22 Spring Group Work

Sprint 1

Idea: Mobile app that compare the price of local grocery items

We aim at developing a price comparison app across the grocery store. Help the users save time and money.

Team Structure:

Core Principle:

Customer based service: The team will commit to knowing customer's expectations; understand their pain points; follow up on positive and negative feedback and do customer center design.

Be competitive: The team will be constantly monitoring the market and iterating product offerings that will allow us to outperform the competitors.

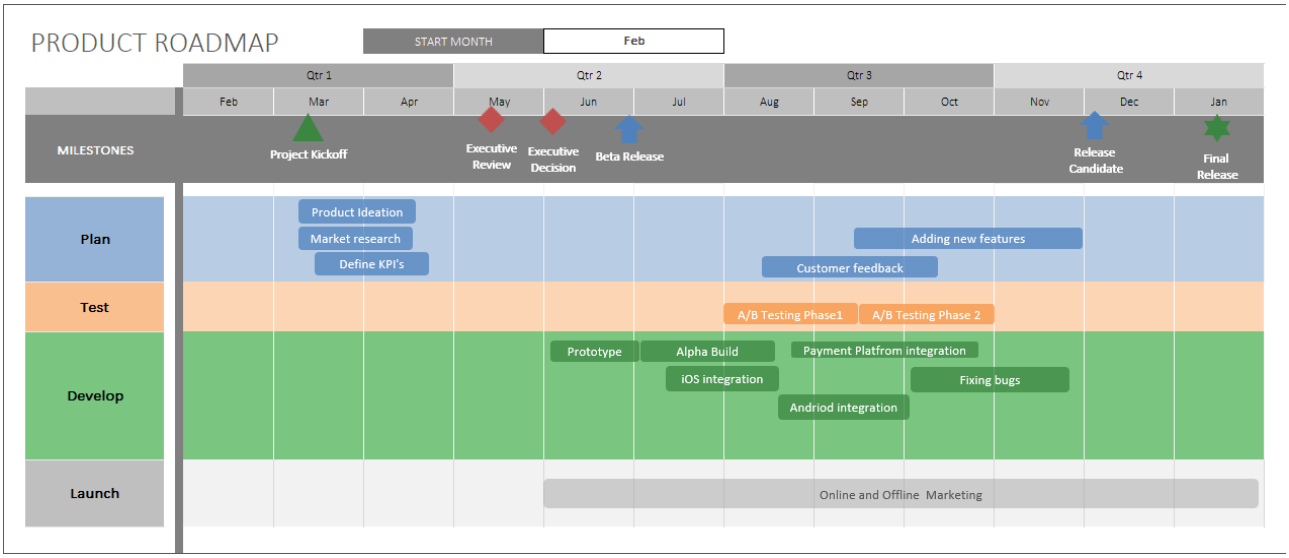
Efficiency: Ensure efficient communication with all stakeholders in a timely manner.

Creativity: The team will focus on courageous, constructive thinking; building an environment of different perspectives.

Team operating rhythm:

We will adopt a combination of Agile methodology and scrum framework. We'll break down our projects in to several sprints to ensure the product developing process is more manageable; give it more flexibility to embrace the changes.

Sprint 2 Part A



Product vision:

Develop a robust and competitive online portal for consumer goods and services which provides a comparative prices of different stores like groceries,household products, personal care products and beverages to reduce time spent in selecting stores.

Strategy:

- Place our app on multiple platforms i.e google play store, apple store, social media marketing
- Conduct marketing campaigns across different social media platforms.
- Acquire a pool of influencers to promote product in their respective social media channels.
- App store optimization and outreach
- Building an App landing page to highlight the app’s usage.
- Running ads through google, fb and twitter
- Recruit a pool of users and document their stories.
- Reach out to multiple outlets - small, medium and large scale and promote the app

- Measure KPI’s - retention rate, Load speeds, crash reports, session length and depth, Average screens per session, Daily and monthly users, User growth rate, installs and uninstalls, Social shares, screen dimensions and resolution.

Business objectives:

- Leading grocery related app
- Minimize bounce rate to 5%
- Negotiate long term advertisement deals with large market retail and grocery stores

Theme: Develop a price comparison app across grocery and retail stores, giving users the choice between time spent and money spent

Epics: Build and develop grocery price and distance comparison app

User features:

- Grocery stores depending on user location
- Updated prices each day
- Saves list of commonly ordered items

Timeline:

- Launch the app on App Stores by December 2022, and acquire 1000 sign ups and 500 orders before February 2023
- Continue to improve and maintain the application weekly.

Objective: Launch a testing model for the application on Apple Store and GooglePlay Store.

Key Result:

- Getting 500 of the target users to download app
- Minimize bounce rate to 10 %

Part B

What is our customer segment?

- Post college, working class individuals who regularly buy groceries for their homes. Likely to live in communities with major supermarkets and have access to smartphones

What is our value proposition

- Save customers time while shopping
- Save money for shoppers
- Give a comparison for shoppers in different outlets

Hypotheses

Customer Segment:

- Post college, working class individuals will use this app more than college students

Value Proposition:

- Save customers 20% of their shopping time and 10 percent on the price of groceries

Interview Questions for customer segment:

- How often do you grocery shop in a month
- What grocery stores do you usually shop at ? How far is it from your place?
- On what day do you often shop on? Weekdays or weekends?
- What is your favorite part of grocery shopping?

Interview Questions for Value Proposition:

- How long do you spend in the grocery store?
- What makes you decide to go to a specific grocery store?

- Have you used a grocery shopping app before? Describe your experience
- If yes, how long will you spend on grocery shopping app?
- How do you get to the grocery store?

Interviews feedback :

College students:

4 College students summary (Kristina, Ben, Zoe, Xue), Ithaca: The interviewees go to the grocery 3-4 times per month. They choose the specific grocery stores based on the location, needs, and quality of foods. When they do in-person shopping at weekends, they spend 15-40 min. Xue and Zoe use instacart to order grocery delivery when they are busy. But they complain that the price in instacart is higher than the in-store price. Sometimes the items they ordered are missing. And paper bags are not environmentally friendly. They go to the grocery by public transportation. Xue's favourite part of grocery shopping to buying fruits, and Ben like trying new things. The popular groceries are PC FRESH, Wegmans, BJS, 711, Ithaca tofu, and target.

College student 21 year old Female in Seattle. She often goes to Target twice a month, which is about a 15 minute walk from her place. She goes to grocery stores only when she runs out of groceries, and she doesn't enjoy grocery shopping. She usually spends around 30-50 minutes in the grocery shop and she eats out pretty often to avoid grocery shopping.

Chris, college student, Ithaca, NY. Shops once a week. Primary store is Walmart because they have everything and the food is also cheap. He only has time to enjoy shopping on the weekends. His favorite part is the check out place because he could see how much he saved by shopping at Walmart. He only goes to Walmart when he has nothing to eat. Never used a grocery app. Usually go to the grocery store for 30 minutes. Get to the grocery store by car.

Kaitlyn, college student, Philadelphia. Shops once a month because she usually eats at the cafeteria. She likes to go to Wegmans because they have quality stuff even

though it's a little expensive. It's a 10 minutes drive from her place. Usually she goes on the weekends and the favorite part is the vegetable part, because she is vegetarian. She used InstaCart before but the shipping fee and membership fee were extra fee that she needed to pay on the food, so she decided to stop. She usually spend 10 minutes on the grocery app.

Isabel, College Student, Ithaca. Isabel tries to grocery shop twice a month, but hasn't since the start of the semester. She usually shops wherever her roommates are trying to shop because she goes using their car. This is normally Walmart or Wegmans, which are about 3 miles from where she lives. She normally shops on weekends because that is when her roommates are available and she cannot get to a grocery store without using their car. She enjoys shopping because of the satisfaction of finding what she is looking for. Isabel has used Instacart before but feels like delivery charges are too expensive and she should not pay more for something she could get for a cheaper price in person. It took her about 10-20 minutes to place orders on Instacart.

Austin, College Student, Riverside California. Austin grocery shops about 4 times a month at Target or Walmart because they are only about a mile away from where he lives. He shops on the weekends and his favorite part about shopping is seeing how he can get a lot of food for a relatively cheap price when compared to how much he has to spend when he orders food directly to his place. Austin has used Instacart before to grocery shop and liked the variety of places he was able to shop and get delivered. He would spend about 15 minutes preparing an Instacart order but now he just drives to the grocery store.

Ithaca, NY. Shops twice a month and uses instacart for her grocery shopping.Primary store shopped at is ALDI's (1.2 miles away) Shops on weekends so it doesn't interfere with course work. Favorite part about shopping is planning meals. Does not in person shop and spends an hour using insta cart for their orders. Price IS a deciding factor when they shop

Ithaca, NY. Shops 3 times a month (2 large, 1 small). Primary stores are Wegmans, Trader Joes (10 min drives) and 7-eleven (5 min walk). Shops on weekends and spends 45 mins shopping. Favorite part about shopping is browsing the collection at the grocery store to find new foods. Deciding factors for store choice depends on what is being purchased. Used instacart but finds delivery times unreliable. spends max 15 mins on the app. Gets to the grocery store by car, price would influence store choice but not more than what is being purchased.

Working Class Interviews:

Wringleyville, Chicago. Shops 4-5 times a month. Primarily shops at Wholefoods (1. 5 mile away), Jewel Osco (1 mile away). Walks to grocery stores and more often to shop on weekdays. Dislikes the hassle of shopping and how it takes time out of the day. Spends 30-40 mins grocery shopping and deciding factors are: distance and variety of selection. Does not use grocery shopping app.

The interviewee walks 15 min to the grocery store 6-8 times per month, usually on weekends or friday. Her favorite grocery stores are Trader Joe's, Wholefoods, Target. She values Price, quality of food (freshness, authentic or even innovative if possible) most. Also the variety of food, shopping experience (cleanliness of store, if everything is in stock, friendliness of employees). She usually spends 15 min in grocery shopping. She used Weee, Instacart, and Wholefoods delivery.
Weee: Discount info is obvious, delivery service is unstable, things can be in stock when purchase but out of stock upon delivery very often. But there is a great variety.
Instacart: Expensive surcharge but delivery is reliable.
Wholefoods: Reliable but delivery is not free anymore. Great feature in the app to build a shopping list

23 year old female financial analyst in NYC. She goes shopping at grocery stores once a week. She usually goes to the nearest local small grocery store which is about 3 minutes walking distance from her house on weekdays after work. Her favorite part of

grocery shopping is choosing her own snacks, fruits and vegetables. She usually spends about 30 min in grocery stores. THe most important factor that makes her go to the grocery store is the location and the convenience. She prioritizes the walking distance much more than the price, and she will rather pay more than walking to a further grocery store. She uses a lot of new NYC only grocery delivery apps. She often orders items that are recommended on the app instead of buying only the specific food she has in mind. (Zoe)

25 year old male software engineer in Seattle. He often goes to grocery stores twice a week. He usually shops at a large local chain grocery store which is about 5-10 min walk from his place. He often shops on weekdays after work since it gets very crowded on weekday nights. He doesn't really enjoy grocery stores, he thinks it's a chore. He often spends about 10 to 15 minutes in the grocery stores and doesn't really explore new items. He doesn't really use delivery apps since there often is no quick delivery and ubereats is too expensive to get on a weekly basis.

23 year old Female Hiring Manager in NYC. She often goes grocery shopping once a week at the local grocery store which is 3 minutes walk from her house. She uses delivery very often, including those which take 2 days to get there. Her favorite part of grocery shopping is getting the frozen food. She chooses a specific grocery store based on the location and the specific type of food she's looking for. She enjoys grocery delivery more since there's often a discount, and there's a lot of varieties of the products.

Zihao, Working Class, Chicago. He usually goes to Ben's mart and Trader Joes. Ben's has more Chinese food that he likes a lot. They are both 10 minutes away from his place to drive there. He usually goes shopping three times a week after work. He does not enjoy the process. He has to go because he needs to get food to survive. He usually spends 20 minutes shopping. Never used a grocery app. (Yuhan)

Thomas, working class, Los Angeles. Thomas Goes shopping at the grocery store about twice a month. He normally drives to shop at Walmart or Target on the weekends when he is not busy. He spends about 40 minutes shopping at the grocery store and decides which store to go to based on what is cheapest. He has used Instacart before for about 10 minutes per order and enjoyed being able to easily see products from across different stores.

Nae, Working Class, Los Angeles. Nae goes grocery shopping for her household about once a week. She normally shops at Stater Bros or Walmart on weekends, which are within a mile of her house. Nae spends about an hour on each trip and enjoys being able to see all the different food options. She chooses which store to go to based on a combination of pricing and distance from her house. She has never used a grocery shopping app before.

Jayson H, works a typical 9-5 job. Jayson shops about 3 to 4 times a month at Aldi's, Wegmans and Walmart. Each outlet is about 1 mile from where he stays. He usually shops during the weekdays. Favorite aspect of shopping is to find new items, especially in the frozen section. He spends 1 hr in the store shopping. Prefers Aldi's over other stores because of their low price offering. Previously used the Wegmans To Go App. He found the app to be user friendly, Ads catered to his preferences, and ease of navigation to be the best points about the app, Usually drives to the grocery store.

Conclusions on Hypotheses:

Our customer segment hypothesis was validated. The working class interviews were less likely to use insta cart and of those who tried, only one sustained usage. They go grocery shopping much more frequently than their in-college counterparts making them more likely to use our product. For our value proposition hypothesis, our interviews averaged about 30 mins per trip with lows of 15 and highs of 60 mins. It's worth noting that individuals who take 15 mins shopping, grocery shopped more often.

The large majority of our interviewees mentioned price as an influencing factor , either against delivery apps or when deciding what store to choose. Upon analysis of customer research we feel that both hypothesis are valid

Part C- Proposal Cover Page

Customer risks:

The product might not truly address the customers' pain point from just preliminary customer discovery. Conducting more market research can aid in this. Additional risks are associated with customers not willing to engage with in-person activities. The customers for this app are segmented into two groups, which are college students and post-college working-class. The survey collects the data for potential users, which reflects users' shopping habits. According to the data, price is the determinant factor for students and distance to the stores is determinant to the working class. The AI algorithms of this app will automatically label customers as either students or working class based on their time and behavior on the app. The app will then recommend different products and stores to display on their user interface.

Business risks:

Existing Competitive products. Existing grocery shopping apps such as Wegmans, Walmart and Target, and the existing groceries delivery apps like Instacart divide up markets. The Market size is not large enough. The target customers are post college, working class individuals. The purchasing power is not sufficient enough to support the product operation.Insufficient Financial support. The investment is not enough to support the building of the product.

Feasibility Risks:

The development of GoGrocery will accompany potential feasibility risks, which includes technical difficulties as well as risks in the market. The development of software requires a strong dataset and back-end data structure to ensure the app's functionality. As more and more customers join, the software needs to be optimized for possible system bugs and data lagging. The risks for the market include investigating

market space and difficulties of entering the market. Partnerships with supermarkets and local markets are also required to be made before listing this app.

Why now?

With limitations to Covid lowering in the recent months, most prominently the mask mandate individuals are more likely to return back to their normal lives. A large majority of this encompasses in-person activities such as shopping. Our product hopes to harness this return to normalcy and allow users to shave time and money during an activity most post-college individuals found to be a chore. Additionally, our product is designed to be successful through the same methodology demonstrated by other transformative inventions. By making an everyday task, something as simplistic as shopping, better and more efficient any and all individuals can benefit from GoGrocery.

Background

Source: https://www.creditdonkey.com/grocery-shopping-statistics.html

In America, 32 million shoppers are heading to the grocery store on an average day. The average grocery shopper spends 41 minutes during their trip to their local supermarket. Extrapolating this value means that 53 hours or 2.2 days are spent just grocery shopping. Based on our first estimation, 1 out of 7 adults will be shopping on a given day and 40 percent of those shoppers will visit multiple stores during their shopping trip. Additionally, shoppers spent about $60 per week on shopping or over $3,000 per year on grocery expenses. The time and money spent on multiple shopping trips per month often can not be justified for the average person with a busy schedule. GoGrocery targets both these pain points.

Proposal Statement

By utilizing a user-friendly smartphone application, GoGrocery will save customers time and money shopping across different grocery stores. Post college,

working class individuals who regularly buy groceries for their homes can use GoGrocery to compare product pricing across a variety of grocery stores in the vicinity and use the information to inform their decision on where to shop.

Methodology/Approach

The user will create an in-app list of grocery items they are searching for and based on that the app will recommend the cheapest stores for the user to shop at. The user can filter the recommendations by different categories such as distance, pricing, and store type. The app will include the ability to add coupons or discounts to the database so users can be sure they are getting the best price for their groceries. The marketing strategy is to introduce the app to grocery stores and incentivize them to promote their product pricings on the app. Physical and online advertising will be used to get customers to download the application.

GO GROCERY

Sprint 3

TEAM 20

Team Members Ying Zhang
Yuhan Wang
Zoe Lin
Tyson Reed
Shane Johnson Shriram Someshwar

THEME AND VALUE PROPOSITION

- Develop a price comparison app across grocery and retail stores, giving users the choice between time spent and money spent.
- Save Customers 20% of their shopping time and 10% on the price of their groceries.

PRODUCT STRATEGY

- Marketing:
  - Place our app on multiple platforms and conduct marketing campaigns
  - Acquire a pool of influencers to promote the product.
  - Running ads through Google, FB and Twitter.
  - Recruit a pool of users and document their stories.
  - Reach out to multiple outlets.

- Technical:
  - App store optimization and outreach
  - Building an App landing page to highlight the app’s usage.
  - Measure KPI’s

CUSTOMER SEGMENT

- College students:
  - Grocery shop 2-3 times a month. Likely to grocery shop on the weekend
  - Price is a deciding factor
  - Use grocery-related apps such as instacart.

- Post-college working-class:
  - Order on weekdays
  - More often to walk to the store, do not use grocery related apps
  - Will pay more instead of going traveling farther

BUSINESS PLAN

- Need for Product in college(save money) and post-college customer segment (save time).
- Target both segments
- Launch the app on App Stores by December 2022, and acquire 1000 sign-ups and 500 orders before February 2023

FEASIBILITY RISKS

- Technical Difficulties to develop
- Software Development
- Software Optimization
- Customer Shortage
- Supermarkets compliance with our service
- Local market compliance with our service
- Industry Entry Barriers are high（Industry Competition）

WHAT QUESTIONS TO ASK

- Current technology needs to support the lifestyles of time conscious, on the move individuals.
- As Pandemic winds down, people will shift to in-person options moving GoGrocery to the forefront.


THANK YOU

Sprint 4 Part A

In this part of the sprint project, you will work with your team to develop five ideas for your product using the tools discussed in the course and prioritize them.

Prior to developing ideas as a team, each team member should come up with five ideas themselves (and you should submit all of these initial ideas as part of your deliverable and identify the team member they came from).

Feature -

(Shriram S)

1. Price comparison for groceries items in Supermarkets in Ithaca***
2. Inclusion of Local grocery stores in the app
3. Include a Favorite, popular, and recommended section
4. Rating and feedback options for stores - Include a chatbot to address customer queries *
5. Include exclusive deals and discounts

(Tyson Reed)

1. Rank grocery stores in a list based off location and average cart price
2. Add coupons to carts for each store*
3. Filter store options by type, distance, etc. *
4. Tab to include recent order history*
5. Help center*

(Ying)

1. Provide the price comparison when searching for the items
2. Able to order the items from different stores within one order. (pay more service fees and tips) *

3. When ordering items from one store, generate the same orders and the total price from other grocery stores automatically, helping the customer to make a solution. **
4. Provide the discount and coupons notifications.
5. Able to separate different customers' orders within the same large order when different customers need to order different things but send them to the same location and need to separate bills.

(Yuhan Wang)

1. Local tiny groceries stores friendly: allows small stores to be exposed by all customers on the app
2. User Friendly Interface: allows new users to easily operate the app
3. Integrate several payment options - VISA, Mastercard, Paypal, Venmo
4. Shop at different stores simultaneously
5. Good recommendations algorithms and safe dataset system*

(Zoe)

1. Includes chain grocery stores, local groceries, and farmers' markets with sustainable supply
2. New sign up special offer - 10$ off on the first order
3. Online chat with customer service representatives from 8 am-12 am (when the grocery stores close)
4. Suggest potential recipes? (suggest something like: you only need heavy cream in addition to the items in your cart to make alfredo pasta)
5. Record the grocery purchases anonymously and build big data to better accommodate the grocery supply chain

(Shane)

1. Daily price updates on items at grocery stores
2. Include how busy each store is/ how many shoppers at each location

3. Keep track of favorite items and recently selected items
4. Provide incentives based on usage (i.e use app 5 times and get 20% coupon)
5. Base and advanced membership levels with access to differnt levels of information

Final team ideas

The USI(unique selling Idea) for our product Go Grocery is to allow customers find the cheapest grocery store/ supermarket where they can get their shopping needs at the lowest prices and deliver it to their doorstep. Go Grocery will help consider factors such as

Delivery of quality produce- Home farming, truck framing, industrial framing market gardening etc

Distance of the store from the user’s location

For our MVP (minimum viable product) we have the following features that we would want to include in the product.

1) Price comparison for groceries items in Supermarkets in Ithaca; Includes chain grocery stores and local groceries, and farmers' markets with sustainable supply

We have this first on our list as we need to get a database of products that we display and these products need to be updated in real time. Our app will be first launched on the iOS platform.

2) Integrate several payment options - VISA, Mastercard, Paypal, Venmo. Build a parallel app for delivery partners

   We need to integrate a variety of digital payment options so that our users can benefit from a flexible payment option.

3) When ordering items from one store, generate the same orders and the total price from other grocery stores automatically, helping the customer to make a decision.

   This feature will make our product stand out from the competition, where we will compare different stores and depending upon customer preference/priority let them decide which store to purchase from

4) include a Favorite, popular, and recommended section. Filter store options by type, distance, etc; Recommend the right products to people who needed based on their order history and their preference calculated by the algorithms.

   Depending on the users preference- include a favorite, popular and recommended section; depending on the user location- include a distance, store type option to help them decide which store to use.

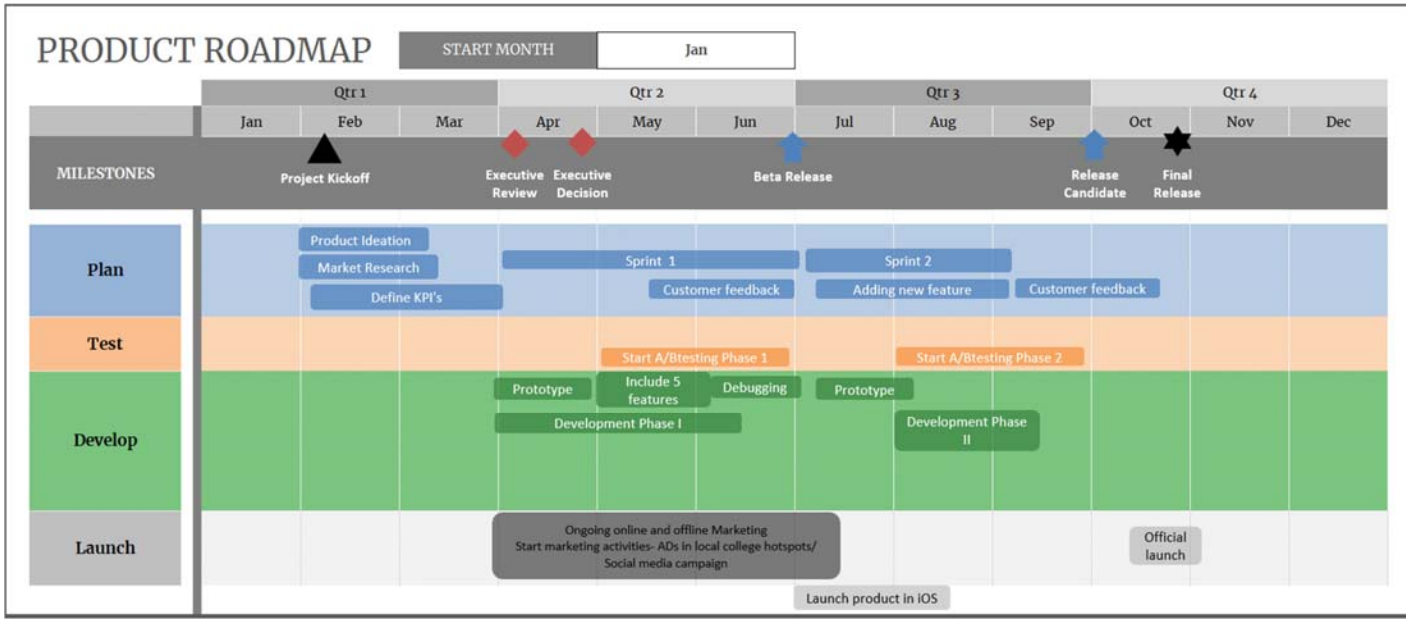
5) Add coupons to carts for each store; Include exclusive deals and discounts; New sign up special offer - 10$ off on the first order; Record the grocery purchases anonymously and build big data to better accommodate the grocery supply chain

   To build up the customer base and empower them with the benefits of using our app- we will be involved in social media marketing; Via health and sustainable influencers marketing we would like to have some promotional deals and discounts.

Part B

Revisit your product roadmap from Sprint 3, Part A, and iterate on what you created with the additional knowledge you gained from this sprint.

In addition, develop a set of Key Performance Indicators (KPIs) tied to both customer or business metrics to measure the impact of your product.



KPIs for Marketing

1. Customer Acquisition Cost - Measures the amount of money it takes to convert a potential lead into a customer
2. Return on Investment - Refers to the amount of money gained compared to the marketing cost.
3. Follower Growth - Increases brand awareness and interact with audience on social media
4. Membership Increasement - Increases numbers subscribed the memberships

5. Churnover rate - Measures how many customers are leaving in a span of time, indicator of successful/unsuccessful customer retention
6. Sales Revenue - measures company growth through sales over a period of time
7. Click-through-rates - Measures how effective company ads are at attracting customers

KPIs for Software Development and Maintenance:

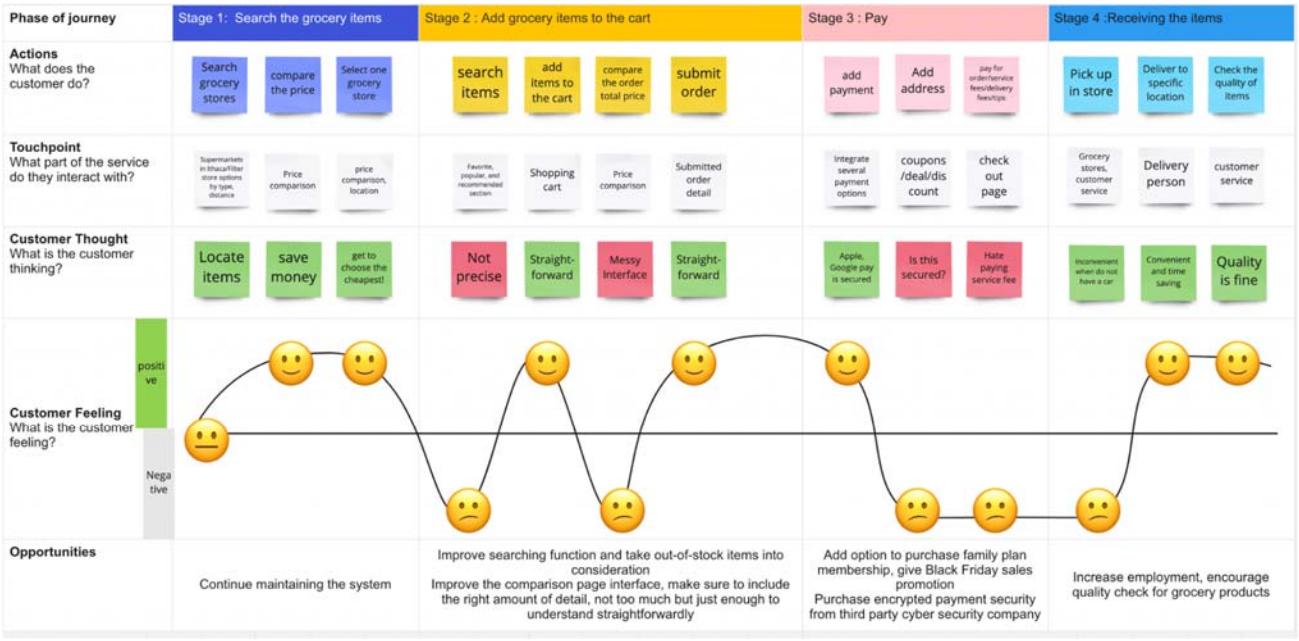
1. Code Stability - Measures how stable the App is as users increasing
2. Code Simplicity - Measure the number of independent paths he code must take
3. Debug Time - Measures how fast to fix a system problem(etc. App crush down)
4. Code Churn - Measures how much code was edited in a period of time, indicates quality and efficiency of code
5. Escaped Defects over time - measures the quality of delivered code by looking at specific time frames after code releases

Part C

For your product, pick one of the following tools (journey maps, experience maps, storyboards) and use it to map out the hypothesized customer experience. Identify some initial metrics, either customer or business metrics, and provide justification for each metric.

Journey maps link:
https://miro.com/app/board/uXjVOB415oU=/?invite_link_id=423285973869

(Please zoom in to view the chart clearly)



Initial customers metrics:

Customer ratings after completion of order.

- Customer rating for the quality and accuracy of the grocery items: reflects the grocery stores and delivery performance
- Customer rating for customer service: reflects the quality and satisfaction of customer service
- Customer rating for the user experience of this app: whether this app is concise and user friendly.
- Customer return rates: whether customers will place another order after the completion of first order. This will reflect how many customers will continue to use the service
- Customer referral rates: How many customers actually refer our service to their friends and how many new referrals actually placed an order.
- The frequency of customers placing an order: this reflects whether the customers rely on this platform for their groceries.

Business metrics:

- Sign up rates: reflects how many customers have signed up for an account in the first month
- Order/Sign up rates: reflects how many account that signed up actually placed an order
- Local grocery stores/farm markets cooperation rate: how many businesses are willing to collaborate with the platform
- Total revenue: the total revenue made in the first month, this will help reflect whether adjustment should be made

Sprint 5 Project - April 24th, 2022

Part A

In this part of the sprint project, you will write your draft Product Requirements Document and develop two of the following: mock-ups, prototypes, or wireframes. You can also choose to do two increasing levels of fidelity prototypes to count as the two items to develop.

Go Grocery's PRD:

Overview: Develop a robust and competitive online portal for consumer goods and services that provides comparative prices of different stores like groceries, household products, personal care products, and beverages to reduce time spent in selected stores.

Stakeholders:

- Product Engineering Team-

  Front End Team - Ying Zhang, Tyson Reed

  Back End Team - Shriram Someshwar, Zoe Y Lin
- Product Design Team - Shane Johnson
- Product Management - Zoe Y Lin, Yuhan Wang
- Sales and Marketing - Tyson Reed

Project Status: On target

Target Launch: Oct 20, 2022

Goals

Problem: A typical resident of Ithaca (Student or working professional) has their day lined up with multiple tasks, more often they find themselves coming back to their room/home late in the night and then finding out that they don't have groceries. Some are reluctant of buying groceries in places that are closer to college as they are more expensive. Some don't want to go to supermarkets that are located at the other end of the city. This is where Go Grocery comes in. Our primary objective is to empower the

people of Ithaca to give them the choice and price of where they want their groceries to be sourced from.

Develop a price comparison app across grocery and retail stores connecting local stores and supermarkets, giving users the choice between time spent and money spent.

Business Objective

- Become the leading grocery sourcing application for the people of Ithaca by the next year.
- Have a network of grocery stores that help customers source their groceries while spending the least amount of money and saving time.
- Increase the number of customers using our app to 5000 by the end of 2022
- Increase customer satisfaction score and make sure NPS score is 20% higher in the next fiscal year.

KPIs used to determine app success

- **No of new customers per quarter, daily, weekly-** This will help us determine the growth of our product.
- **Retention rate-** This will help us determine what is the percentage of users that use our application regularly.
- **Session Duration/ Average Screens per session-** This will help us determine which customer tends to buy what product during a specific time period - The data will be divided into demographic classes and periodic purchases to better understand user traits
- **No of new partners stores-** This will allow our customers to source their groceries from multiple stores, and gives the customer the freedom to buy their favorite groceries from their desired store.
- **Bounce rate and session length-** Helps determine the number of users who have visited our page and left. Identifying what page has seen the highest bounce rate will help us target that page to improve conversion.

Hypothesis and Validation

Working class professionals

Hypothesis	**Question**	**Validation**
People generally prefer to shop from supermarkets	What grocery stores do you usually shop at? How far is it from your place?	No, People prefer to shop in places which are closer to their homes.
People generally prefer to shop once in a month from buying staples and once a week to buy regular consumables	How often do you grocery shop in a month?	Yes, People tend to buy most of their requirements from one place. However, they tend to use particular stores which provide specific items that they need
People have a set day of the week that they use to shop	On what day do you often shop? Weekdays or weekends?	Yes, People generally shop on days of the week which are most convenient to them
People need to see items before buying it?	Do you like to physically see products before buying them?	No, People don't want to see other products, they tend to use any standard product in the market
People like the entire experience of a shopping center	Do you like the current way of your shopping?	No, Sometimes the lines are huge at the checkout. You don't get the product that you came looking for.

Personas

Our product is likely to attract college students and working professionals in the age range of 18-26 years old who are experienced with using mobile applications to order their required products online. They have a busy and unpredictable schedule that changes every week. Time and money to spend is very important and they would like to spend their time doing things which they like to do. They get frustrated when they have to reschedule their plans in order to get groceries. They would prefer to know which

store exactly has what they want. Introducing our product will help them save time and money.

Launch Criteria MVP

- **Functionality** - Features needs to be developed for the initial launch(MVP),
    1. Login/Sign up Page
    2. UI to develop different store brands, local and supermarkets
    3. Feature to show which store is closer and better for the shopper
    4. Feature to try other stores which offer better quality products
    5. Add to cart and check out page
- **Usability -** Time taken for the user to complete each task
    1. Login/Sign Up - (3- 5 mins)
    2. Create a shopping list (Depending on user)
    3. Compare between alternatives - (2mins)
    4. Estimate time for delivery - (1- 5mins)
    5. Pay for items (1 min)
    6. Track Order (User depended)
- **Reliability-**What makes our app reliable?
    1. Givining the user the accurate price and availability of product at a store
    2. Giving an accurate time for delivery
- **Performance -** How much time each operation should take in the back end?
    1. Loading of login/signup page (10s)
    2. Loading for different stores (30s)
    3. Loading for better options (60s)
    4. Payment and checkout (15s)
    5. Delivery executive connection and approval (2mins)

Project Scope

Inside the scope:

- User Experience: Discovering user needs and improving experience throughout the lifetime of the application.

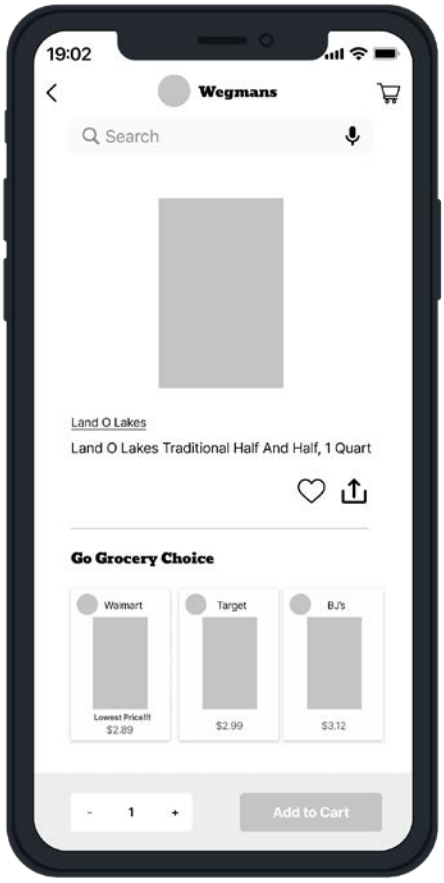
- Market Research: Keeping track of customers, competitors, and state of the economy as it relates to the success of the application.
- Business Strategy: All matters concerning the sales methods, marketing tactics, and use of company capital.
- App Development: The front and back end development of the application from start to finish.
- App Design: All graphics the user sees in the application, including features.
- App Maintenance: Product updates and fixes to bugs

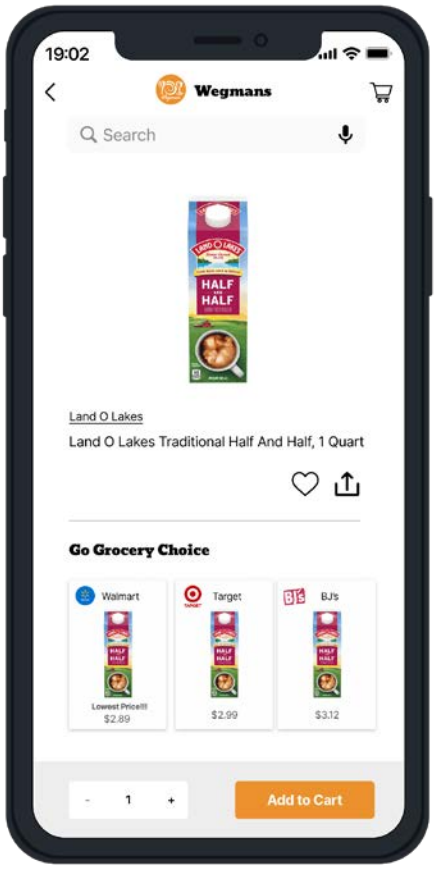
Outside the scope:

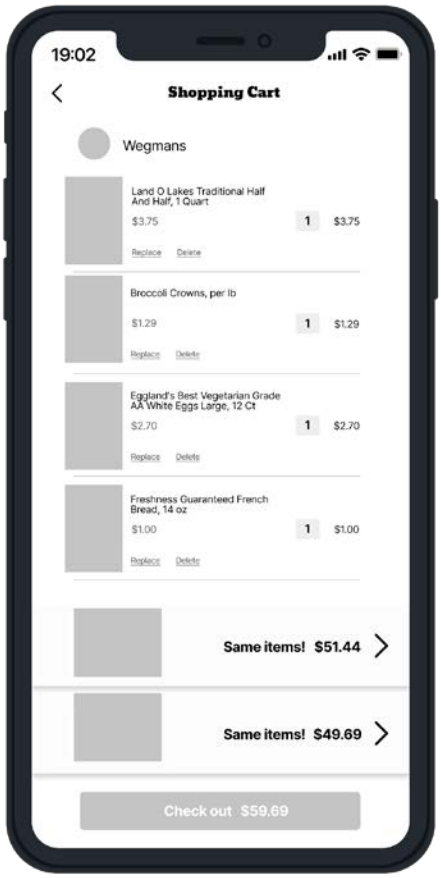
The following aspects of the project will be handled by outside contractors

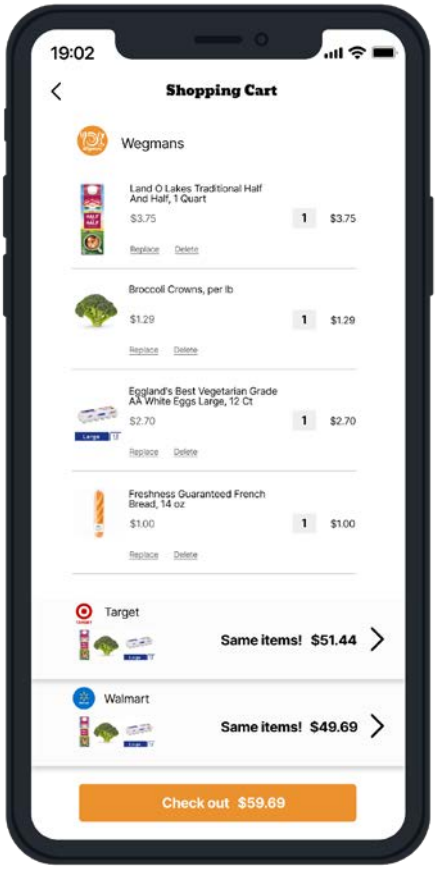
- Fundraising: Raising capital to create and maintain the application
- Legal/Negotiation
- Advertising
- Staff Recruiting
- Operations: Tasks such as responding in the Help Desk and answering calls/emails

User Interaction platform- wireframe and mockup!






19:02
Shopping Cart
Wegmans
Land O Lakes Traditional Half And Half, 1 Quart
$3.75
1
$3.75
Replace
Delete
Broccoli Crowns, per lb
$1.29
1
$1.29
Replace
Delete
Eggland's Best Vegetarian Grade AA White Eggs Large, 12 Ct
$2.70
1
$2.70
Replace
Delete
Freshness Guaranteed French Bread, 14 oz
$1.00
1
$1.00
Replace
Delete
Same items! $51.44
Same items! $49.69
Check out $59.69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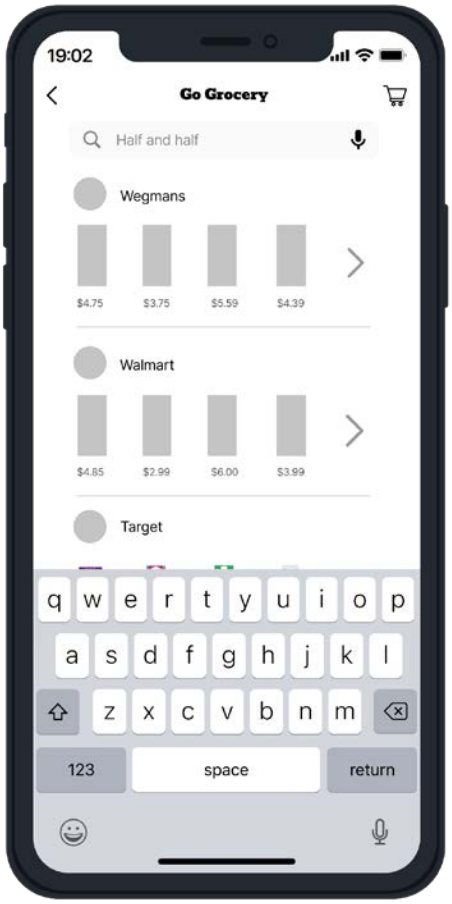
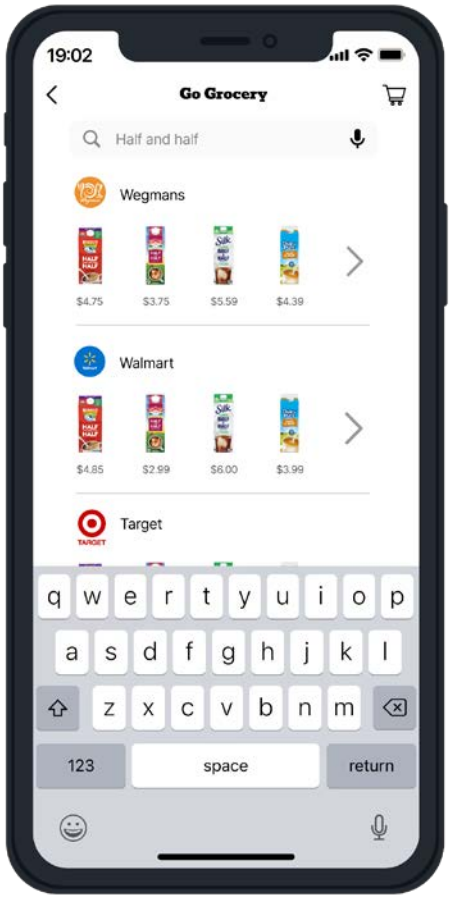
Replace
Delete
Freshness Guaranteed French Bread, 14 oz
$1.00
1
$1.00
Replace
Delete
Target
Same items! $51.44
Walmart
Same items! $49.69
Check out $59.69


19:02
Go Grocery
Half and half
Wegmans
$4.75
$3.75
$5.59
$4.39
Walmart
$4.85
$2.99
$6.00
$3.99
Target
q w e r t y u i o p
a s d f g h j k l
z x c v b n m
123
space
return


19:02
Go Grocery
Half and half
Wegmans
$4.75
$3.75
$5.59
$4.39
Walmart
$4.85
$2.99
$6.00
$3.99
Target
q w e r t y u i o p
a s d f g h j k l
z x c v b n m
123
space
return

Part B

Perform a usability study on one of the prototypes, mock-ups, and wireframes, using two of the techniques discussed in the course.

We can perform a usability study by utilizing the moderated remote technique to accommodate for users not being at a close distance to the tester.

Problem Discovery

- Test a beta version of the app with users to help discover needs.
- Testing tool and environment: the app on ios and android systems.
- Testing method: Moderated remote. The Participants will be asked to do screen sharing when using the app and allows the facilitator to watch remotely.
- 10 Participants will be recruited, their response time and how many ‘clicks’ on the button are required to complete the task
- Participants will be asked to solve several tasks
    - Find 4 grocery items and add them to the cart
    - Remove 1 item from the cart
    - Find out which grocery stores have the cheapest sum of all 3 items
    - Favorite 2 other grocery items, locate them in the ‘favorite’ page, and add them to cart
    - Search for chicken breast, filter your search via ‘meat’ selection, and sort the items from price low to high
    - Share a grocery item to a friend via iMessage/text/whatsapp
    - Check out the cart and select order delivery time, add $2 deliver tip, and place order
    - Rate an order and text in the review feedback
- Finally, a small interview will be conducted and participants will be asked to provide feedback on the following topics:
    - Is the user interface easy to use? Did you find anything confusing?
    - Is the user flow clear and reasonable?
    - Is the price comparing function helpful? Is it easy to understand?
    - Do you like the layout of the application?
    - Are there any features you like, dislike, or wish to add?
- The interview answers will be recorded along with participants’ corresponding total response time and ‘clicks’ to finish each task.

Learnability

- Participants will repeat tasks described in Problem Discovery and the following metrics will be recorded
    - Time to complete task
    - Time spent idling
    - Number of clicks to complete task
    - Number of errors
    - Number of instances a specific feature is used
    - Time spent using each feature
- Multiple task runs will be completed with the same group of participants and the data plotted
- Study will include participants with prior experience using similar apps as well as participants with zero experience
- Study will include a group of individuals who watched a tutorial video prior to performing the task and individuals who did not watch a tutorial video prior to performing the task
- The same tests will be performed on Android and IOS

Part C

Define your development plan, identify design vs. product management vs. engineering roles, and identify how you will measure and track development progress. Develop your test plan for your product offering.

Development Plan

During the product development and product design phases, the GoGrocery Team had weekly meetings discussing the process and problems that we faced. GoGrocery is a customer centered product. We used data collected from the backend and questionnaire to determine the team development strategy for the next stage, such as profit-driven, money-savings, or convenience. The team is divided into three different teams to develop and manage different fields: design, product management, and engineering.

In the team, the product design team is not only in charge of UI&UX design and interaction design, but also customer experience. They must be skilled at translating the goal of our product into a functional user experience, which is clearly indicating the price difference among different stores. They refined users' experience and made the interaction pages more unique to every customer.

The product management team made the product development plan based on the product road map. In addition, compared with product designers, they are responsible for working with customer experience more and supporting professionals to design the right offerings. They carry out functions and processes that contribute to building an excellent shopping app based on customer feedback and constant innovation. The product requirements document(PRD) is written by the product management team. It defines the value and purpose of GoGrocery. The product management team will keep track of the other team's progress and make sure all the members can keep track of the product roadmap.

The Engineering team is responsible for the functionality of all the front-end and back-end systems. Their role includes analyzing and modifying existing software as well as designing, constructing and testing end-user applications that meet their needs. The engineering team is responsible to receive user feedback collected by the product development team, and implement those ideas on the app.

The GoGrocery team uses several ways to track and measure the development process. We firstly set metrics that are relevant to our OKRs, which are directly linked to each team's goal and company OKR. The software we used is Waydev to help us measure organization-level efficiencies to start optimizing our development process. We also use velocity charts and burndown charts to track the team's process. The burndown chart is useful for predicting when all of the work will be completed and it could also quantize the work we have and have not finished. The velocity char determines the completion rate of our tasks and helps us plan the next sprint. The velocity chart will also be used as one of our KPIs. If the team velocity consistently increases after every sprint, it shows that the team is learning quickly and improving their efficiency.

TEST PLAN

1. INTRODUCTION

The purpose of this test plan is to introduce the detailed testing plan of GoGrocery. This document will include Test Strategy, Execution Strategy and Test schedule.

Project Overview:

The USI(unique selling Idea) for our product Go Grocery is to allow customers find the cheapest grocery store/ supermarket where they can get their shopping needs

at the lowest prices and deliver it to their doorstep. Go Grocery will help consider factors such as

- Delivery of quality produce- Home farming, truck framing, industrial framing market gardening etc
- Distance of the store from the user’s location

The main features and modules are listed below:

- Price comparison for groceries items in Supermarkets in Ithaca; Includes chain grocery stores and local groceries, and farmers' markets with sustainable supply

  We have this first on our list as we need to get a database of products that we display and these products need to be updated in real time. Our app will be first launched on the iOS platform.

- Integrate several payment options - VISA, Mastercard, Paypal, Venmo. Build a parallel app for delivery partners

  We need to integrate a variety of digital payment options so that our users can benefit from a flexible payment option.

- When ordering items from one store, generate the same orders and the total price from other grocery stores automatically, helping the customer to make a decision.

  This feature will make our product stand out from the competition, where we will compare different stores and depending upon customer preference/priority let them decide which store to purchase from

- Include a Favorite, popular, and recommended section. Filter store options by type, distance, etc; Recommend the right products to people who needed based on their order history and their preference calculated by the algorithms.

  Depending on the users preference- include a favorite, popular and recommended section; depending on the user location- include a distance, store type option to help them decide which store to use.

- Add coupons to carts for each store; Include exclusive deals and discounts; New sign up special offer - 10$ off on the first order; Record the grocery purchases anonymously and build big data to better accommodate the grocery supply chain

  To build up the customer base and empower them with the benefits of using our app- we will be involved in social media marketing; Via health and sustainable influencers marketing we would like to have some promotional deals and discounts.

2. TEST STRATEGY

1. Test strategy

1.1 Test Objective

- All the test should met the technical requirements and business requirements
- All users could successfully register and log in their individual account
- All users could put in and save their personal information
- All users could localized themselves
- All local stores information should be displayed
- The current price should be updated automatically
- Payment process are functional and safe
- All the price calculation should be correct
- The feedback and Online chat system should be functional
- All the connections between front-end and back-end should be functional
- Back-up system should be available for emergency

1.2 Test Principles

- Testing will follow testing schedule
- Testing process will be defined within each teams
- Testing will have distinct objective and goals in each stages
- Testing should build upon previous stages

1.3 Test Tool

- TestRail
- Xray

- Practitest

2. Test Plan

2.1 Test Team

Name	Role	Responsibility
Shane Johnson	Design Team	Test front-end user interactions interface
Tyson Reed	Engineering Team	Design testing portal to connect with back-end data structure
Shriram Someshwar	Engineering Team	Design test cases to validate matching accuracy
Yuhan Wang	Management Team	Lead testing activities and plan the testing schedule
Zoe Y Lin	Management Team	Report customers' feedback to engineers and assign testing activities
Ying Zhang	Design Team	Create MySQL database for users

2.2 Test Environment

- Tests will be conducted via zoom share screen and screen control access where users will control proctor's screen

2.3 Test Cycle

- Test environment will be set up
- Users will execute the tests
- Result will be collected and reported
- Results will be analyzed after test
- Any flaw in test plans or setup will be reported to team and test flows will be improved if necessary

3. Tested Features

3.1 Log-in page

- Register/Sign up
- Open-page ads
- User profile display
- Lagging of system

3.2 Search page

- Near-by stores display
- Daily Hot-product Recommendation
- Search History
- “Shopped last time” display
- Payment information check and security
- Pricing compare algorithms and display
- Order confirmation check

3.3 Report system

- Feedback report
- Contact us
- Online chat
- Add notes to other customers

3.4 System

- Response time
- Data managing
- Front-end design
- Back-end structure
- System lagging

Final Project

ENMGT 5920

GoGrocery

Team 20: Shane Johnson, Zoe Lin, Tyson Reed, Shriram Someshwar, Yuhan Wang, Ying Zhang

Part A

Go-To-Market (GTM) Plan

Customer Segment:

- Post-college, working class individuals who regularly shop for groceries for their homes, people living in communities with multiple supermarkets.

Value Proposition:

- Save customers time shopping
- Save customers money
- Database to compare items at different outlets

Channels:

- Platform App Store (IOS, Android)
- Social Media Advertisements (Twitter, Meta, Instagram)
- Billboards
- Newspapers
- Flyers in Supermarkets

Revenue Strategy/Customer Relationships:

- Get - Social Media, Online Advertisements, Supermarket Partnerships
- Keep - Savings using application
- Grow - Product Recommendations (“Cross Sell”), After purchase discounts (“Next Sell”), Referrals

Marketing Message

“From pricing to location, GoGrocery optimizes the grocery shopping experience.”

Pre-Launch Plan

To get traction for our product we would like to use the below-mentioned steps as a marketing plan before the launch of our product in the market.

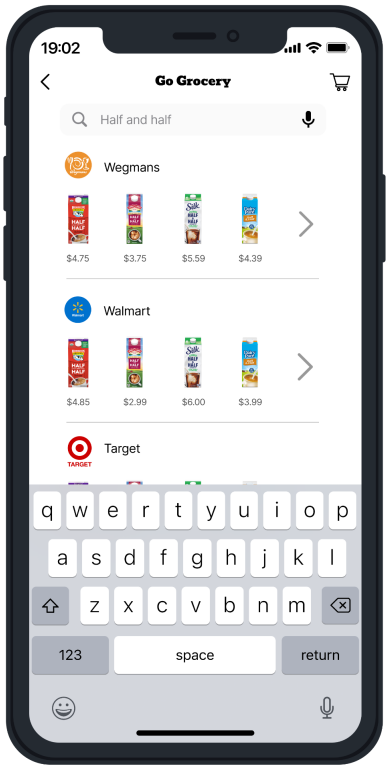
- Pre-launch landing page for lead generation
    - This site would give customers information about our product and let them know about release dates, and features.
    - Platform to offer exclusive deals for pre-sign-up clients.
    - Provide detailed product insights to which cannot be provided in an Ad-page.
    - Use site hits to track which marketing platform is bringing in customers
    - Use a pre-launch raffle to engage with consumers- ex- first 500 customers will get first orders free.
- Use of Social media to target customer segment
    - Identify and target social media influencers, sites that see a large traffic of target potential customers.
    - Post content that entices customers; development updates that reveal why the product is great in a stepwise manner.
    - Use employee/team member spotlights to humanize the product marketing to customers by providing them insights on how great the product is.
    - Conduct ‘Ask me Anything’ sessions on Reddit, and Instagram to connect with customers.
    - Develop a hashtag unique to our product.
- Develop a PRESS-KIT
    - This is to allow journalists, social media influencers, blog writers to find all the information they need to write about the website.
    - The press-kit would contain the following information.
        - Our story- Who we are, what we are all about, insights on the brand image we are trying to portray.

        - Bios of key individuals of the product, including background, expertise, qualifications etc.
        - Product details- A fact sheet that has all the information for our product, why are product is better than competitor apps
        - Branding and Logo information- high quality in-app images to allow better understanding regarding the usability of the product.
    - Hosting Virtual and In-person events
        - This gives customers an opportunity to interact with us, to understand the product better and get valuable information regarding the client's perception.
        - Promote app offers and pre-launch deals
        - Generate some buzz, use photos of the events to publicize on social media.
        - Opportunity to give attendees a share-worthy event to increase knowledge of the app within the target customer segment.

Product Support Document

1. **Product Overview**
    - Go grocery provides a platform for students and working class users to compare prices when ordering the grocery store online. It saves customer’s time and money.
2. **Installation and Update**
    - iOS users : Download or update the latest version from the App store.
    - android users: Download or update the latest version from Google play.
3. **Search and Help**

    Search



You could compare the price for each item when using the search function.

In the app

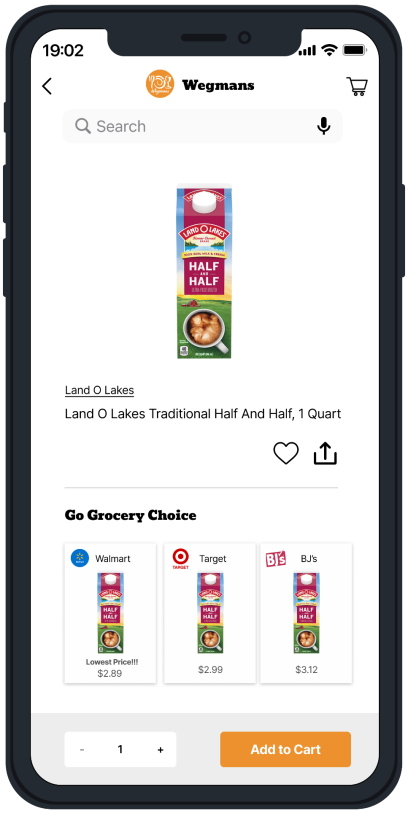
- Tap the search bar on the top
- Type the products' names
- The items will show based on the price from low to high from different grocery stores

Contact the Online Customer Service for Help.

In the app

- Tap the "  customer service" icon on the bottom left corner and open the online customer service chatting window.
- Call the customer service center.

4. Comparing Price for the Specific Items

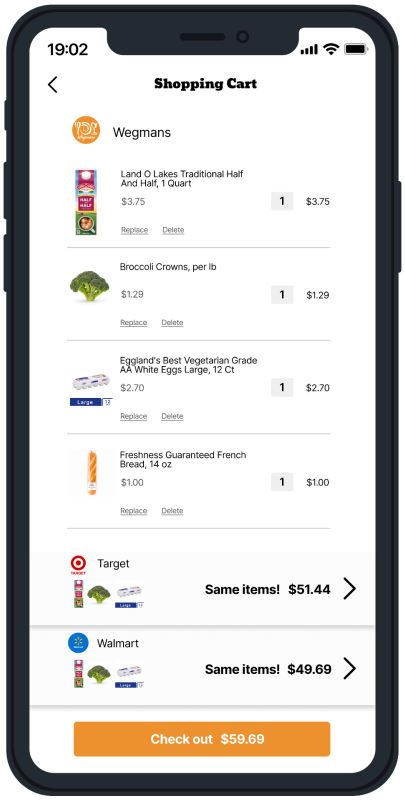


In the item detailed information page. The items with cheaper prices from other grocery stores will appear at the bottom. If it appears higher, it means the item you are looking for right now is the cheapest.

In the app

- Tap the item's picture and enter the detailed information page.
- The items with cheaper price will appear at the bottom as blocks
- Tap the block

5. Matching Cheaper Items in Shopping Cart and Checkout



In the shopping cart page, go grocery platform will create the order with the same items from other grocery stores with cheap prices. Users could choose an order with a lower price to check out.

In the app

- Tap the “  shopping cart” icon.
- The order with a cheaper price banner would appear on the bottom, click that banner jump to the other order to check out.
- If no banners appeared at the bottom, it means the current order is the cheapest.

Sample Ads

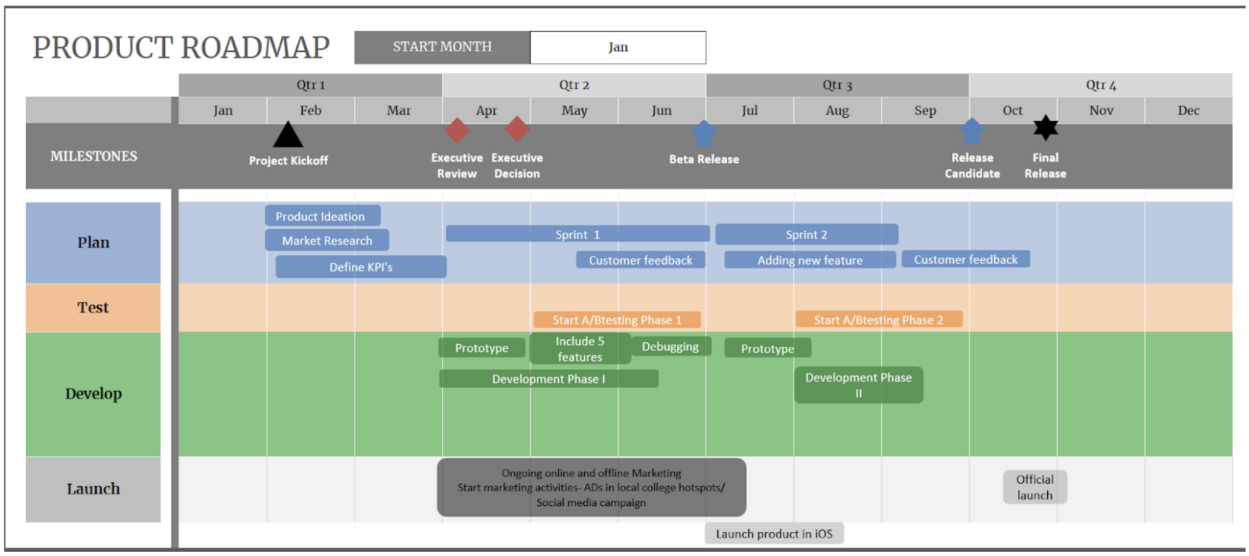

GO GROCERY
TEAM 20
FIND THE LOWEST PRICE
SAVE UP TO
30%
Shop your local grocery stores at home and have your shopping list delivered to your doorstep with the cheapest price
www.gogrocery.com

Part B

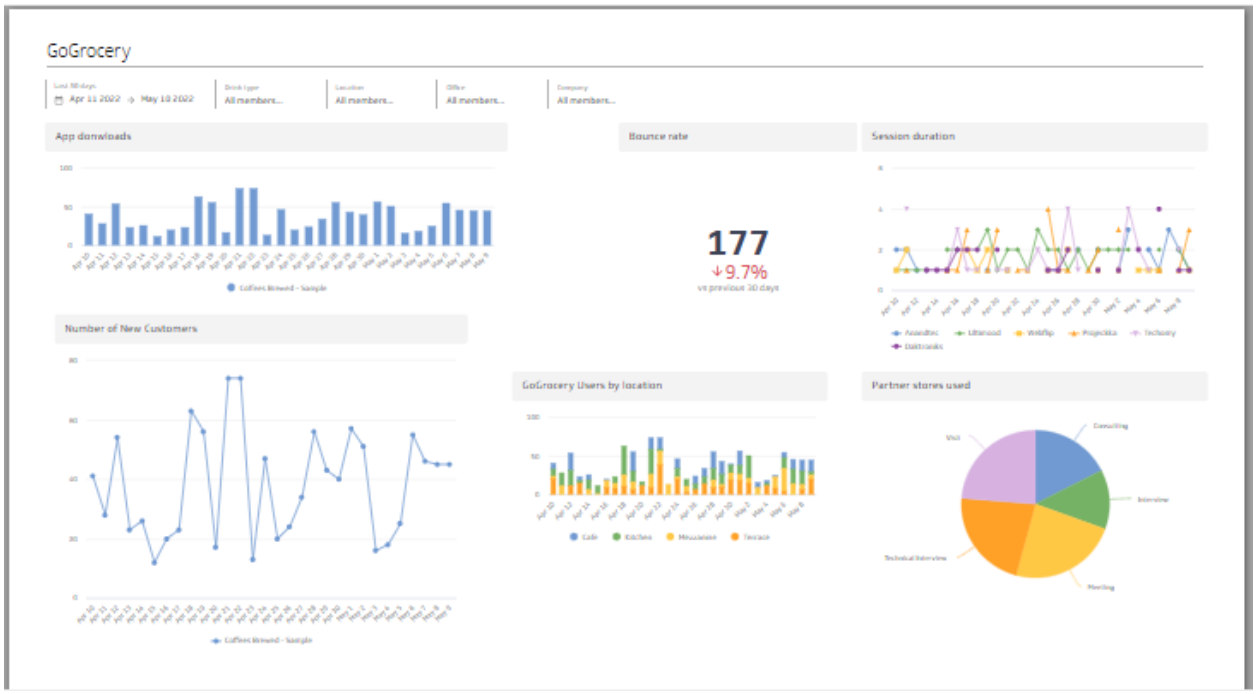
KPIs used to determine app success:

- **Number of new customers per quarter, daily, weekly-**This will help us determine the growth of our product
- **Retention rate-** This will help us determine what is the percentage of users that use our application regularly.
- **Session Duration/ Average Screens per session:**This will help us determine which customer tends to buy what product during a specific time period - The data will be divided into demographic classes and periodic purchases to better understand user traits
- **Number of new partners stores-** This will allow our customers to source their groceries from multiple stores, and gives the customer the freedom to buy their favorite groceries from their desired store.
- **Bounce rate and session length -** Helps determine the number of users who have visited our page and left. Identifying what page has seen the highest bounce rate will help us target that page to improve conversion.

Product Roadmap:



KPI Dashboard



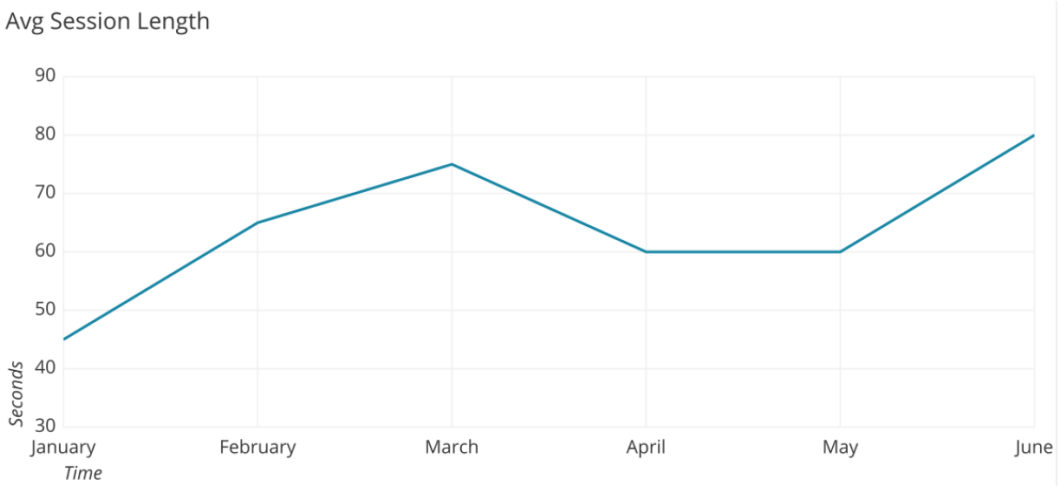
In order to be empowered to identify potential strengths, weaknesses, patterns and potential areas for improvement across all key areas of the business, it is important to use smart tools and technologies to track KPIs. The most important key areas of GoGrogery are the data related to our online customers. The tools and techniques to track those KPIs are listed below:

1. **Number of new customers per quarter, daily, weekly & Retention rate**

   The goal of this KPI is to monitor the growth rate and retention rate of our customers. It will also record the profits relative to the growth of customers. The customers will be segmented based on their ages. The historical and real-time data will be stored in the SQL database. The data will be visualized in the management KPI dashboard.

2. **Session Duration/ Average Screens per session-**

   The backend team will create a database to track user's favorite product tendency. This dashboard will record historical purchased history and their frequency. The algorithm will recommend products based on their demographic and periodic purchases.

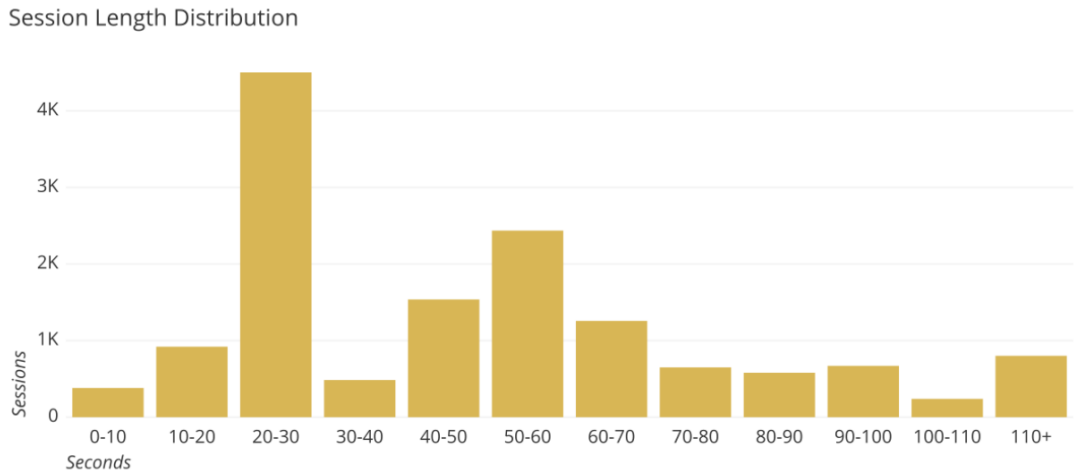


3. **Number of new partners stores-**

The new joining stores will be stored in the database created by the backend engineering team. They will be visualized through the customer dashboard using domo software. This will record all the information of new joining stores and the demographics information will be visualized and matched with customers.

4. **Bounce rate and session length-**

This will record the time that users stay on the app. This data will be visualized in histogram. The algorithm will target the customers who have the highest session length and analyze what products they purchased.



Tracking plan:

A product tracking plan is a collaborative document that take input from every department that touches customer data. GoGrocery will require data from both stores and users. The table belows help the data become cleaner and compliant because every team is using the same process for collecting it and it explains what, why, where and how of our data tracking. The table has the main features of the app, which includes user personal signed up data, stores item data, and data for connection with the bank. All the data will be stored in the database.

The tracking plan:

Event	Definition	Properties	Sources	status	Unique Identifier
App Installed	User Installed the app on the device	osType	App(frontend)	On	user_id
Intro landing Screen	User viewed landing screen	deviceType	App(frontend)	On	user_id
Signed up	User select ‘sign up’	Email; First Name; Last Name;	App(frontend)	On	user_id
Details confirmed	User complete personal information	Age; Gender; Numbers;	App(frontend)	On	user_id
Account created	User finalized account creation by submitting necessary information	accountUser name; Create Profile;	App(Backend)	On	user_id
Nearby stores	Check nearby stores near location	deviceType	App(Backend)	On	account_ne arby
Listed items	Check if items are listed	Items; prices;	App(Backend)	On	items_id

Price comparator	Compare prices after selected	Prices;	App(Backend)	On	price_info

The team is going to monitor the product through the tracking plan above. The front-end team will focus on the user registration process and confirm the feature is ready, installed and tested. The back-end team will solve the bugs that exist in the items section, and make sure to build the correct mySQL database to store the data and easy portals to be connected with the front-end team.

The team will use the Geckoboard to do product monitoring and quality control. The backend team will monitor the CPU performances once per day. The front team will check the exceptions in the database and fix them. The design team will put the ads at the open page of the app.