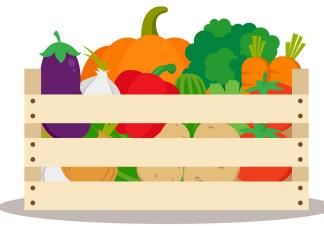


ROOTED

INSPIRE x Uvic Hacks Hackathon 2026



Facts

-60%



In Canada, -60% of food is lost or wasted.

-\$58 billion

Grocery stores total waste contributes to -\$58 billion of lost food annually.

-3 billion



-3 billion people globally cannot afford a healthy diet.

The Problem

Grocery stores dispose or discount produce well past expiration.

Consumers are not informed in an effective or timely manner.

This contributes to waste and high cost of healthy foods.

Our Solution

ROOTED is a cost-effective mobile application that uses AI-driven shelf monitoring and dynamic pricing to reduce produce waste in grocery stores.

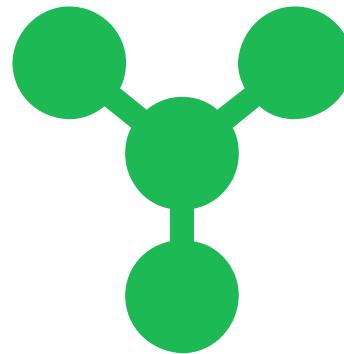
Grocery stores maximize profit, reduce waste, and increase accessibility. It allows consumers to buy individual items with real-time discounts which are tailored to their grocery habits.

Implementation



Front end: HTML, CSS, JS, Tailwind

Two pages: a marketing landing page and a dashboard for scanning produce. Users capture or upload images, which are analyzed by the backend and displayed with results.



Data base: SQLite

SQLite database with SQLAlchemy storing user accounts, produce scan records, and scan sessions. Foreign keys link users to their scans and group scans into sessions.

Backend / APIs: Python, Flask, Gemini



Flask application with authentication and scanning endpoints. The scanning routes use Google Gemini vision models via LangChain to analyze produce images, then save results to the database.

Use Case

Use Case: The Local Independent Grocer

A small produce market in Victoria faces high daily waste because staff lack the time to manually sticker hundreds of ripening bananas and tomatoes.

ROOTED allows the manager to scan these items with a smartphone and instantly push "flash discounts" to local shoppers' phones without needing expensive digital shelf labels.

As a result, neighborhood residents buy the exact ingredients they need for dinner at a discount, while the store recovers profit on items that would have otherwise been composted.

Demonstration

Live demo

What's Next?



Consumer Receipt Sync & Alerts

Customers will upload photos of their receipts to track the fruits and vegetables they purchased.

The app will alert users if the same items are available at a discount in the store.



Quality Log (B2B)

Store managers will use a digital record of produce scans to see patterns in food spoilage.

Managers will use this information to choose better suppliers and reduce the amount of food they throw away.



Multilingual Support

The app will support multiple languages to ensure workers and customers who speak different languages can navigate the interface.

References

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<https://smith.queensu.ca/insight/content/To-Fight-Food-Waste,-Grocers-Turn-to-Analytics.php>
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APPENDIX

Competitors

Company	ROOTED	Neurolabs	OneThird	Wasteless	Too Good To Go
Primary Specialty	Shelf Monitoring and Dynamic Pricing	Shelf Monitoring	Quality Prediction	Dynamic Pricing	Surplus Resale
Hardware	Mobile Device / App	Cameras / Sensors	Larger Scanners	Digital Shelf Labels	Mobile Device / App
Expiry Mgmt.	✓	✗	✓	✓	✓
Auto-Markdowns	✓	✗	✗	✓	✓
Surprise Gamble	None	None	None	None	High
Op. Friction (Store)	Low	Low	Medium	Low	High
Op. Friction (User)	None	None	Low	Low	High
Cost to Business	Low	Medium	Medium	Very High	Low

Use Case #2

Use Case 2: The Budget-Conscious Urban Shopper

A student living downtown wants to eat healthily on a strict budget but finds "Surprise Bags" unreliable due to food allergies and random contents. By checking the ROOTED app before their walk home, they can see exactly which high-quality vegetables are currently marked down at their nearby grocer. This transparency allows them to plan a specific, affordable meal and purchase only what they will actually eat, eliminating the "secondary waste" often caused by mystery-style rescue apps.