Group: Dionne Williams, Trevor Seidel, Prosper Kosi Anyidoho, Akshat Katoch (DataSharks)

**Idea:** Identifying communities with high lead contamination in water in order to implement an efficient water filtration system

**Why:** Improve health of citizens, reduce risk of lead poisonings

**What :** Compile information in a database to identify communities at high risk of lead contamination, and recommend what actions be taken to reduce or eliminate the hazard.

**Example attributes:** resident zip code, lead poisoning incidents, blood lead levels, year water filter installed, type of water filter, home year built, specify water source, income levels,

**Problem Solved:** Providing a service (safe drinking water) to improve quality of life to at-risk residents

**Epics**

Registration  
Login  
My account / User information  
Upload products for shoppers   
Lead level lookup by location   
Shopping cart   
Checkout / Credit card processing   
Product reviews   
Recommend products   
Provide/recommend information   
Customer Service

**User Stories**

Product and Location Services - Akshat

1. As a water filter business owner, I want to upload/sell my products so that customers can purchase filters for their home
2. As a homeowner, I want to search water quality in my area so that I can know whether my home has safe drinking water
3. As a homeowner, I want to search water utility’s contact information company that is serving my area so that I can contact the company
4. As a gov’t official, I want to generate a report of lead levels in specific locations so that I can update the water quality standards
5. As a healthcare researcher, I want to search water quality in communities to determine who is at risk for elevated blood levels so that I can recommend resources

Shopping and Purchasing experience - Dionne

1. As a customer I want to be able to keep track of items I plan on purchasing in a shopping cart.
2. As a customer I want to see items I’ve recently viewed but may have forgotten to add to my cart
3. As a customer I want to know if a product I’m buying requires another product for use.
4. As a customer I want to know if there are alternatives or related products to what I plan on buying
5. As a customer I want to be able to use my credit card to pay for a product.
6. As a customer I want to be able to store my payment information for future purchases.
7. As a customer I want to be able to provide (and save) a shipping address for the products I purchase.

Product Recommendation and Customer Service - Trevor

1. As a business owner I would like to recommend products that are more applicable to the user’s needs such as contaminant level in the user's area.
2. As a business owner I would like to provide information on product details and how a user uses the product.
3. As a customer I would like to file a ticket complaint with a product I received.
4. As a customer representative I would like to see a list of complaints and respond to them individually.
5. As a customer looking to solve a common issue, I would prefer to visit a frequently asked questions page.

Product reviews and recommendation - Prosper

1. As a customer I want to be able to write reviews on product satisfactory
2. As a customer I want to be able to suggest and recommend products to other users
3. As a customer I want to be able to share products to other social media platforms such as facebook and instagram
4. As a business owner I should be able to access data on product reviews and recommendations
5. As a business owner I should be able to get public data on product reviews from customers.

Account management

1. As a customer I can register an account for the application with an email and password
2. As a customer I can upload information about myself, such as a shipping address, picture, credit card information and/or phone number
3. As a customer I can view and update my account information as needed
4. As a water filter or water quality test supplier I can register a supplier account
5. As a supplier I can submit new products and product information to be added through my account

E-R Diagram October 19, 2020

1. Identify entities
2. Customer
   1. Attributes: name, address, credit card, zip code, account, password
   2. relationship to: shopping cart, products
3. Business owners
   1. Attributes: brand of water filters, business name,
   2. relationship to
4. Products
   1. Attributes
   2. relationship to : business owners, shopping cart
5. Researcher
   1. Attributes:
   2. relationship to: water source
6. Transaction
   1. Attributes: credit card, customer name,
   2. relationship to :
7. Customer Service Employees
   1. Attributes: review ticket, employee id
   2. Relationship to:
8. Customer Service instance
   1. Attributes: Customer service employee, customer, date/time of service
   2. Relationship to:
9. Shopping Cart
   1. Attributes:
   2. relationship to
10. Cart item
    1. Attributes: product, quantity, shopping cart
    2. Relationship to:
11. Water sources/Utility Company
    1. Attributes: contaminants, location, contact information,
    2. relationship to:
12. Customer Review
    1. Attributes: item, price,
    2. Relationship to: Customer , products, transaction

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