

Minimize Food Waste

Project



Context

In my household, we often buy groceries on Monday and by next Monday we have used only about 2/3, while the rest goes to waste. This happens especially with produce that is sold in “fixed” sizes but used in partial amounts (e.g., half an onion, 150g of spinach, a portion of a sauce jar, etc.). We want a simple planning approach where grocery lists and recipes are designed together, so ingredients are reused across the week instead of being left over.

Problem Statement

Many people buy groceries weekly but end up wasting food because:

- Recipes are selected independently, not as a weekly set.
- Ingredients are purchased but only partially used.
- Leftovers are forgotten.
- Planning a weekly grocery list + recipes that focuses on low-waste takes time and effort.

Project Goal

Build a web app that generates a curated weekly meal plan + grocery list designed to minimize food waste, by ensuring ingredients are reused across recipes during the week.

Success definition:

At the end of the week, the user should have minimal leftovers from ingredients they purchased for the weekly plan.

Target Users

Primary users

- Students, couples and households who shop once per week and wants less food waste.
- People who want quick guidance on “what to cook this week” with less effort and thinking.

Secondary users

- Users with dietary restrictions.
- People who prefer a certain cuisine style.

Proposed solution

A web application that can generate a weekly set of recipes and provides a grocery list for the entire week. The application should prioritize ingredients being reused across multiple recipes to minimize food waste at the end of the week. Allows users to filter based on dietary restrictions and cuisine.

MoSCoW

1	Generate weekly recipes + grocery list <ul style="list-style-type: none">• A weekly plan + an aggregated grocery list	Must-have
2	Dietary restrictions <ul style="list-style-type: none">• Exclude recipes that don't meet chosen restrictions	Must-have
3	Browse generated recipes <ul style="list-style-type: none">• Show recipe cards with short details	Must-have
4	Regenerate / replace recipes <ul style="list-style-type: none">• User can swap out recipes while keeping the weekly plan concept	Must-have
5	Download grocery list + recipes to PDF <ul style="list-style-type: none">• Users can export the weekly plan + grocery list as PDF	Must-have

6	Login + favorites <ul style="list-style-type: none">• Logged in users can favorite chosen recipes	Should-have
7	Save "this week" plan for logged-in users <ul style="list-style-type: none">• Store weekly plan history and grocery list	Should-have
8	Forum page for each recipe <ul style="list-style-type: none">• Users can read and post comments under recipes	Should-have

9	Recipe sharing between users <ul style="list-style-type: none">• Share recipes or weekly plan via link or within the platform	Could-have
10	Cuisine-based recommendations <ul style="list-style-type: none">• Prioritize recipes based on a chosen cuisine	Could-have
11	Track grocery expiry date	Could-have

	<ul style="list-style-type: none"> • Keep track of which ingredient expires on which date 	
12	Supermarket integration <ul style="list-style-type: none"> • Real time prices + stock 	Wont-have
13	Full nutrition tracking <ul style="list-style-type: none"> • Track calorie or macro intake 	Wont-have
14	Automatic ordering + delivery <ul style="list-style-type: none"> • Order ingredients via the website 	Wont-have

Strategy

The project will follow an Agile development approach using Scrum. Sprints of two weeks will be used to incrementally deliver features, ensuring feedback-driven development.

Functional Requirements

FR-01	The system shall generate a weekly set of recipes
FR-02	The system shall create a combined grocery list based on the weekly recipes
FR-03	The system shall allow users to browse recipe details
FR-04	The system shall allow users to replace recipes in the weekly plan
FR-05	The system shall allow users to download the grocery list + recipes as pdf
FR-06	The system shall allow logged-in users to set dietary restrictions
FR-07	The system shall allow logged-in users to favorite recipes
FR-08	The system shall allow logged-in users to save the weekly plan

Non-functional Requirements

NFR-01	Usability: Clean, simple UI; minimal steps and easy to understand
NFR-02	Performance: Weekly plan generation should complete within a reasonable time
NFR-03	Security: User passwords must be stored securely (hashed + salted)
NFR-04	Reliability: PDF exports should be consistent and readable
NFR-05	Performance: Website must be online and running without any bugs

Wireframe of website + Flow of the pages

