



SHELF TIMER

a final capstone project by Shelf Life Inc.

COMPANY AVATAR: SHELF LIFE INC.

Overview:

Shelf Life Inc. was created to create an app that could tackle the global challenge of food waste at the consumer level. Grounded by the founders' lived experience with food insecurity, the company's mission is to empower everyday users with intelligent, easy-to-use tools that help them track consumption, reduce waste, and contribute to sustainable living.

Core Identity:

- Name: Shelf Life Inc.
- Stage: Early-stage, Pre-Seed
- Focus: Development of a low-maintenance MVP with AI-powered functionality to drive early adoption and secure seed funding
- Values: Sustainability, Empowerment, Simplicity, Impact
- Key Objective: Build a lightweight yet powerful proof-of-concept that demonstrates their vision and garners investor interest

Guiding Principles:

- Make food sustainability accessible and achievable
- Leverage AI responsibly
- Create measurable, positive environmental impact
- Use metrics to influence customers food practices
- Freemium model, allowing equitable access to all

Target Audience:

Individuals and families seeking better control over household food practices, targeting individuals who are passionate about sustainability, and looking for digital support in reducing individual household waste.

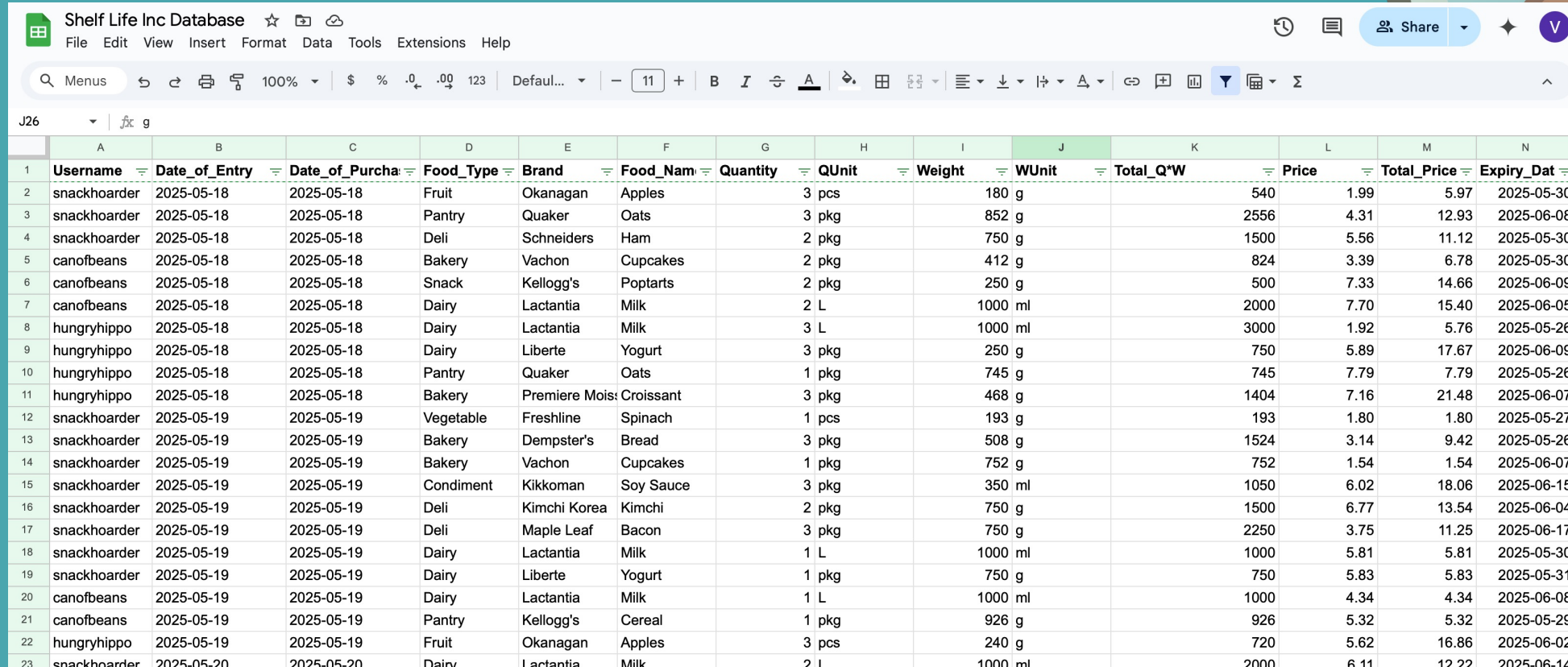
Future Vision:

To evolve the MVP into a fully developed app with barcode scanning, smart shopping lists, and gamified dashboards that promote eco conscious habits scalable through dedicated tech hires post-seed round.



Data Source & Database

Database: Used Google Sheets & Google API



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Username	Date_of_Entry	Date_of_Purchase	Food_Type	Brand	Food_Name	Quantity	QUnit	Weight	WUnit	Total_Q*W	Price	Total_Price	Expiry_Date
2	snackhoarder	2025-05-18	2025-05-18	Fruit	Okanagan	Apples	3	pcs	180 g		540	1.99	5.97	2025-05-30
3	snackhoarder	2025-05-18	2025-05-18	Pantry	Quaker	Oats	3	pkg	852 g		2556	4.31	12.93	2025-06-08
4	snackhoarder	2025-05-18	2025-05-18	Deli	Schneiders	Ham	2	pkg	750 g		1500	5.56	11.12	2025-05-30
5	canofbeans	2025-05-18	2025-05-18	Bakery	Vachon	Cupcakes	2	pkg	412 g		824	3.39	6.78	2025-05-30
6	canofbeans	2025-05-18	2025-05-18	Snack	Kellogg's	Poptarts	2	pkg	250 g		500	7.33	14.66	2025-06-09
7	canofbeans	2025-05-18	2025-05-18	Dairy	Lactantia	Milk	2	L	1000 ml		2000	7.70	15.40	2025-06-05
8	hungryhippo	2025-05-18	2025-05-18	Dairy	Lactantia	Milk	3	L	1000 ml		3000	1.92	5.76	2025-05-26
9	hungryhippo	2025-05-18	2025-05-18	Dairy	Liberte	Yogurt	3	pkg	250 g		750	5.89	17.67	2025-06-09
10	hungryhippo	2025-05-18	2025-05-18	Pantry	Quaker	Oats	1	pkg	745 g		745	7.79	7.79	2025-05-26
11	hungryhippo	2025-05-18	2025-05-18	Bakery	Premiere Mois	Croissant	3	pkg	468 g		1404	7.16	21.48	2025-06-07
12	snackhoarder	2025-05-19	2025-05-19	Vegetable	Freshline	Spinach	1	pcs	193 g		193	1.80	1.80	2025-05-27
13	snackhoarder	2025-05-19	2025-05-19	Bakery	Dempster's	Bread	3	pkg	508 g		1524	3.14	9.42	2025-05-26
14	snackhoarder	2025-05-19	2025-05-19	Bakery	Vachon	Cupcakes	1	pkg	752 g		752	1.54	1.54	2025-06-07
15	snackhoarder	2025-05-19	2025-05-19	Condiment	Kikkoman	Soy Sauce	3	pkg	350 ml		1050	6.02	18.06	2025-06-15
16	snackhoarder	2025-05-19	2025-05-19	Deli	Kimchi Korea	Kimchi	2	pkg	750 g		1500	6.77	13.54	2025-06-04
17	snackhoarder	2025-05-19	2025-05-19	Deli	Maple Leaf	Bacon	3	pkg	750 g		2250	3.75	11.25	2025-06-17
18	snackhoarder	2025-05-19	2025-05-19	Dairy	Lactantia	Milk	1	L	1000 ml		1000	5.81	5.81	2025-05-30
19	snackhoarder	2025-05-19	2025-05-19	Dairy	Liberte	Yogurt	1	pkg	750 g		750	5.83	5.83	2025-05-31
20	canofbeans	2025-05-19	2025-05-19	Dairy	Lactantia	Milk	1	L	1000 ml		1000	4.34	4.34	2025-06-08
21	canofbeans	2025-05-19	2025-05-19	Pantry	Kellogg's	Cereal	1	pkg	926 g		926	5.32	5.32	2025-05-29
22	hungryhippo	2025-05-19	2025-05-19	Fruit	Okanagan	Apples	3	pcs	240 g		720	5.62	16.86	2025-06-02
23	snackhoarder	2025-05-20	2025-05-20	Dairy	Lactantia	Milk	2	L	1000 ml		2000	6.11	12.22	2025-06-14

Synthetic Data Generation: 400 entries were generated with varying quantities, food types, and expiry dates.


Platform & Login Access




Streamlit Via Hugging Face Spaces:
Used to host Proof-of-Concept


Default Users: 3 default users to select from to give potential investors pre-loaded data to experiment with

The image shows a login interface for 'Shelf Timer Beta Access'. At the top is a logo featuring an hourglass with various food items inside. Below the logo is the title 'Shelf Timer Beta Access' with a wrench icon. A search icon is followed by the text 'Choose from one of the usernames below:'. Below this, three usernames are listed in green boxes: 'snackhoarder', 'canofbeans', and 'hungryhippo'. A key icon is followed by the text 'The password is 'password'', where 'password' is in a green box. At the bottom, there is a login form with two input fields: 'Username' and 'Password'. The 'Password' field has an eye icon to toggle visibility. A 'Login' button is at the bottom right of the form.


Shelf Timer Beta Access

 Choose from one of the usernames below:

`snackhoarder`, `canofbeans`, `hungryhippo`

 The password is `'password'`

Username

Password

Login


Shelf Life Timer



 Shelf Timer Beta Access

 Maria

 Logout

 Ask SHEL

 Shelf Life Timer  Quantities  Smart Grocery List  Dashboard

Shelf Life Timer

Items expiring within the next:



Day Slider: Slider which users can manipulate to see what food items are close to expiry for a given time frame.

	Food Name	Brand	Expiry Date	Quantity	Unit
93	Bread	Dempster's	2025-07-01	2	pkg
100	Ham	Schneiders	2025-06-30	3	pkg
110	Ham	Schneiders	2025-07-02	3	pkg
127	Carrots	Bonduelle	2025-07-04	1	pcs
135	Milk	Lactantia	2025-07-04	2	L
139	Soy Sauce	Kikkoman	2025-06-28	2	pkg
153	Ham	Schneiders	2025-07-03	2	pkg
179	Butter	Agropur	2025-07-02	3	pkg
184	Bread	Dempster's	2025-07-02	2	pkg

Dynamic Pantry: Quick view of expiring items and their remaining quantity.

Quantities



Shelf Timer Beta Access

👋 Maria

Logout

Ask SHELl

Update Database:

Pushes changes to the database

Shelf Life Timer Quantities Smart Grocery List Dashboard

— Subtract Quantity

+ Add Another Item

Subtraction #1

Select Food Item

Apples

Select Brand

Okanagan

Qty to subtract (Available: 13.00 pcs)

13.00

☐ Mark as Trashed?


✓ Update Inventory #1

Add Item: Allows users to manually add more items to modify food quantities upon consumption.

Subtraction Form: Allows users to select food to modify quantity and push back to the database.

Trashed: Allows users to mark items as thrown either due to expiry or other reasons.

Smart Grocery List



Shelf Timer Beta
Access

Maria

Logout

Ask SHEL!

Shelf Life Timer

Quantities

Smart Grocery List

Dashboard

Smart Grocery List

I need food for the next:
1 day/s

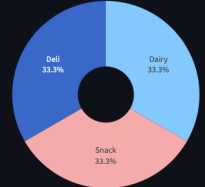
1 day/s

Total Items
3

Food Types Breakdown

Food Types

3



Food_Name	Brand	Recommended_Quantity	QUnit
3 Butter	Agropur		1 pkg
11 Ham	Schneiders		1 pkg
14 Poptarts	Kellogg's		1 pkg

Shopping date:
2025/06/28

Shopping Checklist

<input type="checkbox"/>	Dairy	Agropur	Butter	1	- +	pkg	750.00	- +	g	750.00	7.36	- +	7.36	2025-07-05
<input type="checkbox"/>	Deli	Schneiders	Ham	1	- +	pkg	750.00	- +	g	750.00	5.56	- +	5.56	2025-07-05
<input type="checkbox"/>	Snack	Kellogg's	Poptarts	1	- +	pkg	500.00	- +	g	500.00	3.86	- +	3.86	2025-07-05

Items Purchased

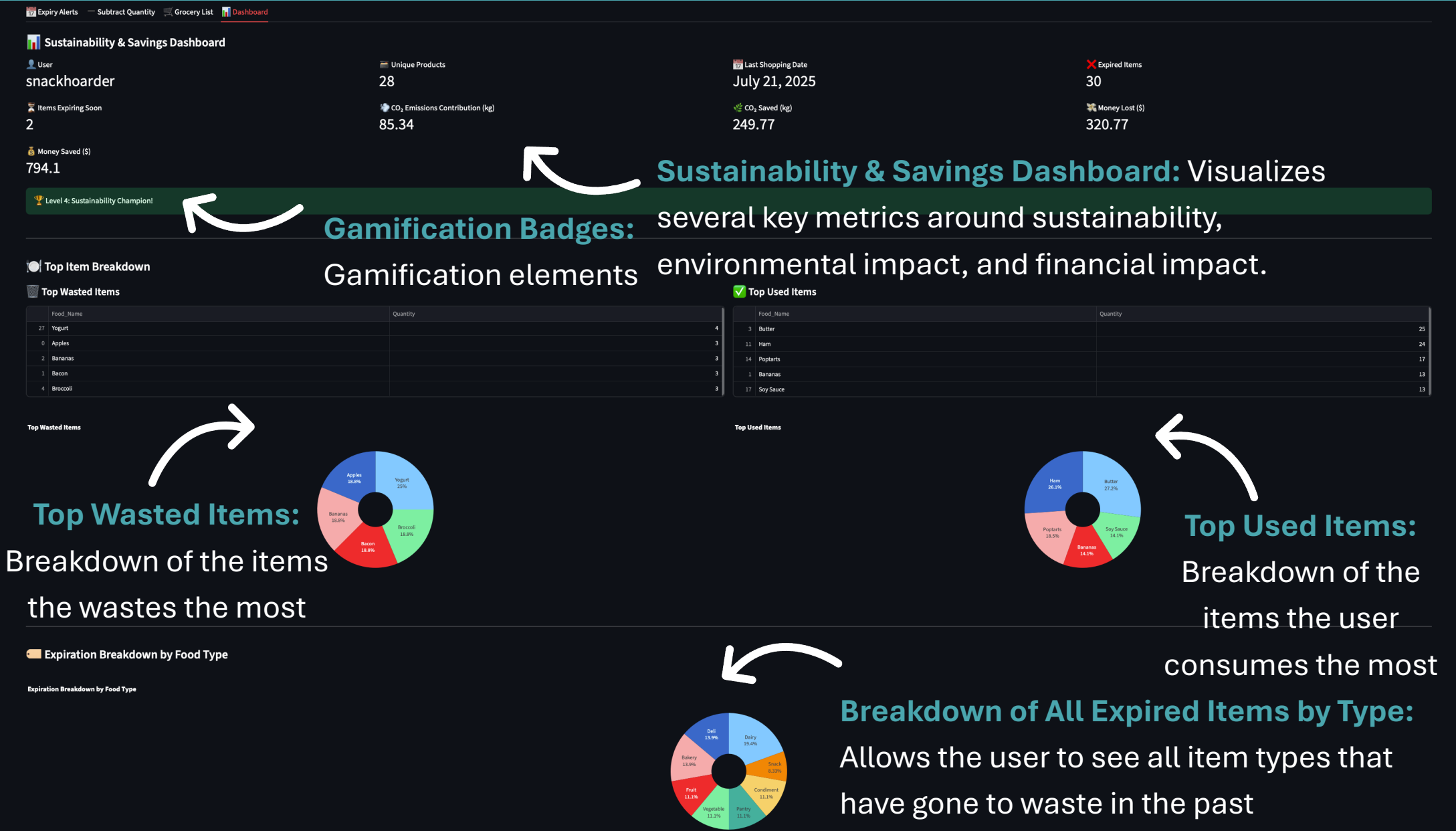
Shopping Interval Slider: Allows users to select how many days to shop for, based on users past consumption rates.

Smart List Dashboard: Shows users high level metrics such as food by type, and total items to purchase.

Shopping Checklist:

Allows users to update quantities and push directly into the database while shopping

Dashboard



Dashboard



Usage Trend Over Time

Start Date

2025/05/26

End Date

2025/06/25

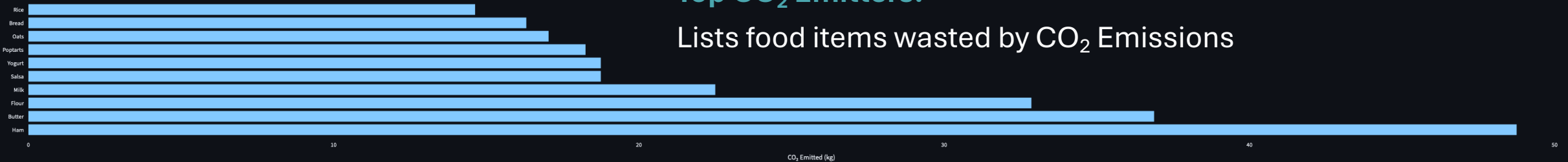
Quantity Used Over Time



Consumption Trends: Food consumption tracker

Sustainability Impact by Food Item

Top CO₂-Intensive Items



Top CO₂ Emitters:

Lists food items wasted by CO₂ Emissions

1) How it's calculated:

CO₂ emissions are estimated using the formula:

$$\text{CO}_2 \text{ Emitted} = ((\text{Quantity} \times \text{Weight in grams}) / 1000) \times 2.5$$

2) Why 2.5 is used:

The 2.5* kg CO₂/kg value is a globally recognized average, based on FAO and WRAP studies. Emissions are computed separately for wasted and used items to show both environmental impact and savings.

AI Powered Recipe Generator

Shelf Timer Chat Assistant:

AI powered recipe generator powered by Google Gemini Pro that pulls information from your pantry and suggests recipes to make, prioritizing ingredients that are close to expiry.



👋 Maria

🚪 Logout

💬 Ask SHELl

💬 SHELl

🍲 Suggest a Recipe

🍷 Give me Recipe Ideas?

Ask SHELl...

Send

SHELl's thoughts:

Okay Maria, let's see what we can make with these ingredients, focusing on using up items that are expiring soon!

Based on the inventory, it looks like we have quite a bit of Ham, Flour, Butter, Bread, Milk, Yogurt, Soy Sauce, Apples, Carrots, Spinach, Poptarts, Cookies, Cereal, Croissant, Salsa, Oats, Chips, and Rice that we can work with.

Given the large quantity of butter and flour, it might be a good idea to make some cookies!

I suggest making some Oatmeal Cookies. We can also make french toast with bread, milk, eggs, and butter if you have eggs.

Here's why this is a good option:

- **Uses Multiple Ingredients:** Oatmeal Cookies would allow us to use a lot of flour and butter.
- **Expiration Dates Addressed:** We can utilize a lot of the flour and butter that expire in July.
- **Other Pantry Staples:** It also uses pantry staples.

Would you like me to give you a simple recipe for Oatmeal cookies? Or perhaps another suggestion entirely? Let me know!

Struggles & Limitation



Manual Workflow

Hugging Face Limitations

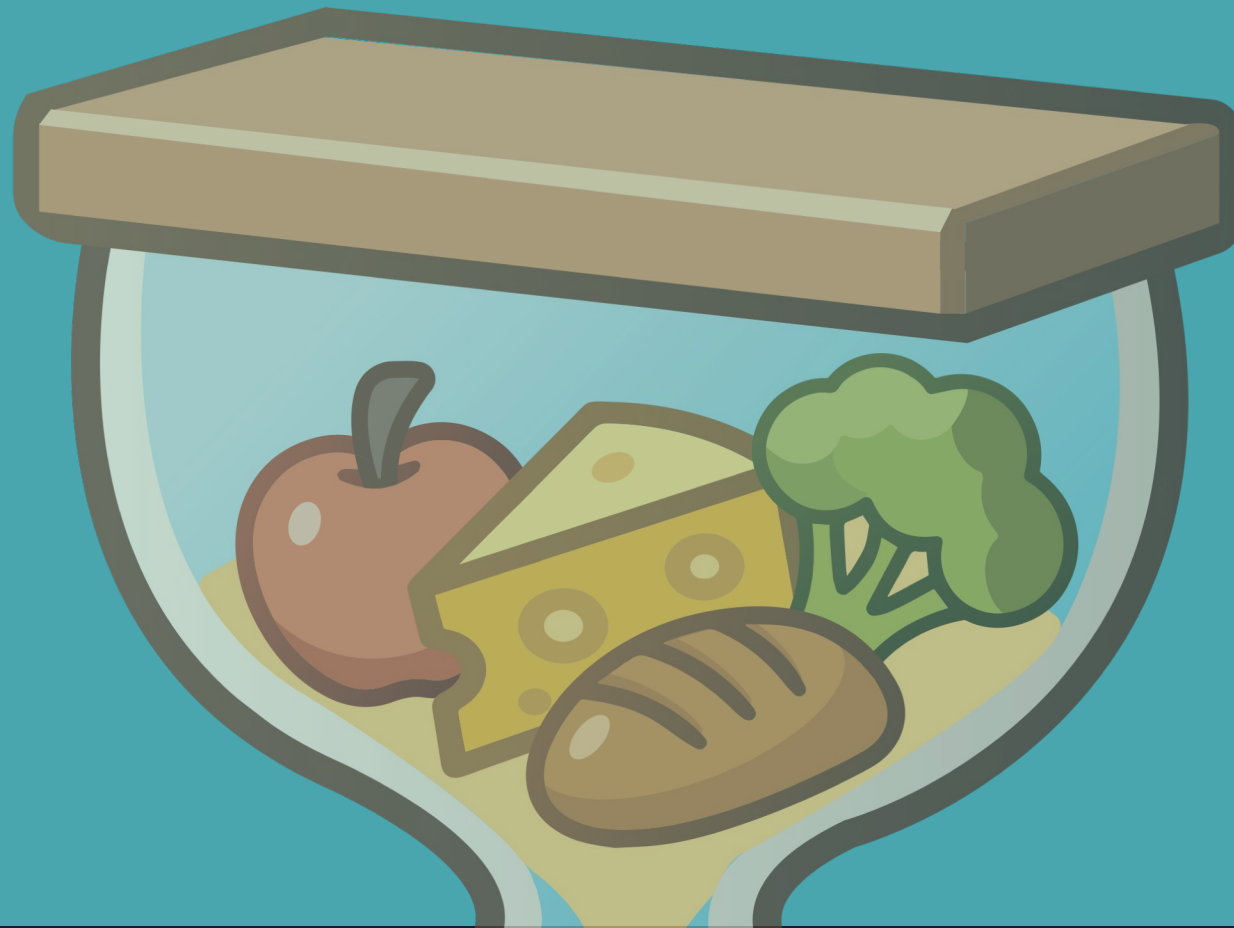
OCR

Computer Vision

IOS & Android App

IOT

What's Next



SHELF TIMER INC.

