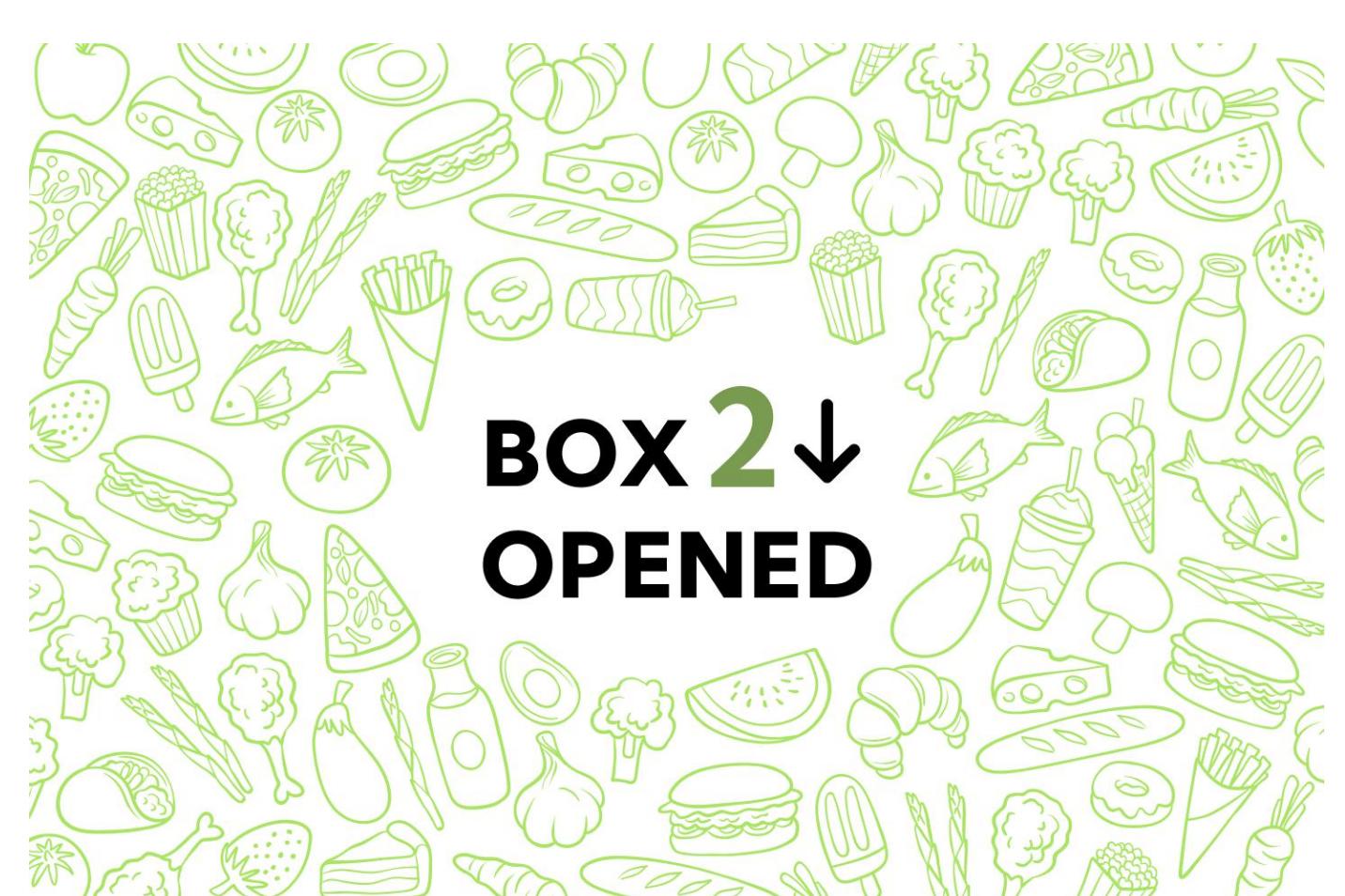
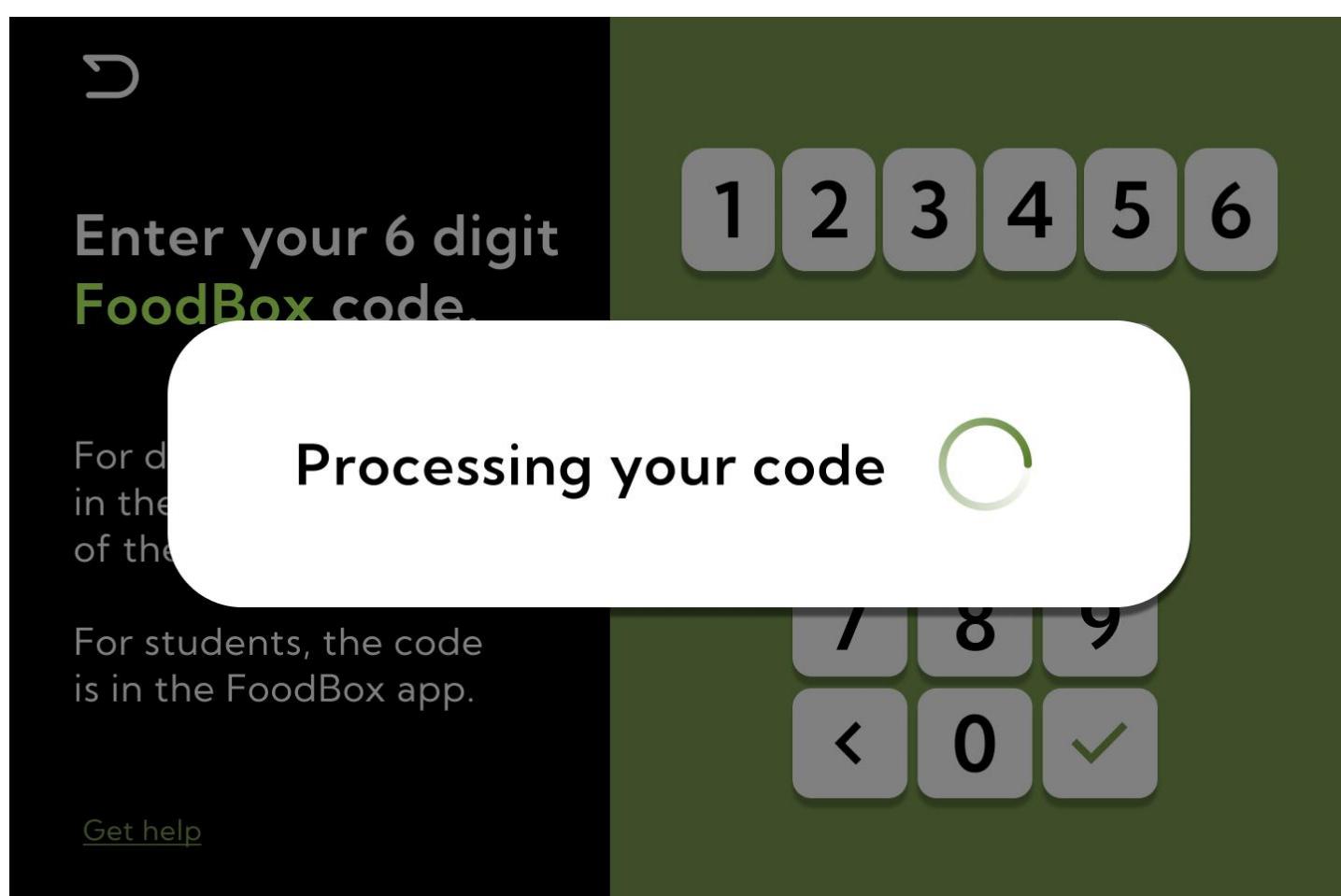
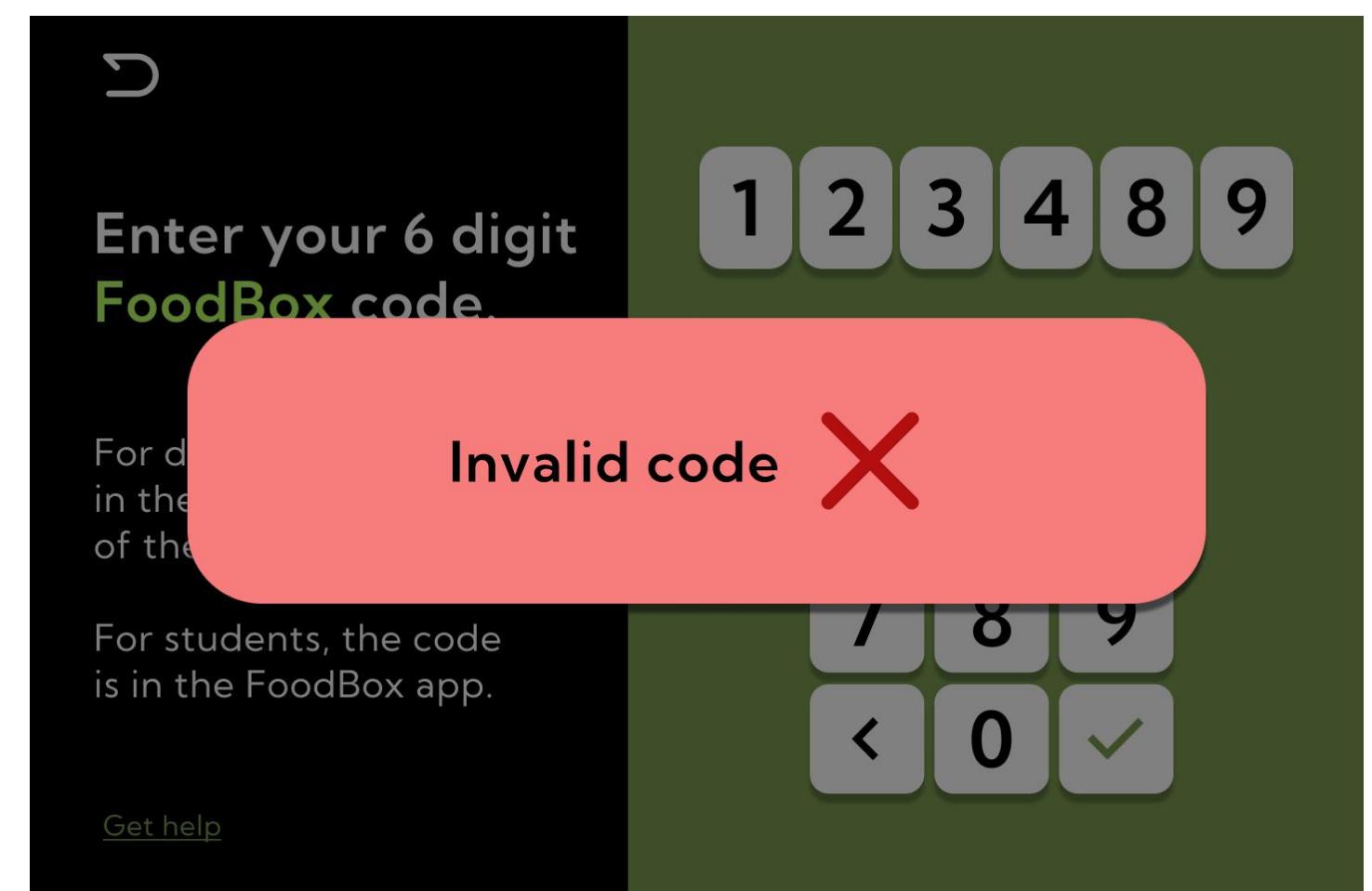
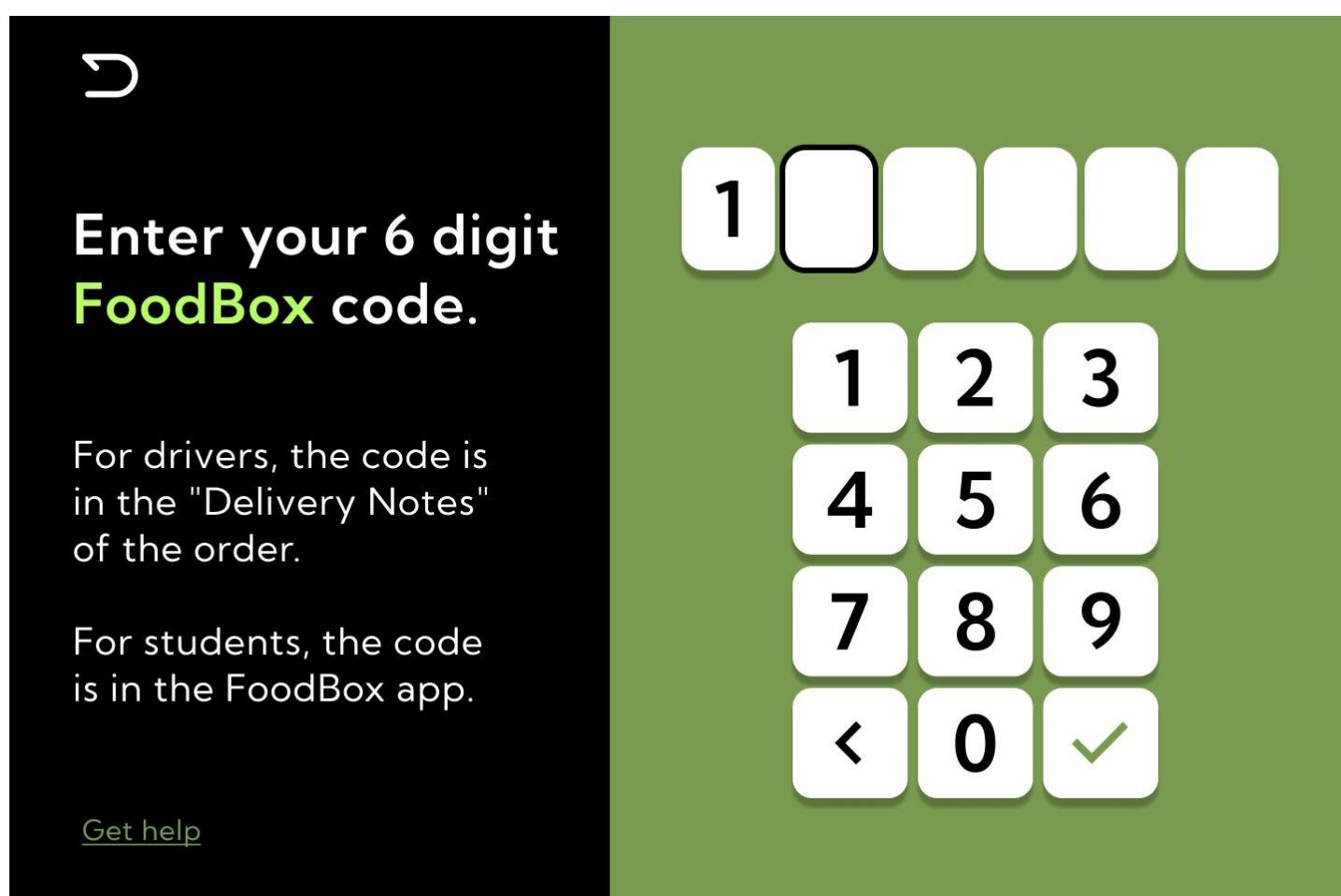
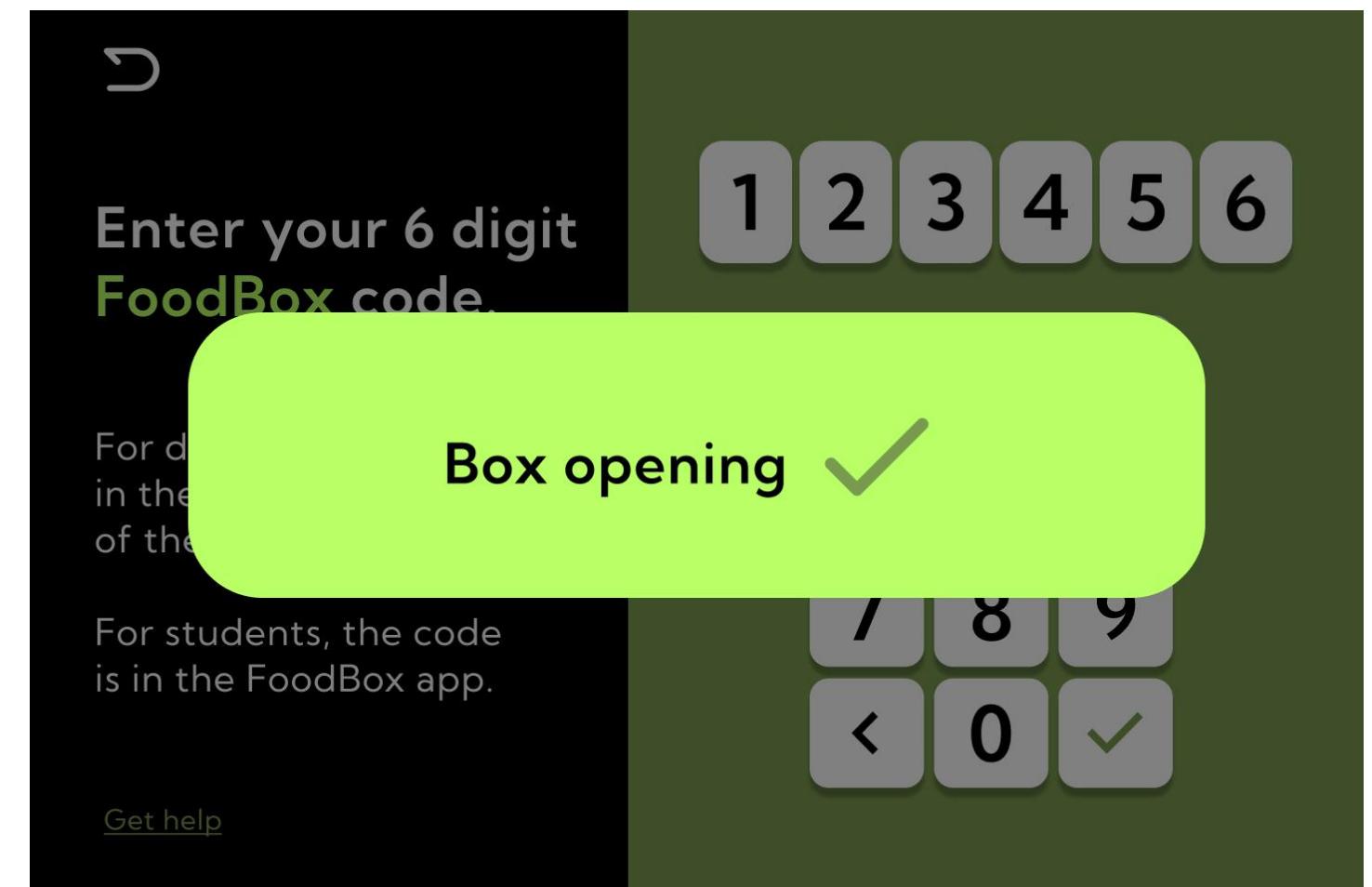
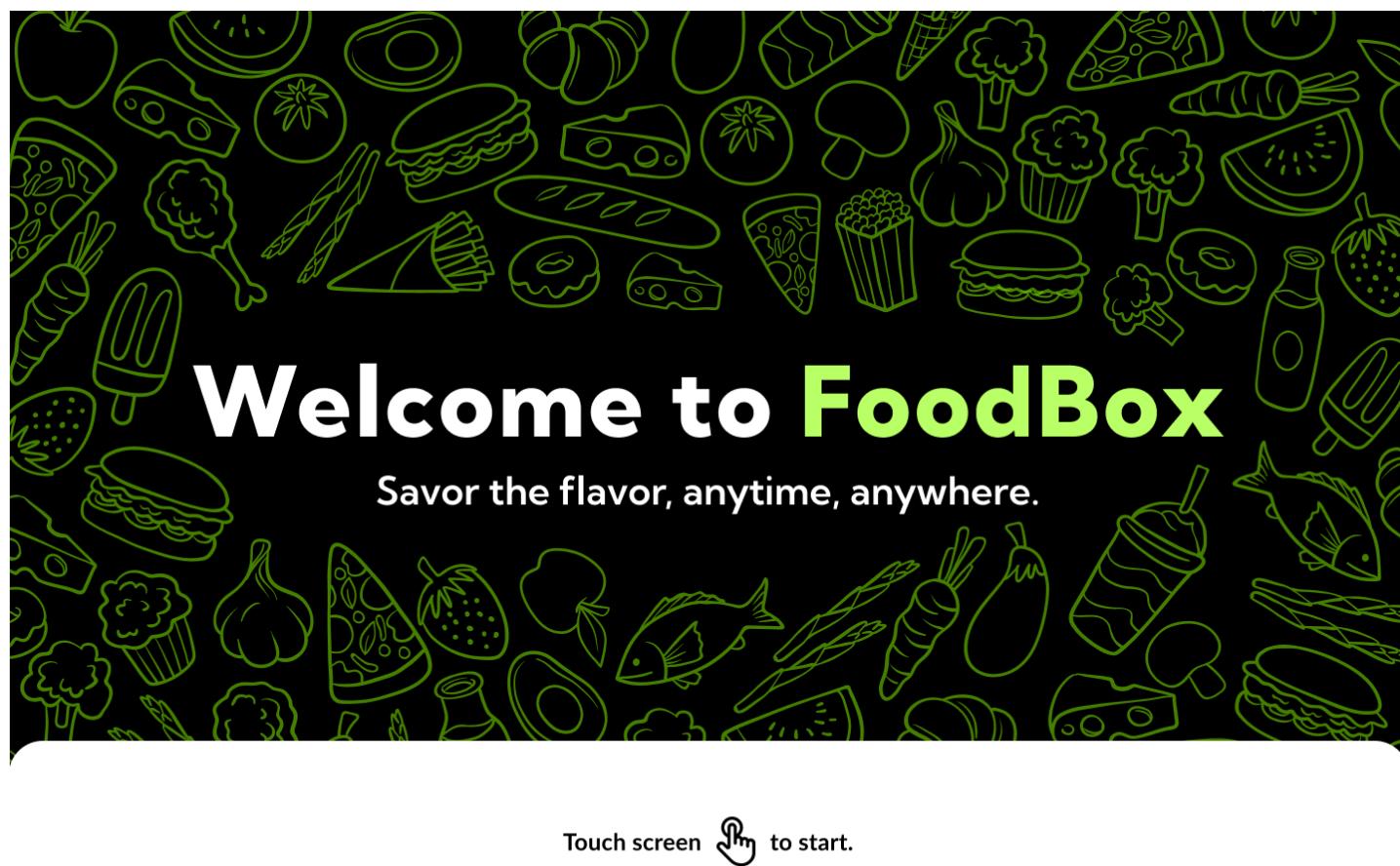


FoodBox Kiosk Prototype



Timeline
July 2023
(Two Weeks)

Scope
UX Designer
UX Researcher

Tools
Figma
Photoshop

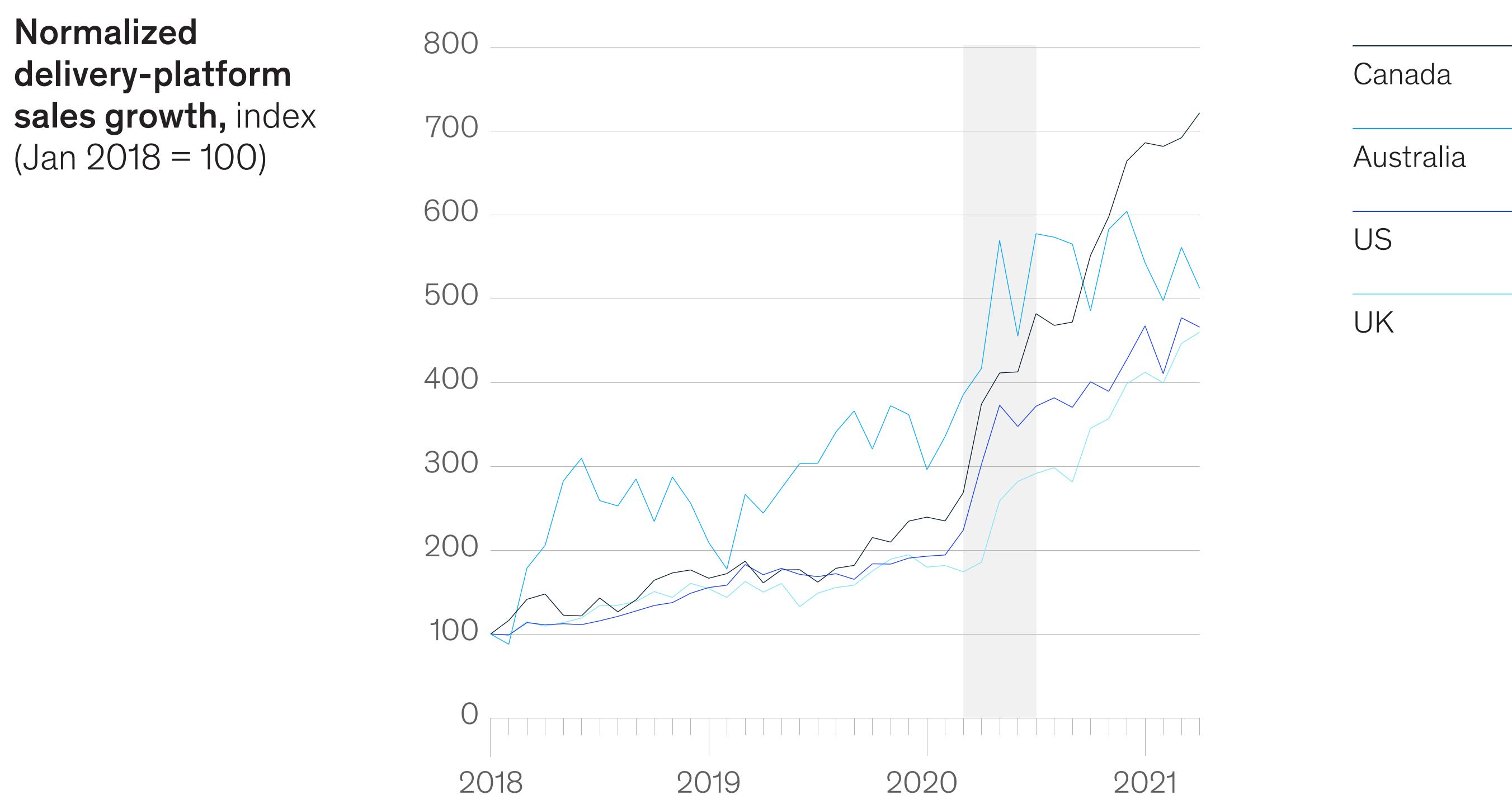
The Challenge

Food delivery has become much more common over the past few years due to its convenience.

However, there are **problems** that can make ordering inconvenient.

- Drivers can **get lost in unfamiliar environments** (e.g. UC San Diego Campus).
- Drivers can have **trouble finding the right address** (e.g. Residential Building).
- Customers can have **difficulties finding the driver**.

Since pandemic-related lockdowns started in March 2020, the growing food-delivery business has spiked to new heights in the most mature markets.



Our Solution

Our Food Box Kiosk aims to resolve the aforementioned issues.

By have a Food Box Kiosk on UCSD campus:

- Drivers can **deliver to an easily accessible location** without having to navigate through the UCSD maze or finding a discrete building.
- Customers (students) can have **peace of mind** and **flexibility of time** when ordering food.
- Driver and customer **don't need to interact**.
- Deliveries would have **less delays**.
- Delivery theft would be **impossible**.
- **Traffic would be reduced** during peak delivery hours.



*This was our team's final demo of the Food Box Kiosk. A production model would be much larger, similar to an Amazon Hub Locker.

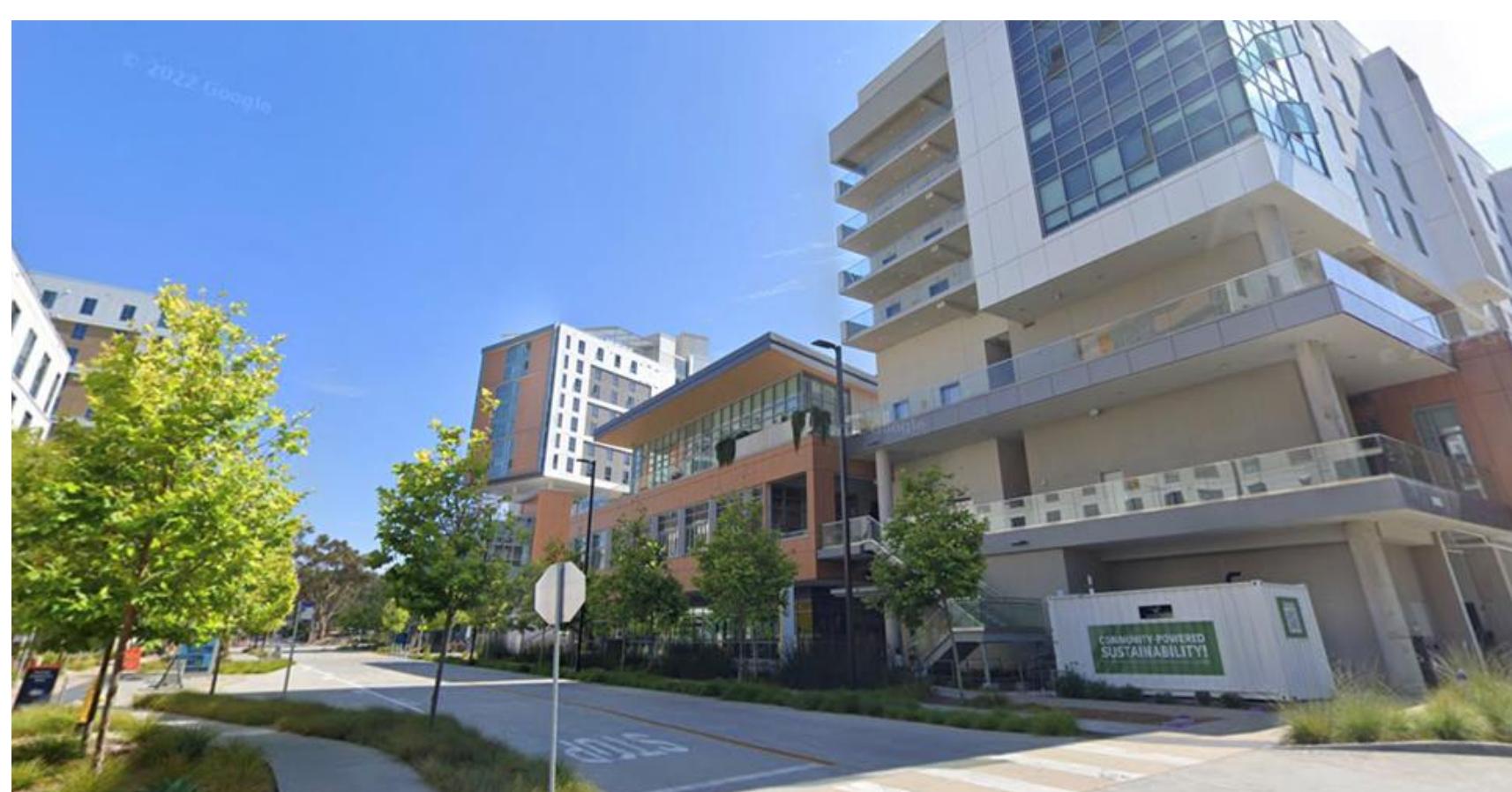
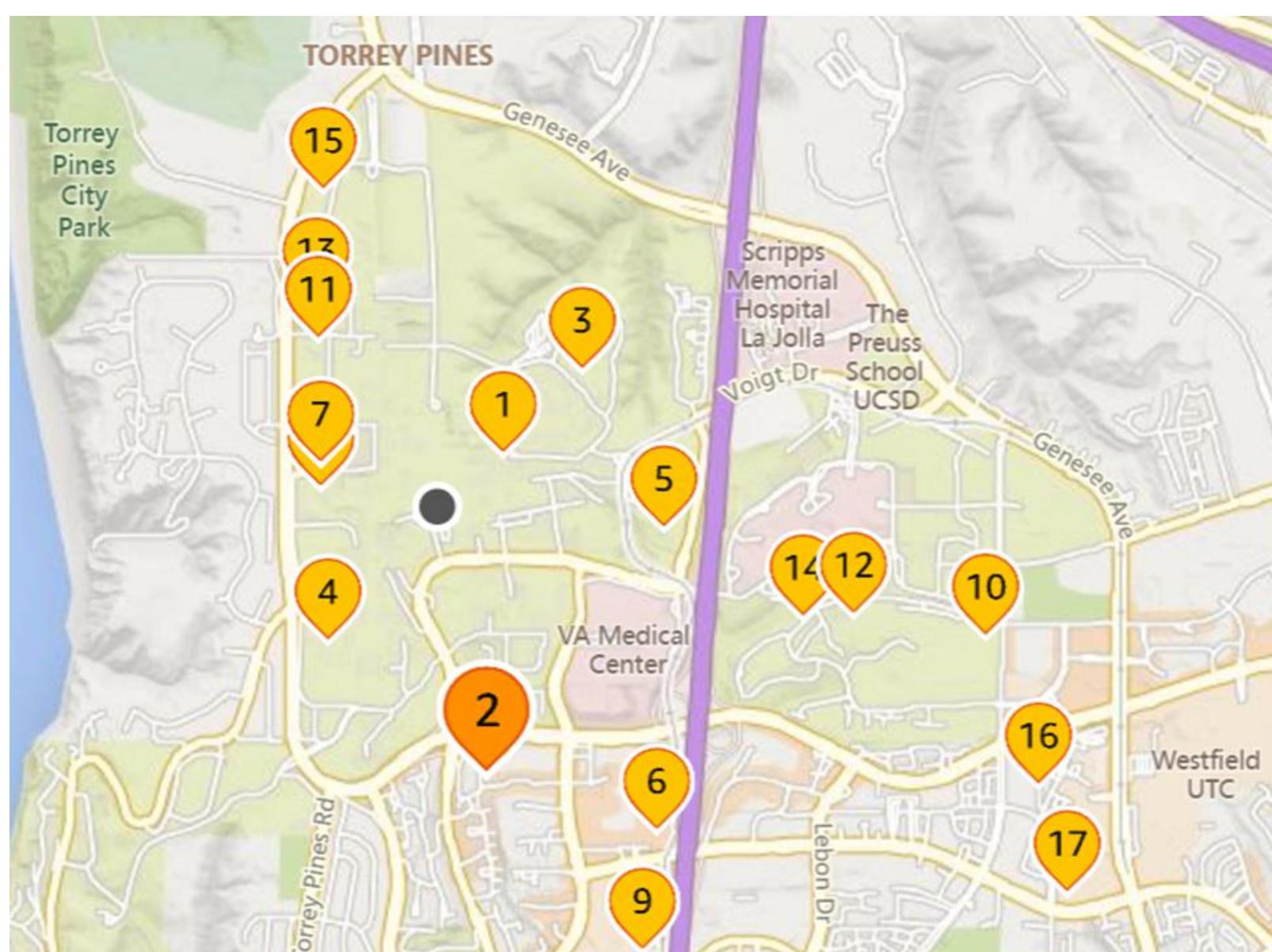
Our Plan

Our Food Box Kiosks would be **distributed around the campus** to **encompass as many residential buildings as possible**, similar to Amazon Hub Lockers.

For example, a kiosk placed in front of Sixth Market would serve the entire Sixth community and most of Muir community.

Additionally, we would:

- Register kiosks on navigation platforms, such as Google Maps and Apple Maps.
- Work with Housing Dining Hospitality (HDH) to set up and promote the use of the kiosk.



Competitive Analysis

Looked at 3 competitors (Amazon Hub Lockers, Minnow Pickup Pod, & Restaurant Lockers) to:

- **Understand design choices** from start (application) to finish (item pickup)
- **Analyze industry standard** for the physical build and user experience
- **Learn about locker features** that could be implemented into FoodBox
- **Identify any potential design gaps** our kiosk could fill



Literature Research

Benefits of Food Lockers

- Streamlined food pick-up
- Increased order security
- Reduced delays and unnecessary interaction
- Maintains food freshness w/ temperature control

Challenges of Food Lockers

- Difficult to organize cleaning and sanitation
- High initial setup cost due to materials and software
- Susceptible to technical issues (electricity, network)
- Integrating with existing systems and applications (e.g. DoorDash)

Future of Food Lockers

- May become more common if consumers perceive lockers as convenient
- Innovations: contactless operation, automated cleaning (UVC), finer temperature controls



User Interviews

Interview Focus:

- General experience when ordering through food delivery apps
- Impact of speed and reliability on ordering decisions
- Opinions on shown storyboard scenarios and preferences for design choices

6 Interviewees:

- 5 UCSD student residents who received on-campus food deliveries through various apps.
- 1 food delivery driver that completes about 30 orders per shift.

Experiences have been **average** and **can improve**.

 **60%** were satisfied with food deliveries

 **80%** have moved a food drop-off location to reduce driver confusion

Main Issues

- Receiving nearby or timely food deliveries on campus requires extensive pre-planning, which can make ordering food inconvenient.
- Due to campus addresses not always being available or displaying accurately, working around the unique address system sacrifices time, effort, and usability.

User Personas

Student Persona

Jennifer Ye



AGE 19
ROLE Sophomore Undergraduate
COLLEGE UC San Diego
HOUSING On-Campus Apartment
LOCATION La Jolla, CA

Biography
Jennifer Ye is a second-year undergraduate student living in an on-campus apartment. She is 19 years old and has access to a kitchen in her on-campus apartment. Balancing classes, clubs, and a job she hardly has the free time to make food so she often ends up using food delivery services for meals.

Motivations

- Hungry after a long day
- Minimal effort when getting food

Goals

- Quickly acquire her food
- Have all her food present when delivered
- Wants a seamless experience when receiving food

Frustrations

- When simple tasks take longer than they should
- Delays to food order
- Struggles to find their delivery driver
- Tension between driver & themselves

Traits

Free Time	<div style="width: 20%;"></div>
Energy	<div style="width: 30%;"></div>
Patience	<div style="width: 40%;"></div>

Driver Persona

Brian Cruz



AGE 40
STATUS Married
COMPANY DoorDash
TITLE Food Delivery
LOCATION San Diego, CA

Biography
Brian is a middle-aged food delivery driver for DoorDash. This is his part-time job, but uses it to support his lifestyle. Because of that, he takes on a lot of orders and is often crunched for time when delivering food. He hates delivering to campuses because the addresses and general layout of the area gets him lost, wasting his precious time; but, he still takes these jobs because it's the most in demand. He wishes there was a more efficient way to deliver to students.

Motivations

- Deliver orders promptly to save time
- Earn as much money as possible

Goals

- Minimize order delays when handing food to customer
- Simpler way to drop food off at campuses
- Clear delivery instructions for campus addresses

Frustrations

- Student customers give confusing map directions to new locations
- Customers slow to respond to questions and picking up
- Dislikes delivering to campuses because it wastes other order times
- Extra stress on job and life
- Hard to park on campus for an extended time

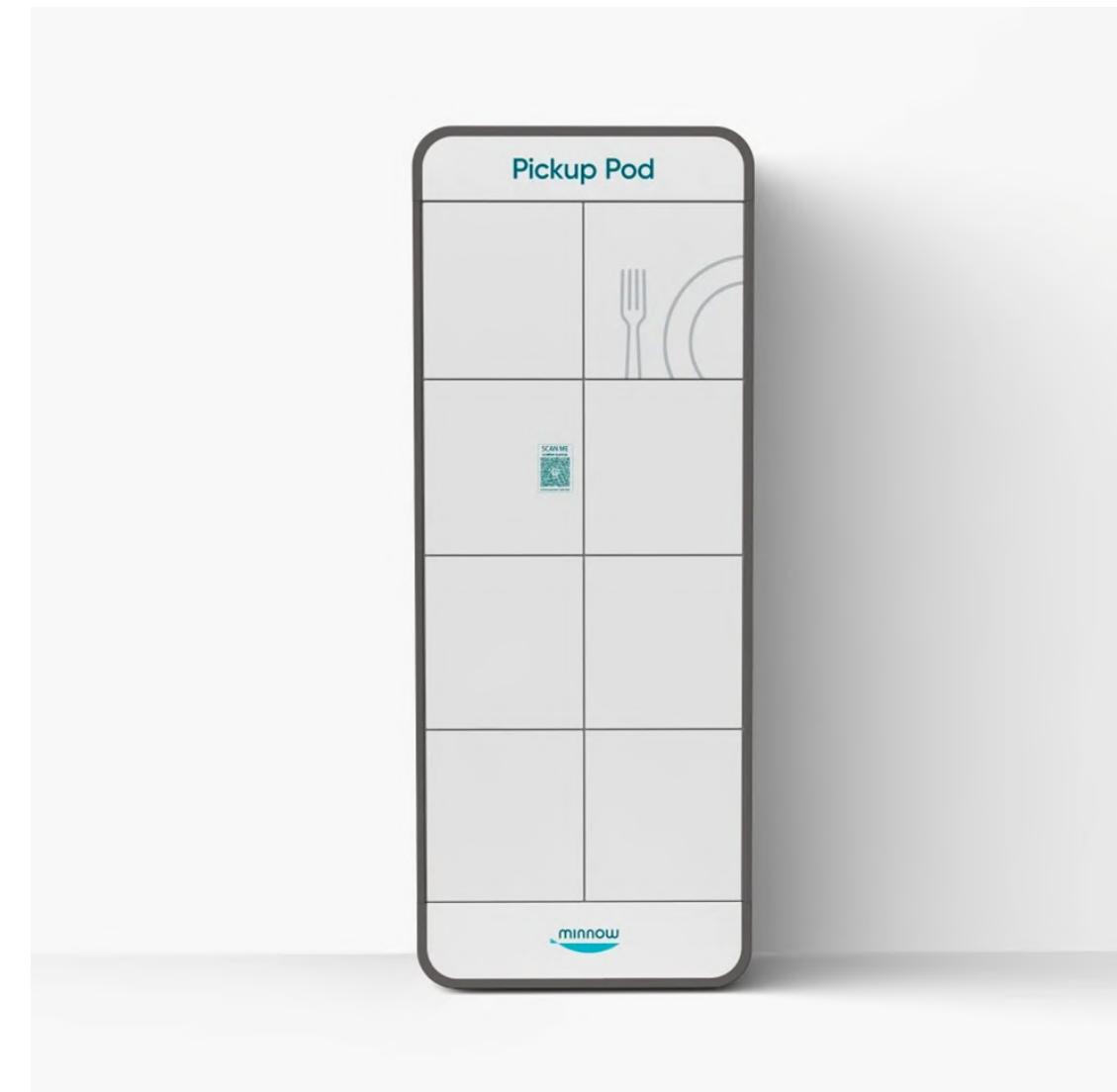
Traits

Free Time	<div style="width: 10%; background-color: red;"></div>
Stress	<div style="width: 80%; background-color: red;"></div>
Patience	<div style="width: 20%; background-color: red;"></div>

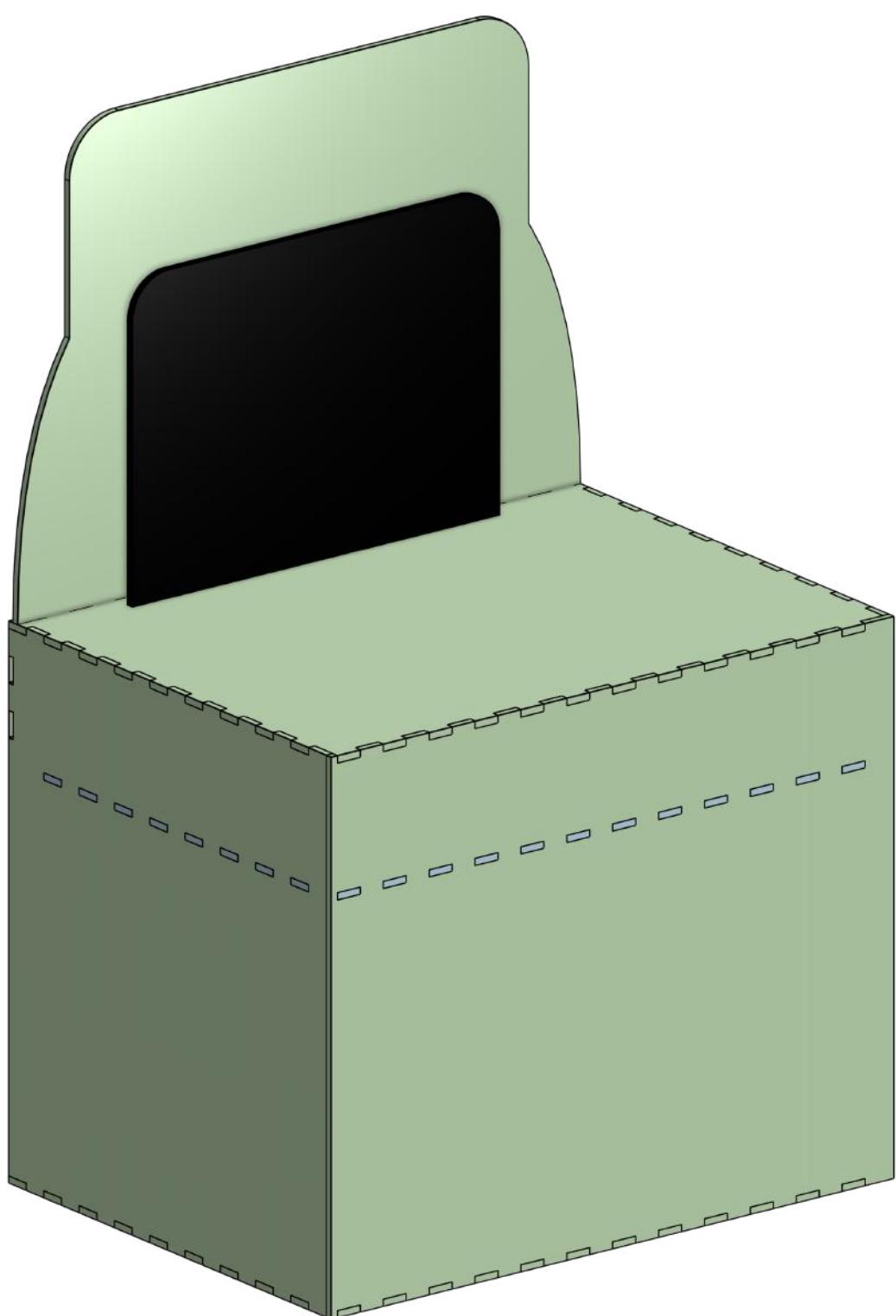
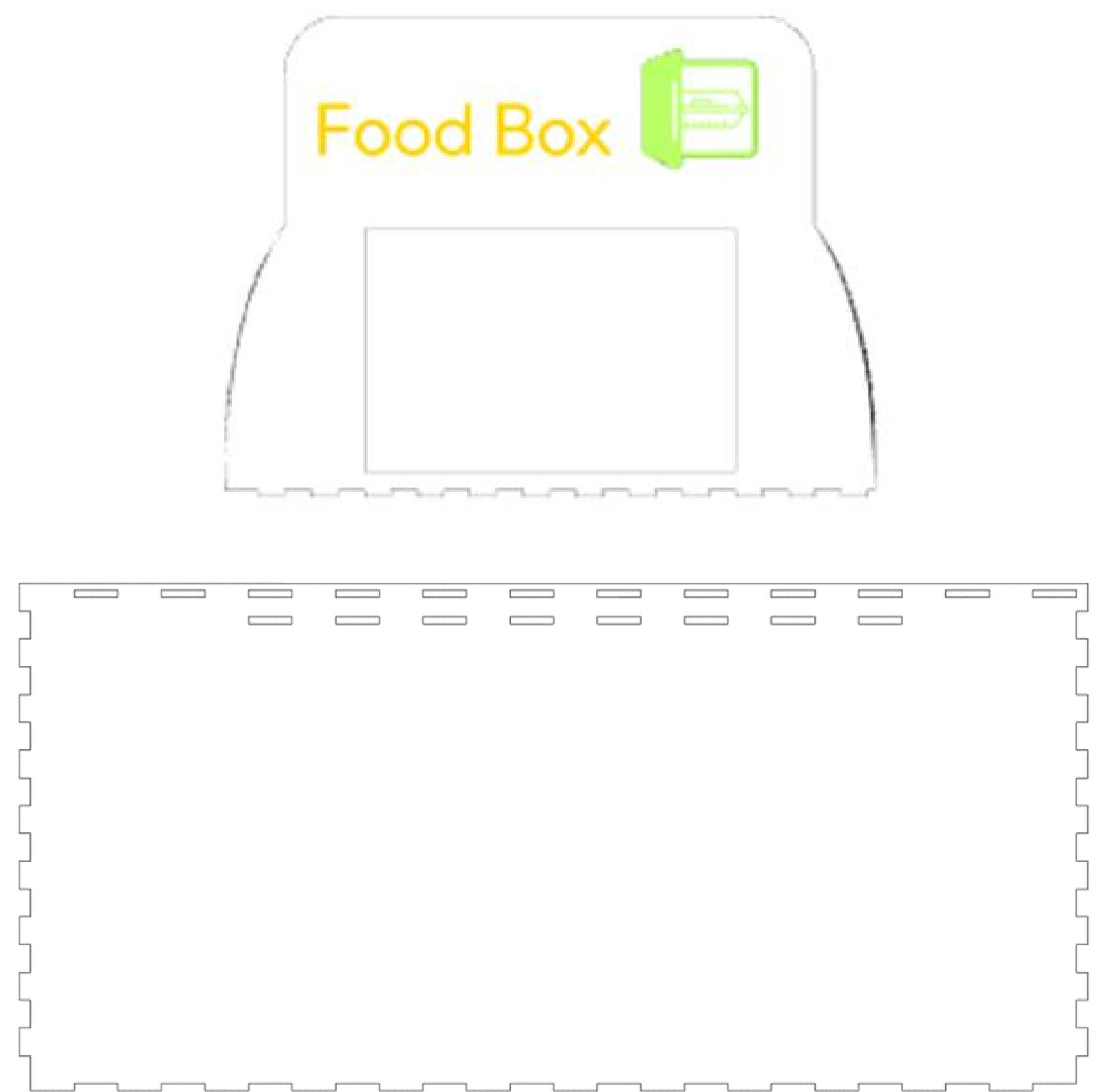
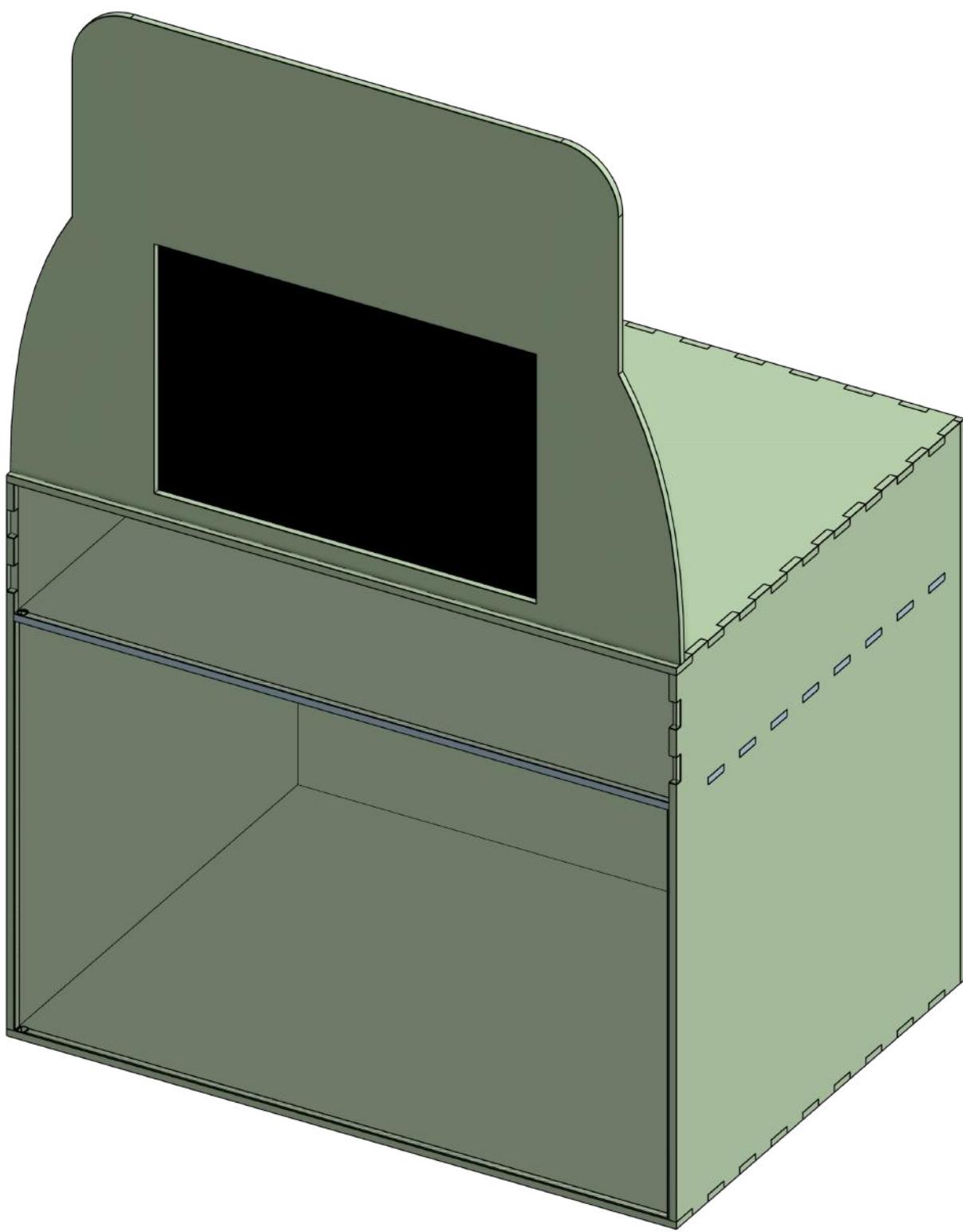
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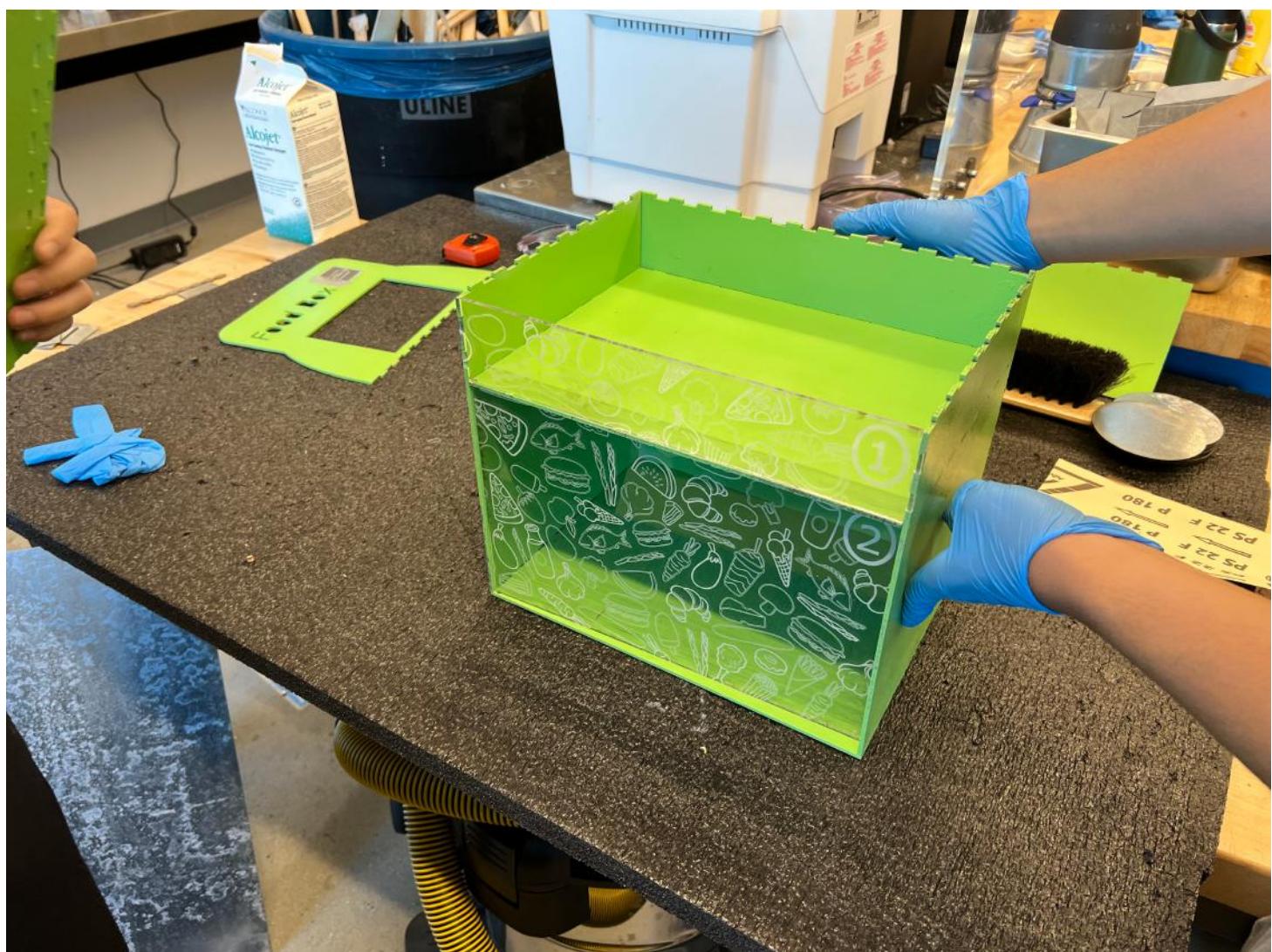
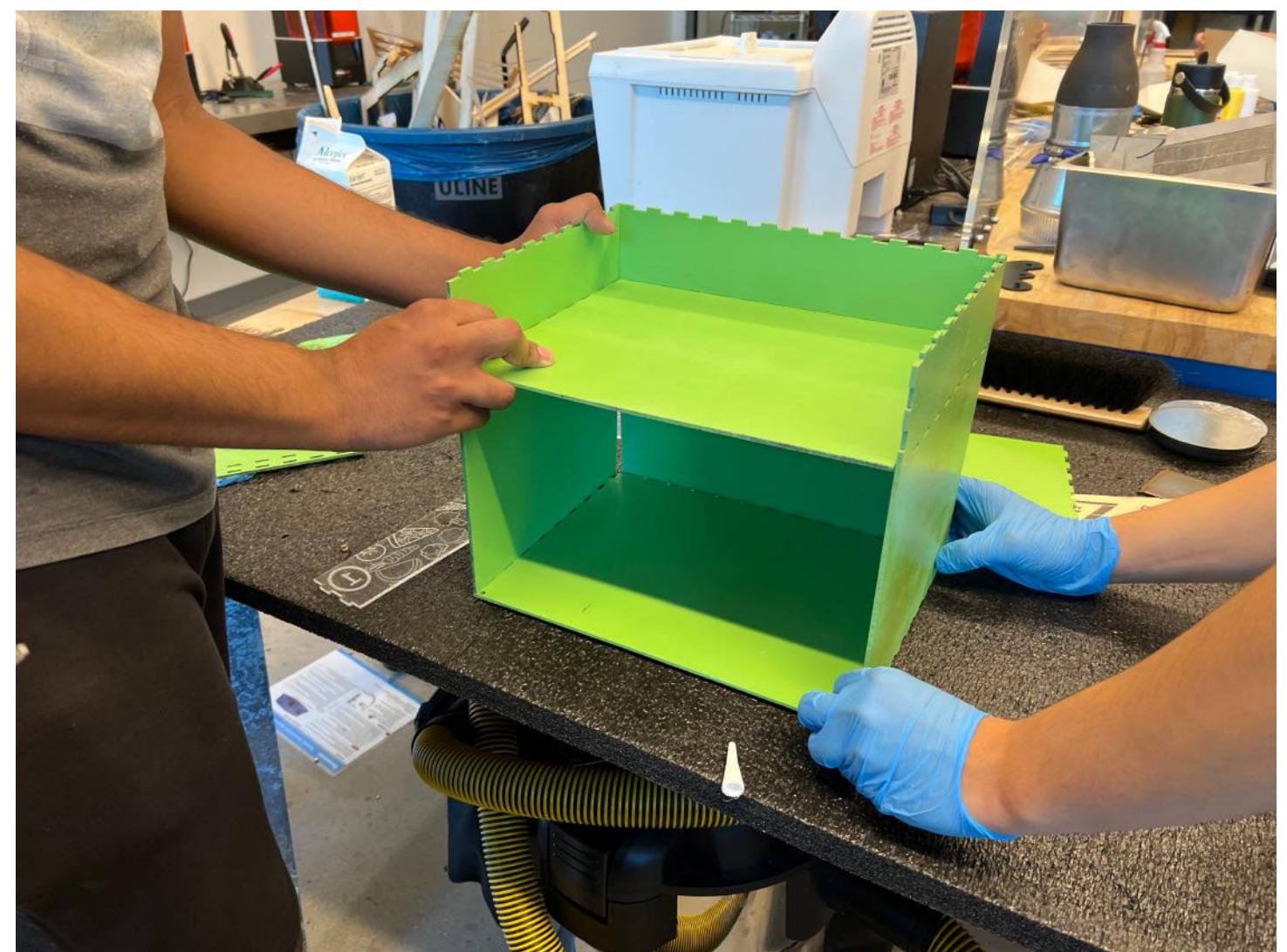
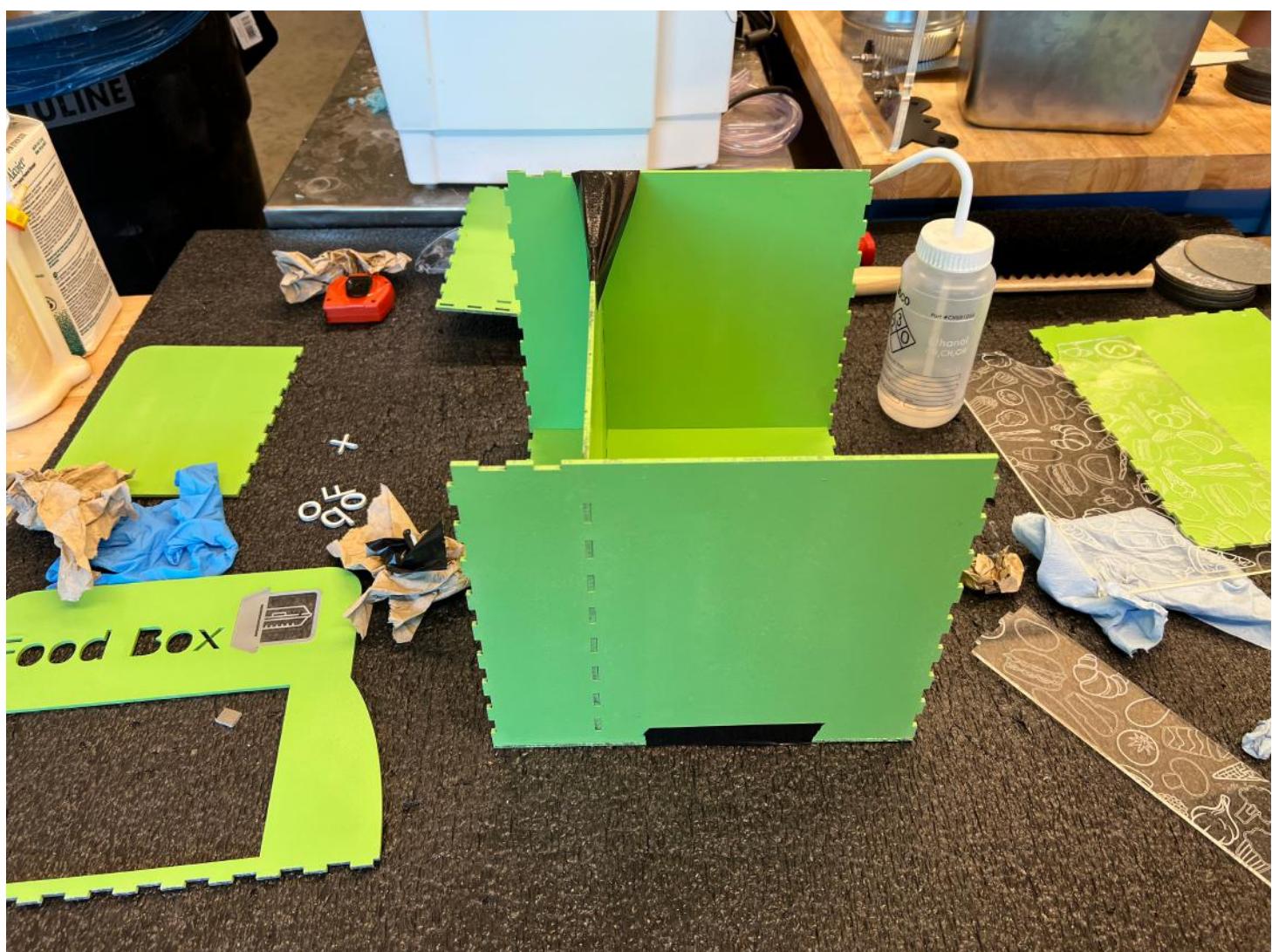
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Physical Kiosk Creation



Physical Kiosk Assembly



Physical Kiosk Features

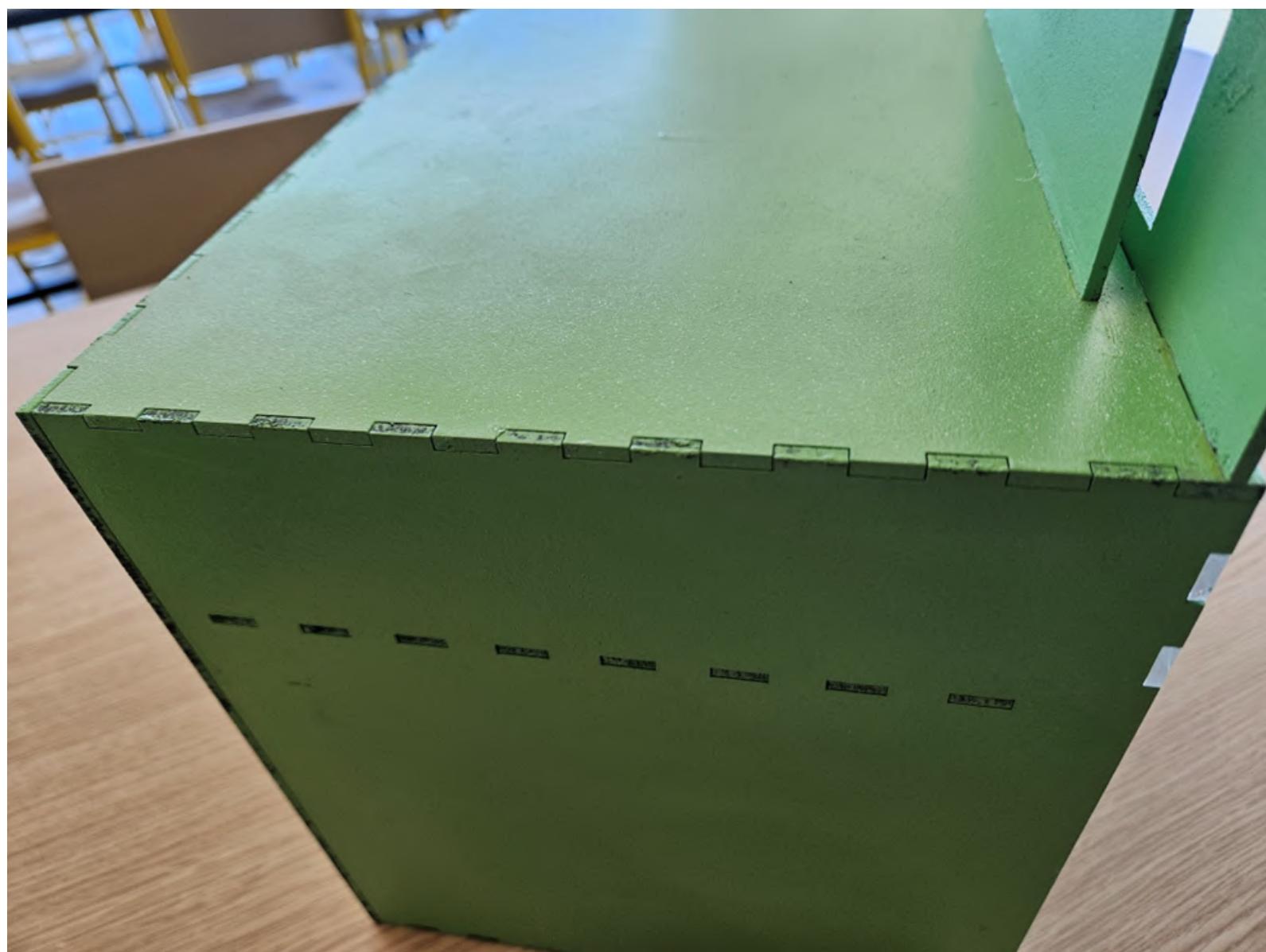
Circle-square hinge/joint



Door swings open



Laser cut finger joints
(top) & slots (bottom)

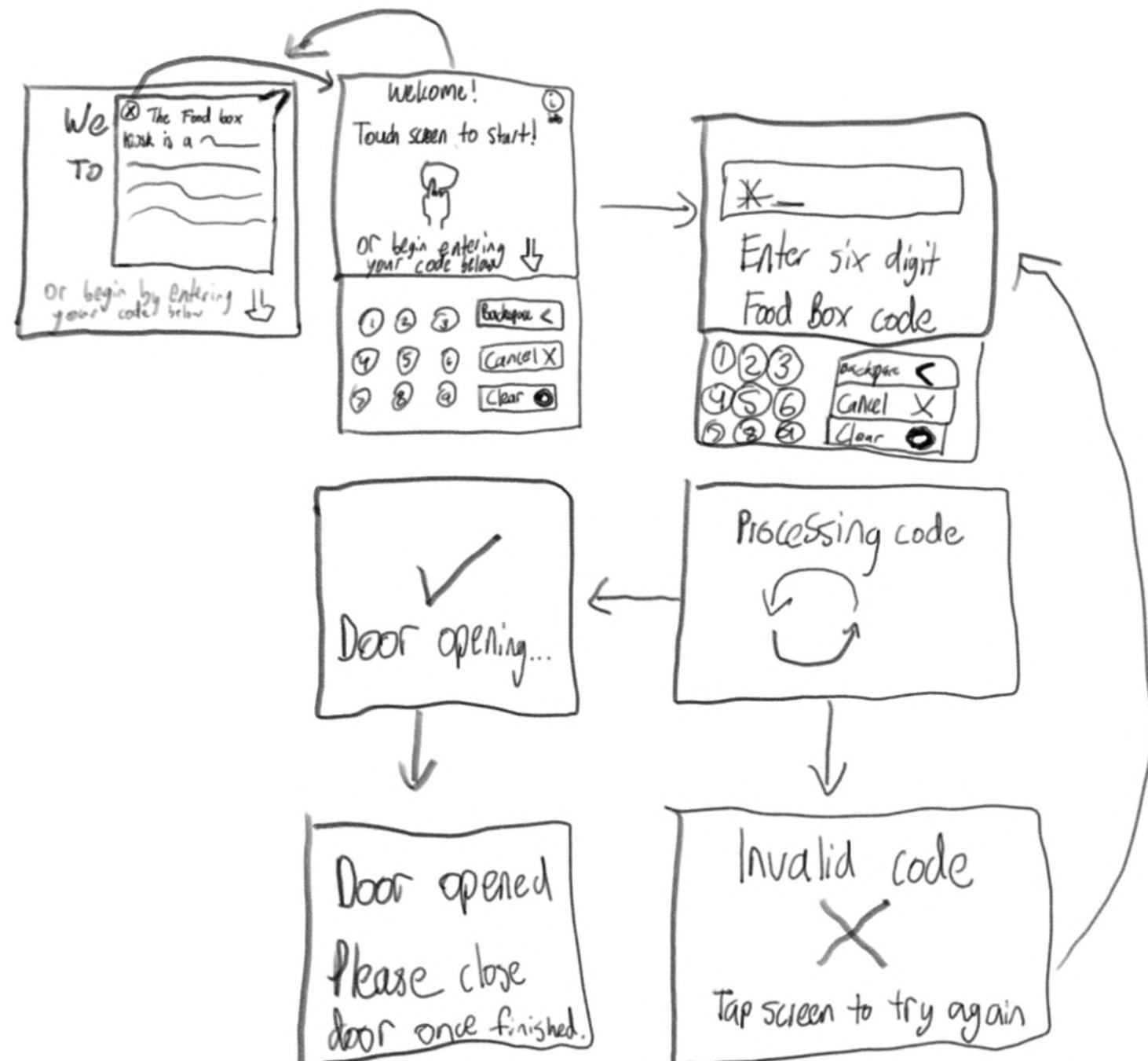


Slot for digital kiosk
screen to slide in



User Interface Creation

Low-Fidelity

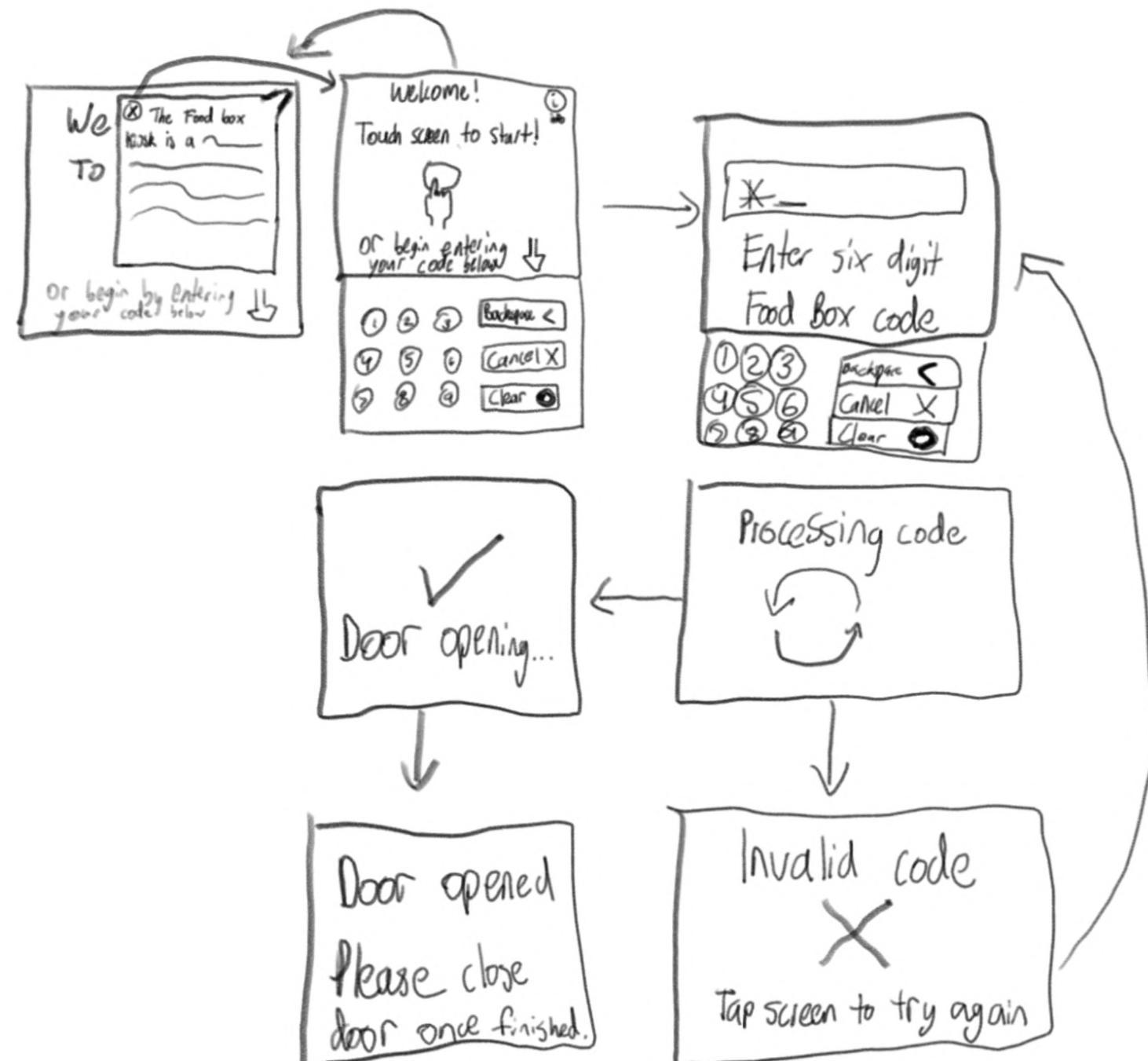


Mid-Fidelity

Welcome to FoodBox Food delivery made easy. Touch screen or press keypad to begin	Enter your 6 digit FoodBox code 1 2 [] [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	Enter your 6 digit FoodBox code 1 2 3 4 5 6 1 2 3 4 5 < 6 7 8 9 0 ✓
Enter your 6 digit FoodBox code [] [] [] [] []	Enter your 6 digit FoodBox code 1 2 3 [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	Box Opening...
Enter your 6 digit FoodBox code [] [] [] [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	Enter your 6 digit FoodBox code 1 2 3 4 [] 1 2 3 4 5 < 6 7 8 9 0 ✓	(1) Box Opened!
Enter your 6 digit FoodBox code 1 [] [] [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	Enter your 6 digit FoodBox code 1 2 3 4 5 [] 1 2 3 4 5 < 6 7 8 9 0 ✓	

User Interface Creation

Low-Fidelity



Mid-Fidelity

Welcome to FoodBox Food delivery made easy. Touch screen or press keypad to begin	Enter your 6 digit FoodBox code 1 2 [] [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	Enter your 6 digit FoodBox code 1 2 3 4 5 6 1 2 3 4 5 < 6 7 8 9 0 ✓
Enter your 6 digit FoodBox code [] [] [] [] []	Enter your 6 digit FoodBox code 1 2 3 [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	Box Opening...
Enter your 6 digit FoodBox code [] [] [] [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	Enter your 6 digit FoodBox code 1 2 3 4 [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	(1) Box Opened!
Enter your 6 digit FoodBox code 1 [] [] [] [] 1 2 3 4 5 < 6 7 8 9 0 ✓	Enter your 6 digit FoodBox code 1 2 3 4 5 [] 1 2 3 4 5 < 6 7 8 9 0 ✓	

User Interface Creation

High-Fidelity

The screenshots illustrate the user interface flow for entering a 6-digit FoodBox code:

- Row 1:** Shows the code entry screen with a starting digit '1'. The code input field contains '1' and the numeric keypad shows digits 2 through 9.
- Row 2:** Shows the code entry screen with a starting digit '12'. The code input field contains '12' and the numeric keypad shows digits 3 through 9.
- Row 3:** Shows the code entry screen with a starting digit '123'. The code input field contains '123' and the numeric keypad shows digits 4 through 9.
- Row 4:** Shows the processing screen after code entry. It displays a progress bar and the message "Processing your code".
 - Column 1:** Shows a green success message box: "Box opening" with a checkmark icon.
 - Column 2:** Shows a red error message box: "Invalid code" with a red X icon.
- Row 5:** Shows the final welcome screen.
 - Column 1:** Shows the code entry screen with a starting digit '1234'. The code input field contains '1234' and the numeric keypad shows digits 5 through 9.
 - Column 2:** Shows the welcome screen with the title "Welcome to FoodBox" and the tagline "Save the flavor, anytime, anywhere." It features a background pattern of various food items.

User Testing Method

Prompt: FoodBox is a new kiosk on campus where food delivery drivers can drop off meals or drinks in an easy-to-find, centralized location with just 1 access code.

Student Scenario: Your friends have been raving about FoodBox, but you've yet to use it. When ordering breakfast, you decide to give your UberEats driver the FoodBox code to deliver to near your apartment. Soon, you receive a notification that your dinner has been delivered and go to retrieve it. Your goal is to pickup a delivery from Box 2.

Delivery Driver Scenario: Your customer has instructed you to deliver to their campus' FoodBox instead of their address. Though you've never used it before, you make your way to its location. Your goal is to drop off a breakfast delivery in Box 2.

Tasks:

1. You want to find more information about FoodBox.
2. You enter the code: 123489 to open the box.
3. You enter the code: 123456 to open the box.

User Testing Results

Consumer Insights:

- “Pretty good!”
- “UI looks really nice!”
- “Everything is integrated well.”
- “Straightforward”, “I understand it”



Recommendations (Future Version):

- Increase viewing angle for better visibility & interaction
- Use darker/frosted acrylic for additional locker privacy
- Think about integration for real-use (ex. costs, # locations)

Thank you for reading!

Want to know more about this project?

Feel free to contact me on LinkedIn or email me at **mingson@ucsd.edu**. To see more of my work, please visit my website at **mingson.dev**.

This prototype was created as a final project for a course (DSGN 100 @ UCSD). Credits to the entire team: Mingson Leung, Goldie Chu, Rushil Narain, Vitor Chiga, William Zhao.