LivelyShelfs

Team Bronze

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Problem

Food waste results in overspending, strain on other natural resources, increased greenhouse emissions, and contributes to food insecurity. Despite sufficient food production due to lack of individual awareness, many households already facing other difficulties, and lack of knowledge on what to do with excess food the problem continues to grow.

Solution

LivelyShelfs is a smart solution personalized for busy households, providing them with proactive tools to reduce food waste, save money, and contribute to sustainability. Additionally, the app includes a close-knit community driven Shelf Friends feature that allows users to share their food. Through the use of LivelyShelfs, households will be able to reduce their overall food waste, save money, and promote the security of food.

Problem Characteristics

Lack of Knowledge/Awareness

- Lack of knowledge on the effects of food waste, and how to prevent food waste
- Lack of awareness of personal monetary loss due to food waste and personal contribution to food waste

Household Difficulties

- Families have a lot of responsibilities and it can be difficult to focus on reducing food waste on top of everything else.
- After long days families may not want to worry about food waste due to many not viewing food waste as a high priority task.

Difficulties In Sharing Excess

- People have excess food they can share with others, but do not know how or where to reach out for people, limiting their ability to share food efficiently with those in need.
- A lack of technology-driven platforms for easy food sharing contributes to wasted excess food

Solution Characteristics

Informational Resources

- Provide the user with information and links to informational resources to learn more about spoilage, preservation, and greener actions
- Recommend users what to do with old groceries to prevent waste creation, and greener ways to recycle created waste

Grocery Spoilage Tracking

- A visual calendar and list showing estimated spoil dates for groceries
- Convenient grocery input through camera utilization
- Color-coded according to how long food has been in inventory and how close it is to expiration
- Summarizes user data

Shelf Friends

- A convenient hub that allows friends and family to connect
- Sharing between Shelf Friends allows for a convenient method to use food items instead of letting them go to waste

Data Visualization

- Infographics that display user food waste trends
- Trends include cost perception, spoilage stats, and grocery purchase amounts
- Visualization of data encourages users to become more proactive in their spoilage prevention

Quick Input

- Food items can be easily logged through the use of the camera
- If desired, a food items can be quickly logged manually

Recipes & Recommendations

- Suggests meals or food items that are nearing their expiration dates
- Meal recipes are pulled from external resources, allowing for variation in recommendations
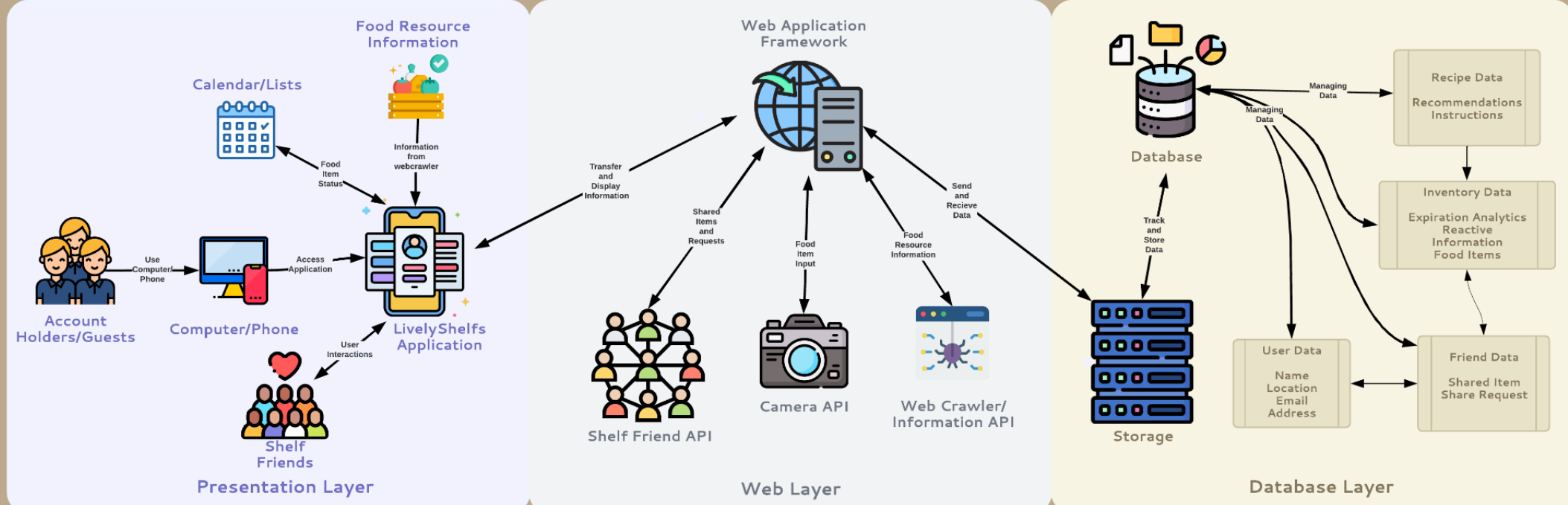
Innovative Features vs. Competition

	Food Handling Advice	Access to External Partners	Spoilage/ Green Information	Ease of Input	Spoil Calendar	Spoil List	Data Visualization	Shelf Friends
FoodKeeper	✓		✓					
Food Hero	✓	✓					✓	
Olio		✓		✓				
Fridgely				✓	✓	✓		
CoZZo	✓			✓	✓	✓		
Kitche	✓			✓			✓	
LivelyShelfs	✓	✓	✓	✓	✓	✓	✓	✓

Food Sharing	Food Sharing + Spoilage Tracking	Spoilage Tracking

MFCD for RWP

Prototype MFCD

Implementation Key: ○ Full ○ Partial ○ Eliminated

UI/UX Screens

Dashboard

The main Dashboard allows easy access to features provided by LivelyShelfs.
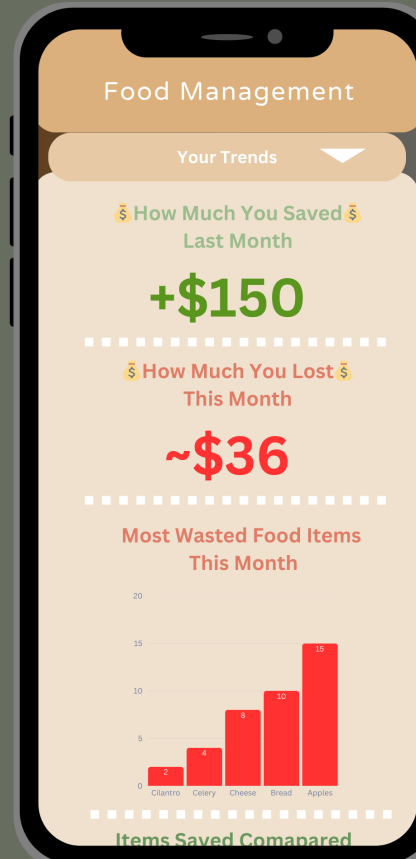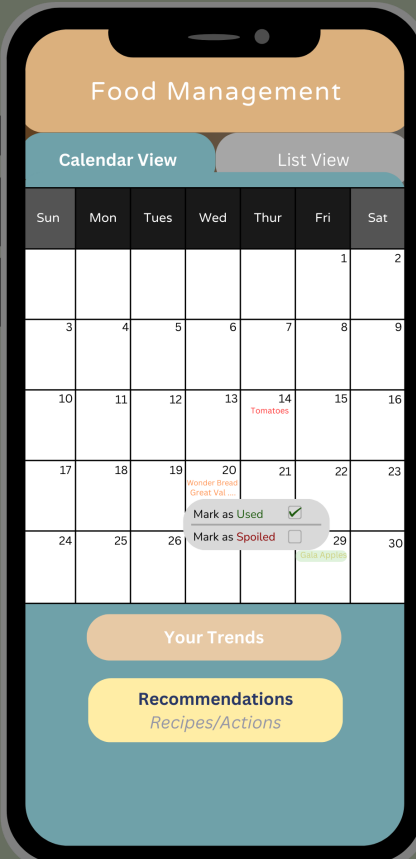

Shelf Friends

Shelf Friends are trusted friends and family who users are willing to share food with before spoilage to reduce food waste as a community.
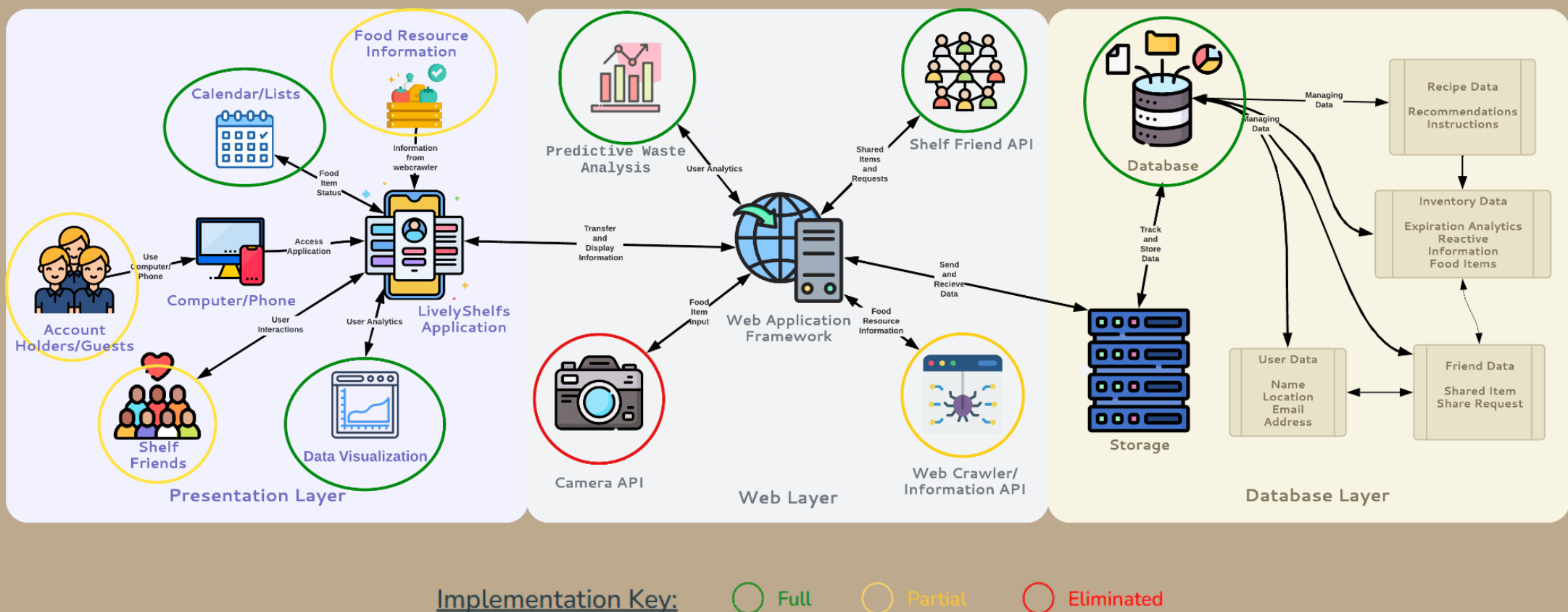
Prototype Features

| Category	Features	Real World Product	Prototype	Reasoning
Account Management	Login / Authenticate	Fully Functional	Partially Implemented	Limited time will not be dedicated to basic functionalities
	Location Usage	Fully Functional	Partially Implemented	Limited time will not be dedicated to basic functionalities
	Account Creation / Deletion	Fully Functional	Partially Implemented	Limited time will not be dedicated to basic functionalities
	Add / Remove Friend	Fully Functional	Fully Functional	
	Add / Remove Member	Fully Functional	Eliminated	Limited time will not be dedicated to basic functionalities
Inventory Management	Add / Remove Item	Fully Functional	Partially Implemented	Implement manual input, implement camera if we have time
	Track Item Expiration	Fully Functional	Fully Functional	
	Mark Items Shareable	Fully Functional	Fully Functional	
	Quantity Viewing	Fully Functional	Fully Functional	
	Purchase History	Fully Functional	Eliminated	Limited time and not an innovative feature
Proactive Waste Management	Predictive Waste Analysis	Fully Functional	Fully Functional	Limited test data
	Shelf Friends Sharing	Fully Functional	Fully Functional	
	Recipe Recommendations	Fully Functional	Partially Implemented	Limited time will not be dedicated to web crawler functionalities
	Incentives	Fully Functional	Partially Implemented	Limited time will not allow for full reward
	Data Visualization	Fully Functional	Partially Implemented	Limited test data

Food Management

- Users will be able to view their inventory of food in either the form of a calendar or a list.
- Trend analysis will be used to visualize:
  - Food usage
  - Inventory item additions
- Users will receive recommendations on how to improve based upon their analyzed trends.
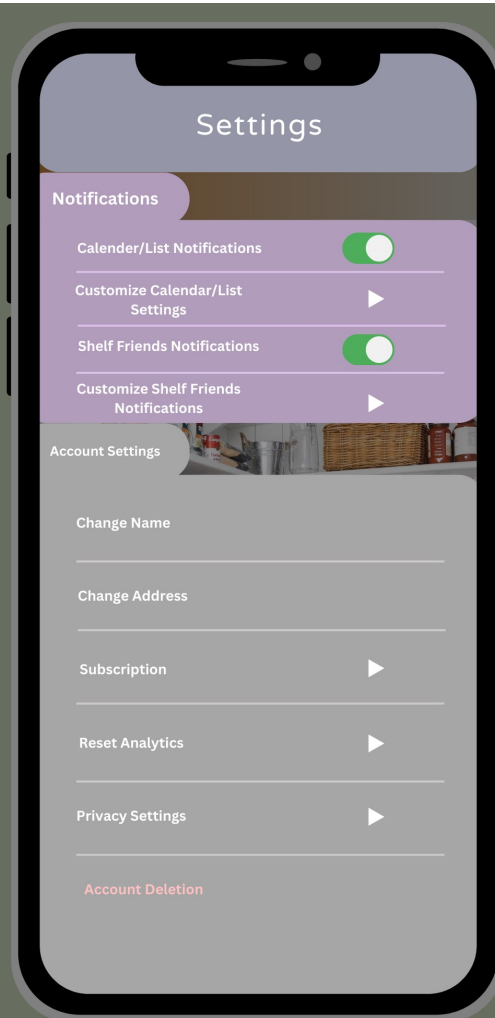

Notifications

- Users receive reminders when food is close to expiration.
- Shelf Friend related alerts can include:
  - Food share requests
  - Friend requests
  - New messages
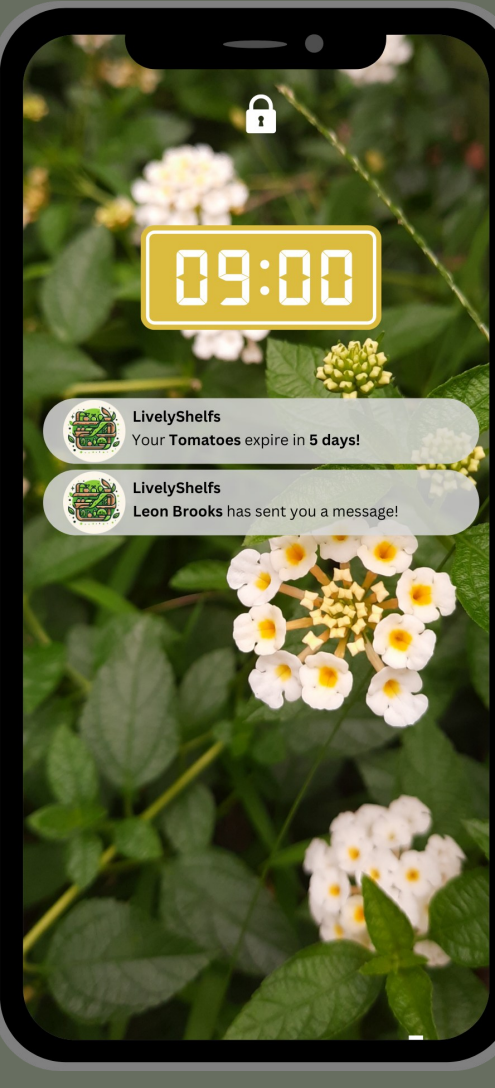
Settings

To customize their experience, users can adjust the following:

- Notification frequency
- Notification types
- Account name
- Address
- Subscription
- Privacy settings
- Analytics data

See Team Bronze's full website:

https://froggystratus.github.io/Team-Bronze-2025/index.html