



**Shelff**

# **Capstone Project**

## PROPOSAL



**snəweyət leləm.**

THE COLLEGE OF HIGHER LEARNING.

**Langara.**

THE COLLEGE OF HIGHER LEARNING.



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# Project Overview

What is Shelff?

**Shelff** is an effortless way to organize and track the shelf life of your food inventory

## Problem Statement

Food loss is a global issue and unfortunately, as Canadians, we are throwing out more food that could, at one point, have been eaten!

\*Research shows that yearly, we waste an estimate \$30billion of food. According to Canadian food waste statistics for 2021, half of the country's food waste is discarded in people's own homes.

About 25% of all residential garbage in Vancouver comes from uneaten and spoiled food. To put into perspective, that is 30,000 eggs, 40,000 tomatoes, 80,000 potatoes, 32,000 loaves of bread, and 55,000 apples go to waste each day [Source: Van City]. We often waste good food because we buy too much, cook too much, or do not store it correctly.

## Solution (Value Proposition)

Good news! This problem is avoidable. Shelfff is an intuitive app that helps Canadians organize and track the food items they consume in an effortless way. We are offering simple steps to reduce food waste, from organizing to push notification reminders. This way, you get to keep an eye on your food – literally and not waste food again. Scan it, Track it, Consume It or Donate It.

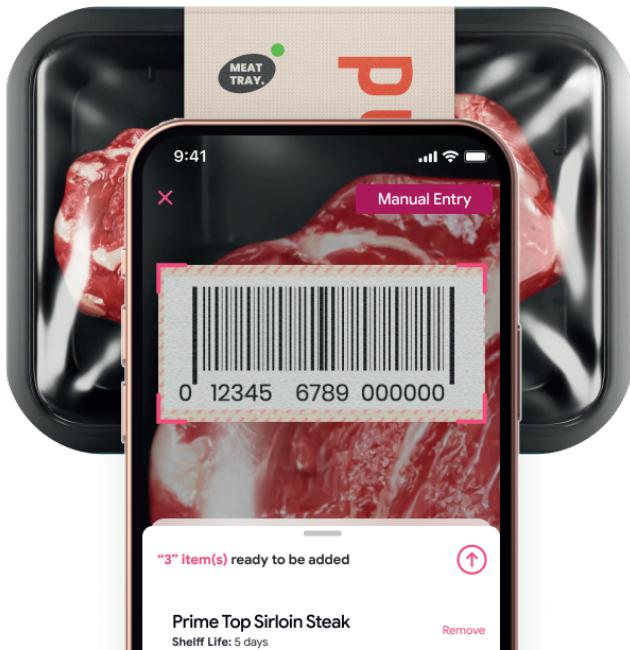
# Main Features



## MY SHELFF DASHBOARD

**One platform a 360° view.**

Shelfff shows you the information you need, and when you need it, so that you have one less thing to worry about.



## BARCODE SCANNER

### Log food items effortlessly.

Entering data manually takes too much time and effort. Let our barcode scanning functionality simplify the process for you. Every item is sorted instantly into categories for easy organization when scanned.



## NOTIFICATIONS

### Mitigate food waste with push notification reminders.

Stay on top of it all by getting notified on every logged food item and managing them your way so nothing goes bad on your watch ever again.

# Market Research

Globally, there is a growing concern over food waste. When food is wasted, all the resources used to produce it are also wasted.

Everyone should act and play a role in addressing food waste, including businesses, consumers, and governments.

Here is a result from the national Zero Waste Council in 2017 on household food waste in Canada:

All types of food are wasted, but in Canada, the most prominently wasted foods by weight are:

- Vegetables: 30%
- Fruit: 15%
- Leftovers: 13%
- Bread and Bakery: 9%
- Dairy and Eggs: 7%

Food gets wasted long before it gets to us. But reducing food waste at home is quick and easy. There are many ways that we can do to reduce the amount of food waste. As we are targeting end-users of the foods, there are different ways to help them to minimize their wasted food through technology. By organizing and managing the food in the user's home inventory, the user reduces food waste and helps the user save money, time, and mental energy. Besides, the users need more information on how to store food items at home and guides to keep food fresh in the refrigerator.

Several apps focus on solving this problem. While we plan to deliver the most valuable features, we allow the user to create a specific shelf to manage different private inventories like offices or other family members.

# Competitive analysis

These companies are similar in business line and functionality to the Shelfff app. But the edge we have as a product is our future forward-thinking functionalities:

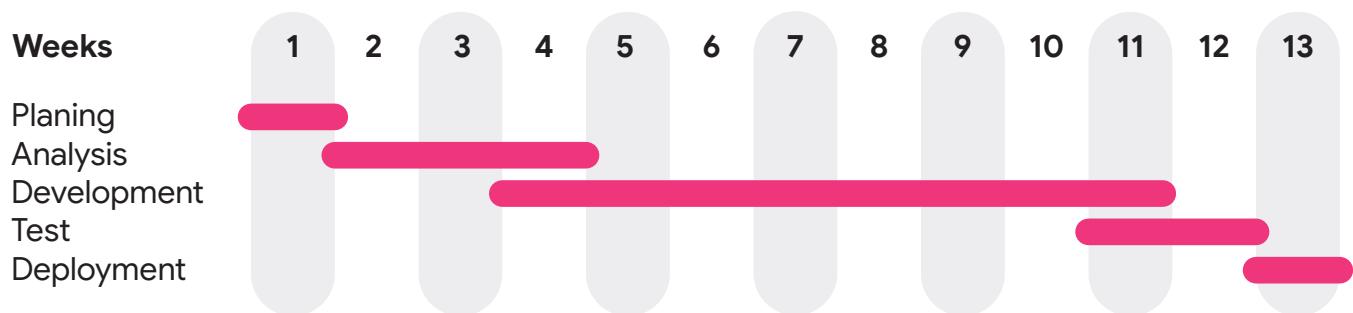
- Multiple Shelfff Management
- Network of Foodbanks
- Enterprise/commercial use
- Loyal Program
- Data Report/Usage Statistics
- Grocery/Shopping List

		Beep	Reeking	NoWaste	Fresh Things
Barcode Scan	✓	✓	✓	✓	✓
Widgets & Push Notifications	✓	✓	✓	✓	✓
Network of Food Banks	✓	✗	✗	✗	✗
Food Preservation Tips	✓	✗	✗	✓	✗
Add Members	✓	✓	✗	✓	✗

# Project Timeline & Process

## AGILE PROJECT MANAGEMENT

Iterative development to promote velocity and adaptability. Adjust as you go along.



### Week 1 Jan 07

#### Design & Development

Brainstorming for the project idea

### Week 2 Jan 14

#### Design

Project Selection, Research and UX Blueprint

#### Development

Project Selection and Research

### Week 3 Jan 21

#### Design

Brief Description and Personas

#### Development

GitHub Repository, Tech Stack Setup, Create Server and Client Boilerplate.

### Week 4 Jan 28

#### Design

Empathy Map Visualization, User flow and Name Definition

#### Development

GitHub Repository, Tech Stack Setup, Create Server and Client Boilerplate.

**Week 5** Feb 04**Design**

Wireframes, Brand Voice and Logo Design

**Development**

Database Schemas and Authentication Route

**Week 6** Feb 11**Design**

Test Wireframes – Change Wireframes and Brand Identity Guidelines

**Development**

Design Back-end API Routes

**Week 7** Feb 18**Design**

Design Language System

**Development**

Development Backend API Routes

**Week 8** Mar 04**Design**

Illustrations, animations, and Prototype High Quality

**Development**

Front-end (Authentication Screen) and Back-end development

**Week 9** Mar 11**Design**

Illustrations and animations

**Development**

Front-end features development

**Week 10** Mar 18**Design**

Website Mock-ups

**Development**

Front-end features development

**Week 11** Mar 25**Design**

Proposal Document and Marketing Material

**Development**

Back-end Testing, Front-end Testing, and Integration Testing

**Week 12** April 01**Design**

Presentation Slides

**Development**

Setup PostgreSQL database instance. Deploy to AWS (S3/EC2) and .Testing Live.

**Week 13** April 08**Design**

Final Presentation

**Development**

Go Live

# User Personas

## Who needs Shelfff?

Those who want to manage their food habits,  
those who don't want to be surprised with  
empty shelves, those who want to plan better  
for food preparation, and last but not lastly  
those who want to take care of resources.



**Simon Stordy**  
28, Vancouver  
Developer

STATUS	SINGLE	SALARY	68 K
TIER	JUNIOR	ARCHETYPE	RULER

Photo by cottonbro from Pexels

## Bio

Matthew is a developer who boths work in a start up company and as a freelancer. He joined to food-prep and each week they deliver food that he tries to cook for lunch. For his breakfasts and dinners he normally buys fruits, eggs, milk, cheese and bread. Although he loves to have control of each aspect of his life he constantly get disappointed when something is expired or rotten.

He is extrovert and enjoy outdoor activities and sports. He is a professional ski player.



*I would like to manage my perishable food in a better way.*

## ❤ Motivations



## 👍 Goals

- Saving Money by managing the food inventory and reduce waste.
- Having a plan for the food inventory.

## 👎 Frustrations

- Wasting money because of double buying items.
- Throwing away expired food.
- Getting surprised by empty fridge.

## 🏷️ Brands





Photo by cottonbro from Pexels

## Bio

Sophie is an Interior Designer who lives in a penthouse with her partner. They host parties frequently in their place and they love to have plenty of food for their guests like wine, organic juices, cheese and ham, etc. Sometimes they go for shopping after work and by the time they arrive home just discover that they bought double of the food or there was enough food in the fridge. Although Sophie tries to order everything properly sometimes she doesn't know that some food is expired until she wants to prepare some meals.

**“ I want to optimize my shopping to don't waste money and stop throwing food away.**

## ❤ Motivations



## 👍 Goals

- Having better communication for shopping.
- Controlling food inventory to reduce waste.

## 👎 Frustrations

- Double shopping or over buying.
- Finding communities to share extra food items.

## 🏷️ Brands



LANCÔME  
PARIS

evian.  
Live young





Photo by cottonbro from Pexels

## Bio

Veronica is a caregiver taking care of a 90 years old lady. She lives with her and do the groceries, cooking and prepare the pills for her 3 times per day. Weekends are her free days and normally goes out to walk around the seawall, to meet some friends or to visit her family. Each week she send a brief report to the daughters of the old lady about the grocery expenses and household essentials, supplements and vitamins that are missing. She normally plan per week the meals but if they eat out or something disbalance her schedule it is hard for her to organize the food for the weekend.



I would like to manage my in-home care patients' food inventory.

## Heart Motivations



## Thumbs Up Goals

- To decrease the leftovers she throw away weekly.
- Evidence of well food management by weekly reports.

## Thumbs Down Frustrations

- Forget the expiration date of things that can last long time.
- Do not storing the perishable food properly.

## Heart Brands

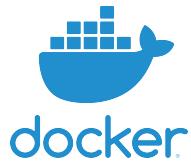
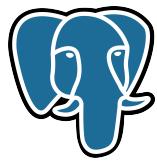
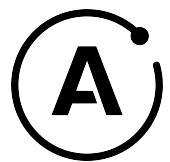
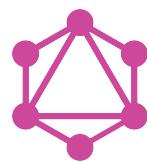
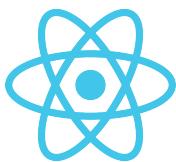


# Technical Overview

Security first

Git and GitHub help to keep code secure in repositories for version control while working collaboratively.

# Tech Stack



The frontend for the mobile app is built using React Native with Expo. React Navigation was used to implement the user flow and information architecture. Components from Native Base are also used to apply the style. The backend makes use of NodeJS with Typescript. Firebase is being used for authentication. The backend is hosted using AWS EC2. The landing page is built in React and hosted in Netlify. Our developers used Git and GitHub for version control and the team used Trello for better collaboration and project management.

## CLOUD FEATURE

### **How will the cloud aspect be tied into the application?**

AWS EC2: Back-end - API Server.

Authentication: Firebase (social media: Google)

Netlify – Landing page website built in React.

Relational Database: PostgreSQL in Docker.

## REACT NATIVE

### **What platform will this feature be on and why?**

We will use React Native Expo since it can help us build an application on both platforms (iOS and Android).

Mobile (iOS/Android) – It is better to be mobile, which we always carry to manage the expiration date of our stuff. Also, users need to get push notifications, not only when using the device.

By addressing both platforms, we can reach more users.

## SECURITY FOR OUR USERS

### **Does your project have security as part of the design? How if so?**

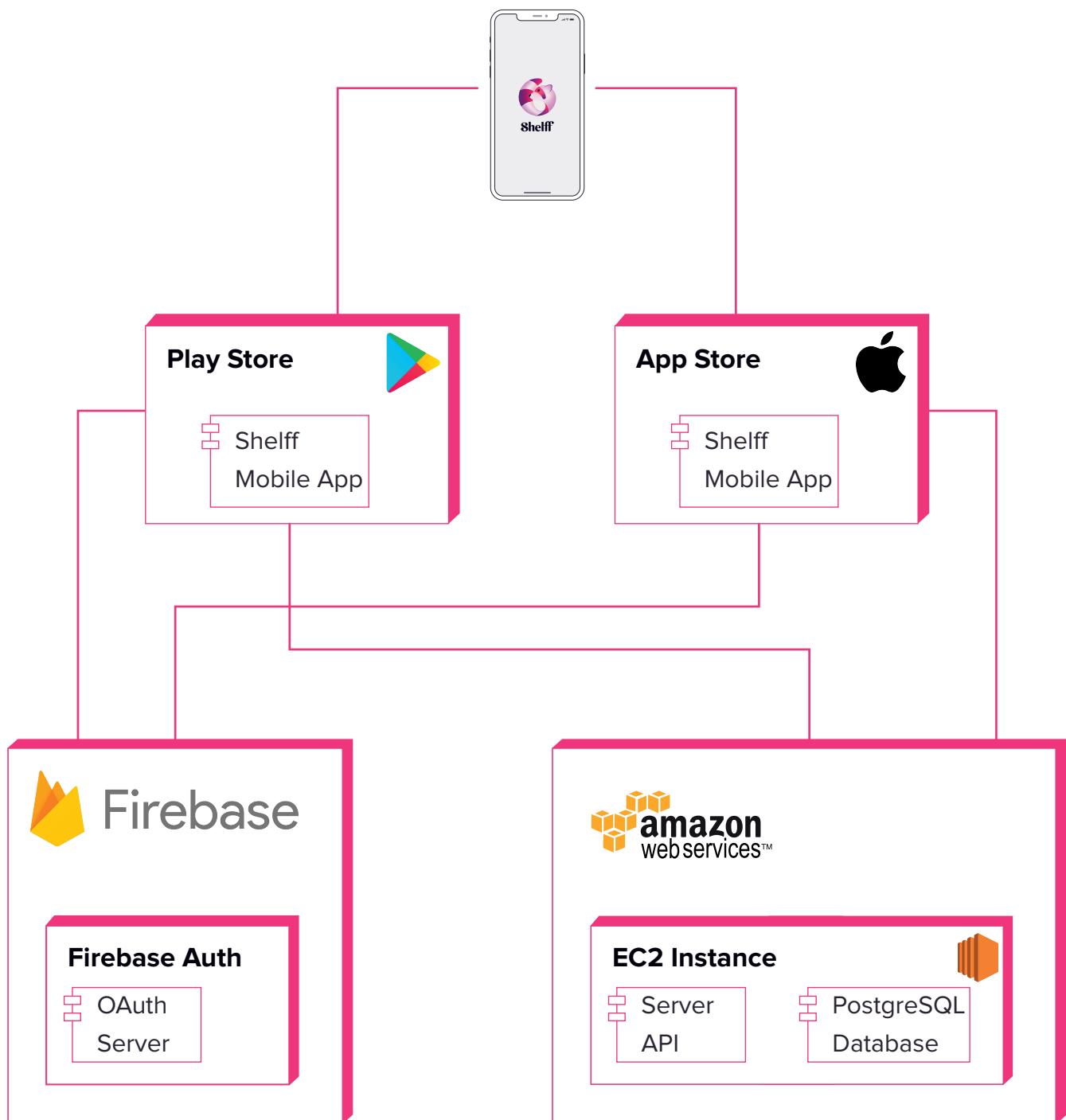
Authentication and Authorization: Every user has to authenticate to their account to get their information.

The application will store name and e-mail information but not sensitive information.

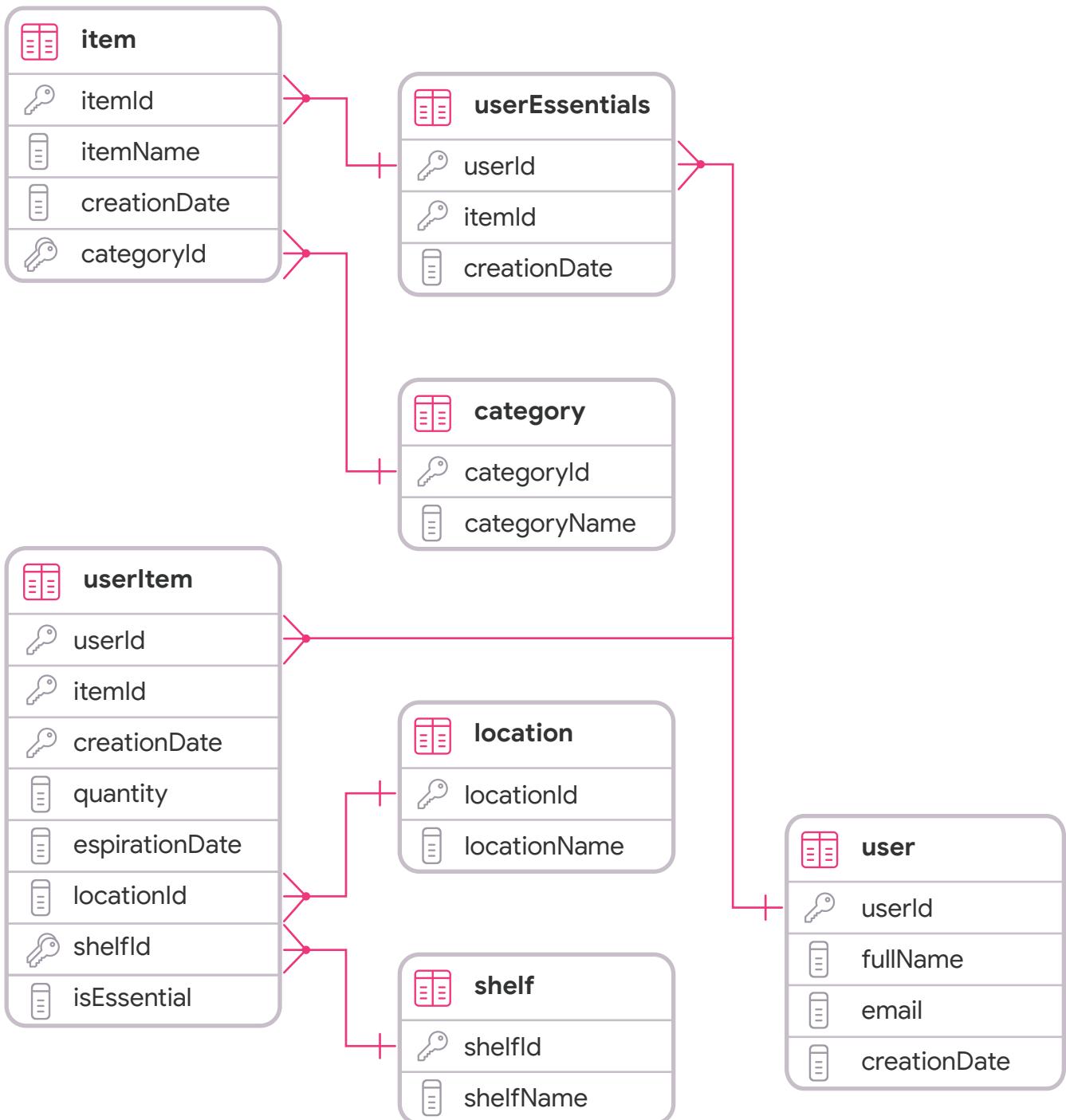
The application will provide an SSO (Single Sign-On) option to let the users create an account and authenticate through popular social media accounts (Gmail), preventing them from remembering another user and password account. Besides, the application will store only the necessary and basic information from the user, such as their name and e-mail.

Implement a testing strategy to prevent any bugs in production, and ensure that every piece of information and every user interaction will not break the application and affect the integrity of our data.

# System Architecture Diagram



# Database Model Diagram



# Design Process

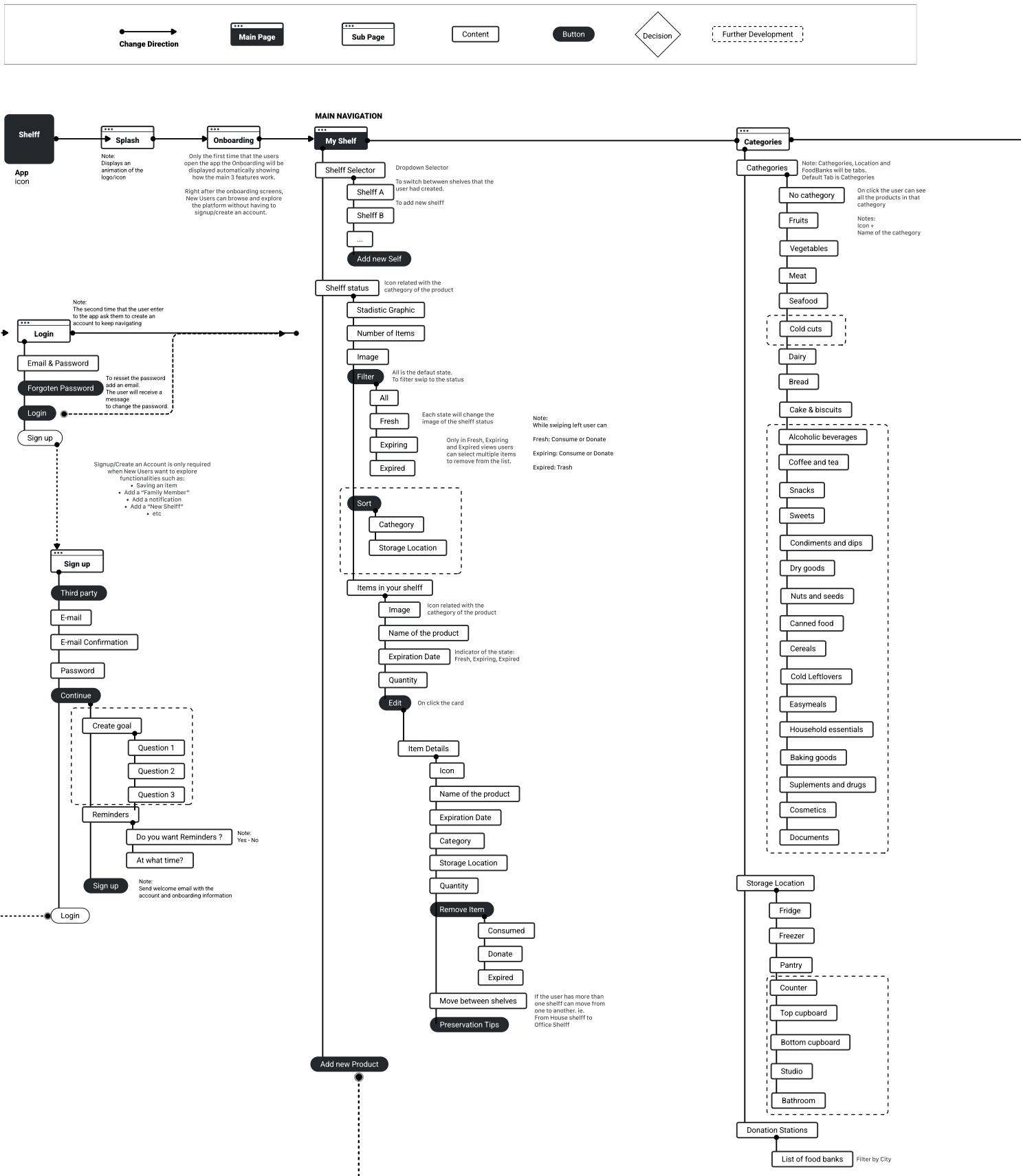
How we did it?

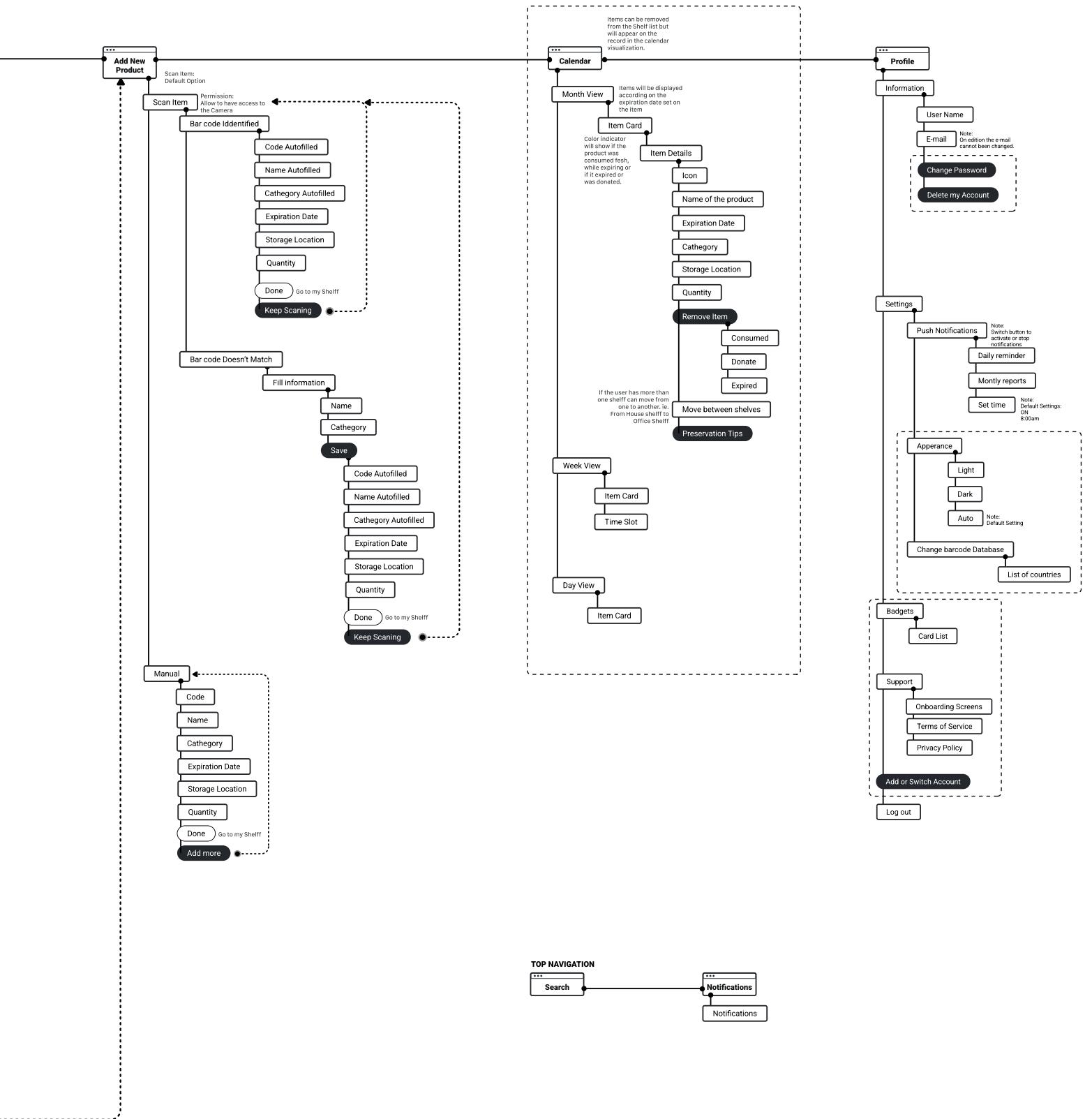
We followed Design Thinking processes with a user-centric approach.

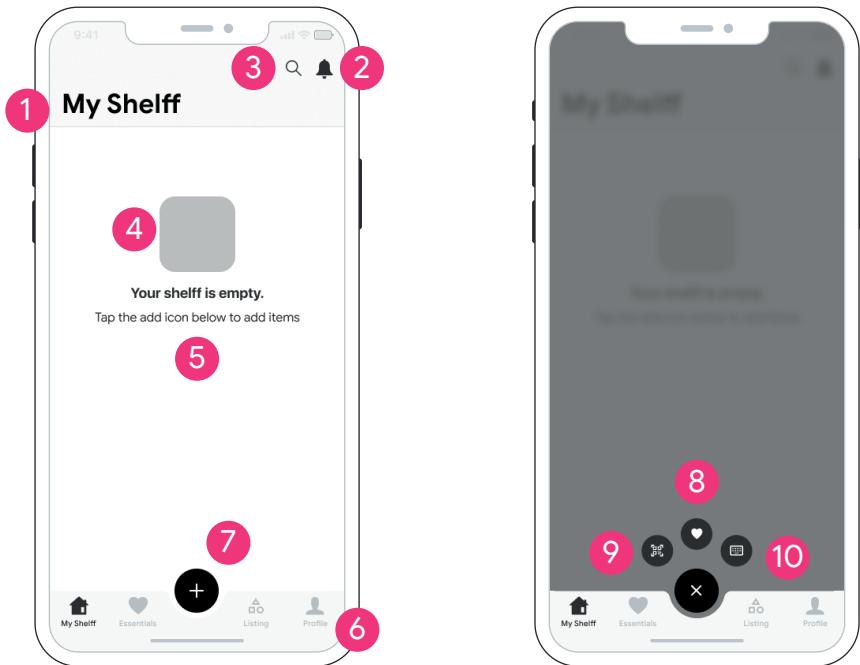
# Design Tools



Our team mainly used the Adobe suite in all of our design processes. Illustrator was used to design vector-based logos, icons, graphics, and proposal documents; while we used Photoshop to edit pictures. After Effects to create motion animations and Premier to edit the videos. Figma was used for designing personas, user flow, wireframes, high-fidelity mockups, and clickable mockups.



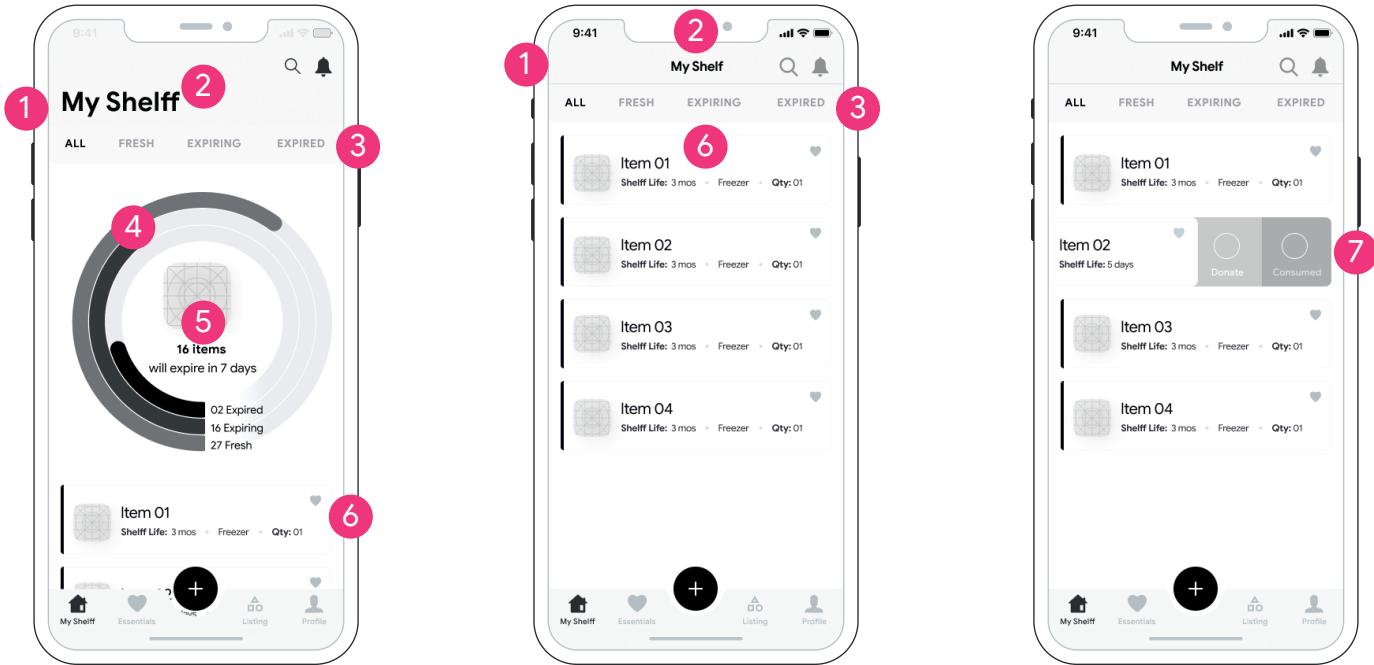




## NOTES

### Add new item

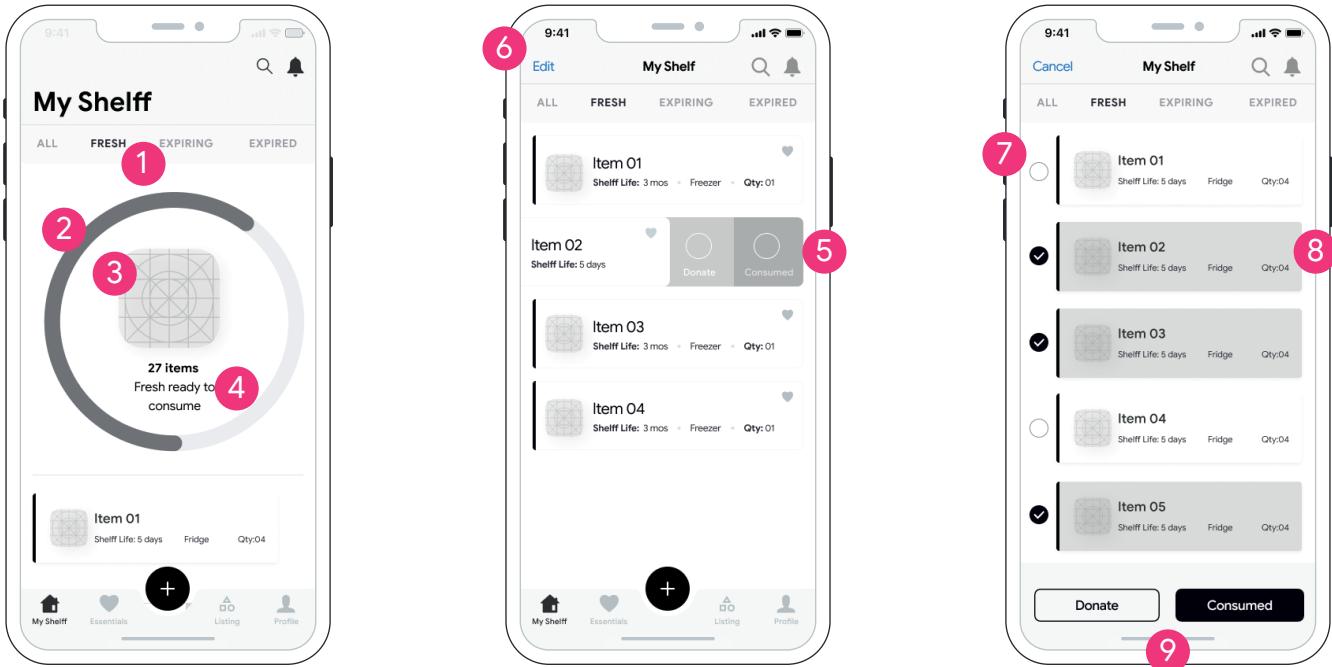
- 1 Title of the section.
- 2 Notifications of the changes of the state of an item: Expiring/Expired.
- 3 Search by name.
- 4 Placeholder for the logo.
- 5 Text description only when there is no item in the food inventory.
- 6 Bottom Navigation with icon and text.
- 7 On-click a radial sub-menu will show 3 ways to add new items.
- 8 Add a new item by your essential list.
- 9 Add a new item by scanning a barcode.
- 10 Add a new item by a manual entry.



## NOTES

### My Shelf / Submenu -All-

- 1 Top bar/ Navigation / Large / Double by scrolling turn into Top bar / Navigation / Double
- 2 Title of the section, by scrolling moves to the center.
- 3 Top bar submenu, by swiping the screen the user navigates through it.
- 4 Donut status bar to show the fresh, expiring and expired items.
- 5 Placeholder for the logo.
- 6 Item card with name, Shelf life, location, quantity and essential icon indicator.
- 7 By swiping each card user can remove each item and indicate if they consumed, donated or put in in the bin.  
This item actions will be used in the future to create monthly reports.  
For fresh and expiring items the user can consume and donate:  
For expired items the user can only put the food in the bin.

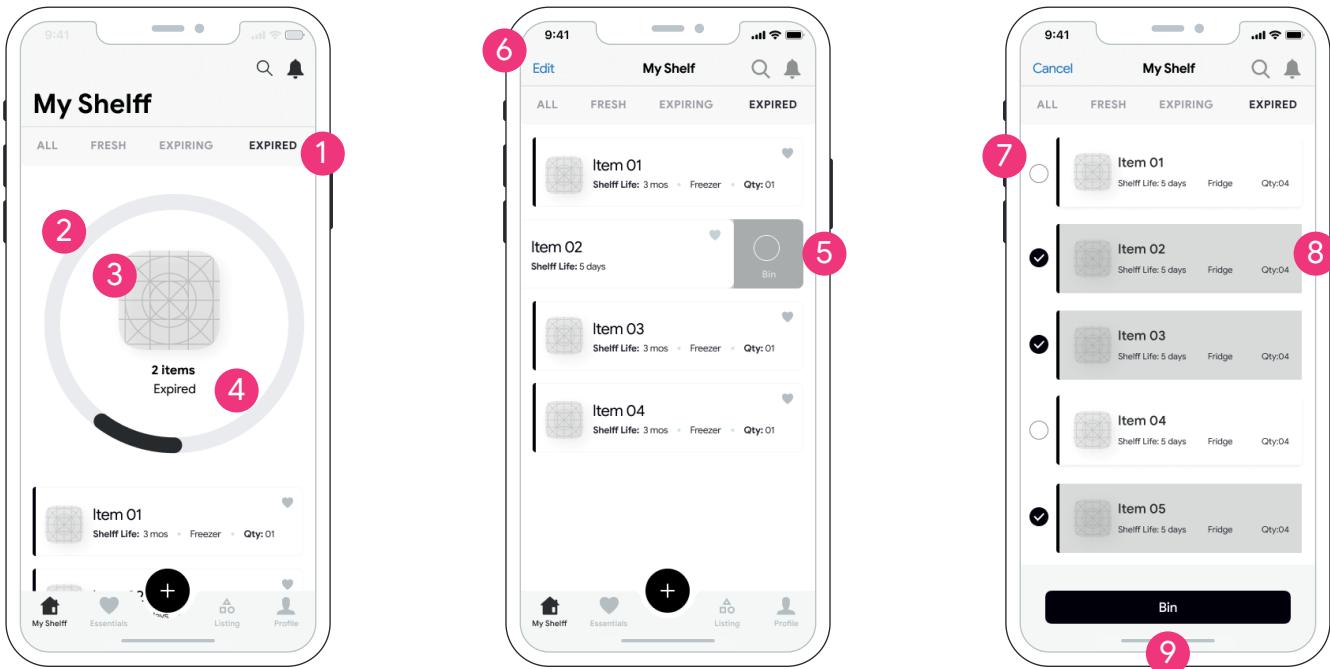


## NOTES

### My Shelf / Submenu -Fresh and Expiring-

- 1 Top bar submenu, for fresh and expiring food.
  - 2 Donut status bar. Fresh and Expiring have different colour.
  - 3 Placeholder for animation, different animation for Fresh and Expiring food.
  - 4 Visual counter of the number of items in each section.
  - 5 By swiping each card user can remove each item and indicate if they consumed, donated.
  - 6 After scrolling the "edit" button appears at the top navigation.
  - 7 While clicking the Edit button, users can do multisection only in Fresh, Expiring and Expired pages.
  - 8 Item cards will shrink to the right.
  - 9 Fresh and Expiring items could be consumed, donated.
- This item actions will be used in the future to create monthly reports.

This item actions will be used in the future to create monthly reports.



## NOTES

### My Shelff / Submenu -Expired-

- 1 Top bar submenu, for expired.
- 2 Donut status bar. Different colour for Expired food.
- 3 Placeholder for animation, different animation for Expired food.
- 4 Visual counter of the number of items in each section.
- 5 By swiping each card user can remove each item and indicate that they put the food in the bin.
- 6 After scrolling the “edit” button appears at the top navigation.
- 7 While clicking the Edit button, users can do multisection only in Fresh, Expiring and Expired pages.
- 8 Item cards will shrink to the right.
- 9 Expired items could be put in the bin. This item actions will be used in the future to create montly reports.

This item actions will be used in the future to create montly reports.

# Design System

Modular components

Allow you to manage design at scale,  
increasing consistency and efficiency.

# Brand Logo

**Our logo is a key element of our brand identity; therefore, it is essential that it is always reproduced correctly.**

The mascot always should have our wordmark next to it. This could be in a horizontal or vertical orientation.

Master files in a variety of different formats can be acquired from the Shelff Design Team.

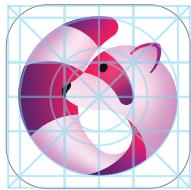


**Shelff**



## APP ICON AND FAVICON

**Favicon** 16px



**iPhone @2X**



120px  
App Icon



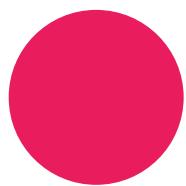
80px  
Spotlight



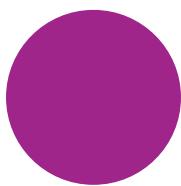
58px  
Settings

# Color Pallete

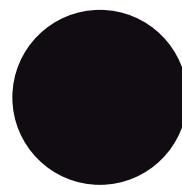
## PRIMARY COLOURS



#E9205D



#A1268A



#110813

## Shades and Tints



## Gradients



#E9205D



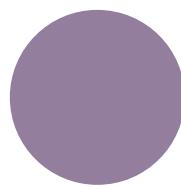
#F8BFD1



#DCA4CC

#FCE4EA

## SECONDARY COLOUR



#937E9C

### Shades and Tints



### Gradients



#B59EBE      #FFFFFF

## STATUS COLOURS



#EB5C01

#BC1619



#FFC808

#EB5C01



#51B447

#05A898

# Typography

## Google Sans

This typeface covers all the texts on the application and website. Different types and sizes of the google sans typeface have been used for different purposes in the application.

A large, bold, pink font displays the letters 'A' and 'g' side-by-side, illustrating the Google Sans typeface.

## Headline 1

Size 28 | Bold  
Line Height 36

## Headline 2

Size 22 | Bold  
Line Height 40

### Sub-title

Size 17 | Medium  
Line Height 24

### Body

Size 15 | Regular  
Line Height 20

Michale

This typeface used as a base for Logotype and also for highlighting words in titles on the website.

A large, stylized logo consisting of the letters 'A' and 'g' in a pink color. The 'A' is a simple, bold letter, while the 'g' is highly calligraphic with a long, sweeping descender that loops back towards the top of the letter.

# Headline 1

Size 72  
Line Height 80

## Headline 2

Size 48  
Line Height 72

# Iconography

The Navigation Icons will be displayed on the bottom navigation with the grayish color as default and with the pink primary color as an active state.

The icons for the swipe buttons will be a stroke on the color background as defined.

The main Plus Icon on the bottom navigation will have some sub buttons when clicked. These icons give the user more choices to add a new item to their shelff.

## NAVIGATION



Home



Essentials



List



Profile

## MAIN CTA



Add



Close



Scan Barcode



Manual Entry



Essentials

## SYSTEM



Search



Notification

## SWIPE BUTTON



Donate



Consumed



Bin

## CATEGORY AND STORAGE ICONS

These icons created to make it easier to manage the food items. The food category and storage icons follow natural colors combination. These colors give the realistic look to the icons and help to recognize the icons better.

### Food Category



Bread &amp; Cake



Chicken



Dairy



Seafoods



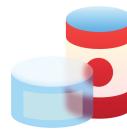
Vegetables



Meat



Fruits



Canned Food

### Food Storage



Pantry



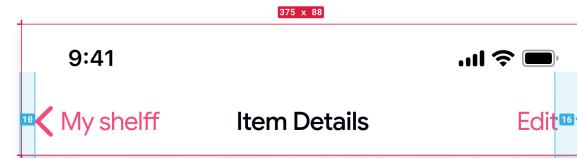
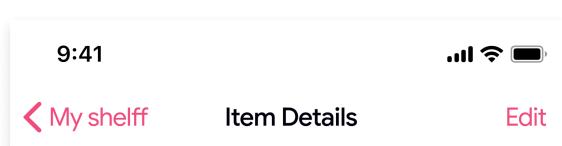
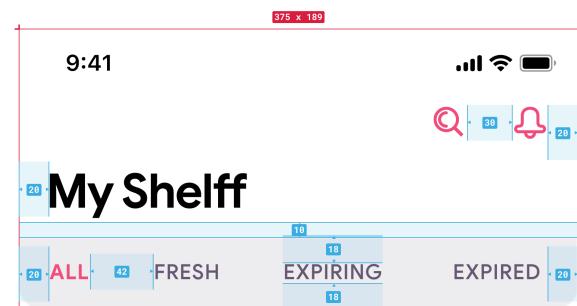
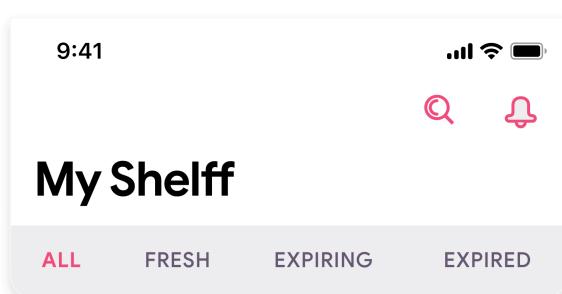
Fridge



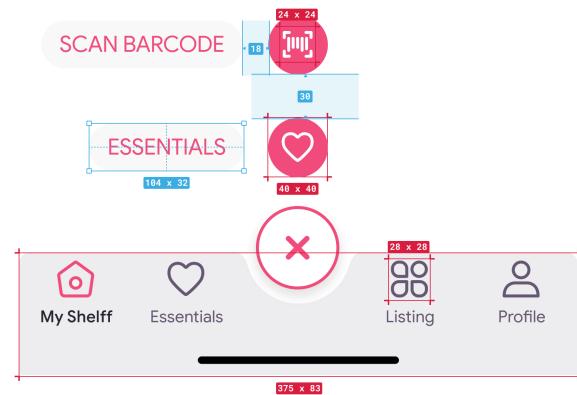
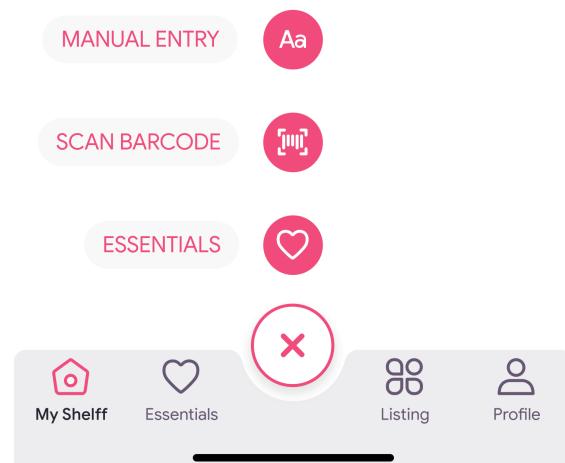
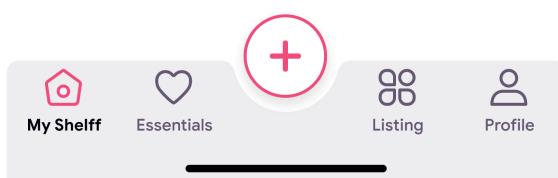
Freezer

# UI Components

## TOP BAR



## BOTTOM BAR



## FOOD STATES CHARTS

### Yummy!

Fresh food gives you more nutrients.



Fresh: 27 items

### Mmmm!

Evaluate if you will eat it or if you should look for a food bank.



Expiring: 16 items

### Iuc!

Setup reminders to avoid your food going to waste.



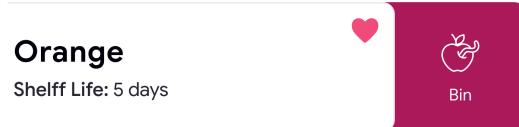
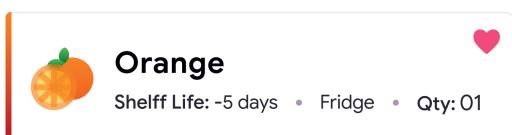
Expired: 4 items

## ITEM DETAILE PAGE CARD

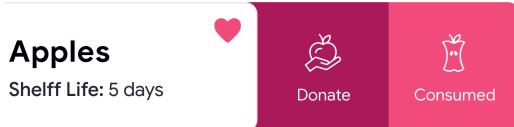
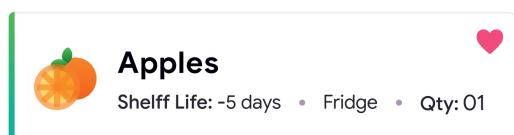
A card featuring a large central logo of a fox. Below it, the text "Status: Fresh" is displayed in bold. Underneath that, "Shelf Life: 12 months" and "Quantity: 01" are shown. At the bottom, there are two icons: a heart labeled "Essential Item" and a freezer icon labeled "Freezer".

A card similar to the first one, but with a horizontal progress bar at the top. The bar is mostly blue with a small red section on the right. The number "24" is at the end of the blue section. Below the bar, the fox logo and "Status: Fresh" are present. Underneath, the shelf life and quantity information is shown. At the bottom, there are two icons: a heart labeled "Essential Item" and a freezer icon labeled "Freezer".

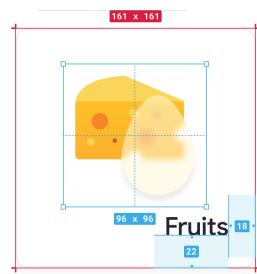
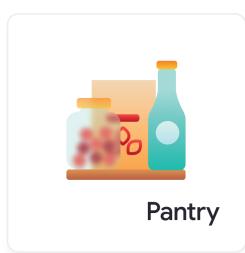
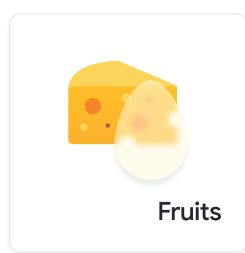
### EXPIRED ITEM CARD



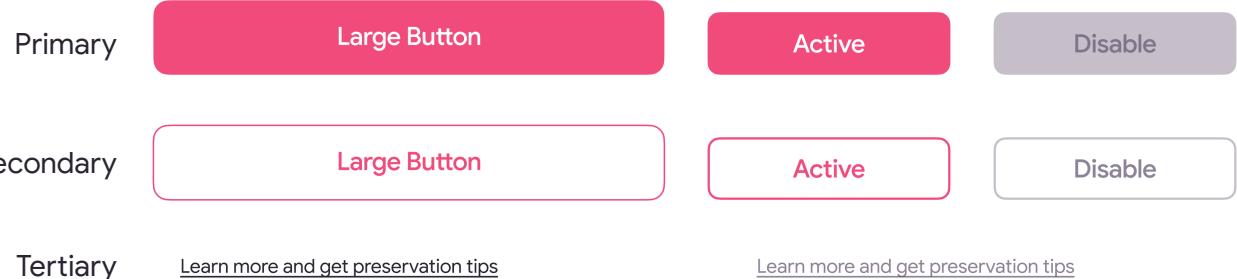
### FRESH ITEM CARD



### LIST CARDS



## BUTTONS



## TEXT FIELD

Full Name\*

Full Name\*

Full Name\*

## SEARCH FIELD


Cancel

## CHECKBOX

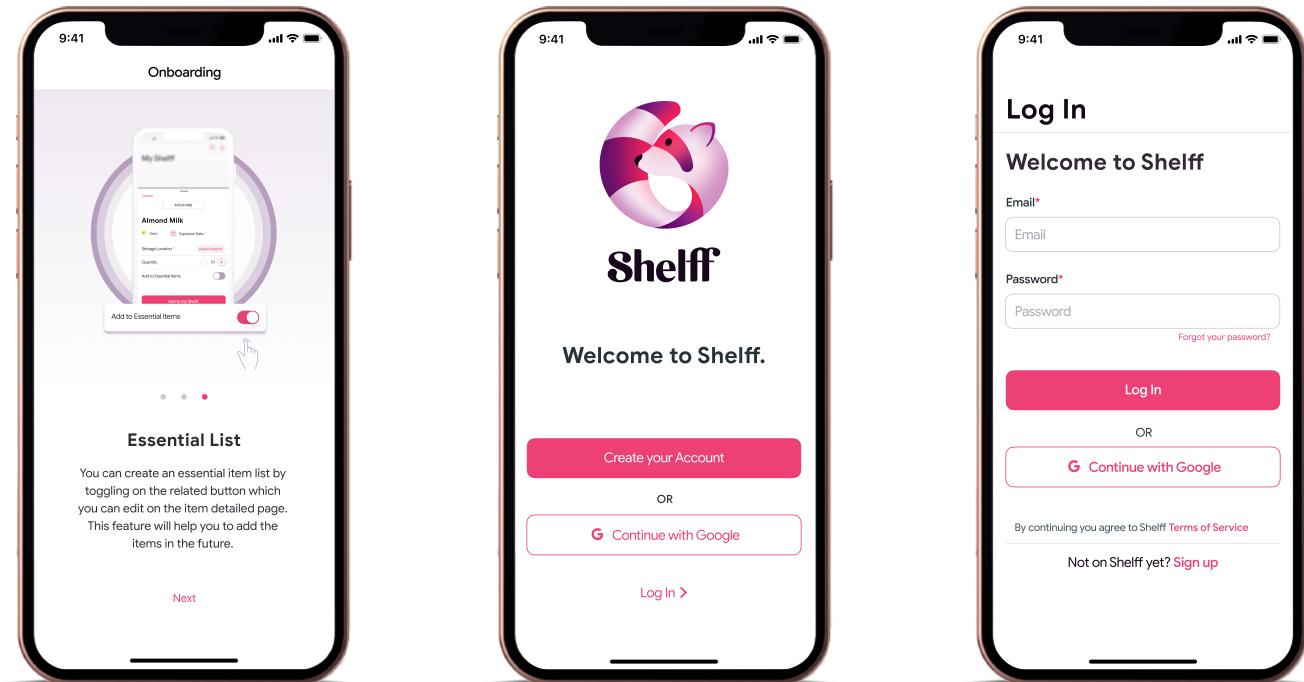
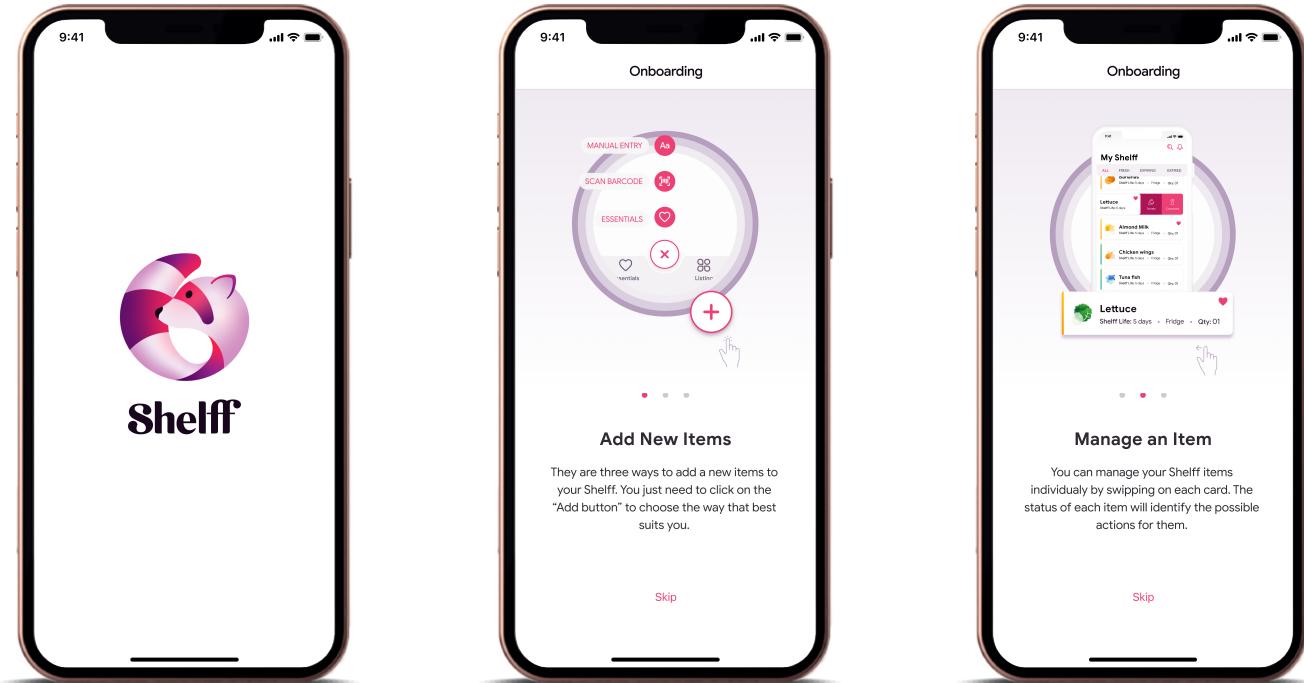


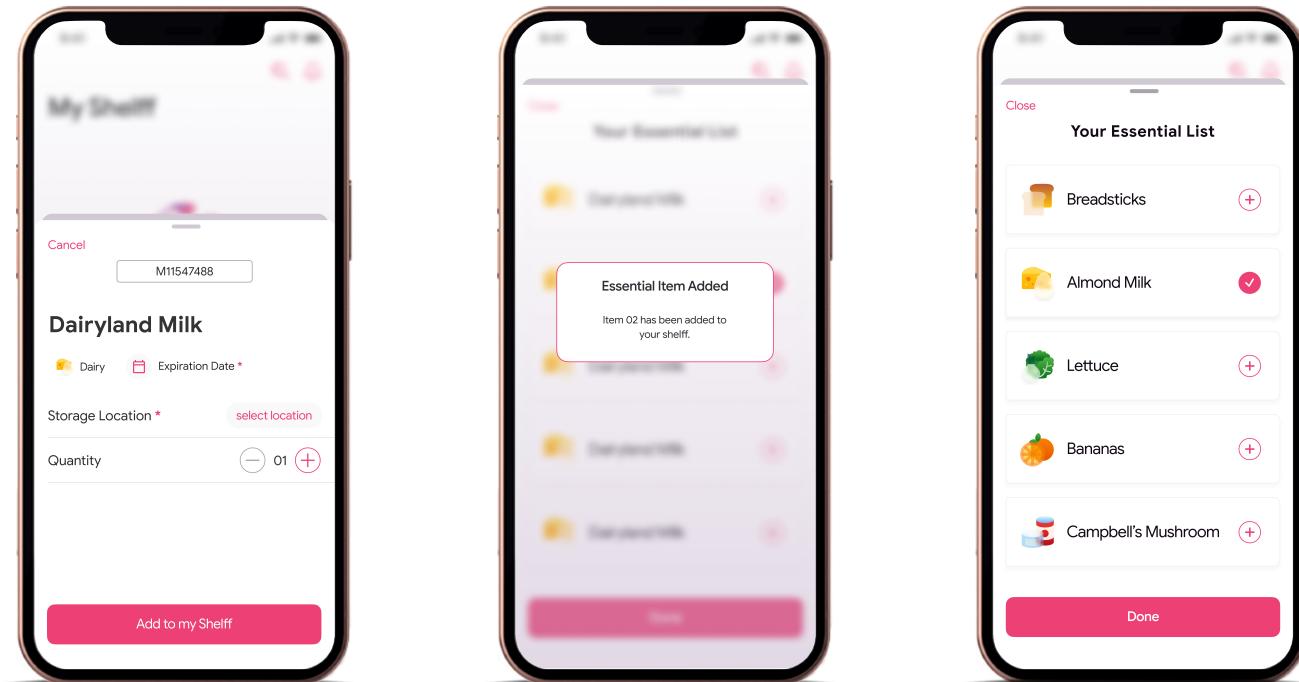
## TOGGLES

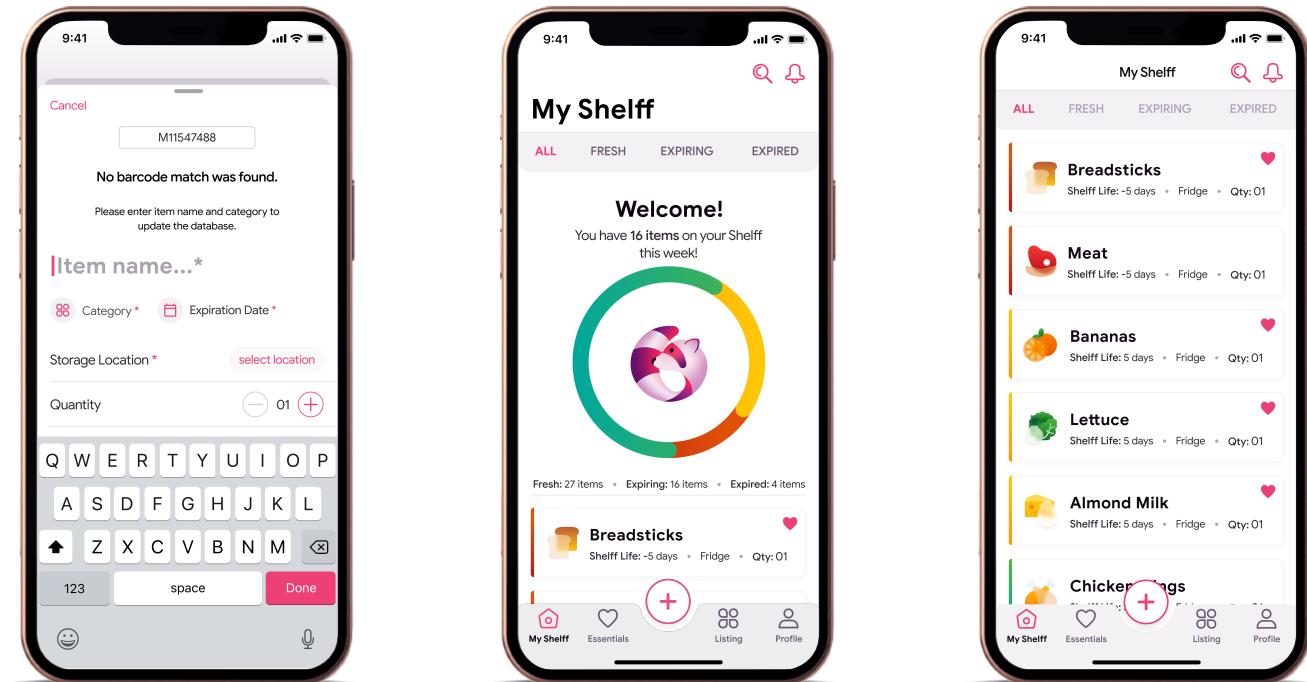
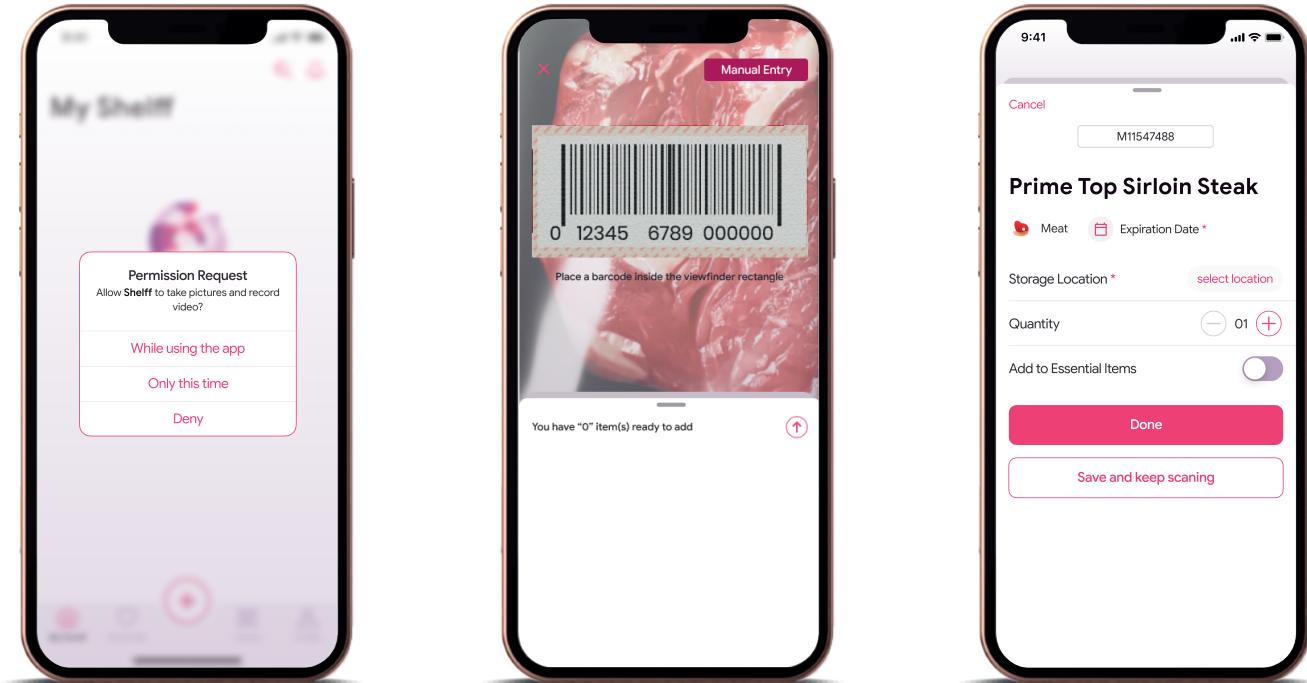


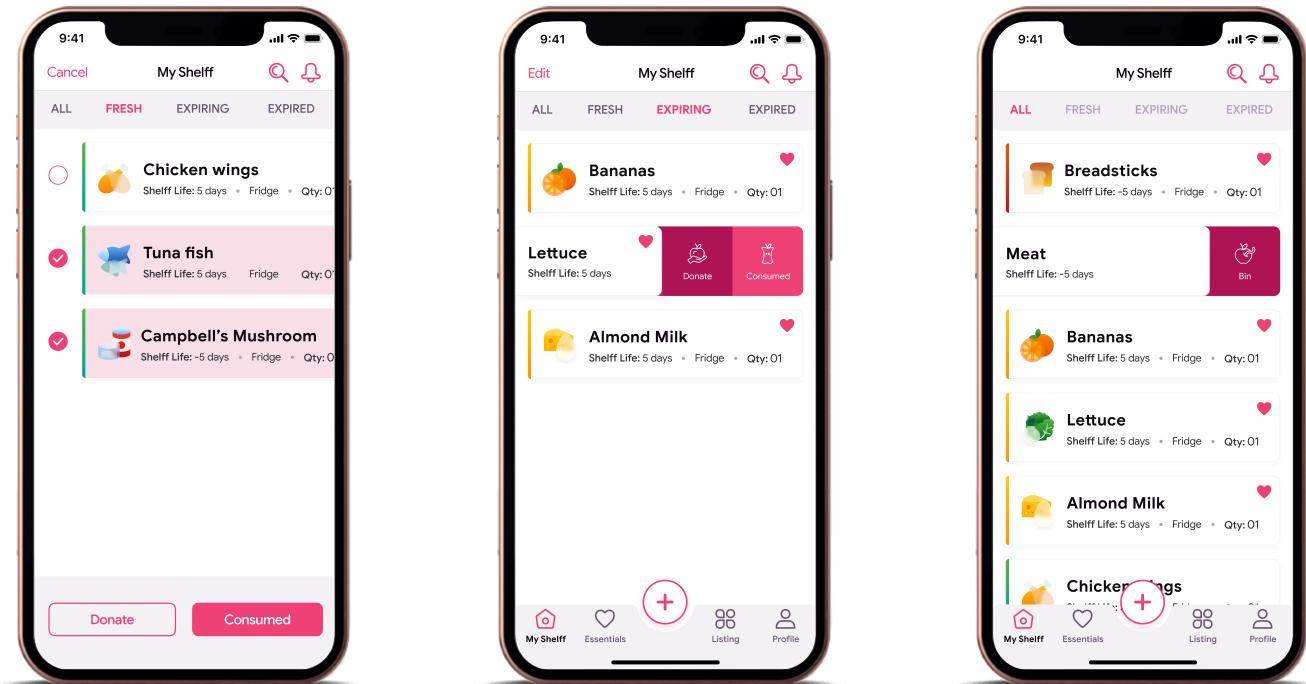
## SELECTOR

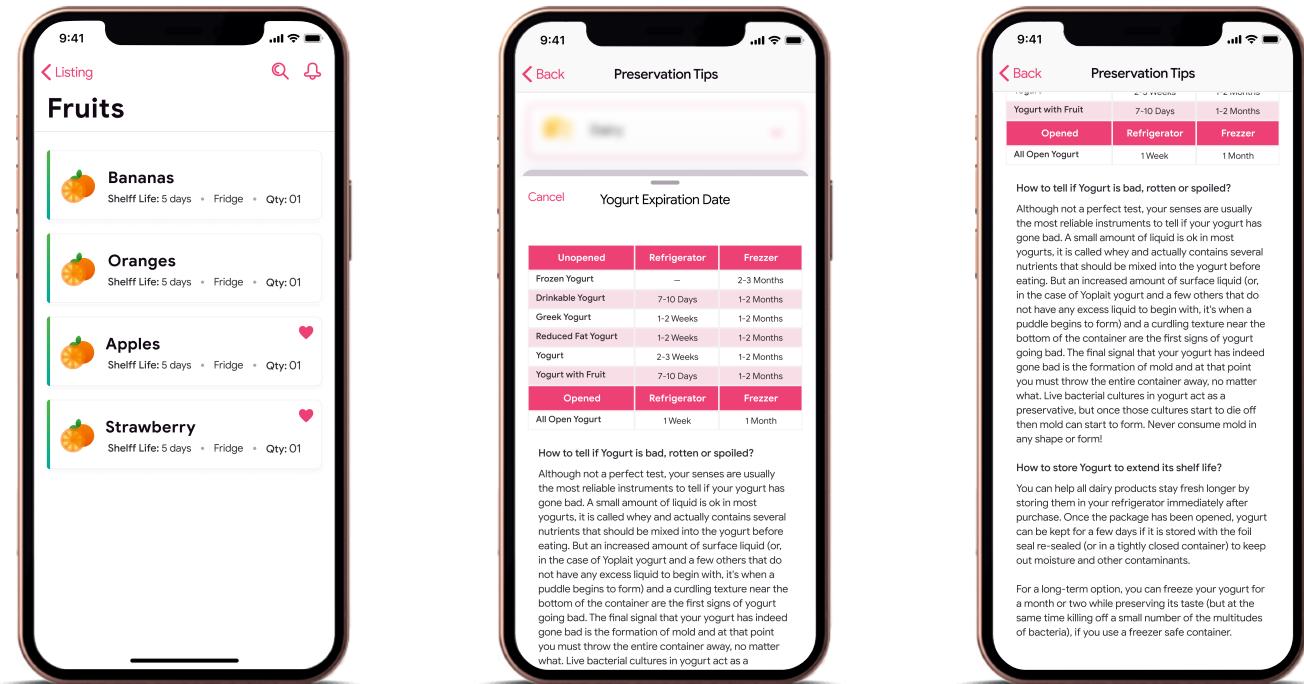


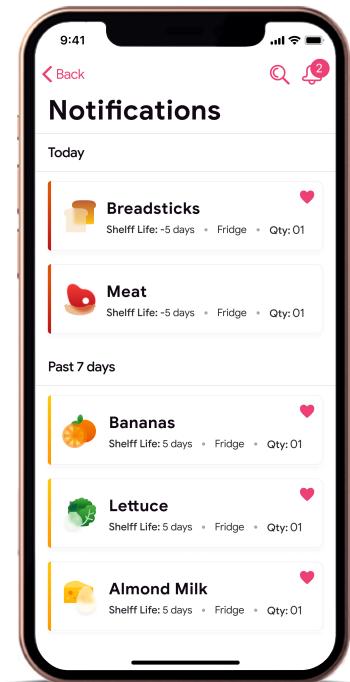
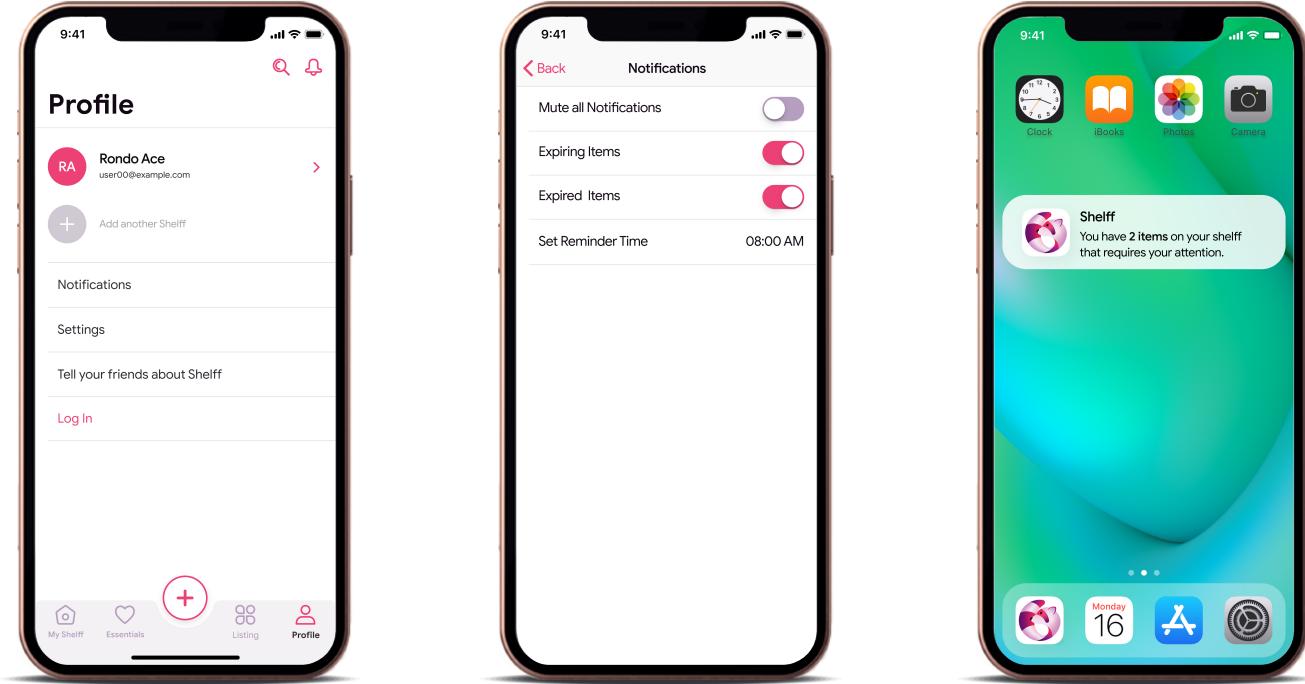


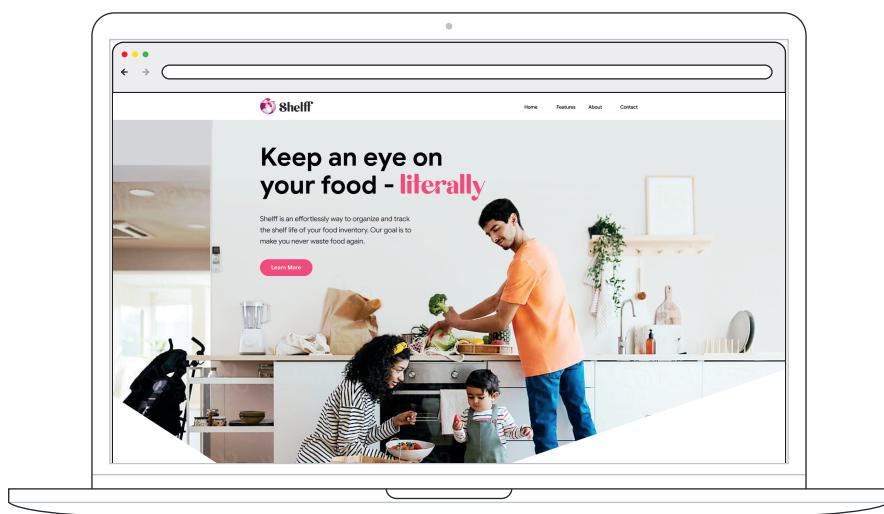












**Keep an eye on your food - literally**

Shelff is an effortlessly way to organize and track the shelf life of your food inventory. Our goal is to make you never waste food again.

[Learn More](#)

**ONE PLATFORM.**  
A 360° view

Shelff allows you the information you need, and all the time. See that you have one less thing to worry about.



**MERGE SCANNING**

Log food items effortlessly

Having trouble scanning multiple items at once? Set up a barcode scanner and easily log multiple items with just one scan. Every item is tracked instantly.



**PUSH NOTIFICATIONS**

Mitigate food waste with push notification reminders

Don't let food go bad. Set notifications on every logged food item and managing them has never been easier. Nothing goes bad on your watch ever again.



**COMING SOON**

**Donate** your items and make giving your new favorite activity

Shelff is more than food inventory tracking. Donate your unwanted food items to local food banks and charities. Your shelf life matters and we'll take care of that for you.



**MEET THE TEAM**

A team of design and technology prowess



Alejandra Hernandez  
DESIGNER



Megumi Takashima  
DESIGNER



José Artega  
DESIGNER



Sam Villegas  
DESIGNER



Lilian Fajardo  
DESIGNER



Eliaz Behravesh  
DESIGNER



Tayo Adetola  
DESIGNER

The **effortless** way to track your food shelf-life

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Shelff



**THIS IS SHELF**

**One platform. A 360° view**

Shelff shows you the information you need, and when you need it, so that you have one less thing to worry about.

**BARCODE SCANNER**

**Log food items effortlessly**

Entering data manually takes too much time and effort. Let our barcode scanning functionality simplify the process for you. Every item is sorted instantly into categories for easy organization when scanned.

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**Log food items effortlessly**

Entering data manually takes too much time and effort. Let our barcode scanning functionality simplify the process for you. Every item is sorted instantly into categories for easy organization when scanned.

**PUSH NOTIFICATIONS**

**Mitigate food waste with push notification reminders**

Stay on top of it all by getting notified on every logged food item and managing them your way so nothing goes bad on your watch ever again.

**FOOD BANK DONATIONS**

**COMING SOON...**

**Donate your items and make giving your new favorite activity**

Shelff is more than food inventory tracking. Donate your unwanted food items to one of our community food bank partners. We'll handle the due diligence and take care of that for you.

**FOOD BANK DONATIONS**

**COMING SOON...**

**Donate your items and make giving your new favorite activity**

Shelff is more than food inventory tracking. Donate your unwanted food items to one of our community food bank partners. We'll handle the due diligence and take care of that for you.

**WHO WE ARE**

**A team of design and technology prowess**

**DEVELOPER** Alejandra Hernandez **DEVELOPER** Megumi Takashima **DEVELOPER** José Arteaga **DEVELOPER** Sam Villegas **DESIGNER** Lillian Fajardo **DESIGNER** Einaz Behravesh **DESIGNER** Tayo Adetola

**The effortless way to track your food shelf-life**

**Let's get you started**

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# Business Model

How Shelff will grow?

Future features will be implemented to  
monetize our platform.

# Business Model

With the growing concern over the shortage of resources and food waste in recent years, we came to the idea of helping Canadian families with their food inventories at home to reduce food waste.

As a result, from our survey, research, and personas profile building, we found that there are common reasons for food waste among households.

We finalized the features based on the results of our findings. For the freemium model of the application, we choose the features which we believe will tackle the problem at an early stage.

We believe that this problem could be tackled during this time, and we will promote new features with a tailor-made plan for our users in the future.

**Freemium:**  
Regular Users

**Main features:**  
Scanning products  
Tracking the shelf life of the products  
Getting notification about each item

**To support these features app includes:**  
Creating an essential list  
Learning tips related to storing food properly  
Finding the nearest foodbank

**Upgraded features V2:** *Users should pay for new features*  
New Features  
Creating Shopping list  
Donations from the app  
Add new Shelfff to the Account

**Upgraded features V3:** *Users should pay for new features*  
Calendar view  
Give the user the statistics of their food habits consumption  
Users can create a community  
Widget functionality

# Interdisciplinary team

Who created Shelff?

We are enthusiastic professionals Web and  
Mobile Apps Design & Development

We are grateful for the people who motivate us to grow, improve, work harder, achieve our goals, and smile.

“**Thank you  
for your part in  
our journey”**

We appreciate and acknowledge the beautiful people in our life: to our family, friends, instructors, classmates, coworkers and colleagues.

# Behind every human achievement, there is a team.



**Elnaz Behravesh | Product Designer – UI / UX**

Over 10 years of experience as a Graphic Designer and Lead designer in an advertising Agency

**Responsibilities:**

Critical thinking and user-centered design through product development | Design and develop the product information architecture | User and market research | Design user flows and wireframes | Ideation and designing brand identity and UI elements | Interactive user interface design and high-fi prototype | Logo animation and advertisement video | Product document file



**Lilian Fajardo | PM + Product & UX designer**

8 years of experience as a product designer and 2 years as a project manager developing VR and AR apps.

**Responsibilities:**

Evaluate and manage the production scope and risks | Plan, monitor and guide weekly Sprint meetings | Build a user flow with a user-centric approach | Design a meaningful experience through an animation system | Design wireframes | Contribute to the Design Language System | Design Category icons and High-fi Prototype | Logo animation | Review accessibility elements | Proposal file.



**Tayo Adetola | Digital Product Designer / UX**

A self-taught product designer with an architectural design technology background specializing in interface design and user experience for digital products since 2013. I care a lot about using design to create clean, meaningful experiences.

**Responsibilities:**

Designed and developed the product information architecture | Contribute to design low-fi and high-fi prototype | Designed the marketing landing page.



**in** /alerika

### Alejandra Hernandez | Front-end Developer

3 years of experience in software development with .Net and SQL server

Responsibilities:

Develop and maintain the UI | Develop features to enhance UX

Build reusable web components

Test production application code

Help and support team members | Review pull request in GitHub



**in** /jharteaga

### José Arteaga | Full-stack Developer

7 years of experience in software development

Responsibilities:

Develop and maintain the UI, develop features to enhance UX

Build re-usable web components

Work together with back-end developers to improve usability

Implement unit/component testing | Review pull request in GitHub.



**in** /megumi-takashima

### Megumi Takashima | Front-end Developer

Experience in building applications with MS Excel Macro/VBA

Responsibilities:

Develop, maintain and test production application code.

Collaborate with back-end developer.

Review pull request in GitHub.



**in** /samuelvw

### Samuel Villegas | Full-stack Developer (Development lead)

Self-taught web developer with experience building app using React, Node.js, SQL/NoSQL databases and cloud services. Background as a business developer.

Responsibilities:

Develop, maintain and test production application code | Deliver features end-to-end, taking full ownership and managing the whole software

development lifecycles from design to release | Collaborate with front-end developer | Define and communicate technical and design requirements | Help and support team members | Review pull request in GitHub.

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**Shelff**

**snə́weyə̄t lelə̄m̄.**

THE COLLEGE OF HIGHER LEARNING.

**Langara.**

THE COLLEGE OF HIGHER LEARNING.