SAP

FOOD STASH

Transforming Surplus into Sustenance

SAP x Food Stash | youCode 2025

The Team – CodeRed

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Background

Problem

Average food insecurity rate in Canada:

47%

FOOD IS TOO
VALUABLE
TO WASTE
Food Stash Foundation

Problem Statement

"While 1.3 billion tons of food is wasted annually, 828 million people go hungry due to broken donation systems plagued by high spoilage rates, unreliable volunteer networks, and poor communication between donors and recipients. This disconnect wastes perfectly edible food, generates harmful methane emissions, and leaves nearby shelters unable to consistently serve those in need"

Challenge

◉ About 1 in 4 people in Canada are food insecure

◉ If food wastage was a 'country' it would be 3rd largest contributor of greenhouse gases,

Background

Goal

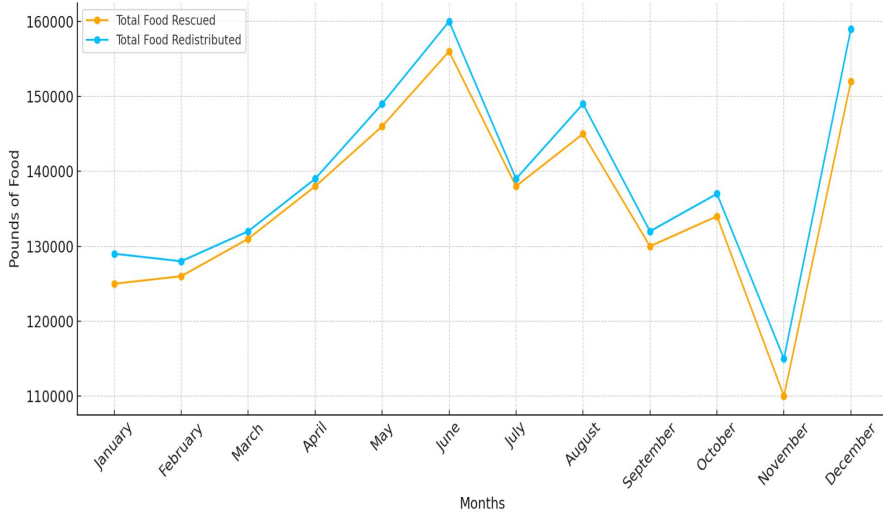- Create a centralized platform to connect donors, volunteers, and shelters

Solution

- Reduce spoilage by 15% in 6 months
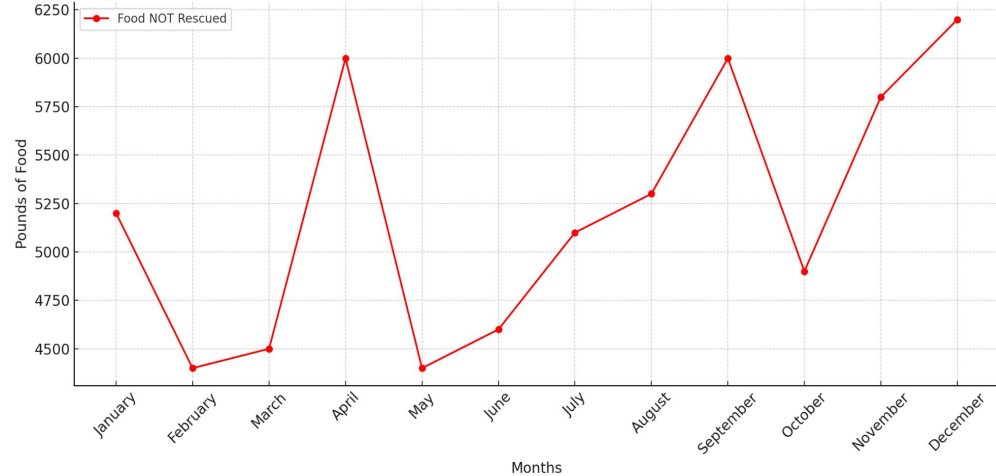
- Match food types with community needs

Month wise analysis of food rescued vs not rescued

Total Food Rescued vs Redistributed

Food NOT Rescued

📌 Data Source

◉ Food Stash 2024 data:

23% of avoidable food waste is caused by best before from processing to purchase dates . $58B The total value of avoidable food waste every year.
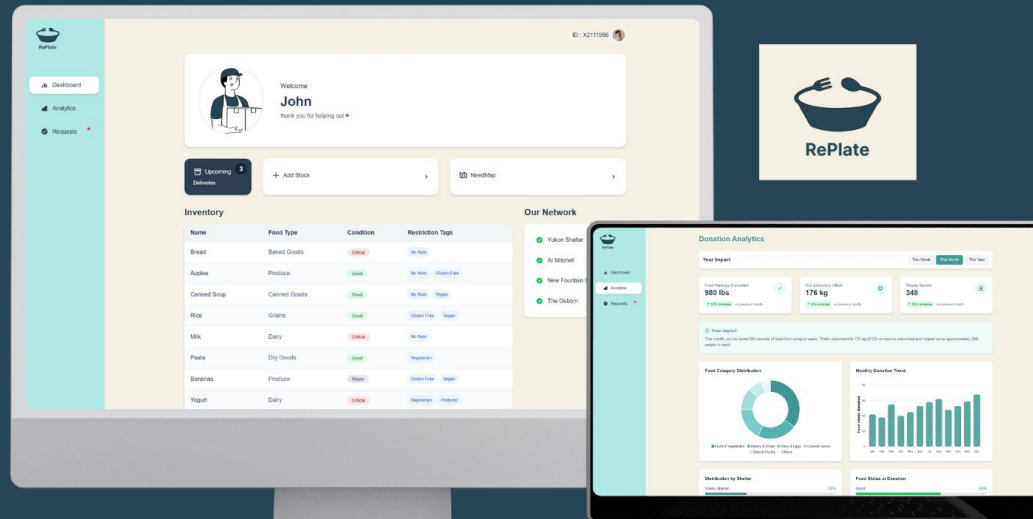
Total Rescued	Total Not Rescued	Avg Rescued/Month
1,675,329 lbs	62,266 lbs	139,610 lbs

Spoilage Rate		
3.6%		

Website Demonstration

Model Pipeline

User interface → Figma Design → Frontend Implementation via nextjs and tailwind

→ Gemini Integration for AI classification → Overall dashboard & Analytics
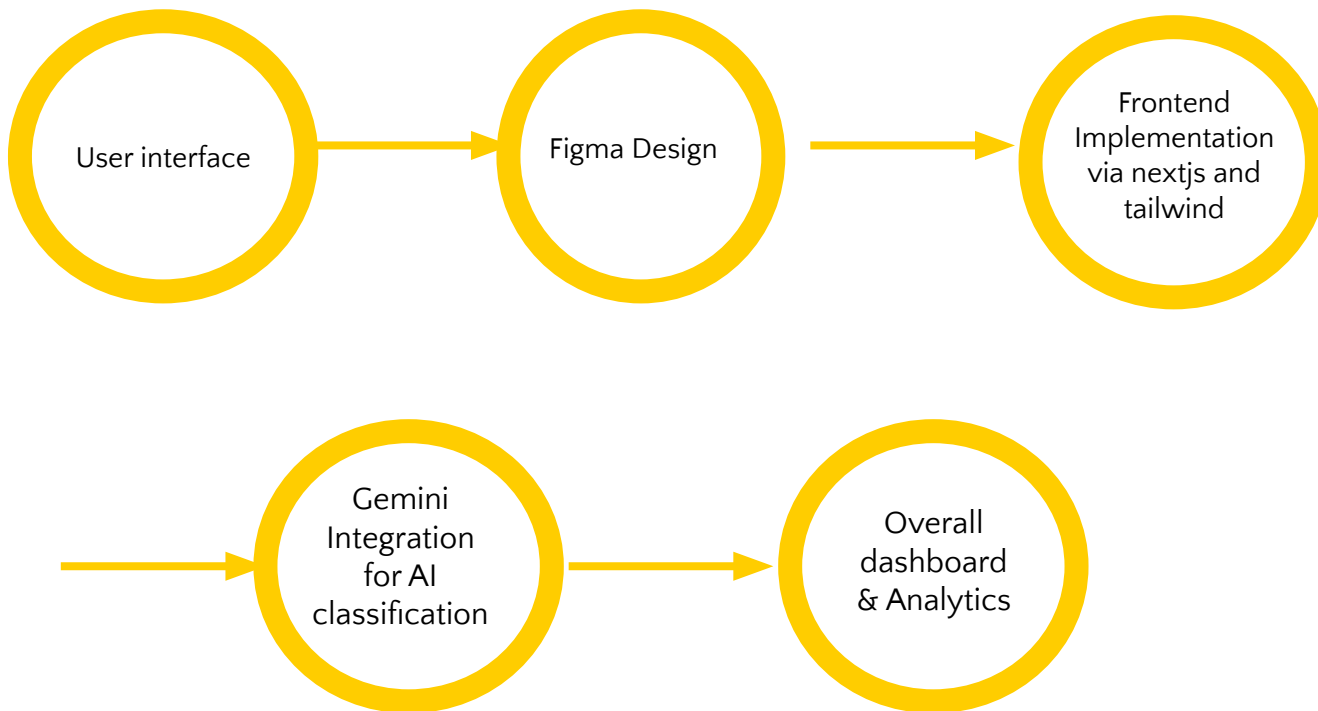
Testing Images Used
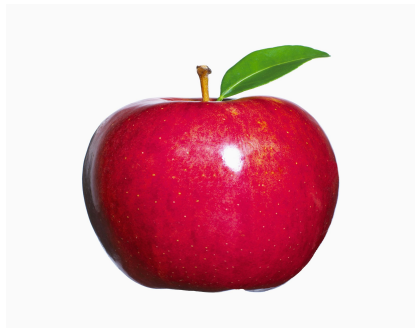
Method of Classification

- **Fine Tuned & Tested 3 different models using custom images** (for each fruit)
  - **EfficientNetB0**
  - **MobileNetV2**
  - **ResNet50**
- **Models compared**
  - **For Banana: Best Model** Taken (MobileNetV2) due to significantly **higher accuracy** (as shown in earlier result)
  - **For Apple: Average** of result of all 3 models displayed
- Further tuning image classification might be needed to **improve accuracy** (more images = higher accuracy).

ML Model Predictions – Bananas & Apples

🍌 *Prediction for 'bananaExpired.jpg'*

Category	Probability (%)
Good	14.64%
Risky	10.30%
Expired	75.06%

Confident prediction: Expired (75.06%)

1/1 ━━━━━━━━━━━━━━━━ 0s 25ms/step
🍌 Classification Results

🍌 *Prediction for 'bananaGood.jpg'*

Category	Probability (%)
Good	90.32%
Risky	8.88%
Expired	0.80%

Confident prediction: Good (90.32%)

1/1 ━━━━━━━━━━━━━━━━ 0s 27ms/step
🍌 Classification Results

🍌 *Prediction for 'bananaRisky.jpg'*

Category	Probability (%)
Good	14.11%
Risky	47.55%
Expired	38.34%

🍏 Average Predictions for 'appleExpired.jpg':

Category	Probability
Good	0.07%
Risky	22.54%
Expired	77.39%

🔍 Prediction: EXPIRED (77.39%) 🟠 Moderate

🍎 Average Predictions for 'appleGood.jpg':

Category	Probability
Good	97.12%
Risky	2.83%
Expired	0.05%

🔍 Prediction: GOOD (97.12%) 🟢 Very Confident

🍏 Average Predictions for 'appleRisky.jpg':

Category	Probability
Good	9.84%
Risky	79.44%
Expired	10.69%

🔍 Prediction: RISKY (79.44%) 🟠 Moderate

Future Improvements

Expanding Our Reach

We're focused on expanding Re-Plate by onboarding local businesses and shelters in pilot areas and using their feedback to fine-tune the platform.

Smarter, Simpler Tools

a mobile app, geolocation matching, and volunteer routing to make donating surplus food faster, easier, and more efficient.

Boosting Impact

With in-app messaging and impact dashboards, we're strengthening connections and helping users see the real difference they're making in their communities

Thanks!

Any **questions** ?