

CS 410 Lab 1

Template and Formatting

Team Bronze

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1 Introduction

1.1 Problem Description

1.1.1 Economic Cost of Food Waste

1.1.2 Societal Cost of Food Waste

1.1.3 Environmental Cost of Food Waste

1.1.4 Food Insecurity

1.2 Solution Description

1.2.1 LivelyShelfs Application

1.2.2 Solution Benefits

1.3 Risks

1.3.1 Customer

1.3.2 Business

1.3.3 Technical

2 LivelyShelfs Product Description

2.1 Key Product Features and Capabilities

2.1.1 Grocery Spoilage Tracking

2.1.2 Informational Resources

2.1.3 Recommendations

2.1.4 Community Hub

2.2 Major Components (Hardware/Software)

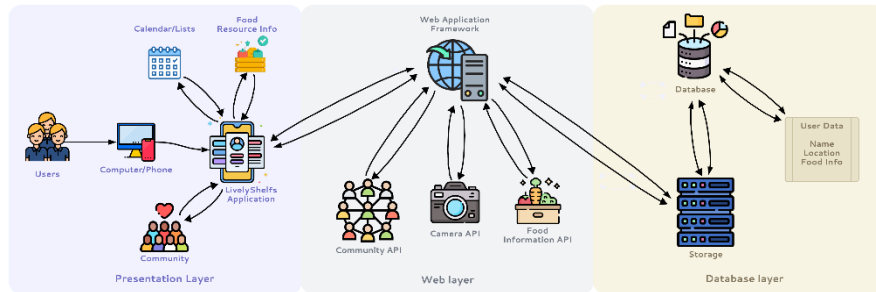


Figure 1: Major Functional Components Diagram

2.2.1 Three-tier Architecture

2.2.1.1 Presentation Layer

2.2.1.2 Web Layer

2.2.1.3 Database Layer

3 Identification of Case Study

3.1 Customer

3.2 User

3.3 Stakeholder

4 LivelyShelfs Product Prototype Description

4.1 Prototype Architecture

4.1.1 Hardware

4.1.2 Software

4.2 Prototype Features and Capabilities

4.3 Prototype Development Challenges

5 Glossary

API: Also known as "Application Programming Interface" it is a protocol that allows for different software applications to communicate with one another.

Community Hub: A part of LivelyShelfs that helps bring the community together and allows user interaction to share sustainable habits and tips.

Database: An organized collection of information stored electronically.

Food Insecurity: Not having access to enough food to meet ones needs or not being able to access quality food to meet ones needs.

Food Waste: Food that isn't used for it's intended purpose or is not used before spoiling.

GitHub: A service that allows developers to collaborate on the development of projects and provides version control.

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JUnit: A testing framework for Java.

Landfills: A site where waste is disposed of, typically the waste is covered by soil.

Spoilage Calendar: An efficient and intuitive calendar provide by LivelyShelfs that notifies users of when their food is going bad

Landfills: A site where waste is disposed of, typically the waste is covered by soil.

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Sustainability: A goal to avoid actions that harm the environment or deplete natural resources while still meeting ones needs.

Trello: A service that helps with project management and planning.

VSCode: Also known as "Visual Studio Code" it is a development environment used by the team that is compatible with many different languages.

Web Application Framework: Software platform intended to help developers in building web applications, providing access to pre-built tools and libraries.

6 References:

Assistant Secretary for Public Affairs (ASPA). "Foodkeeper App." FoodSafety.Gov, 16 May 2022, www.foodsafety.gov/keep-food-safe/foodkeeper-app. Accessed 26 Sept. 2024.

"About Kitche: Kitche Food Waste App: Kitche App." Kitche Waste Waste App, 26 July 2023, kitche.co/the-app/. Accessed 10 Oct. 2024.

Berard, A. (2020, April 20). Study calculates true cost of food waste in America. William & Mary. <https://www.wm.edu/news/stories/2020/study-calculates-true-cost-of-food-waste-in-america.php>. Accessed 03 Oct. 2024.

Defoy, Jonathan. "Save on Groceries and Fight Food Waste." FoodHero, www.foodhero.com/. Accessed 26 Sept. 2024.

Ehlert, Justin. "Food Expiration Date Tracker." Fridgely, Jump Space Apps, fridgelyapp.com/. Accessed 26 Sept. 2024.

EPA. 2019 Wasted Food Report. (n.d.). [https://www.epa.gov/system/files/documents/2023-03/2019 Wasted Food Report_508_opt_ec.pdf](https://www.epa.gov/system/files/documents/2023-03/2019_Wasted_Food_Report_508_opt_ec.pdf). Accessed 2 Oct. 2024

"Expiry Tracking Fridge, Pantry and Recipes Manager App, Grocery Shopping List • Cozzo Smart Kitchen App." CozZo Smart Kitchen App, 26 Jan. 2023, cozzo.app/. Accessed 10 Oct. 2024.

"Home." NoWaste, www.nowasteapp.com/. Accessed 10 Oct. 2024.

"Hunger Numbers Stubbornly High for Three Consecutive Years as Global Crises Deepen: UN Report." World Health Organization, www.who.int/news/item/24-07-2024-hunger-

- numbers-stubbornly-high-for-three-consecutive-years-as-global-crises-deepen--un-report#:~:text=The%20report%20highlights%20that%20access,amid%20the%20COVID-19%20pandemic. Accessed 08 Oct. 2024.
- Idriss, Mrabti. "Foodshiner." Prevent Food Waste, Save the Earth, foodshiner.app/en/. Accessed 10 Oct. 2024.
- Igini, Martina. "10 Food Waste Statistics in America." Earth.org, 23 Nov. 2022, earth.org/food-waste-in-america/. Accessed 14 Sept. 2024.
- Igini, Martina. "World Squanders Over 1 Billion Meals a Day: UN Report." UNEP, 4 Mar. 2021, www.unep.org/. Accessed 3 Oct. 2024.
- "Key Statistics & Graphics." USDA ERS - Key Statistics & Graphics, www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/#verylow. Accessed 08 Oct. 2024.
- Kroll, Katherine. "The Financial Cost of Food Waste." Brown Advisory, 27 July 2018, www.brownadvisory.com/us/insights/financial-cost-food-waste. Accessed 16 Oct. 2024.
- Lewis, Jangira. "How Does Food Waste Affect the Environment?" Earth.Org, 4 Mar. 2024, earth.org/how-does-food-waste-affect-the-environment/. Accessed 03 Oct. 2024.
- Oliver, Sarah, et al. "Your Local Sharing App." Olio, 6 Sept. 2024, olioapp.com/en/. Accessed 26 Sept. 2024.
- "Sharewaste." ShareWaste, sharewaste.com/. Accessed 10 Oct. 2024.
- "The Economic Impact of Food Waste." Shapiro, 3 July 2024, shapiroe.com/blog/economic-impact-of-food-waste-effects/. Accessed 03 Oct. 2024.
- "The Environmental Impact of Food Waste." Move For Hunger, moveforhunger.org/the-environmental-impact-of-food-

waste#:~:text=The%20food%20cycle%20doesn't,8%20percent%20of%20global%20emi
ssions . Accessed 03 Oct. 2024.

“Too Good to Go: Save Good Food from Going to Waste.” Too Good To Go | Save Good Food
From Going To Waste, www.toogoodtogo.com/en-us. Accessed 10 Oct. 2024.