



# Starbucks Kiosk



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# Rationale Research Kiosk User Testing Conclusion Process

Imagine you're a student who just finished their 8 a.m. lecture. You're feeling extremely drowsy, and desperately need some coffee before your 9 a.m. class. You head to Starbucks, thinking that you can put in a quick order online on the way. But wait! Price Center Starbucks doesn't accept app orders, which will make it hard to order your heavily customized drink! And when you arrive two minutes later, the line is out the door!

This issue is what we set out to fix. Price Center Starbucks is constantly busy, wasting students' precious time. A kiosk would help reduce wait times and simplify the ordering process.

## Personal experiences

- Food places at Price get very busy
- Especially Starbucks

## Initial fieldwork

- Starbucks had longest waits

## Initial Insights + Motivations

- Lit review: kiosks = faster wait times
- Scan student ID to bring up past orders
  - makes ordering faster
  - helps fix the problem of no Starbucks app

# Rationale Research Kiosk User Testing Conclusion Process

From our extensive online literature search, it was found that:

- **88%** of people admitted to leaving a line after waiting for more than 4mins (*Kioware*)
- **Increased wait time** for college students leads to **customer dissatisfaction** (*Sarpong*)
- **33%** of **college-aged students** (18-24) preferred services that were not face-to-face (*Sands*)
- A majority of customers **prefer kiosks** and have high regards for them (*Datacap*)

Thus, we concluded that implementing a kiosk at a busy restaurant would likely have a positive impact.

From our competitive analysis, we found that:

- Kiosks studied (McDonalds and Vons) were easy to use and had shorter wait times
- Kiosks studied connected to accounts using phone numbers

From this research, we concluded that kiosks were quick and easy to use. To differentiate ourselves from the competition, we decided to connect our kiosk to UCSD IDs, so students and faculty could bring up recent orders and store their payment information.

- **Pre-process average wait:**
    - **Min:** 1.17 mins
    - **Max:** 9.35 mins
  - **In-Process average wait:**
    - **Min:** 0.20 sec
    - **Max:** 1.17 mins
  - **Pick Up average wait:**
    - **Min:** 3 mins
    - **Max:** 15 mins
- People usually get Starbucks in the morning or early afternoon
  - Lines are typically the longest around mornings and early afternoon
  - Other times lines do not extend outside the Starbucks area
  - Mostly students getting Starbucks
  - Most of the time customers would just wait around Starbucks and potentially collide with people tables causing crowding
  - Food would be delivered fast but drinks take the up the most time

## Fieldwork Insights

Based on our observations and our online research, we found that Starbucks at Price Center has long wait times and excessive crowding, which a kiosk would most likely help. We also hoped that UCSD ID being connected to the kiosk would speed up order times for people with many customizations.

# Rationale Research Kiosk User Testing Conclusion Process

**5/5** interviewees expressed dissatisfaction with long lines and wait times.

**5/5** interviewees have left Starbucks without purchasing anything at least once

According to our data, we found that people mostly go to the PC Starbucks **1 to 3 times a week**, and usually go either early in the morning or in the **afternoon (between 12pm - 3pm)**.

**4/5** interviewees mentioned that they dislike how the PC Starbucks doesn't take mobile orders through the app - only through Grubhub.

## Interview Insights

“I think a few times there have been times where the line was going pretty far out and then I just kind of give up.”

# Rationale Research Kiosk User Testing Conclusion Process

## When asked about how a kiosk could change their PC Starbucks experience...

- **3** interviewees mentioned that a kiosk can be greatly beneficial by allowing customers to **easily order their customized drinks, past/recent orders, and favorite orders**, without having to speak to a cashier.
- **4/5** interviewees believe that a kiosk could potentially **shorten lines and reduce pre-purchase wait times**, but also expressed worry that it could **increase post-purchase wait times** when picking up their order.

Audio from interviews:

[https://drive.google.com/drive/folders/1UUMMSv5cKHw-kbzUPp\\_jw8-gCTA8YvBIN?usp=sharing](https://drive.google.com/drive/folders/1UUMMSv5cKHw-kbzUPp_jw8-gCTA8YvBIN?usp=sharing)

**“I'm more keen to do customizations on the app, but since this location doesn't take app orders, it would be nice to have a kiosk for customizations.”**

**“Yeah. I think a kiosk would make the lines go faster, but it would also make service a bit slower, I think.”**

# Rationale Research Kiosk User Testing Conclusion Process

## Primary Persona



Mary

AGE 18  
MAJOR Human Biology  
STATUS Single  
OCCUPATION Student  
LOCATION San Diego  
TECH LITERATE High

Personality  
Introvert Reader

**Bio**  
She is a 1st year Human Biology major at UCSD. As a pre-med student, she has a hectic schedule filled with 20 units of classes, labs, a part-time job, and heavy coursework. Her personality is quite introverted and she prefers to keep to herself most of the time.

**Core needs**

- In need of caffeine to get through the day
- An efficient way to order within her 10 minute gaps between classes
- Minimal interactions with other students and workers

**Frustrations**

- Starbucks line is always incredibly long so she either has to give up caffeine or get to class late and miss important material
- Doesn't like interacting with workers because of her complicated order with many customizations
- Overall extremely busy and stressed due to her hectic schedule

## Mission Statement

**Our mission is to streamline the purchasing process for students and faculty by developing an innovative app/kiosk that reduces in-line wait times and enhances the post-purchase experience. By providing a more efficient and convenient way to make purchases, we aim to free up valuable time for our users to focus on their academic and work-related pursuits**

Rationale Research Kiosk User Testing Conclusion Process

Hi-Fi Prototype



Recent Orders Hot Coffee Iced Coffee Tea Specialty Food

**Iced Vanilla Sweet Cream Cold Brew**  
\$4.95 | 110 cal  Tall Grande Venti Trenta

**Iced Peach Green Tea**  
\$3.95 | 80 cal  Tall Grande Venti Trenta

---

You Might Like:

**Pistachio Cream Cold Brew**  
\$5.25 | 250 cal  Tall Grande Venti Trenta

**Iced Chai Tea Latte**

Back

Select payment method:

Card  Triton Cash

Iced Vanilla Sweet ...  
\$4.95 | 110 cal

Pistachio Cream ...  
\$5.25 | 250 cal

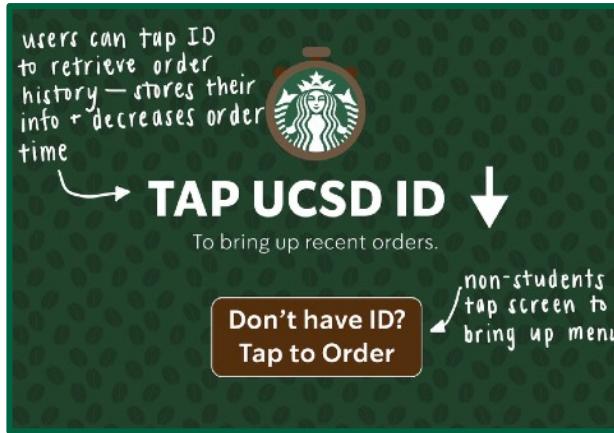
**Thank you for your order!**

Enter your phone number to receive a text when your order is ready:

Submit

New Order

# Rationale Research Kiosk User Testing Conclusion Process



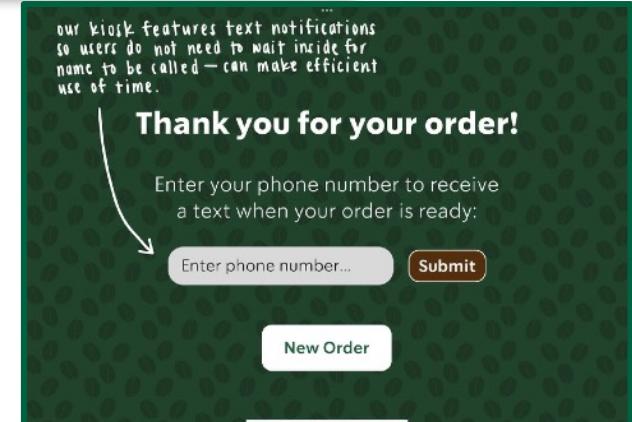
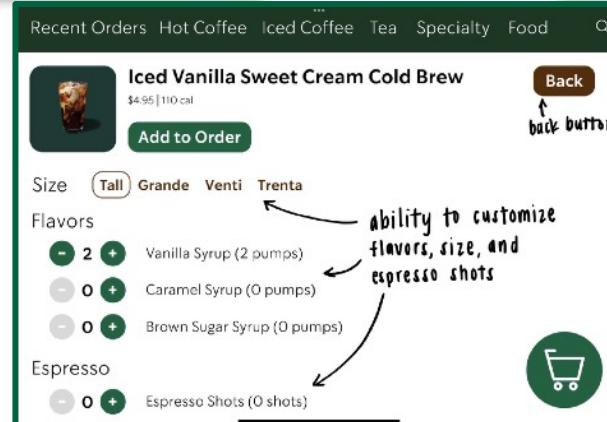
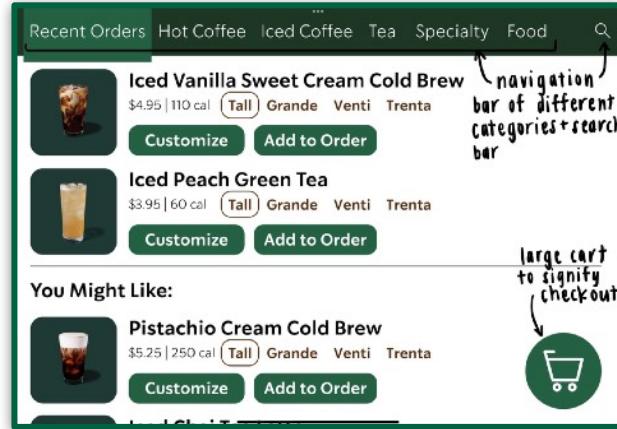
## Digital Prototype

**Link to clickable prototype:** <https://tinyurl.com/dsgn100teamblue>

Iterating upon our initial lo-fi design + usability testing, our hi-fi digital prototype includes:

- An onboarding screen
  - Tap student ID to retrieve order history—decreases time to search for menu items
- Scrolling ability
- Main page w/ different categories of drinks and food
- Can customize first drink (user control over syrup amount, espresso, etc)
- Accepts card/triton cash
- Pinpad (ability to tap, insert, or swipe)
- Utilizes text notification when order is ready

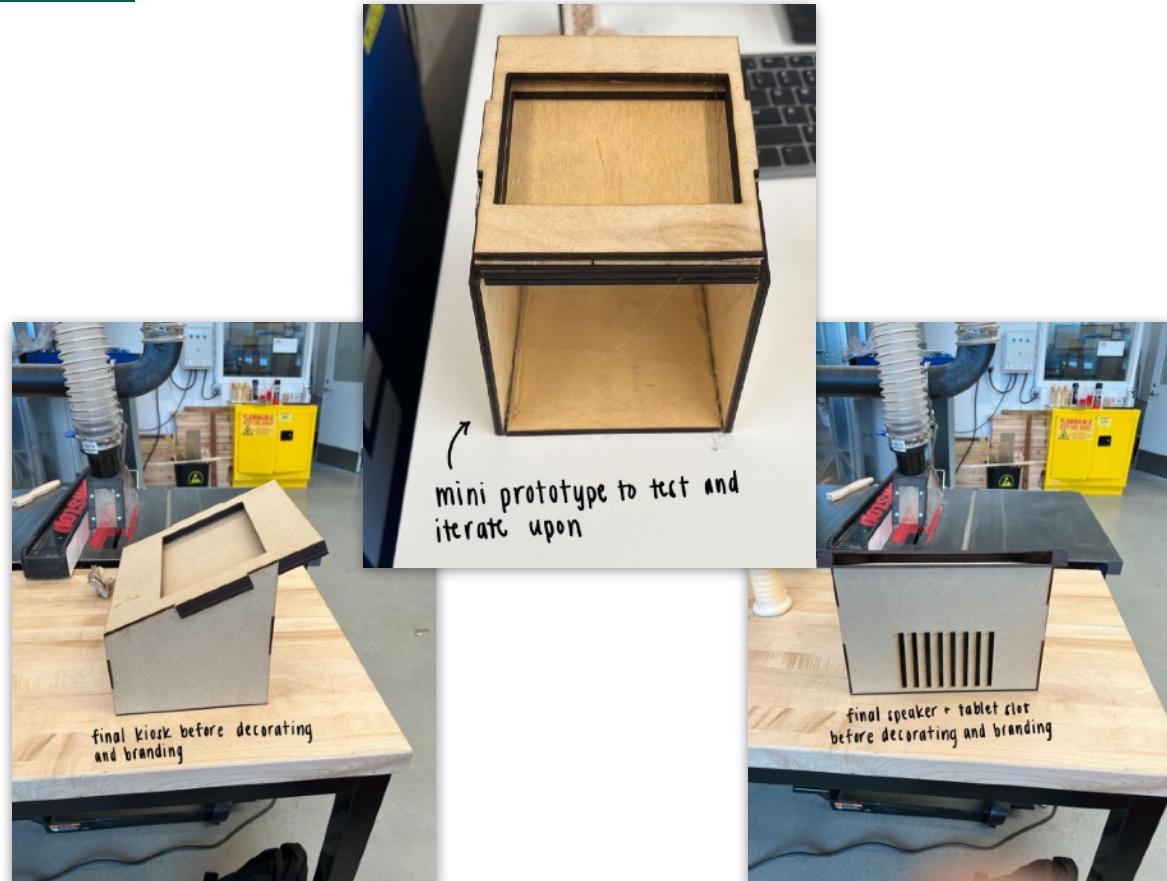
# Rationale Research Kiosk User Testing Conclusion Process



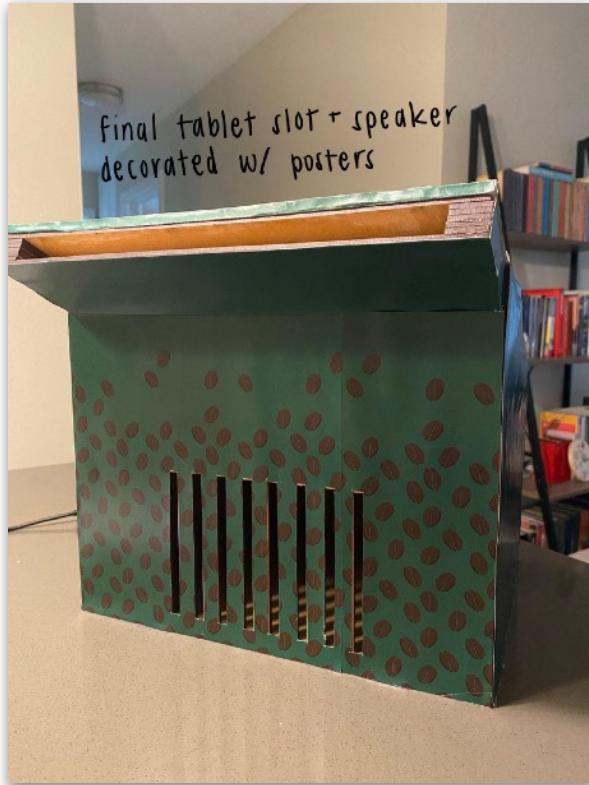
Our hi-fi physical prototype features:

- A speaker on the back for announcing when orders are ready
- ID tap + card tap/swipe/insert for payment
- Slot for tablet to slide in and out
- Decorative branding of kiosk

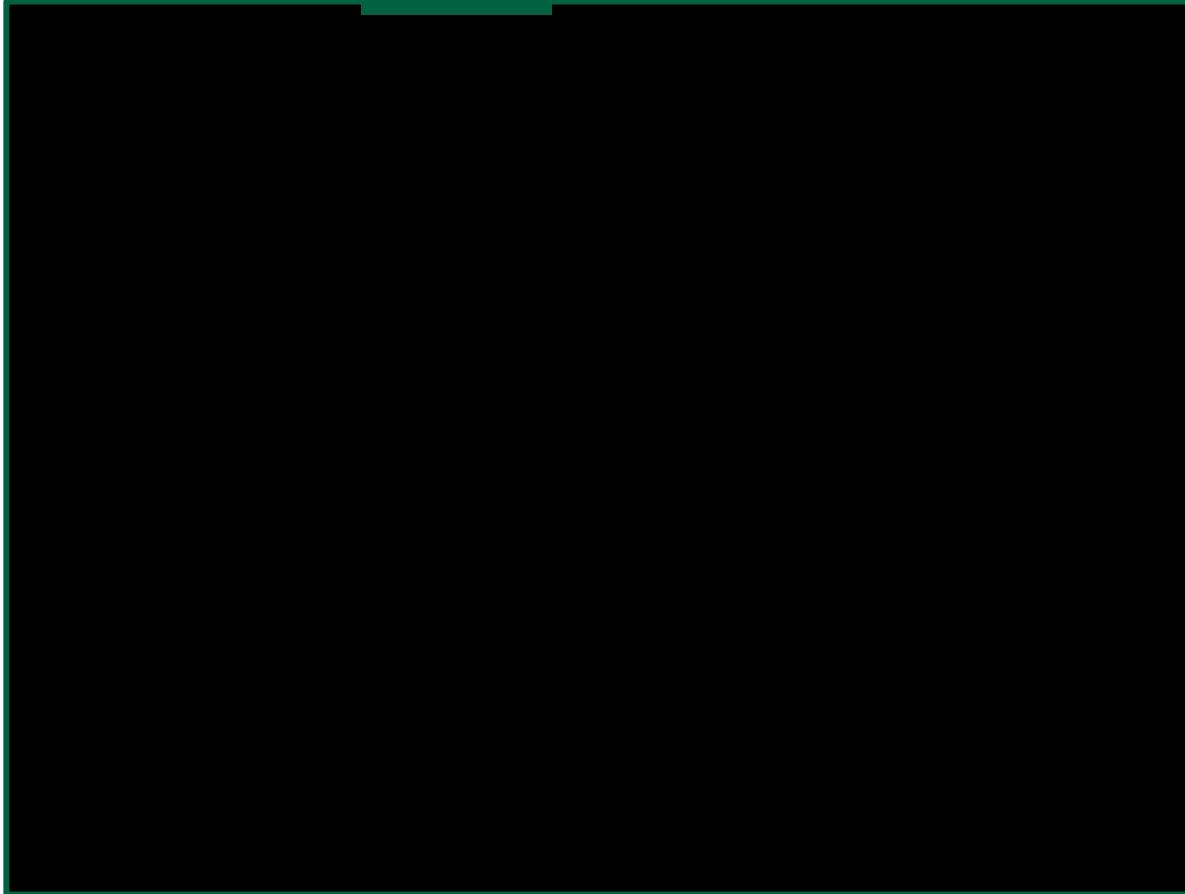
## Physical Prototype



# Rationale Research Kiosk User Testing Conclusion Process



# Rationale Research Kiosk User Testing Conclusion Process



Click to view

# Rationale Research Kiosk User Testing Conclusion Process



[Click to view](#)

## Process

- **Chosen Research Method:** Qualitative
- **Location:** Price Center Starbucks: Patio Area
- **Recruitment:** 3 Consenting Participants
- **User Tasks:** 3 different scenarios given to participants for unmediated testing
- **Follow Up:** 7 follow up questions
- **Synthesization and Analysis Tool:** Dovetail

Full interview guide on Slide 33



What are your initial thoughts of the first page?  
What do you think you are suppose to do ?

[Remember to speak your thoughts out loud](#)

You're at Price Center Starbucks with your friends and you all have class in 25 mins and decide to skip the line and order at the kiosk. Your friends decided to go find seating while you place the order for yourself and your friends. Please add the following items into the cart:

- Grande Iced Vanilla Sweet Cream Brew
- Tall Pistachio Cream Cold Brew
- Grande Caffe Latte

[Remember to speak your thoughts out loud](#)

**Now proceed to check out and your order. What are your thoughts of the check out process.**

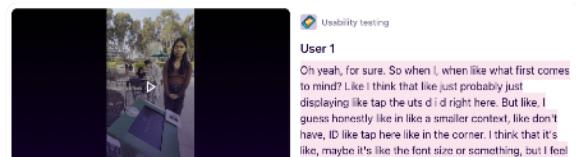
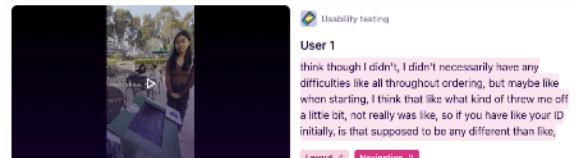
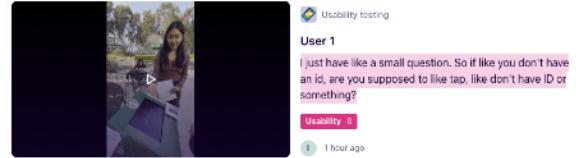
[Remember to speak your thoughts out loud](#)

## Insights

- Functioning name feature is expected/desired.
- Functioning search bar was expected/desired.
- Users are not fully aware of the action they could perform on start screen.
- Expected functionality missing from order screen.

### Tap Screen Actions Need to Be More Apparent

 Add comment...



## Recommendations

- Make “search” button functional
- Make “enter name” button functional
- Update the layout and/or wording on first screen.
- Users expected all accepted payment methods to be displayed on screen
- Users would like to see the updated price when the size of their drink changes

We updated the first screen, but decided the rest of the changes would be future implementations.

# Rationale Research Kiosk User Testing Conclusion Process

The following are changes we would implement if we were to develop a fully functioning kiosk:

## **Motivated by user testing:**

- Make “search” button functional
- Make “enter name” button functional (currently only accepts “Bob”)
- Implement more payment methods
- Update price when size of drink changes

## **Motivated by our observations/goals:**

- Allow users who tapped their ID before their order to pay using Triton Cash with one click
- Make the text message system fully functional
- Make a fully operational ordering system (storing orders was basically impossible using Figma)
- Allow users to remove drinks from their cart

## Contact Information:

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- Jan Daguo (jdaguo@ucsd.edu)
- Karina Kirsch (kkirsch@ucsd.edu)
- Raymond Wang (rlw004@ucsd.edu)

## Acknowledgements:

- Thank you to Professor Rill and our TAs for teaching us many design skills and helping us with this journey.
- Thank you to the people who participated in our interviews.

# Rationale Research Kiosk User Testing Conclusion Process

## Mood Board



- fast
- energizing
- easy
- relaxing (opposite of stress-inducing)
- simple
- quiet
- respite

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# Rationale Research Kiosk User Testing Conclusion Process

## Style Guide

**Typography**

**H1** (SoDo Sans Bold 96px)  
**SoDo Sans SemiBold 50px**  
**SoDo Sans SemiBold 38px**  
SoDo Sans Light 34px  
**SoDo Sans SemiBold 32px**  
SoDo Sans Light 14px  
SoDo Sans SemiBold 14px

**Logos**

Logo (integrating existing Starbucks branding)



Supplementary patterns



**Color Palette**

**Primary**



#006241      #54300E      #0F0FOF

**Backgrounds**



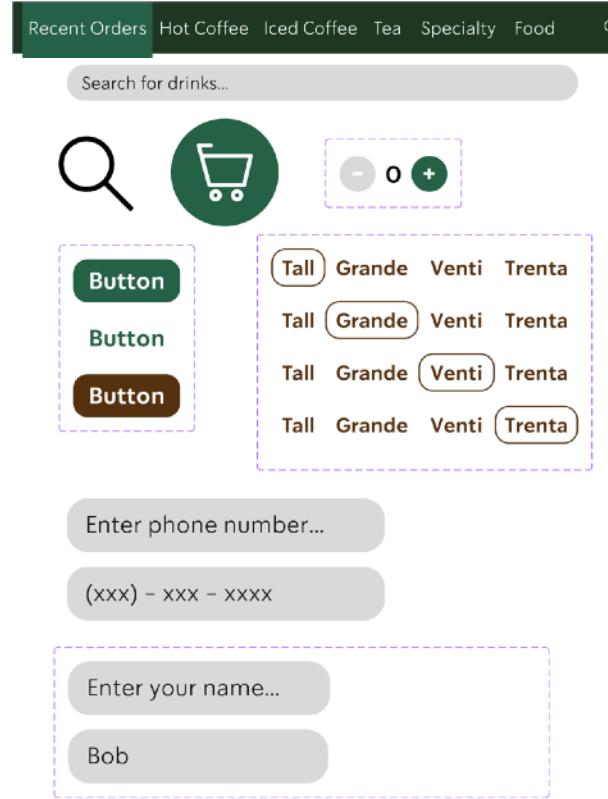
**Gradients**



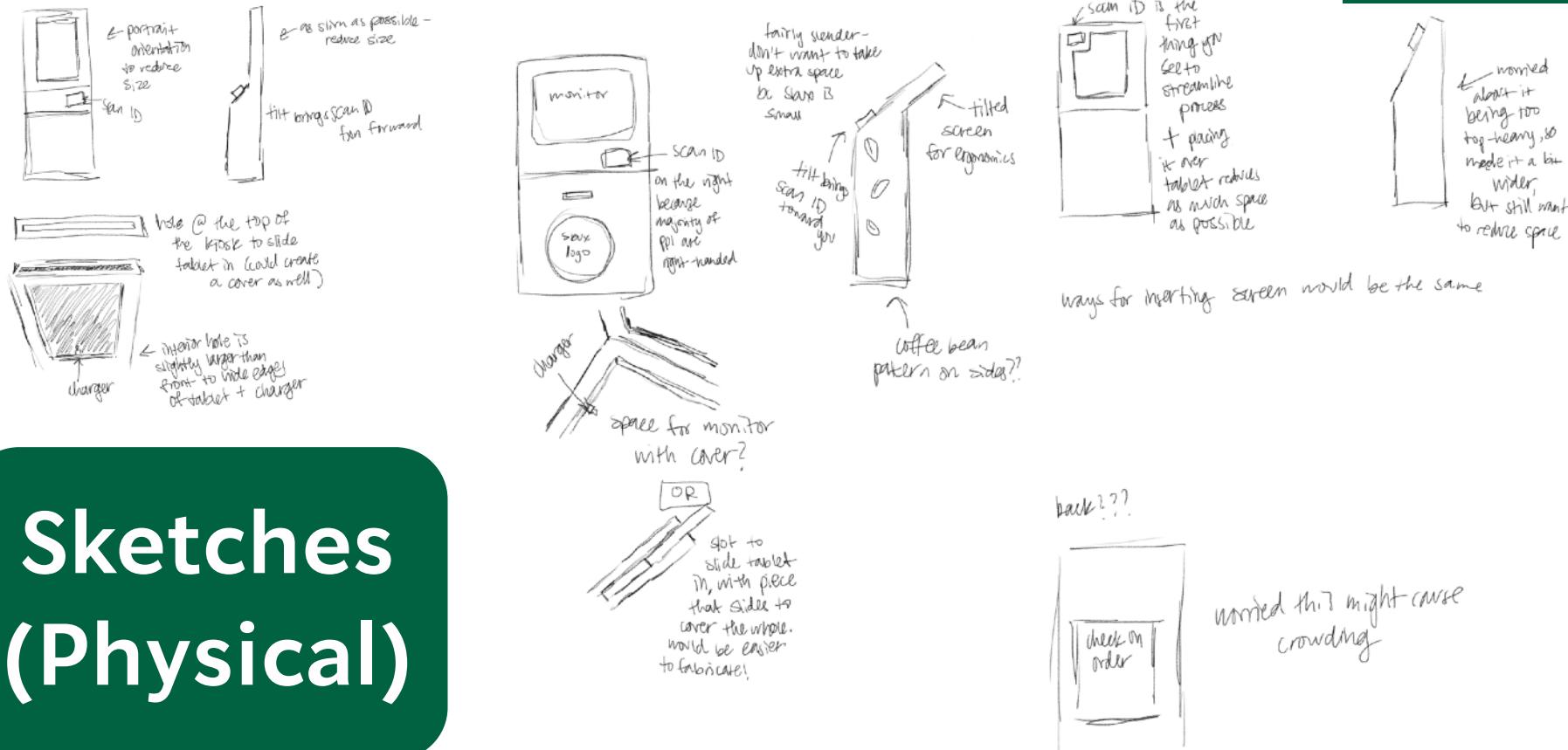
# Rationale Research Kiosk User Testing Conclusion Process

For our buttons, we aimed to emphasize rounded edges and create a soft, friendly look.

## Icons + UI Library

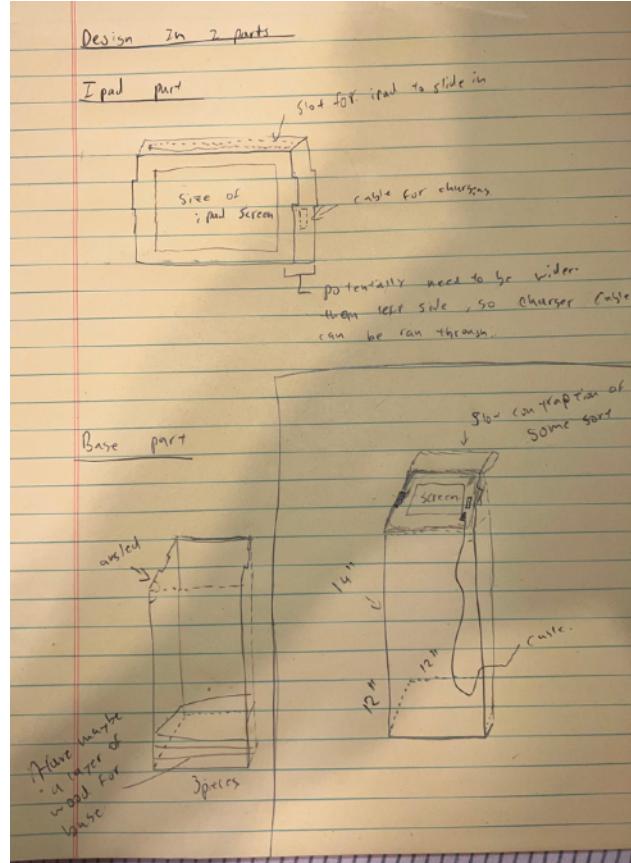


# Rationale Research Kiosk User Testing Conclusion Process



# Rationale Research Kiosk User Testing Conclusion Process

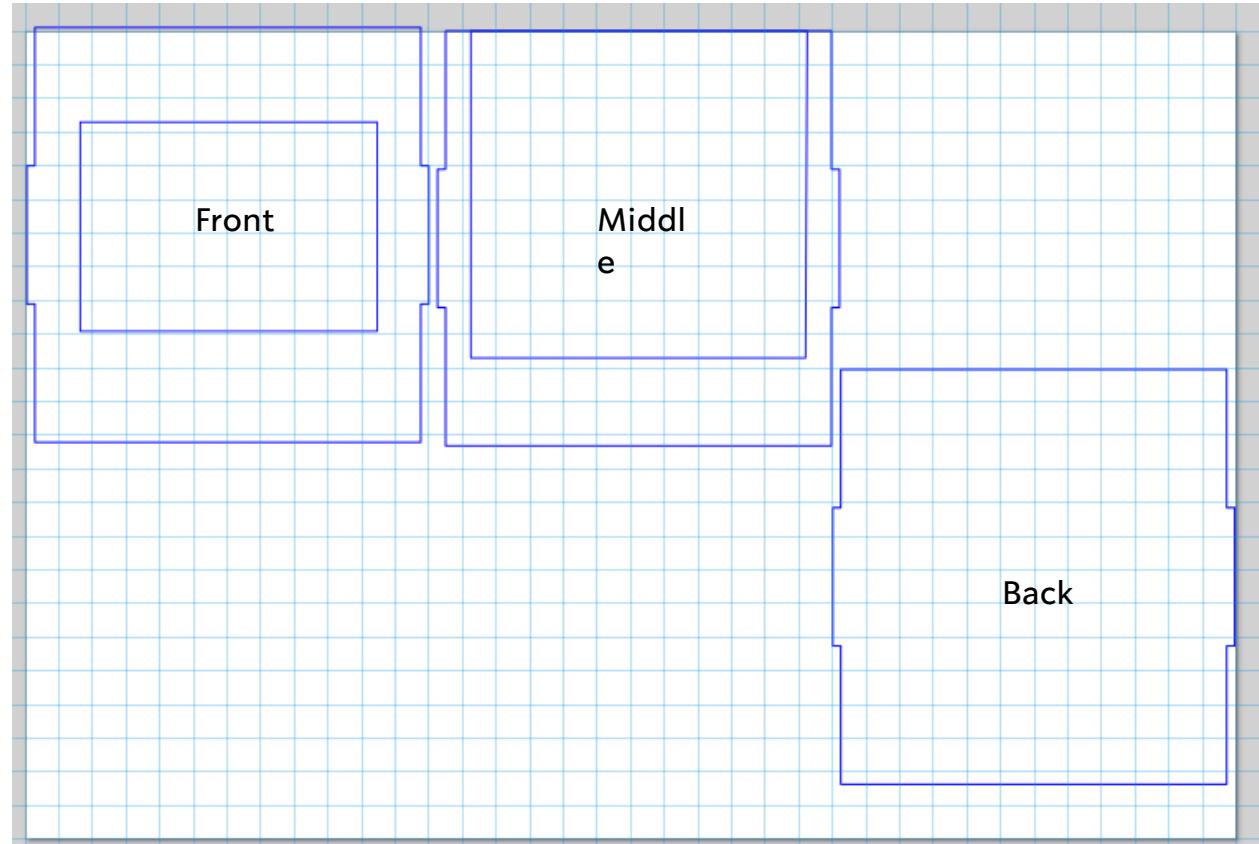
## Sketches (Physical)



## Kiosk Top Part

Components consist of front piece, middle piece, and back piece

# Kiosk Inkscape

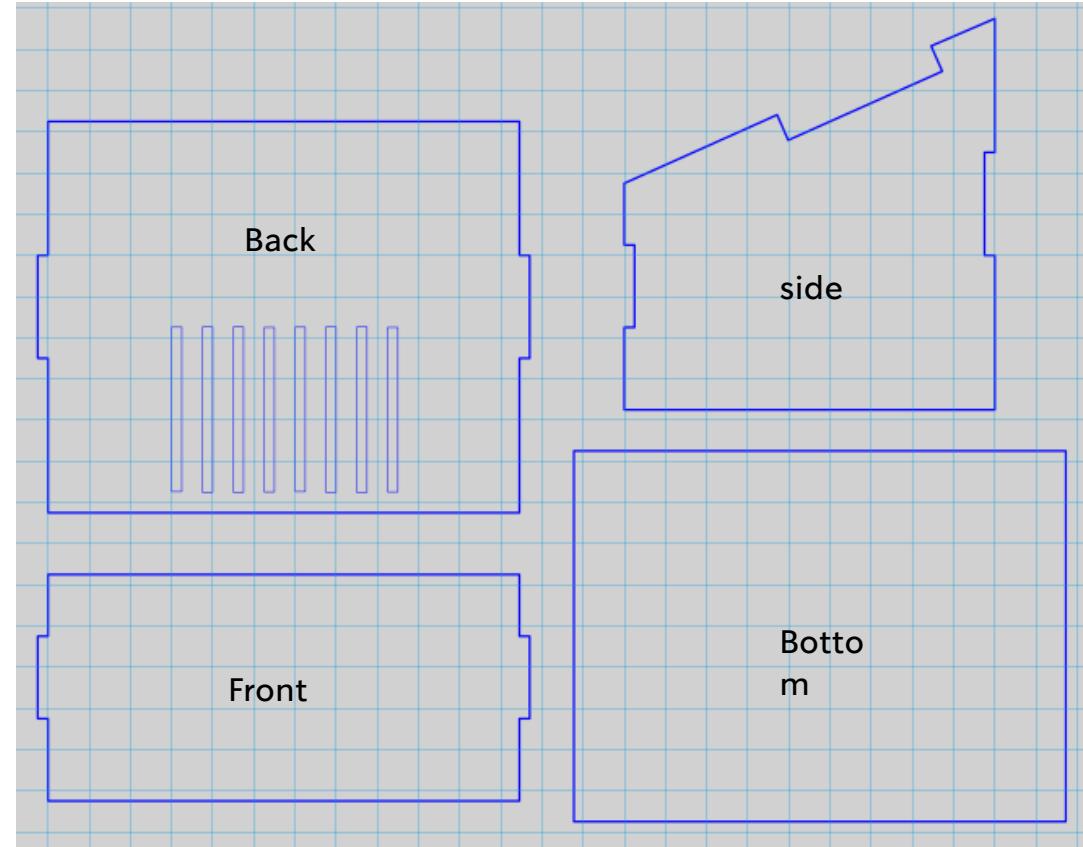


# Rationale Research Kiosk User Testing Conclusion Process

## Kiosk Base Part

Components consist of front piece, side piece, back piece, and a bottom piece.

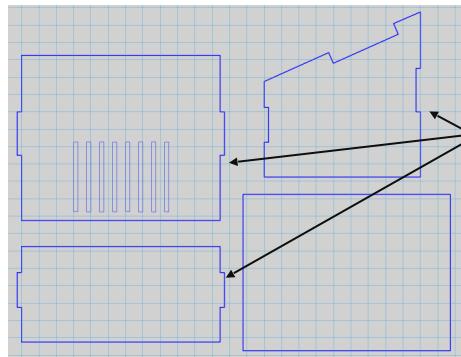
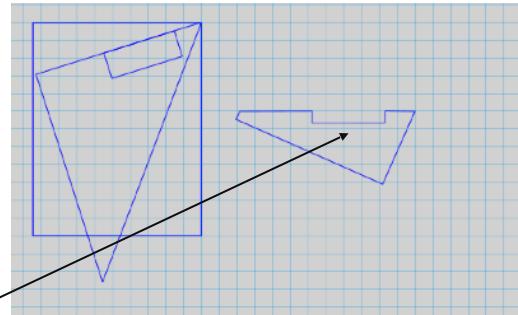
## Kiosk Inkscape



# Rationale Research Kiosk User Testing Conclusion Process

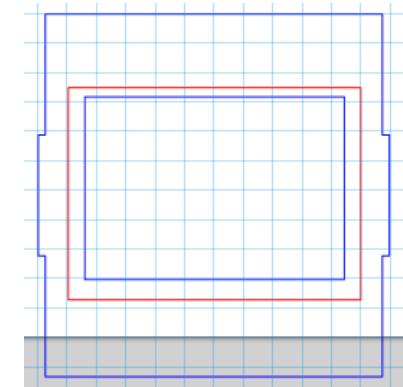
In the process of building the kiosk we have decided to use joints to connect the pieces together to make a more stable structure. The most important joint we realized was the joint where we combine the top part onto the base part.

## Kiosk Inkscape



We created a small side piece to test the fitting before we manufactured the entire side piece as we need to make sure the joints fit the top part of our kiosk.

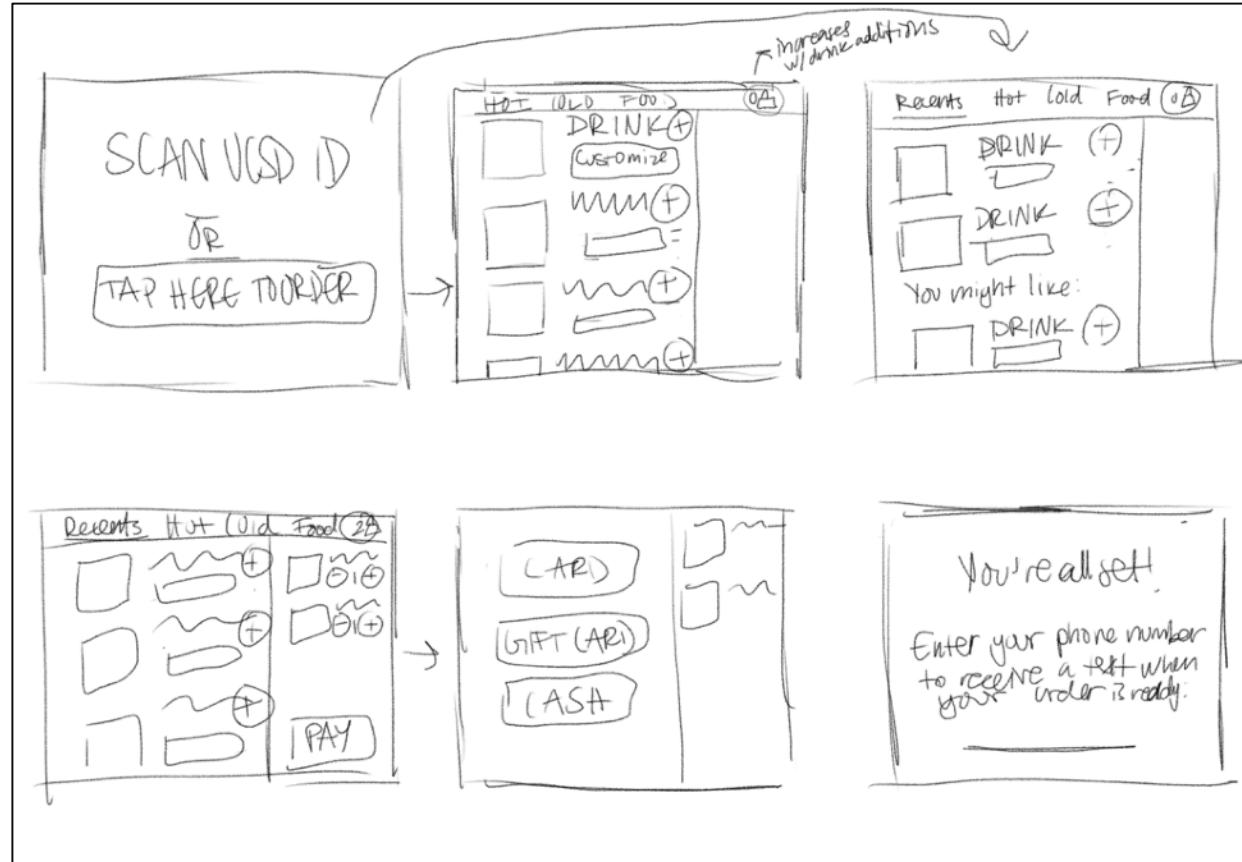
Each little joints were measured after we manufacture of once piece at a time to ensure perfect fit.



The front piece from the top part was measured and reprinted to ensure coverage of ipad screen spaces.

# Rationale Research Kiosk User Testing Conclusion Process

## Sketches (Digital)



# Rationale Research Kiosk User Testing Conclusion Process

SCAN UCSD ID BELOW

OR

TAP TO ORDER

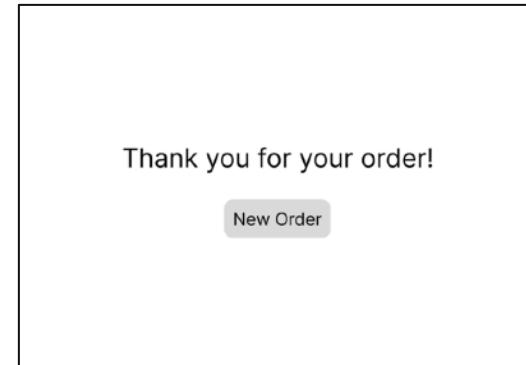
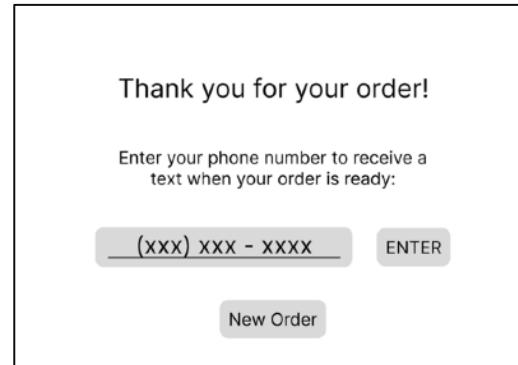
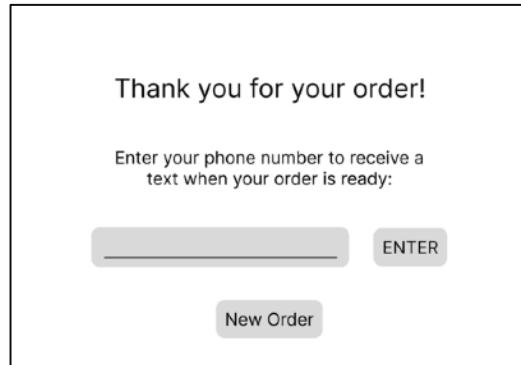
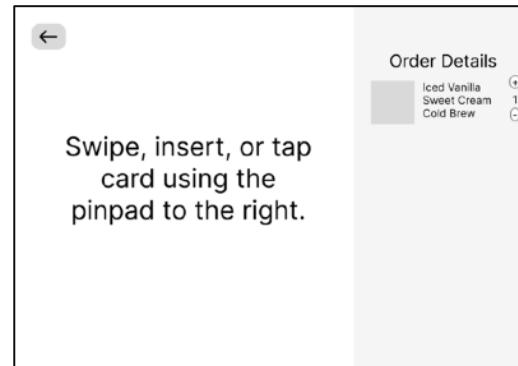
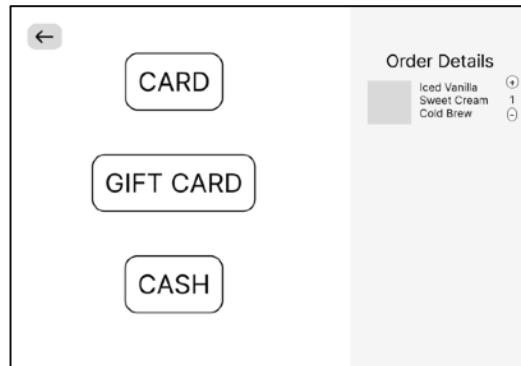
Lo-fi  
Prototype

The image displays four wireframe prototypes of a kiosk ordering interface, arranged vertically. The first prototype is a scan screen with instructions to 'SCAN UCSD ID BELOW' or 'TAP TO ORDER'. The subsequent prototypes show the ordering process:

- Prototype 1:** Shows a 'Recents' section with two items: 'Iced Vanilla Sweet Cream Cold Brew' and 'Iced Peach Green Tea'. Each item has 'Customize' and 'Add to Order' buttons. Below this is a 'You might like:' section with 'Pistachio Cream Cold Brew'.
- Prototype 2:** Shows the same two items from Prototype 1. The 'Iced Vanilla Sweet Cream Cold Brew' item now includes a 'Vanilla Syrup' customization with a quantity selector set to 2. An 'Add to Order' button is at the bottom.
- Prototype 3:** Shows the same two items. The 'Iced Vanilla Sweet Cream Cold Brew' item now includes a 'Vanilla Syrup' customization with a quantity selector set to 3. An 'Add to Order' button is at the bottom.
- Prototype 4:** Shows the same two items. The 'Iced Vanilla Sweet Cream Cold Brew' item now includes a 'Vanilla Syrup' customization with a quantity selector set to 1. A 'PAY' button is located on the right side of the screen.

All prototypes feature a header with tabs for 'Recents', 'Hot', 'Iced', 'Specialty', and 'Food', and a 'Order Details' sidebar on the right.

# Rationale Research Kiosk User Testing Conclusion Process



# Rationale Research Kiosk User Testing Conclusion Process

## User Test Guide

### Usability Test Guide

*Thank you so much for agreeing to test our product. Your input is extremely valuable to us and would like to know more about your overall experiences with our product. Again my name is Ivan and I am a UCSD student conducting research on user experiences/needs and we are trying to collect perspectives on how to improve the user experience of our app. This will be a relatively short testability session with a few interview questions of 5-10 mins and will be audio recorded. Do we have your consent to interview you? Do you have any questions before we begin? During our usability session I will give you a few cards with prompts, please complete the prompted actions to the best of your ability. Please verbalize your thoughts as you carry out each action and please don't be afraid to be candid or brutally honest. Our feelings won't be hurt. Lastly, I may ask a few questions in between prompts.*

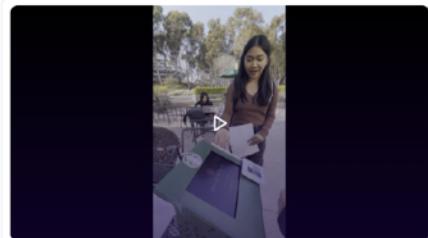
### Usability Test Questions

1. On a scale of 1 to 10, how easy was it to complete the task you were given?
2. Did you encounter any difficulties while completing the task? If so, what were they?
3. Was it clear what steps you needed to take to complete the task?
4. Did you feel confident throughout the task? If not, why?
5. Was there anything about the design or layout of the product that you found confusing or frustrating?
6. Were the instructions provided clear and easy to understand?
7. Did you feel that you had enough control over the product during the task?
8. Did you encounter any errors or technical issues while using the product?
9. Was the product responsive and fast enough for your needs?
10. How likely are you to use this product again in the future?
11. If you had to recommend one thing to improve the product, what would it be?
12. How would you rate the overall user experience of the product?
13. How likely are you to recommend this product to a friend?

# Rationale Research Kiosk User Testing Conclusion Process

## Tap Screen Actions Need to Be More Apparent

 Add comment...



 Usability testing

User 1

I just have like a small question. So if like you don't have an id, are you supposed to like tap, like don't have ID or something?

Usability 8

 Yesterday

## Search Bar Was Expected/Desired

 Add comment...



 Usability testing

User 3

Cool. So I'm looking at the first item, Grande Icc, vanilla Sweet Cream. Blue. I don't really know much about coffee, so I'm just like use the search bar. Oh, okay. You might not

Navigation 8

 1 hour ago

# Dovetail Notes

[Full Dovetail notes available here](#)

## Price update when drink size changes

 Add comment...



 Usability testing

User 1

When like the size change, change the size. But overall I think it's like the cart is also very much like, you know, what you just ordered, stuff like that. Okay.

Price 1

 Just now

# Rationale Research Kiosk User Testing Conclusion Process

## Works Cited

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