

FLoop

Improving Eating Habits

Namrata Dilip Phirke

A thesis presented in partial fulfillment of the requirements for the degree—Master of Industrial Design in the Department of Industrial Design of the Rhode Island School of Design, Providence, Rhode Island.

Approved by Master's Examination Committee:

.....
Khipra Nichols
RISD Full time Faculty
Department of Industrial Design

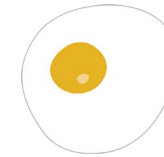
.....
Michael Lye
RISD Adjunct Advisor
Department of Industrial Design

.....
William Idell
External Faculty
Assistant Dean
College of Culinary Arts
Johnson & Wales University

Copyright © 2017
Text © 2017 the author
Images © 2017 the author
(unless stated otherwise)

All rights reserved. This book or any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of the publisher except for the use of brief quotations in a book review.

Designed by author



To My Family

Special thanks to all my classmates
who participated in my experiments

Contents

Abstract	8
Introduction	10
Healthcare system	15
Treatment of illness	19
Prevention of illness	24
Food experiment	29
Learning from the market	45
Looking inside their kitchen	49
Breaking your fast	56
Design opportunity	57
Building ideas	58
The exchange experiment	60
Introducing FLoop	82
How it works	84
App wireframes	87
FLoop	90
Conclusion	99
Bibliography	101
List of illustrations	102
Appendix	104

Abstract

All of us strive to eat breakfast daily, and a lot of us fail. 10% of all Americans skip breakfast daily, and the number increases sharply to 23% for the people in 18-34 age group. Something changes distinctly when people turn 18. This age group includes students who transitioned from their home to college. This shift severely affects eating habits. At home, our parents look after us and make sure that we get the optimum nutrition as we grow. But life isn't so smooth in college. We realize the importance of our parents who used to worry about our health and never failed to feed us on time. Almost all students who live independently in a different city face this problem at some point and struggle to maintain a good morning diet.

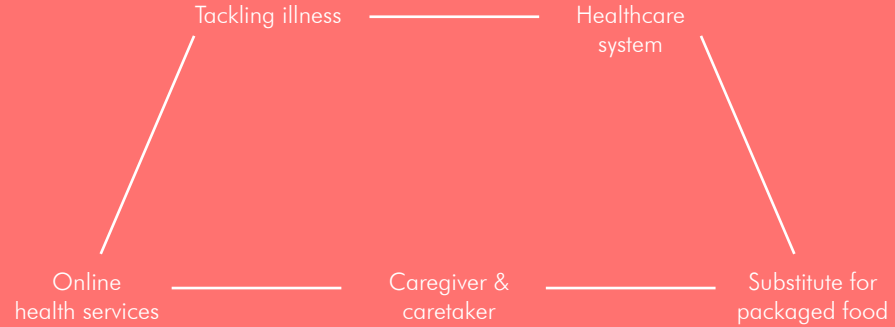
Food is something we consume everyday out of necessity. The cultures around food are different all over the world. But no matter where, it is always good to eat food and even better to share. Food is an important factor in our social lives and through it we are able to build, grow and strengthen social bonds. This project looks at designing a system to help young adults adopt the habit of eating breakfast through community food sharing. The system opens a social platform that lets you connect with your friends, exchange homemade breakfast or other meals and share your exchange stories. The design process followed in this project includes extensive research experiments with user groups to identify the problem areas. The design solution aims at solving this food problem together and helping each other lead a healthy life.

Introduction

My desire to work in healthcare dates back to my undergraduate studies in 2011 when I witnessed severe problems in healthcare system in India such as complications in home birth, unfortunate newborn deaths due to lack of equipment knowledge, challenges in treating postpartum hemorrhage, pre-eclampsia and anemia, lack of transportation during critical time, shortage of supplies, facilities and doctors, etc. I realized that it is indeed true that healthcare is one of the most complicated systems and the problems are unending.

At RISD, I started my thesis journey by visiting hospitals and talking to people in different parts of the world about their experiences in hospitals. As I moved forward with my research and visits to hospitals, I could see a striking difference in the healthcare systems in US and India. During my experience in designing for the Indian audience, I prioritized on reducing the costs and making health care accessible for most users. But it was not the same in US. During my summer internship at a healthcare firm, I worked with clients for whom affordability was never the driving force. Being an Indian and having experienced so many problems, it is important for me to look at projects through the lens of sustainability and affordability. Hence, I decided to visit hospitals to get first hand information of the situation.

INTERESTS



A quick experiment was conducted where I asked a few of my friends to write me instances of their last 5 visits to healthcare facilities. This experiment was meant to start the research process and find a direction for further research inquiry.

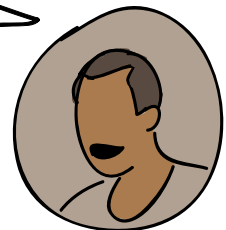
How were your experiences at a healthcare facility?



Tanya, India

Though I went for a very small reason, but the scale of the hospital was so drastic, that I felt like a tiny person, making me more clueless and panicky. The lights! they made me feel anxious because they were just so fluorescent.

Amith, U.S.

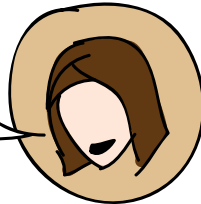


Taking my friend to hospital who called me saying she is sick and need help. She was in a really bad state. But the first question she got when I took her to hospital was, "Is she pregnant?" After lot of tests it was realized she was allergic to raw onions which she ate somewhere. Luckily after vomiting few times, she recovered by the time we reached her home. But I still find it funny that nurses think that if a guy takes a girl to the hospital, it means she slept with her and that she is pregnant!



Everytime I go home for break I visit the dentist to get scaling done. I used to have braces and always got scaling because it was hard for me to take care of my teeth as a child. I still do it because its sort of relaxing and chill.

Sung, South Korea



Last time, I went to a hospital because my friend's knee was hurt. And it was boring because the hospital was super crowded.

Chris, China



Mostly it's been to accompany someone who's got fever etc. to the emergency ward. I hate hospitals personally. Find them a very strange place. The MRI scans and such machines were underground in the basement. It looked like some kind of secret laboratory. I feel good food at hospital canteens makes a big difference.

Neerav, India

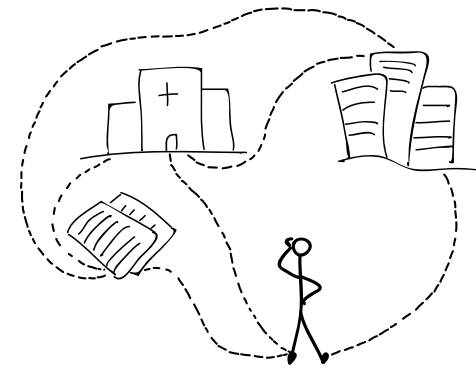
Fig. 1. Healthcare experience

Insights:

People are more likely to visit a hospital when they accompany or visit their sick friend/family than to treat themselves.

Healthcare System

To get my regular dose of vaccines and blood tests, I visited East Side Urgent Care, Providence several times and my experience with the US healthcare has not been that peaceful.

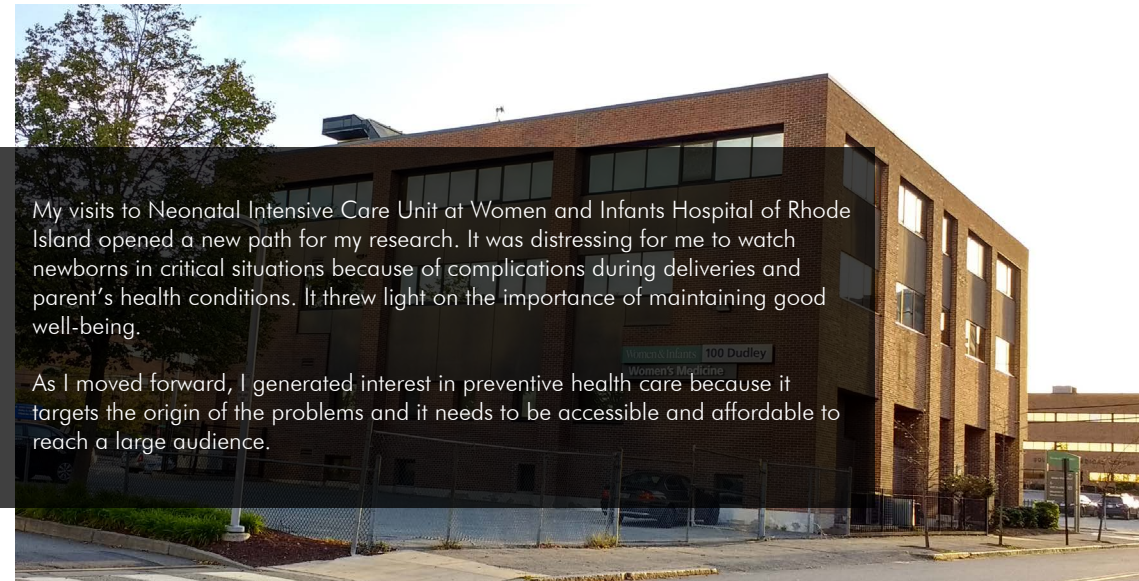


During my long waiting in the facility, I overheard an interesting conversation between two strangers who were waiting for their turn (fig. 3). It made me aware of the dependence of people on their health insurance. Healthcare facilities do not accept all kinds of health insurance policies and one needs to track down the centers where their health insurance is accepted. Hence, in US, patients choose hospitals based on their insurance policy whereas, in India, patients choose hospitals based on the service, doctor's qualifications and costs. In India, healthcare is either free or with minimum charges at public hospitals.¹ Healthcare at private hospitals is affordable when compared to U.S., so most people in India can do without health insurance. In U.S. however, this increases the wait time at certain centers like East Side Urgent Care where most of the health insurances are accepted even when their service might not be that good.

¹"5 Things To Know About India's Healthcare System | Forbes India Blog". 2017. Forbes India. <http://www.forbesindia.com/blog/health/5-things-to-know-about-the-indias-healthcare-system/>.



Fig. 3. A conversation during observation at East Side Urgent Care, Providence



My visits to Neonatal Intensive Care Unit at Women and Infants Hospital of Rhode Island opened a new path for my research. It was distressing for me to watch newborns in critical situations because of complications during deliveries and parent's health conditions. It threw light on the importance of maintaining good well-being.

As I moved forward, I generated interest in preventive health care because it targets the origin of the problems and it needs to be accessible and affordable to reach a large audience.

Visits to Hospital



Treatment of Illness



This experiment throws light on people's behavior and thought process while treating an illness. There is a conflict that doesn't let people approach a doctor that readily. This conflict may be good or bad. In some cases, home remedies may resolve the problem; while in others, it may extend and complicate the problem. The judgement is made by the people and there are no guidelines to follow.



What steps would you take if you suffer an illness?

'Do you mean what I would actually do or what ideally I should be doing?'

<p>Research Help</p> <p>Age: 24 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>ABDOMINAL PAIN</p> <p>drink ginger tea lay down and rest, nap take an anti Call my mom (who is a doctor) if she is ok, I take a pain pill.</p>	<p>Research Help</p> <p>Age: 24 Gender: Male Nationality: South Korea</p> <p>What steps would you take if you suffer from the following illness?</p> <p>ABDOMINAL PAIN</p> <ol style="list-style-type: none">1. I go to the toilet and try harder.2. If I figure out it's not this issue, I eat medicine.3. If medicine doesn't work, I go to hospital.	<p>Research Help</p> <p>Age: 24 Gender: Male Nationality: USA</p> <p>What steps would you take if you suffer from the following illness?</p> <p>ABDOMINAL PAIN</p> <p>play video games</p>	<p>Research Help</p> <p>Age: 24 Gender: Male Nationality: USA</p> <p>What steps would you take if you suffer from the following illness?</p> <p>ABDOMINAL PAIN</p> <p>EAT GOOD FOOD WALK ALOT</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DIZZINESS</p> <p>lie down, lie down relax keep up with</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DIZZINESS</p> <p>lie down, lie down relax keep up with</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DIZZINESS</p> <p>lie down, lie down relax keep up with</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DIZZINESS</p> <p>lie down, lie down relax keep up with</p>
<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>ABDOMINAL PAIN</p> <p>is it something I ate? did I drink it and get sick?</p> <p>if it is really bad I would not wait I would go to the hospital. Then I would get a check up at the hospital.</p>	<p>Research Help</p> <p>Age: 25 Gender: Female Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DEPRESSION</p> <p>I would talk to my friends and family and try to get enough sleep and exercise. If these feelings are persistent, I would make an appointment with a doctor to assess my situation. If needed, I would be open to counseling and medication to treat the depression.</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DEPRESSION</p> <p>go out meet people eat + rest</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DEPRESSION</p> <p>I would jump on and not think about and take 4 vitamins per day. From there, I would continue to take vitamins per day.</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DEPRESSION</p> <p>talk to a friend talk to a friend talk to a friend</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DEPRESSION</p> <p>talk to a friend talk to a friend talk to a friend</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DEPRESSION</p> <p>talk to a friend talk to a friend talk to a friend</p>	<p>Research Help</p> <p>Age: 25 Gender: Male Nationality: American</p> <p>What steps would you take if you suffer from the following illness?</p> <p>DEPRESSION</p> <p>talk to a friend talk to a friend talk to a friend</p>



Although chronic diseases (diseases that last 3 or more months and generally cannot be prevented by vaccines and medication) are among the most common and costly of all health problems, they are also among the most preventable. Chronic disease prevention, to be most effective, must occur in multiple sectors (like adopting healthy behavior, learning about illnesses and its treatment) and across individuals' entire life spans. Prevention encompasses health promotion activities that encourage healthy living and limit the initial onset of chronic diseases.²

Prevention also embraces early detection efforts, such as screening at-risk populations, as well as strategies for appropriate management of existing diseases and related complications. Prevention can be achieved in a number of ways such as quitting smoking, balanced diet and exercise, maintaining healthy blood pressure and healthy blood cholesterol levels, instilling healthy behaviors and practices during youth, regular screening of colorectal cancer, early diagnosis and appropriate management of arthritis.³

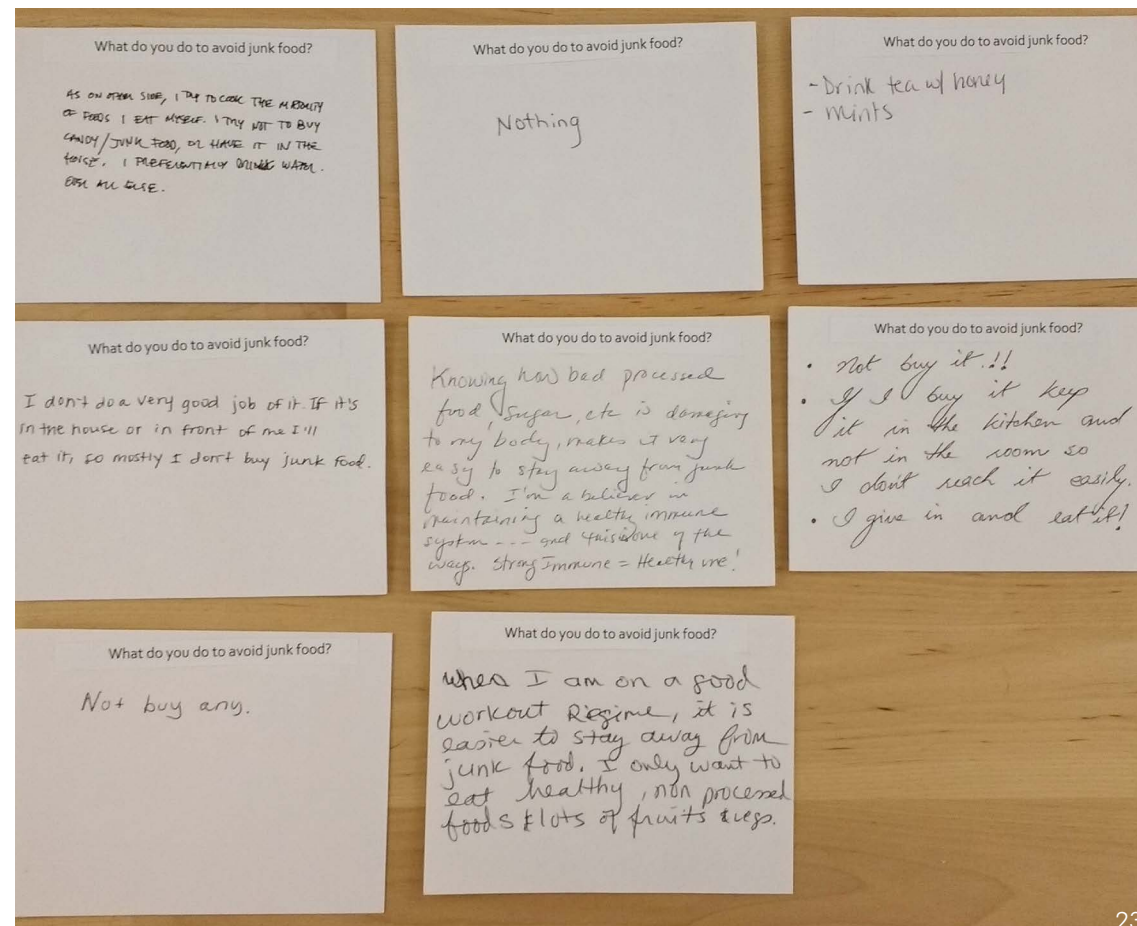
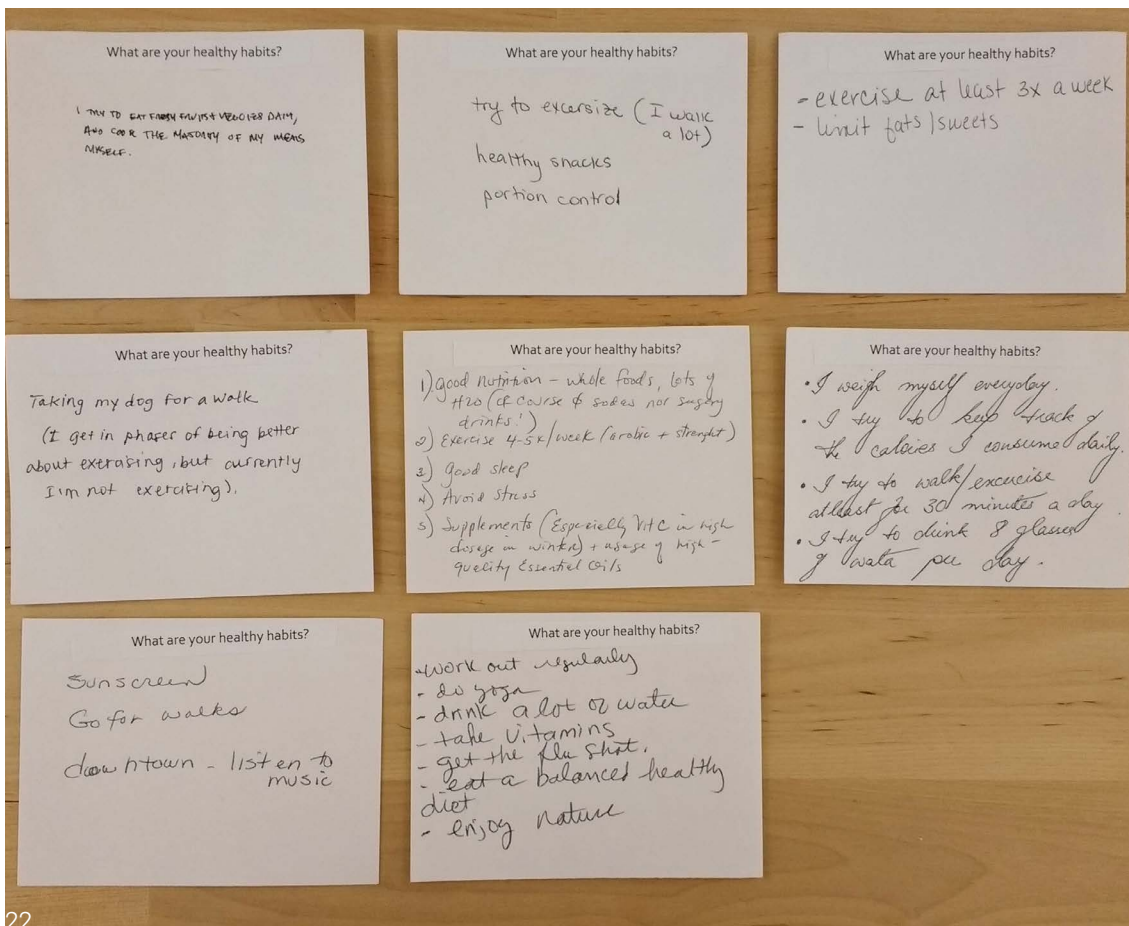
The Power Of Prevention. 2017. 1st ed. [Washington, D.C.]: U.S. Dept. of Health and Human Services.

"Lifetime Preventive Care | Ages 11-19 | PublicHealth.Org". 2017. PublicHealth.Org. <http://www.publichealth.org/public-awareness/preventive-care-schedule/teens/>.

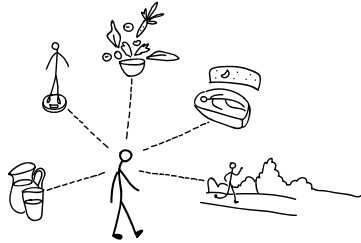


At Women and Infants Hospital of Rhode Island, I questioned a few nurses about their healthy habits and ways they avoid junk food. These were the interesting answers that I received in the process. I was hoping that doctors and nurses who deal with patients

suffering from health problems might be taking extra care of themselves to avoid any problems in future with their health, but their responses were not what I had expected.



Prevention of Illness



My interest in food and healthy habits made me research deeply in this subject. Instilling healthy behaviors and practices during youth, particularly in school settings, is far more cost-effective than waiting until unhealthy behaviors are entrenched.

In this project, I am focusing on preventive healthcare as a serious tool to tackle health issues. Preventive healthcare starts at home. There are several ways of looking at it, like taking the right vaccines or medicines before the onset of the disease, maintaining hygiene at home and in public, preparing food safely, etc. However, among all, food plays a crucial role in maintaining a good health because it is our body's fuel. Our daily performance is dependent on the quality, quantity and ingredients of the consumed food.

Good nutrition can help lower risk for many chronic diseases, including heart disease, stroke, some cancers, diabetes, and osteoporosis.

Increased consumption of fruits and vegetables helps reduce the risk for heart disease and certain cancers as well.

According to Behavioral Risk Factor Surveillance System (BRFSS), Center for Disease Control and Prevention, in 2007, only 24% of U.S. adults ate 5 or more servings of fruits and vegetables per day. And Less than 22% of high school students report eating fruits and vegetables 5 or more times daily.

Fruits and vegetables play an important role in keeping good health. They supply us with necessary nutrients and vitamins. The American diet has been affected largely because of the cheaper canned foods and packaged meals that started since World War I.⁴ Canned foods are high in sodium content increasing the risk of health problems, including high blood pressure. To understand what food items people consumed at home, I decided to conduct a few experiments that helped me narrow down my topic.

'Without concerted strategic intervention, chronic diseases and their risk factors can be expected to cause more harm—and be more costly to society. We cannot effectively address escalating healthcare costs without addressing the problem of chronic diseases.'

The Power of Prevention, National Center for Chronic Disease Prevention and Health Promotion

⁴"The Farming Problem [Ushistory.Org]". 2017. Ushistory.Org. <http://www.ushistory.org/us/49c.asp>.

at Smarter

Eat Smarter



Eat Smarter

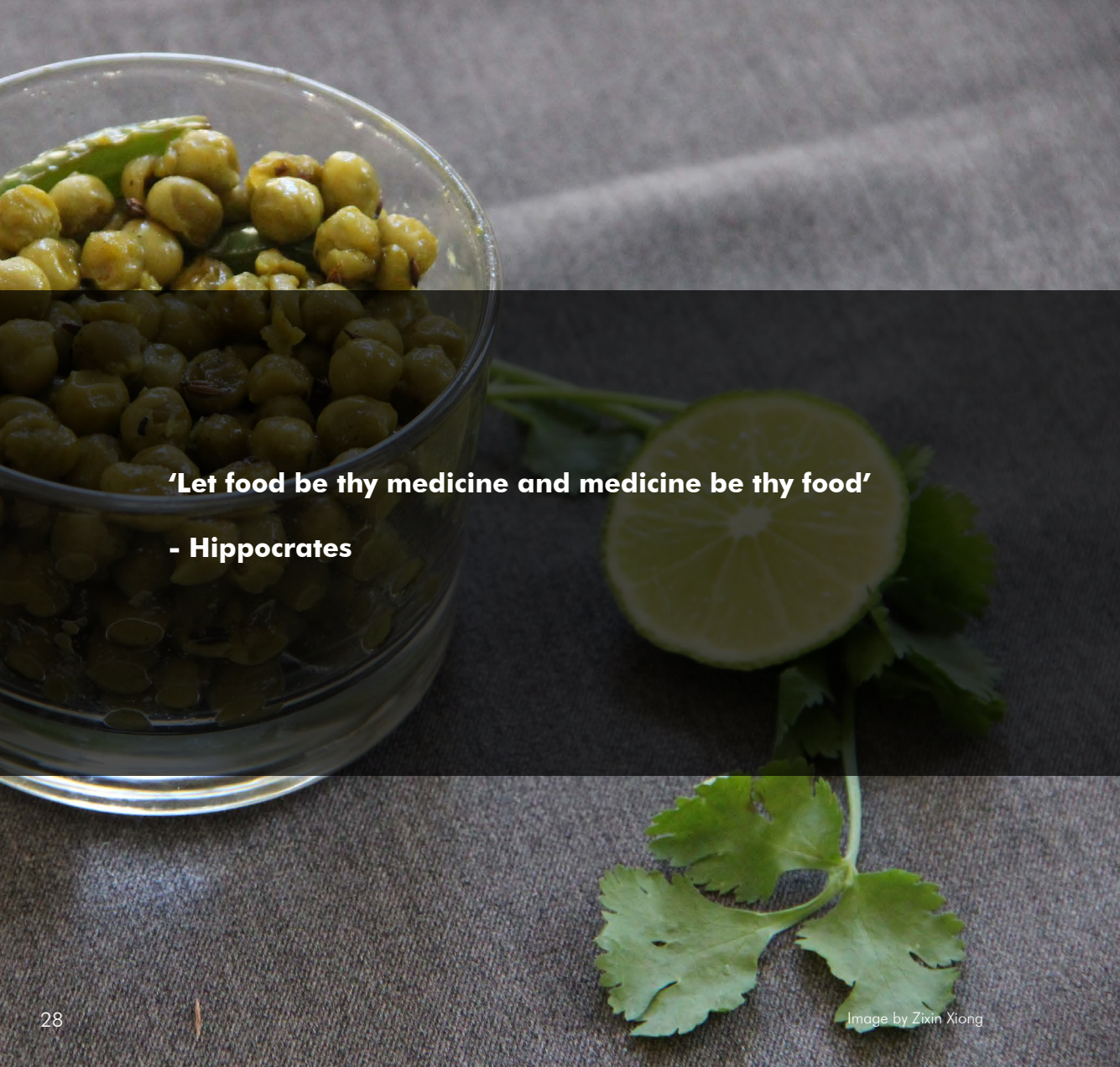


Eat Smarter



Eat Smarter





'Let food be thy medicine and medicine be thy food'
- Hippocrates

Image by Zixin Xiong

Food Experiment

What did you eat yesterday?

What do you regret eating?



■ Blue : Items consumed
■ Red : Regret eating

This experiment was conducted to get involved in conversations with people regarding their everyday food.

Process:

Participants mapped the food items they consumed the day before using blue markers

Red markers were used to indicate the food item they regretted eating on that day.



I have a 3 year old
so I try to eat fresh
food only

In college at Boston University,
I just ate what I could afford

I always eat fresh food

I was travelling the whole day.
Ate all wrong food and have
stomach upset today!

I shouldn't have had
chocolate yesterday

We grew our own
vegetables and fruits

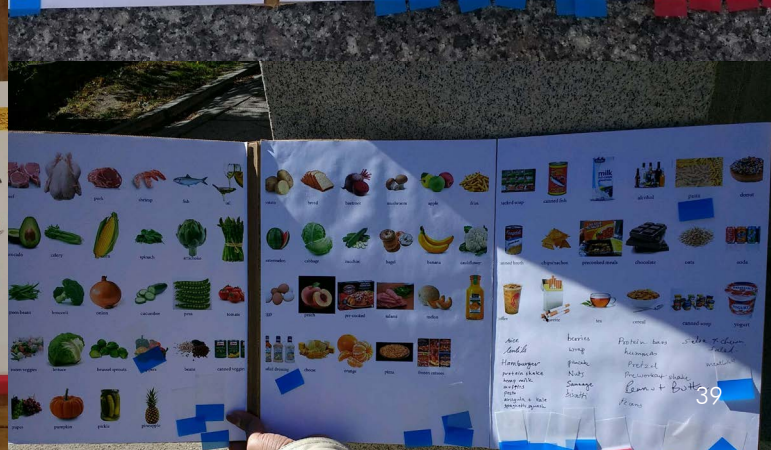
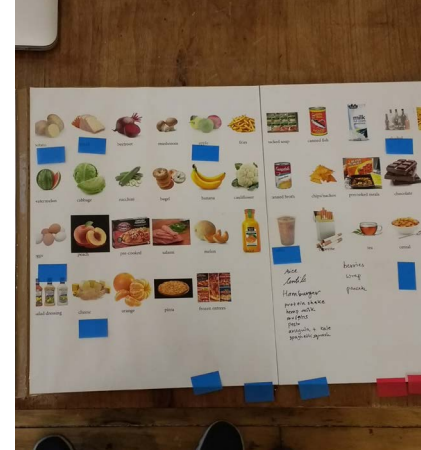
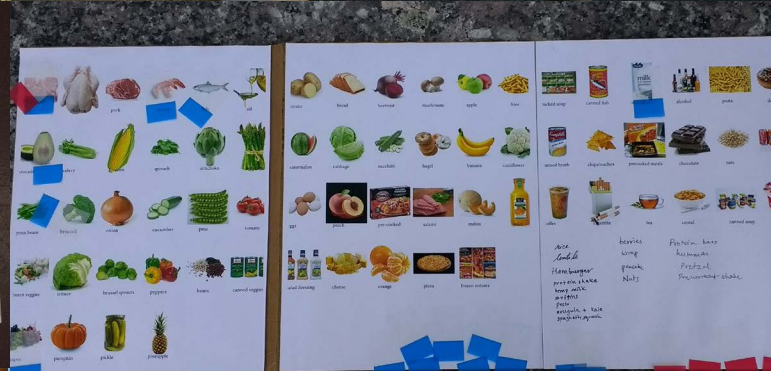
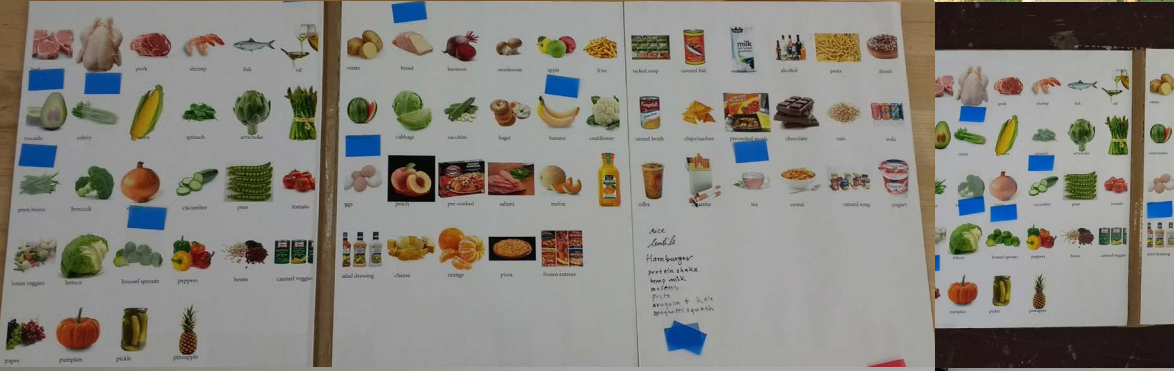
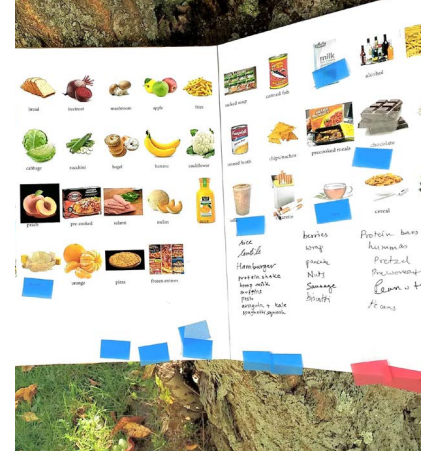
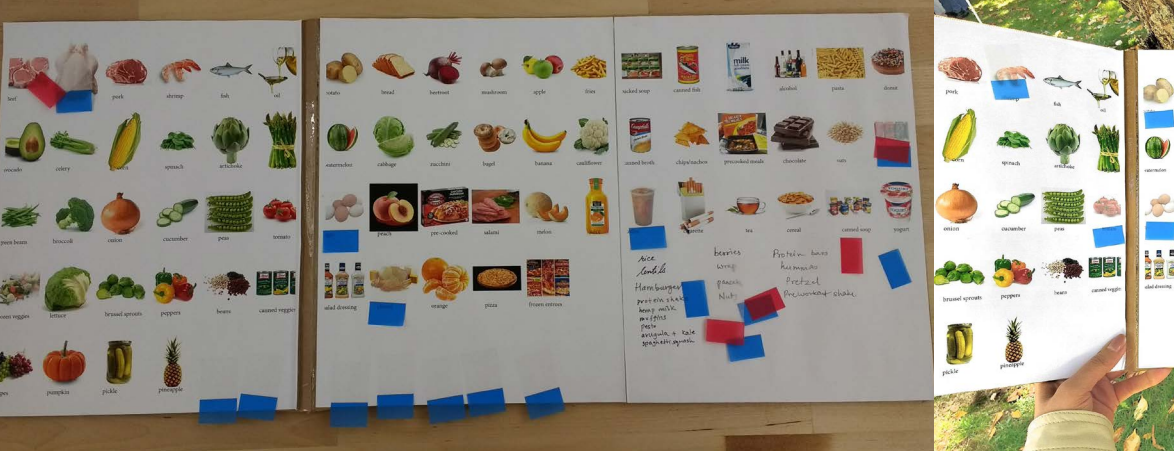
I have grown up eating canned
food because of large family
and low income of parents

I had a very bad day. Ate pizza
twice! I attended birthday party
of a kid

Canned food has lots of sodium

I always packed my own food
at school. Even today, I try to
eat healthy food and I am
pretty successful

I ate all fried food yesterday



“Here we have people and families that don’t have a lot of money and they buy frozen food. And they think that frozen food is more cost effective than fresh fruits and vegetables.

I recommend people who cannot afford to eat healthy to use SNAP benefits (federal entitlement program) in which they get money to buy fresh fruits and vegetables from the government.

The biggest problems that I see are that patients aren’t ready to make changes, they want changes to happen quickly especially with weight loss and when it doesn’t, they get discouraged and fall back in the same habits as before.

With families, the biggest problems I face is that parents aren’t ready to make changes, so its hard for the children to make changes because parents are the ones who get the food in the house.

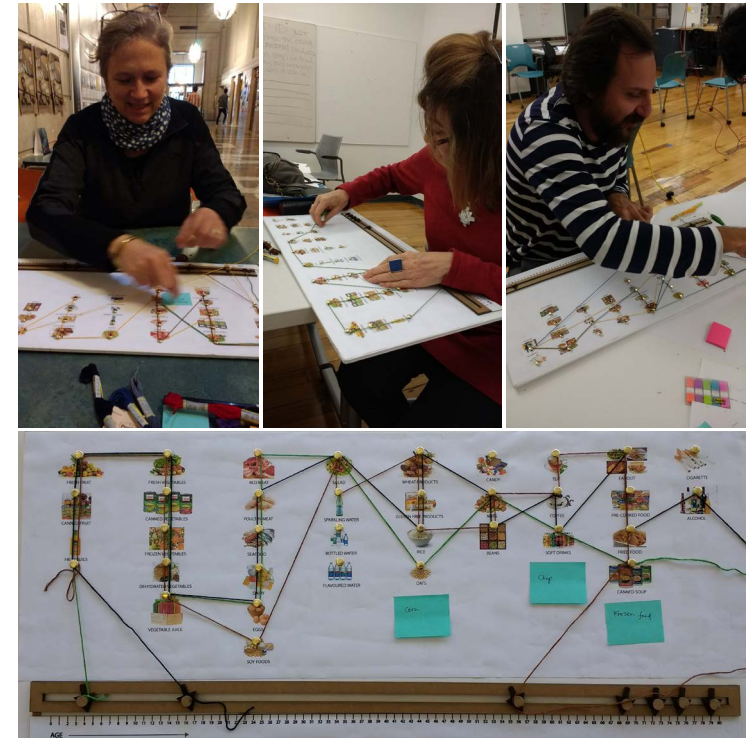
People need to cut down on meat and eat more fresh fruits and vegetables. More people need to learn how to cook. I think a lot of younger people now aren’t taught cooking skills anymore, so they don’t know how to cook for themselves and their families. That is one big thing that needs to be changed and we need to put emphasis on teaching what to do with the healthy food so that they don’t go and buy frozen, canned or processed food.”

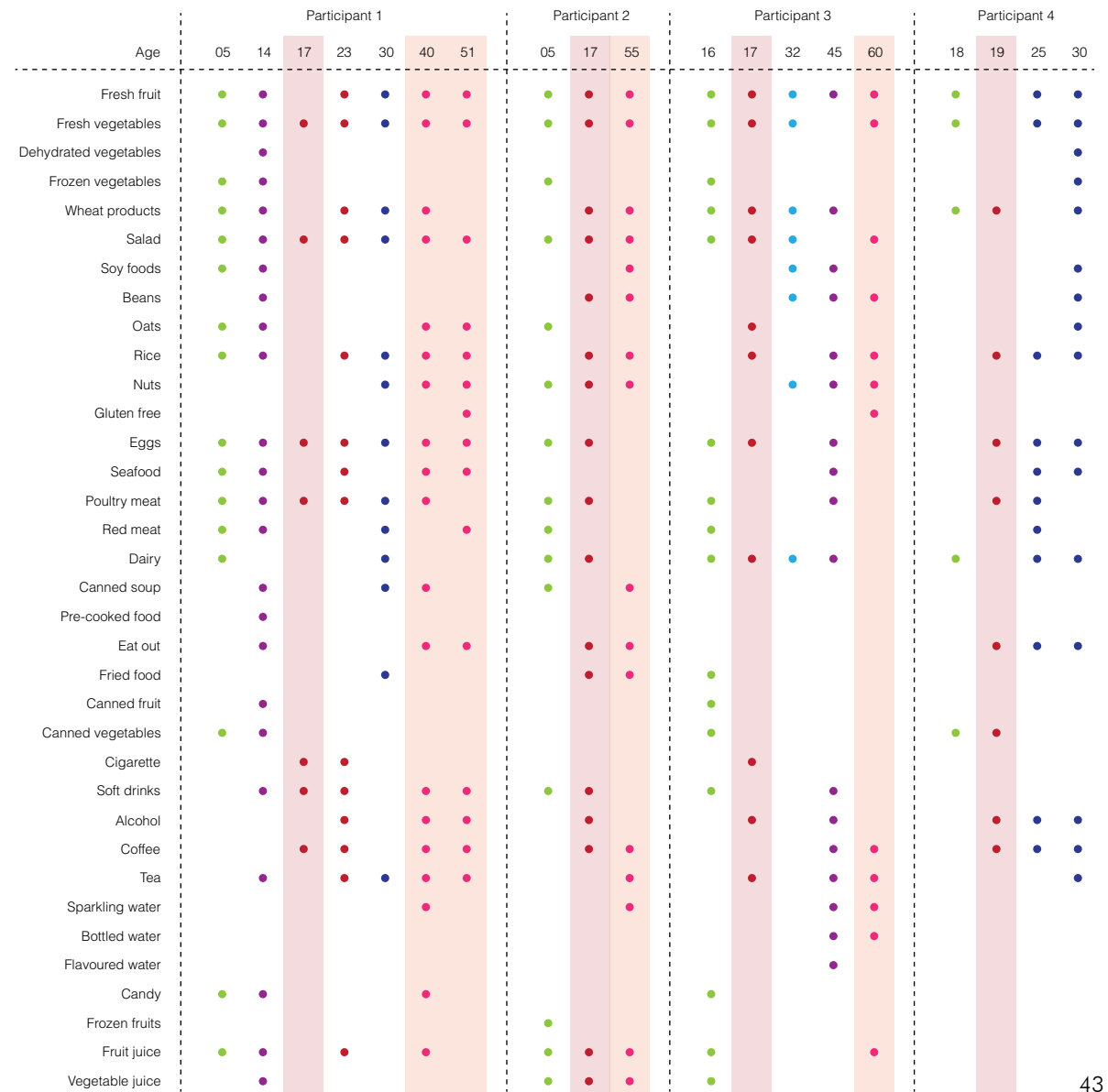
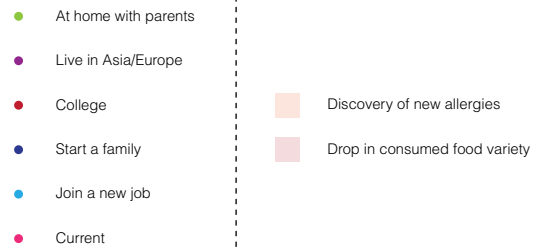


Dr. Kerri Rush
MS, RD, LDN, CDOE, CVDOE
Graduate Nutrition Specialist
Teaching Associate
Department of Family Medicine
Memorial Hospital of RI

How does age affect eating habits?

An experiment was conducted to study the changes in eating habits. The participants tracked the food they consumed by age. This quick experiment highlighted several causes of shifts in eating habits.





Learning from the market

The experiment tracked eating habits of people with time which highlighted that the transition from home to school is mostly responsible for the shifts in eating habits. This is the time when young adults move away from their family and have to look after themselves alone, making it even more difficult to manage studies, social life and health. Health is compromised the most in such scenarios.

Through my personal experiences in India, it is fairly easy to share food with your friends, neighbors and relatives. However, my experience in sharing food in the US has been very different. Most commonly, I have observed resistance to trying new food. The reasons being the large number of food allergies, insufficient knowledge about the ingredients, presumptions about taste of cuisines. The busy schedules of people also account for the paucity of community around food. My experiments with food have made me aware of the conditions that are responsible for our food choices like stress, mood, time, and money.

Foodie Shares was a company with a goal to connect people who love to make great food with people who love to eat great food.⁵ Unfortunately, they ran out of business in November 2015. Their business model was designed to engage people in cooking and eating home cooked food. I think their failure was due to the involvement of money in the system. When someone

pays for a job, they expect best things in return. And in this case, the chef (person is not chef by profession) spends a lot of time in preparing food, spends more money in purchasing the ingredients and does not get much in return. Something that interests me here is the social aspect of this system.

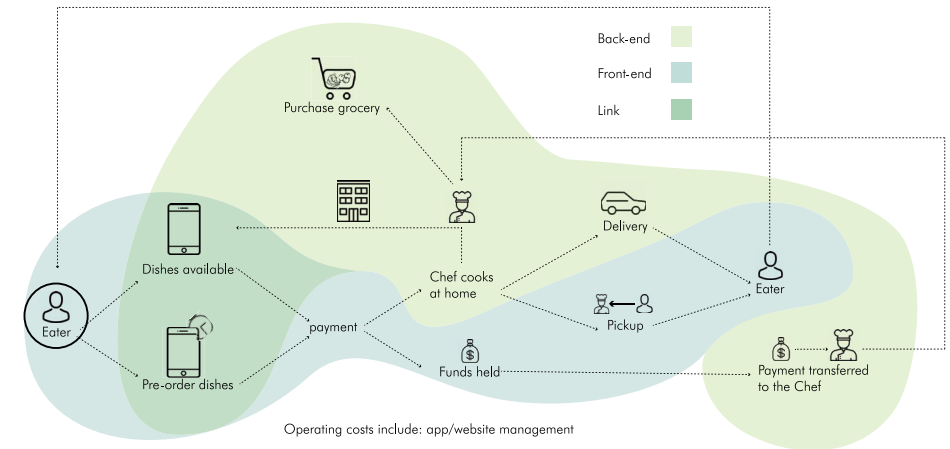


Fig. 4. Connecting the 'cook' and the 'eater' at home

'Home Chef' is a service that delivers portioned ingredients at your doorstep with the recipes. This kind of service is generally subscribed by the families who love to cook together or people who are too busy to go grocery shopping. I decided to try their service for one week to test if it was suitable for students as well.

As I worked through the week, I realized that I spent a lot of time understanding the recipes and cooking them. And after putting so much effort, I wasn't happy

with the result as well. Though it gave me a relief that I have exact ingredients in my house for making food, I spent hours making food. I realized that the experience of going shopping was completely taken away in this system which actually deprives you of a variety of foods and ingredients.

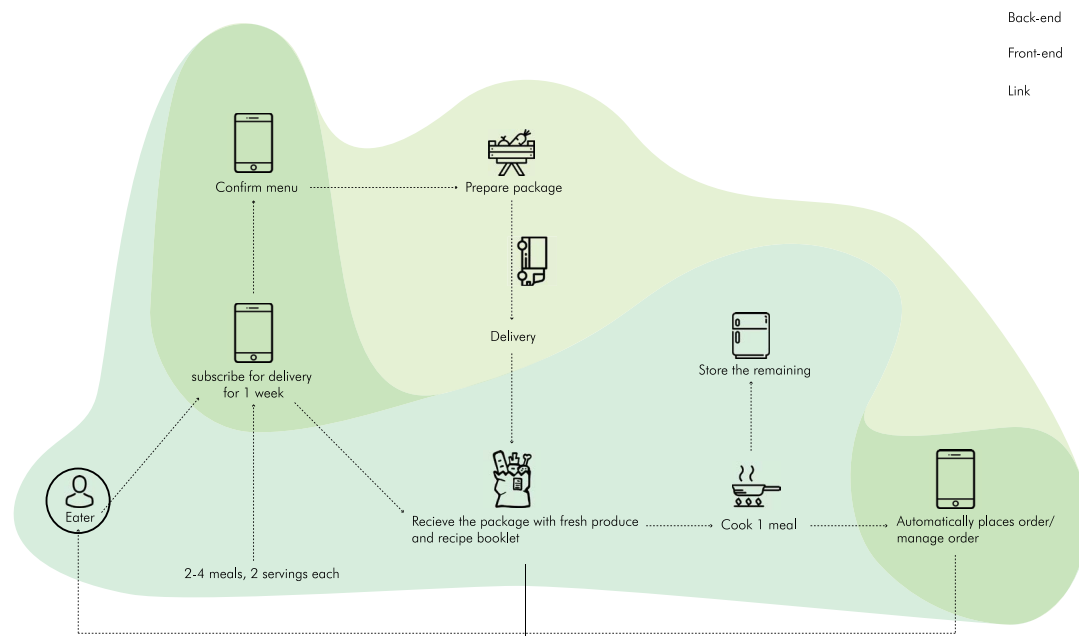


Fig. 5. Home Chef

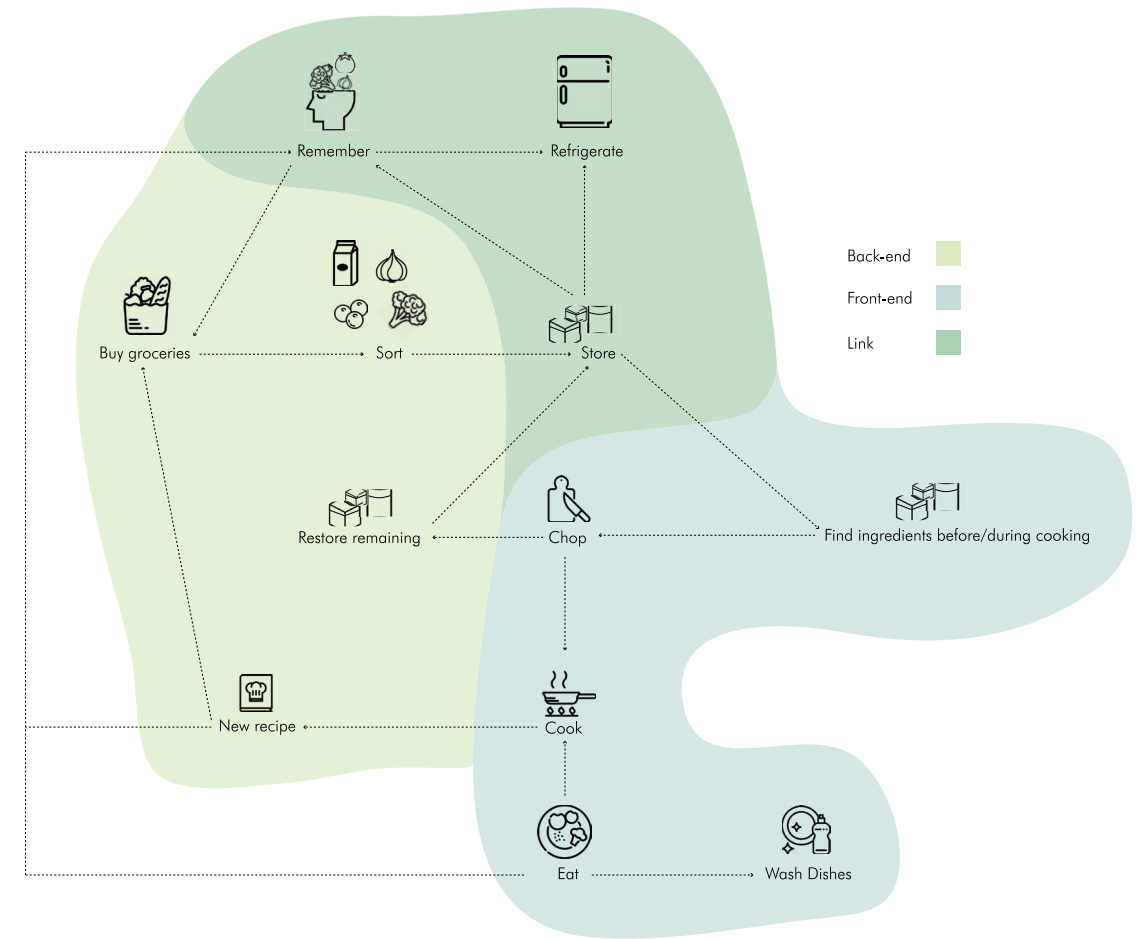
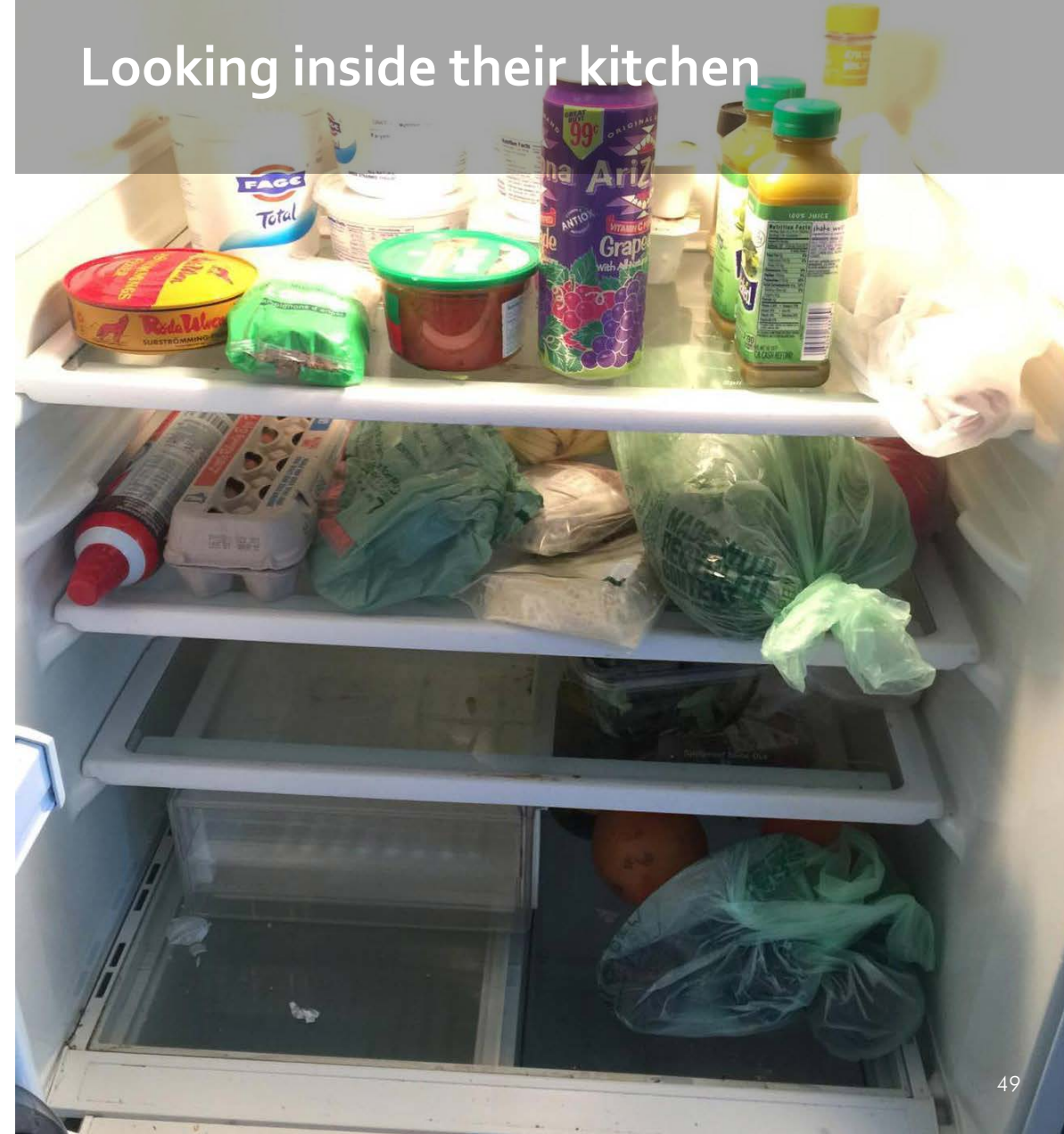


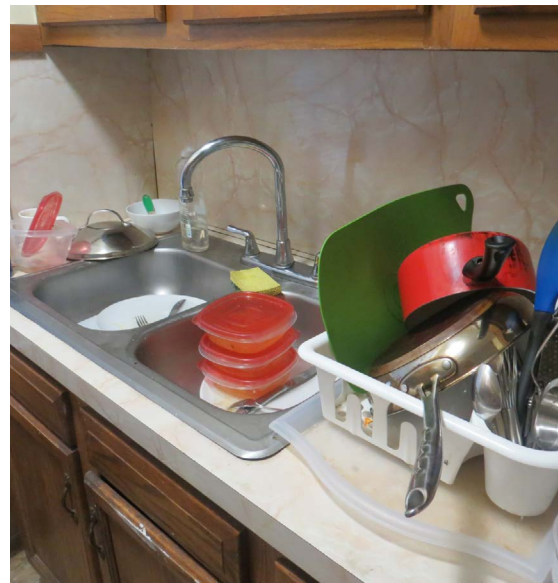
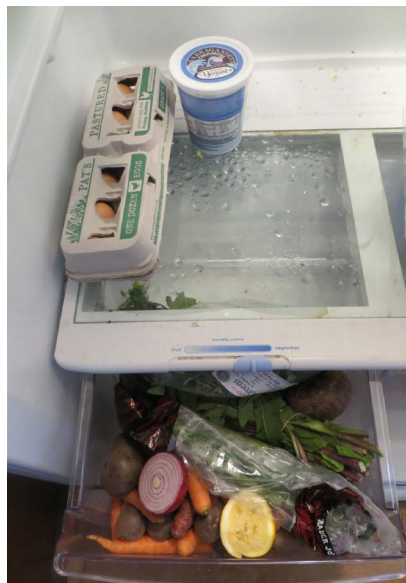
Fig. 6. Cooking process

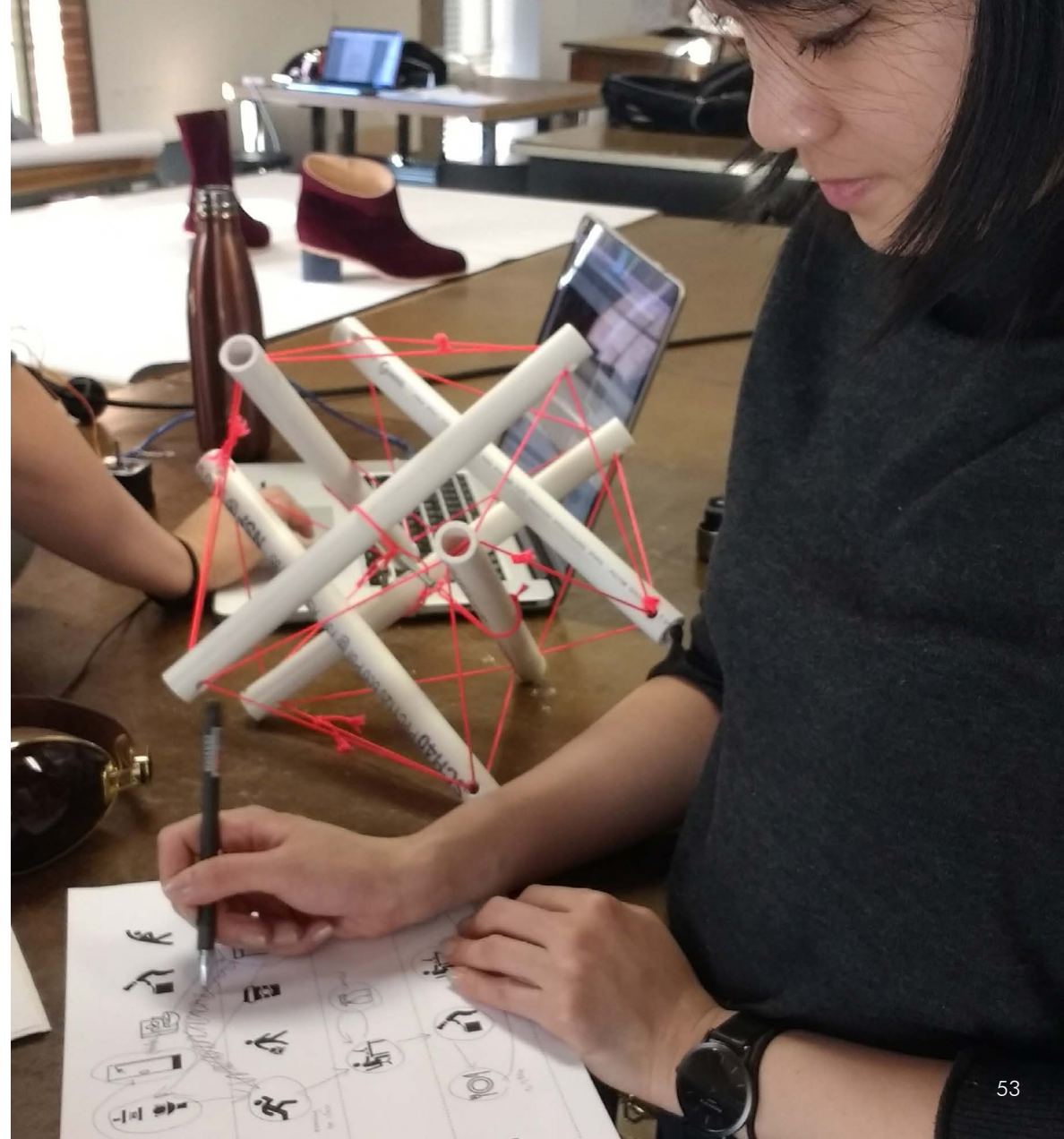
The illustration shows the various tasks involved in cooking food. There are numerous activities that are time consuming like shopping, organizing food in the kitchen, keeping track of your inventory, and cleaning after cooking. For a young adult studying in school, it is difficult to maintain balance between these activities and work life. Though it can be achieved by finding motivation to do so.

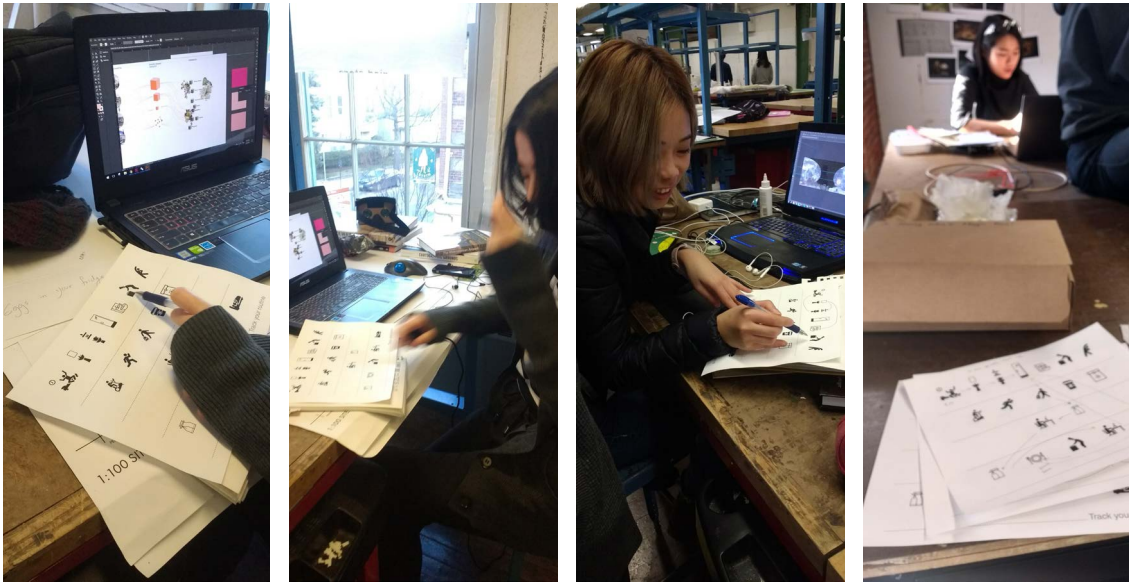
I visited houses of my user groups to get a thorough understanding of their schedule, kitchen structures, food inventory, cooking style, etc. Through these visits I learned that because their refrigerators are shared among house mates, food storage is a big problem.

Looking inside their kitchen









Understanding their schedule

All students have different work schedules because they are all enrolled in different classes. This study was conducted with RISD students (Undergraduate and Graduate) to map their time management. It was noted that 3 out of 6 managed to eat breakfast in the morning at home, while the rest bought food after going to school.

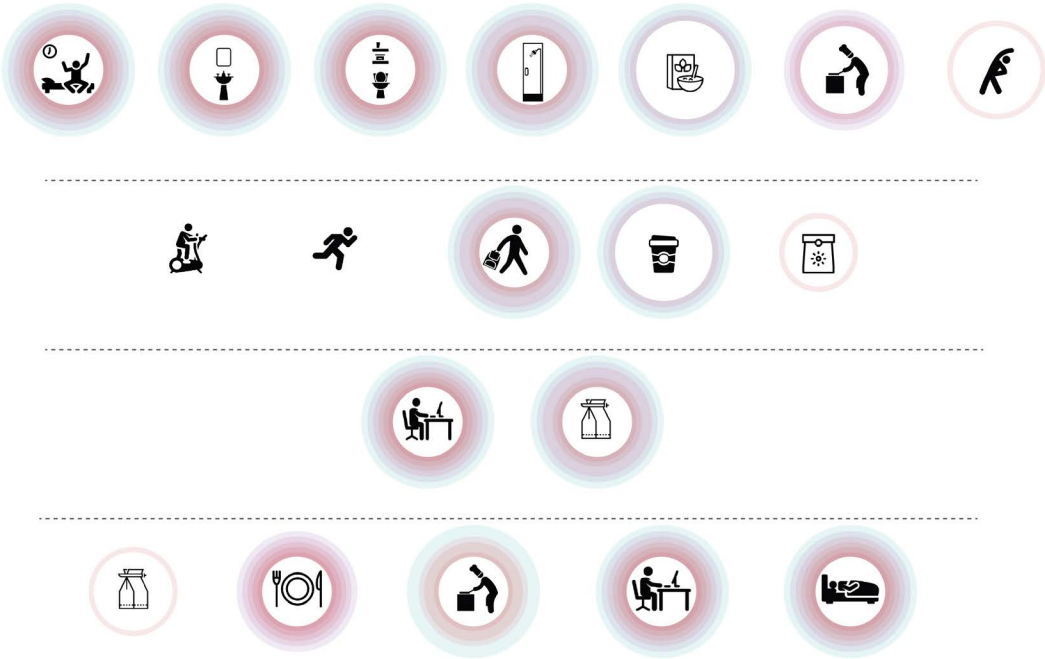


Fig. 7. Output from interviews about schedule

Breaking your fast

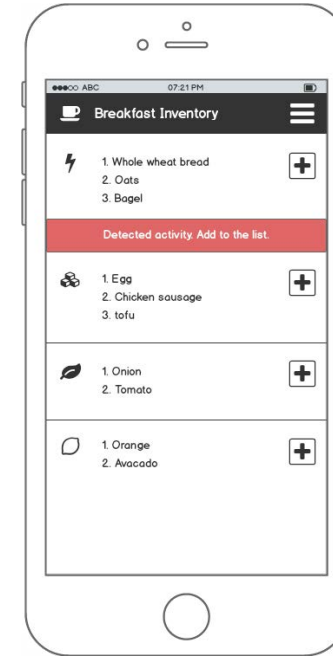
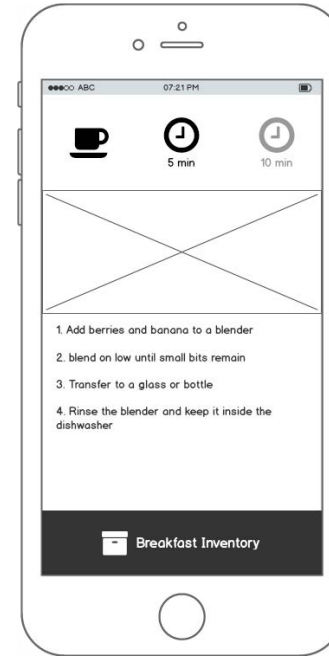
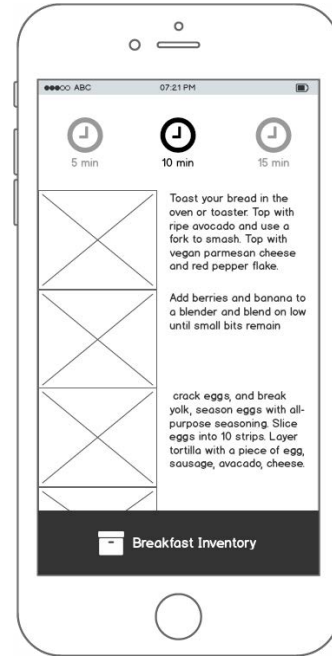
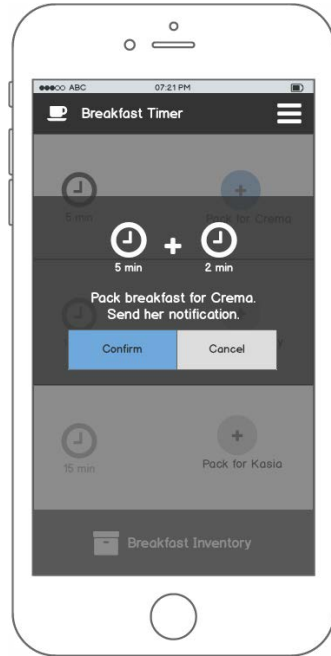
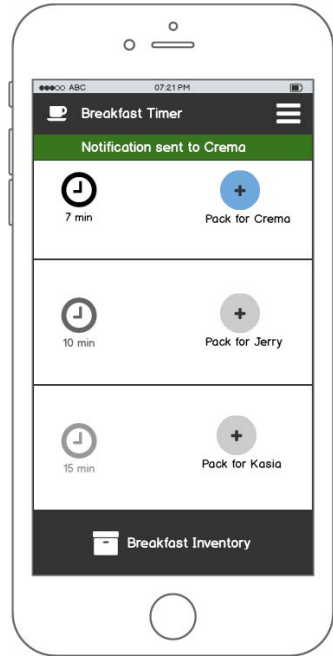
The time between dinner and the next morning's meal is the longest for your body to go without food. Ideally, breakfast should be consumed after 1 hour and before 2 hours of waking up to make a difference in the way your body metabolizes glucose, or blood sugar, all day. Your glucose level rises every time you eat and your pancreas produces insulin to regulate blood sugar levels and shuttle the glucose into your cells, where it is used for energy. If you have a donut and a cup of coffee or a glass of fruit juice as breakfast, your blood sugar rises for a few hours and then drops suddenly making you tired and crave for more food. While if you consume an apple and an egg sandwich, your blood sugar increases a little bit, but it takes time for your body to absorb it. Hence, you might not feel hungry for lunch for 5 hours. Skipping breakfast altogether may lead to a bigger than normal boost in 'hunger hormones' such as ghrelin, encouraging you to overeat at your next meal.

Design Opportunity

Cooking is an activity by which you are exposed to the quantity of ingredients in your food and generates a strong connection with food. A person who cooks regularly is more aware about the benefits of eating certain foods than one who buys it from a restaurant daily. Cooking saves money, time, controls the amount of salt and trans fats, allows you to have balanced meals, avoids food poisoning, helps control weight, brings family together and makes you independent.

The increasing stress and workload of young adults make the process of eating the morning meal challenging. It prevents them from cooking their own food and their diet shifts to ready-to-eat packaged or take-out foods.

How can I help young adults to have breakfast when they are on a tight schedule for the day? Through this project, I am looking at encouraging people to cook more often by introducing food sharing. I believe that this idea can be extended to sharing lunch and dinner as well which would enable people to develop relationships with each other, learn new recipes and eat healthy.



The idea of food sharing and cooking led me in thinking of a system that allows someone to cook for themselves as well as for their friend. Cooking breakfast for yourself might take 10 minutes, while increasing the serving amount by one would only increase the preparation time by 5 minutes. Sharing homemade food with your friend would not only build your relationship, but would also increase your interest in learning cooking.

I further modified this idea to design a food exchange platform called 'Floop'.

The Exchange Experiment

Have you ever felt like trying your friend's delicious chicken curry, but never found time to organise a visit? We are so busy in our daily lives that we fail at cooking every day and end up eating out. This applies in particular to young adults who are not yet skilled at cooking and are also busy at school.

I exchanged breakfasts with my friends to gain insights about food exchange. Following are the narrative of the dialogues and experiences that we had in the experiment.



Dan was my first subject. He rarely cooks at home. Dan's kitchen is mostly filled with expired food. He munches on protein bars and protein shakes in the morning. I decided to cook and deliver breakfast to his house, and asked him to return my box with food some other day when he had time to prepare.



Daniel Gioia

Vegetable Omelette

Cooking time: 15 minutes

Master in Industrial Design
RISD

Ingredients: eggs, mushrooms, onion, tomato, coriander, capsicum, red chili powder, turmeric powder, salt.

28 March

12:15 pm

Dan: Breakfast for you. What time?

Maybe around 10? Depends on you.

29 March

08:25 pm

Can we do tomorrow morning? I have a conflict

Totally fine. I have a conflict too.

09:25 pm

What time? 9? 9:30?

Yes. If that's possible.

30 March

8:42 am

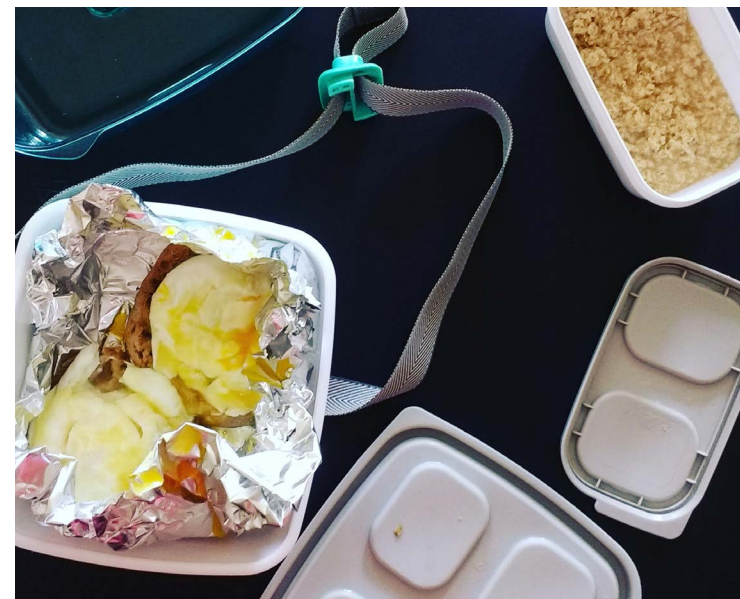
Do you eat ham?

No ham and beef.

9:30 am

I'm here

Though Dan looked nervous with the idea of preparing food to share with me, I was happy that he took the time to make food for me. Also, it was my first time trying poached eggs and oats!



Poached eggs, bread and oats

"It was good because I woke up early to prepare and I ate it too"
—Dan

From my first experience, I loved how this experiment increased interaction, allowed Dan and I to try something new and made us aware of our cooking skills. My second user, Jerry is a Taiwanese American who heats up frozen dumplings every day for breakfast. But when he cooks, it always turns out great!

Jerry was excited to find out what I was planning to get for him that morning. But I decided to keep that a secret. From the first trial with Dan, I liked how the food surprised him. This time, I increased the quantity of food and delivered the box to Jerry's house.



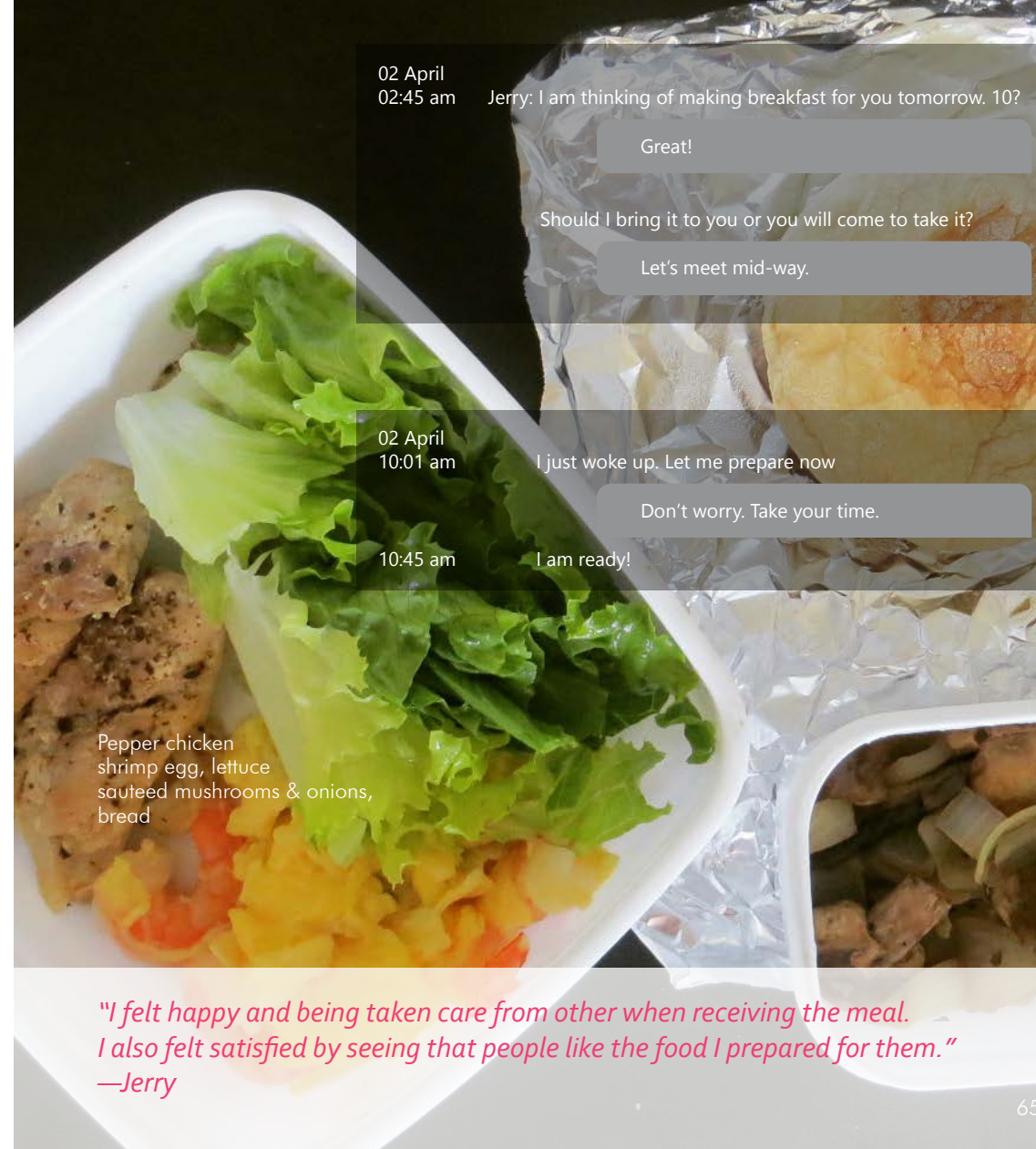
Jerry Ding

Master in Industrial Design
RISD

On 31st March, I planned to deliver food by 9:30 am, but ended up waking up late. However, I delivered it by 10:30 am.

Vegetable Omelette with butter toast

Ingredients: eggs, mushrooms, onion, tomato, coriander, capsicum, red chili powder, turmeric powder, salt, bread, butter.



02 April
02:45 am

Jerry: I am thinking of making breakfast for you tomorrow. 10?

Great!

Should I bring it to you or you will come to take it?

Let's meet mid-way.

02 April
10:01 am

I just woke up. Let me prepare now

Don't worry. Take your time.

10:45 am

I am ready!

Pepper chicken
shrimp egg, lettuce
sauteed mushrooms & onions,
bread

*"I felt happy and being taken care from other when receiving the meal.
I also felt satisfied by seeing that people like the food I prepared for them."
—Jerry*

The last two exchanges were conducted during holidays, and for this system to work, it was important to test it on a busy day. I decided to prepare food for Tim, one of my classmates and deliver it to him before our class starts. Tim is fairly regular with his breakfast every day. He manages to prepare fried egg and toast before leaving for work. During busy days, he mostly eats out. But he sometimes cooks and packs food for the week during weekends.

3rd April, our class starts at 8 am, so I decided to prepare some of the food at night during my dinner time. Next day morning, I woke up at 6:30 am, cooked the remaining recipe, and packed two boxes, one for me and other for Tim. This time, I was right on time.

Tim Steolting

Master in Industrial Design
RISD

Egg bhurji, roasted chicken, toast

Ingredients: eggs, onion, tomato, red chili powder, cumin seeds, mustard seeds, chicken, pepper, bread, butter, salt.



Tim got me food that he eats almost every morning. It was good to receive food from him on the day when I have the busiest morning.

*It was surprising and wonderful
—Tim*

Fried egg, bread



8th April

This time, I knew that my friend, Atulya loves Indian food, especially Poha (spicy flattened rice). Since it was not a hectic morning for me, I could spend time cooking an elaborate breakfast for me, Atulya and Chris (next page).

Atulya Chaganty

Master in Industrial Design
RISD



Poha (spicy flattened rice)

Ingredients: flattened rice, onion, eggs, coriander, mustard seeds, cumin seeds, green chili, oil, salt.



Bagel, cream cheese, herbs, pickles, olives, oranges, berry and protein shake

I usually don't make breakfast at school since I have a meal plan so I had to go shopping and get some stuff because I wanted to make a good breakfast for you.
—Atulya

Receiving breakfast from Atulya was exciting. She knew that I love bagels, so she managed to get me one with home-made cheese spread.

She lives in student housing at RISD, and hence, she doesn't cook that often. This experiment took lots of planning for Atulya because she had to go grocery shopping first before asking me for breakfast.

In this experiment, I learnt that people who do not cook at all and still have access to a healthier diet might feel this burdensome. But there is still scope for food exchanges as people love to try new cuisines.



Spiced buttermilk in return of Atulya's berry shake



8th April

Chris does not usually like Indian food, but she loves to try a variety of cuisines.

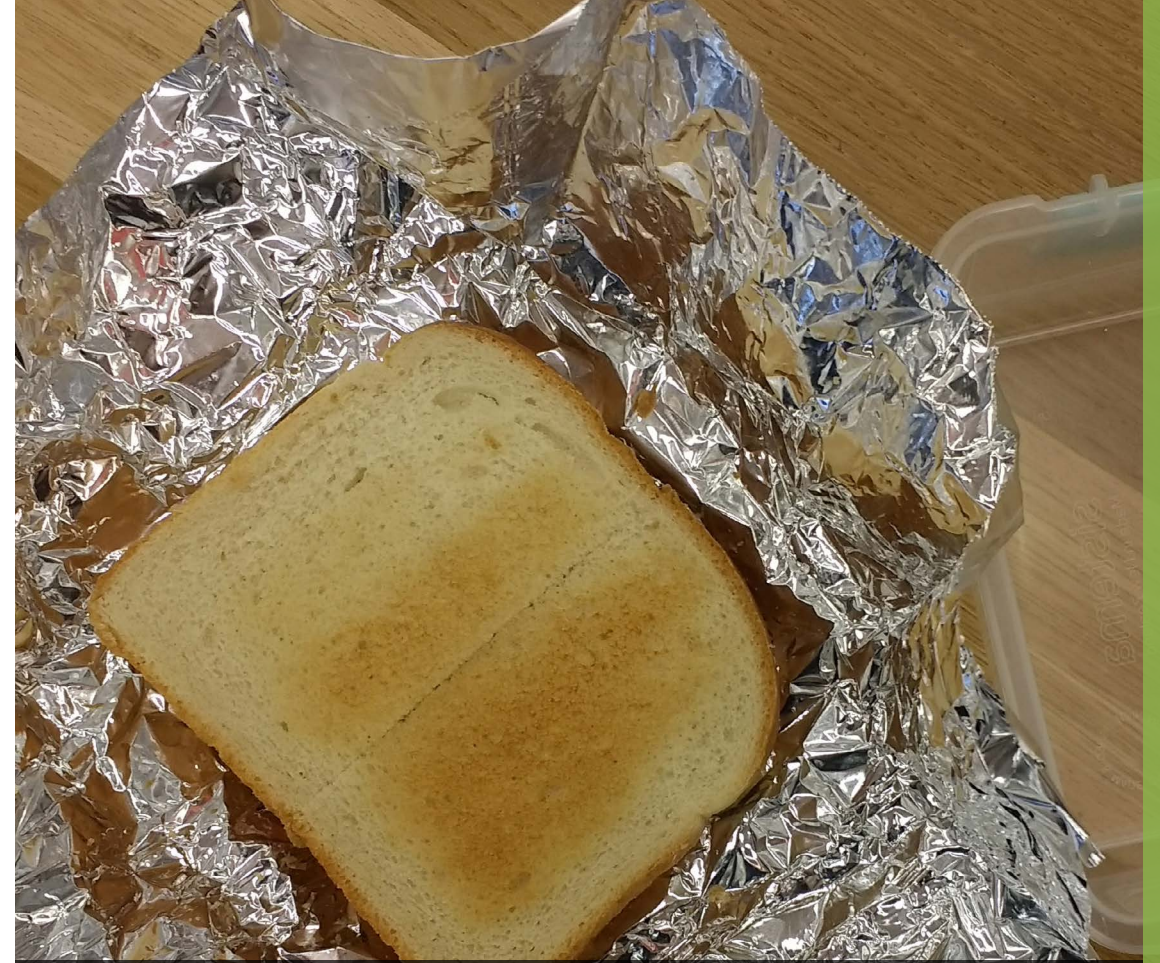
Her daily breakfast is quite simple. She eats bagels or toasts every day. I delivered food at her studio at 10:00 am.

Chris

Master in Landscape Architecture
RISD

Poha (spicy flattened rice)

Ingredients: flattened rice, onion, eggs, coriander, mustard seeds, cumin seeds, green chili, oil, salt.



20th April

Bread toast with jam and peanuts

In this exchange, the tricky part was the delivery. Chris studies at a building which is not that close to mine. She was also in the middle of her class presentation and I was at my on-campus job. This made it challenging for her to deliver breakfast to me. We finally agreed on meeting halfway.



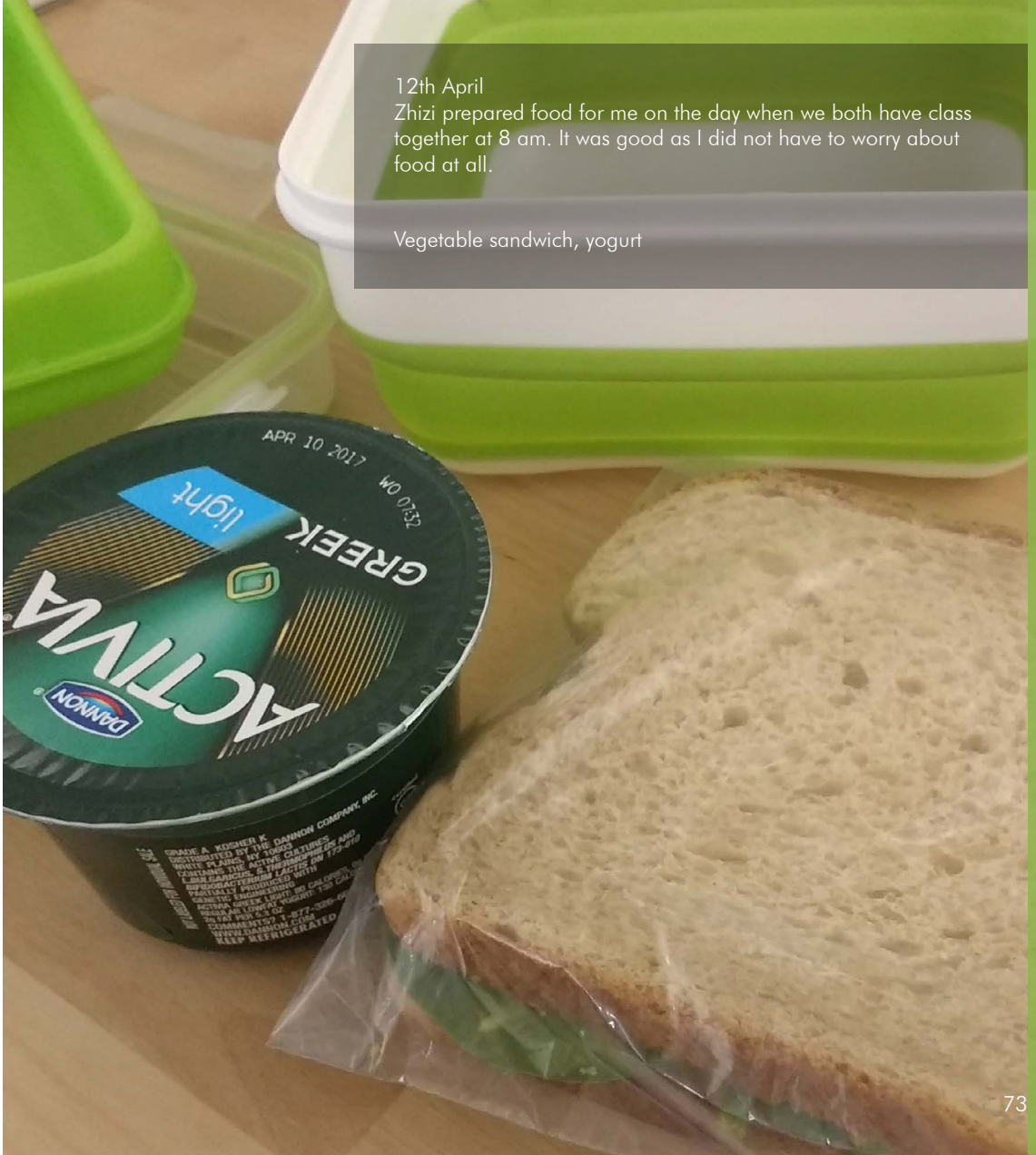
In this exchange, it was Zhizi who initiated the exchange. I always wanted to try Zhizi's food because she is an excellent cook. But we could never find time. Likewise, she wanted to try my food. So, we realized this was a good way to share food.

Bread upma

Ingredients: whole wheat bread, onion, egg, tomato, coriander, oil, turmeric, cumin seeds, red chili powder, salt, green apple, yogurt.

Zhizi

Master in Industrial Design
RISD



12th April
Zhizi prepared food for me on the day when we both have class together at 8 am. It was good as I did not have to worry about food at all.

Vegetable sandwich, yogurt



I shared breakfast with Crema on the same day as with Zhizi. Crema is not used to eating breakfast, and hence, she was not hungry when I delivered food to her at our school around 8:00 am.

Crema

Master in Industrial Design
RISD

Bread upma

Ingredients: whole wheat bread, onion, egg, tomato, coriander, oil, turmeric, cumin seeds, red chili powder, salt, green apple, yogurt.



Spicy vegetable rice noodles
kimchi, orange, cucumber

18th April

Crema surprised me with these delicious noodles and kimchi. As I mentioned before, She does not eat breakfast, but she is a great cook when it comes to Chinese food. That day, I did not have to worry about food because her quantity was enough for breakfast and lunch.

My experiment with Kate was very exciting because I was curious to know her thoughts on my food.

On 14th April, I cooked her breakfast and delivered it at our studio. Since I was preparing food for her, she woke up early and came to the studio even when we did not have a class.

Kate Brandy

Master in Industrial Design
RISD

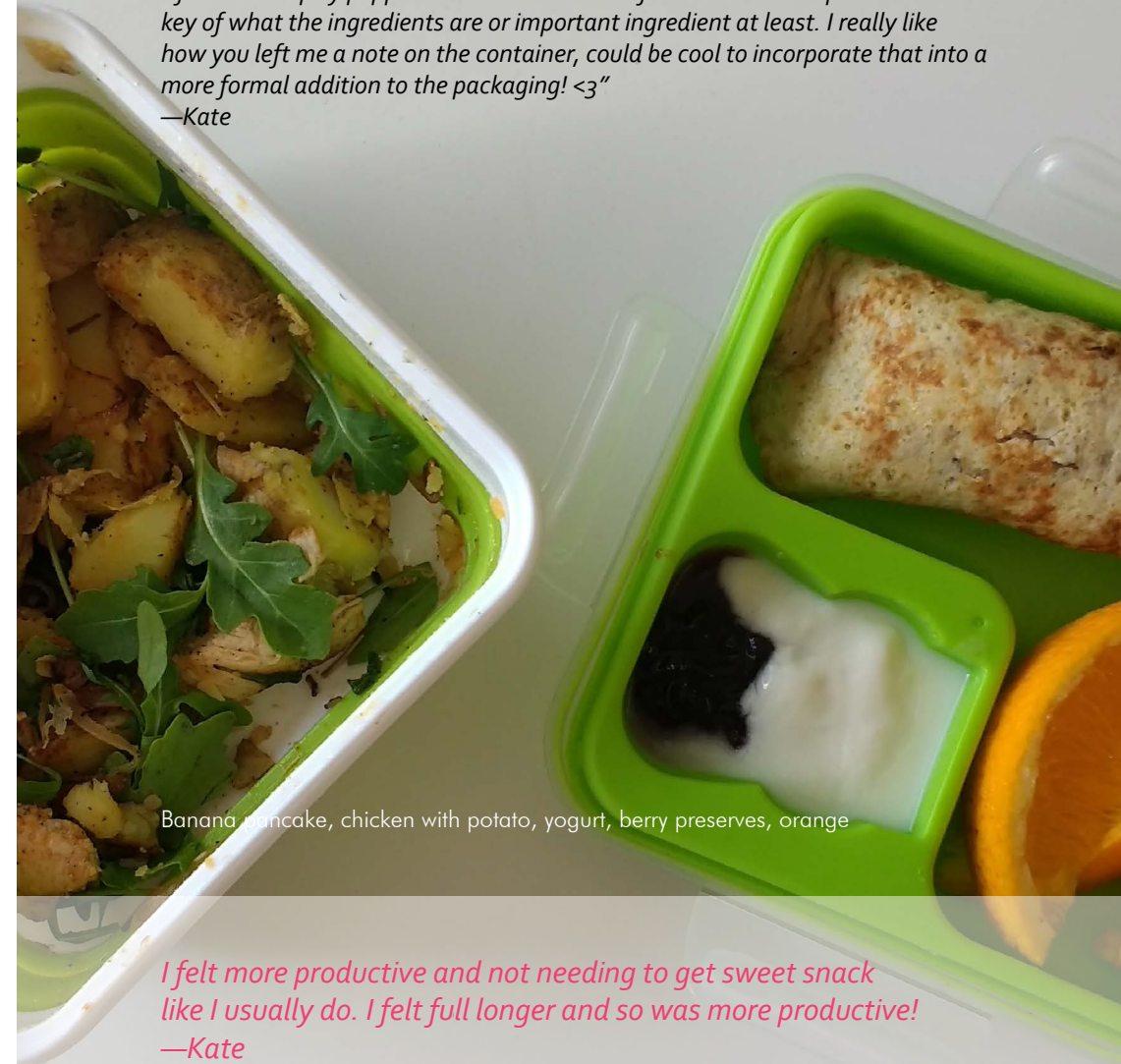
Sauteed chicken and green peas with bread

Ingredients: chicken, green pepper, onion, pepper, green peas, apple, green chili, cumin seeds, oil, butter, salt.



"If there are spicy peppers I need to watch out for that would help! like a little key of what the ingredients are or important ingredient at least. I really like how you left me a note on the container, could be cool to incorporate that into a more formal addition to the packaging! <3"

—Kate



Banana pancake, chicken with potato, yogurt, berry preserves, orange

I felt more productive and not needing to get sweet snack like I usually do. I felt full longer and so was more productive!

—Kate

15th April

Ryan lives at RISD student housing like Atulya and hence, he manages to eat good food every day. It was good to know that he loved my recipe and wanted to try more some other day.

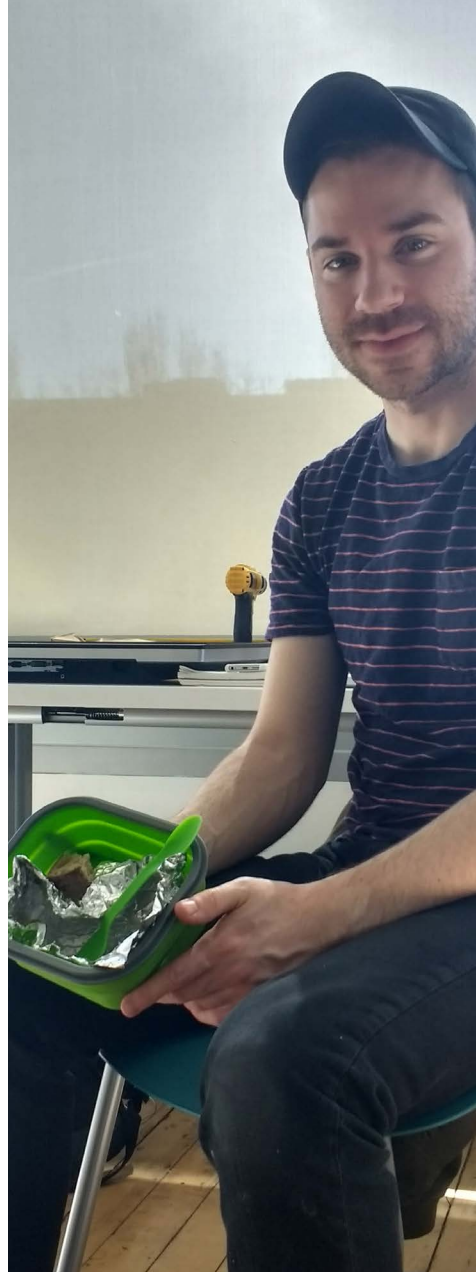
Ryan Ferguson

Master in Industrial Design
RISD



Vegetable omelette

Ingredients: eggs, mushrooms, green peppers, tomato, onion, red chili powder, turmeric, oil, salt.



29th April

French toast, apple juice

During this exchange, I realized how important it is to package food such that it stays hot. Even though I enjoyed eating it cold, Ryan was concerned about it losing its crunch and taste.



April 19th

Today I was out of eggs and bread in my house. It was a busy week, and I didn't get time to go grocery shopping. But since I had planned to prepare breakfast for Ala, I decided to make something from the basics.

07:00 am Started preparation
07:35 am Left home to go to studio
08:00 am Arrived at studio for class
Ala wasn't present in the studio at the time
09:11 am Messaged Ala to inform me about her arrival time. She replied immediately with excitement that she will leave for studio soon.
10:00 am Ala arrived and I gave her the packed breakfast.
That day, Ala was not in her best health. But she was happy that she didn't have to worry about food in the morning.

Ala Tannir

Master in Industrial Design
RISD

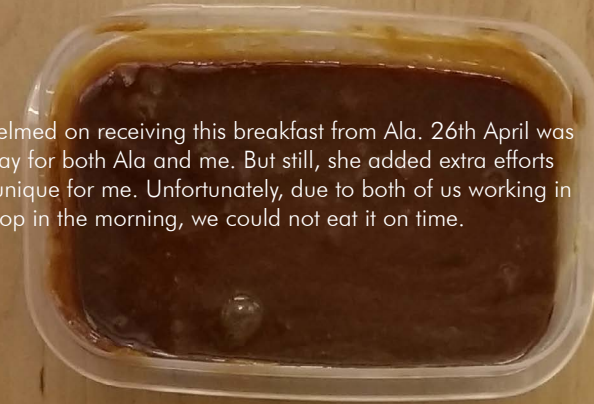


It felt great when she got curious about the flavour and the recipe. I think the best part of such an exchange was the after food compliments that I received from my friends.

Cauliflower paratha

Ingredients: cauliflower, whole wheat flour, cumin powder, red chili powder, turmeric, oil, salt.

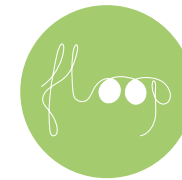
I was overwhelmed on receiving this breakfast from Ala. 26th April was a very busy day for both Ala and me. But still, she added extra efforts in making it unique for me. Unfortunately, due to both of us working in wood workshop in the morning, we could not eat it on time.



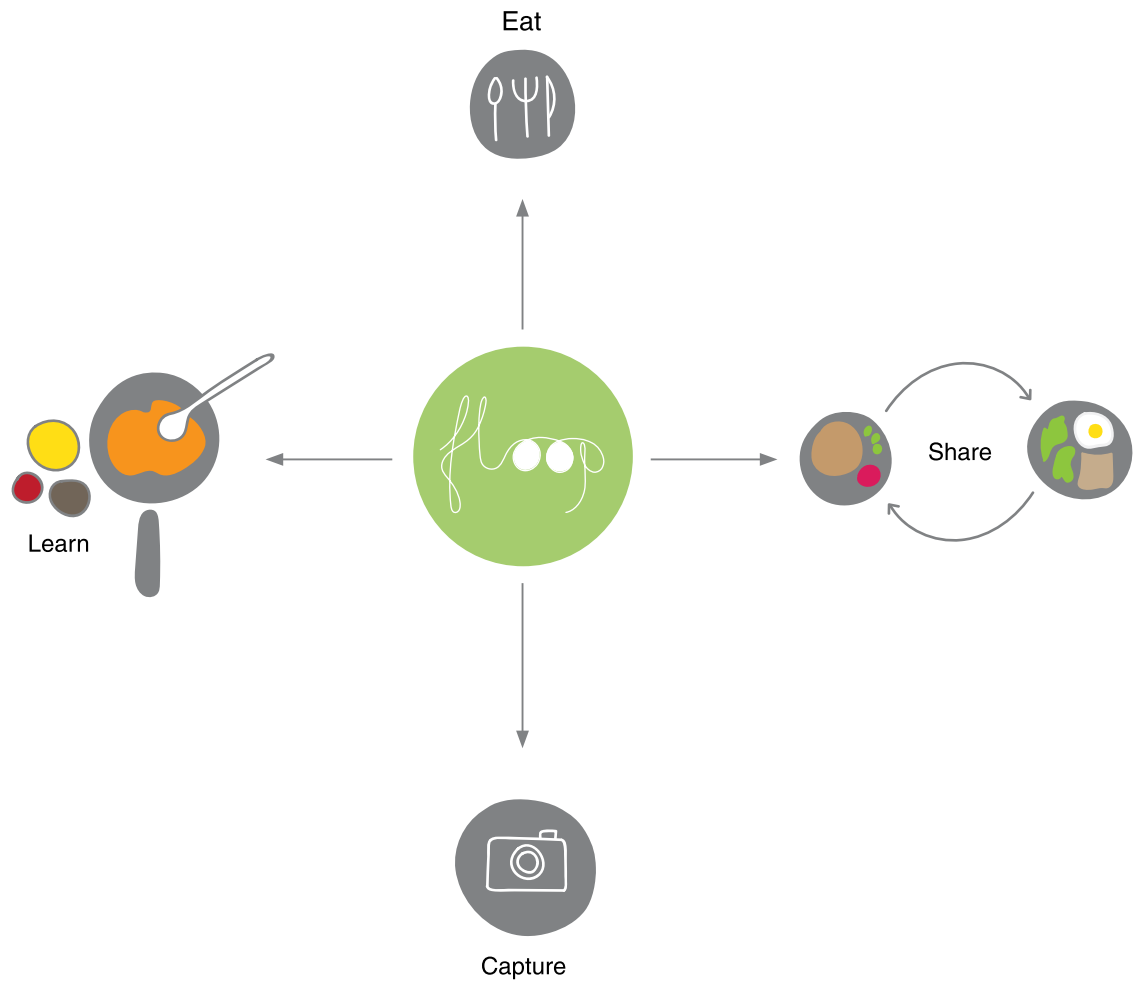
Tlamé, labne, molasses with tahini



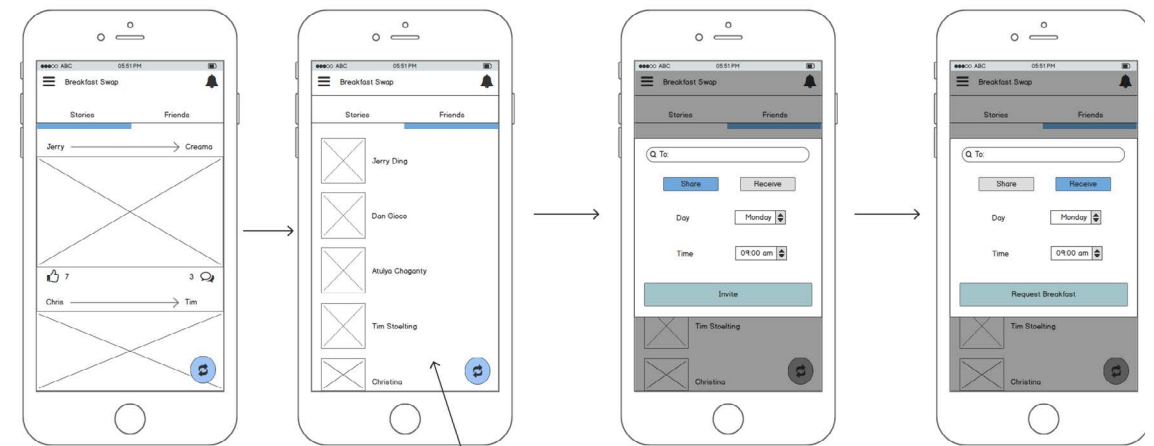
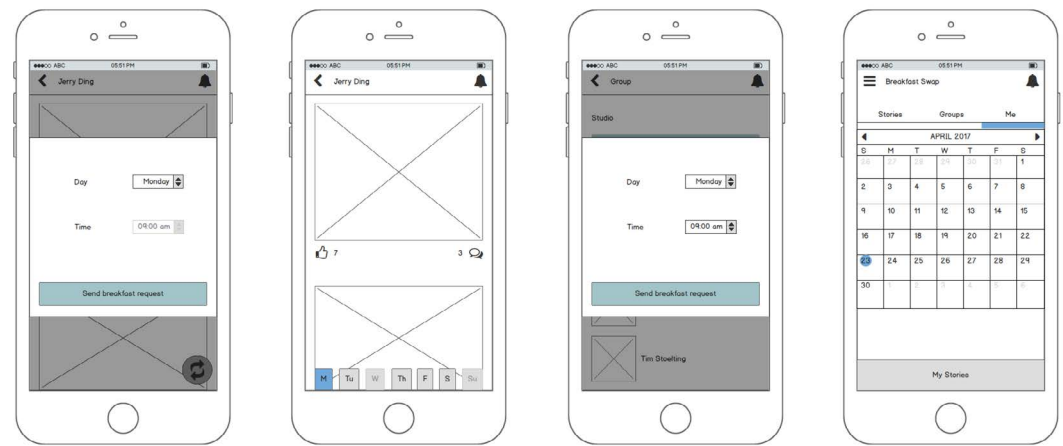
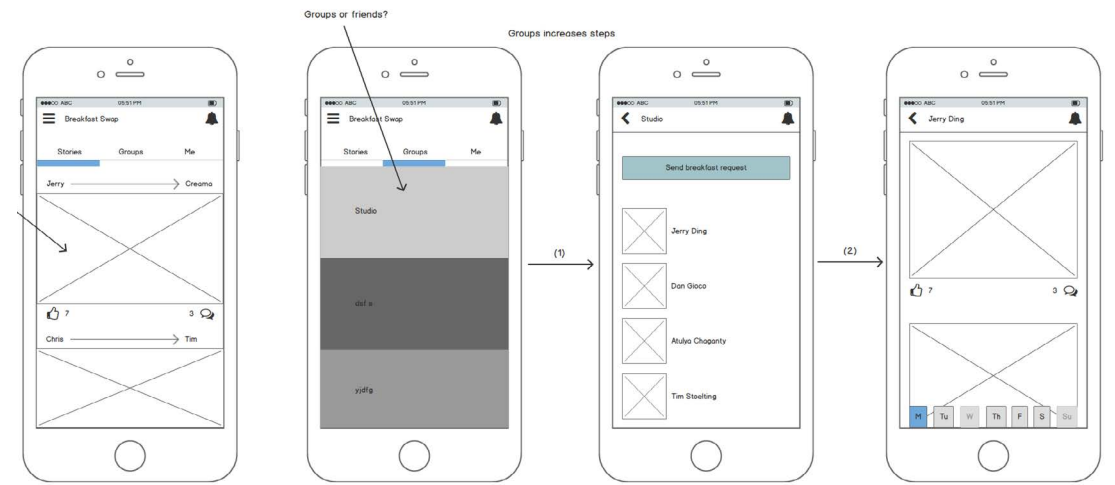
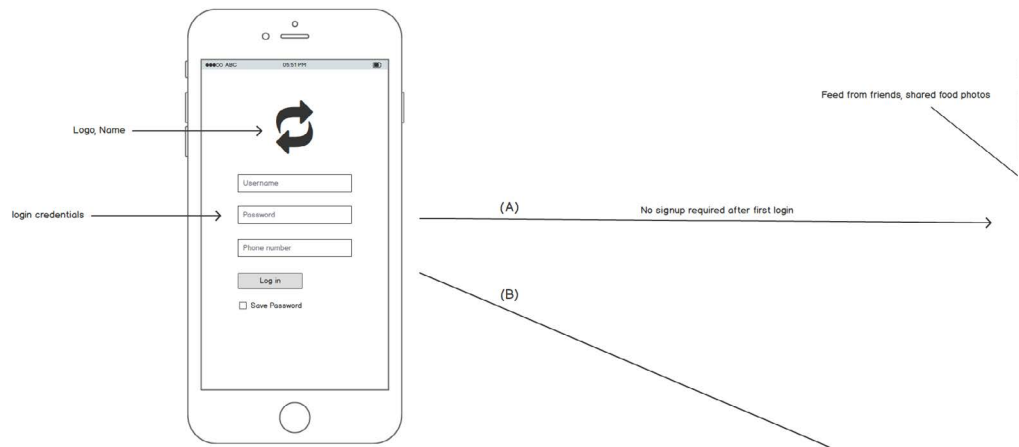
Introducing FLoop



= Food Loop

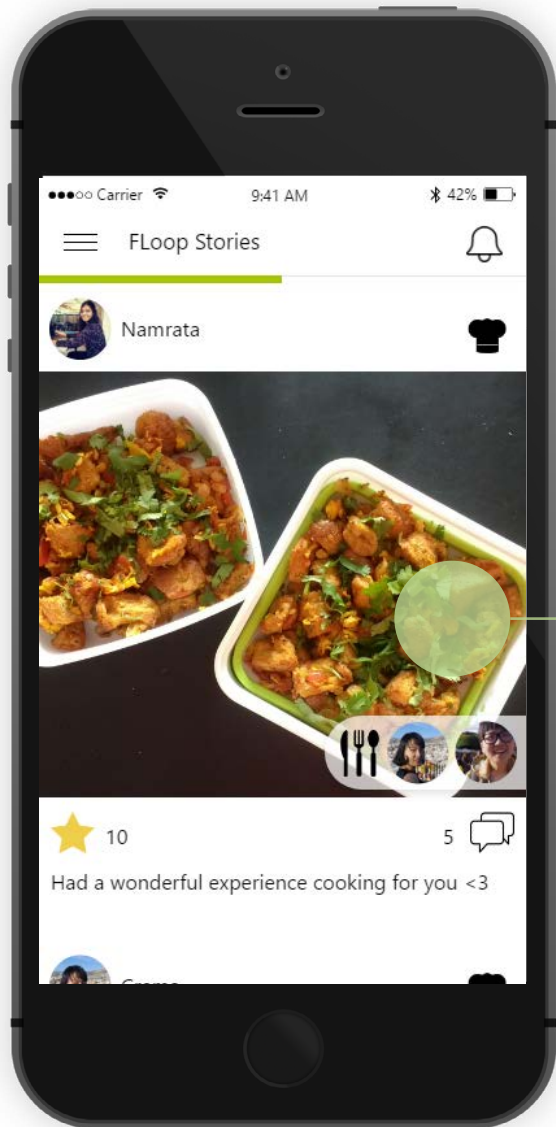


App Wireframes



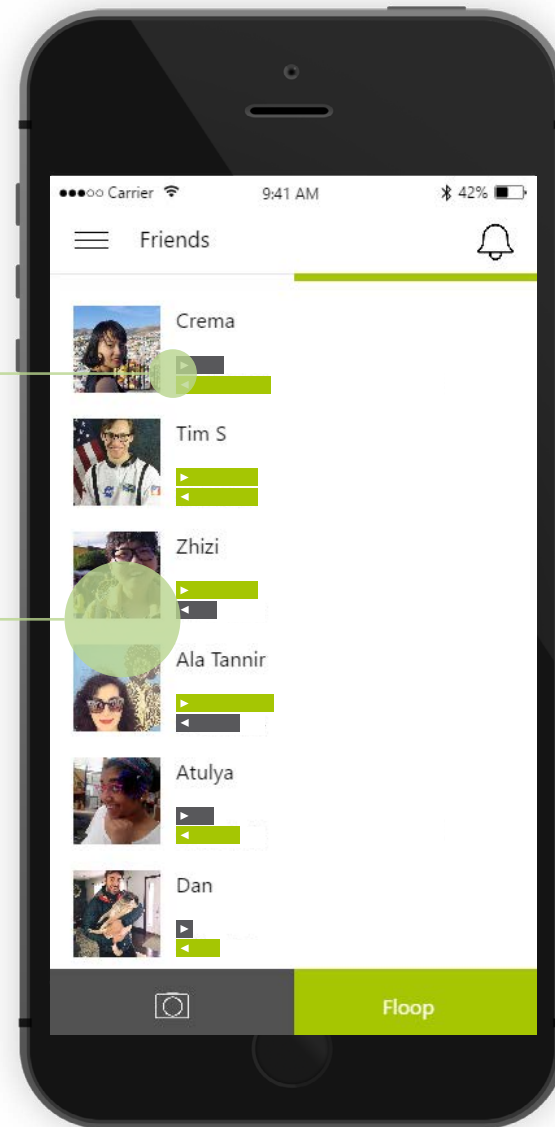


Share food photos

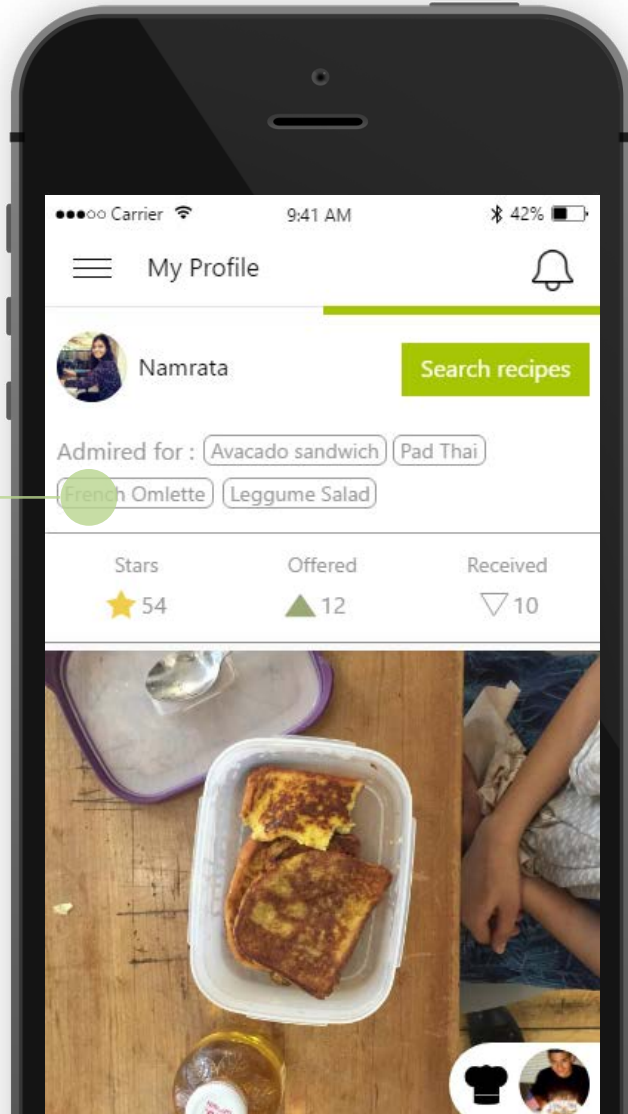


Find who shared and received food

Connect with your friends



Find what your friends are good at cooking



Receiving food through FLoop



Floop bags could be purchased through FLoop app to enhance the experience of sharing food.



Share messages with food



Conclusion



This exchange experiment resulted in becoming the heart of my thesis. Through this experiment, the users discovered joy in sharing food, tried new recipes and got involved in the act of cooking food. It was observed that it was difficult to schedule a few exchanges because of different work locations. Some of my friends found it stressful to prepare food in the morning as they rarely cook. Hence, they ended up spending more time on cooking good food. I believe this experiment demonstrated that such sharing of food is possible and a platform that is designed specifically for this purpose would be highly beneficial.

In future, I would be collaborating with a professional application developer to make my design turn into reality. I do think that in this process, I might have to modify the application interface according to the feasibility and future insights.



Bibliography

"5 Things To Know About India's Healthcare System | Forbes India Blog". 2017. Forbes India. <http://www.forbesindia.com/blog/health/5-things-to-know-about-the-indias-healthcare-system/>.

Cloe, Adam, and Adam Cloe. 2017. "Importance Of Healthy Eating For Teens". LIVESTRONG.COM. <http://www.livestrong.com/article/413268-importance-of-healthy-eating-for-teens/>.

Douillard, John. 2007. 3-Season Diet. 1st ed. Harmony.

"Foodstamps : The Unofficial Guide To SNAPS Programs". 2017. Foodstamps.Org. <http://foodstamps.org>.

Koivisto Hursti, Ulla-Kaisa, and Per-Olow Sjärdén. 1997. "Changing Food Habits In Children And Adolescents Experiences From Intervention Studies". *Näringsforskning* 41 (1): 102-110. doi:10.3402/fnr.v41i0.1755.

"Lifetime Preventive Care | Ages 11-19 | PublicHealth.Org". 2017. PublicHealth.Org. <http://www.publichealth.org/public-awareness/preventive-care-schedule/teens/>.

Marks, J. B. 2004. "Obesity In America: It's Getting Worse". *Clinical Diabetes* 22 (1): 1-2. doi:10.2337/diaclin.22.1.1.

"Pros And Cons Of Food Stamps". 2017. Buzzle. <http://www.buzzle.com/articles/pros-and-cons-of-food-stamps.html>.

Robinson, Eric. 2015. "Slim By Design: Mindless Eating Solutions For Everyday Life. By Brian Wansink. William Morrow & Company: New York, 2014". *Obesity Reviews* 16 (2): 187-188. doi:10.1111/obr.12249.

Shares, Foodie. 2017. "Foodie Shares". Foodieshares.Com. <http://foodieshares.com>.

"The Farming Problem [Ushistory.Org]". 2017. Ushistory.Org. <http://www.ushistory.org/us/49c.asp>.

The Food Guide Pyramid. 1996. Ebook. 1st ed. Washington, DC: U.S. Dept. of Agriculture, Center for Nutrition Policy and Promotion. https://www.cnpp.usda.gov/sites/default/files/archived_projects/FGPPamphlet.pdf.

The Power Of Prevention. 2017. 1st ed. [Washington, D.C.]: U.S. Dept. of Health and Human Services.

"Variety". 2017. Choose Myplate. <https://www.choosemyplate.gov/variety>.

"What Are Important Nutrients To Eat At Breakfast?". 2017. Healthyeating.Sfgate.Com. <http://healthyeating.sfgate.com/important-nutrients-eat-breakfast-5111.html>.

List of illustrations

13–14	Interview with friends. Namrata Phirke, 2017	66	Food for Tim. Namrata Phirke, 2017
15	Healthcare scenario Namrata Phirke, 2017	67	Food from Tim. Namrata Phirke, 2017
16	A conversation during observation at East Side Urgent Care. Namrata Phirke, 2017	68	Food for Atulya. Atulya Chaganty, 2017
17	NICU, Women and Infants Hospital of RI. Namrata Phirke, 2017	69	Food from Atulya. Namrata Phirke, 2017
18	Initial experiment at RISD. Namrata Phirke, 2017	70	Food for Chris. Chris, 2017
19	Inputs from interviews. Namrata Phirke, 2017	71	Food from Chris. Namrata Phirke, 2017
20–21	Rhode Island Hospital. Namrata Phirke, 2017	72	Food for Zhizi. Namrata Phirke, 2017
22–23	Interview with nurses. Namrata Phirke, 2017	73	Food from Zhizi. Namrata Phirke, 2017
24	Preventive healthcare. Namrata Phirke, 2017	74	Food for Creama. Namrata Phirke, 2017
26–27	Stop and Shop. Namrata Phirke, 2017	75	Food from Creama. Namrata Phirke, 2017
28	Peas recipe of Namrata Phirke. Zixin Xiong, 2017	76	Food for Kate. Namrata Phirke, 2017
30–31	Interview about eating habits. Namrata Phirke, 2017	77	Food from Kate. Namrata Phirke, 2017
32–33	Result of interview. Namrata Phirke, 2017	78	Food for Ryan. Namrata Phirke, 2017
34–35	Interviewing mother and daughter at farmer’s market of Providence. Jerry Ding, 2017	79	Food from Ryan. Ryan Fergusan, 2017
38–39	Result of interviews. Namrata Phirke, 2017	80	Food for Ala. Namrata Phirke, 2017
40	Interview with Nutritionist. Namrata Phirke, 2017	81	Food from Ala. Namrata Phirke, 2017
41	Interview about eating habits. Namrata Phirke, 2017	82	User scenario. Namrata Phirke, 2017
41–43	Result of interviews. Namrata Phirke, 2017	83	FLoop. Namrata Phirke, 2017
45	Connecting the ‘cook’ and the ‘eater’ at home. Namrata Phirke, 2017	86	Features of FLoop. Namrata Phirke, 2017
46	Home Chef. Namrata Phirke, 2017	88–89	FLoop wireframe. Namrata Phirke, 2017
47	Cooking process. Namrata Phirke, 2017	90	Home page of FLoop. Namrata Phirke, 2017
49–52	Refrigerator. Namrata Phirke, 2017	91	Friends page of FLoop. Namrata Phirke, 2017
53–54	Interview about schedule. Namrata Phirke, 2017	92	My profile of FLoop. Namrata Phirke, 2017
55	Result from interviews about schedule. Namrata Phirke, 2017	93	Requesting via FLoop. Namrata Phirke, 2017
58–59	Wireframe mockup. Namrata Phirke, 2017	94	Opening FLoop bag. Namrata Phirke, 2017
62	Food for Dan. Namrata Phirke, 2017	95	Reading message. Namrata Phirke, 2017
63	Food from Dan. Namrata Phirke, 2017	96–97	FLoop bag interiors. Namrata Phirke, 2017
64	Food for Jerry. Namrata Phirke, 2017	98	FLoop bag use scenario. Namrata Phirke, 2017
65	Food from Jerry. Namrata Phirke, 2017	100	FLoop bag and app. Namrata Phirke, 2017
		104–105	25 years of breakfast. Namrata Phirke, 2017

25 Years of Breakfast

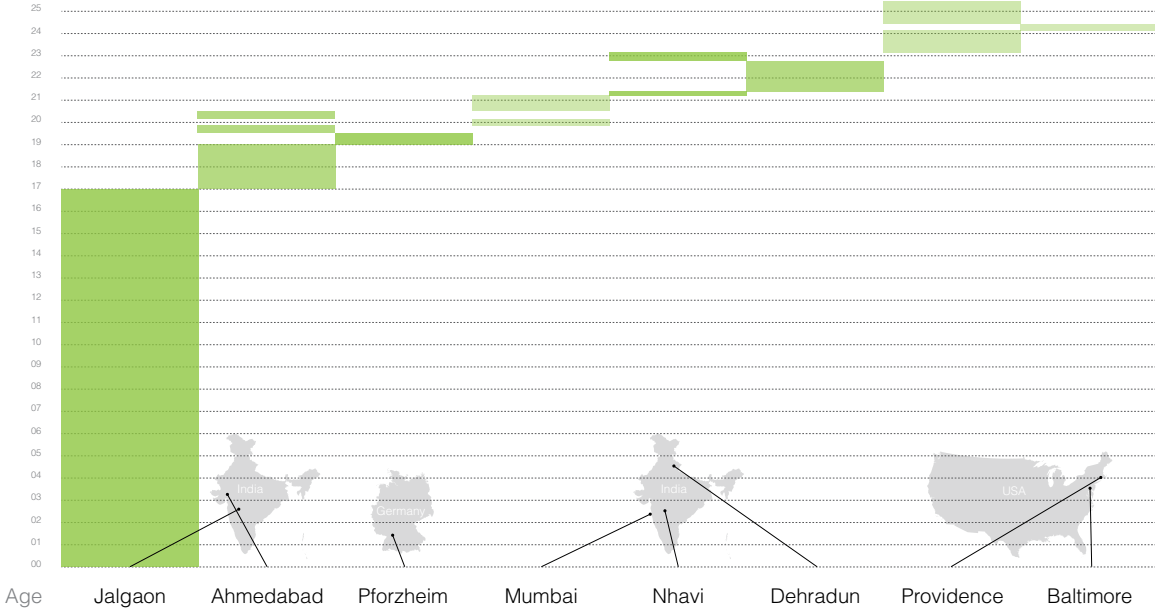
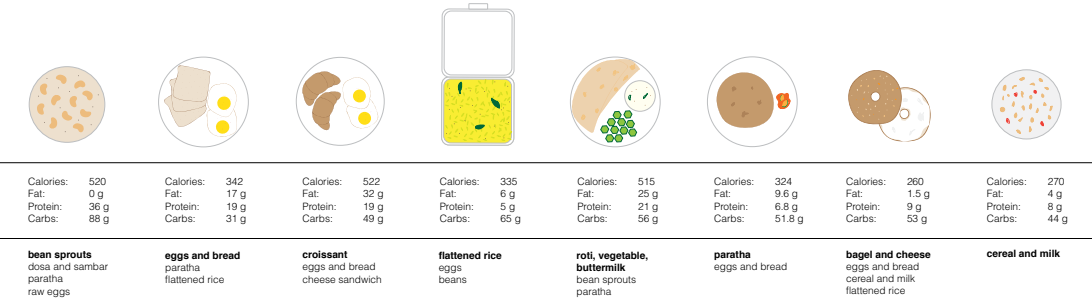


Fig. 8. Locations where I lived for 3 or more months

