

AI Plus Team 1 Project Pitch

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1 in 10

Canadians rely on food banks

1 in 4

Visitors is a child

1 in 10

Visitors is a senior citizen





01

Our Trip to the
Food Bank





Our Journey

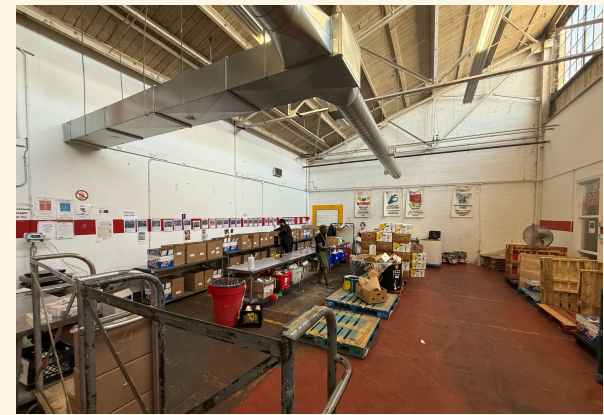


Judith Redda -
Community
and Corporate
Fundraising
Manager and
our host for
the
experience.



The Experience

- Interviewed and toured warehouse with staff members
- Observed how food is received, sorted, inspected, stored, and distributed
- Volunteers of all ages manually inspect every item for quality and damages
- Was briefly introduced to management system (Primarius), which uses barcode scanning to log and track donations



An overview of the sorting section of the warehouse.



The Process

Throughout the tour, we went and experienced:

- The main storage for perishable and non perishable goods
- The freezers and specific products that they store
- What is considered “urgently needed”
- A visual representation of the food bank’s demand and supply



Judy, our host explaining and answering questions about the logistical components of the warehouse.



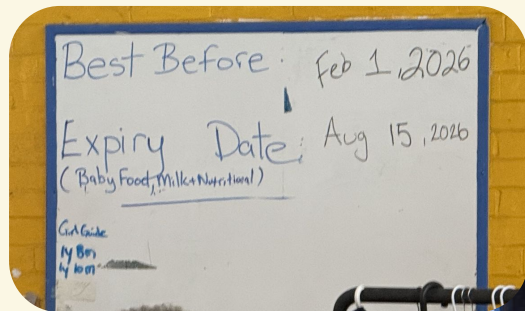
A physical bin for urgently needed goods



Individually packed fish, meat, and purchased items frozen in the warehouse’s freezer.

02

The Problem



What is an essential issue we discovered?

- North York Harvest receives thousands of donated products that are often close to their expiry date.
- Expiration dates are not stored in Primarius, therefore inventory only sorts based on arrival date
- With less than a total of 50 people that work there, staff are unable to identify which products are going to expire through the digital inventory tracker. They could only identify by memory and manually reading expiration dates on packaging (difficult as inventory grows)
- Staff explained that, since expiration dates were not digitally tracked, products can be overlooked and they would be forced to throw them away.
- Painkiller: to cease preventable food waste (need vs want)





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The Solution



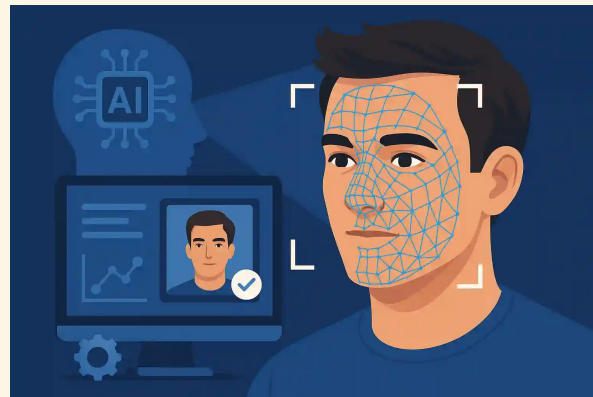
Computer Vision

What is it?

- An area of artificial intelligence that focuses on the processing, detection and analysis of images, videos and other sources of visual information
- Detects lines from pixels, shapes from lines, then objects from shapes, and then it will predict what it believes the object to be

Examples

- Face recognition log in systems
- Self driving cars
- Social media filters
- Our upcoming project...



The Idea:

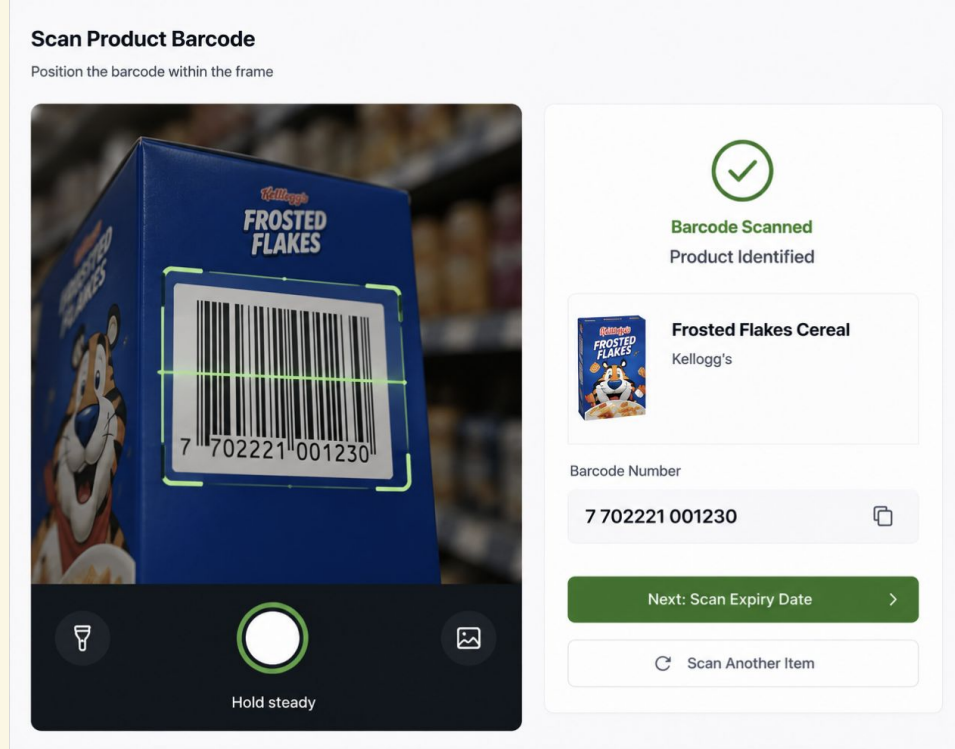
An AI tool featuring visual recognition for expiry dates on food packaging



Prototype Workflow



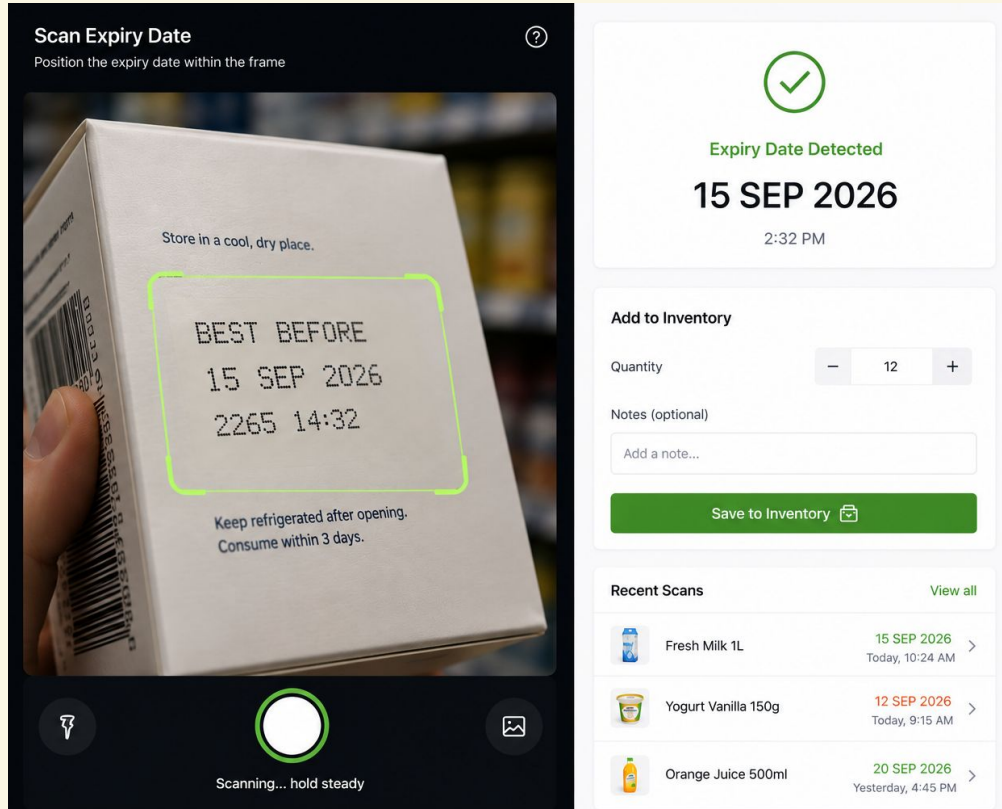
Barcode Scanning for Product Identification



Process:

1. Scan the product barcode
2. The barcode is decoded to identify the product.
3. Product information (product name and barcode number) is retrieved automatically.
4. The volunteer verifies the identified product

AI-Powered Expiry Date Detection



Process:

1. Capture an image of the product's expiry date.
2. The system automatically detects and reads the expiry date
3. The detected date is displayed for volunteer verification.
4. The verified expiry date is automatically saved to the inventory system.

Smart Inventory Tracking

Inventory

View and manage tracked inventory

Filters

+ Add Item

Total Items
152
All locations

Expiring Soon (≤ 7 days)
8
Requires attention

Expiring This Month
24
Keep monitoring

Good (> 30 days)
120
Well in range

All Items

Expiring Soon

Expiring This Month

Good

152 items

Export

Item Name	SKU / Barcode	Expiry Date ↑	Status
 Fresh Milk 1L	8901234567890	15 SEP 2026	● Good
 Yogurt Vanilla 150g	8909876543210	12 SEP 2026	● Expiring Soon
 Orange Juice 500ml	8905678901234	20 SEP 2026	● This Month
 Butter Unsalted 250g	8902345678901	05 OCT 2026	● This Month
 Cheddar Cheese 200g	8903456789012	28 OCT 2026	● Good
 Whole Wheat Bread	8904567890123	02 SEP 2026	● Expiring Soon
 Large Eggs (12ct)	8906789012345	10 OCT 2026	● This Month

Showing 1 to 7 of 152 items

< 1 2 3 ... 22 >

Features

- Automatically records the product name and expiry date after scanning.
- Categorizes items by expiry status (Expiring Soon, This Month, Good)



How it will be implemented: Building

- Train a custom computer vision model using annotated images of food packaging.
 - Include expiry dates in different locations, fonts, orientations, and lighting conditions to improve detection accuracy.
 - Integrate the detected product information and expiry date alongside Primarius.
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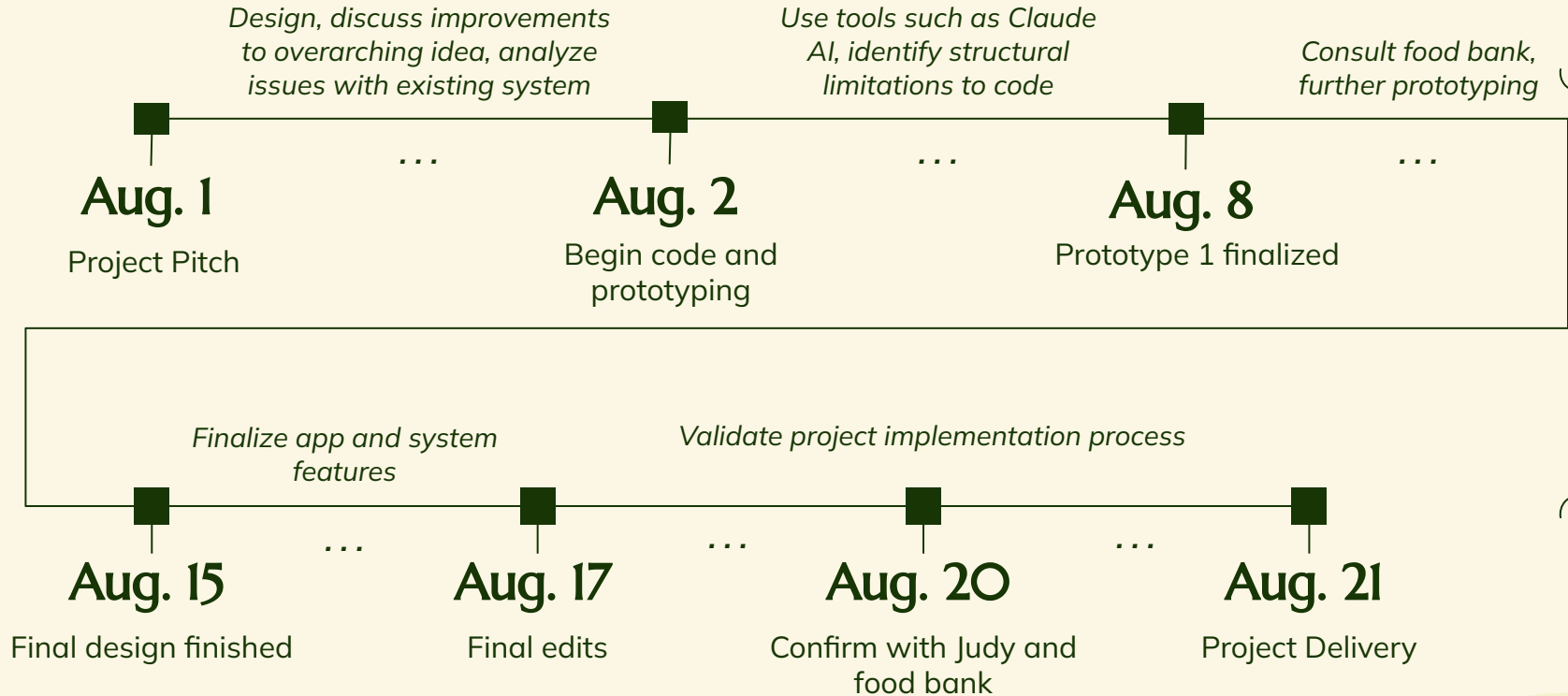


O4

Our Plan



Plan Outline





05

Long-Term Success



Why our AI Product?

Automation

Rather than requiring employees and food bank workers to locate and manually enter product information, AI can automatically input this information into the system, bringing us a step closer to automation.

Waste Reduction

By shifting from a first-in, first-out process to a first-expired, first-out processes, our AI can drastically reduce waste by helping prioritize products closest to expiring.

Time

With millions of products being processed annually, incorporating expiry dates into the food bank system would require heaps of time. Our AI tool would lower this time by significantly reducing manual data entry.

Allocative Efficiency

Donation advocacy is a massive problem, that cannot easily be fixed without human input. Our AI will reduce marginal costs considerably, and help re-allocate scarce human resources towards high-value tasks that cannot be automated.



Initial Feedback



“Tracking by expiry would be **instrumental.**”

- Judith Reda

Community and Corporate Fundraising Manager



“It would be **huge.**”

- Natasha Bowes

Director of Development and Marketing



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Conclusion



Thanks for listening!

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