

1. Business Needs

1.1 Context

This project aims to create a database to address the needs of the managers and operators in the organic grocery sector, specifically for SourceZero, an online market with highly curated organic groceries for all diets sourced with transparency at an affordable price through a membership based model .

-**SourceZero** serves as the central platform connecting various organic brands and local stores, functioning as the oversight entity.

-**Partner Stores and brands** operate under the SourceZero umbrella, delivering ethically sourced high-quality organic products to consumers.

The organic grocery market is essential for promoting healthy eating and sustainable practices. SourceZero aims to eliminate the friction of the overwhelming choices at the grocery stores and make healthy foods more affordable for middle-class customers through a membership based model.

Recent analyses indicate that consumer interest in reputable organic products has surged, with increasing demand for transparency and traceability in sourcing. This is promising for the potential user base for SourceZero, projected to achieve millions of transactions each year.

To support these activities, the operational infrastructure, comprising a robust digital platform, partnerships with organic Stores and brands will be crucial. The financial framework reveals that sale revenue is anticipated to reach significant milestones, contributing to the overall sustainability of the organic market.

1.2 Objective:

To ensure efficient management of service offerings, product sourcing and customer engagement, comprehensive monitoring of sales consumer transactions is essential.

This database will support the following objective for managers and operators at SourceZero :

- Facilitate two forms of transactions:
 1. **Monthly/Yearly Membership Pricing:** Manage and track subscription fees for members, ensuring a smooth billing process.
 2. **Non-Perishable Organic Basket Purchases:** Handle transactions related to the purchase of curated non-perishable organic baskets, ensuring inventory management and order fulfillment.

These features will enhance operational efficiency and provide valuable insights into customer preferences and purchasing patterns.

- **Revenue Monitoring:** Provide long and mid-term revenue summaries on a yearly and monthly basis, allowing for online access to sales data by product categories and regions.

- **Sales Insights:** Generate monthly and yearly revenue breakdowns by specific product types (example: organic packaged fruits, sugar-free candy, supplements) to understand consumer preferences.
- **Point of Sale Analysis:** Offer detailed sales data by retail partners to evaluate performance and identify opportunities for growth.

2. Description

2.1. Central Concept: Organic Grocery Marketplace

The database will support SourceZero's direct-to-consumer model, focusing on partnerships with organic brands and stores for non-perishable packaged products. This approach aims to ensure:

- **Affordable Pricing:** Membership fees will enable competitive pricing, fostering a loyal and predictable customer base that aids in inventory management and demand forecasting.
- **Efficient Logistics:** By utilizing local mini-storage facilities, SourceZero can minimize middlemen, streamline logistics, and source products directly from brands. This not only reduces costs but also enhances traceability.

2.2. Product Categories and Offerings

Product Range:

- **Non-Perishable Organic Baskets:** Curated selections of shelf-stable organic products designed for convenience and variety.
- **Gift Bags:** Seasonal offerings that include organic treats and branded merchandise, boosting customer engagement.

2.3. Enhanced User Engagement

Customer Personalization:

- **Favorites and Order History:** Develop a tailored shopping experience by leveraging user data to suggest products based on previous purchases.
- **Membership Options:** Provide various pricing tiers for memberships, including trial periods and gift options, to attract and retain customers.

2.4. Community Collaboration

- **Brand Partnerships:** Collaborate with trusted organic brands and stores, ensuring all products are chemical-free and traceable.

- **Local Artist Collaborations:** Engage local artists for unique packaging designs, adding aesthetic value and promoting community creativity.

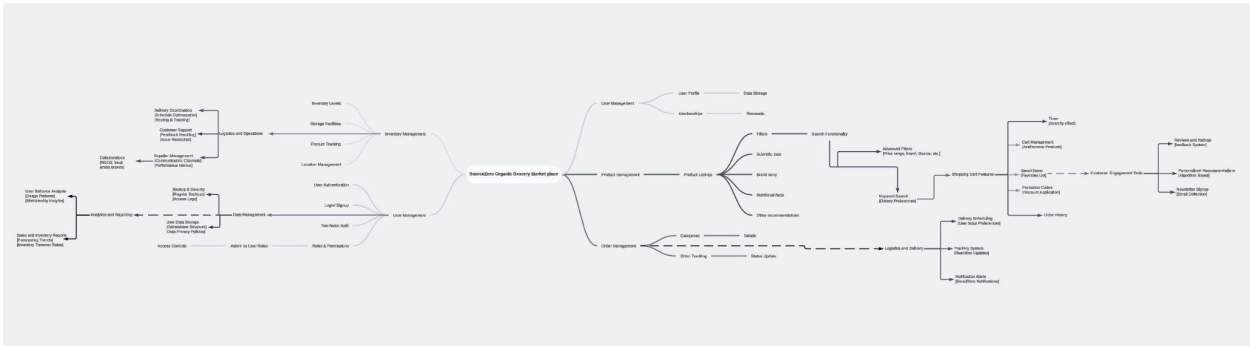


Figure 1. Source Zero Mind Map (Overview)

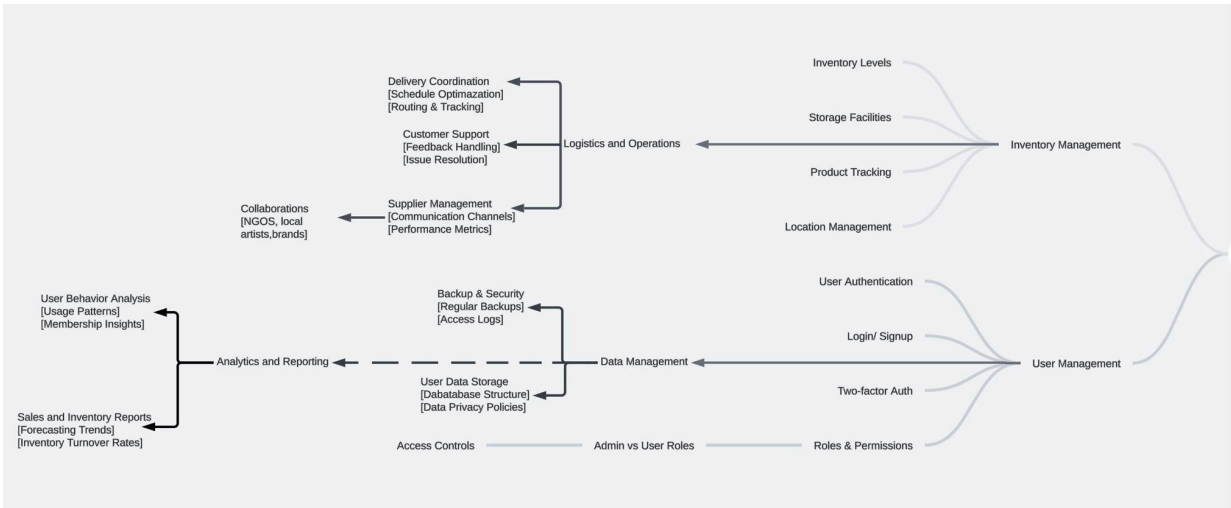


Figure 1.a Source Zero Mind Map (Left, Zoomed)

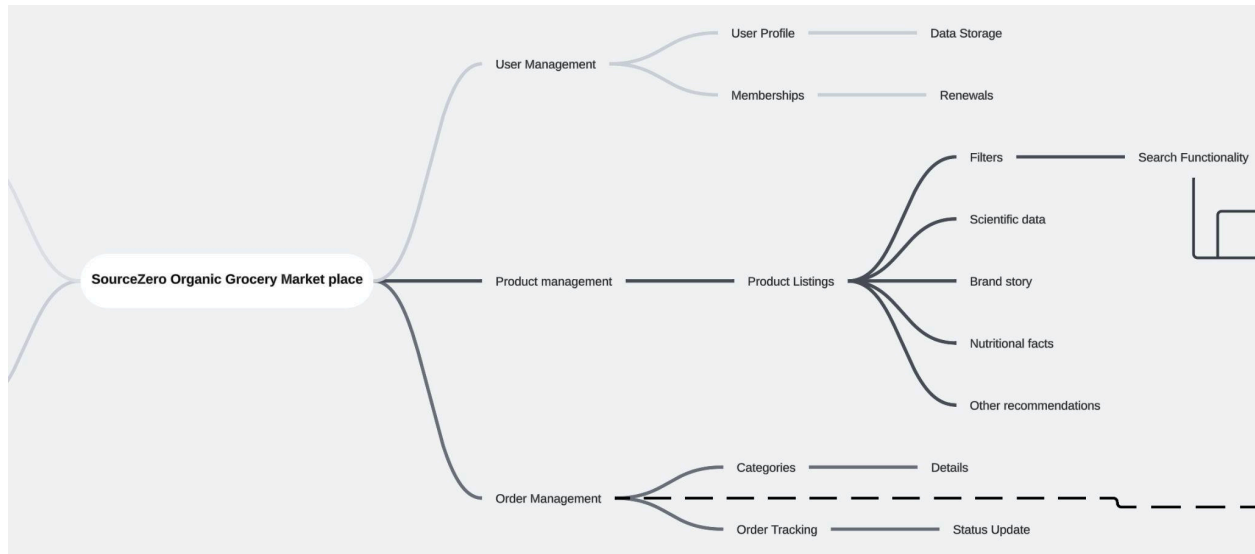


Figure 1.b Source Zero Mind Map (Center, Zoomed)

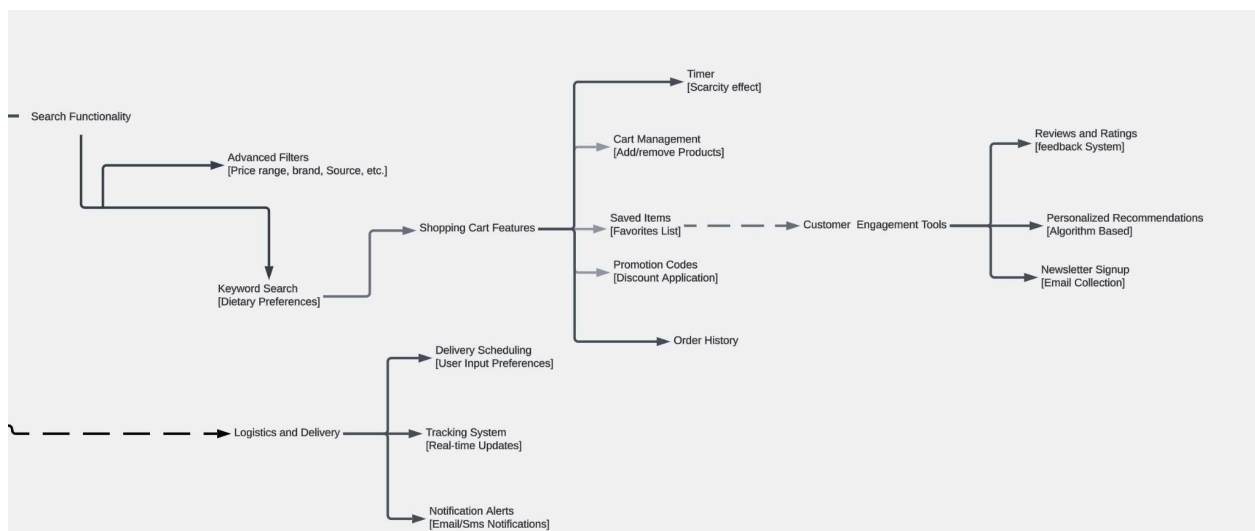


Figure 1.c Source Zero Mind Map (Right, Zoomed)

3. Requirements

Functional Requirements

The figures below illustrate the functional requirements for SourceZero. The requirements are divided into user requirements, administrative requirements, and data-processing requirements.

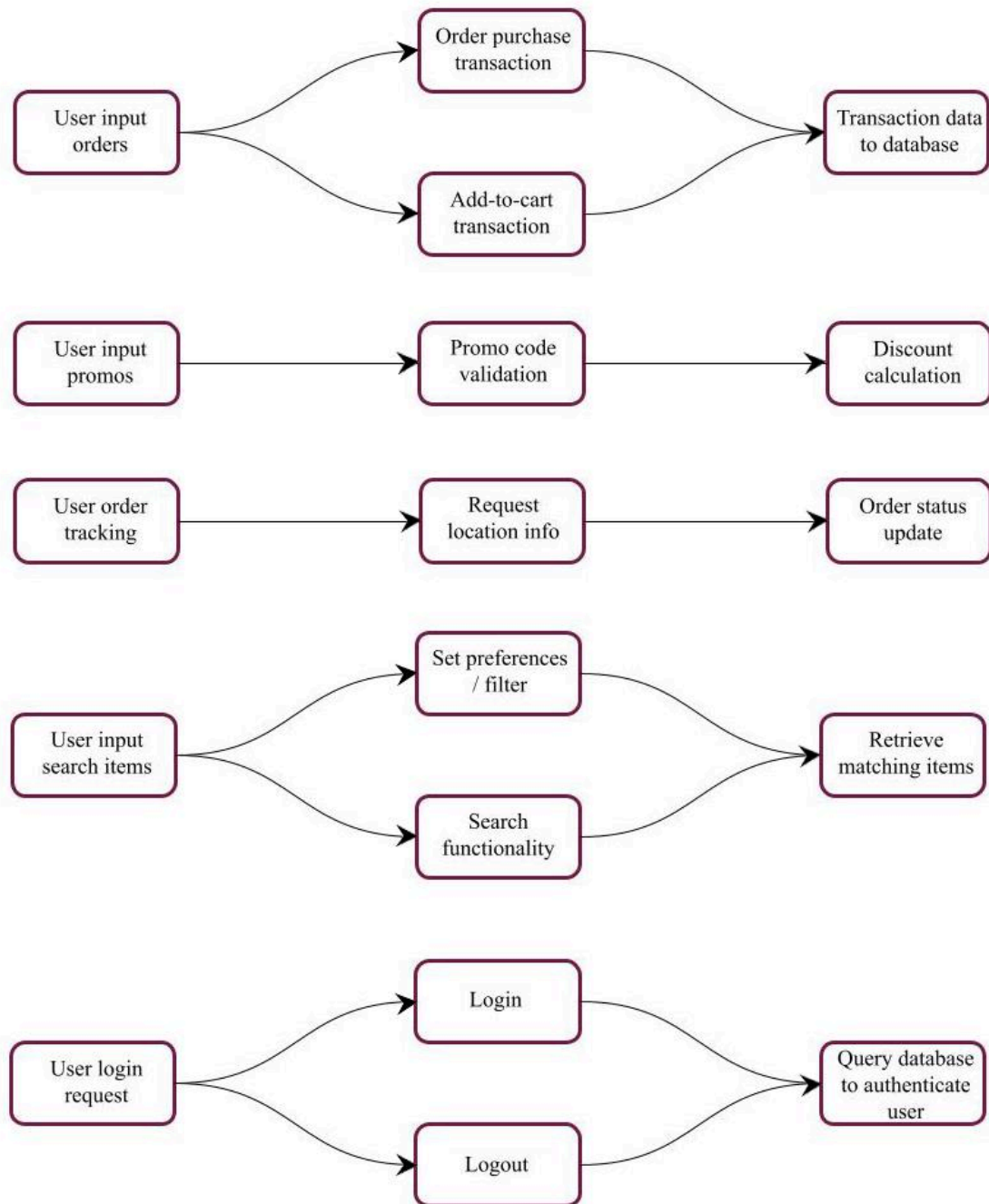


Figure 2.a Source Zero Functional Diagram: User Requirements.

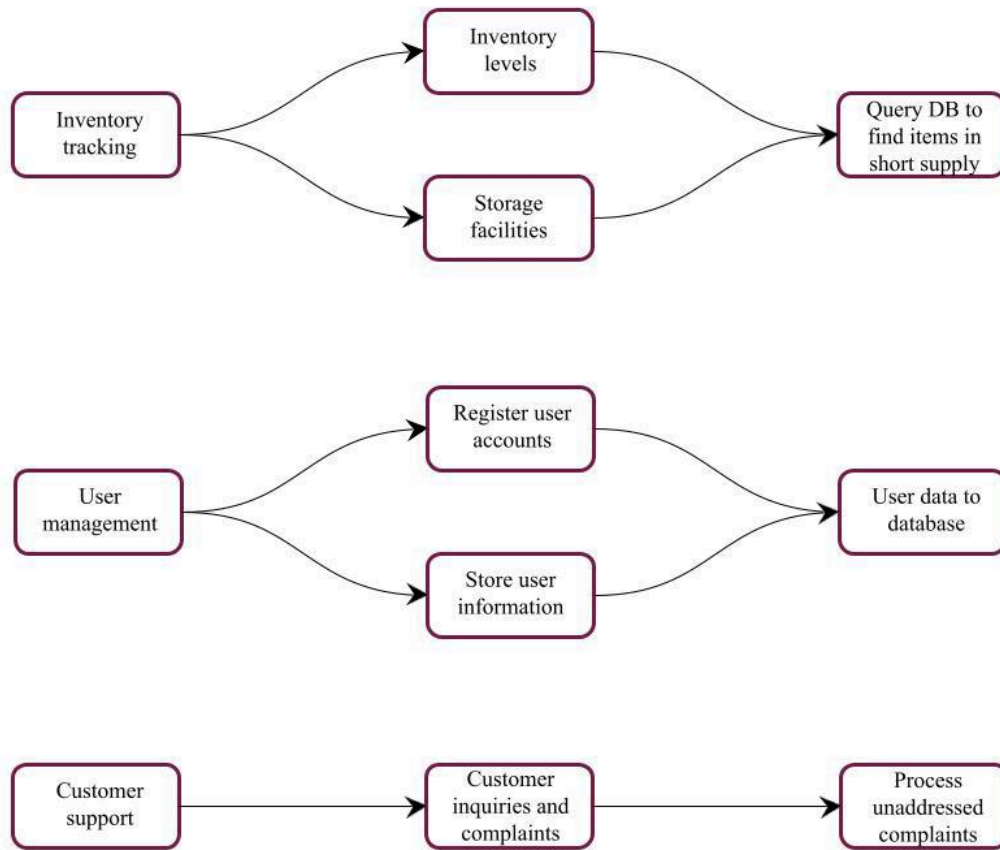


Figure 2.b Source Zero Functional Diagram: Administrative Requirements.

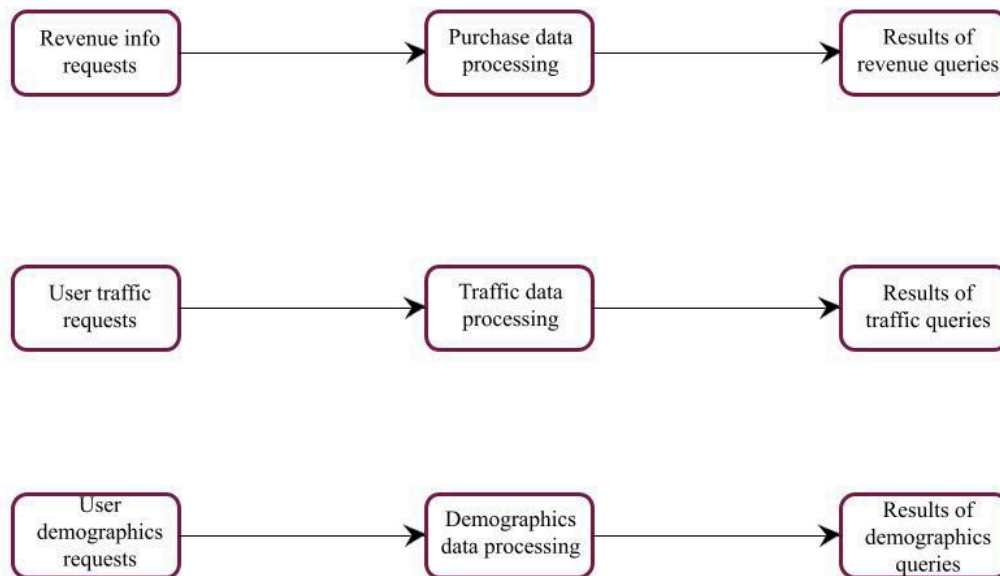


Figure 2.c Source Zero Functional Diagram: Data-Processing Requirements.

The functional requirements for SourceZero are further detailed in the table below.

Table 1. Description of Functional Requirements

Requirement ID	Requirement Statement	Comment
FR01	Add-to-cart transaction	Users can store items they are interested in purchasing in a virtual cart while browsing.
FR02	Order purchase transaction	Users can make secure payments using their preferred payment method (such as Paypal, Debit, Credit, Apple Pay, etc.). Once the checkout process is complete, they will receive an order confirmation email.
FR03	Promo code validation	Users can enter a promo code at checkout to receive a discount on their order.
FR04	Order tracking	Users can track their orders to get delivery status updates.
FR05	Search functionality	Users can search for desired items using keywords.
FR06	Filters	The search function can be enhanced by filtering results by category, price, or dietary restrictions.
FR07	User login/logout	Users can login to their account using a username and password.
FR08	Reset password	Users can reset their password if it has been lost. To do so, the user must provide additional information that can verify their identity.
FR09	Profile management	Users can edit and save information on their profiles that would allow the algorithm to suggest products they may be interested in.
FR10	User feedback	Users can rate and review products, providing feedback to help us evaluate our products.
FR11	Order history	Users can access their order history to keep track of what they have already purchased. And to re-order items they liked.
FR12	Inventory tracking	Admins regularly track the quantity of products in our inventory. Should be alerted when stocks are falling low.

FR13	Storage facilities	Several storage facilities are used to store products. Inventory levels must be verified regularly for each facility.
FR14	Customer support	Admins have access to customer inquiries and complaints and can reply to them accordingly.
FR15	Role-based access control	Different administrative functions are only accessible to authorized personnel.
FR16	User management	Admins can register new users. They should be able to create or delete user accounts.
FR17	Order management	Admins can view orders, update their status, or cancel them if necessary.
FR18	Product management	Admins can edit the descriptions and prices of products. They can add or remove products as needed.
FR19	Revenue tracking	Admins can analyze weekly, monthly, and yearly revenue.
FR20	User traffic	Admins can access statistics on user traffic to monitor business success.
FR21	Demographics data	Admins can analyze the demographics of our userbase. This can be used to improve our algorithm's suggestions for which products they may like. And help us decide which products to keep supplying.

Table 2. Description of Non-Functional Requirements

The table below focus on system features, behaviors and general characteristics the database must possess to ensure an adequate user experience:

Requirement ID	Requirement Statement	Comment
NFR01	Usability	Ensures intuitive navigation and ease of use, guaranteed with a friendly interface.
NFR02	Reliability	Critical for operational efficiency and trust, the system must be up and running all the time.
NFR03	Reliability	Essential for maintaining user satisfaction, updates and maintenance should happen without stopping the service.
NFR04	Scalability	Supporting future growth and expansion, the database must grow to handle more users and transactions as SourceZero expands.
NFR05	Scalability	The system should let adding new products and brands easily, facilitating adaptability to market changes.
NFR06	Performance	The database should collect and report transaction data in real time for current insights, enhancing decision-making capabilities.
NFR07	Performance	Important for actionable insights and responsiveness, sales data analysis must be done on time for quick reporting.
NFR08	Supportability	An in-house helpdesk must provide user support for system help, ensuring users can effectively utilize the system.

NFR09	Security	The database must have strong security to protect customer and transaction data, maintaining user trust and compliance.
NFR10	Data Integrity	The system must accurately record all transactions and keep them safe from loss or damage.
NFR11	Accessibility	The user interface must be accessible to people with disabilities, following accessibility standards, promoting inclusivity and wider user engagement.

4. Analysis Models

The structure and functionalities of the Source Zero database have been defined through a comprehensive analysis of its key actors and use cases. In this initial step, the interactions between users—including customers, admins, support staff, and partner stores—and the database are outlined through the functional requirements detailed in the subsequent sections. These interactions, referred to as use cases, are visually represented in the accompanying diagram (figure 3).

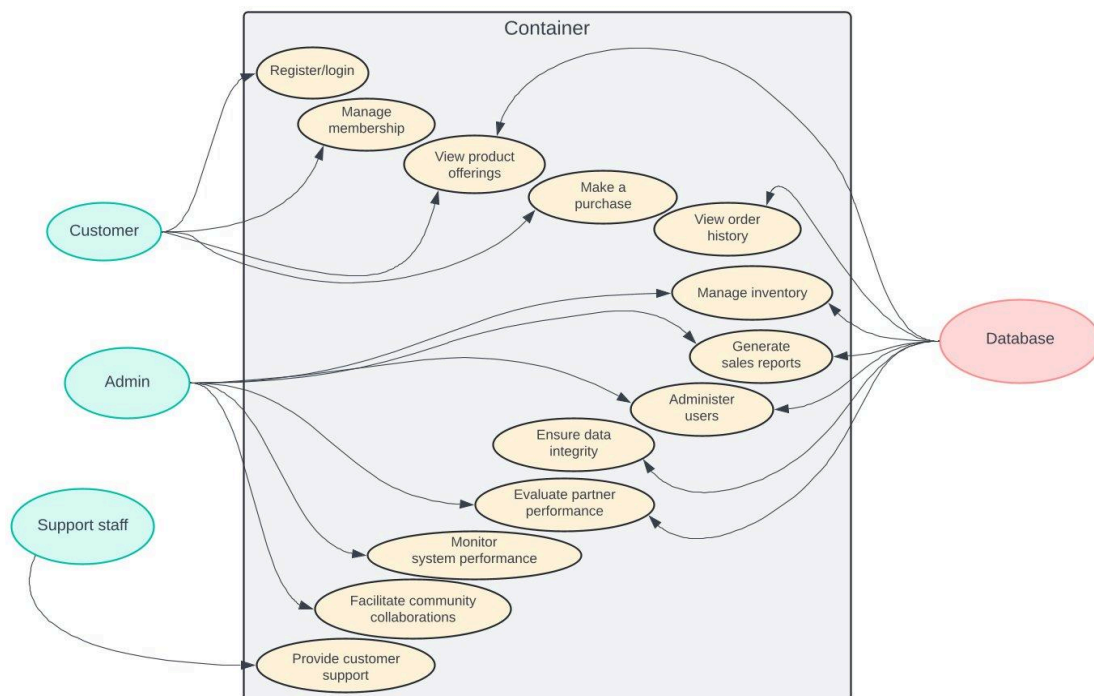


Figure 3. Source Zero Use Case Diagram

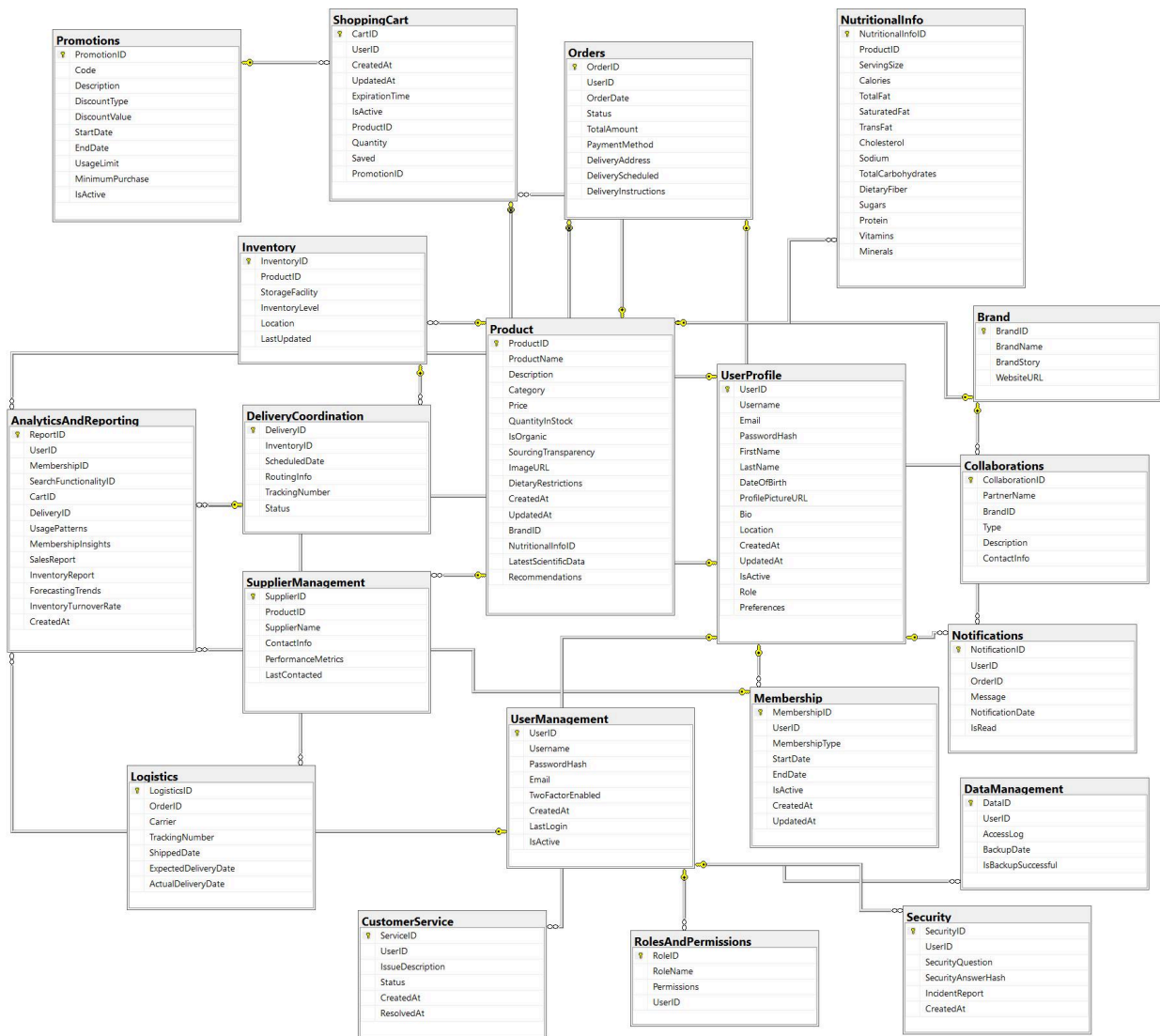
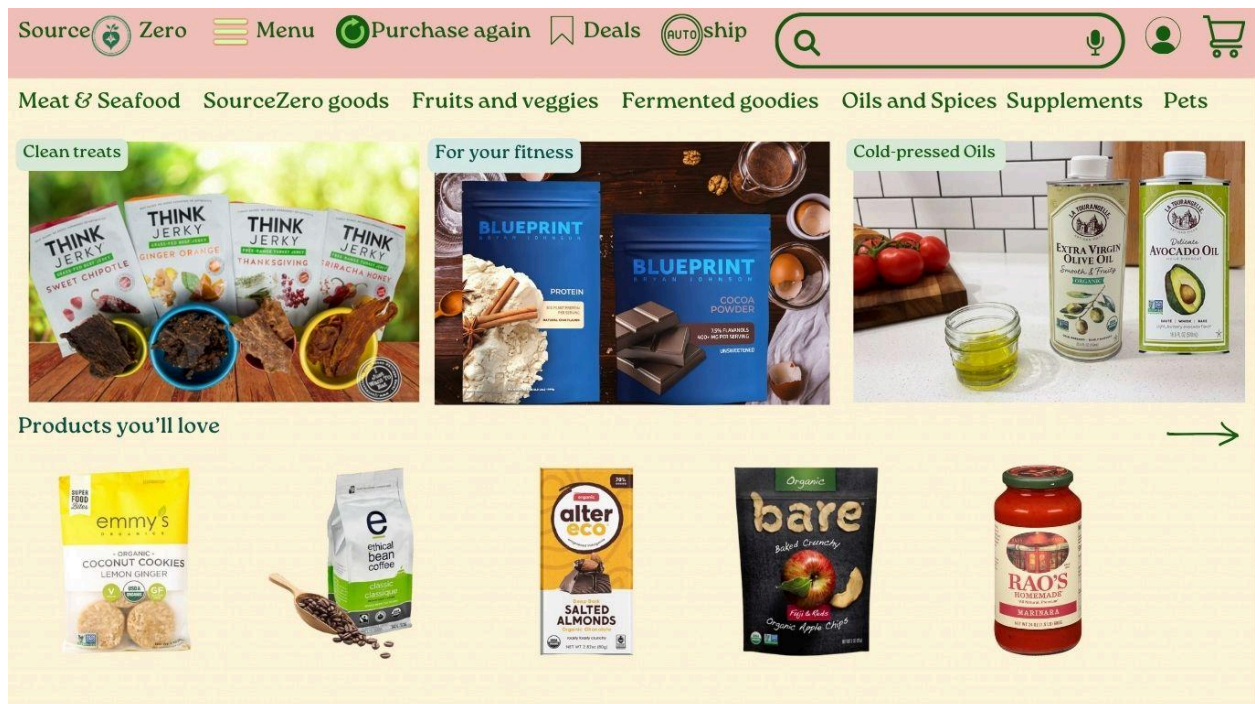
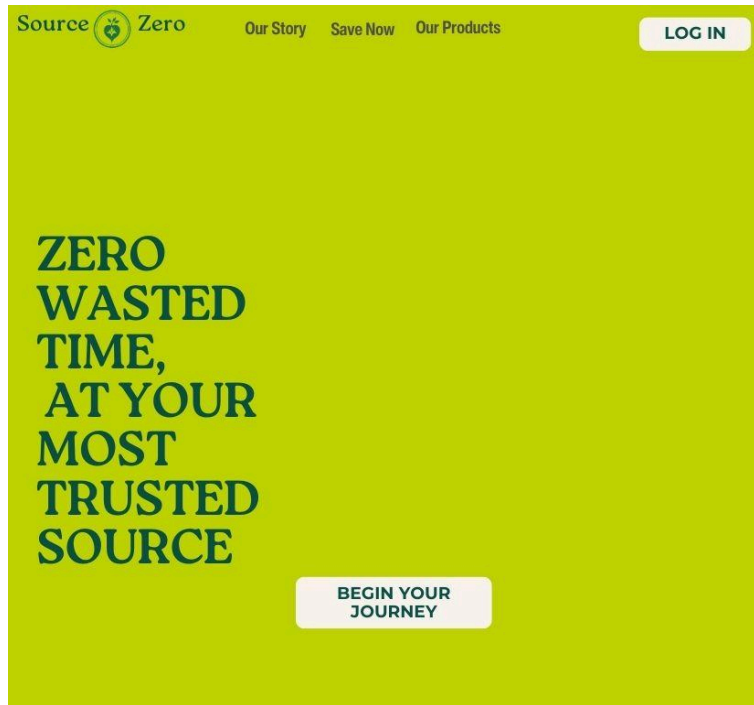


Figure 5. Source Zero Database Diagram

5. Website Preview



Source Zero Menu Purchase again Deals ship

Meat & Seafood Sou

Clean treats

THINK JERKY SWEET CHIPOTLE

THINK JERKY GINGER ORANGE

Products you'll love

emmy's COCONUT COOKIES LEMON GINGER

Products/ Baking products/

FAIR TRADE • ÉQUITABLE ORGANIC • BIOLOGIQUE

cuisine camino

fair trade • équitable

Cocoa Powder

Cacao en poudre

Natural • Naturel

Add to box

Quantity 1

15%

Subscribe and Save

- ✓ Fairtrade certified
- ✓ Premium Organic Certified
- ✓ Certified Kosher
- ✓ Gluten-free
- ✓ Third-party tested for heavy metals

✓ [Nutritional Facts](#)

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Supplements Pets

EXTRA VIRGIN OLIVE OIL

AVOCADO OIL

→

5. GitHub

<https://github.com/zerogray11/Source-Zero>