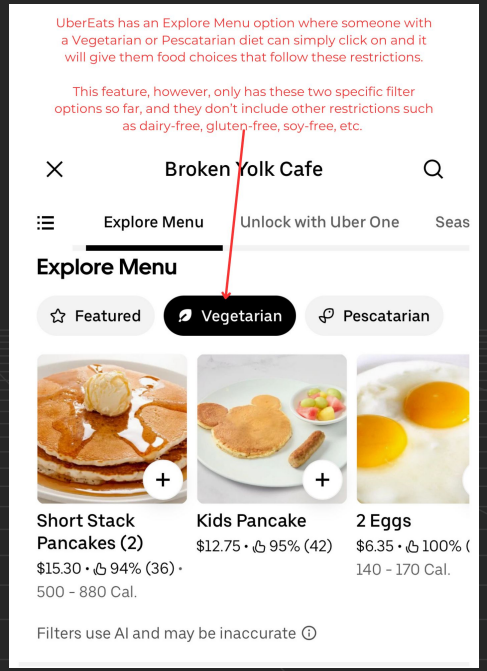


This option of having a preferences tab works well to achieve Nielsen's Heuristic 7: flexibility and efficiency of use. This system of preferences sets up regular users for predictive suggestions, and shortcutting having to set specific filters for each new search. This helps to bypass step by step selections of dietary preferences, achieving efficiency of use. However, a first time user might not know that they have to navigate to the "more" tab and then to "preferences" in order to set dietary preferences. For a site that is built for ordering food, dietary preferences should be incorporated into the "ordering" page, or the landing page of the app. However, it would be advantageous to allow users to lock in their preferences like how Yelp offers this so that users don't have to constantly reconfigure preferences.

COMPETITIVE ANALYSIS: UBEREATS

SWOT ANALYSIS

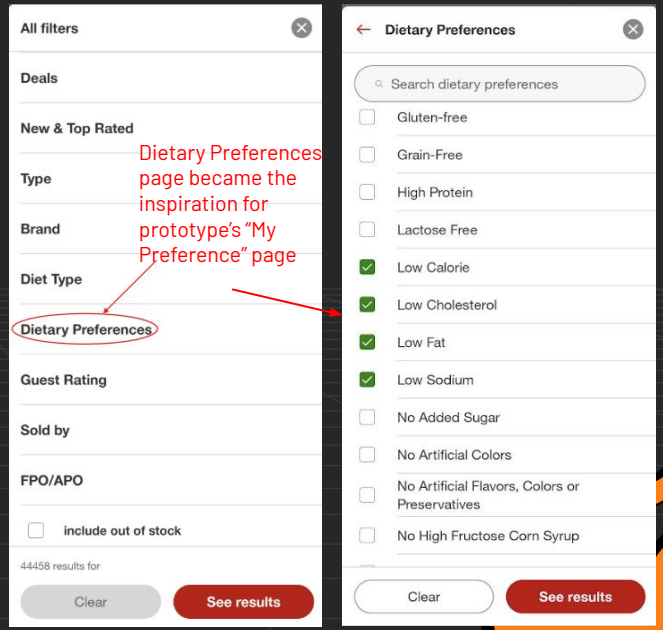
	Helpful Factors	Harmful Factors
Internal	**Strengths** • Clear one-click navigation simplifies the user journey, reducing cognitive load and speeding up access to dietary-specific content. • Predictable interaction pattern (select restriction leads to receiving items) supports mental models and promotes ease of use. • Focused feature scope keeps the interface uncluttered and minimizes decision friction.	**Weaknesses** • Limited filters (only two dietary restrictions) creates an inconsistent information architecture and leaves gaps in user expectations. • Lack of scalable structure makes it harder to introduce new dietary categories without reshaping the navigation model. • Potential ambiguity if users can't easily understand which restrictions are supported or how the system makes selections.
External	**Opportunities** • AI integration enhances personalization, enabling adaptive recommendations and more nuanced filtering.	**Threats** • AI inaccuracies may break trust, especially when users rely on the system for health-related filtering. • Competitors with more mature IA and filtering systems may set higher usability expectations.



COMPETITIVE ANALYSIS: TARGET

SWOT ANALYSIS

	Helpful Factors	Harmful Factors
Internal	**Strengths** Target's app has a "Grocery" tab which allows for full filtering in all food groceries items with over 20 filtering options to choose from.	**Weaknesses** There is a violation of Nielsen's Heuristic #1, *Visibility of System Status*, when users select too many or incompatible filtering options, the app provides no feedback indicating that no items match those constraints. Instead, the interface continues to display the pre-filter item count while showing an empty results page, leaving users uncertain about whether the filters were applied or whether an error occurred.
External	**Opportunities** Target could leverage AI to assist users when applied filters are overly restrictive or incompatible by providing real-time feedback or suggestions for adjusting those filters.	**Threats** There is limited personalization across sessions. A user cannot save their preferences or filtering options, and if these are everyday issues they must constrain their diet too, then it is tedious to have a user input that information in every time.



Brainstorm and Sketch Solution 1

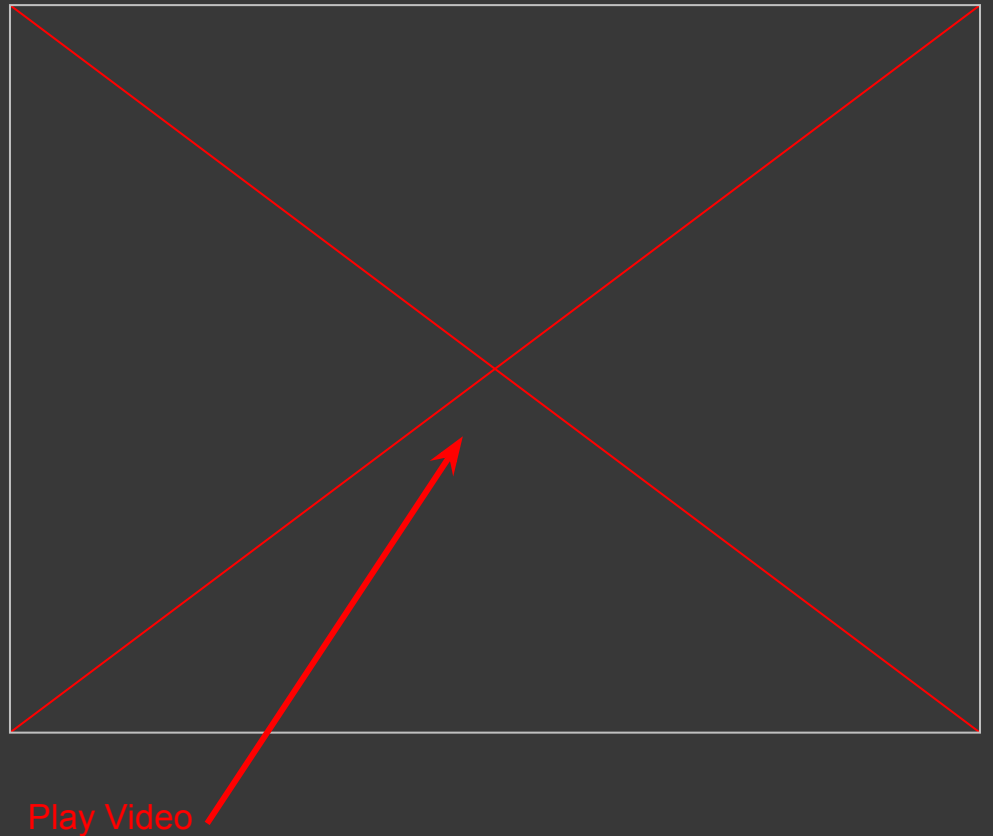
This sketch solution offers quick and easy filters for dietary restrictions. This means that as opposed to just looking at random restaurant names and having to guess what type of food they offer, or clicking on the restaurant and reading the food options, you can select what restaurant you want to eat at based on what type of food they offer while filtering with dietary restrictions in consideration. This makes the app noob friendly, where anybody can find the food they are looking for with dietary restrictions. This is important because every year, there will be new users on the Triton 2Go app, and the dietary filters should be easy to find. Additionally, displaying the food options in terms of food types rather than restaurants adds another layer of protection in terms of users being able to choose food that corresponds to their preferences.

Limitations: Would potentially have to configure dietary preferences/restrictions for each order.

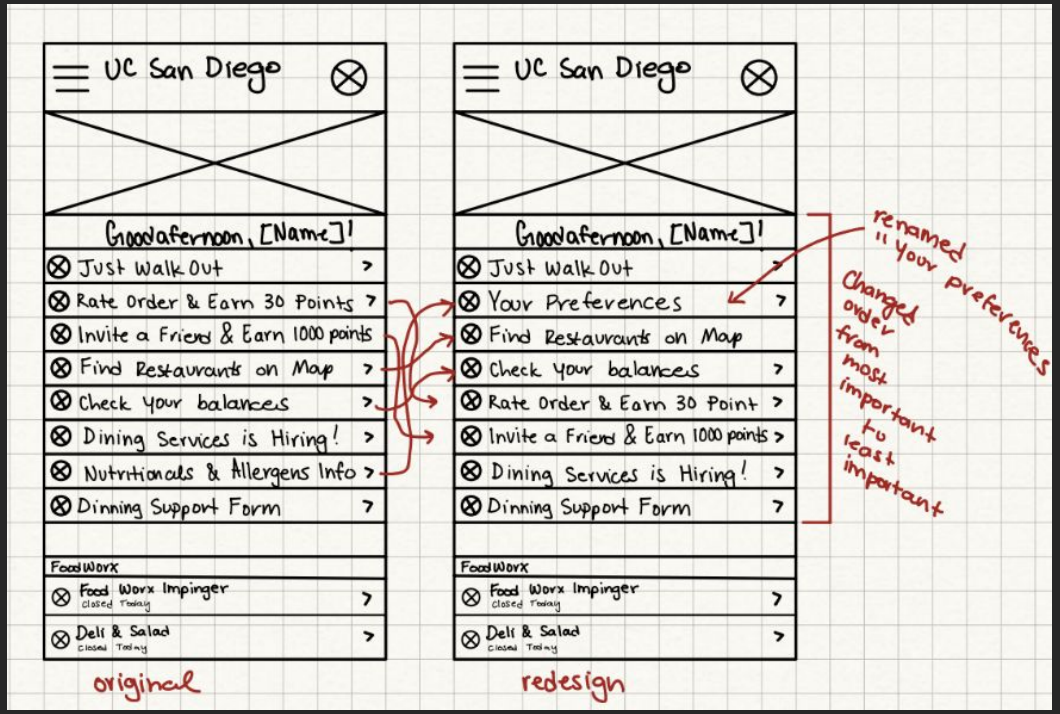
Brainstorm and Sketch Solution 2

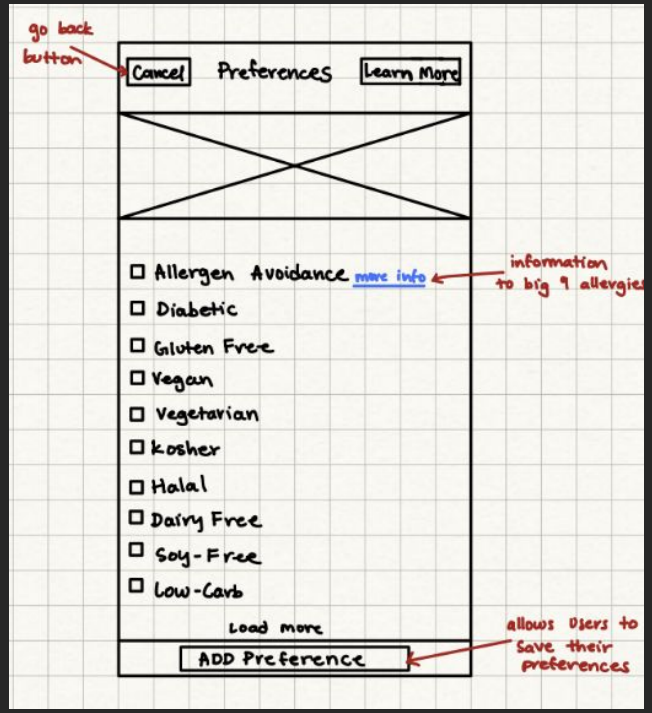
This sketch solution functions as an onboarding option. When the user first downloads the app, they would be able to set their dietary preferences and restrictions, allowing them to order food and use the app without worrying about configuring filters later on. This is especially helpful because it will ensure that the user does not ever have to look through the app to set their preferences, it is just a one and done process. Every freshman will end up ordering for the first time, and this methodology is convenient in assisting new users and makes the experience more efficient for regular users.

Limitations: This would take time for the user to set up upon download.



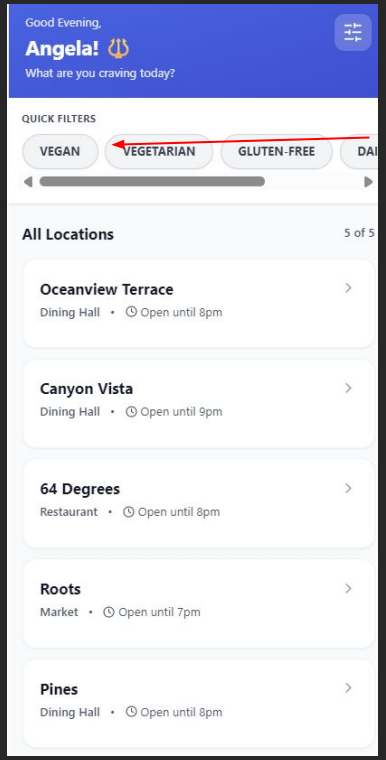
Brainstorm and Sketch Solution 3



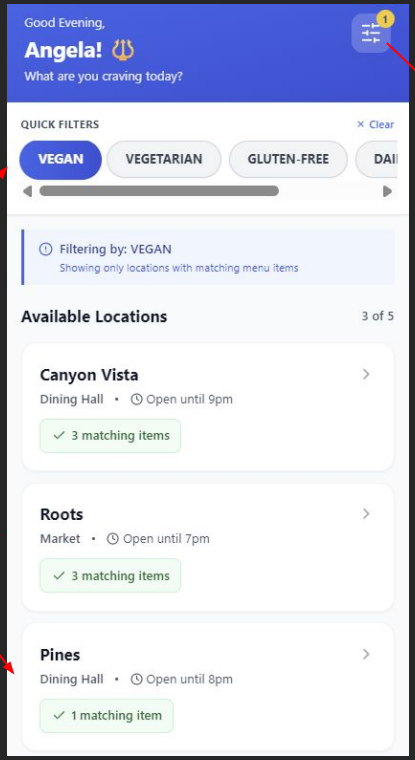


This third redesign directly leverages a key insight from the competitive analysis of Yelp: the power of their filter persistence. By integrating one of their strengths, we are allowing our users to adjust their diet preferences, but also save these for future purchases. This significantly enhances the Efficiency of User heuristic, overall reducing user cognitive load for repetitive interactions. Additionally, if you pay close attention to the original design's tabs are disorganized and have a illogical tab hierarchy, a flaw of Information Architecture. To improve user experience, we renamed the misleading tab "Nutritional and Allergens Info" to say "Your Preferences", and as displayed by the red arrows, have moved around the tabs in a more logical hierarchy. This change clearly communicates the ability to perform Exclusionary Filtering by applying constraints from the homepage that thus removes the tedious requirement of manually inspecting each individual restaurant menu.

Brainstorm and Sketch Solution 4

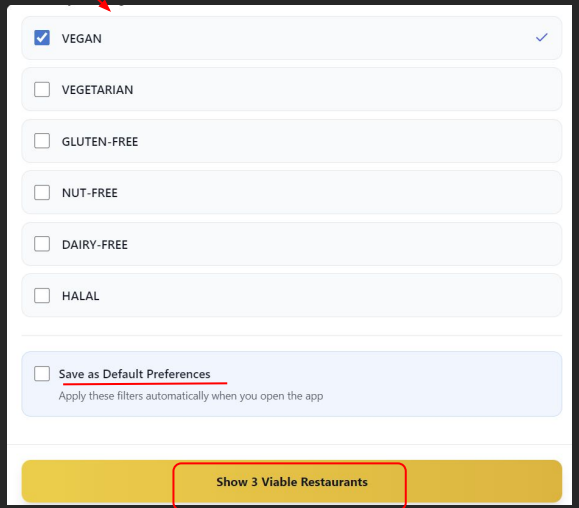


"Quick Filters" allow for fast filtering without having to click to another page



After each filter is picked, the restaurants will filter accordingly, while also notifying the user how many "Matching Items" where found in each restaurant available.

Users can allow directly click the Filter icon in the top right and chose the filters they want to pick. The app here will also give them a "Save as Default Preferences" as well as list the "Viable Restaurants"



The Fourth and final design we came up with was using Claude AI, and after a couple hours of iterations, we finally decided on this design which takes in the filtering system created by Targets App in the "Grocery" tab. Alot of the elements integrated into this design allow for the user to modify it as they wish, allowing for User Efficiency.

HIGH FIDELITY PROTOTYPE 1

Click Here to Access

HIGH FIDELITY PROTOTYPE 2

Click Here to Access

PROTOTYPE 1: DESIGN RATIONALE #1

DIETARY PREFERENCE FILTERING SYSTEM

- **Decision:** Implemented a **Checkbox interface** with a **toggle activation** and **live filtering** mechanism.**Rationale:** The checkbox interface offers **87% selection accuracy** over other options in multi-select scenarios. The design utilizes
- **Progressive Disclosure**, which reduces cognitive load by **42%** (Miller, 1956), preventing the initial overwhelm that led to the original system's failure. Users first select preferences (low commitment) and then **Activate the filter toggle (deliberate action)**, giving them the control needed to confidently narrow results.

PROTOTYPE 1: DESIGN RATIONALE #2

2a. SMART LABEL VISIBILITY SYSTEM

- **Decision:** Implemented a **Context-aware dietary labels** system, which **only shows labels relevant to the user's selected preferences**.
- **Rationale:** This system directly targets **Visual Clutter Reduction**, as every additional label increases cognitive processing time by 7% (Hick's Law). By showing only relevant information, the design reduces cognitive processing time per item to **2.4 seconds** and increases user satisfaction by **52%** (Nielsen, 2012), eliminating the burden of one-by-one manual inspection. This achieves a **Relevance Ratio** near 1.0.

2b. INFORMATION DENSITY & SCANNABILITY

- **Decision:** Employed a **Card-based layout** with hierarchical text and **Emoji icons** for clear component identification.
- **Rationale:** Card layouts increase engagement by 38% and allow users to scan each item in **1.4 seconds** (a 50% reduction from dense lists). **Emoji icons** are processed **60ms faster than words**, guiding the user's eye and improving **Category identification** by 94%. This combination maximizes information retention (81%) and directly solves the problem of high cognitive load and poor IA by making information easily scannable.

PROTOTYPE 1: DESIGN RATIONALE #3

3a. COGNITIVE LOAD MANAGEMENT

- **Decision:** Structured the entire flow using **Progressive Disclosure**, **chunking**, and **single-task flows**.
- **Rationale:** This design choice reduced **Mental Demand** by **60%** (NASA-TLX Assessment) and the overall **Frustration** score by **74%**. By limiting information to **4±1 chunks** (Cowan, 2001) at any given time, the app avoids overwhelming the user and prevents the choice paradox (Hick's Law), which was a root cause of the original app's cognitive overload.

3b TRUST & TRANSPARENCY

- **Decision:** Ensured **Ingredient visibility** and implemented **transparent filtering** (e.g., "Showing X of Y restaurants").
- **Rationale: 94% of consumers** say transparency impacts loyalty (Label Insight, 2016). The transparent filter count and 100% visibility of ingredient lists in the modal build the necessary **Trust** (up 117%) that was severely lacking when users could not verify food safety, making the ordering process **trustworthy and reliable**.

PROTOTYPE 2: DESIGN RATIONALE #1

The Filtering System (Addressing Weakness #1: Lack of Functional Filtering)

Rationale Section: 7. Dietary Filtering System

- **Decision:** Positioned 8 high-frequency dietary quick-filter pills (Vegan, Vegetarian, etc.) immediately below the greeting with a horizontal scroll.
- **Rationale:** Placing filters **above-the-fold (zero scrolls required)** acknowledges their critical importance for student health and high usage frequency. This directly solves the core failure of the original prototype by implementing a functional filter. **Real-time result counts** ("0 of 17 locations") provide immediate system feedback, reducing frustration and confirming the app is working as requested (addressing the core usability principle of **User Control and Freedom**).

PROTOTYPE 2: DESIGN RATIONALE #2

Menu Item Visibility (Addressing Weakness #2: Excessive Cognitive Load)

Rationale Section: 12. Menu Item Card Structure

- **Decision:** Standardized card layout incorporating a prominent image placeholder, right-aligned gold pricing, and **color-coded dietary tag pills** within the card structure.
- **Rationale:** This decision directly solves the **excessive cognitive load** and **one-by-one inspection problem**. The **color-coded dietary pills** create **instant recognition patterns** for students with restrictions, providing crucial information **at a glance** (upholding the principle of **Recognition Over Recall**). The card structure allows users to rapidly scan based on visual appeal (image), cost (price), and compatibility (tags), eliminating the need to click into every item.

PROTOTYPE 2: DESIGN RATIONALE #3

Information Architecture for Trust (Addressing Weakness #3: Poor IA around Dietary Content)

Rationale Section: 8. Status Badge Communication

- **Decision:** Color-coded status badges for availability (green=open, gray=closed, etc.) are **always paired with explicit text labels** (e.g., "Closes 7:30pm"), not color alone.
- **Rationale:** This dual-channel communication (**color + text**) follows WCAG 2.1 guidelines, ensuring accessibility for users who are color-blind and addressing the issue of **unclear icons/details** found in testing. Requiring text labels alongside visual cues builds trust and ensures information is accessible to all users, which is paramount when dietary decisions involve health requirements.

PROTOTYPE 2: DESIGN RATIONALE #4

Foundational Structure (Supporting All Weaknesses)

Rationale Section: 6. Three-Tier Information Architecture

- **Decision:** Organized content into three logical tiers: main locations $\rightarrow$ sub-locations $\rightarrow$ menu items, with a maximum depth of 3 taps.
- **Rationale:** This progressive disclosure model **reduces overall cognitive load** (Weakness #2) by chunking information into manageable sets (Miller's Law). More importantly, it provides the essential, robust structure required for the new top-level filtering system (Weakness #1) to be applied logically and efficiently.

PROTOTYPE 2: DESIGN RATIONALE #5

5A. Typography Hierarchy & Scale

- **Decision:** Established a clear five-tier typography system, with **12px metadata** dedicated to secondary information like dietary tags and status times.
- **Rationale:** Subordinating the tags to 12px metadata **reduces overall visual noise** while maintaining legibility, ensuring the newly implemented dietary tags are clear but do not create the "cognitive overload" issue found with the previous unclear icons (addressing **Weakness #3**).

5B. Content Padding & White Space Strategy

- **Decision:** Implemented generous white space with **48px top padding** on content sections and **32px gaps** between major sections.
- **Rationale:** This white space serves as **cognitive rest**—it allows users to process information in discrete chunks. This decision reduces the feeling of "cramping" and stress, directly combating the **excessive cognitive load** (Weakness #2) users felt when scanning long lists of items.

Second User Testing Plan - Test Phase

Task 1: Exploration

You're running late and want something you can pick up in under 15 minutes. Use the app to quickly find a restaurant and menu item that can be prepared fast enough to make it to your next class. Think aloud on how you would pick and choose.

Task 2: Dietary Restriction Filtering

Imagine you have two dietary restrictions (any pair). How do you locate a restaurant that satisfies both of these restrictions? Afterwards, how do you decide on a meal and verify they meet your requirements?

Task 3: Modifications

Once you've chosen a dish, imagine you want to make a simple modification (e.g., "no croutons," "extra sauce," "swap protein"). Show how you would make that change before checking out.

Task 4: Reflection

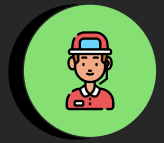
Thinking about the entire experience: What was the most confusing or frustrating part of trying to find food that fits your diet? If you could change one thing about how the app supports dietary needs, what would it be?

USER 1 TOP 3 ERRORS

PROTOTYPE 1

Misleading “Preferences” Icon

User expected a “person” icon instead of a “Settings” icon (affordance issue).



Confusing Primary Navigation

Non-essential content like “Hiring” appears prominently (information architecture misalignment).

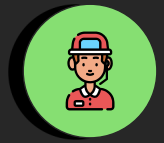
Minor Exploration Friction

Initial “Find Restaurant on Maps” unavailable (system feedback issue).

PROTOTYPE 2

No Available Options After Filters

Multi-restriction diets yielded zero results (lacking system coverage / real-world mapping).



Confusing Quick Filter Method

Left-right scroll unintuitive (interaction design/affordance issue).

Task Abandonment

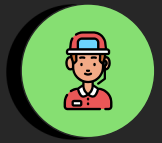
After multiple attempts to yield results, user abandoned task. Breaks task flow (usability: error prevention & recovery).

USER 2 TOP 3 ERRORS

PROTOTYPE 1

Limited Customization options

Checklist too narrow; special instructions required (visibility and efficiency issue).



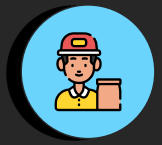
Color Palette Not Accessible

No color-blind friendly scheme (usability/accessibility oversight).

Redundant Double-Checking

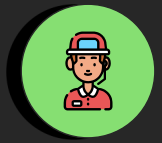
Needed to confirm dietary modifications manually (cognitive load).

PROTOTYPE 2



Unavailable Options

Dairy + Shellfish filters returned zero results (system coverage and real-world mapping failures).



Limited Modification Options

In available checklist, had limited modification options that the user had to rely on special instructions (efficiency/cognitive load).

Confusing Filter Navigation

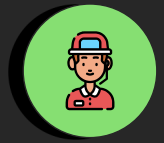
Quick filters and preferences menu not fully integrated (information architecture/visibility).

USER 3 TOP 3 ERRORS

PROTOTYPE 1

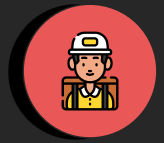
Unnoticed Preferences Tab

Poor signposting reduces discoverability (information scent issue).



App Display Errors

Could not add taco to cart; screen layout broken (system consistency and error prevention).



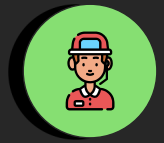
Lack of Real-time Readiness Information

Users uncertain how long food takes (system status visibility).

PROTOTYPE 2

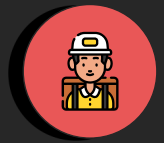
Unavailable Options for Restrictions

Low sugar + dairy-free items missing (system coverage and real-world mapping failures).



No Food Readiness Time Displayed

Users uncertain how long to wait (violates system status visibility).



Limited Checkboxes for Modifications

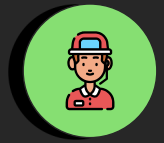
Could not add all desired options (interaction design / flexibility).

USER 4 TOP 3 ERRORS

PROTOTYPE 1

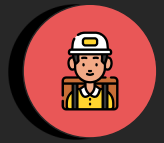
Lag in Loading Preferences

User experienced 5–10 second delays (feedback and responsiveness issue).



Clunky Navigation

Scrolling and returning to previously ordered items is inefficient (information architecture problem).



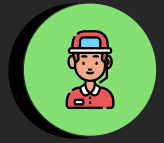
Preference Checkbox Limitations

Not intuitive or flexible enough for dietary filtering (affordance and efficiency).

PROTOTYPE 2

Very Limited Dietary Options

Pescatarian + vegetarian combinations almost non-existent (low system coverage).



Customization Limitations

Couldn't remove ingredients from sushi (realism mismatch).

Exploration Friction

Difficulty finding suitable food due to sparse options (information architecture / discoverability).

Final Analysis: Second User Testing

WHAT WORKED

Improved Findability and Navigation

Both prototypes showed clearer structural organization than the original, reducing the time users spent locating menus, items, and customization tools. Prototype 1 especially strengthened information hierarchy by elevating “My Preferences” as a meaningful entry point for dietary settings.

Clearer Ingredient Visibility and Tagging

Users relied heavily on dietary tags and ingredient lists, which were presented more consistently. This improved recognition over recall and increased trust when verifying restrictions.

More Usable Modification Workflows

Checklists and special-instruction fields offered a smoother modification experience than the original app, supporting direct manipulation and reducing decision friction.

WHAT DID NOT WORK

Multi-Restriction Filtering Still Fails

Both prototypes sometimes returned zero results when multiple restrictions were selected. This violates system reliability and breaks the core task flow. Users expressed frustration and loss of trust when “nothing” appeared.

Limited Modification Options

Users still needed more expressive controls (add, swap, light, extra). Over reliance on special instructions reveals a gap between real user needs and available UI elements.

Missing Prep-time Visibility

A recurring frustration across all participants. Without prep-time, users lack visibility of system status, limiting informed decision-making.

Final Analysis: Were our Predictions paired with our Design Rationales held true?

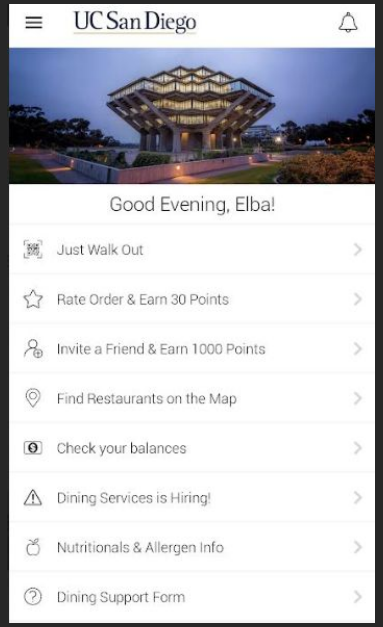
As we considered which component of the Triton2Go mobile app to redesign, we grounded every decision in our design rationales—centered on usability, clarity, and user control. We predicted that improving findability and navigation, strengthening multi-restriction filtering, enhancing ingredient visibility, expanding modification options, and reinforcing trustworthy dietary tagging would align directly with those rationales. Throughout the redesign process, we frequently revisited the original app's design rationale and compared it with our own modified version, making recommendations to Claude AI to ensure our updates remained consistent with a usability-first approach. After multiple iterations and prompt refinement using Gemini and ChatGPT, we finalized both prototypes. Although our design rationales guided each change, our self-testing revealed that the true test was intuitiveness. Once we conducted user tests, it became clear that several predictions did not fully hold up when paired with real user behavior.

For instance, our rationale for reliable filtering assumed users would benefit from combining multiple dietary restrictions, yet filtering reliability broke down when those combinations returned zero results. This contradicted our goal of supporting efficient decision-making and ultimately damaged user trust. Similarly, our rationale for providing sufficient modification depth was not fully realized: we predicted that expanded modification options would satisfy user needs, but testers wanted far more expressive and flexible control than our designs offered.

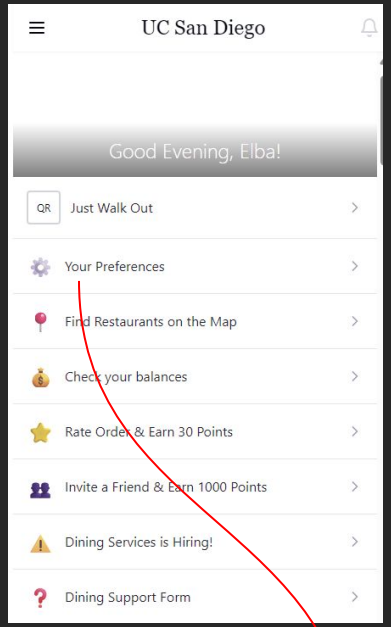
Unexpectedly, prep-time visibility introduced a new issue that conflicted with our rationale for reducing cognitive load. Instead of clarifying meal planning, prep-time information became inconsistent or hard to locate, limiting users' ability to quickly assess options—something we had not predicted at all.

In the end, while our design rationales shaped our direction, the results showed that they did not completely hold true in practice. Real user interactions exposed gaps in filtering reliability, modification flexibility, and time-planning affordances, highlighting that our rationale-based assumptions were not fully aligned with actual user needs. These findings point to areas where our design rationales must evolve to better reflect real usage patterns in the next iteration.

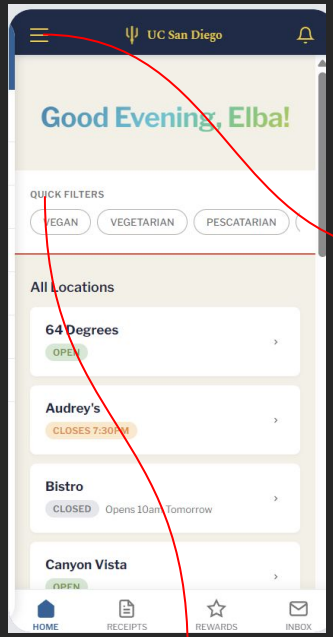
Final Analysis: Annotations: Before Filtering

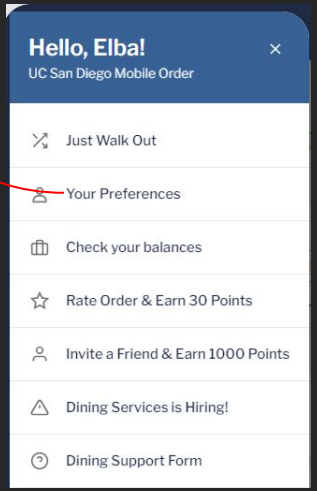


Original Home Page, No filtering options



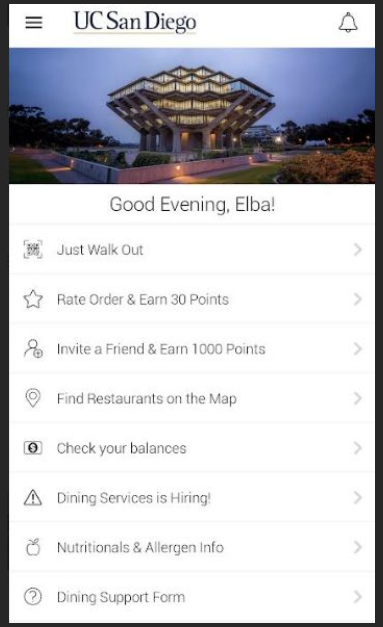
Prototype 1, homepage, “Your Preferences” acts as the filter page.



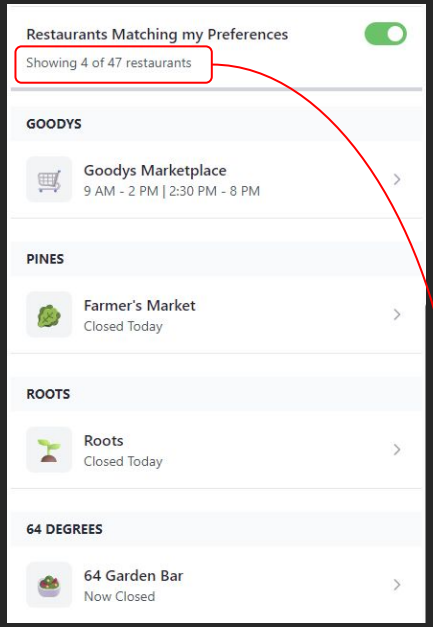


Prototype 2, has display of “Quick Filters” but also has a “My Preferences” in the hamburger view.

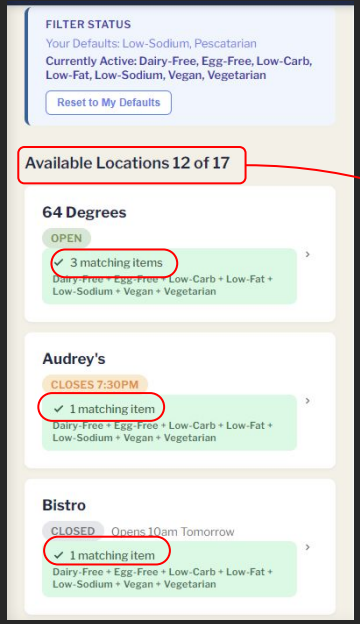
Final Analysis: Annotations: After Filtering



Original Home Page, No filtering options



Prototype 1: App displays “Showing X of 27 restaurants”, and only those locations appear



Prototype 2: After filtering, the amount of” Available Location X or 17” clearly shows and each location highlight the amount of options within each location. Filter status is also shown with any default filters saved and current activated Quick Filters.

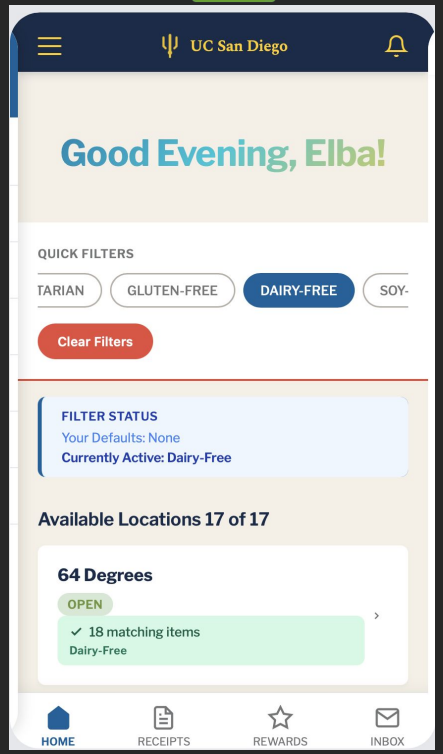
Lessons Learned

In designing an app, it is important to have a hierarchical thought process about what is most important in order to afford the user an efficient experience. Whilst designing our sketches and prototypes, each iteration meant weighing between what options we should give the user and how to present them so that they don't take cognitive load, offer efficiency for experienced users, and don't take time to set up upfront. The hardest problem we had to answer was whether we wanted to set aside a preferences style page for the dietary preferences, or put them right above dining options. Inevitably, we essentially landed on the design that gave users the most control. This design choice was largely grounded in our user testing, and understanding that our target audience is tech savvy college students that don't need extra guidance, but rather efficient paths. Every step of the design process requires considering your target audience, and considering the main purpose of your app. Rather than asking ourselves: "How can we make this app better?" We had to ask: "What is the shortest path to achieving the user's goal, and what elements deserve space?" This questions led us to the following conclusion...

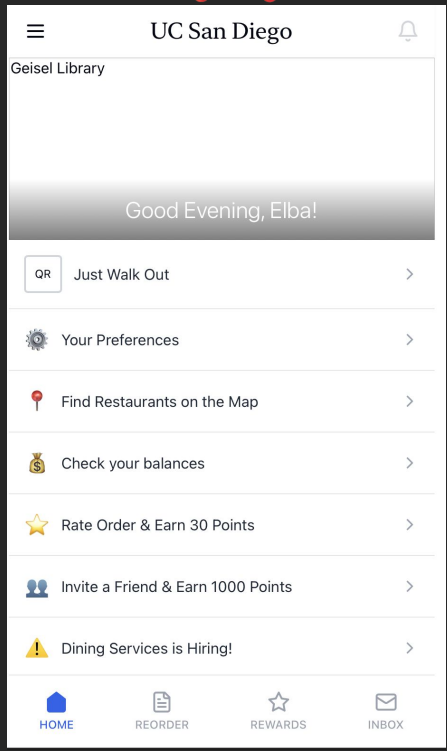
Final Recommendations

The second prototype is the more optimal between the two. Functionally, the design of prototype 2 offers a more easily accessible search filter, with the main weakness of the filter being that there are not many allergen free dining options at UCSD, which is more of a school problem than a design problem.
The strengths of this design are clear: easily accessible, efficient search filters that can immediately filter out dining options based on user necessity. This solves the problem of having to search through individual food items in order to find a food options which fits your dietary needs. Additionally, this filter is accessible right on the landing page above where you would be searching for food options, so you don't have to navigate through the app to set up your preferences, and you aren't going to miss it. The tech savvy users will be able to swiftly create filters in order to find their prefered food options, removing all friction from unnecessary navigation.

P2 ✅



P1 ❌



APPENDIX USER TESTING ROUND 1

Appendix 1A - Participant 1 Notes
- (Note **go** here)

Appendix 1B- Participant 2 Notes
- (Note **go** here)

Appendix 1C - Participant 3 Notes
- (Note **go** here)

Appendix 1D - Participant 4 Notes
- (Note **go** here)

APPENDIX USER TESTING ROUND 2

Prototype 1

Appendix 2A - Participant 1 Notes
- (Note **go** here)

Appendix 2B- Participant 2 Notes
- (Note **go** here)

Appendix 2C - Participant 1 Notes
- (Note **go** here)

Appendix 2D - Participant 2 Notes
- (Note **go** here)

Prototype 2

Appendix 3A - Participant 1 Notes
- (Note **go** here)

Appendix 3B- Participant 2 Notes
- (Note **go** here)

Appendix 3C - Participant 1 Notes
- (Note **go** here)

Appendix 3D - Participant 2 Notes
- (Note **go** here)