

Lab 1 – LivelyShelfs Product Description

Colin Thoe

Old Dominion University

CS411W

Dr. Sarah Hosni

January 24, 2025

Version 1

Table of Contents

1	Introduction.....	3
2	Product Description.....	3
2.1	Key Product Features and Capabilities.....	3
2.2	Major Components (Hardware/Software).....	3
3	Identification of Case Study.....	3
5	Glossary.....	6
6	References.....	7

List of Figures

Figure 1: LivelyShelfs Major Functional Component Diagram	4
---	---

List of Tables

Table 1: Table of Comparison Between RWP and Prototype	4
--	---

1 Introduction

One of the largest problems our society faces is that an enormous amount of food is wasted per year: "One-third of all the food intended for human consumption – valued at roughly US\$1 trillion – is wasted or lost each year" (Igini, 2022). However, it would be disingenuous to put the blame entirely on consumers. Sometimes busy people, like single parents, don't have the time to keep track of exactly what they have in their kitchen and whether it expires or simply sits unused. In order to save money and time for the consumer, there has to be some way to remotely and automatically track a kitchen's inventory. LivelyShelfs is designed to take care of this issue by removing the mental burden from their minds. LivelyShelfs is a complete food management

system that can track and remind you of the expiration dates of your food items. The overall goal of LivelyShelfs is to reduce household waste and promote a green, safer environment.

2 Product Description

In essence, LivelyShelfs is a catalog of all the food items you have entered into it. It removes the need for you to constantly go through your fridge to see if you have a food item or whether that item is expired. If necessary, it will alert you to expired food items and remind you to buy them again. It also has a share/request feature that will allow your Shelf Friends to share/request food if they or you see an item you need.

2.1 Key Product Features and Capabilities

LivelyShelfs solves a problem that a lot of busy household owners have. Many people don't have the luxury of time to be able to sort and manage their food stores, single parents especially. They don't have time to think about what they have at home and how long it has until expiration or whether it has already expired. They're busy with the more important aspects of their lives, like their kids or job. LivelyShelfs takes care of this for them. All they need to do is input the food item and its expiration date and then they'll be able to see what they have available, wherever they are. It'll also notify them about the status of the food, providing warnings for expiration or reminders to purchase more.

2.2 Major Components (Hardware/Software)

Two major pieces of hardware will be needed for LivelyShelfs, the database server designed to store and run all the information associated with the app, and then the client side hardware to access the app, being a phone or a computer, whatever the customer decides to use to access it. The software will be the database meant to handle all incoming and outgoing data

from the app, the web application framework, and the app itself. The web application framework has several API's involved in its operation, the biggest being the web-crawling API, meant to find information on a product from the web, a camera API to support the usage of a camera in cataloging the food items, and a Shelf Friends API to manage shared items and requests from others.

3 Identification of Case Study

This product is for people looking to reduce the footprint and impact they have from food waste, whether financially or ecologically. The case study for LivelyShelves will consist of a small group of users who will provide feedback on the prototype. This feedback will be invaluable in refining and perfect the final product. Ideally, a future audience for LivelyShelves would include not just household users, but also restaurants and small business owners.

4 Glossary

API: “Application Programming Interface”, allows different software applications to communicate with each other.

Database: An electronic storage system.

Web-Crawler: An application that automatically sifts through the internet looking for data.

5 References

Igini, M. (2022, November 23). 10 food waste statistics in America. Earth.org. Retrieved from <https://earth.org/food-waste-in-america/>