Assignment-4

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Storyboards

The storyboards illustrate the “Single Item page” functionality. The storyboards focus on the main functions described in the functionality. The other ways to add items to the cart and checkout process are not covered in the storyboards.

Description:

Except for adding the item directly from the main page, users can click the item image and go to the independent page of the item. This page contains the information including the price of the item, the ingredients of the item, the amount of calories of the item and customization options available for the item. This page also includes a "+" sign for adding the item to the shopping cart.

Scenario 1:

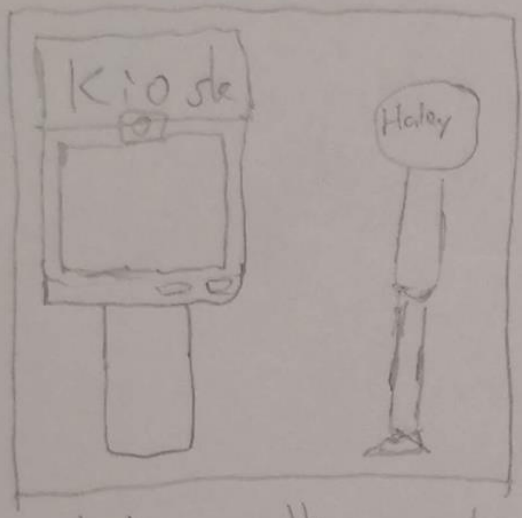
Haley is a 20-year-old who is undergoing a strict diet. She carefully checks the calories of the food in the single item page so the food she is ordering whose calories will not exceed her requirement.

Haley.

- on strict diet

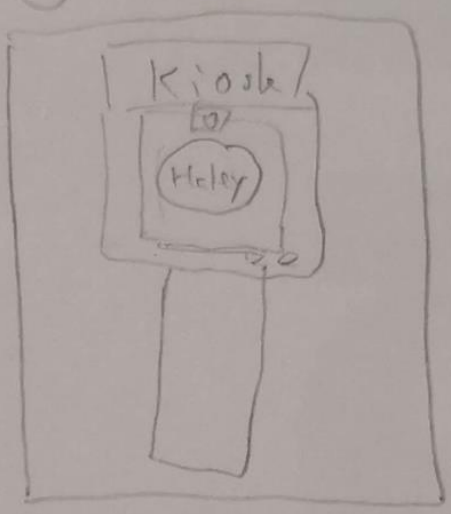
1

XXX Restaurant



Haley walks up to Kiosk

2

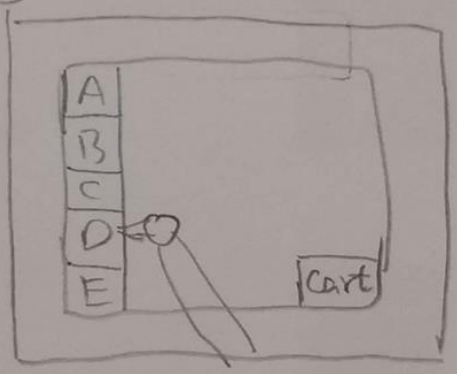


login use FaceID

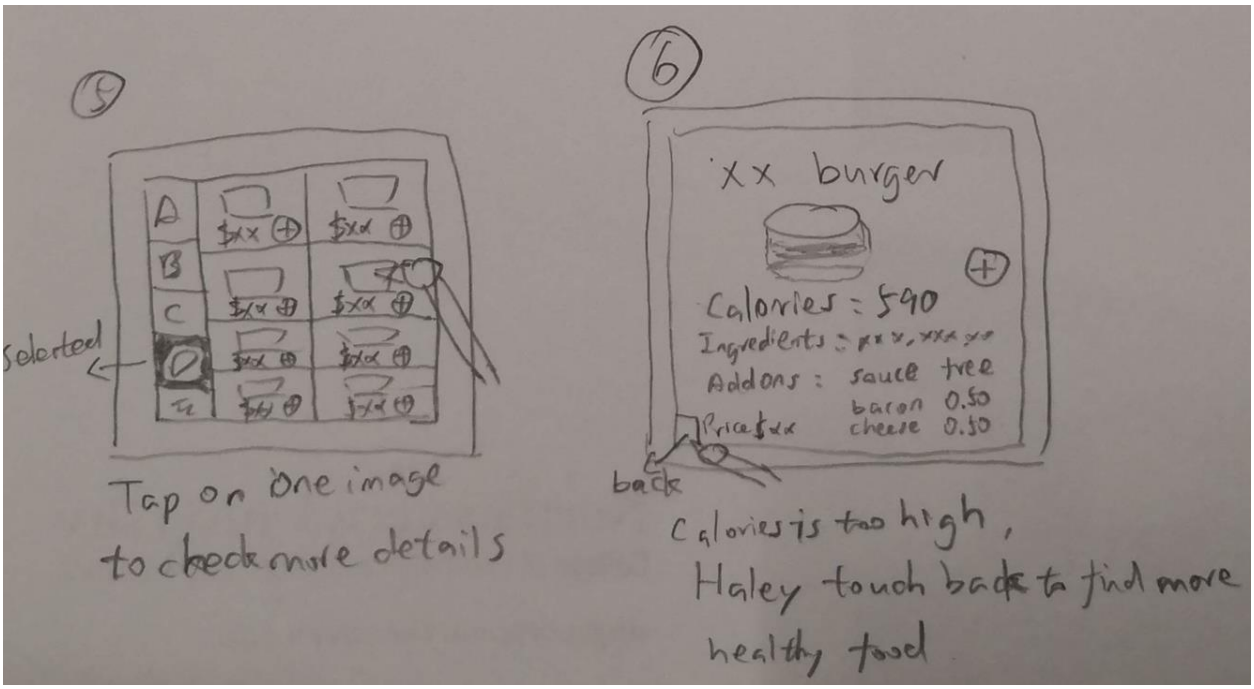
3

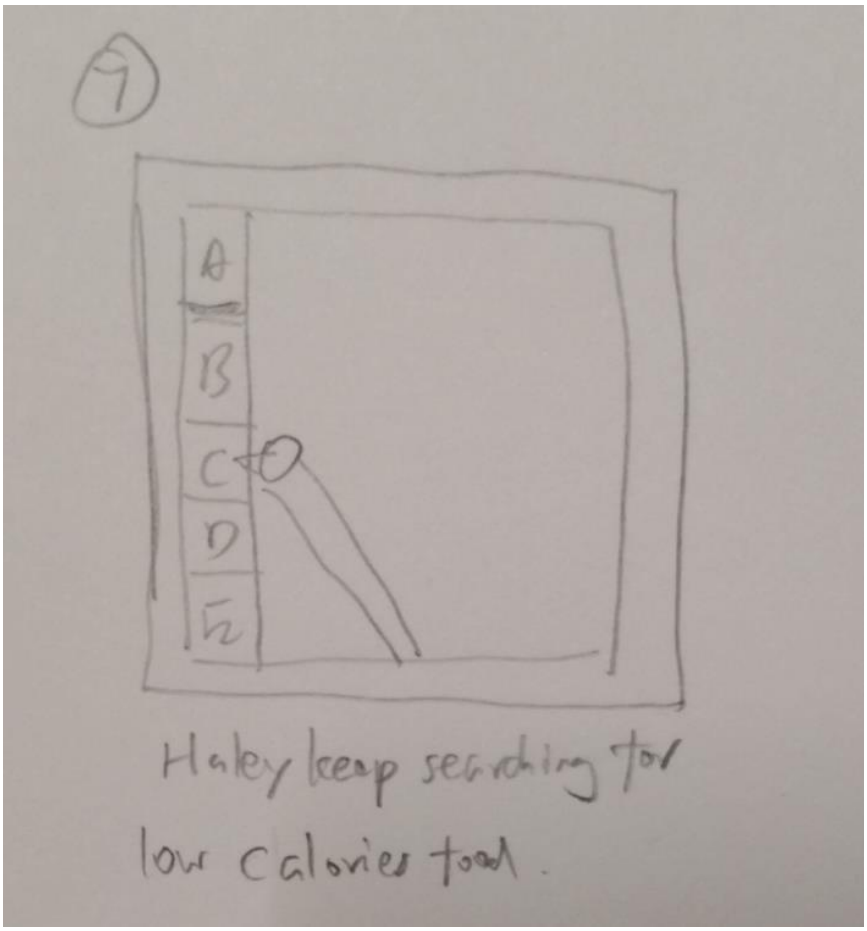
Tap Dine-In

4

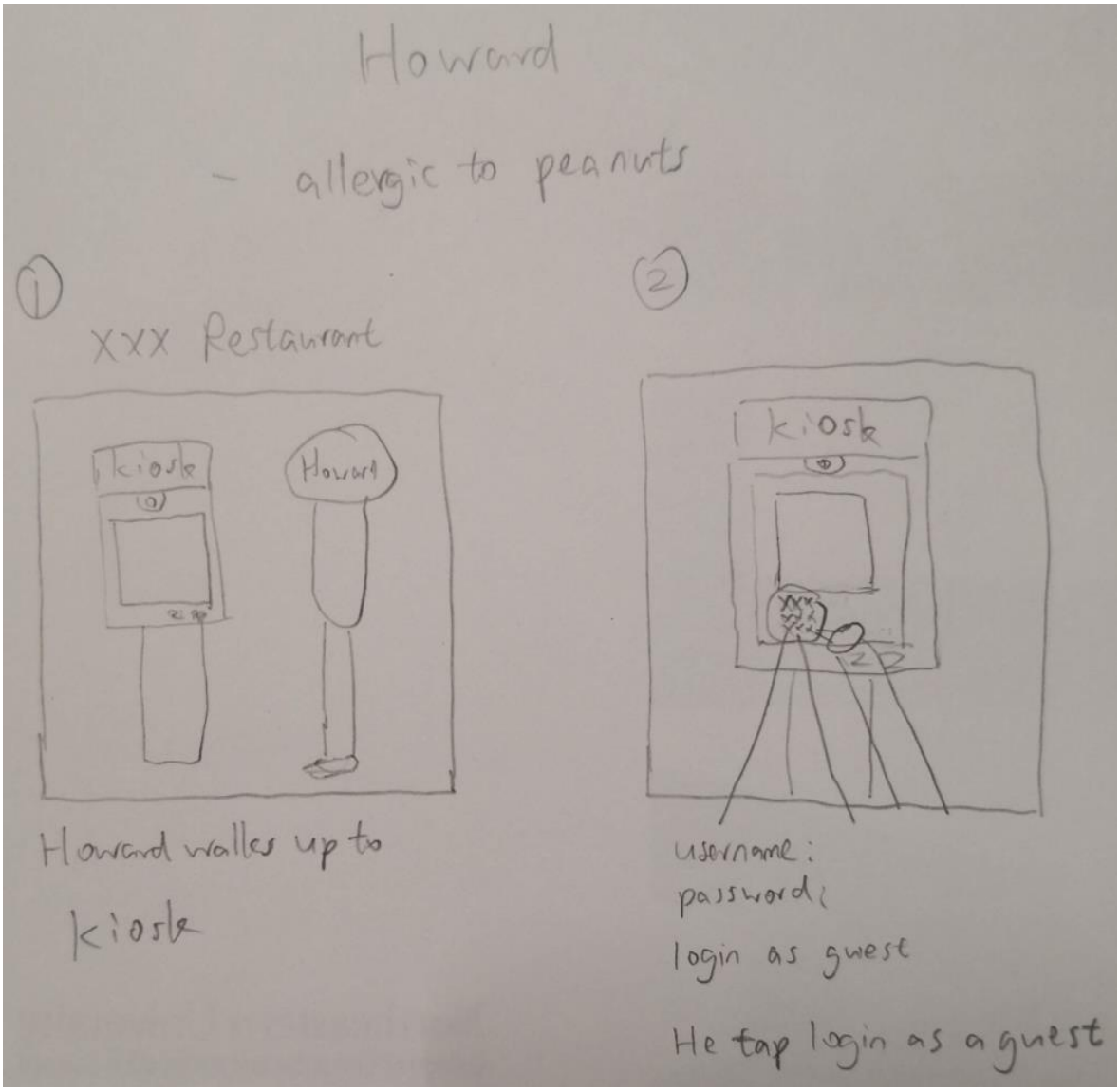


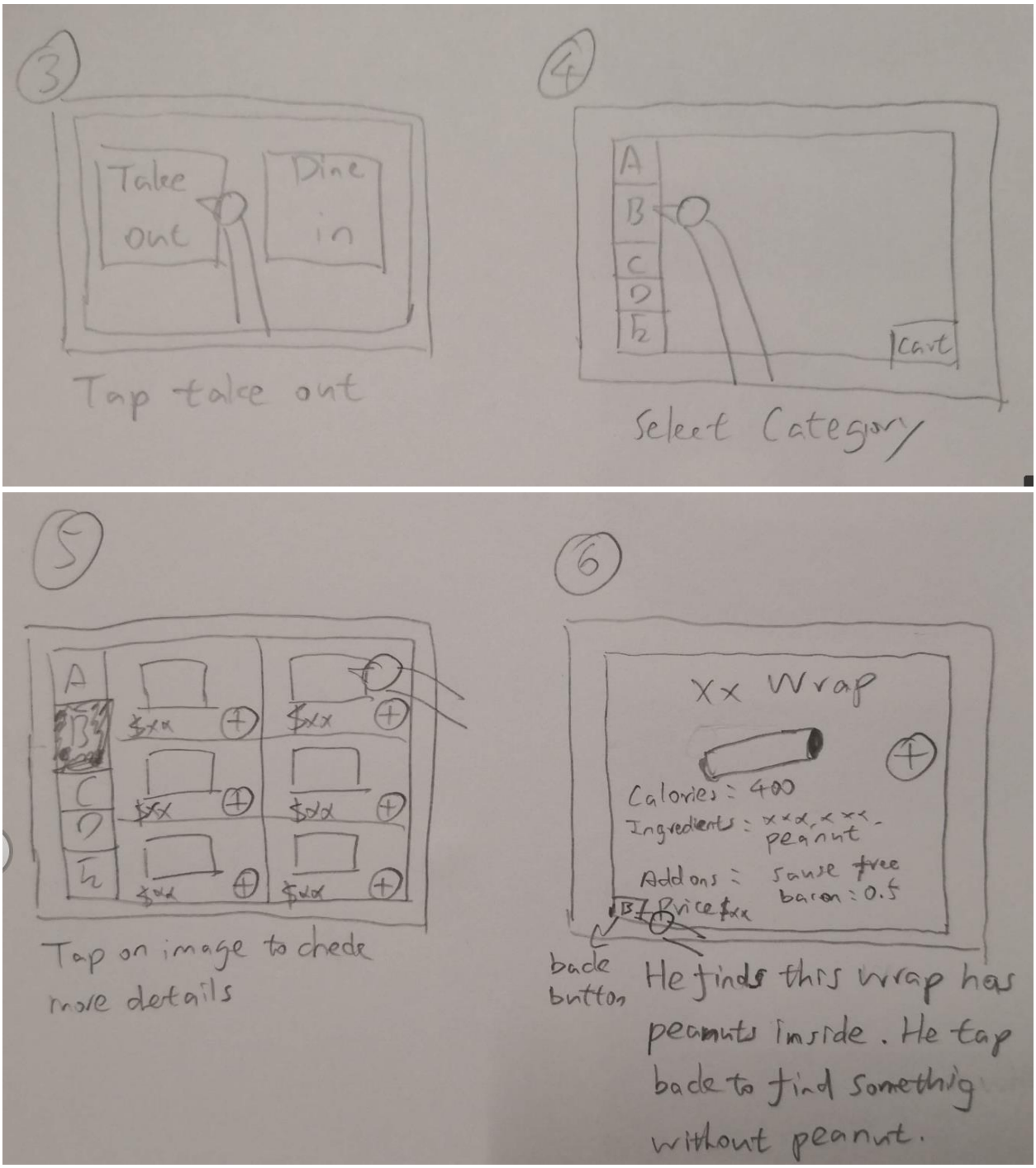
Select Category


5
A
B
C
D
selected
6
xx burger
Calories : 590
Ingredients :
Addons : sauce free
baron 0.50
cheese 0.50
Price $xx
back
Tap on one image
to check more details
Calories is too high,
Haley touch back to find more
healthy food


7
A
B
C
D
Haley keep searching for
low calories food.

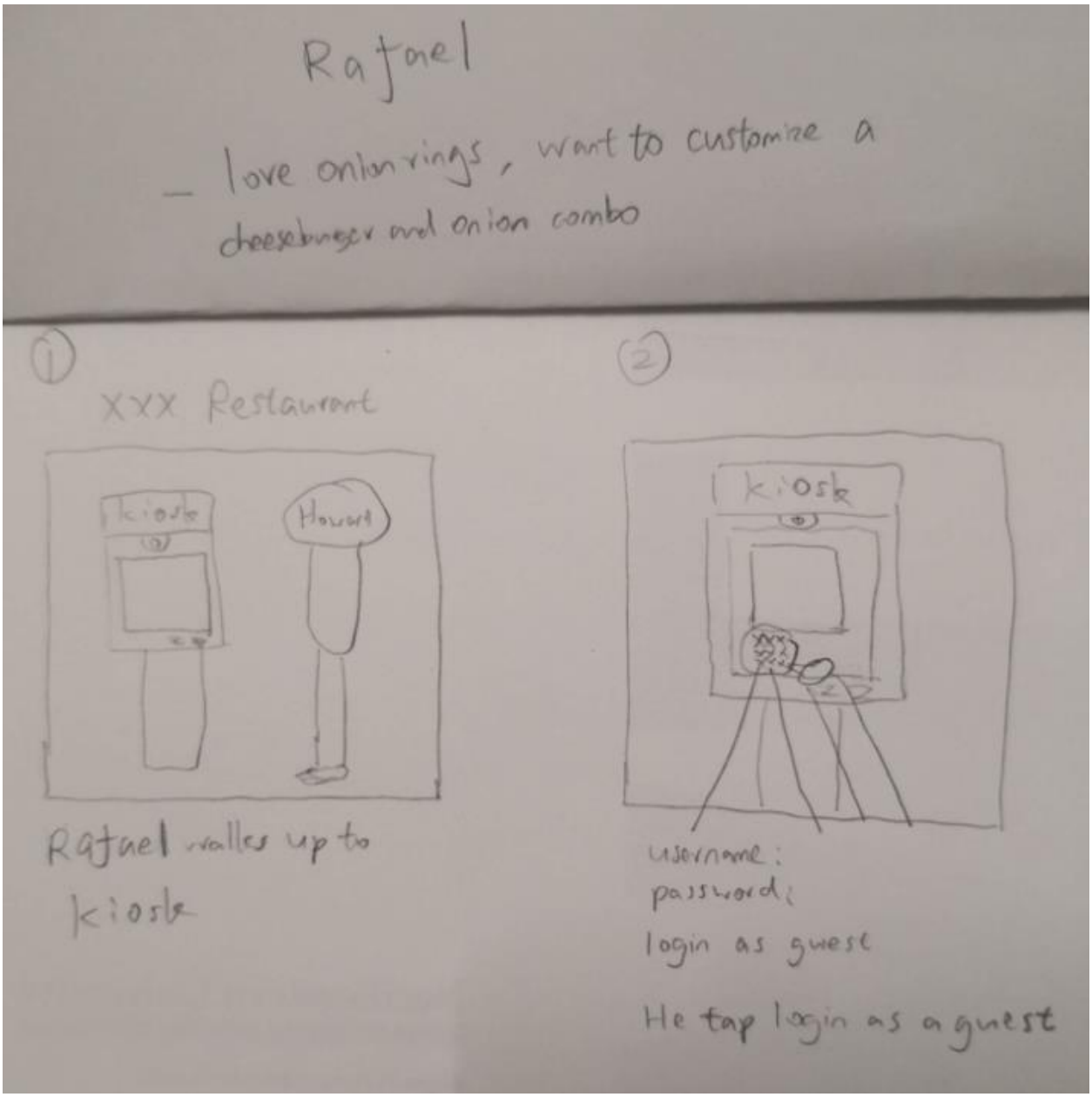
Scenario 2:
Howard is a 30-year-old who is severely allergic to nuts. He checks the ingredients in the single item page of the item he is ordering to ensure everything he orders is safe to eat.

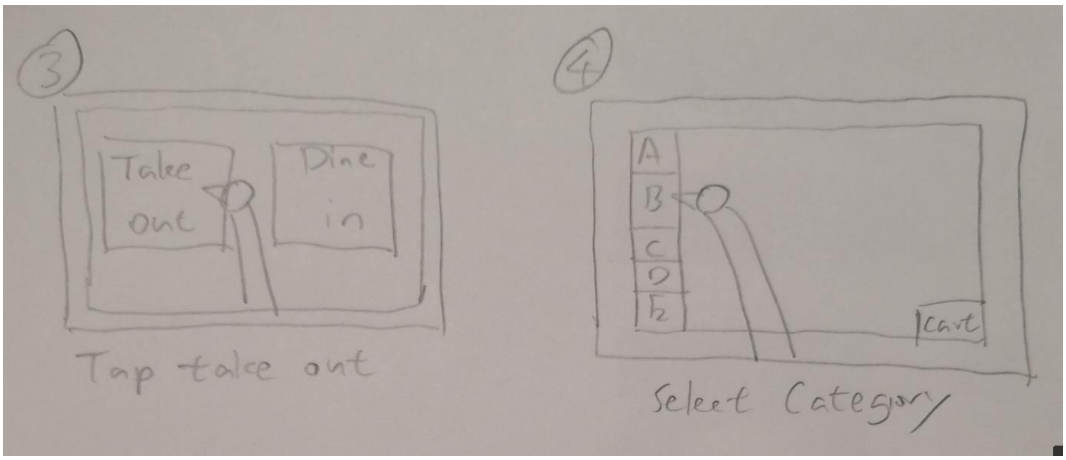


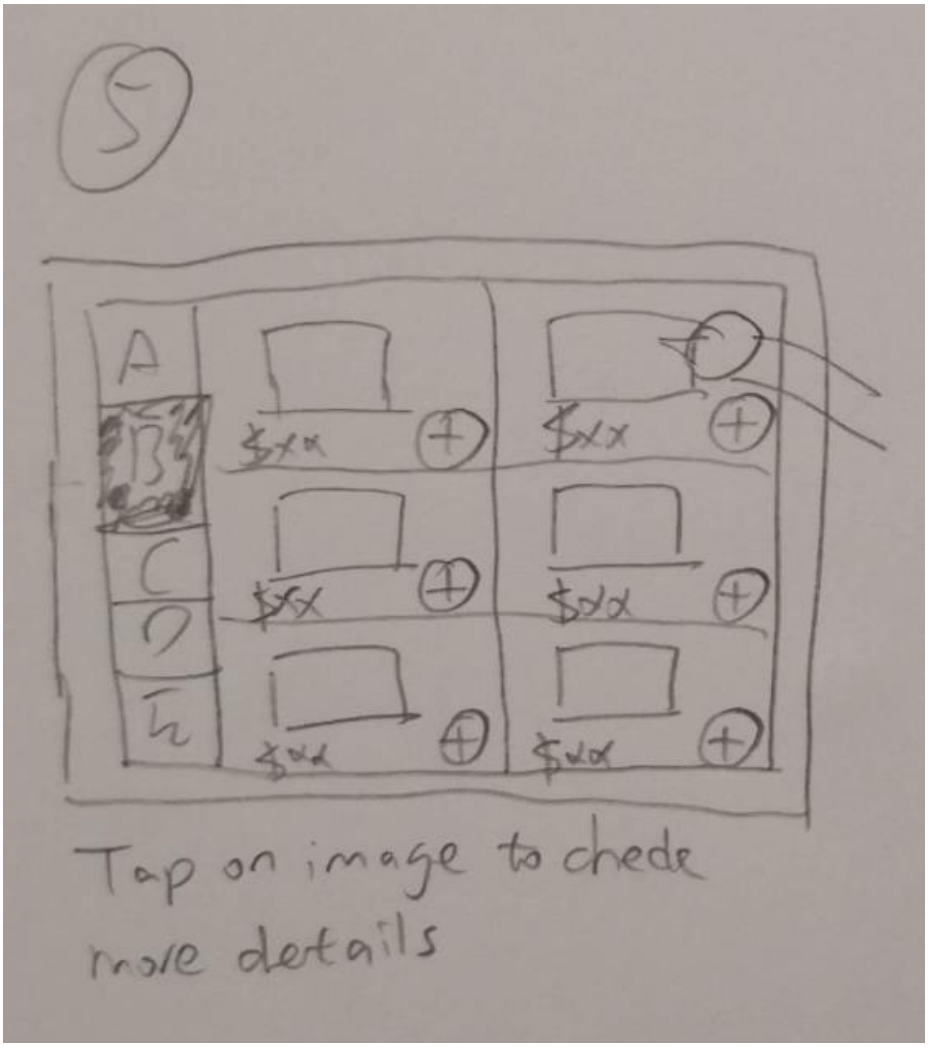


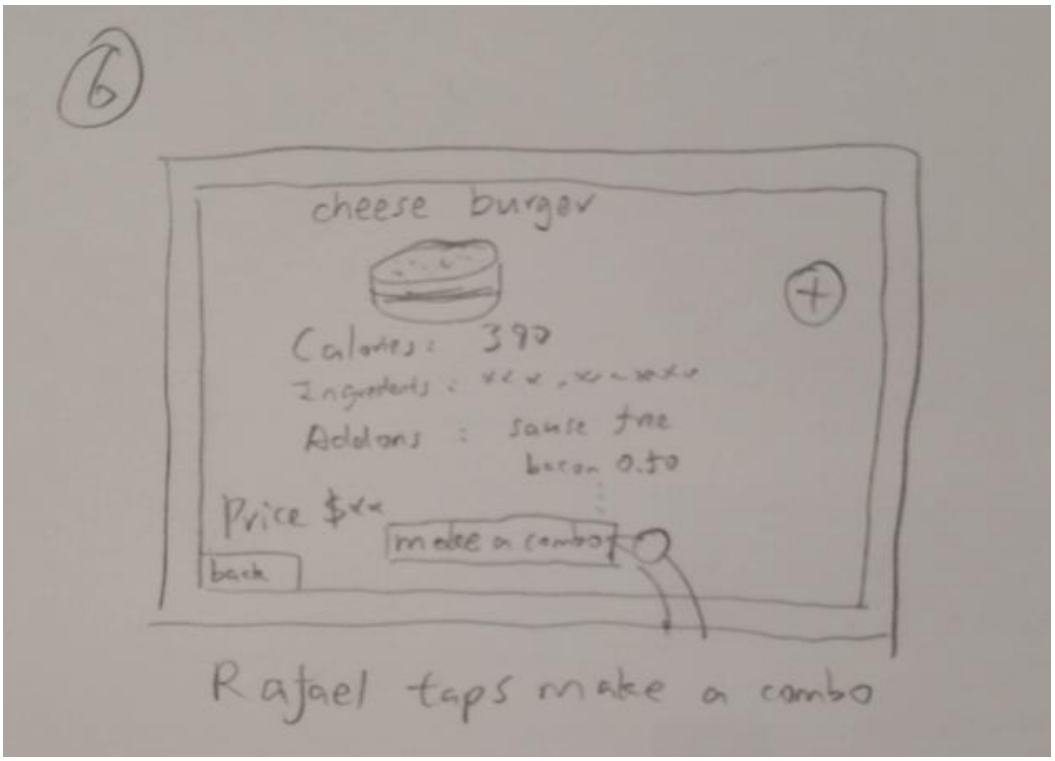
Howard then keeps browsing menu to find food without peanuts.

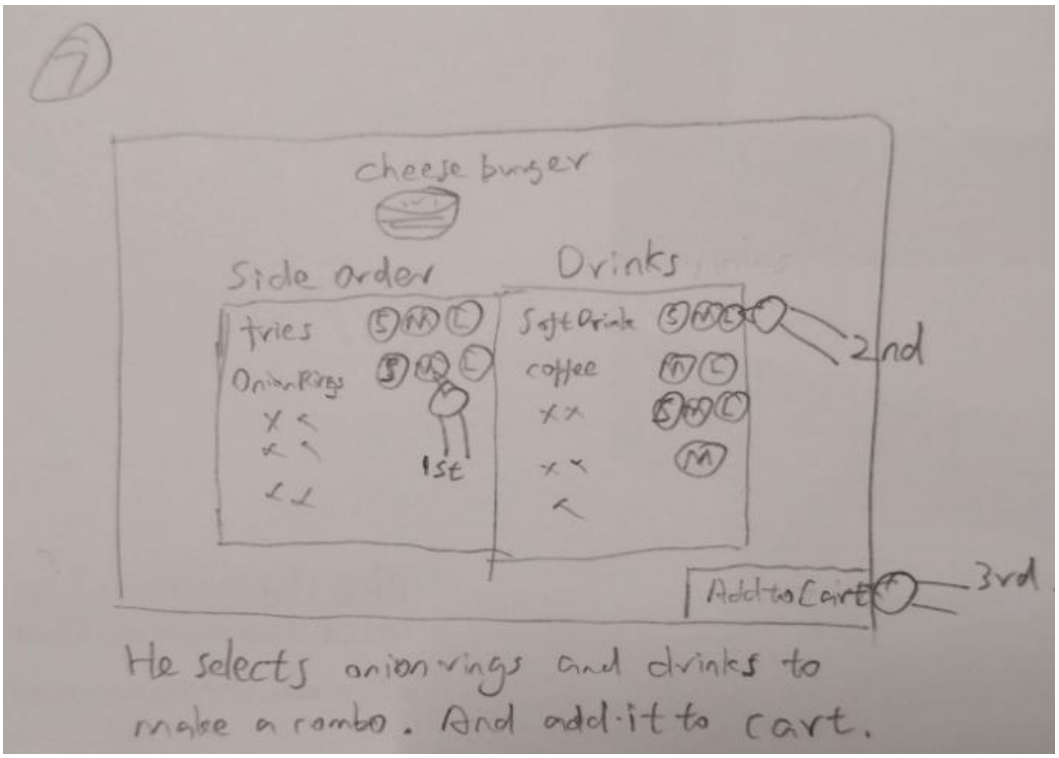
Scenario 3:
Rafael is a 45-year-old who usually orders onion rings along with the cheese burger. He gets into the cheeseburger's item page to customize a combo of cheeseburger and onion rings without needing to order cheeseburger and onion rings separately.

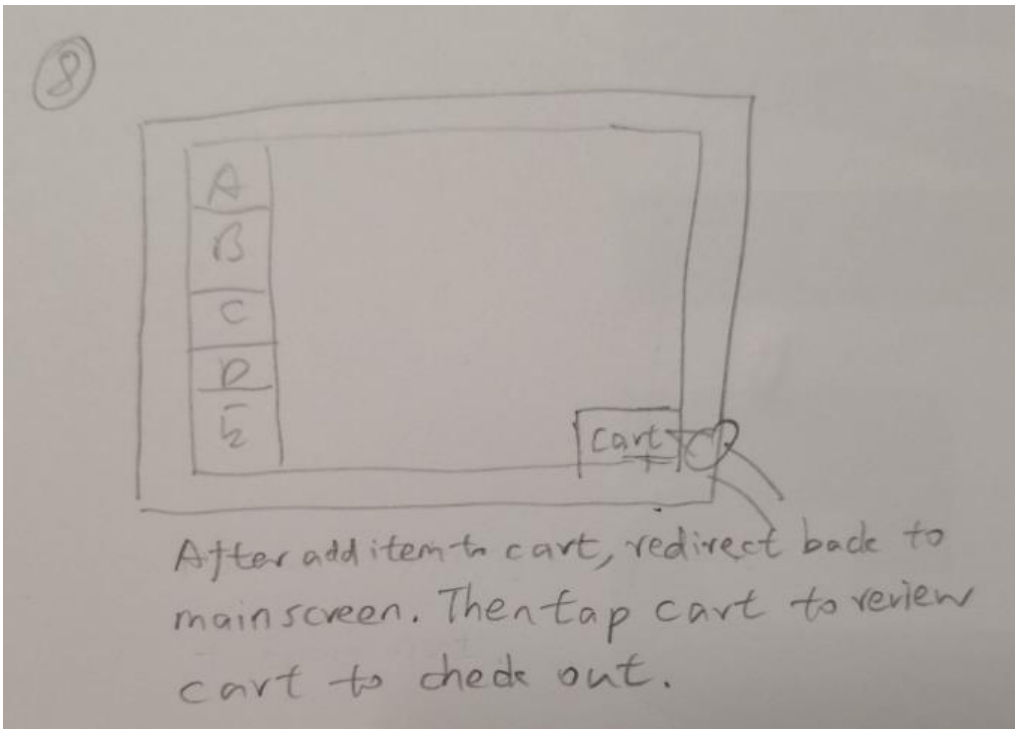



3
Take out
Dine in
Tap take out
4
A
B
C
D
E
cart
Select Category


5
A
B
C
D
E
$xx
$xx
$xx
$xx
$xx
$xx
Tap on image to check
more details

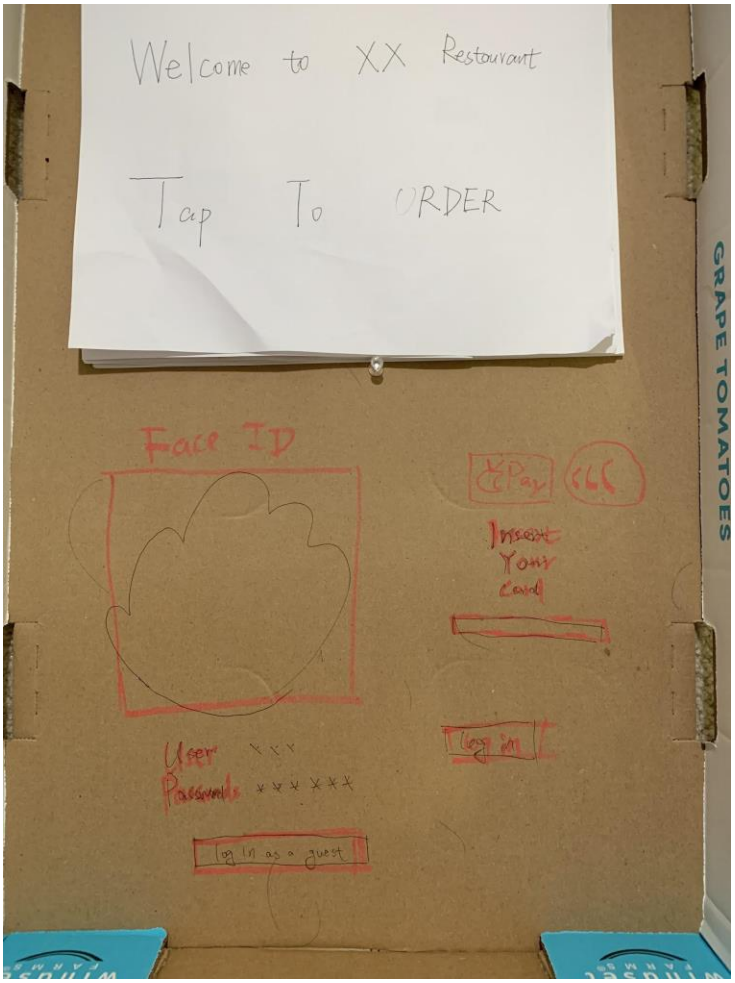

6
cheese burger
Calories: 390
Ingredients : x x x , x x x x
Addons : sause free
bacon 0.50
Price $xx
make a combo
back
Rafael taps make a combo

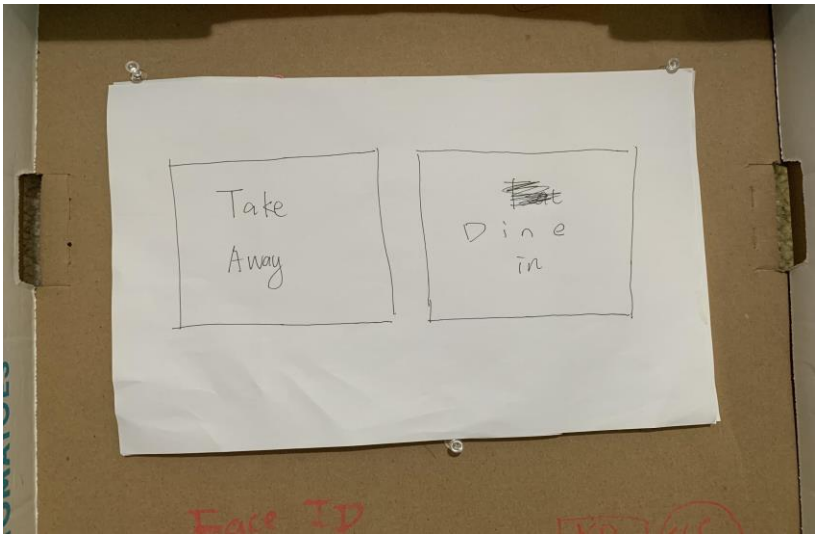

7
cheese burger
Side order
Drinks
fries
Onion Rings
Soft Drink
coffee
1st
2nd
Add to Cart
3rd
He selects onion rings and drinks to make a combo. And add it to cart.

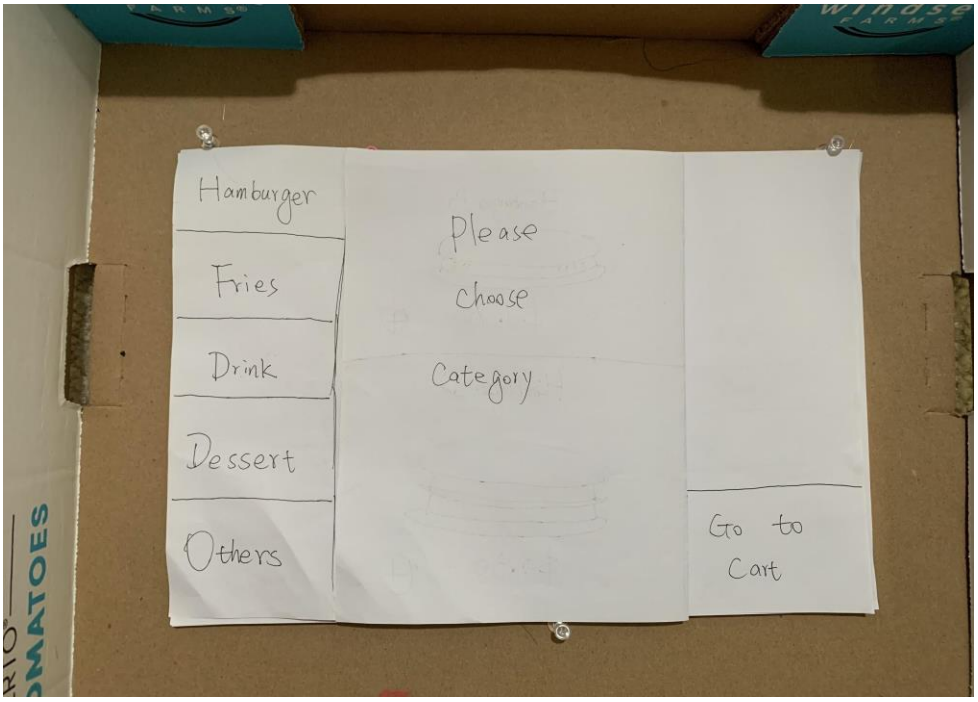

8
A
B
C
D
E
cart
After add item to cart, redirect back to main screen. Then tap cart to review cart to check out.

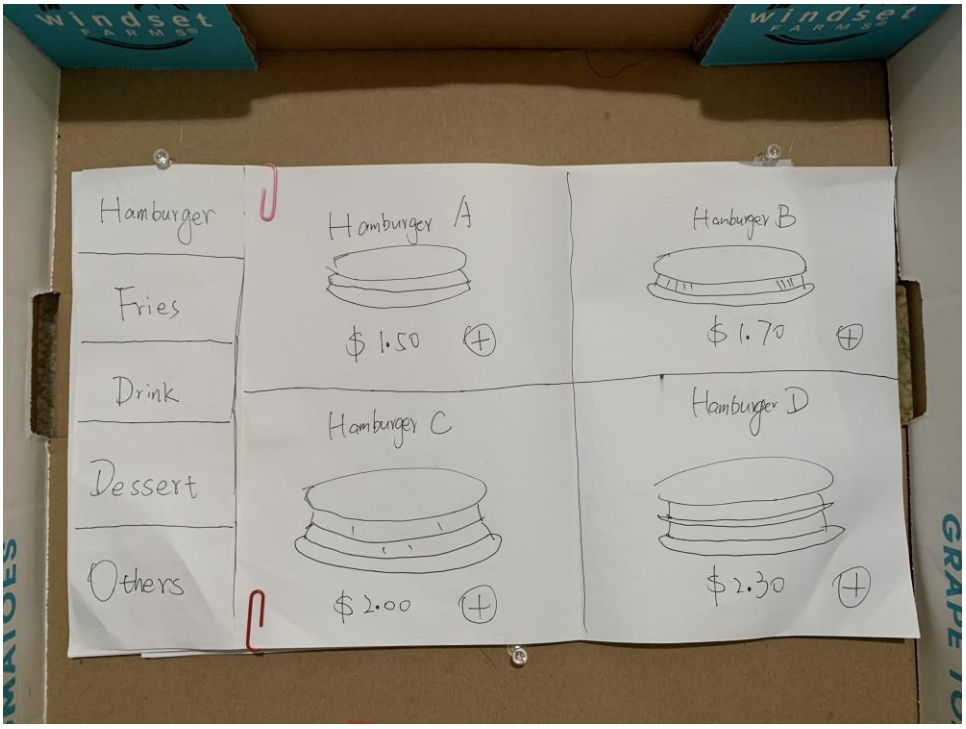
Paper Prototype Screenshots:

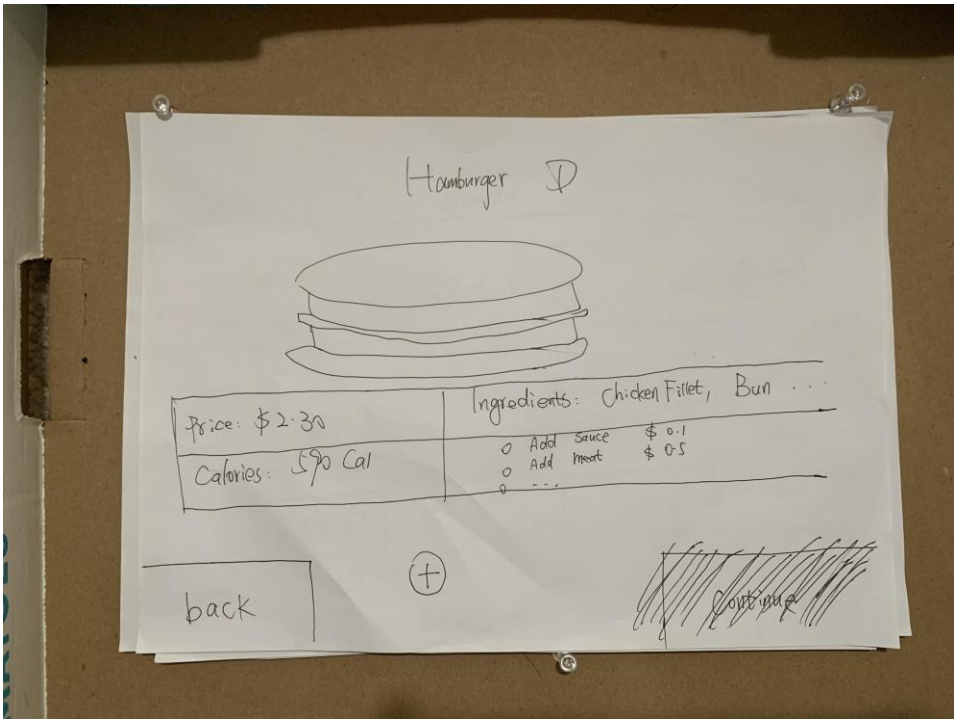
(Video link: https://youtu.be/zN-VGGsjkT0)

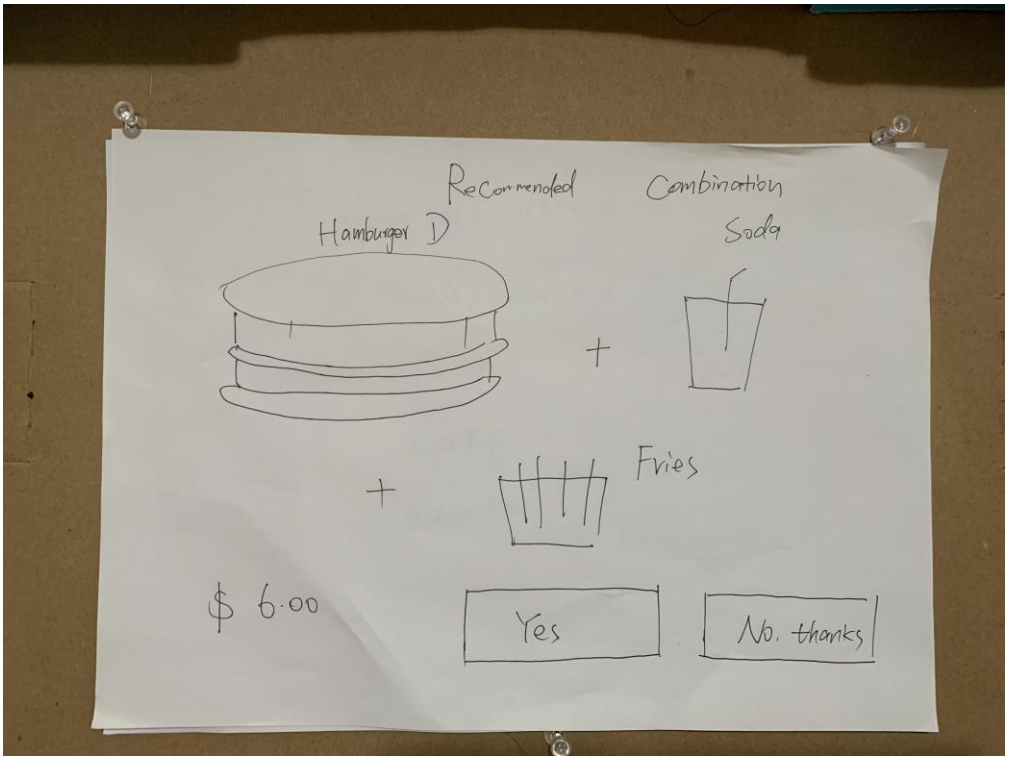


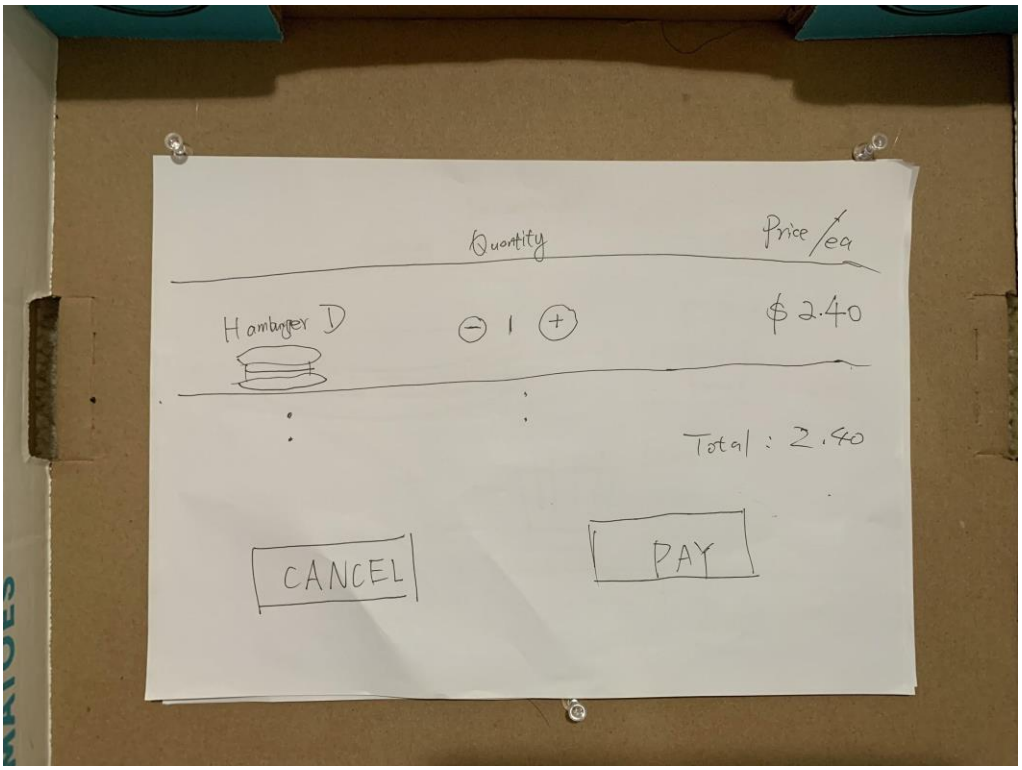


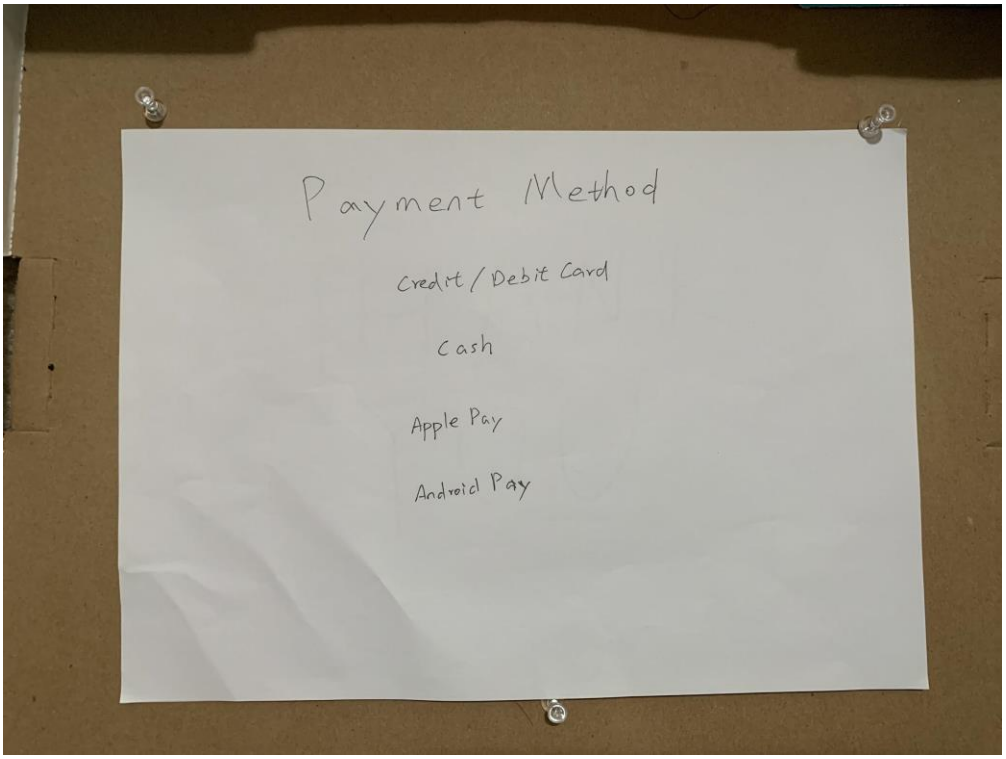

Hamburger
Fries
Drink
Dessert
Others
Please
Choose
Category
Go to
Cart

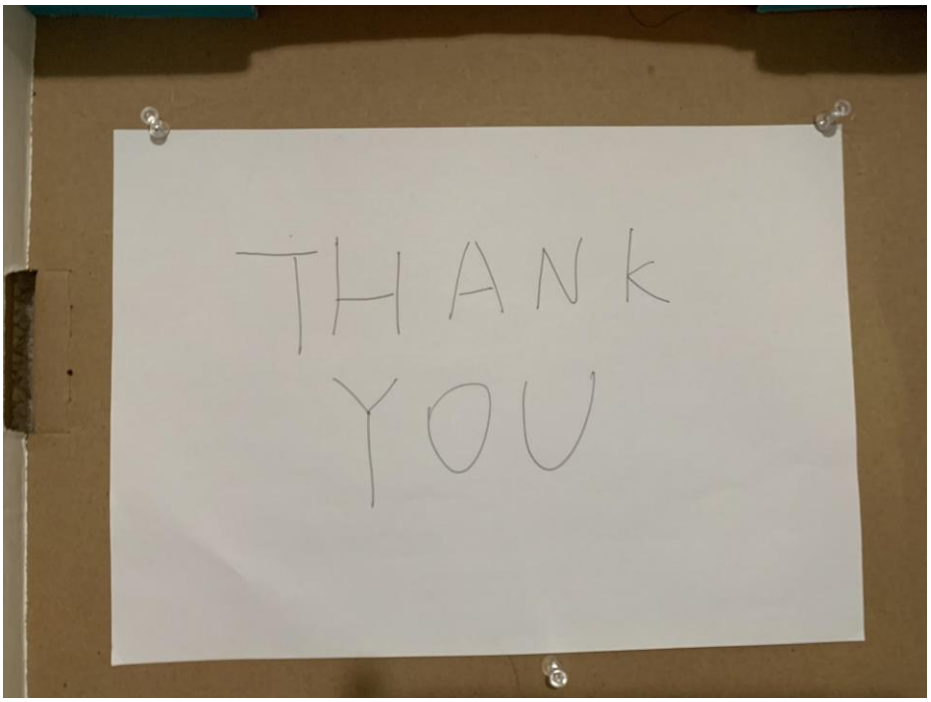

Hamburger
Fries
Drink
Dessert
Others
Hamburger A
$1.50
Hamburger B
$1.70
Hamburger C
$2.00
Hamburger D
$2.30

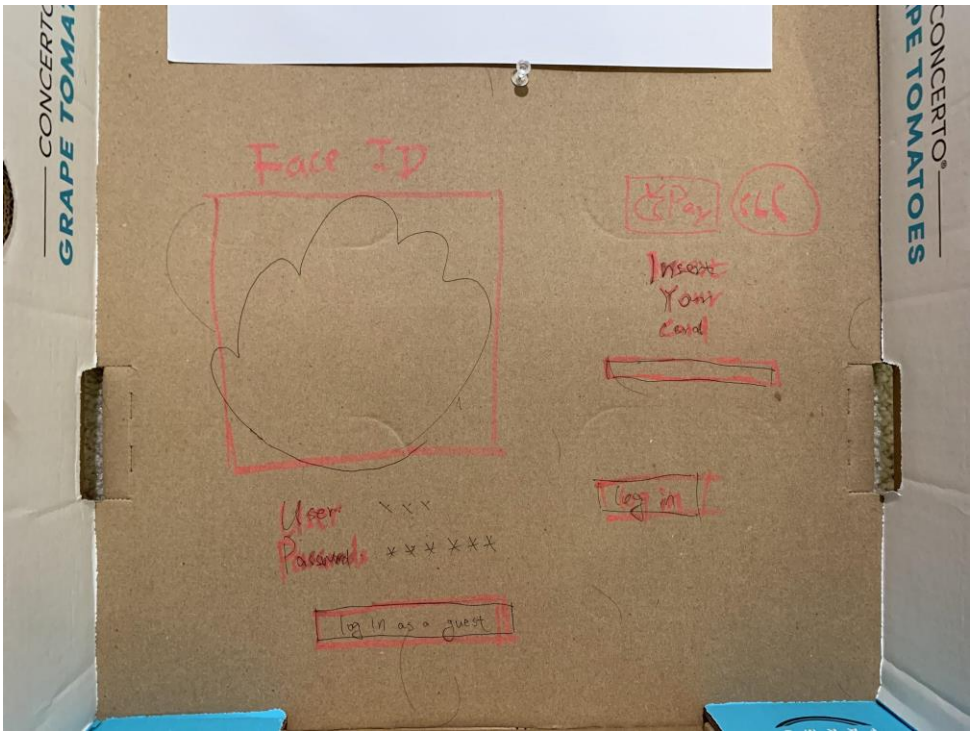

Hamburger D
Price: $2.30
Calories: 590 Cal
Ingredients: Chicken Fillet, Bun ...
Add Sauce $0.1
Add meat $0.5
back
continue


Recommended Combination
Hamburger D
Soda
Fries
$6.00
Yes
No. thanks


Quantity
Price/ea
Hamburger
1
$2.40
Total: 2.40
CANCEL
PAY


Payment Method
Credit / Debit Card
Cash
Apple Pay
Android Pay


THANK
YOU


CONCERTO
GRAPE TOMATOES
Face ID
Insert
Your
Card
User
Password
Log in as a guest
Log in
CONCERTO
PE TOMATOES

Usability Testing Plan

Metrics for success

- Low error rate.
- More customers ordering food on the kiosk than at the counter.
- Less time spent on the kiosk by users.
- Low ratio of users giving up or seeking help while using the kiosk.
- Users being more satisfied using the kiosk.
- Restaurants attract more customers (or generate more profit) with the installation of kiosks.

Data to collect

- Average time of volunteers ordering food on the kiosk at the usability lab.
- of volunteers ordering food on the kiosk at the usability lab.
- Feedback from volunteers in surveys and interviews at the usability lab.
- (Amount of errors) / (Orders finished on the kiosk).
- (Orders finished on the kiosk) / (Total orders).
- Average time of users using the kiosk.
- (Unfinished order + times users seeking help) / (Total orders using the kiosk).
- The average rating of users on the degree of satisfaction (1 to 5) on ordering on the kiosk. (The rating is after the entire ordering process and displayed on the screen of the kiosk.)
- Daily sale.

Strategies on collecting data

We will have volunteers (about 50, across different ethnic groups, genders and age) invited to participate in the trials in the usability laboratory. The lab was set up as a fast food restaurant environment, with service staff. The observer recorded the process of volunteers using kiosk. After the experimental process we will conduct detailed surveys and interviews with the volunteers.
We hope to conduct a pilot (lasts for about one month) in a certain number of restaurants (about 10 initially). We hope that our main test results will be presented through statistical data. We will set up functions in the kiosk program to count its usage rate, accident rate, usage time, and order completion rate, and the in-store servers manually counting the number of times they provide help, and count customers' degree of satisfaction at the end of each ordering process as well as conducting sample interviews. Also, we will see the variation of sales over the testing period.

Locations of experiments

We will conduct our experiments at a usability lab and about 10 pilot restaurants.

Additional equipment

Usability lab, timing software, software on counting unfinished orders, total orders, restaurants' statistics on sales and statistics tools (Excel, Python, etc.).

Discussion and Analysis

Brief Description

Fast food ordering kiosk is a modern and user-friendly ordering machine, where customers can easily place food orders without going to the counter to communicate with staff. Kiosks are set in the restaurant and customers can use the touch screen to start using them. The overview of the main interface contains categories and all the items included, where customers can have a detail view by touching the image and easily adding them to the order. Kiosks have various ways of payments including credit card, cash and many other online payments. Besides, kiosks are easy to use for customers of all ages who can get supported during your order from images, icons, and tips on the screen. Customers can also call our staff by simply clicking the relating button anytime you need help with the whole ordering process.

Design Metaphors

- Use a shopping cart as a metaphor so that customers can place their order using the familiar knowledge of buying items in the shop.
- Signs of “+” and “-” are used as metaphors for adding and removing items.

User Analysis

1. Target audience
The target audience of the kiosks are customers who are going to place their food orders in this restaurant. They may include people not fluent in the local language, vision impaired or blindness, seniors less familiar with technology, children with special UI requirements, and families each interacting with the kiosk on one order.

2. Where to be used
The kiosks are mainly used in a relatively empty place inside the restaurant, and sometimes it can be placed outside the restaurant or along the drive-thru way.

3. Contexts and environments
The kiosks are used for the convenience of placing order, so customers would choose this way when the counter is busy at that time, or when they think it more efficient compared to interacting with stuff at the counter. Besides, those choosing the way of drive-thru could use the kiosks outside the restaurant as well as ordering online.

4. Frequency
The frequency that the kiosks be used depends on some factors. If the kiosks show enough convenience, most of the customers might use it every time they place their orders. Besides, when the restaurant business is good and there are many people in it, newcomers would prefer ordering in this way.

Good Points

- Customers experience direct manipulation when they click on the content on the screen, which is the only way needed to interact with kiosks. Through the easy operation on kiosks, they can see the immediate, visible results of their actions.
- The whole process of ordering is very clear, through which the interface does not have any unnecessary information or ads, so customers can retrieve what they want and complete their order easily and quickly.
- Every item has a schematic picture for customers to preview and recommends a combination relating to it, which increases user experience.

Improvements

- The interface lacks some helpful images and icons for those who may have difficulty reading texts in some pages, and we can add some emergency button for users to tap to ask for help
- In the current prototype we only have a “thank you” text after finishing order. It could be better to add a confirmation page including a pick-up number for the convenience of getting the order.