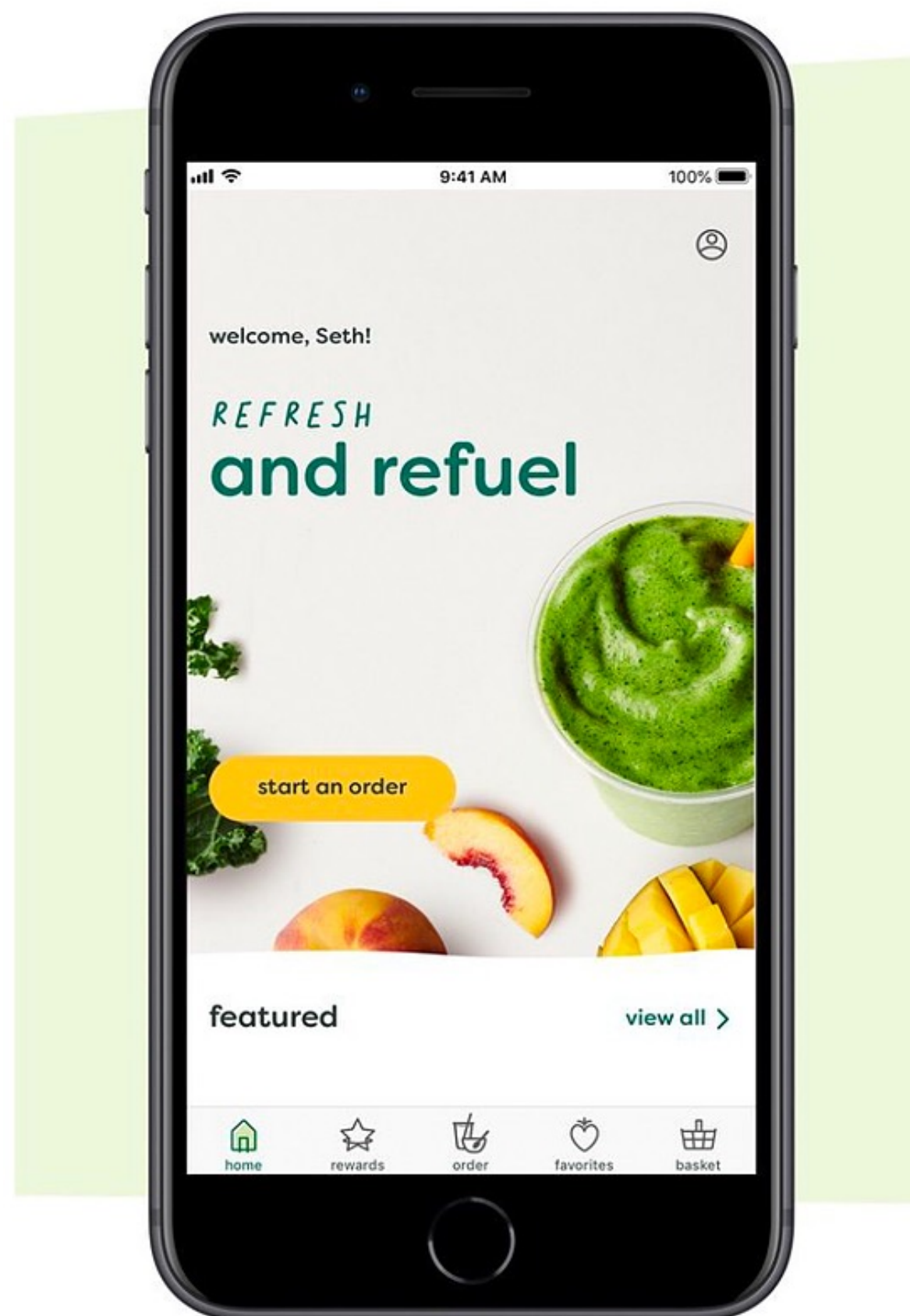# The Jamba App

An Iterative User Research Project

Niharika Mathur

MS-HCI | Georgia Tech

The Challenge

We were required to understand the problem and identify the issues leading to heavy cart abandonment on the app.

43%
Users complete their order on the app

4.5%
App sessions lead to a purchase

App Ratings

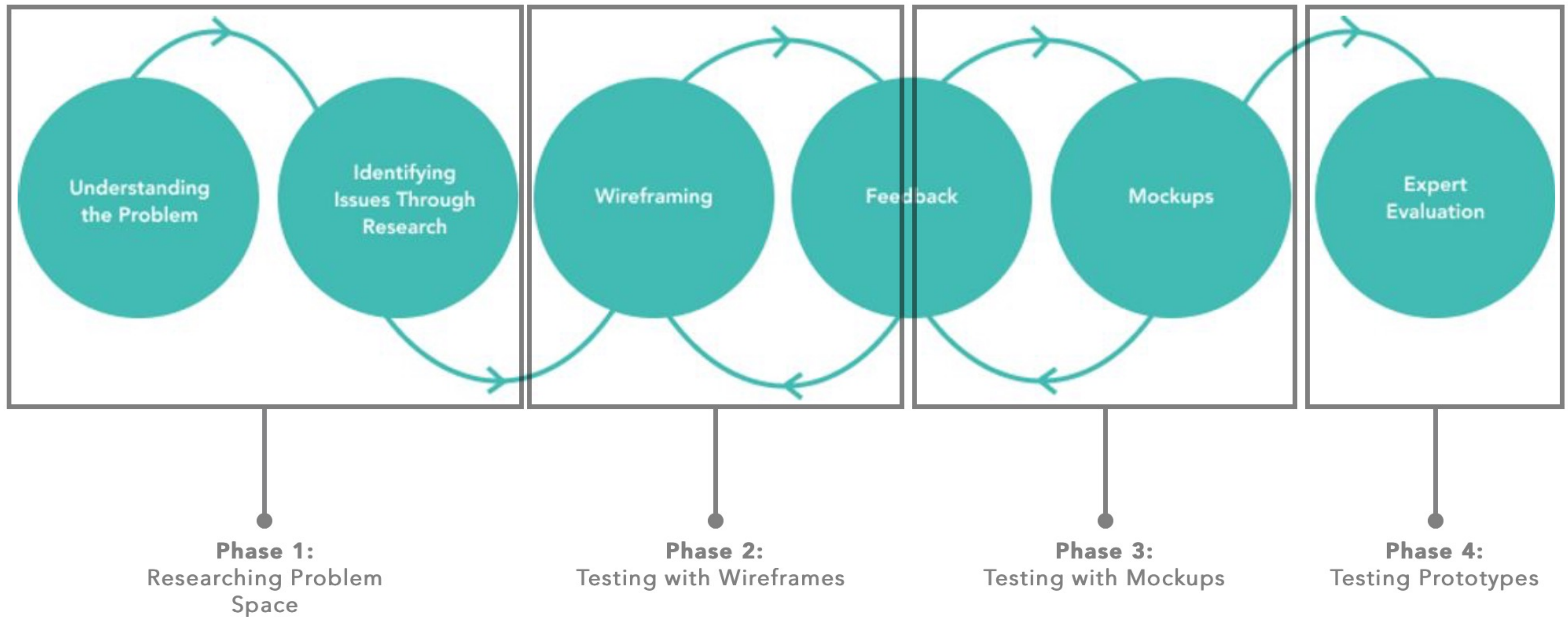★ ★ ⯨ ☆ ☆

Google Play - 2.4
App Store - 2.56

1644 Ratings on Google Play; 51 Ratings on App Store

Main Goal

Research based detailed design recommendations to improve the customer's journey for new users in order to reduce cart abandonment on the platform.

Process

Phase 1:
Researching Problem Space

Phase 2:
Testing with Wireframes

Phase 3:
Testing with Mockups

Phase 4:
Testing Prototypes

Phase 1: Research

1. Literature and Analytics review

2. Task Analysis

3. Competitive Analysis

4. Field Studies

5. Online Survey

6. Contextual Inquiry

Literature and Analytics Review

Top Pain Points	Insight
points process	I want to just type in my name at the register; not sign into an app
points loss	I want my points from the old system carried over
payment process	I want payment to be easier and intuitive
location not supporting online ordering	Location not using online order
APP functionality	not functioning
app menu	app doesn't match up with store menu - or hard to read
pick -up process	I want to be able to see time estimate of my order
customization	I want customization to be easier
sign-up process	have difficulty to sign up
rewards	cannot apply the rewards

Top 10 pain points identified from app reviews
(Using Qualitative Coding and Sentiment Analysis)

234 comments on Google Play; 23 comments on App Store

Despite lacking high vol, Bites has highest completion rate 47% followed by smoothies, then bowls.
Can we say that Bites or Food is a NEED, Smoothies/Bowls/Juices are WANTS?

Smoothies: 125K select, 45.59% complete checkout

Juices: 24K select, 36.56% complete checkout

Bowls: 40K selected, 42.87% complete checkout

Shots:10K selected, 30.13% complete checkout

Bowls: 24K selected, 47.74% complete checkout

Kids: 10K selected, 33.78% complete checkout

Digital Analytics provided by the company

Main themes

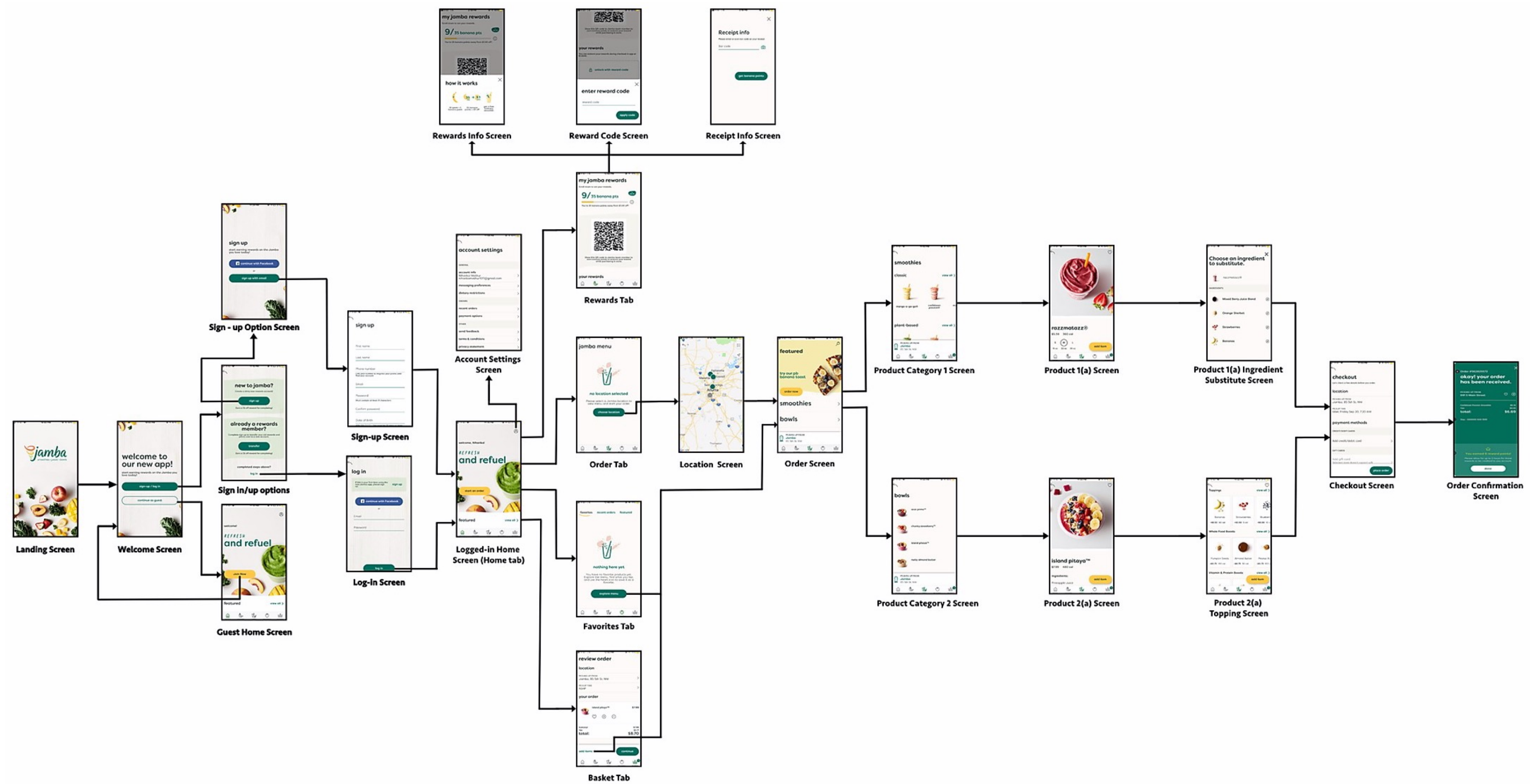## What did we learn from Literature and Analytics Review?

Length of the sign-up process
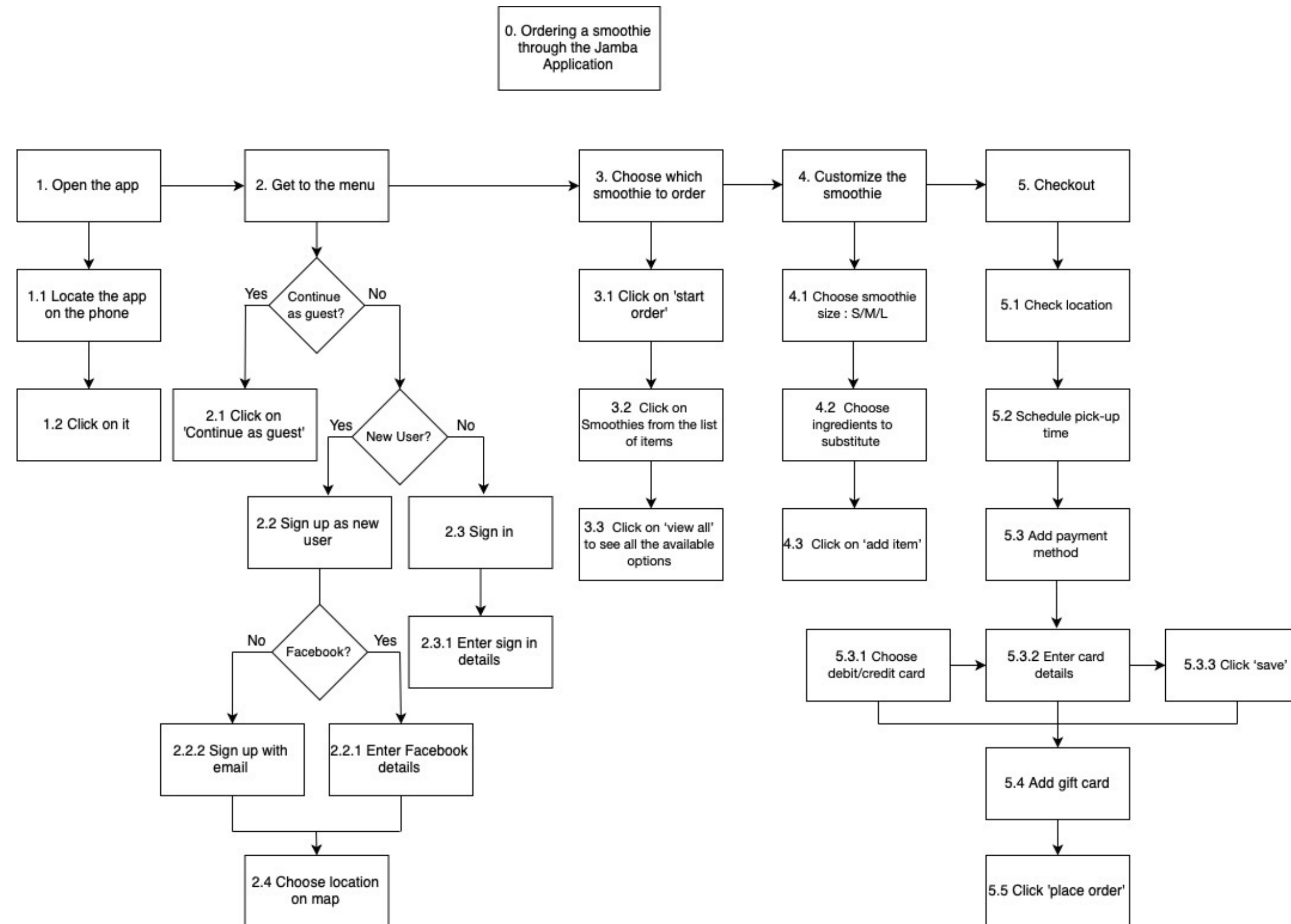
Customization of orders

Order Tracking

Most repeated pain points

Task Analysis

User Flow Diagram

Task Analysis

Hierarchical Task Analysis

Competitive Analysis

Ordering Analysis

Metrics	Nekter Juice & bar	Tropical Smoothie	Smoothie King	Starbucks	Panera Bread	Dunkin' Donuts	Grubhub	Chick Fil-A
Ordering								
1. Customization								
Customize feature?	•	•	•	•	•	•	•	•
Option to choose a size?	•	•	•	•	•			•
Substitute feature?		•	•			•		
Generally Effective?		•		•	•			
2. Featured items highlighted?		•		•	•	•		
3. Favorites list								
Can modify/add to the list?				•	•			
History of orders?	•	•	•	•	•			•
Can user quickly add?			•	•	•			•
4. Dietary Restrictions Accommodated?		•						

General Analysis

Metrics	Nekter Juice & bar	Tropical Smoothie	Smoothie King	Starbucks	Panera Bread	Dunkin' Donuts	Grubhub	Chick Fil-A
General								
1. Responsive								
Mobile	•	•	•	•	•	•	•	•
Website	•	•	•	•	•	•	•	•
2. Loyalty Program								
Have rewards/loyalty?	•	•	•		•	•		•
Reflects brand identity?	•	•	•		•	•		•
Scan offline receipts?	•	•				•		•
3. Discount/Gift Cards?	•	•	•	•	•	•	•	
4. Chatbots?								
5. Customer Feedback?		•		•			•	•
6. Voice Based Order System?								

Checkout Analysis

Metrics	Nekter Juice & bar	Tropical Smoothie	Smoothie King	Starbucks	Panera Bread	Dunkin' Donuts	Grubhub	Chick Fil-A
Checkout								
1. Push notifications about order	•	•		•	•		•	
2. Pick up & Delivery								
Order ahead & pick up option?	•	•		•	•	•	•	•
Delivery option?					•		•	
3. In-app notifications								
Save entered information?	•			•	•	•	•	
Saves history of payment?	•	•	•	•	•	•	•	•

Onboarding Analysis

Metrics	Nekter Juice & bar	Tropical Smoothie	Smoothie King	Starbucks	Panera Bread	Dunkin' Donuts	Grubhub	Chick Fil-A
Onboarding								
1. Continue as Guest Feature?	•					•	•	
2. Location-based services								
Auto-detection of location		•	•	•		•	•	•
Manual entering of location	•							
3. Social Media Integration	•	•	•			•	•	•

Division of Competitors

Core Competitors

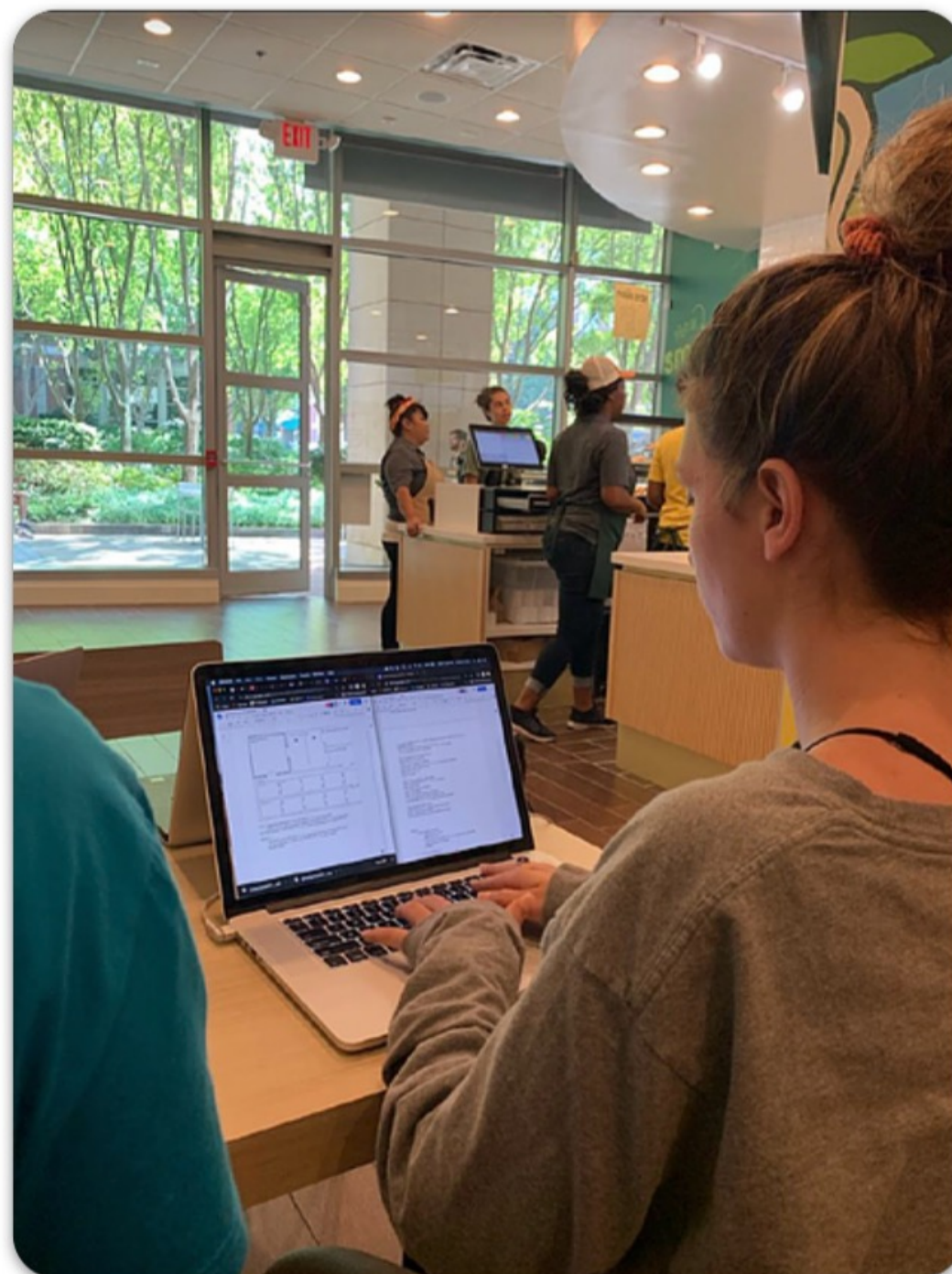Aspirational Competitors
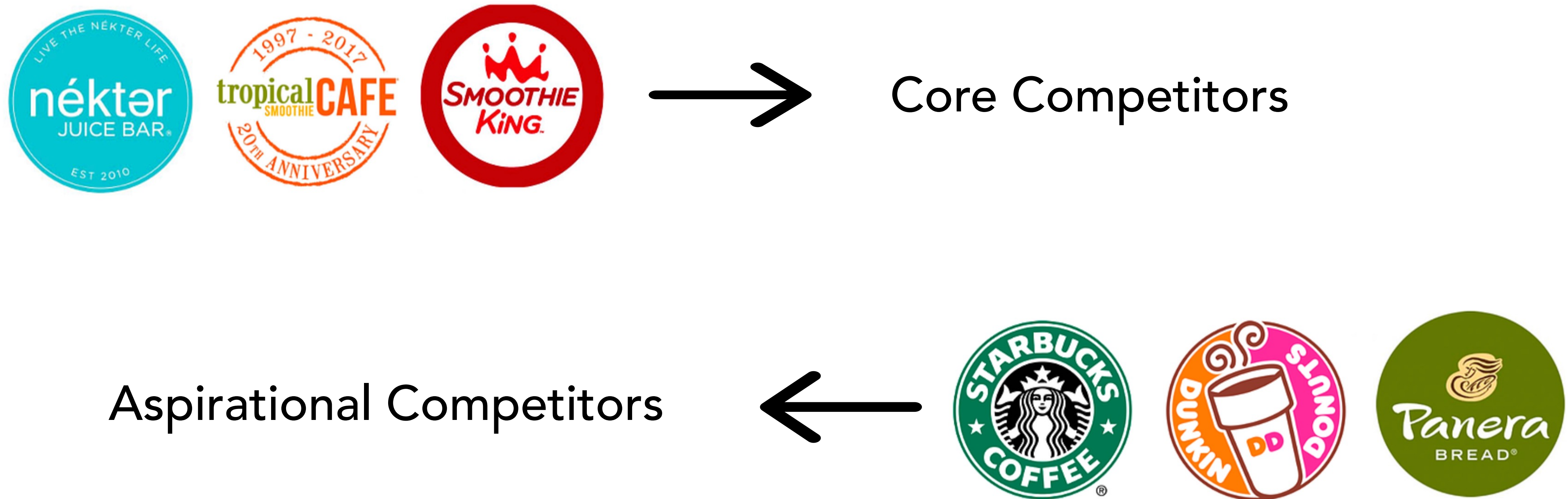
Field Studies

Observation session at Jamba Store in Tech Square, Atlanta

Session in Progress

Survey Question Creation Process			
Research Question	Draft Question	Response Options	Rationale
Section 1: Order Ahead App Use			
What percentage of people are currently utilizing order-ahead for delivery?	How do you usually order food from Quick Service Restaurants (i.e, Starbucks, Jamba, etc)?	Multiple Choice: - Order ahead - Order in store - Order delivery	Determines importance of order-ahead app in the eyes of the user

Observation notes (with Rationale)

Online Survey

To understand the space of order-ahead applications
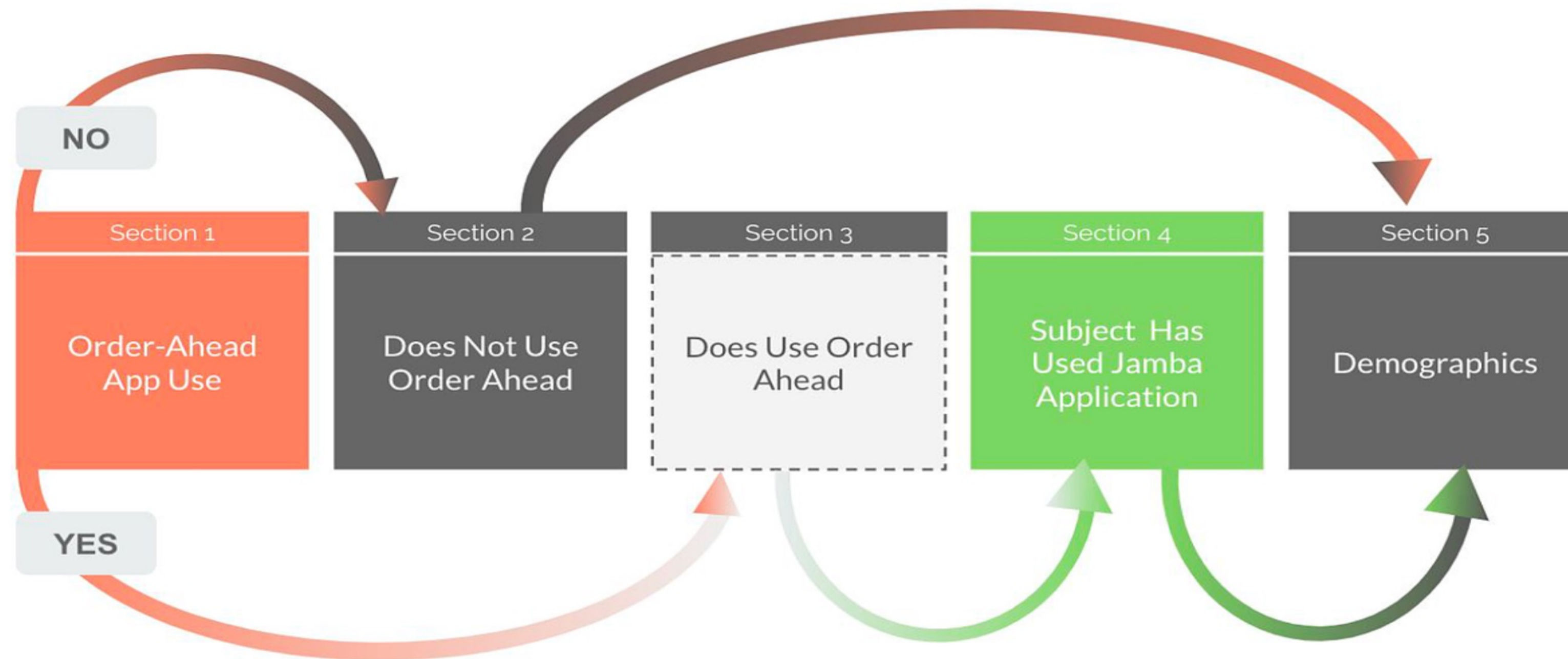
Structure of the Survey

Online Survey

Survey Question Rationale

Survey Question Creation Process			
Research Question	Draft Question	Response Options	Rationale
Section 1: Order Ahead App Use			
What percentage of people are currently utilizing order-ahead for delivery?	How do you usually order food from Quick Service Restaurants (i.e, Starbucks, Jamba, etc)?	Multiple Choice: - Order ahead - Order in store - Order delivery	Determines importance of order-ahead app in the eyes of the user

Sample of analysis of a question on the survey
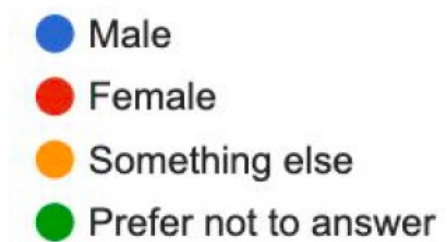
Online Survey
General Details

53
Responses

Age

13-17
18-24
25-34
35-44
45-54
55-64
65+

73.6%

13.2%

Gender

66%

30.2%
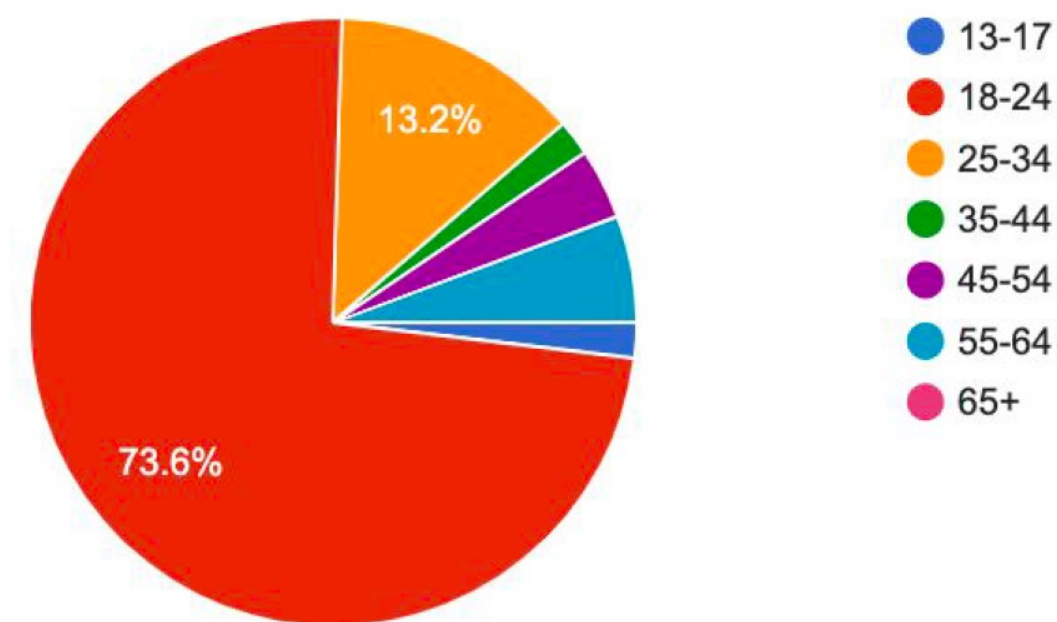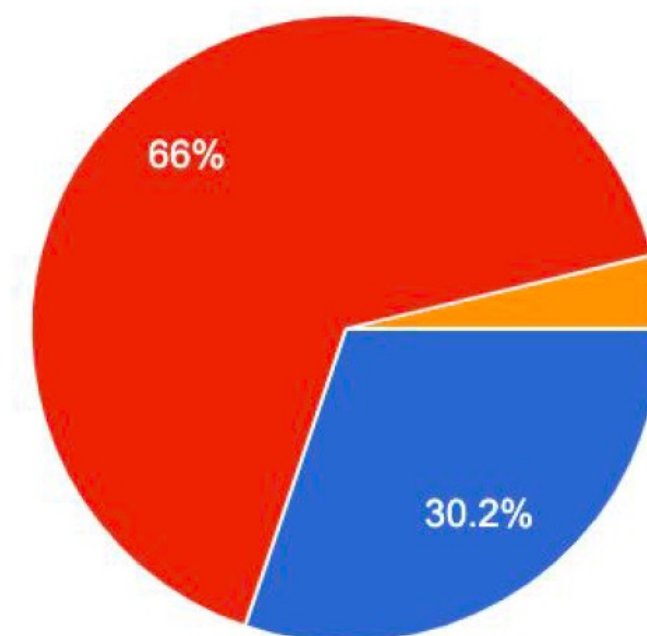
Male
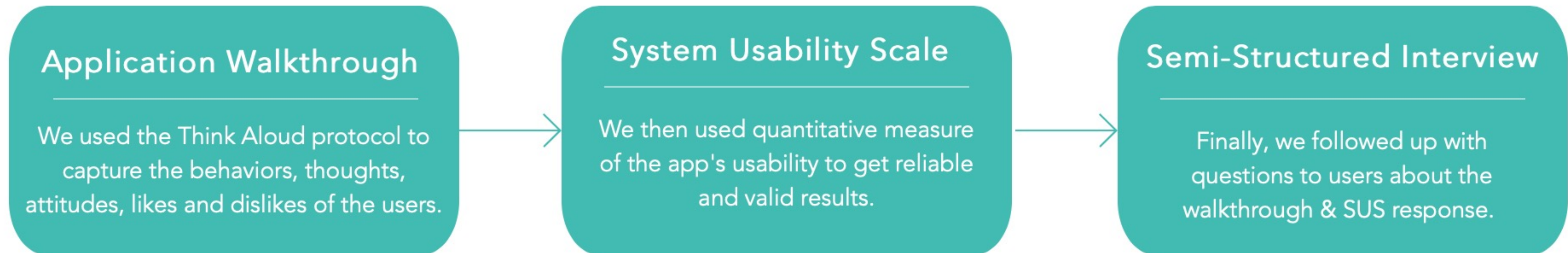Female
Something else
Prefer not to answer

Distribution Plan

ONLINE

Text link to the survey

OFFLINE

Flyers with Barcodes to the survey in academic buildings and Jamba Stores

Contextual Inquiry

Application Walkthrough

We used the Think Aloud protocol to capture the behaviors, thoughts, attitudes, likes and dislikes of the users.

System Usability Scale

We then used quantitative measure of the app's usability to get reliable and valid results.

Semi-Structured Interview

Finally, we followed up with questions to users about the walkthrough & SUS response.

Contextual Inquiry Process

Contextual Inquiry

SUS* Score Comparison

Existing Jamba App	New Wireframes	New Mockups	New Prototype
60.71	?	?	?

* System Usability Scale consists of 10 questions on industry standard for usability testing; 68 is the national US average.

SUS consists of standard usability questions

Personas

Rodney Williams

ABOUT
Rodney is a college freshman at Georgia Tech and is majoring in computer science. He is very extroverted and spends as much time as possible outside of classes with his friends. He also exercises regularly; improving his performance in sports is a priority for him. As a freshman, he is taking a lot of classes during the morning/mid day, and therefore doesn't have a lot of time to stop and get breakfast and lunch. He has been looking for methods to quickly order filling food/drinks in between classes that are both affordable and have "protein-packed" options. He also prefers to eat meals on the way to classes so he does not disrupt himself and others during classes.

"Between my classes, friends, and sports, I'm always on the move, but I still have to eat."

AGE	18
GENDER	Male
OCCUPATION	Student
SPENDING STYLE	Selective
LOCATION	Atlanta, GA

SPORTY   EXTROVERTED
FOODIE   TECH-SAVVY

FAVORITE BRANDS
Moe's southwest grill   Chick-fil-A

DINING HABITS
- He is new to the order-ahead application space, but is interested in it because of convenience.
- He likes the experience of ordering in store and seeing the menu.
- He can't cook at home and doesn't always have access to campus dining halls.
- He has no allergies and likes a wide variety of foods/drinks.

FRUSTRATIONS
- **Time-consuming**: He has to spend much time on certain phases in the online ordering
- **Ambiguity**: He does not know the meaning of some of the headers, captions and labels.
- **Confusion**: He finds selecting location in the application can be very confusing.
- **Privacy**: He does not hope to share too much of his personal information in the application.

MOTIVATIONS
- **Convenience**: he doesn't want to spend much time choosing what to order
- **Efficiency**: he wants to save time ordering food so he can get to class on time
- **Price**: he wants to save money when possible and get good value for his money
- **Nutrition**: he wants to know what is in his food/drinks

GOALS
- **Convenience**: he wants to find an ordering system that lets him place pickup orders while walking between classes
- **Efficiency**: he wants to place his orders as quickly as possible
- **Price**: he wants access to a rewards system that allows him to save money
- **Nutrition**: he wants access to the nutritional information for his food/drinks

Alicia Davis

ABOUT
Alicia is a college senior at Georgia Tech and is majoring in business. When she is not in classes, she values her alone time, and will often be studying, applying for jobs, or preparing for interviews. She likes to do her work in public spaces and often sits outside either the Starbucks or Jamba in Tech Square. Also, because she is extremely allergic to dairy, she seeks out food options that can easily accommodate her. She loves the order-ahead applications for both Jamba and Starbucks, because they let her make customizations and dairy substitutions to her orders. When making purchases, she often does not mind how much her food/drinks cost so long as she is getting exactly what she wants.

"My ideal smoothie both looks and tastes good while also being dairy-free!"

AGE	21
GENDER	Female
OCCUPATION	Student
SPENDING STYLE	Compulsive
LOCATION	Atlanta, GA

ARTISTIC   FASHIONABLE
FOOD ALLERGIES   WELLNESS

FAVORITE BRANDS
Starbucks   Jamba

DINING HABITS
- She uses order-ahead applications 2 or more times a week.
- She likes the customization options provided by order-ahead applications.
- She likes to snack and will often drink smoothies in place of meals.
- She has a dairy allergy that affects the way she orders food/drinks.

FRUSTRATIONS
- **Unclear Ingredients**: She dislikes when restaurants do not clearly display what ingredients are in their food.
- **Incorrect Order**: She does not like when her order is not exactly as she wanted.
- **Waiting**: She finds it annoying to wait in line in stores after ordering.
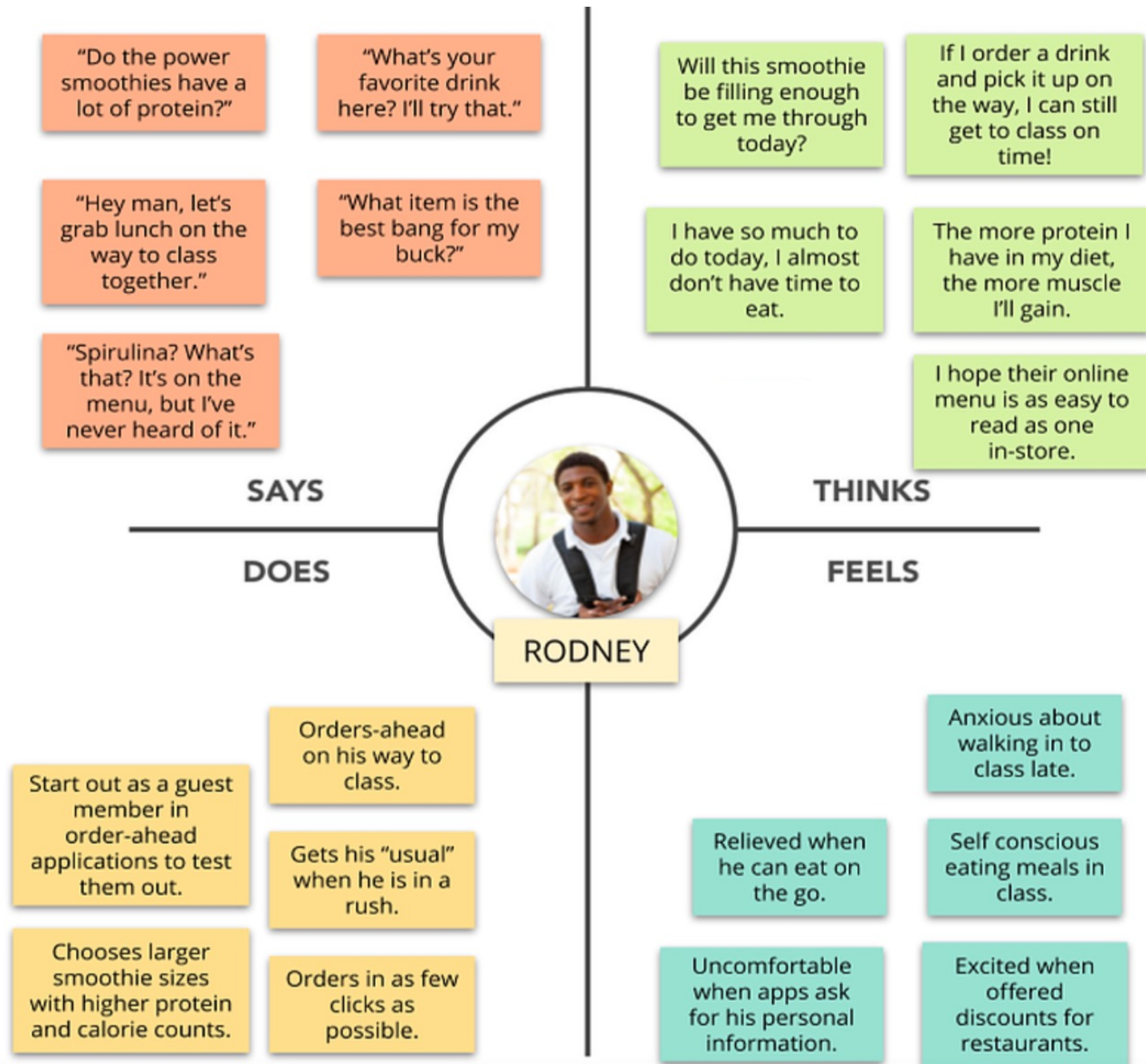- **Socializing**: She does not like having to talk to people in person when ordering food/drinks.

MOTIVATIONS
- **Convenience**: She wants to stay in her seat and keep working while she waits for her order.
- **Online Presence**: She wants her food/drinks to look good so she can post them online.
- **Keep Informed**: She wants to be notified when new menu items are released.
- **Wellness**: She wants to know exactly what she is eating so she can stay healthy and avoid dairy.

GOALS
- **Convenience**: She likes applications that let her quickly place orders and notify her when her order is ready.
- **Online Presence**: She likes to order food/drinks that are colorful and aesthetic.
- **Keep Informed**: She likes order-ahead applications that have recommendation systems.
- **Wellness**: She hopes to quickly identify which food/drinks she cannot consume.

Empathy Maps

RODNEY

SAYS
- "Do the power smoothies have a lot of protein?"
- "What's your favorite drink here? I'll try that."
- "Hey man, let's grab lunch on the way to class together."
- "What item is the best bang for my buck?"
- "Spirulina? What's that? It's on the menu, but I've never heard of it."

THINKS
- Will this smoothie be filling enough to get me through today?
- If I order a drink and pick it up on the way, I can still get to class on time!
- I have so much to do today, I almost don't have time to eat.
- The more protein I have in my diet, the more muscle I'll gain.
- I hope their online menu is as easy to read as one in-store.

DOES
- Orders-ahead on his way to class.
- Start out as a guest member in order-ahead applications to test them out.
- Gets his "usual" when he is in a rush.
- Chooses larger smoothie sizes with higher protein and calorie counts.
- Orders in as few clicks as possible.

FEELS
- Anxious about walking in to class late.
- Relieved when he can eat on the go.
- Self conscious eating meals in class.
- Uncomfortable when apps ask for his personal information.
- Excited when offered discounts for restaurants.

ALICIA

SAYS
- "Do you have any dairy free options?"
- "Excuse me, can I get a new smoothie? This isn't what I ordered."
- "Oh no, this line is way too long."
- "Can you watch my laptop for two seconds while I go grab my to-go order?"
- "That drink looks amazing! What's in it?"

THINKS
- I wish more restaurants had clear nutritional information.
- I wonder if I can add blueberries and almonds to my bowl today.
- Hmm.. am I feeling like a coffee or a smoothie? Or both?
- I'm so behind on this assignment. Time to focus!
- Why can't more restaurants have good tasting dairy substitutes?

DOES
- Double checks ingredients in new foods before eating.
- Takes pictures of her food/drinks before eating.
- Gets to a stopping point in work before going to pick up her food.
- Checks her notifications regularly for new menu options/deals.
- Often tries new menu options.

FEELS
- Excited when she sees dairy free options on menus.
- Curious when she sees new customization options for drinks.
- Frustrated when menus don't mention common allergy restrictions.
- Experimental when she's offered deals and discounts on new menu items.
- Content when she can reorder a favorite meal in only a few clicks.

Journey Maps

Rodney's User Journey
A new user who is using the Jamba order-ahead application for the first time.

PHASES	Sign Up	Choose Location	Explore Menu	Make Selection	Checkout
ACTIONS	1. Downloads the Jamba app and opens it 2. Uses his email address to sign up 3. Fills in his personal information	1. Clicks "Preferred Location" instead of the bottom button 2. Clicks "Continue" and selects a preferred location 3. Skips the section for dietary restrictions	1. Clicks the "Order" tab and explores each category 2. Explores each product item in each of the categories 3. Looks for more information on some products	1. Compares several products in the menu 2. Selects a certain product along with the size 3. Clicks the "add item" button on the bottom right	1. Checks pickup time, location and enters his credit card information manually 2. Places the order 3. Tries to reconfirm and track his completed order
THOUGHTS	1. I don't want to share too much personal information in this app. 2. Oh no, I have to scroll all the way up to set my date of birth. So time consuming!	1. Oh, the "Preferred Location" button is not clickable. So tricky! 2. I have no idea what green and gray circles mean here? Fine, let me have a try.	1. I like the pictures in the menu. They are more intuitive than words. 2. What does "Bite" mean here in the main menu? I have no idea.	1. I am happy that the app shows detailed information about ingredients and nutrition. Also, I like that calories updated when size changed.	1. Oh no. I have to enter all the card info manually. So time consuming! 2. How can I reconfirm or track my completed order? Where should I go?
EMOTIONS					
PAIN POINTS	He has to spend a lot of time setting his date of birth in signup	He has no idea about the difference between circles with different colors in the map	He has no idea about the exact meaning of some of the headers in the menu		1. He spends a lot of time entering card info manually 2. He has trouble reconfirming or tracking his completed order
DESIGN IMPLICATIONS	Design a system that can assist first-time users to enter date of birth quickly	Provide a legend that tells the user what the colored circles on the map mean	Provide brief descriptions for the headers in the menu		1. Provide more efficient methods to enter card info 2. Design a system to help users check and track completed orders

Alicia's User Journey
A returning user who is making a customized order in the Jamba application.

PHASES	Explore Favorites	Explore Menu	Make selection & customize it	Checkout	Wait 8 minutes for pickup
ACTIONS	1. Opens the Jamba app and reviews her favorites 2. Changes her mind and hopes to try something new	1. Explores each product item in each of the categories 2. Reads the detailed descriptions of each product	1. Selects one product and presses "Customize It" 2. Explores various ingredients for customization 3. Finishes her customization	1. Checks pickup time, location and her credit card information before payment 2. Places the order	1. Waits and checks when her order will be ready to pick up 2. Goes to the selected location and picks up her order after about 8 minutes
THOUGHTS	1. I'm a bit tired. I think I'll get something to drink from Jamba today. 2. Hmm, how about trying something new today?	1. I love that this app provides notification about food allergies. 2. There are too many options. I wish the app menu gave me recommendations.	1. So many customization options are displayed on different pages. It's really troublesome to view them!		1. Is it time to go to the store? Let me check. 2. I wish I could track the progess of my order preparation and get notified when the order is ready.
EMOTIONS					
PAIN POINTS		She finds it time-consuming to explore all the potential items in the menu while busy doing something else.	She finds it troublesome to explore all the customization options by toggling between different pages.		She finds it troublesome to track the process of her order's preparation.
DESIGN IMPLICATIONS		Provide product recommendations for the user based on review history and personal favorites.	Redesign the information architecture and layout structure of the customization section to make it more intuitive to browse.		Design a system that provides updates of order preparation status.

Consolidating Research Findings

Clustering of specific pain points

How were the themes formed?

We used a combination of three Thematic Analysis methods to generate themes from the large quantity of qualitative data
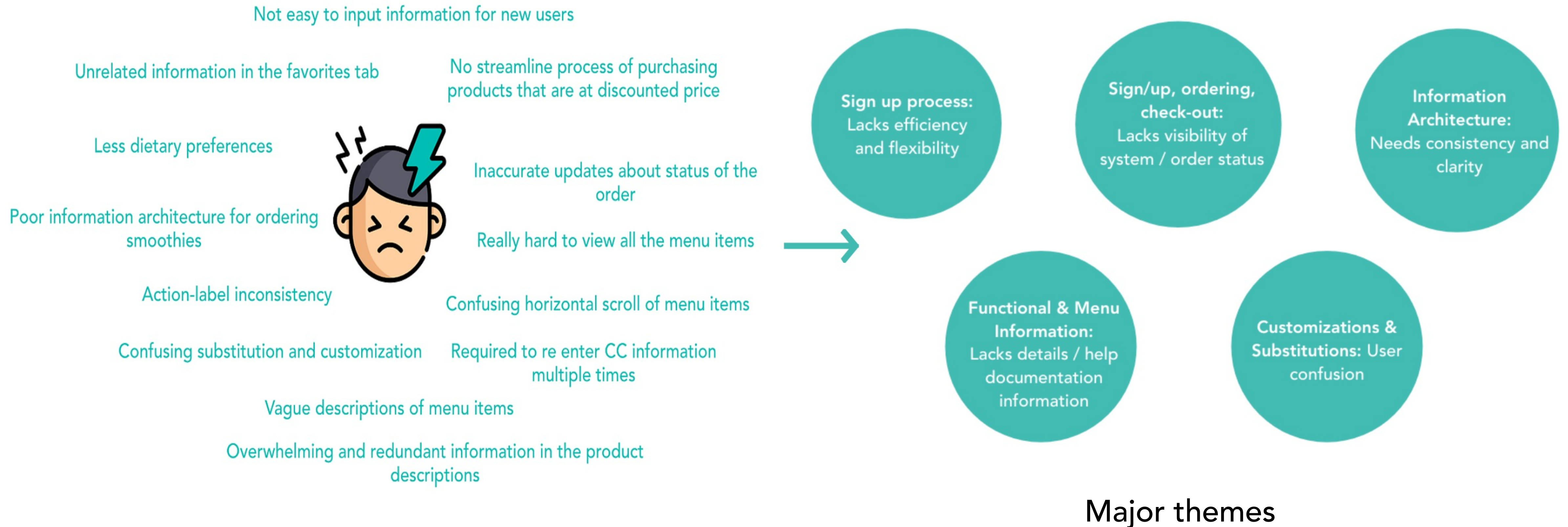
Skimming through data manually and generating codes

Qualitative Coding using Dedoose.com
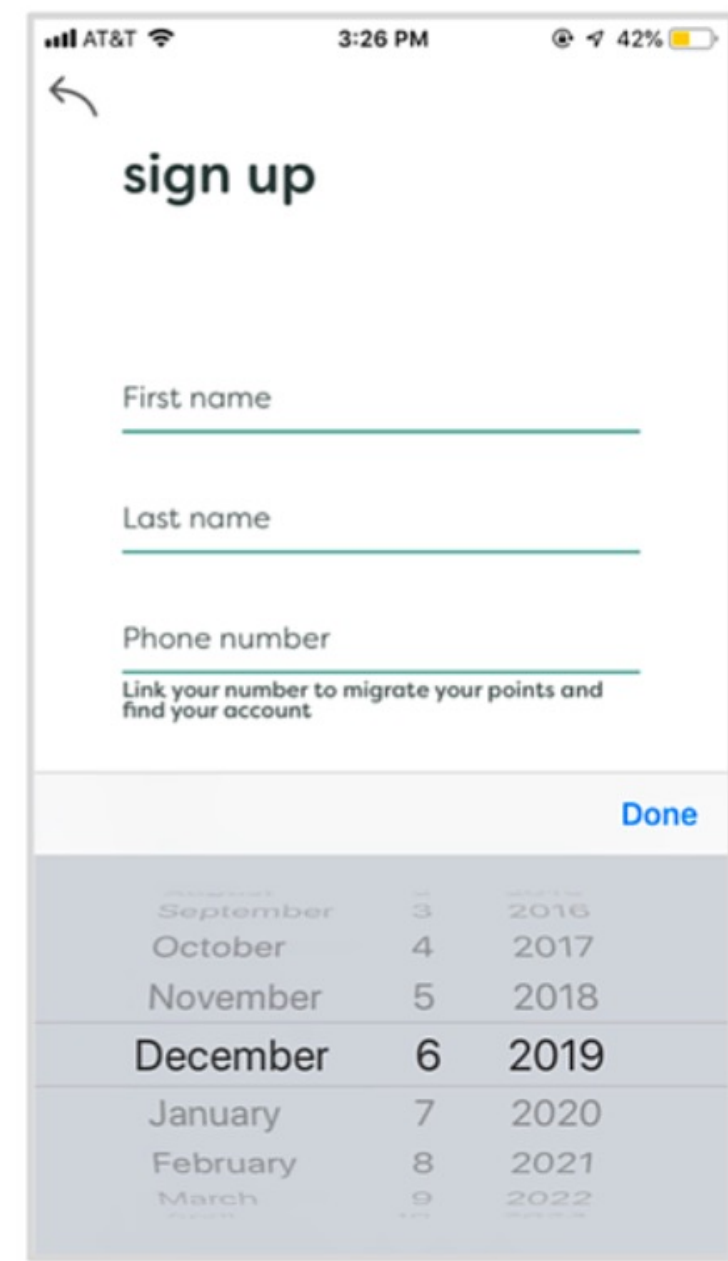
Affinity Mapping

Thematic Analysis of Data

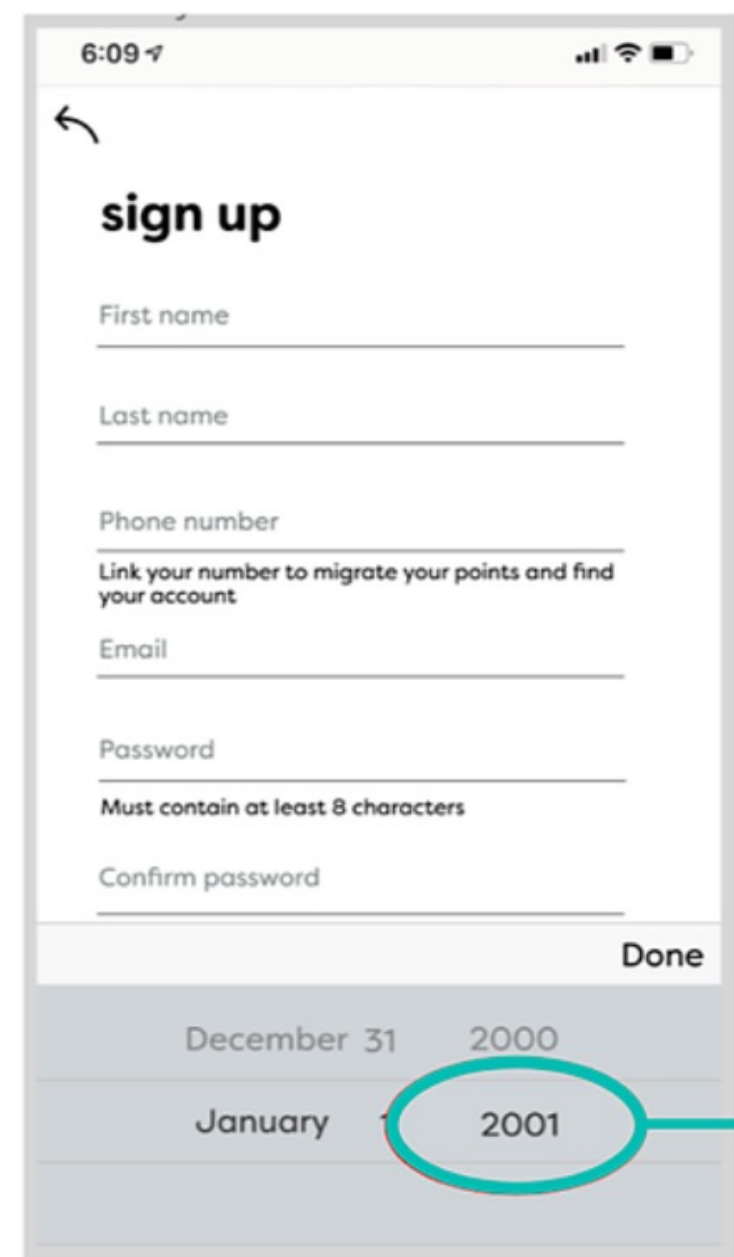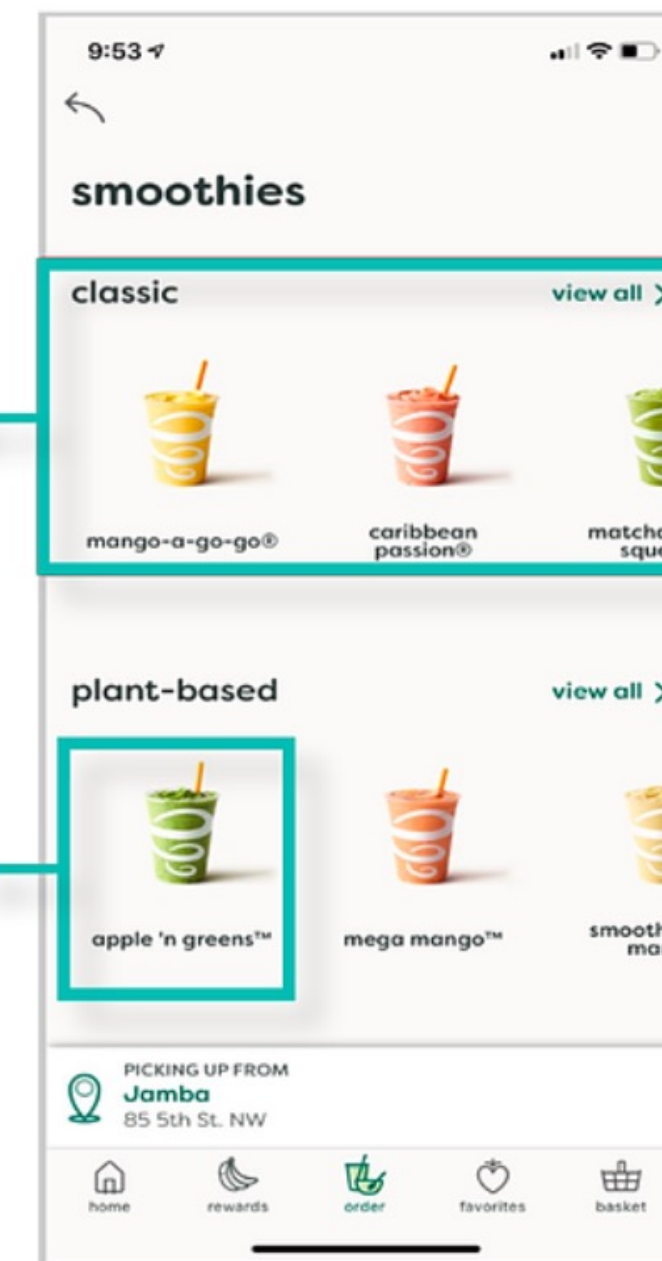We gathered a lot of Qualitative Attitudinal and Behavioral data from the methods

Not easy to input information for new users

Unrelated information in the favorites tab

No streamline process of purchasing products that are at discounted price

Less dietary preferences

Poor information architecture for ordering smoothies

Inaccurate updates about status of the order

Action-label inconsistency

Really hard to view all the menu items

Confusing horizontal scroll of menu items

Confusing substitution and customization

Required to re enter CC information multiple times

Vague descriptions of menu items

Overwhelming and redundant information in the product descriptions

Sign up process:
Lacks efficiency and flexibility

Sign/up, ordering, check-out:
Lacks visibility of system / order status

Information Architecture:
Needs consistency and clarity

Functional & Menu Information:
Lacks details / help documentation information

Customizations & Substitutions: User confusion

Major themes

Wireframing

Design | Sign up

Date Wheel starting from 18 years ago

Jamba App

New Wireframe

Design | Menu View

Users did not like horizontal scrolling view of products

No description (price, cal) of the products

Search option given to the user

Vertical scrolling view of products with description

Jamba App

New Wireframe

Mockups

Design | Sign up
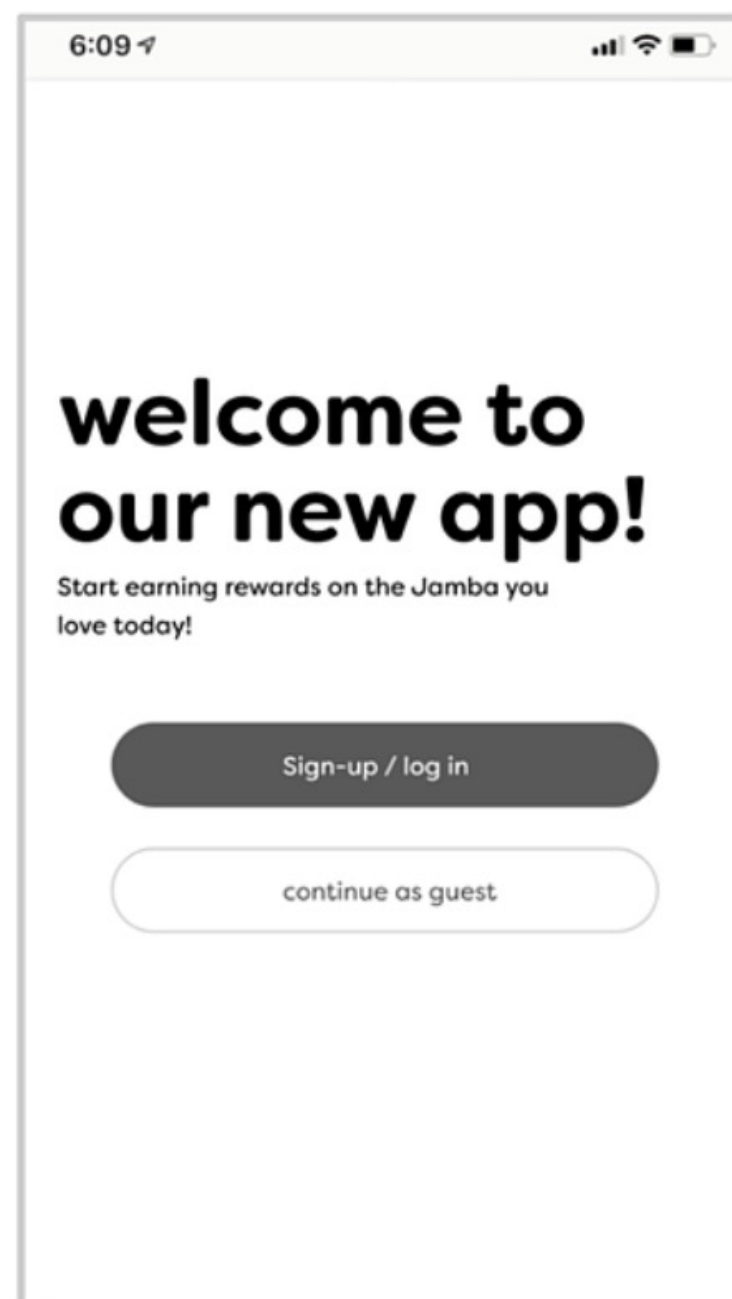
Wireframe
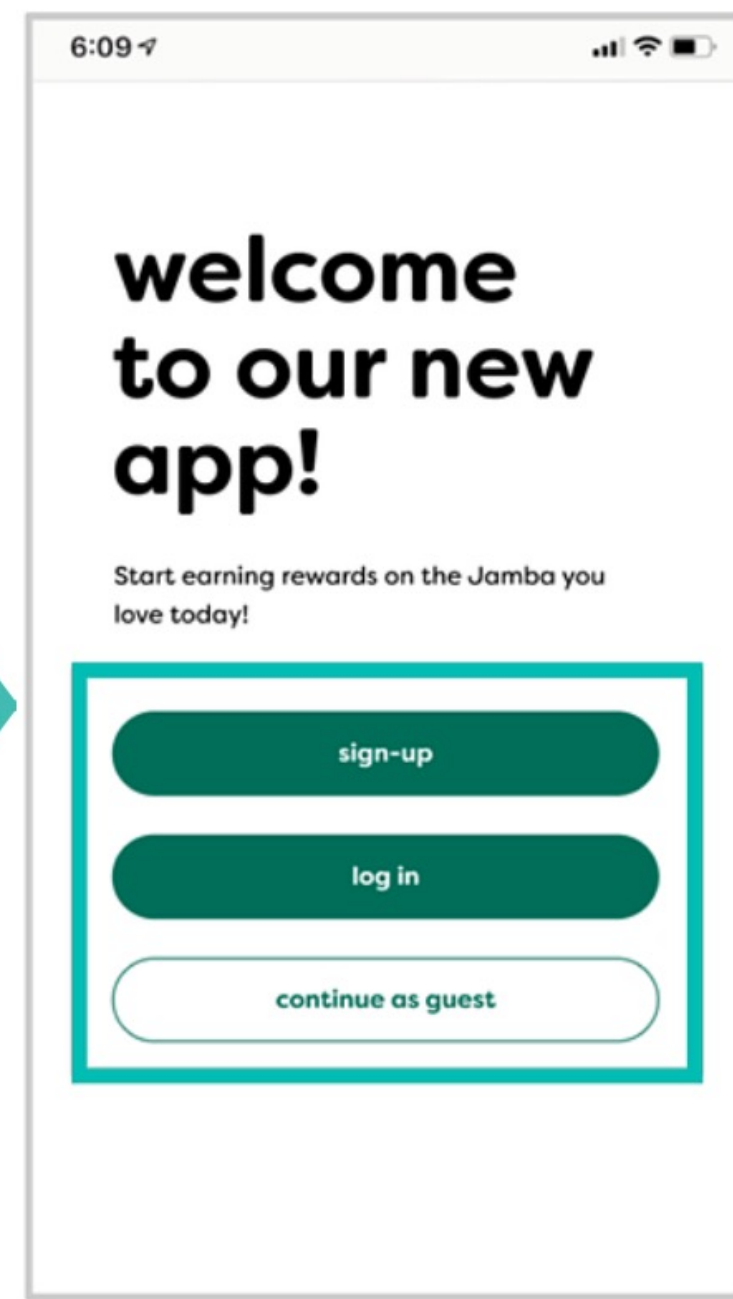
Mock up

Design | Review Order
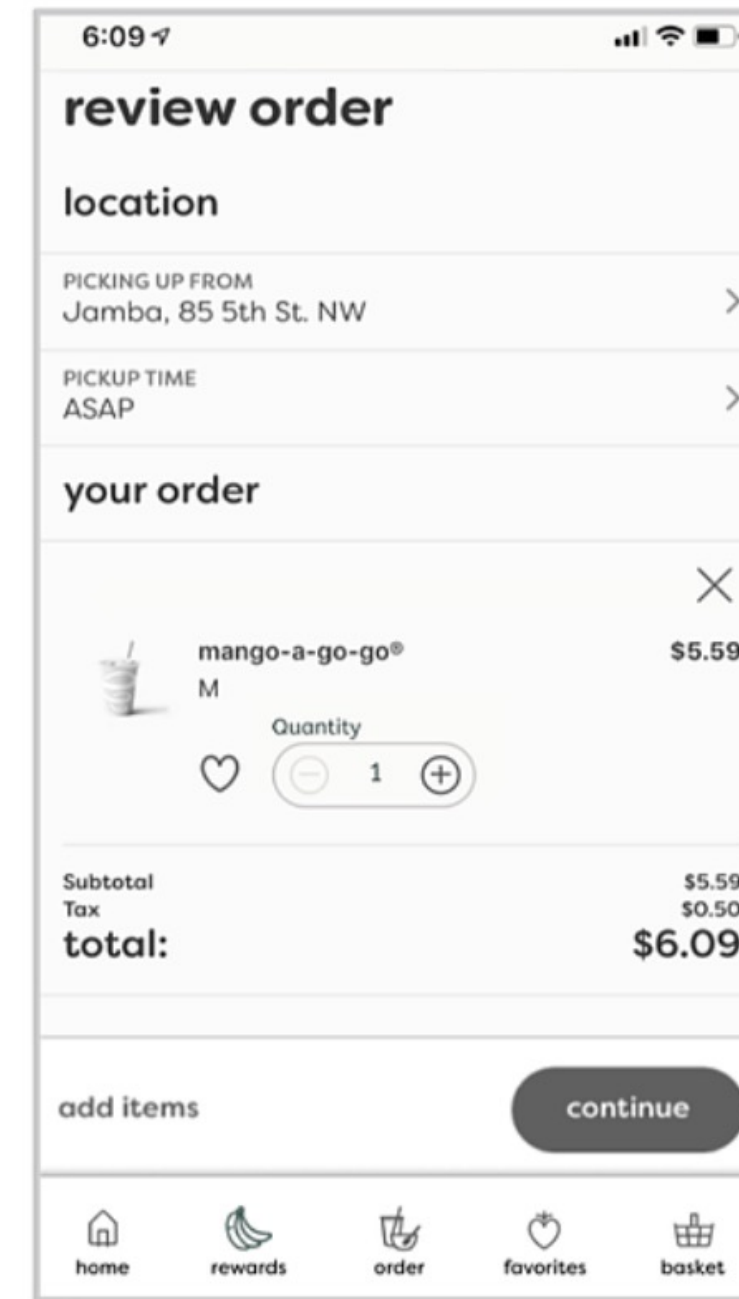
Wireframe
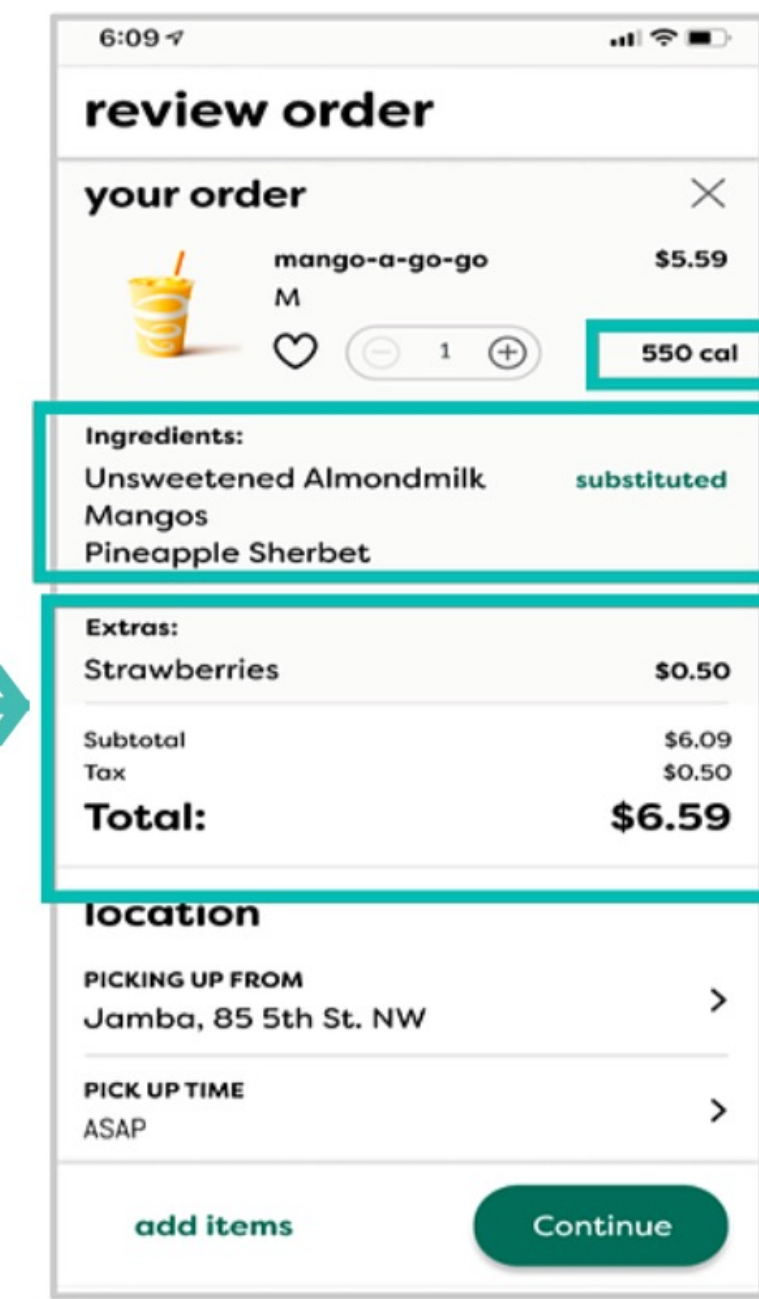
Mock up

SUS Score Comparison

Existing Jamba App	New Wireframes	New Mockups	New Prototype
60.71	N/A	78.21	?

Testing Mockups

Mock ups →

Application Walkthrough

Semi-Structured Interview

System Usability Scale (SUS)

Contextual Inquiry

=

Prototypes

Final Prototype

Sign up status bar

Redesigned
Customization Option

Redesigned Ingredient
Substitution Option Screen

Redesigned Ingredient
Addition Option Screen

New Review Order Screen

Final SUS Score

Existing Jamba App	New Wireframes	New Mockups	New Prototype
60.71	N/A	78.21	92.92

Our final prototype shows a usability score increase of **53%** from **60.71** to **92.92**

Prototype Evaluation

Heuristic Evaluation with Experts

Heuristics:	Expert 1	Expert 2	Expert 3
1. Visibility of System Status	2	1	0
2. Match Between System & Real World	0	1	0
3. User Control & Freedom	3	1	1
4. Consistency & Standards	3	2	1
5. Error Prevention	1	1	3
6. Recognition Rather Than Recall	2	1	0
7. Flexibility & Efficiency of Design	1	1	0
8. Aesthetic & Minimalist Design	4	1	0
9. Help Users Recognize, Diagnose, and Recover from Errors	0	1	2
10. Help & Documentation	N/A	1	N/A
Totals:	16	11	7
Average of Expert 1, 2, and 3:			11.3

Expert 1 - Dr. Bruce Walker Expert 2 - Dr. Richard Henneman Expert 3 - Dr. Carrie Bruce

Results of Heuristic Evaluation

Prototype Evaluation
Unmoderated Online Testing at UserTesting.com

No	Metric	User 1	User 2	User 3	User 4	User 5	User 6
1	Time: Task 1	1:21	2:16	4:32	1:52	2:31	3:56
2	Task Success	Yes	Yes	Yes	Yes	Yes	Yes
3	Difficulty: Task 1	5	5	5	5	5	5
4	RSQ1	7	7	7	7	7	7
5	RSQ2	6	7	7	6	7	7
6	Time: Task 2	0:51	0:54	2:13	1:22	1:25	1:51
7	Task Success	Yes	Yes	Yes	Yes	Yes	Yes
8	Difficulty: Task 2	5	5	5	4	5	5
9	Time: Task 3	1:04	2:28	2:48	1:36	1:45	2:10
10	Task Success	Yes	Yes	Yes	Yes	Yes	Yes
11	Difficulty: Task 3	3	5	5	4	4	5
12	Verbal Response						
13	Time: Task 4	1:04	1:22	1:45	0:56	1:08	2:32
14	Task Success	Yes	Yes	Yes	Yes	Yes	Yes
15	Difficulty: Task 4	4	5	5	5	5	5
16	SUS-1	5	5	5	5	4	5
17	SUS-2	2	1	2	2	1	1
18	SUS-3	2	1	1	1	1	1
19	SUS-4	5	5	5	5	5	5
20	SUS-5	5	5	5	4	5	5
21	SUS-6	1	1	1	1	1	1
22	SUS-7	5	5	5	5	4	5
23	SUS-8	1	1	1	3	1	2
24	SUS-9	5	5	5	5	5	5
25	SUS-10	2	1	1	1	1	1

Results of Online Testing

Tests defined for 6 users across the world

Prototype Evaluation

Moderated In-Person Testing at Jamba Store

Jamba App

Task	Time (sec)	Task Success	Satisfied with the ease Strong disagree 1 Strongly agree 5	Satisfied with the time Strong disagree 1 Strongly agree 5	Satisfied with the support info Strong disagree 1 Strongly agree 5
1	29.2	6/6	2.5	3.2	2.7
2-1	6	6/6	3.8	3.8	3.3
2-2	27.8	5/6	2.3	3.5	2.8
2-3	17.6	6/6	3.7	3.8	2.8
Average	20.2	23/24	3.1	3.6	2.9

Our Prototype

Task	Time (sec)	Task Success	Satisfied with the ease Strong disagree 1 Strongly agree 5	Satisfied with the time Strong disagree 1 Strongly agree 5	Satisfied with the support info Strong disagree 1 Strongly agree 5
1	21.6	6/6	4	4.3	4
2-1	7.3	6/6	4.5	4.3	4.2
2-2	12.7	6/6	4.7	4.8	4.7
2-3	15	6/6	4	4.5	3.8
Average	14.2	24/24	4.3	4.5	4.2

Results of In-Person Testing

Users spent 29.7% less time finishing each task on our prototype

5/6 users during the testing preferred the customization visibility on our prototype

Critical Findings
Menu Page Visibility

IA LEVEL

1. Smoothies vertical: instead of having the scroll horizontally and vertically - lessens cognitive load

2. Sorting done in tab forms: available to see all categories
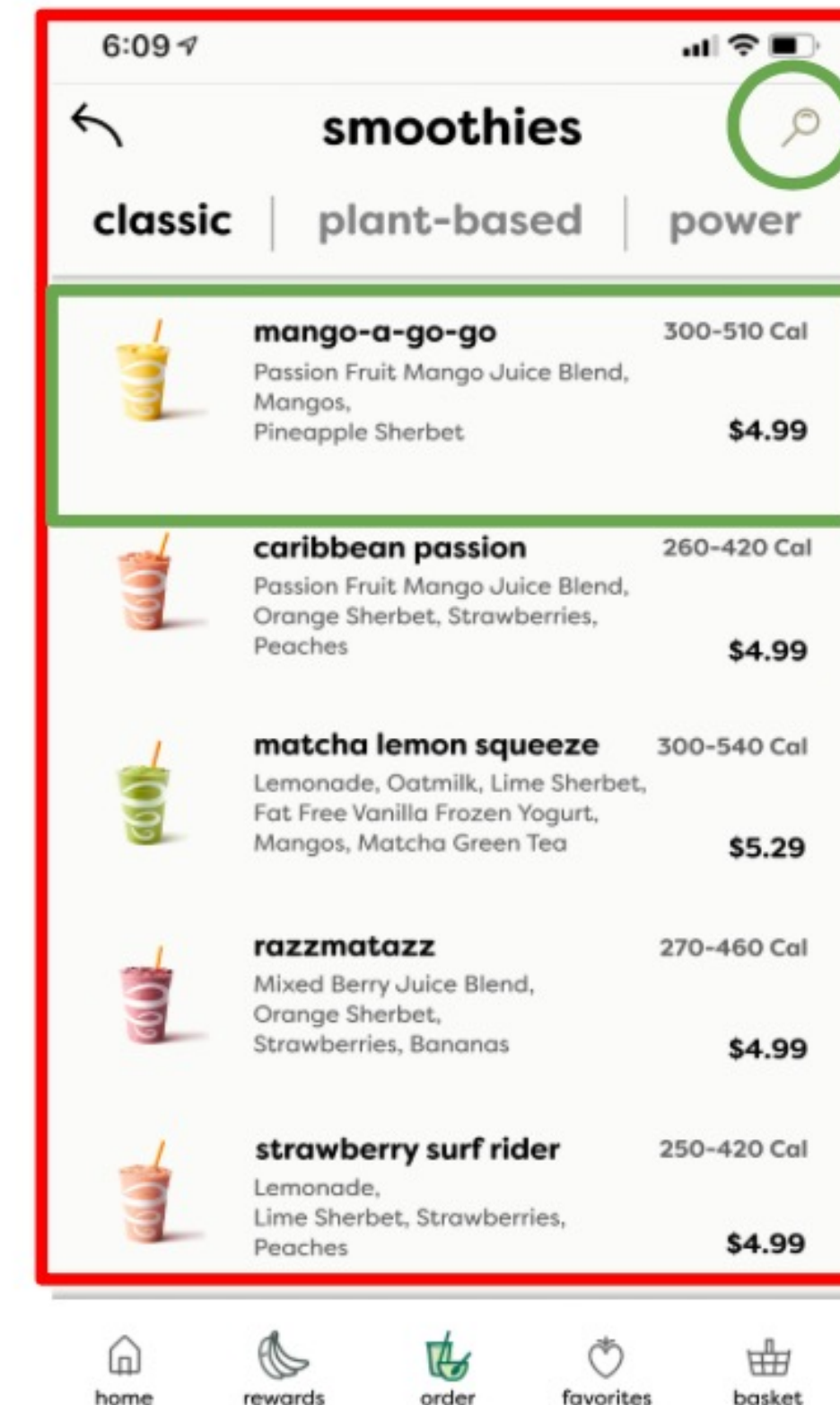
Detailed Findings:

3. Search bar: Visible & Consistent

4. Visibility of ingredients/calories/price

5. Jamba Location does not need to be shown on all pages

Critical Findings

System Visibility

Eases predictability and familiarity in the system

1. Progress bar in sign-up stage

2. Track order at check-out

Critical Findings

Label Predictability

User want to be confident that the buttons and tabs do what they want:

1. Add item to cart
2. Sign-up vs log-in
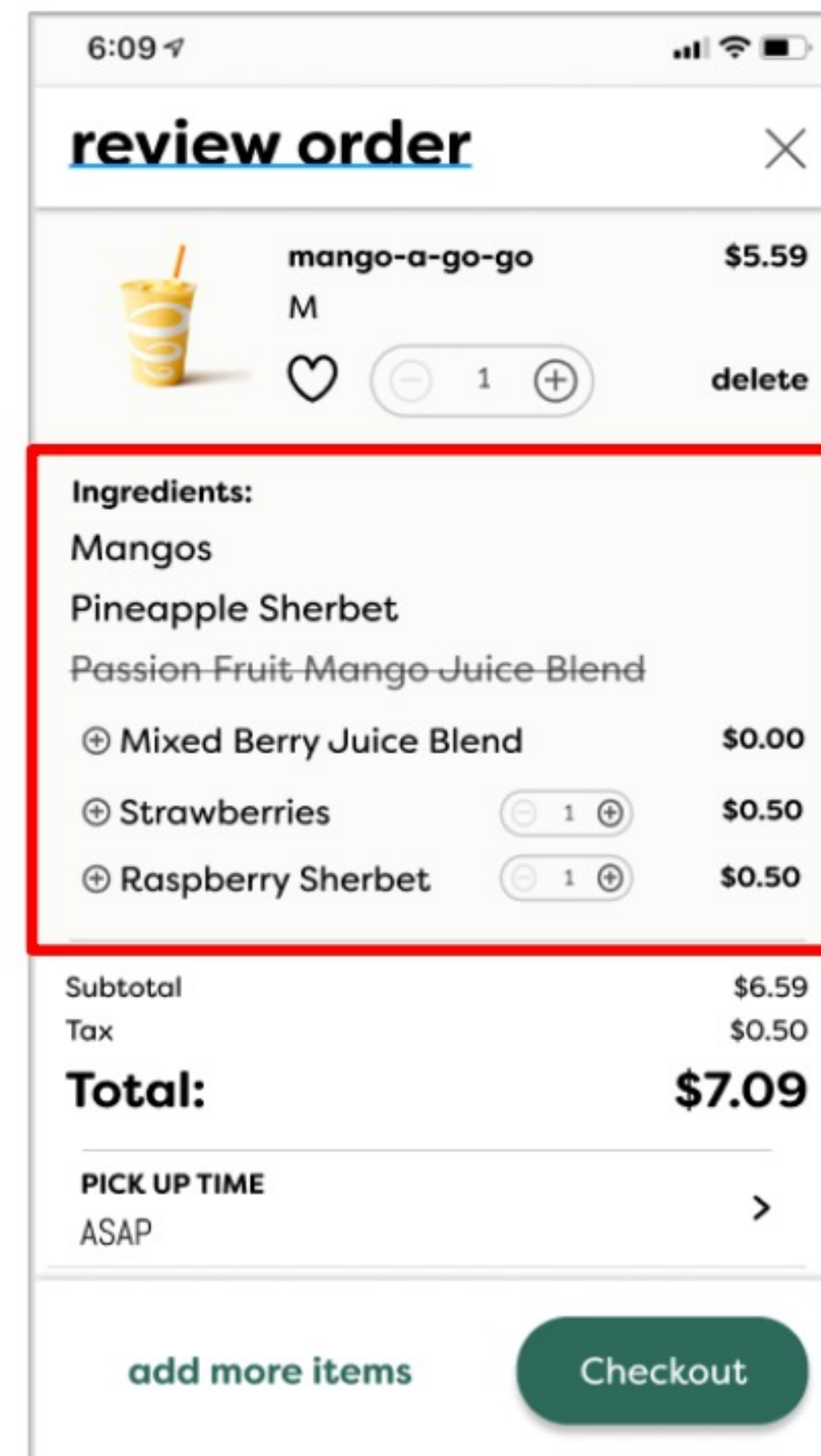3. Next vs. continue vs. complete in process
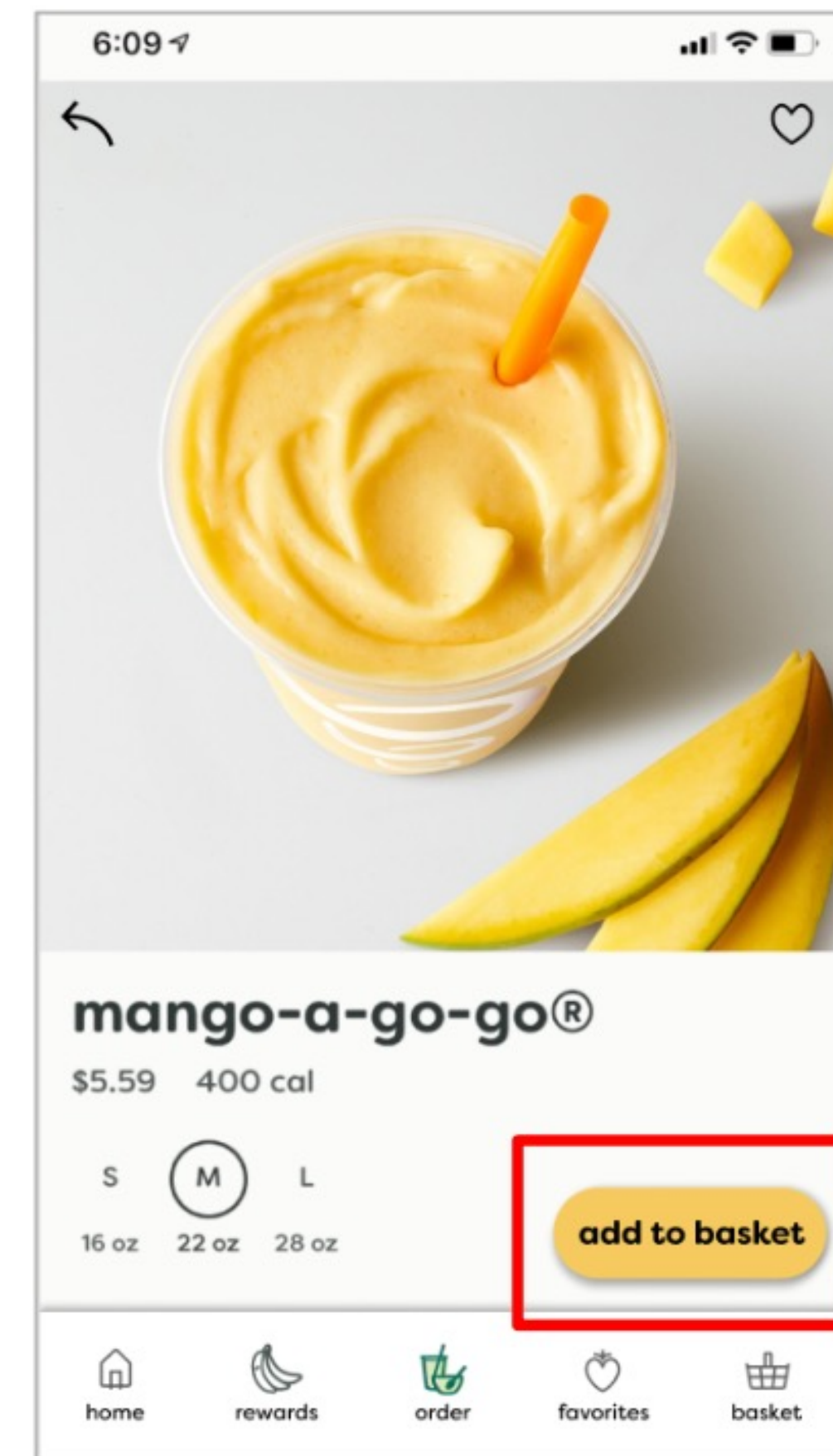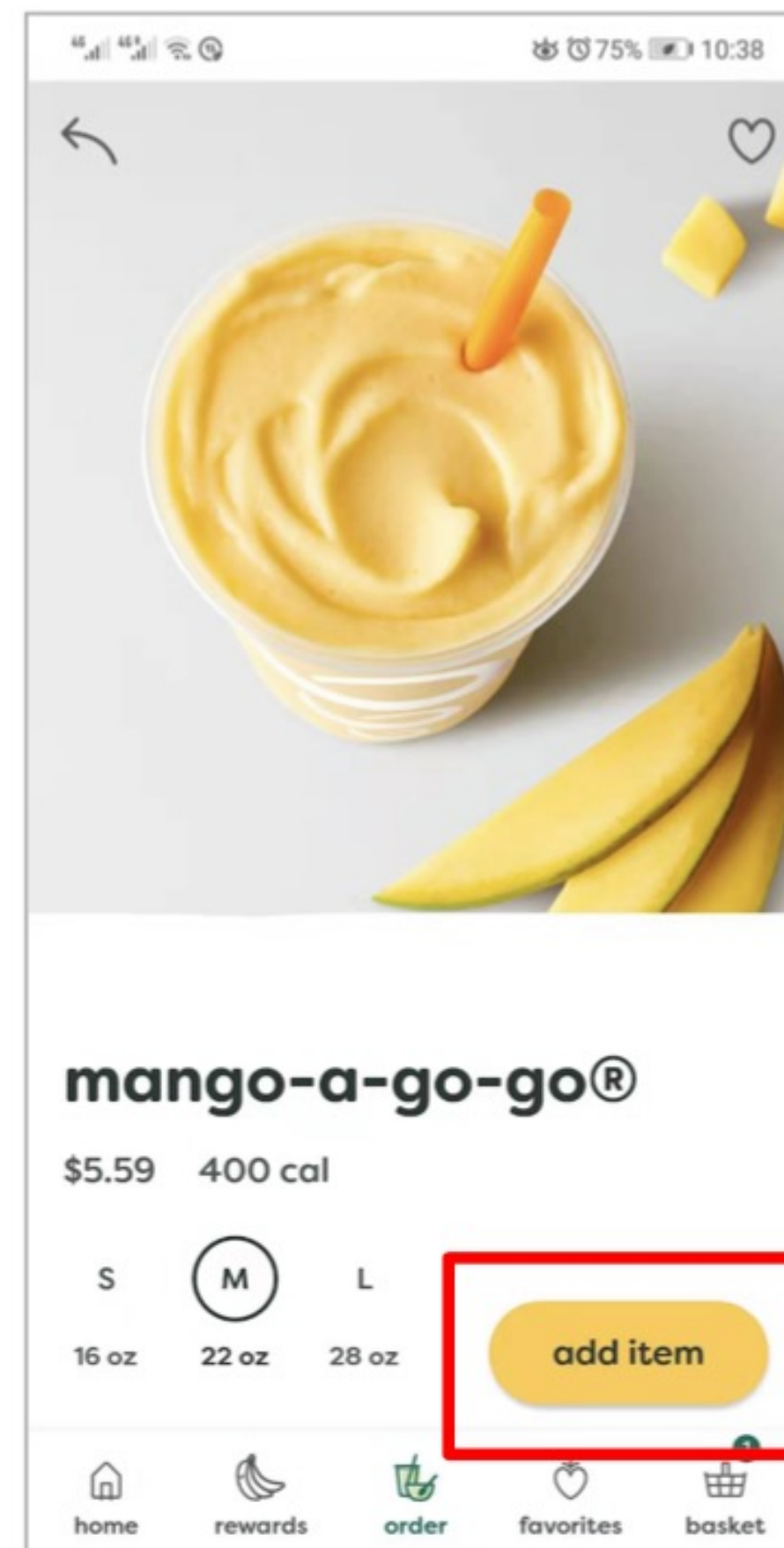
Critical Findings

Consistency

1. Users want to see all ingredients, including replaced ingredients and added ingredients, and be able to modify them at check-out
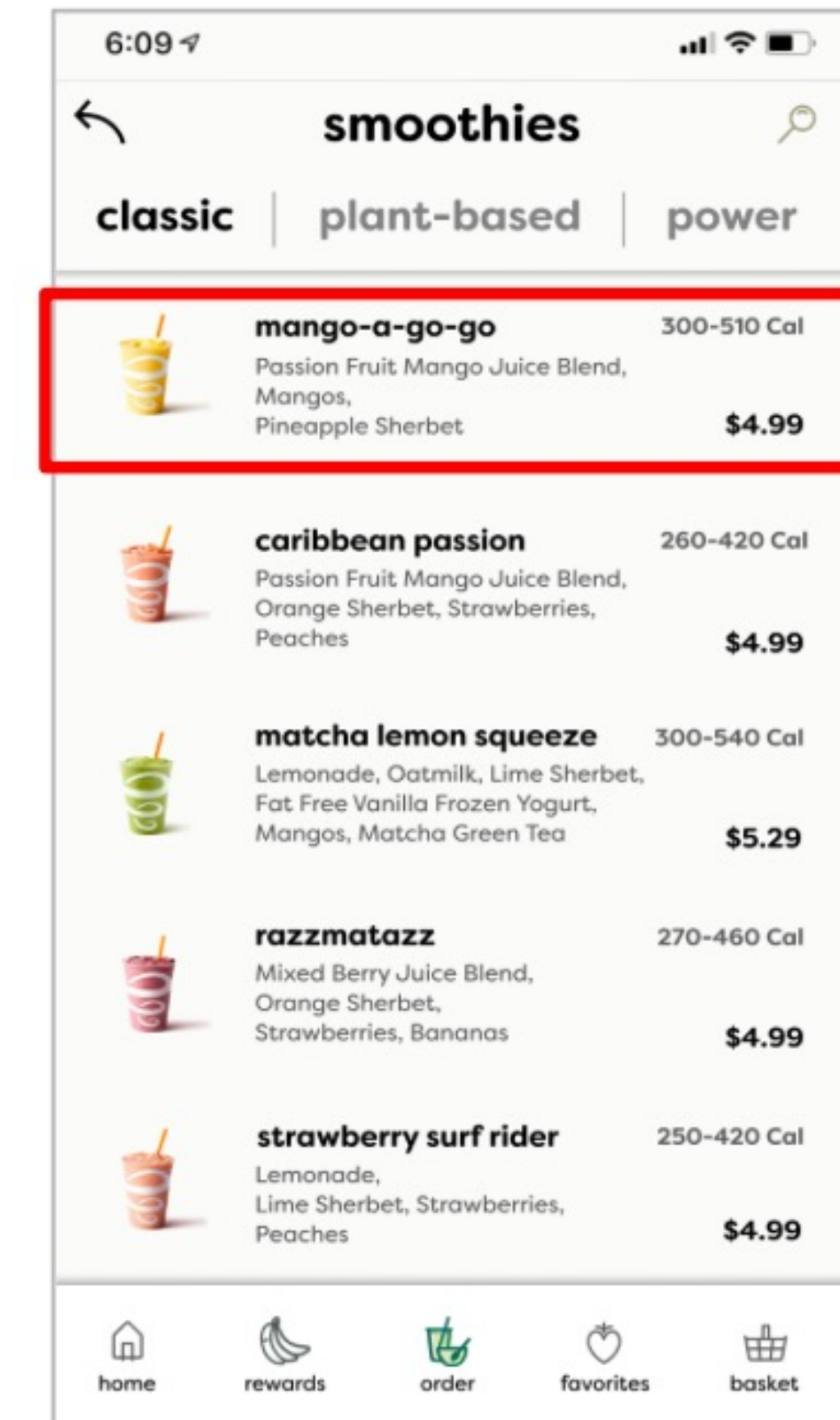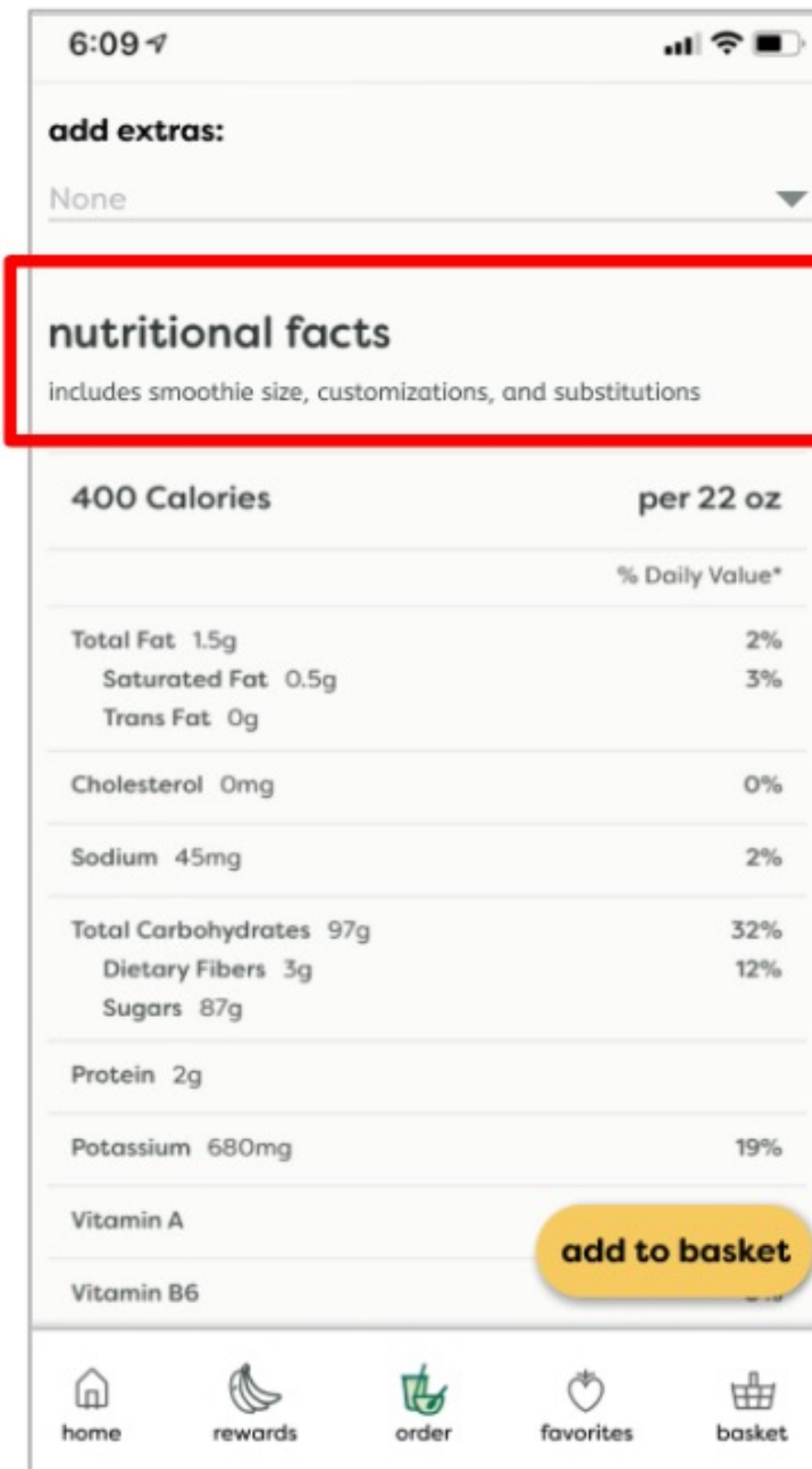
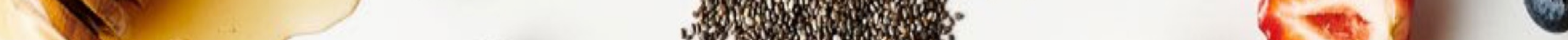2. Users want labels to be consistent
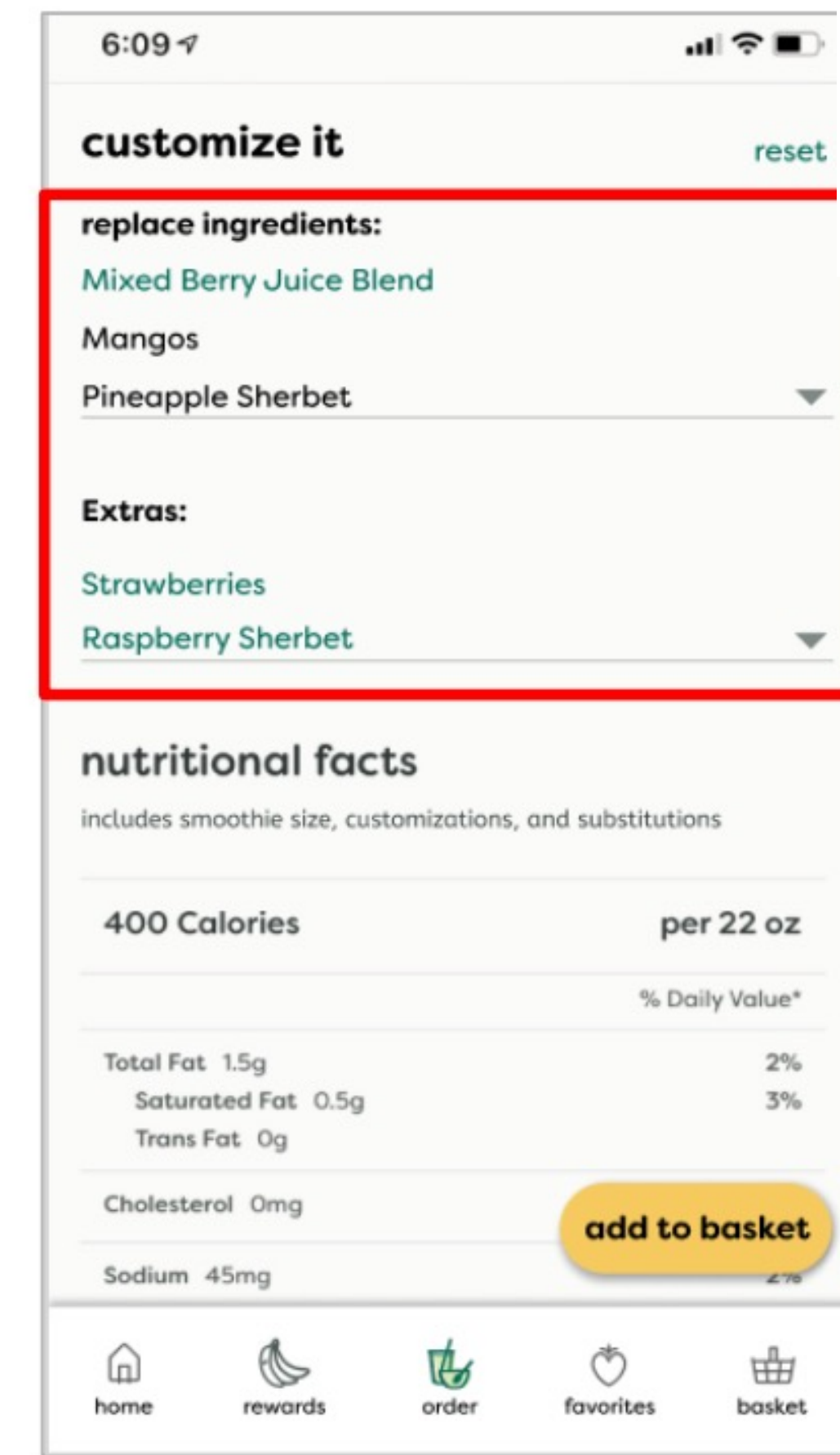
Critical Findings

Dynamic Information

1. Want nutrition facts to be updated
2. Want information on smoothies visible on menu page

Thank you