



# RAINBOW GROCERY STORE

Team 3:

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**What factors of the shopping experience would prompt you to shop elsewhere for your groceries?**

**Top ranked factor**



Base: 1,000 US consumers who have shopped for groceries in the past two weeks

# Background

# Problem Statement

Long wait in queues at supermarkets that lead to lost sales and poor customer experience

High operating costs for payment transactions

Current Automated checkout systems are cumbersome



**Priya, 35**

Customer – Priya is mother of two kids and works full-time as s/w engineer at Amazon.

"I believe in buying fresh vegetables daily rather than stocking up food for 2 weeks. I end up taking frequent trips to store and get frustrated because of inefficient and long lines at regular and self checkout counters"

## Needs:

- Save time while grocery shopping by doing faster checkout
- Get fresh, best quality food items possible

# Solution





# Product Summary

**Product Name:** Smart Cart

**Company Size:** Medium (100-200 employees)

**Target Company:** Small chain grocery stores around 30,000 square feet.

**Value Proposition:** Improve customer experience by allowing customers to pay directly and skip checkout lines.

## **MVP :**

Provide a Smart Cart with scanner that requires the customer to scan a barcode found on the items.

Once a shopper has all the items they need, they can pay via a card machine or Apple/Samsung pay on the cart and leave the store without having to queue

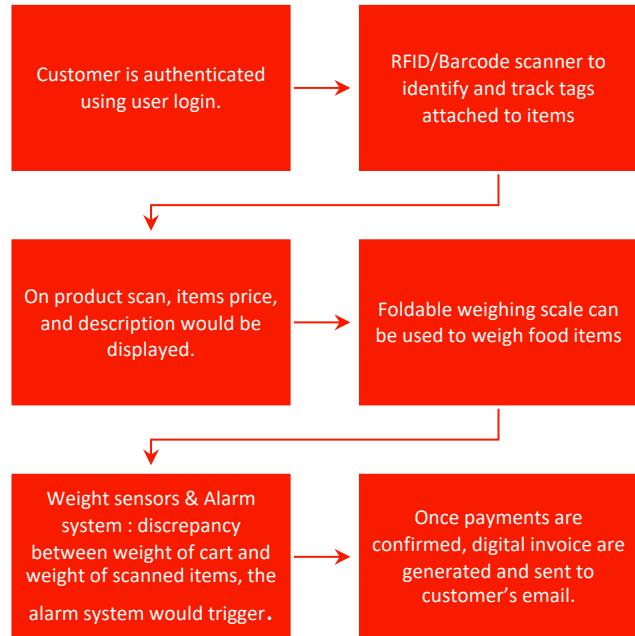
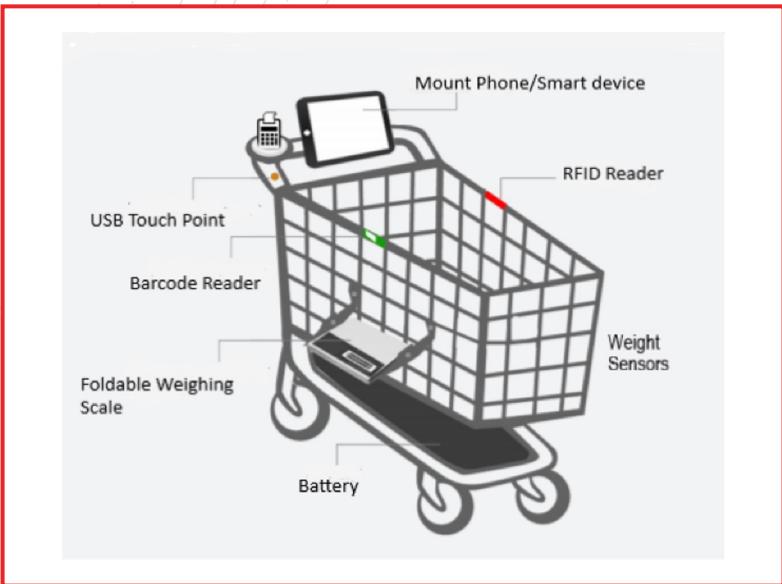
# Product Definition

## Function

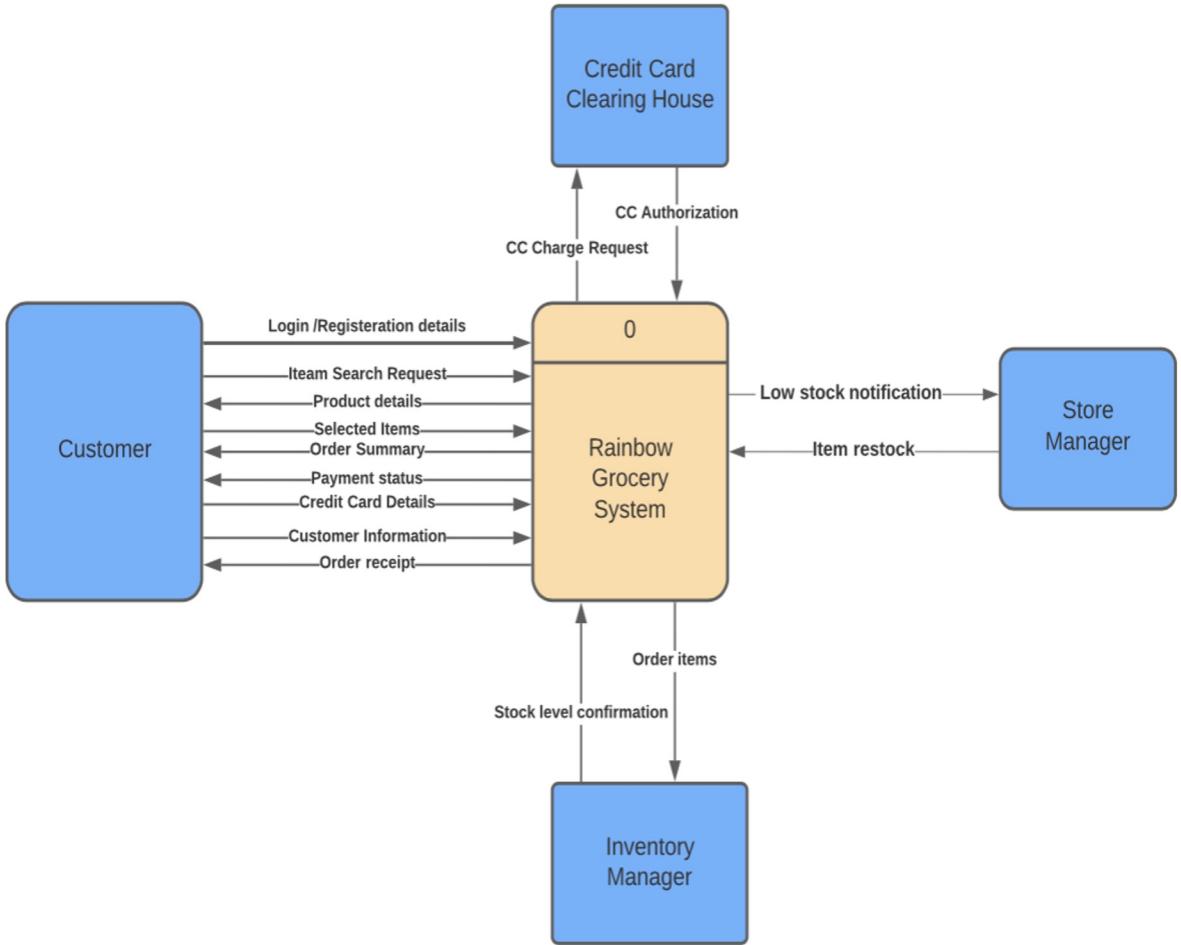
Smartcart is an interactive touchscreen display affixed to the handlebars of a shopping cart which will allow users to perform the following actions:

- Scan items to a checkout list
- Search for items
- Search for the aisle locations of items
- Obtain coupons for items
- Create Wishlist
- Search for deals

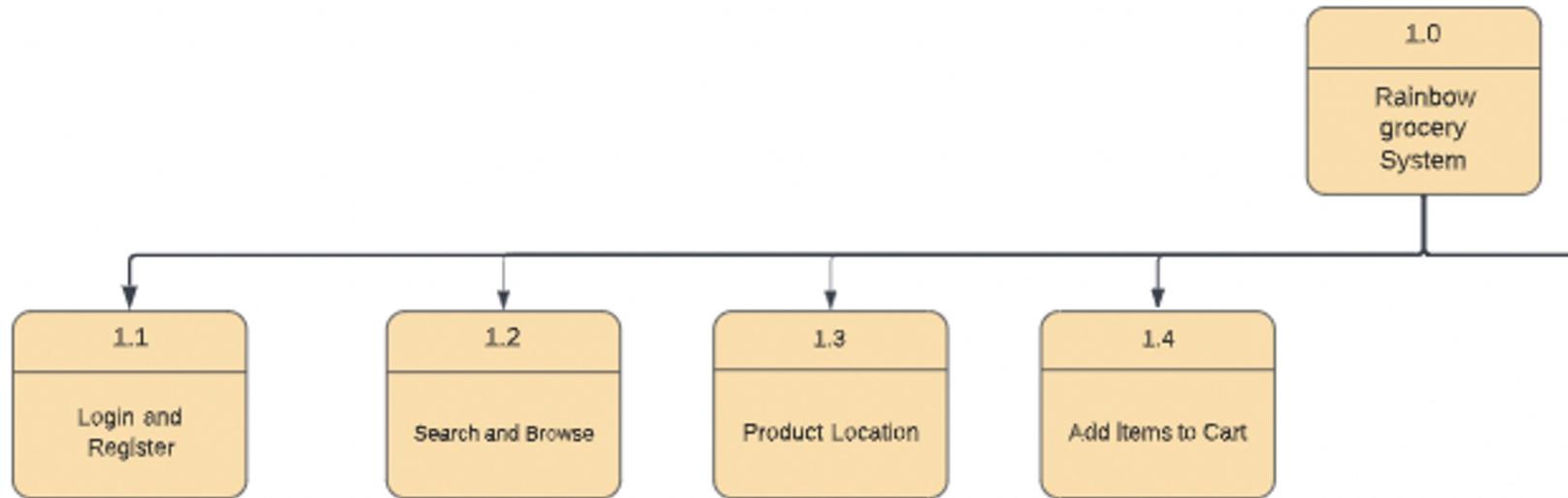
# Proposed System



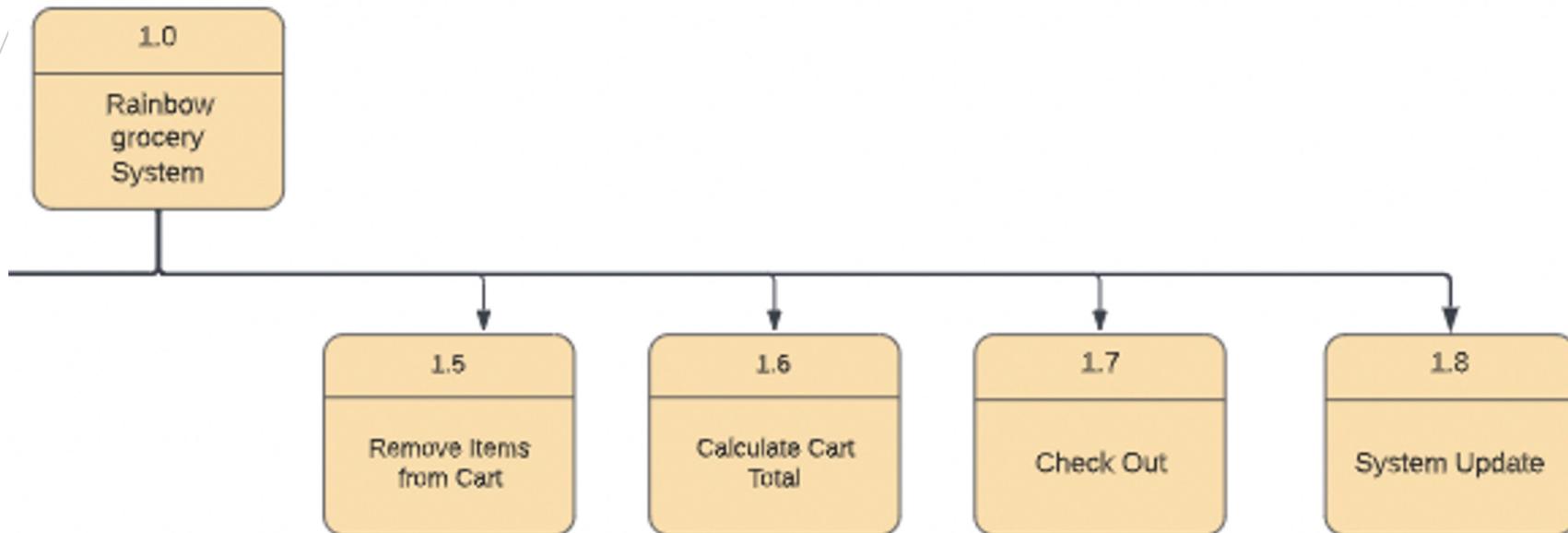
# Context Diagram



# Structure Diagram



# Structure Diagram



# Security & Regulations



## Payments

Partnering with trusted payment platforms.

Secure all transactions using SSL protocol.

Choosing payment gateway with tokenization.



## Anti Theft

Each item will have an RFID tag and each cart will have an RFID reader. When the cart reaches a certain distance to the in-store component and if there is any discrepancy between the weight of the cart and the weight of the scanned items, the alarm system would trigger.



## Regulations

Our product supports customer data privacy and payment data PCI, FCC security standard

# Customer Sign In

## RAINBOW GROCERY STORE



Your Daily Need Fresh And Organic Products

### About Rainbow

Rainbow Grocery Cooperative has been in San Francisco's Mission District since 1975. For nearly 45 years we have provided affordable vegetarian food products which have minimal negative impact both ecologically and socially; buying goods from local organic farmers and vendors whenever possible.



[Learn More...](#)

Username:

Password:

[Login](#)

New User?  [Register](#)

# Customer Sign Up

## Register

First Name \*

Rob

Last Name \*

Johnson

Email \*

rjohn@gmail.com

Phone Number \*

6632437890

UserName \*

rjohn

Password \*

rj123#\$!

Retype  
Password \*

rj123#\$!

Address \*

109, North Park Street

Town \*

Santa Clara

Zipcode \*

94087

Country \*

USA

Register

# Log In

## RAINBOW GROCERY STORE



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[Learn More...](#)

Username:

Password:

[Login](#)

New User? [Register](#)

# Product Homepage

Rainbow Grocery

search here...

Home Category Deal Shopping List Store Map Product Route Help

SHOP BY DEALS



Organic Banana  
\$0.40 each - \$0.65

Quantity:

Add To Cart



Organic Broccoli  
\$3 each - \$5.....

Quantity:

Add To Cart



Carrots  
\$2.50 1lb \$3.50-

Quantity:

Add To Cart



Organic Oranges  
\$1.53 each - \$2.10.....

Quantity:

Add To Cart

SHOP BY CATEGORY



Bakery



Dairy Products



Meat



Fruits

1024 x 768

# Wishlist

Rainbow Grocery Store

Home Category Deals Store Map Product Route Help

## Shopping List

Last Updated on 02/26/2022

<input checked="" type="checkbox"/>	Milk	3	-
<input type="checkbox"/>	Banana	1	-
<input type="checkbox"/>	Bread	1	-
<input type="checkbox"/>			-
<input type="checkbox"/>			-

+

# Shop By Category

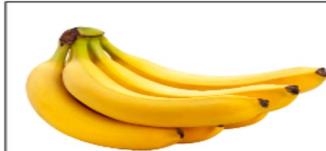
Rainbow Grocery

search here...

Home Category Deals Shopping List Store Map Product Route Help

SHOP BY CATEGORY

< >



Organic Fruits



Organic Vegetables



Meat

Deal Of The Day

13 Day 1 Hour 40 Min 3 Sec

Check the Deal



1024 x 768

# Category

**RAINBOW GROCERY**

search here... 

[Home](#) [Category](#) [Deal](#) [Shopping List](#) [Store Map](#) [Product Route](#) [Help](#)

### Fruits



**Organic Banana -2lb**  
\$2.00-\$3.00

Quantity:

**Add To Cart**



**Organic Gala Apple**  
\$1.19 each-\$2.25

Quantity:

**Add To Cart**



**Strawberry**  
\$5.50 1lb

Quantity:

**Add To Cart**



**Organic Oranges**  
\$1.53 each-\$2.10--

Quantity:

**Add To Cart**



**Raspberries - 6oz**  
\$3.59



**Organic Blueberry - 4.4 oz Package**  
\$4



**Mango**  
\$0.99 each



**Persimmons - 2lb**  
\$5.48-\$6.50--

1024 x 768

# Deals

**RAINBOW GROCERY**

search here... 

Home Category Deals Shopping List Store Map Product Route Help    

Ongoing Deals



Upto 10% Off



Organic Carrots

Upto 30% Off



Juice

Upto 15% Off



Oatmilk



**Deal Of The Day**

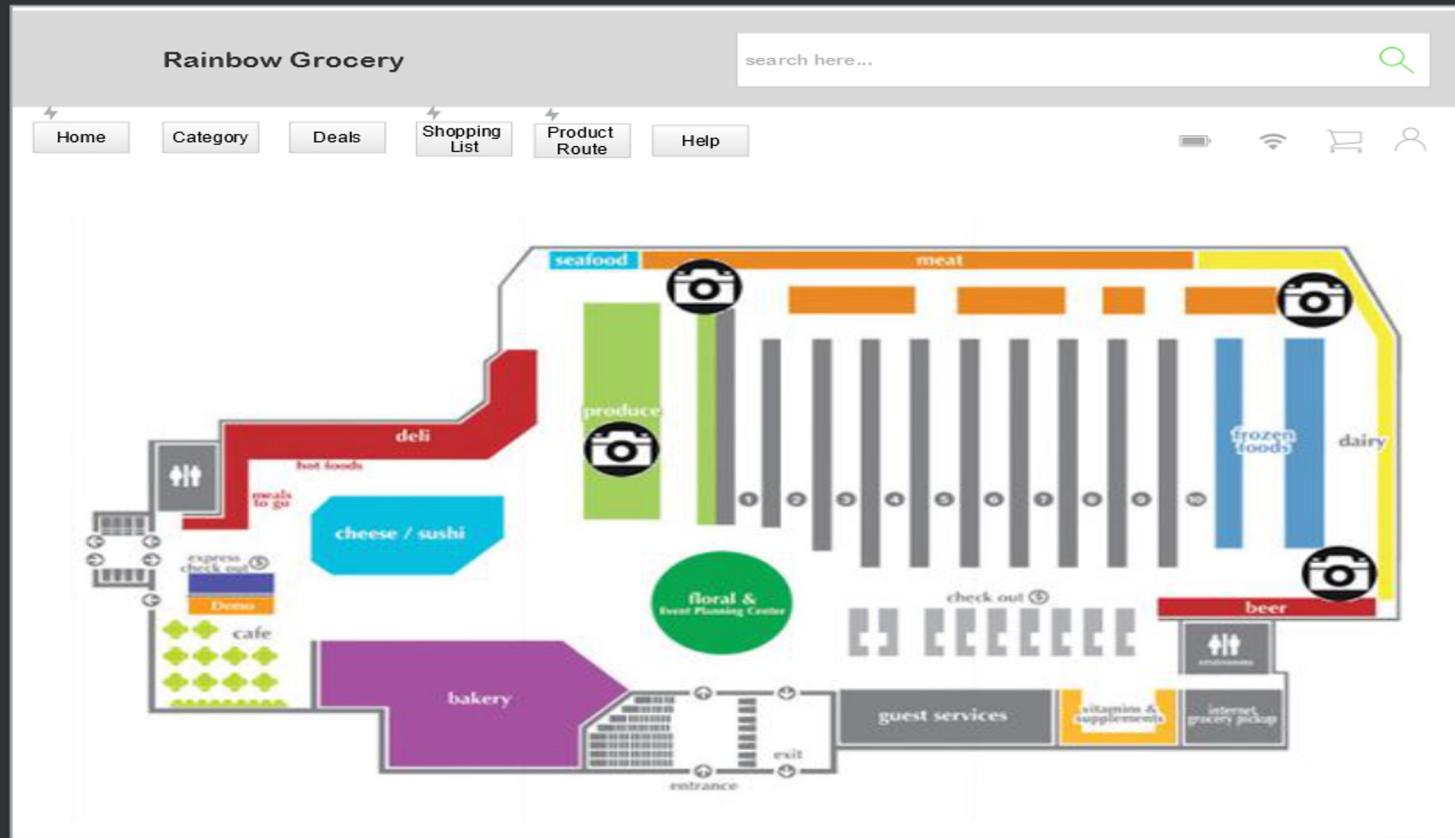
3 Hours 40 Mins 3 Sec

Check the Deal



1024 x 768

# Locate a Product



1024 x 768

# Scan a product

Rainbow Grocery Store

Start Scanning



No Scan Code

1024 x 768

Speaker icon

Accessibility icon

Help icon

ES Espanol

# Add Item to Cart

RAINBOW GROCERY

Home Category Deals Shopping List Product Route Help

Quantity: 1

Organic Banana -2lb  
\$2.00

Add to Cart Get Item Weight

Remove Item Scan Coupon

**Close**

1024 x 708

# Cart Total

Rainbow Grocery Store

Home Category Deals Store Map Product Route Help

	Organic Banana 2lb	<input type="button" value="1"/> <input type="button" value="▼"/>	\$3	<input type="button" value="—"/>
	Organic Carrots 1lb	<input type="button" value="1"/> <input type="button" value="▼"/>	\$2	<input type="button" value="—"/>
	Bread 20oz	<input type="button" value="1"/> <input type="button" value="▼"/>	\$6	<input type="button" value="—"/>

Tax: \$1  
Item total: \$12

Search for Item

I have My Own Bag

No Code

Redeem Rewards

Finish & Pay

# Search Product

Rainbow Grocery Store

Tap to Search by Name, Barcode

Popular in your store

				
Navel Oranges #45960	Fair Life Milk #45960	Banana #9865	Grapefruit #9685	Sun Dried Tomatoes #346757
				
Good Seed Bread #98547640	Progresso Chicken #12308	Peaches #45960	Limes #9659	Lemons #09649
				

A - D

E - H

I - L

M - P

Q - T

U - W

X - Z

3

1024 x 768

# Confirm Order

**Rainbow GROCERY**

Home Category Deals Route Help

 Organic Banana 2lb	1	\$3	-
 Organic Carrots 1lb	1	\$2	-
 Bread 20oz	1	\$6	-

Tax : \$1  
Item total: \$12

Swipe Debit/Credit Card or  
insert Chip now.

Back Help Cancel Order Confirm Order

Paypal Edit

VISA \*\*\* \* 3411 Edit

Add Credit Card

CardHolder Name

CardHolder Number

Exp Date CVC

Add

1024 x 768

# Order Summary

**RAINBOW GROCERY**

Home Category Deals Shopping List Route Help

Order Summary

Complete



Order id is: 34562

Thank You for shopping with Rainbow Grocery!

**View Order Details**

10.24 x 7.08

# Future Scope

Incorporate **deep learning** algorithm to identify items with the help of image recognition cameras

Monetize on Products **ads and promotions** on app

Monetize on aggregated **data for marketing** purposes

Online ordering

Incorporate machine learning algorithm to provide personalized product recommendation

Recommend recipes based on items in cart