Instant System Proposal (Team Project)

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Introduction/ What is it?

Instant is an online grocery delivery and pickup platform that links consumers with personal shoppers who shop for and deliver groceries from local stores. Users can select products from a range of partner stores, add them to a virtual cart, and make online payments. Personal shoppers fulfill the orders, making substitutions when necessary, and then deliver the groceries to the customer's doorstep within the chosen delivery window. The service provides a convenient and time-saving solution for those looking to have groceries and household essentials delivered to their homes.

Current Business Practices

Every time an item is sold through Instant platform, the company receives a percentage of the price, according to the agreement made with the retailer. Instant even sells some products at a higher price to increase markup. Delivery fees vary from $3.99 to $9.99. These fees are distributed between the store and Instant. Additionally, there are also service fees that get around 5-10% of the purchase. Instant bases their business model on bringing convenience to the people by providing a service that expedites grocery shopping. They bring that with their partners, some of the most established retailers in the world. As well as their quick delivery system and customer service.
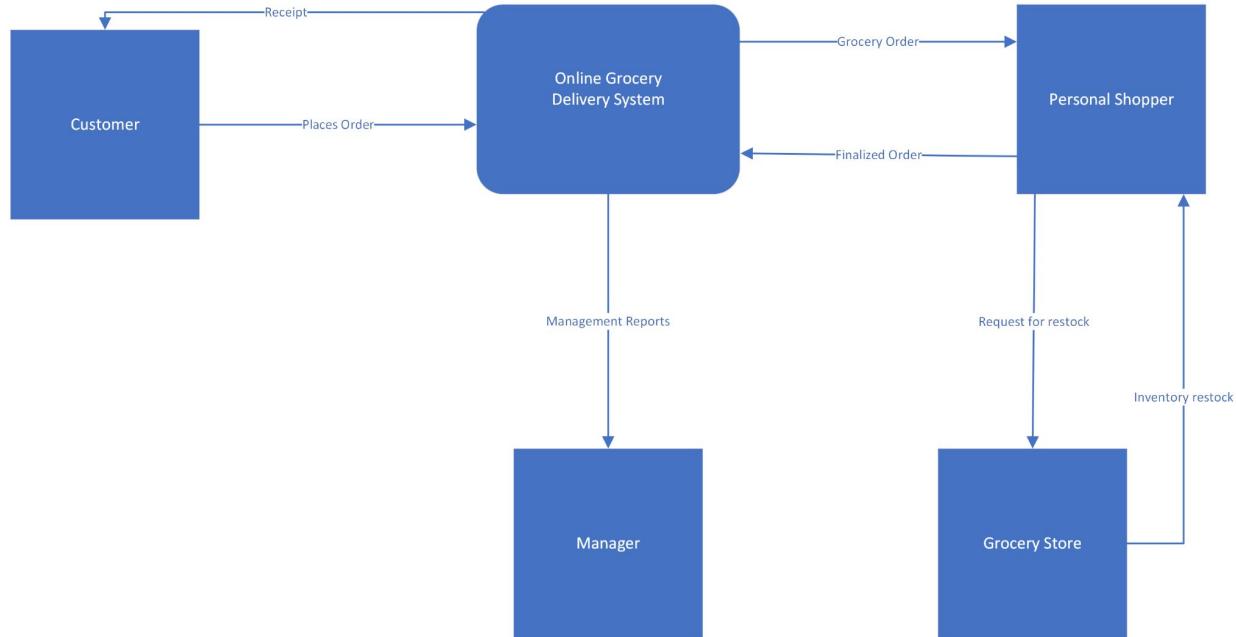
Analysis of the Problem

Instant has been facing the issue of having a decline of users. An in-depth analysis was conducted to identify the underlying causes of the problem. The symptoms identified include low engagement and decreased number of customers, and the underlying causes were determined to be the lack of payment options and the number of competitors increasing. This circumstance has caused the business to lose sales and popularity. The goal for the project is to help Instant increase the number of orders from customers through improving their online ordering system. This analysis helped us gain a clear understanding of the issue.
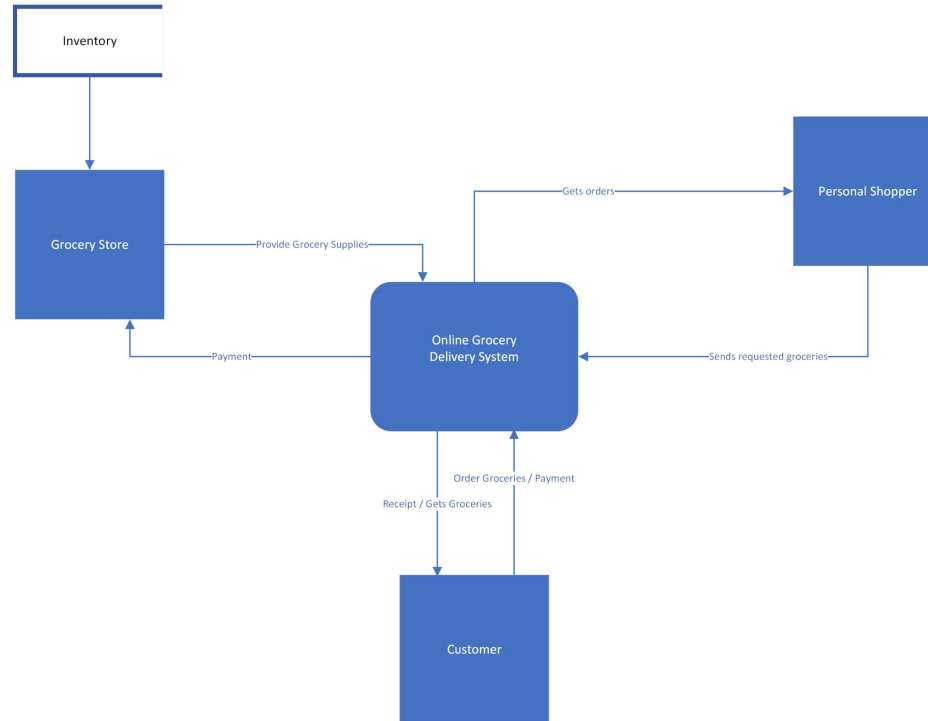
Solutions

Creating more Payment features for Instant would add more flexibility of payment for customers, this could also bring in new customers to Instant, various forms of payments such as digital wallets, cryptocurrencies, and even features like for cash-on-delivery. This creates more options for customers. Instant also needs to prioritize information privacy and security of the customer. Resolutions in this field include strong information encryption, common security audits, and clear privacy policies to establish credibility with customers.
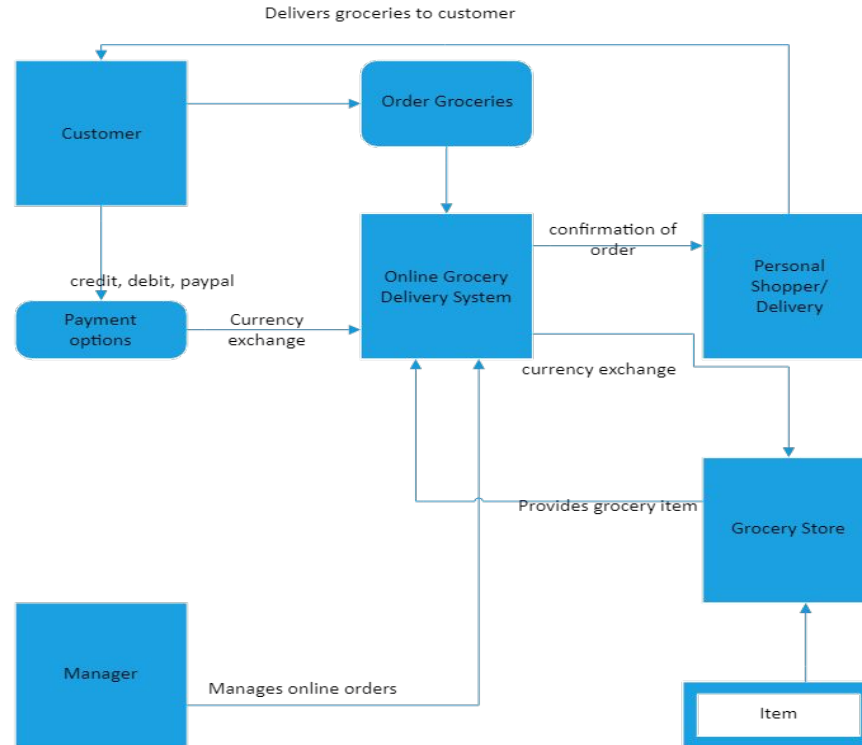
Context Diagram
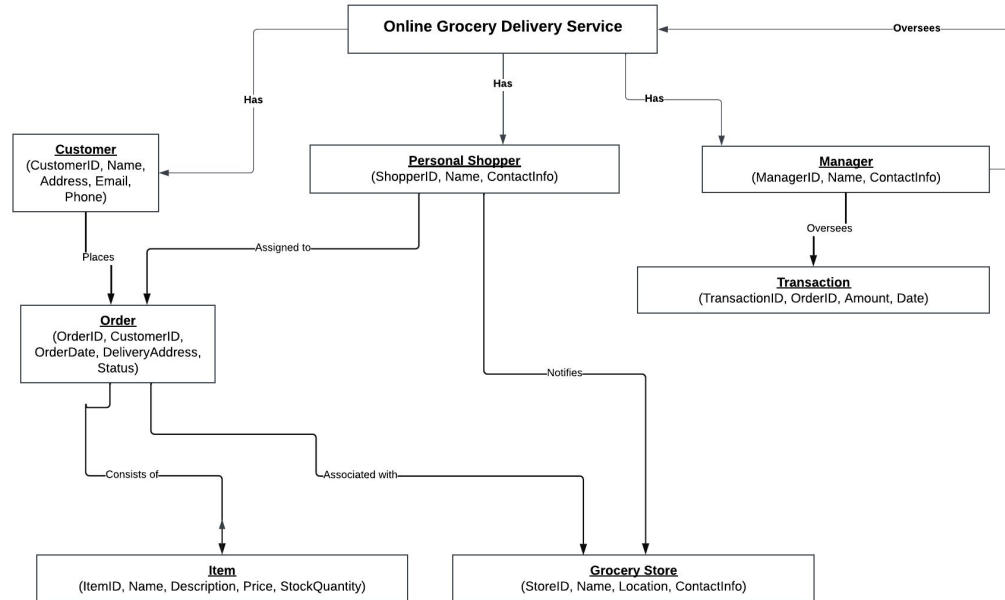
Data flow Diagram (Level 0)

Data flow Diagram (Level 1)

ER Diagram

Online Grocery Delivery Service

Has — Customer (CustomerID, Name, Address, Email, Phone)

Has — Personal Shopper (ShopperID, Name, ContactInfo)

Has — Manager (ManagerID, Name, ContactInfo)

Oversees

Customer — Places — Order (OrderID, CustomerID, OrderDate, DeliveryAddress, Status)

Personal Shopper — Assigned to — Order

Manager — Oversees — Transaction (TransactionID, OrderID, Amount, Date)

Order — Consists of — Item (ItemID, Name, Description, Price, StockQuantity)

Order — Associated with — Grocery Store (StoreID, Name, Location, ContactInfo)

Personal Shopper — Notifies — Grocery Store

System Data Requirements

Data Category	Description
Customer	
Customer ID Shipping Address	Tracking of Customer
Order	
Order ID	Tracking Order details
Payment	Confirmation of payment and Type
Inventory	
Retailer	Supplier of purchased items
Shopping List	List of groceries to be delivered
Shipping	
Tracking Order	Monitor the status of the order through barcodes in the shipment process
Confirmation of Deliver	Send confirmation to customer and ends the process.

System Requirements Determination

<u>Non-Functional</u>

Operational Requirements:

The system should intake the shopping list of customers and send them to an associate retailer.

The system should process the payment of customers.

The system should collect and assemble items for delivery at retailers.

The system should ensure the quality of the products for customers.

Performance Requirements

Ensure the estimated delivery time to be less than 48 hours.

<u>Functional</u>

1. Customers Order

    a.   Groceries are ordered on the retailer's website.
    b.   Our delivery service is demanded.

2. Shipping

    a.   Ensure quality of purchase items.

System Process Requirement

1. **Customer Order**

   1.1. Processing

   1.2. Payment

   1.2.1. Receipt

   1.2.2. Retailer Payment

2. **Retail Process**

   2.1. Inventory Check

   2.2. Assembly

3. **Shipping**

   3.1. Estimate Delivery Time

   3.2. Quality control

   3.3. Transportation

   3.4. Confirmation of Delivery