MIS-730 Integrating IS Technologies

Team Members:

Siddhesh Powar
Medhavi Uniyal
Hitesh Vanjara
Priyanka Bhandari
Shrey Mudgal

What?

An app that tracks and manages all the grocery inventory, intimates the users for expiration of food items and notifies the user when the grocery items in stock is getting over and needs to be restocked.

Whom?

To make inventory management easier for the user for the end-user.

How?

Using location services of the user to notify the user if he/she is close by to a store which is getting low on stock in the inventory list.

Problem Statement

Instead of creating a to-do list or scheduling reminders for grocery shopping our app will solve this age old problem.

In the busy work routine people forget a lot of items which are in stock at home and they still end up buying it again.

There is lack of inventory management system for home users which is easy to use and manage.

Target Audience

The target customers would be both Male/Female between age 18-60+

Initially, customers between age group 25-40 and females can act as a test group before launching the app, where their opinions and feedback can be heard to make improvement to the app.

Existing Solution

There are inventory management applications out there in the market for home but the user has to manually enter everything.

There is no recommendation system inbuilt.

The user is not notified is he/she is near to a store where he/she can get the grocery item which is short in his/her inventory list.

Let's take an in-depth look at our product now

Technology Components

1. Database: A centralized database that has the data about inventory, prices, and deals for each store.
2. Barcode scanner: The barcode scanner will be used to add items to the cart and checkout when done.
3. Bill Scanner: A mobile Bill scanner will be used to add the items from the bill directly to the inventory management system.
4. Location Tracker: This will track user location and notify the user if he/she is near to a store from where he/she can buy any grocery item which he/she is low on.

Database

There will be a central repository for the look up list for parsing the scanned item from the bills.

All the user data will also be stored in the central database system.

Customer history will be maintained to study and understand the behavior and trends of the customer.

Barcode Scanner

- The app will come with a barcode scanner
- Scanned items can be added to Inventory Manager.
- The expiry dates will be automatically added to the system and the user will be notified when the is coming near to an expiry date.

Bill Scanner

- The app will come with a Bill scanning feature.
- Mobile Camera will be used for this feature.
- Bill will be scanned for all the perishable food items which do come with barcode or if the barcode is missing.

Location Tracker

Every user will have to give permission if he/she needs to be notified for any deals in the nearby stores.
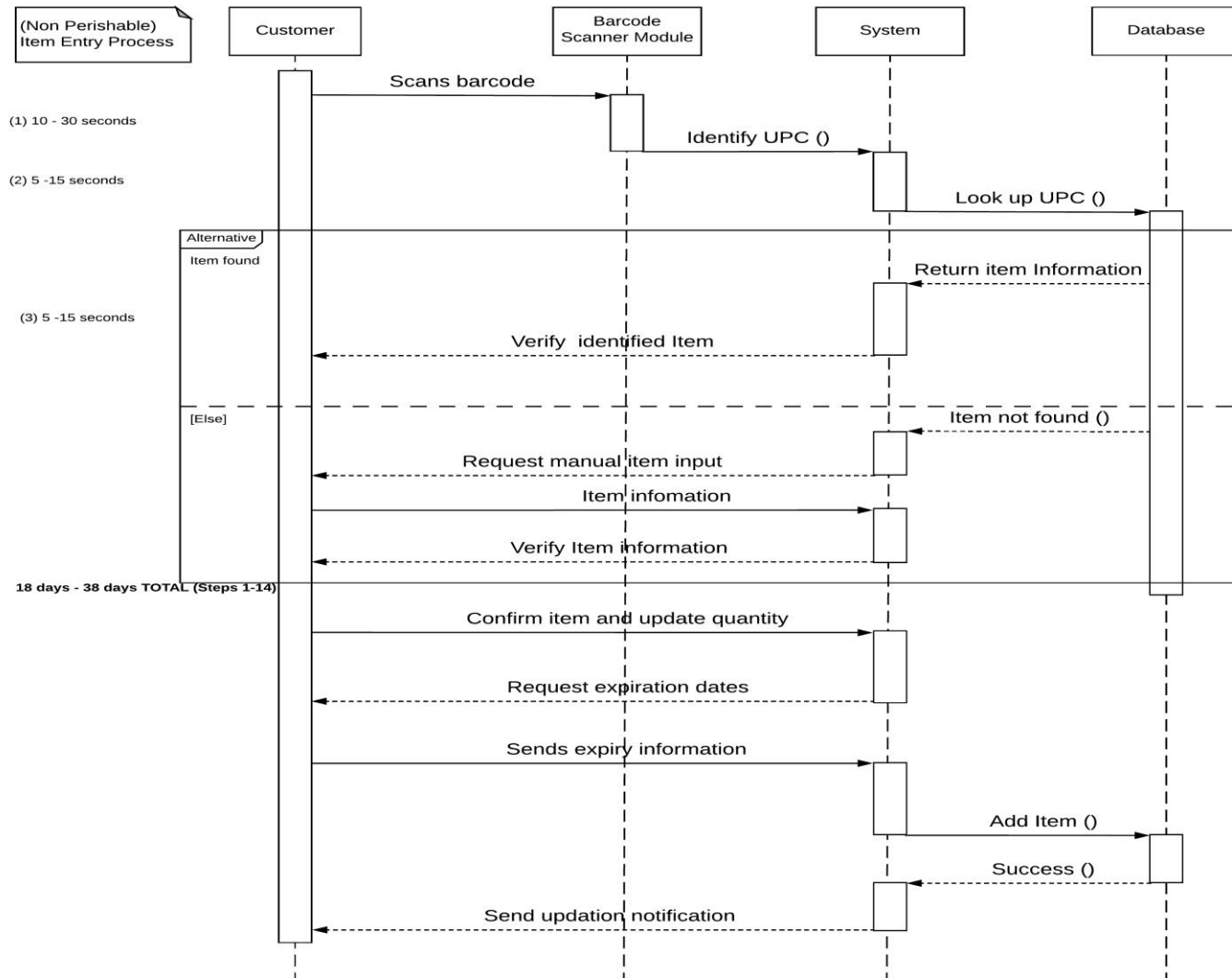
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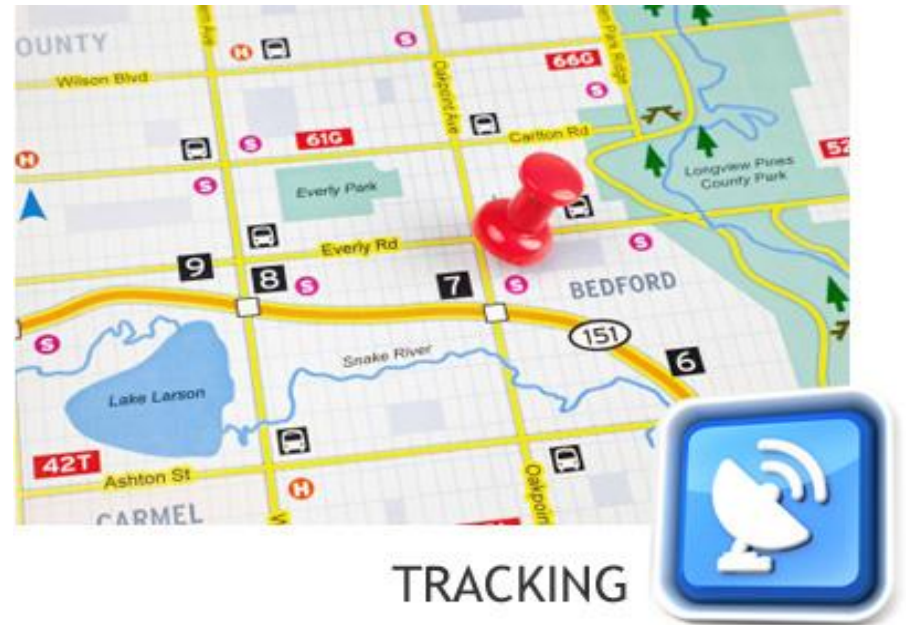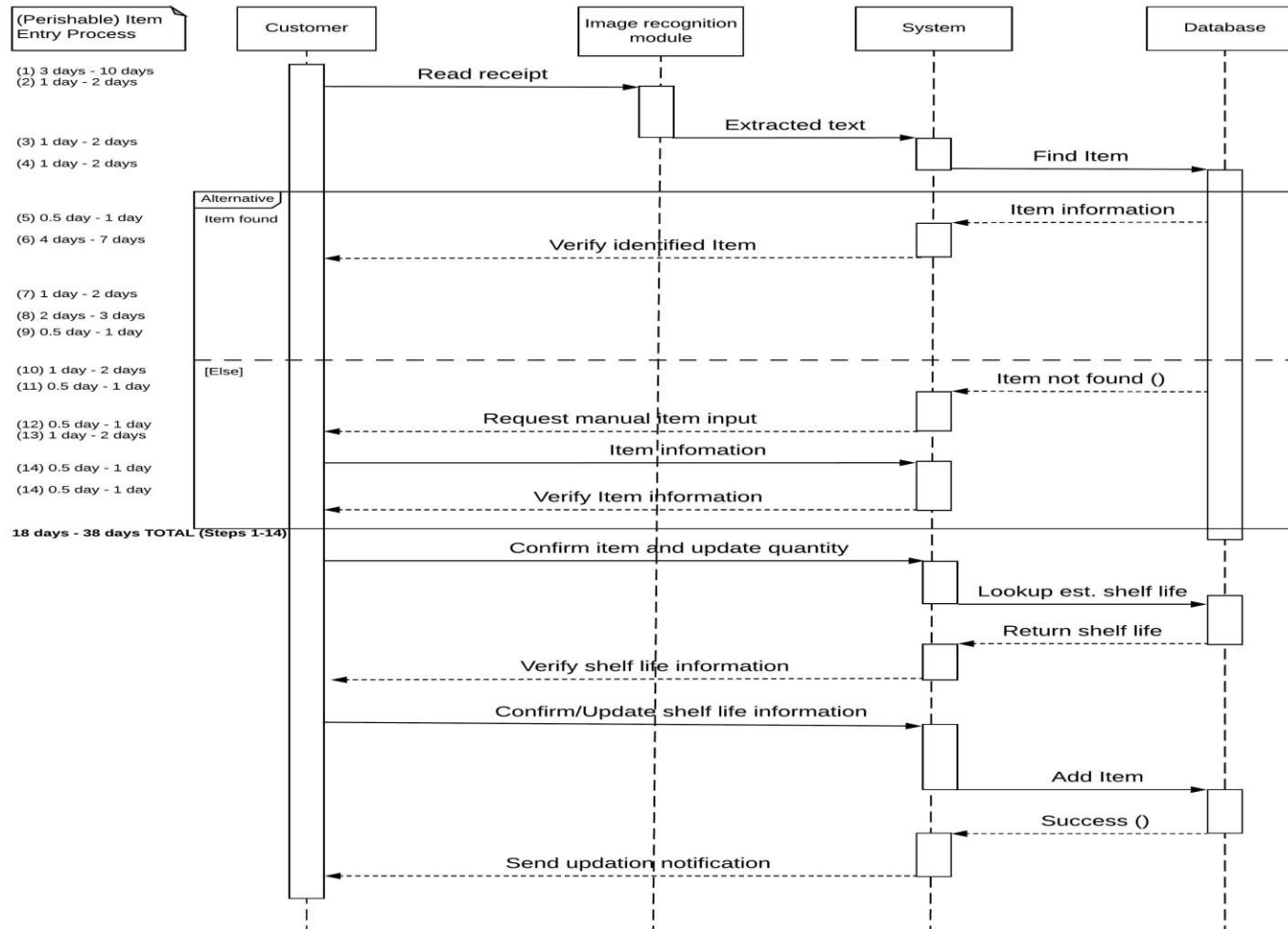
KEY FEATURES

- Capture barcode using devices built-in camera
- Information for each item includes: quantity, barcode, expiration date and nutritional facts
- Use a hand-held mobile scanning solution for managing the household inventory
- Reads several barcode formats
- Supports all devices and platforms
- Scan the receipts to track the items purchased
- Read RFID tags
- Add, delete and search items in your inventory
- Automated quantity tracking
- Set thresholds for alerts when food items are approaching the expiry date
- Barcode integration and server side interfacing
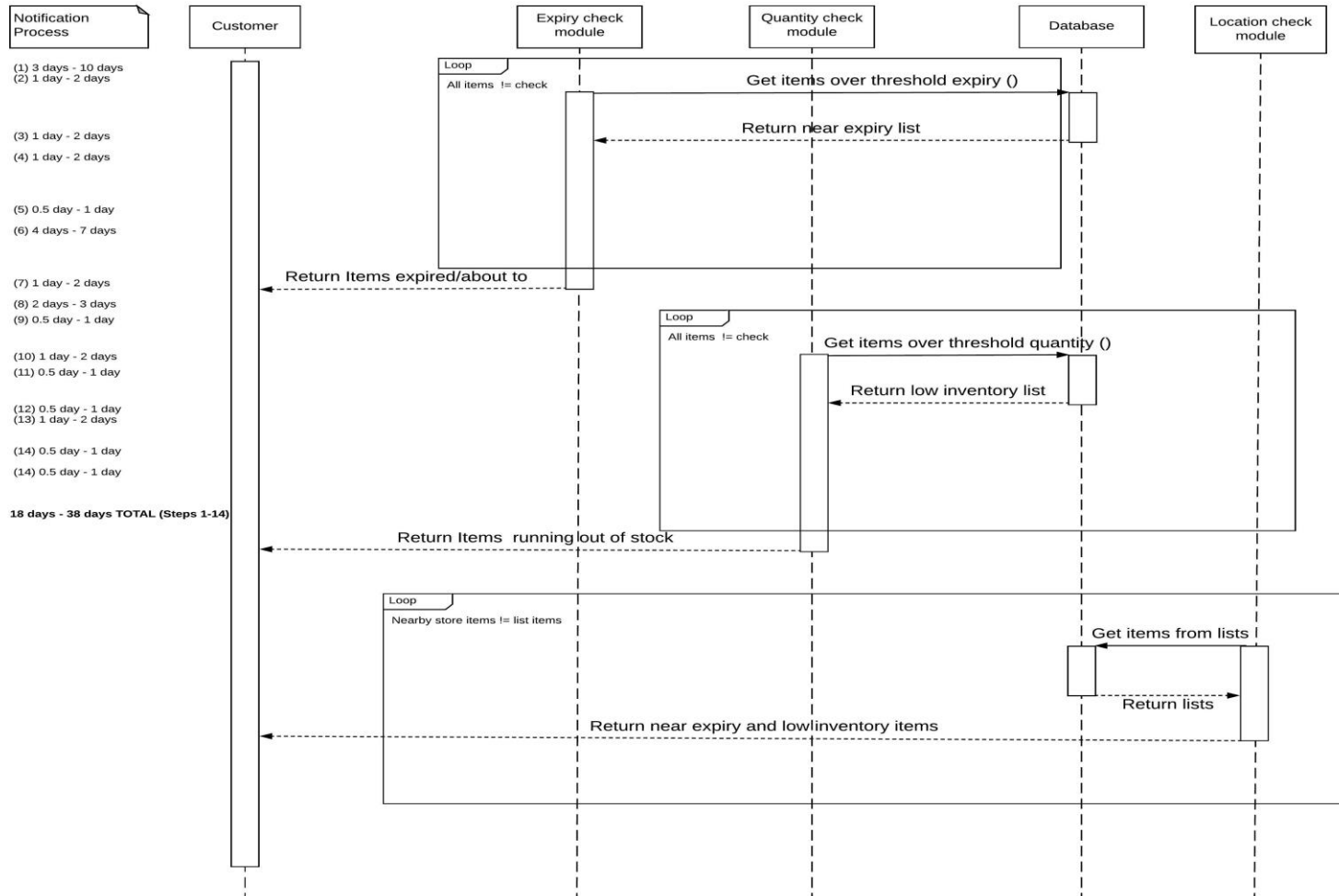- Syncs the data to the cloud and saves it locally
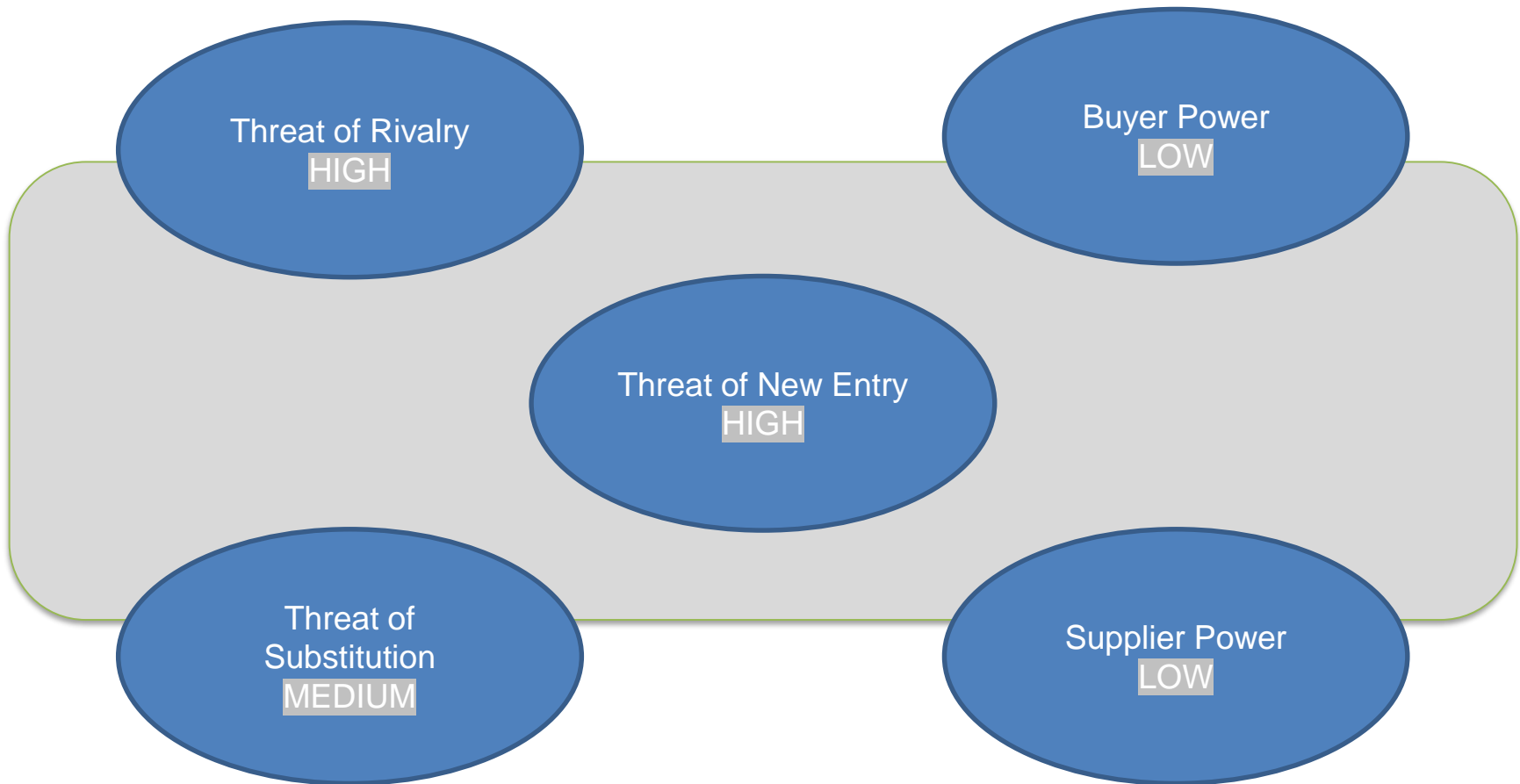
Sequence Diagram

Sequence Diagram

Sequence Diagram

PORTER'S 5 FORCES

Threat of Rivalry
HIGH

Buyer Power
LOW

Threat of New Entry
HIGH

Threat of Substitution
MEDIUM

Supplier Power
LOW

❖ Threat of New Entrants:

- This a new technology which will focus on managing the household grocery of the customer.
- This application will provide convenience to its customers due to its features.
- So, this will eventually increase the customer base and in turn it will give rise to new entrants which will be developing such applications .
- So, we think the threat of new entrants will be on the higher side for this application.

❖ Threat of Rivals:

- For our product the competition is high since there are similar inventory management applications but the ones that cater to household purpose are very less which makes our product very unique.
- Potential factors are as follows:
  - Sustainable competitive advantage through innovation
  - Competition between online and offline companies
  - Powerful competitive strategy
  - Degree of transparency

❖ Buyer Power:

- The ability of the customer or the buyer to put the company under the pressure.
- For the household purpose there isn't much options available to manage the inventory at the same price. Hence, they can proceed ahead with this limited availability.
- Potential factors are as follows:
- Buyer information availability
- Availability of existing substitute products
- Buyer price sensitivity

❖ Threat of Substitution:

- Substitution is use of a different technology or application to serve the same economic need
- There exists substitutes for large grocery stores like Walmart but our product is relatively new to be used for domestic household.
- Potential factors:
    - Buyer propensity to substitute
    - Relative price performance of substitute
    - Number of substitute products available in the market
    - Availability of close substitute

❖ Supplier Power:

Technologies and tools which are needed are available fairly well making our application economically friendly for the customers.

Potential factors are:

- Impact of inputs on cost and differentiation
- Presence of substitute inputs
- Supplier competition: the ability to forward vertically integrate and cut out the buyer.

SWOT ANALYSIS

STRENGTHS

- Better control over grocery management
- Early detection of expiration date
- Convenience to the customers
- Avoiding food wastage with unique concept

WEAKNESS

- Smaller Budget allocations as it is a new application
- Manual entry of items without barcode
- Keeping track of quickly perishable items

OPPORTUNITY

- Better utilization of grocery items by adding more convenient features
- Extending to new geographical markets
- Integrating this app with big grocery chain apps such as Walmart, Shoprite

THREATS

- Big grocery chains can develop such apps of their own
- User entering incorrect expiration date for food products

TANGIBLE AND INTANGIBLE BENEFITS:

❖<u>Initial investment</u>
Cost for developing the application
Cost for testing
Cost for setting up front-end and back-end interfaces
❖<u>Operational Cost Benefits</u>
Marketing
Maintenance costs
❖<u>Tangible Benefits</u>
Better time management for customers
Improved profits and better utilization of grocery items
❖<u>Intangible Benefits</u>
Customer Satisfaction
New household inventory management experience

SUCCESS METRICS

- <u>Performance Metrics:</u> The efficient performance of the application will contribute towards the success of the service.

- <u>User and Usage Metrics:</u> The number of users using this application and their usage.

- <u>Engagement Metrics:</u> The users engaging in timely use of this application.

- <u>Business Metrics:</u> The reach of this app will determine the business.

- <u>Rating of the Application:</u> Customers providing good rating on the Appstore and Playstore will help in attracting more users.

- <u>Feedback:</u> The feedback provided by the customers will help in developing the application in a much better way.

BUSINESS CASE

Key partners: Cloud Amazon Web Services iOS and Android Platforms

Key activities: Mobile and Analytics Engine Development Routing Algorithm

Key resources: Data related to grocery items Wi-Fi Router

Value Proposition: Save customers managing and tracking time and enhance the inventory managing experience

Customer relationship: Deals for the users Referral promos

Customer Segment: Households

Channels: Promotion of application through the AppStore and Playstore Marketing

Cost Structure: Application Development Cloud service Marketing of our application