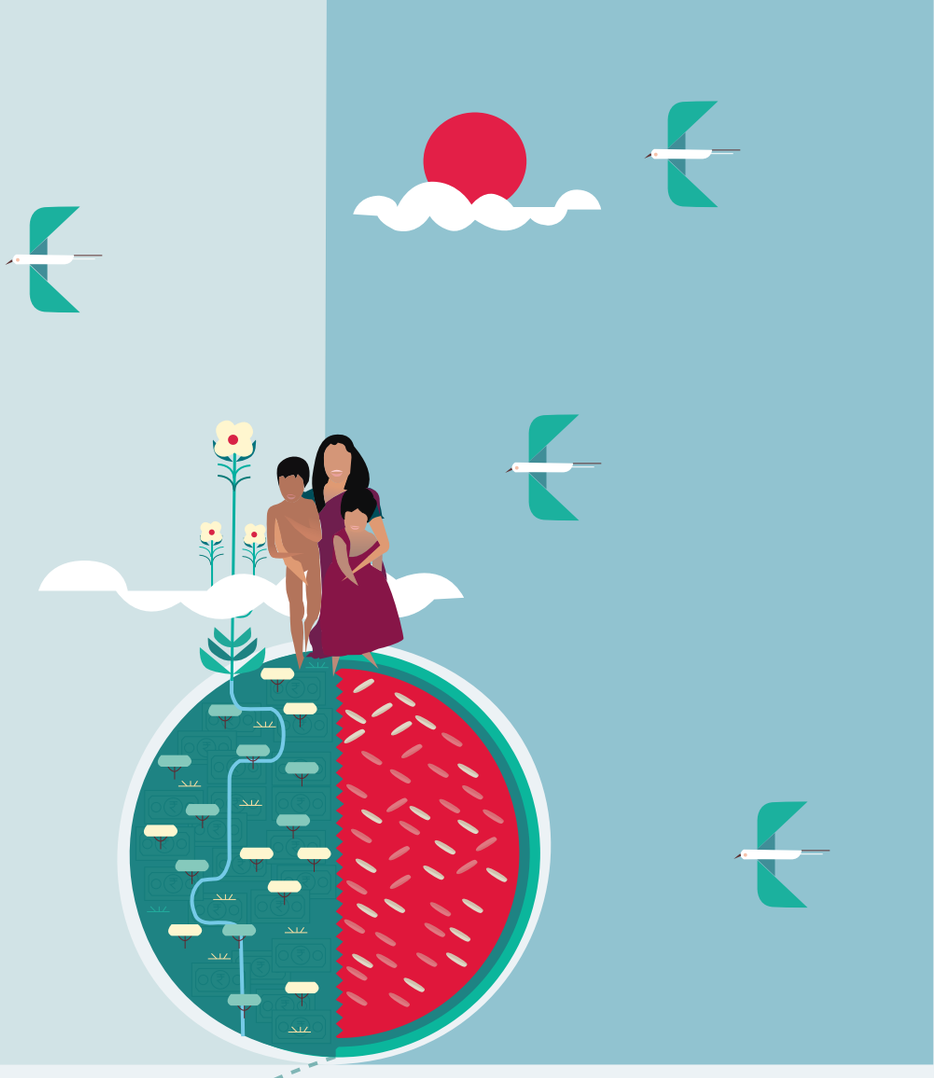
Case Study

Digital Saviour for Hunger



Start

About the Project

Over 1.2 billion people dying of hunger and in one day, 1000 quintiles of surplus food gets wasted in India alone. The digital product enables the connectivity between suppliers and the hunger spots in the localities of India.

The Design Approach

01 RESEARCH & DISCOVERY

User Requirement Gathering
User Research

02 ANALYSIS

Draws Conclusion from the data collected

03 STRATEGY

Conceptual Modeling
(Finding the best solution possible)

04 PROTOTYPE

Rapid prototyping(Sketching)
Wireframe

03 EVALUATE

Using different testing methods

05 ITERATE

Iterating the process after feedback is received from testing

01 Research & Discovery

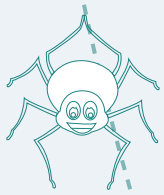
Two types of direct research, Qualitative Research and Quantitative Research is done after the stalk holders data is collected to understand the users needs, motivations, personality traits and behaviour of the user and the core objective are thereafter listed.

Core Objectives of the Project

1. Being aware of the quality of surplus food
2. Easy Access to NGOs/Hunger Spots
3. Gaining trust of the NGO
4. On time delivery of surplus food to clusters
5. Reducing surplus Food

02 Analysis

This phase where the data gathered in the research and discovery phase is segmented, user personas is created, journey maps are drawn out and RCA(Root Cause Analysis) to find the main cause.



4 different user segments

NGO

Restaurant

Manure Teams

Individual

15 interviews

3 Personas

Perfectionist Krishna - Restaurant Manager

- **He worries about 7 to 8 quintiles of food gets wasted everyday in the night**
- Not enough storage facilities to store the surplus food he adds.
- He'd like to spread aware about how can producing surplus food can be reduced to all the chefs out there.
- He gives a great value for money so isn't happy about the customers especially women and children wasting food.
- **He wants his restaurant to more publicity than what to it now and thus increase the project margin higher**

Radha - Junior Chef

- Radha is a friendly and caring woman and empathises with her staff members of how difficult the job of being a chef is.
- She adds that she finds it very difficult to estimate how much quantity of food that has to be cooked to an estimated number of waste without have not much of food wasted
- She says that being a chef always puts to on of the game and its exhausting and gets to you most of the time.
- **There are times were in a hurry, we fail to notice that the vegetable or the bater is spoilt so every time we test the ingredient and the serve it to the customer. Risks are involved.**

Modest Murali - Senior Chef

#egglover #loveforcreativity #loveforfood

"Every grain is a gift from god"

Demographics

Age: 30

Location: Bengaluru, Karnataka

Education: B.A Economics

Family: Married with one kid

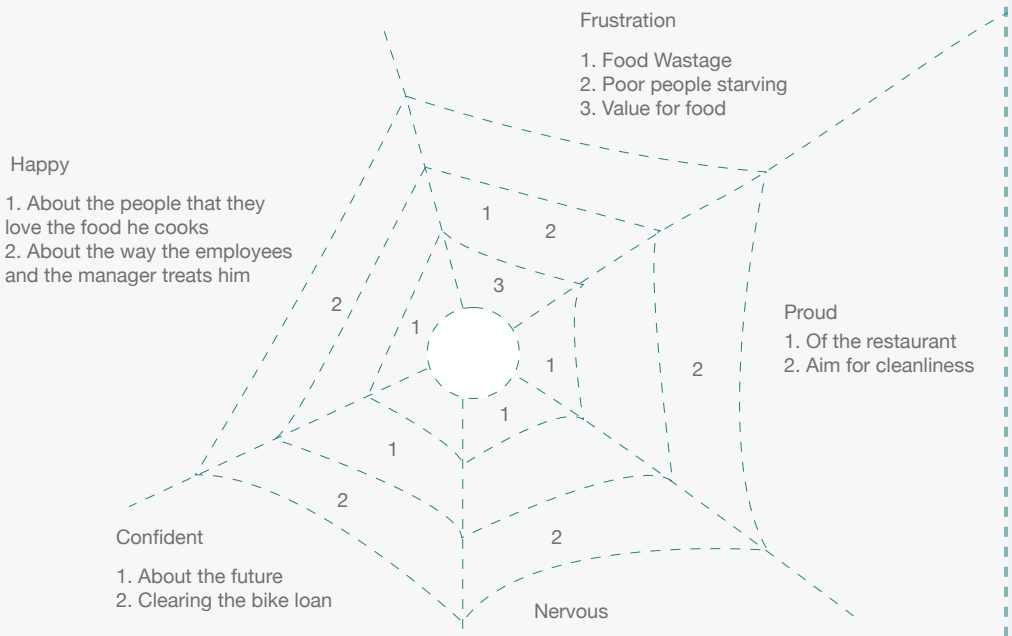
Personality Traits

- **Efficient and organised yet sensitive and nervous because in the weekend he plans his food well but yet not nervous because of he thinks about wastage.**
- Proud of the restaurant he works for but one day he'd like to open his own restaurant. He spoke about cleanness and customer satisfaction his restaurant's vision.

Frustrations

- **He worries about the surplus food that comes back to the restaurant after a party.**
- He thinks that the recycling facility isn't efficient enough.
- **He feels really bad about throwing surplus food into the dustbin late night after a party**

Emo Web



- **He says “I contacted a few NGOs and they did not get back to us”.**
- Non-Veg food gets wasted on Tuesdays and Thursdays he adds.

1. Quantity of food that will waste
2. Taste of the food

Challenges

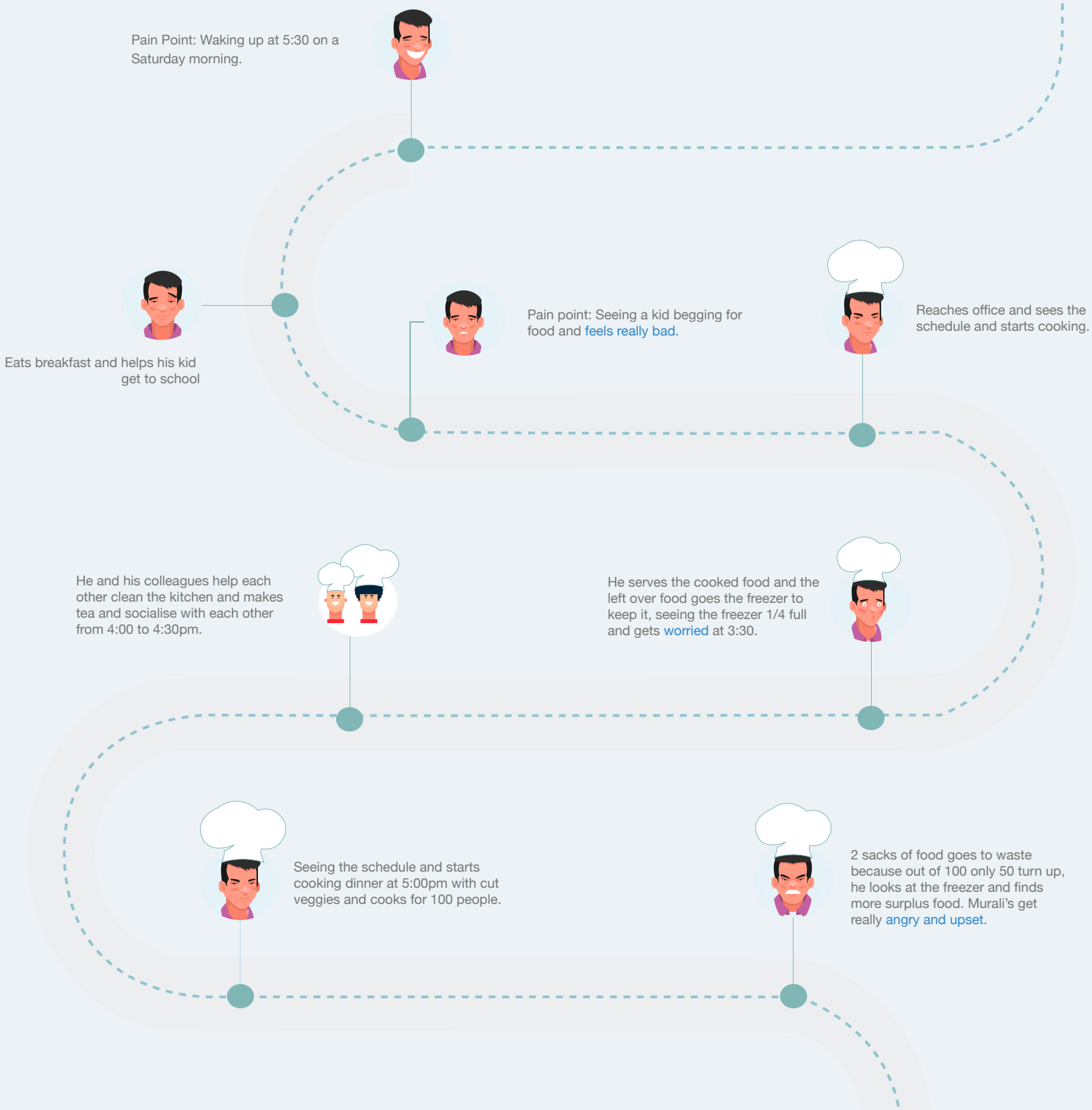
- Difficult to conduct an awareness program as all them are too busy.
- Insufficient staffs so the work gets really hectic especially during the weekends
- **At one of the parties there were 20kgs of the surplus food and he and staff, served it to the nearest slum that they could find at 2am in the morning.**
- Regularly chefs keep changing due to more opportunities.

Status of Murali in the Maslow's Pyramid

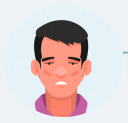
Self actualisation

Journey Map Murali’s

Empathising one day of Murali’s life made me understand that the troubles and problems were just not in one chef Murali’s life but many of those chef’s out there.



At 2am in the morning, he and his colleagues feeling all exhausted, goes looking for people to serve the surplus food and finds a few serves them and throws the rest into the dustbin.



03 Strategy

Ideation starts here, where me and my team conceptualised different problems stated and then drew the information architecture of the project, user segment, restaurant.

Conceptual Model

Problem statement: “Being aware of the quality of surplus food.”

Camera

Recognises materials colour, biological characteristics and shape(length, width, diameter and area).

Why it doesn’t work

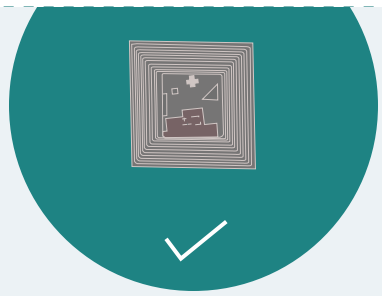
Not all food can be captured by the camera

MIT Chip to detect stale food

An inexpensive, portable sensor that can detect gases emitted by rotting meat, allowing consumers to determine whether the meat in their grocery store or refrigerator is safe to eat.

Why this work

Cheap and not required to check the refrigerator for the status as the it can be checked over the phone



Clamp

Gas sensors that can detect spoilage of the food by detecting Ammonia and Hydrogen Sulphide. On spoilage of the food the light indicator changes to indicate that food is spoiled. Along with the light indicator a message to user is also sent on the status of the food. This is portable device and can be used with any kind of container.

Why it doesn't work

Even in case of without cover plate, it is difficult for the sensor to detect stale food gases properly and there's a probability of wrong information

Rode indicator

This product solves the problem of inaccurate, unreliable information on status of the food. Since the sensor is inside the covered utensil, it will provide accurate status of the food. Light indicator/signifier to convey the status of the food are very well visible in this product. With Wi-Fi connectivity enabled in the device a message about food getting wasted is also sent to the user.

Why it doesn't work

Light weight, easy to use, cheaper than device detecting device but continues checking of food is required

Device Detecting Device

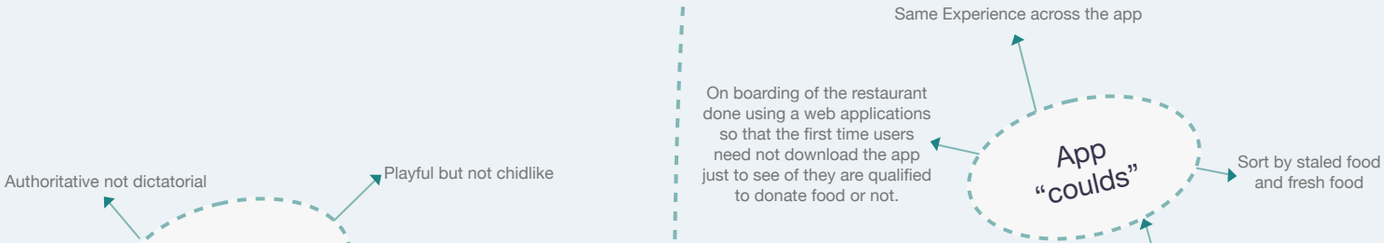
Ring to record the age of the food & remind the user about stored food. Ring starts the counter as soon as someone places utensil on it. It notifies the user after a threshold time in case the food is unused. Thus reminding the user to consume it or throw it based on the age of the food.

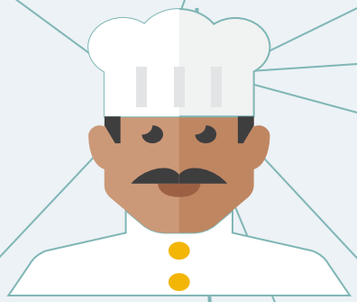
Why it doesn't work

It's expensive. The product has no ability to differentiate between different weather conditions and adjust it's threshold.

The Mental Model

Mind Map I created to organise information into defined ideas





Personality
- Humorous not foolish
- Traditional but not too stuffy

Brand Value
- Quality
- Curated
- Facilitated everyone
- Traditional
- Fun
- Playful
- Creative

Features
- Incoming Requests
- List of surplus food on the list
- Search
  - NGO
  - Request ID
  - Shelter Locaation
- About
  - Top Restaurants Tie Ups
  - Brand Uniqueness
- On boading
  - Verify the Restaurant via visit.
- Loyalty Program
  - Past Request
    - NGO
    - Manure
    - Previous Invoices
- Account details
- Individual NGO pages
  - Availability
  - Rating/Review
  - Reviews
  - Good Descriptions

App "shoulds"
- Read/write reviews of the NGOs
- Restaurant should be able to pick the a well known NGO of his/her choice of the app picks the NGO who is the nearest
- Reward restaurants who are more active and serving the needy with the surplus food
- Motivated the retaurants by comparing how the other restaurants are doing

App "musts"
- Easy way to locate the users
- Way to give out surplus food to more than one shelter homes
- Establish Brand Identity
- List of the nearest NGOs that can help to distribute surplus food.

App "donts"
- Bias towards small restaurants and small shelter homes
- Offer unrelated online activities

Goals 1.0
- Borden the reach outside Bengaluru
- Connecting to the dogs shelters as well.

"Unique Selling Points"
- Verified Restarnrant
- Reaching out to all the restaurants irrespective of their size
- Quality> Quantity
- Connective to all the shelter spots irrespective of the size
- Connecting the manure teams to sell the wet waste for added benefits
- Promoting Restaurants/ Individual using the food trucks

User Needs

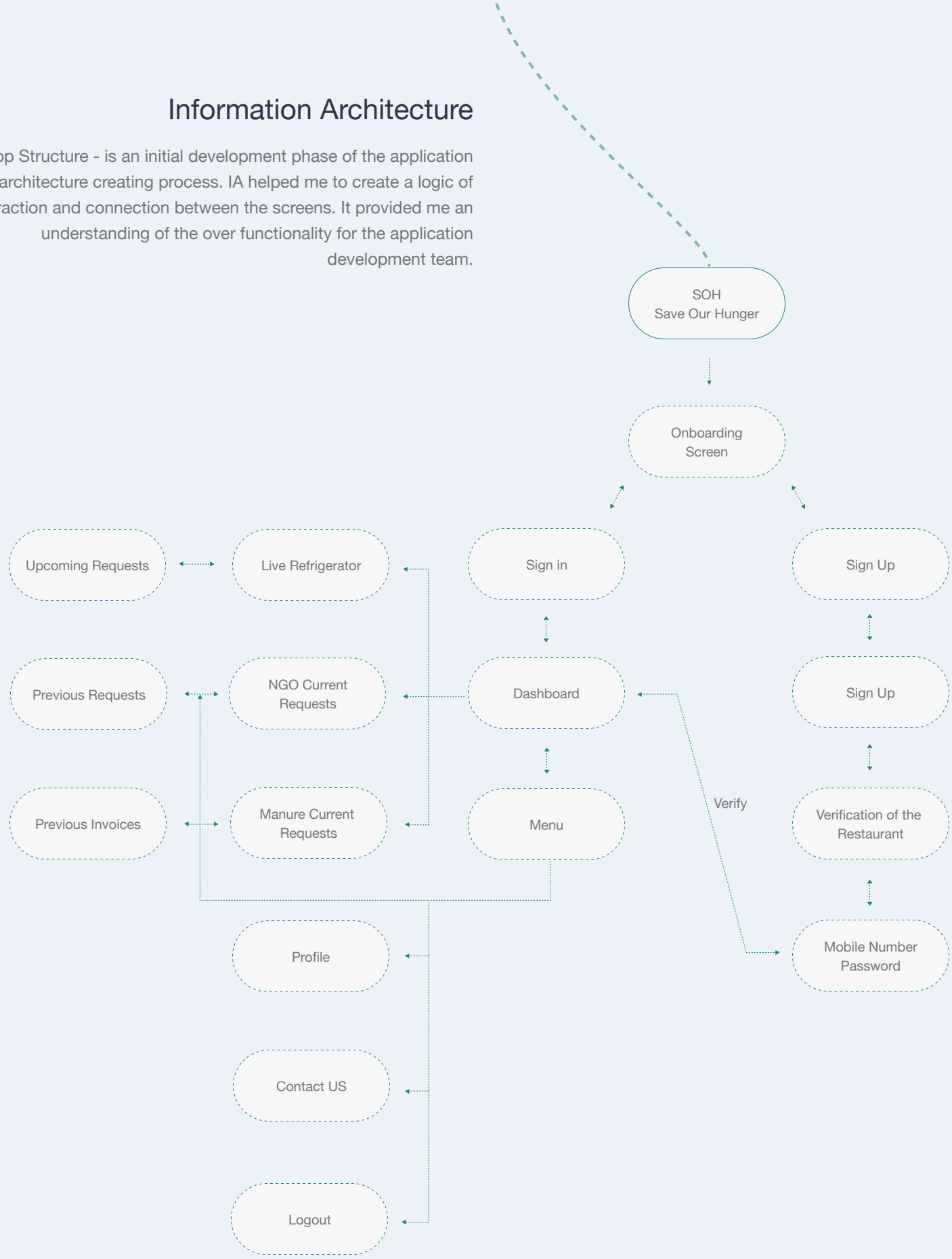
Krishna
- Trustworthy NGOs to ship surplus food
- Purposeful information about the NGOs
- Shelter/NGOs Reviews
- Should be able to do everything on the mobile
- Product should speak to itself
- Efficient

Murali
- Able to pick the highest paying manure team
- Trust + relationship with the shelter home and NGOs
- Precise availability of shelter homes

Radha
- Clear and simple layout
- Flexible redeemable points for the loyalty
- Support
  - Person to contact
  - If the NGO is unreachable able to pick another one
- Loyalty Programs
  - Notification when payment made by the manure
  - Record Past Invoices

Information Architecture

App Structure - is an initial development phase of the application architecture creating process. IA helped me to create a logic of interaction and connection between the screens. It provided me an understanding of the over functionality for the application development team.

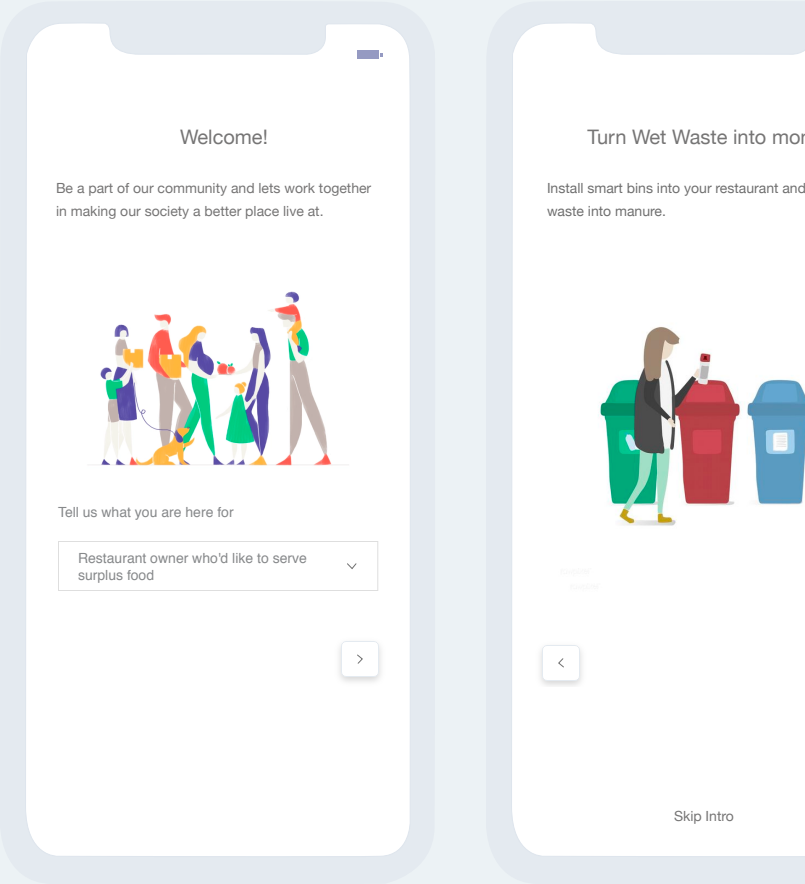


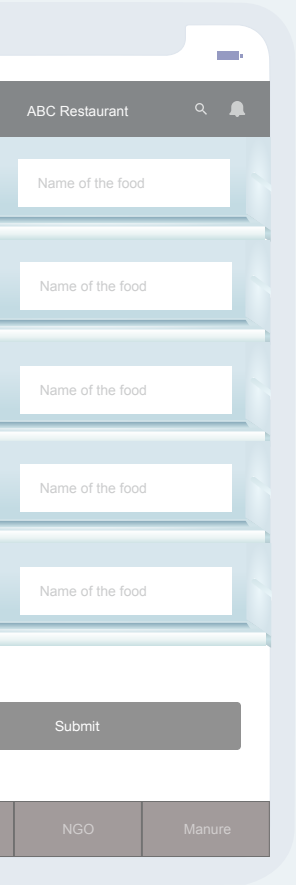
04 Prototyping

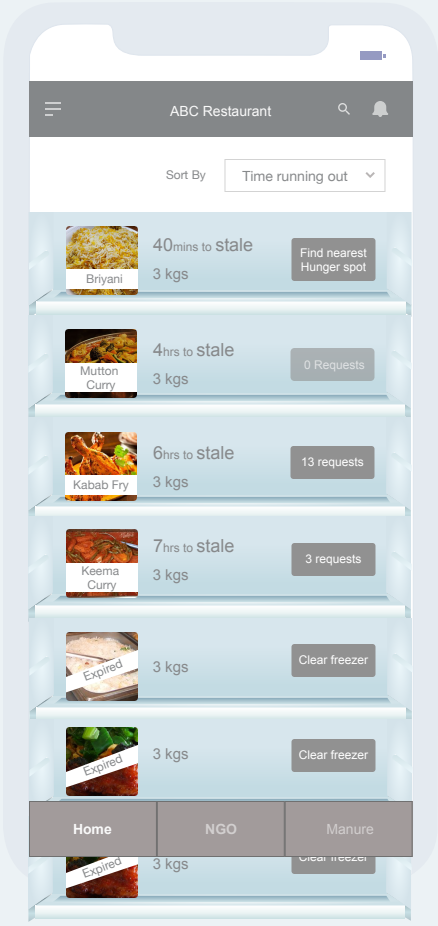
This stage started when a structured information architecture and the task flows was done. The task flows was where all the scenarios were brainstormed and validated and iterated the information architecture after.

Onboarding Screens

On the marketing front, for the restaurants to onboard, I have a desktop version of the application. However they can register using the app as well.





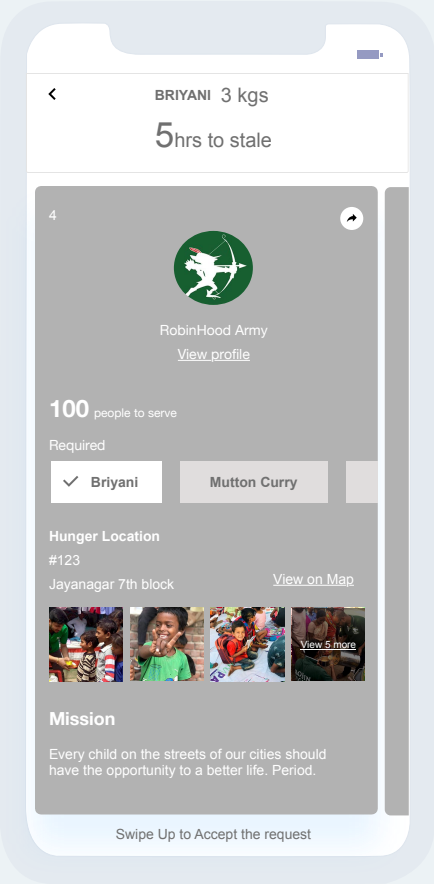


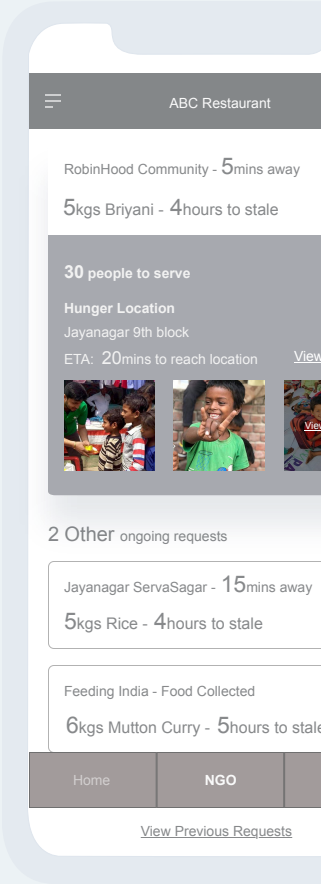
Home Screen

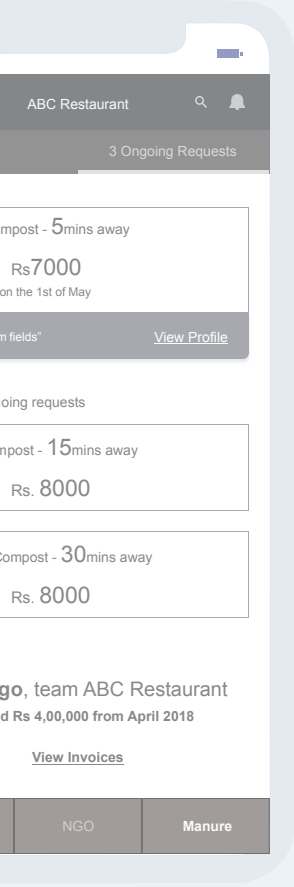
Skeuomorphism: match between the system and the real world. Matching what's relatable in the real world makes my customers relate with the real freezer.

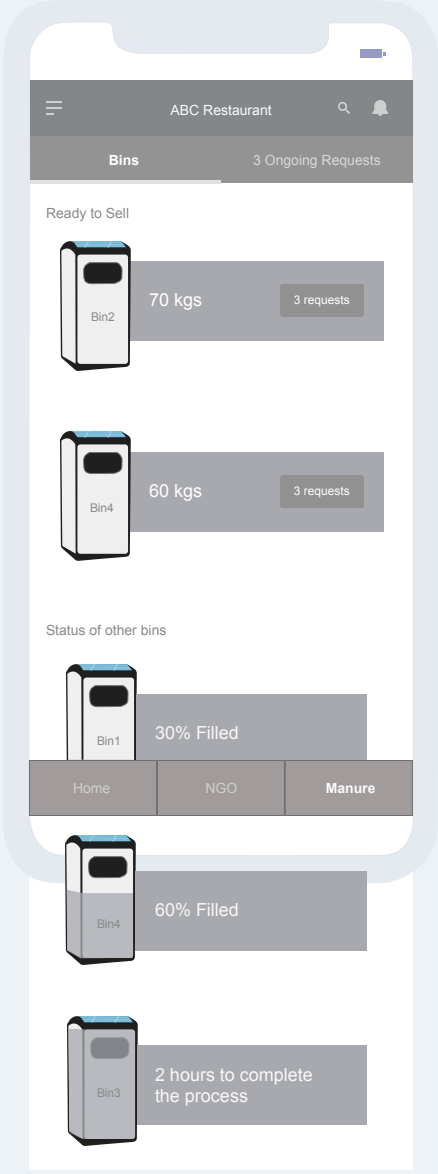
NGO

Swiping right and left the NGOs, giving my users the liberty to pick an NGO according to their choice.
The restaurants motivation factor to donate food is by publicising the restaurant when they donate food to a shelter home of 100 people through a food truck.







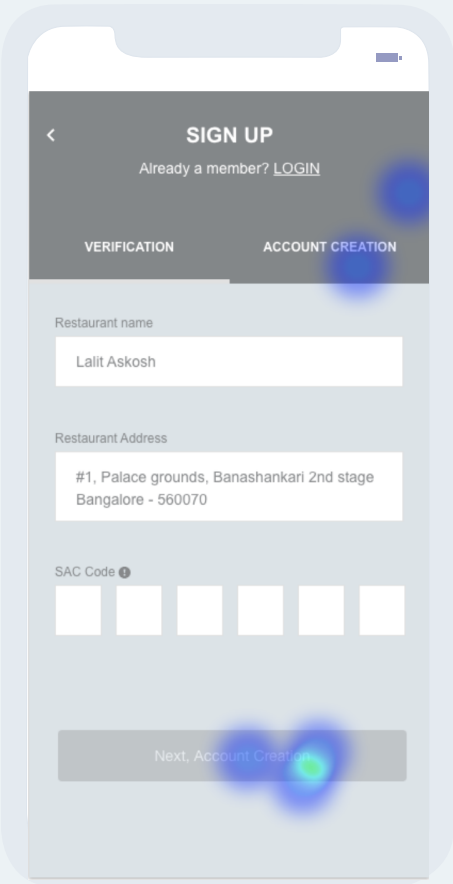


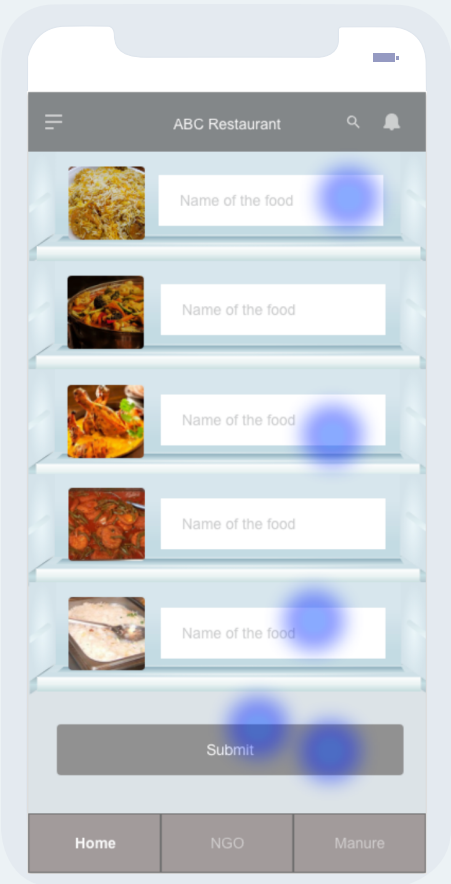
Manure - what's in it for me

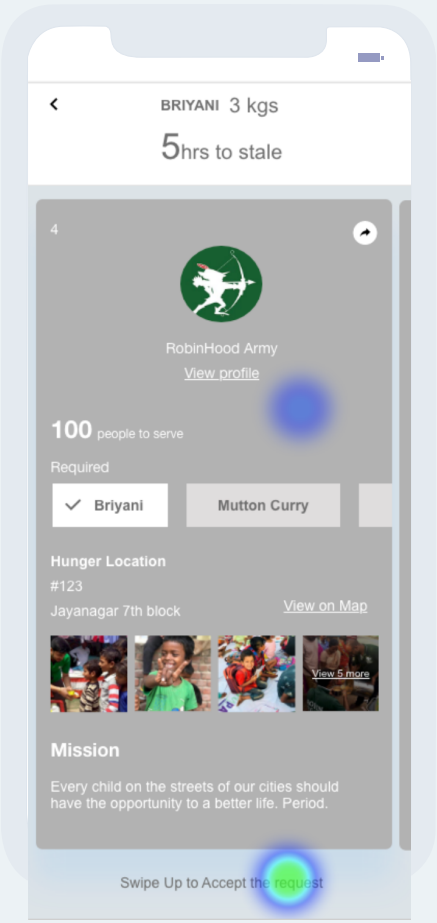
When the smart bins are full, the request will be automatically sent to all the manure required companies in the city, this will be intimidated to the restaurants. The restaurants will then select one of the requests and thus the request confirmation will be shared to the manure company xyz.

06 Evaluate

After the wireframes are made, I evaluated using exploratory and contextual usability testing where me and my team went to the restaurants and gave the wireframes and observed the users as to whether it eases their usability. Below are few screens, showing the heat maps:



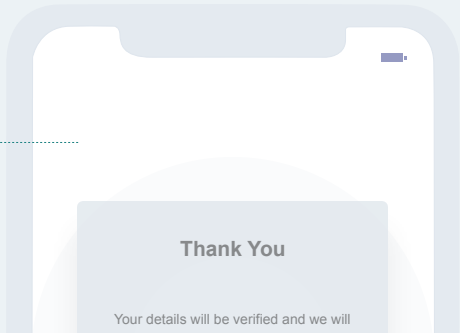


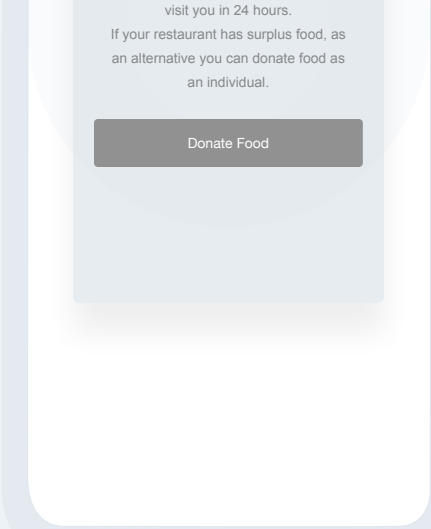


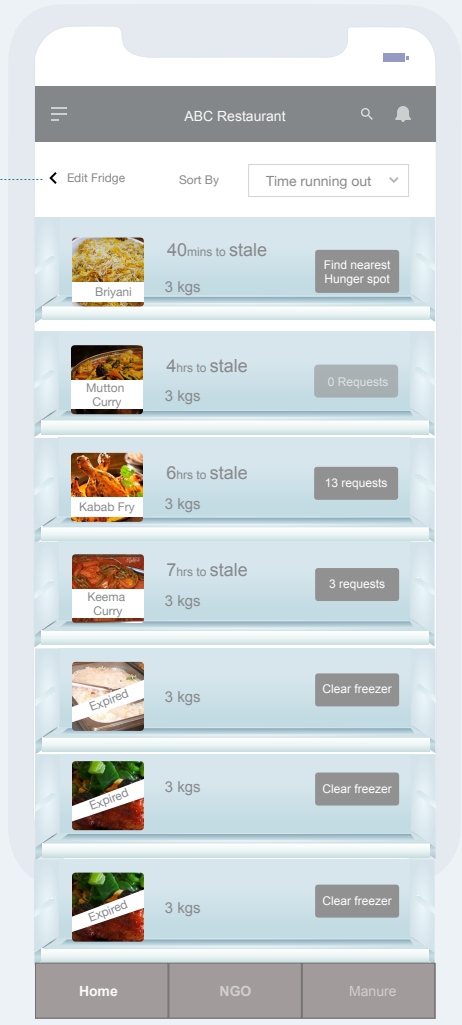
07 Iterate

After closely observing the users usability of the app, the changes were accordingly made. Below are the two most important changes made:

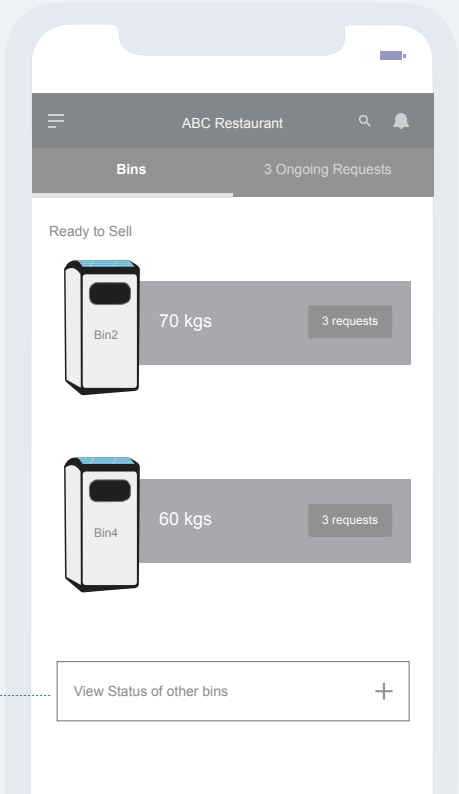
If the user group restaurant isn't eligible To donate food to the hunger, he/she can do as an individual donate with terms and conditions applied.







The user's wanted to edit the contents of the fridge and there was no facility to do so. The rule: give the customers the upper hand at feasible situations so that they feel that they are in control.



There are elements in the application that are on need to know bases, every information need not be shown upfront to the user, is what I observed while the user's used the application.

Conclusion

Thank you for your time. Given more time on usability testing there's always room for more further insights and development and always upheld to learn and understand.