

Final Project for SW Engineering Class

CSC 648-848 Fall 2023

[OrderOwl](#)

Team 06

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Milestone 5

<https://orderowl.jpkit.us/>

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I. Product summary:

Name of product: Order Owl

URL: <https://orderowl.jpkit.us/>

Nowadays, online shopping has become a part of people's everyday lives, and, to be frank, so has the frustration of keeping track of multiple orders from various retailers too. This is where OrderOwl steps in to become every online shopper's little assistant. Our product offers a centralized solution for tracking all your packages, regardless of where they're coming from. From international orders, to orders from your local stores, our simple motto says it all: "Track Your Order Anywhere, Anytime". With OrderOwl, the days of scrolling through countless emails or visiting numerous websites to check the status of your deliveries are over. Our platform is user-friendly, efficient, and requires no commitment, allowing anyone to quickly check the delivery status of any package using just a tracking number. Our application not only attends to personal use, but also for businesses of any size who could use a helping hand with their shipments or product orders.

For those who choose to register with OrderOwl, the benefits are even greater. Registered users have the convenience of saving all their order information in one place. Simply enter your tracking number once, and OrderOwl will automatically update you on the progress of your delivery through notifications and visual map updates. This registration not only saves time but also helps in organizing your orders effectively. Furthermore, the platform allows you to personalize your experience by organizing your orders into custom folders sorted by retailers, title your orders to a label that best helps you, or try out one of OrderOwl's unique features of listing an order as "hidden" so it does not appear on your main dashboard. OrderOwl offers a level of customization like no other so that your dashboard is tailored to your specific needs and preferences, making online shopping more organized and less stressful. This application also comes with a calendar that will give you a nice overview of when orders are set to be delivered. For businesses, one gets everything that a personal registered account would have, with the addition of reminders for frequent orders, and a separate page dedicated to shipments from your business; whether it be a small hand-crafts business to a larger clothing store. Let OrderOwl help support and make your business thrive! The platform is designed with the user in mind through its intuitive interface which makes navigation simple and straightforward; even for those who are not as tech-savvy. The website's design is sleek and modern, ensuring that users have a pleasant experience each time they log in.

In conclusion, OrderOwl is more than just a tracking tool; it's the overall solution for managing online orders. It simplifies the process of tracking packages from multiple retailers, offers a range of customization options such as business/personal accounts, and provides a user-friendly interface that makes online shopping a breeze. Whether you're a frequent online

shopper or occasionally purchase items from the internet, OrderOwl is here to make your life easier and your online shopping experience more enjoyable.

a) Priority 1 Functions:

Registered Users:

- 1.1 Registered Users shall be able to track all their packages with tracking information.
- 1.2 Registered Users shall be able to add tracking information.
- 1.3 Registered Users shall be able to login.
- 1.4 Registered Users shall be able to create an account.
- 1.7 Registered Users shall be able to see their history of completed tracked orders.
- 1.9 Registered Users shall be able to sort their tracking information.
- 1.20 Registered Users shall be able to view the overview calendar.
- 1.23 Registered Users shall be able to choose whether they would like a personal or business account when they register.
- 1.25 Registered Users shall be able to choose to register for an account or continue as a guest
- 1.26 Registered Users shall be able to label each tracked package with a custom title.
- 1.27 Registered Users shall be able to view their tracked orders alphabetically.
- 1.28 Registered Users shall be able to search for any tracked order by their carrier name.
- 1.29 Registered Users shall be able to search for any tracked order by their order title.
- 1.30 Registered Users shall be able to search for any tracked order by their retailer.
- 1.31 Registered Users shall be able to view a counter of currently tracked orders.
- 1.32 Registered Users shall be able to view their tracked orders in reverse alphabetical order.

1.33 Registered Users shall be able to get a list of most to least relevant results when doing a search.

1.38 Registered Users shall be able to sort their tracked orders into hidden or visible lists.

1.39 Registered Users shall be able to delete tracking information.

1.41 Registered Users shall be able to delete their account.

1.45 Registered Users shall be able to save all their tracked orders to their accounts.

1.48 Registered Users shall be able to see what type of account they have in the settings page.

1.49 Registered Users shall be able to see what name their account is under in the settings page.

1.50 Registered Users shall be able to see what email their account is under in the settings page.

Unregistered Users:

9.1 Unregistered Users shall be able to track all their packages with tracking information.

9.2 Unregistered Users shall be able to add tracking information.

9.3 Unregistered Users shall be able to create an account.

9.4 Unregistered Users shall be able to sort their tracking information.

9.5 Unregistered Users shall be able to view the overview calendar.

9.8 Unregistered Users shall be able to choose to register for an account or continue as a guest

9.9 Unregistered Users shall be able to label each tracked package with a custom title.

9.10 Unregistered Users shall be able to view their tracked orders alphabetically.

9.11 Unregistered Users shall be able to search for any tracked order by their carrier name.

9.12 Unregistered Users shall be able to search for any tracked order by their order title.

- 9.13 Unregistered Users shall be able to search for any tracked order by their retailer.
- 9.14 Unregistered Users shall be able to view a counter of currently tracked orders.
- 9.15 Unregistered Users shall be able to view their tracked orders in reverse alphabetical order.
- 9.16 Unregistered Users shall be able to get a list of most to least relevant results when doing a search.
- 9.21 Unregistered Users shall be able to sort their tracked orders into hidden or visible lists.
- 9.22 Unregistered Users shall be able to delete tracking information.

Business Accounts:

- 8.5 Business Accounts shall be able to track incoming deliveries.
- 8.6 Business Accounts shall be able to track shipments/outgoing deliveries.
- 8.7 Business Accounts shall have all features that registered users have.
- 8.8 Business Accounts shall have incoming delivery estimated time arrivals appear on the calendar.
- 8.9 Business Accounts shall have shipment delivery estimated time arrivals appear on the calendar.
- 8.10 Business Accounts shall be able to store their tracking number in the shipments/outgoing list.
- 8.11 Business Accounts shall be able to store their tracking number in the incoming/deliveries list.

Personal Accounts:

- 10.1 Personal Accounts shall have all features that registered users have.
- 10.2 Personal Accounts shall be able to create a custom pin to access their hidden list.
- 10.3 Personal Accounts shall be able to access their hidden lists.
- 10.4 Personal Accounts shall not have their hidden orders appear on the calendar.

- 10.5 Personal Accounts shall have their visible orders appear on the calendar.
- 10.6 Personal Accounts shall be able to store a tracking number in a hidden list.
- 10.7 Personal Accounts shall be able to store a tracking number in a visible list.

Tracking Information:

- 5.3 Tracking information shall maintain up to date with changes in dispatch.
- 5.2 Tracking information shall be retrieved in real time according to shipping carrier updates.
- 5.4 Tracking information shall maintain an up to date database.
- 5.5 Tracking information shall be accessible through a mobile application for on-the-go access.
- 5.6 Tracking information shall update the overview calendar with ETA dates for tracked orders.

Overview Calendar:

- 6.1 Overview Calendar shall be able to mark the dates when orders are estimated to arrive.
- 6.2 Overview Calendar shall begin on the month a registered user signs up on.
- 6.3 Overview Calendar shall show the estimated deliveries of the month.
- 6.4 Overview Calendar shall contain embedded links for tracked orders.
- 6.5 Overview Calendar shall keep track of estimated deliveries.
- 6.6 Overview Calendar shall be updated according to any estimated delivery changes.

II. Milestone Documents:

SW Engineering CSC648-848-05 Fall2023

[OrderOwl](#)

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Milestone 1

October 10, 2023

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I. Executive Summary

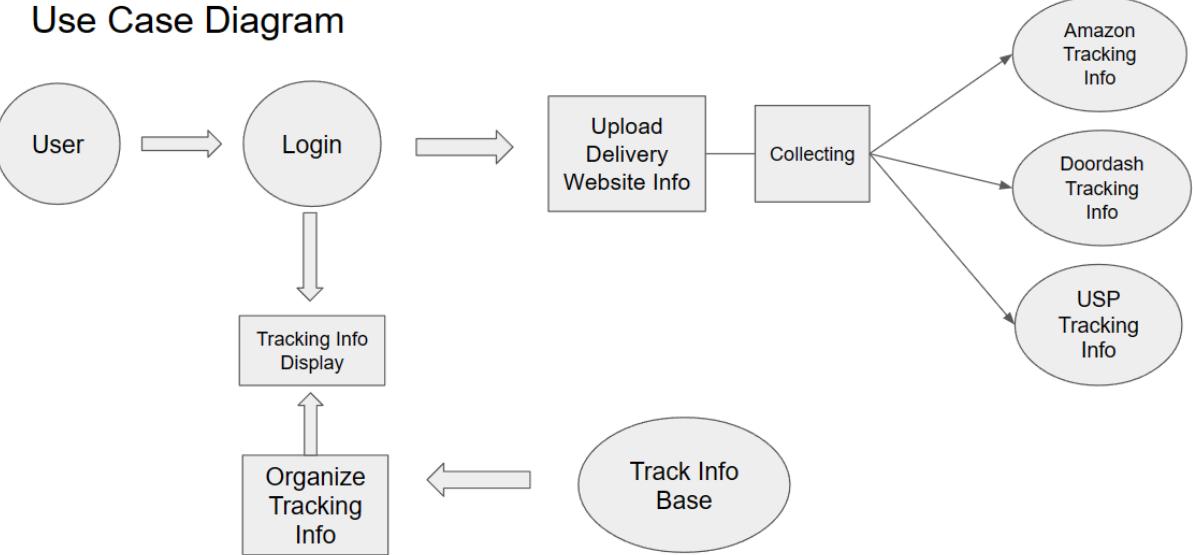
"OrderOwl: Delivering Peace of Mind, One Package at a Time." Our motto emphasizes the comfort and assurance that OrderOwl provides to its clients by delivering packages reliably and protecting their data. Order owl is a revolutionary tracking solution that streamlines and simplifies the process of monitoring and managing various aspects of your life or business. Our comprehensive application combines multiple tracking functionalities into a single, user-friendly platform, empowering users to efficiently track, analyze, and optimize their activities, assets, and data.

With the rise of online shopping, keeping track of orders from various websites has become increasingly challenging. While you can manually track your orders yourself, why should you deal with the hassle of visiting every website you ordered from to check the status of your package, when you could just use our application? OrderOwl aims to provide an all in one tracking service for our users' packages. Our team has personally experienced the tedious process of keeping note of every site that we've shopped on, and checking each website or our emails for updates on our orders. Questions like "Has it been sent yet?" or "Where is our package right now?" or "Has the expected delivery date changed?" can be answered effortlessly through OrderOwl. It'll keep note of all their online orders in one convenient and organized place, where each order will have real-time tracking updates. This will result in users having an easier time staying updated on packages, causing them to never miss a delivery date.

We firmly believe we need an application like this in the market because there are very few of the same type and the experience we do have with these apps have more or less drawbacks. Our product distinguishes itself by learning from the strengths and weaknesses of other competing products and building on top of them to deliver a superior user experience.

What our website will do and how it will help our users will consist of keeping track of all their online orders in one dashboard with the addition of real time tracking, and customization for users to further organize themselves if they so desire. To further assist our clients, data regarding shipment and tracking will be stored in our database for a maximum of two years. As for personal information regarding payment information and any additional information needed from the user will all be encrypted to ensure data privacy. Privacy and data security are our top priorities, we want to ensure that all our users feel safe using OrderOwl.

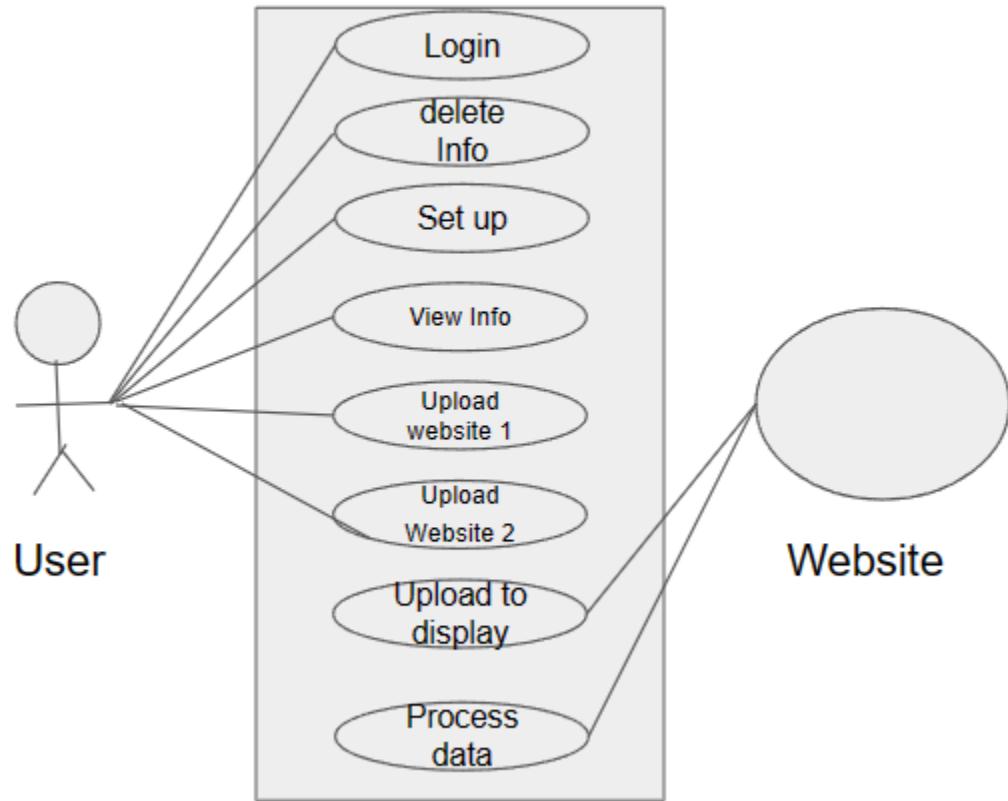
II. Main Use Cases:



Case 1: General User, Middle age man business rely on internet

Use case: Second in his family, when Alex was in college the internet had just shown its charm and he was hooked. He is a purchasing agent. What he does is he will buy stuff that is in another country and bring it back and sell it so he travels a lot and online shopping is one of his helpers. He would start ordering the commodity he needs to bring on ahead of time and if some commodity can't be ordered online he will go to the store and buy it. This way saves him a lot of time and money as well because in this way he knows exactly how many days he will stay there so it saves him on his expense and being able to do more business in a period of time. This means a website that collects all his order tracking info would be a big help.

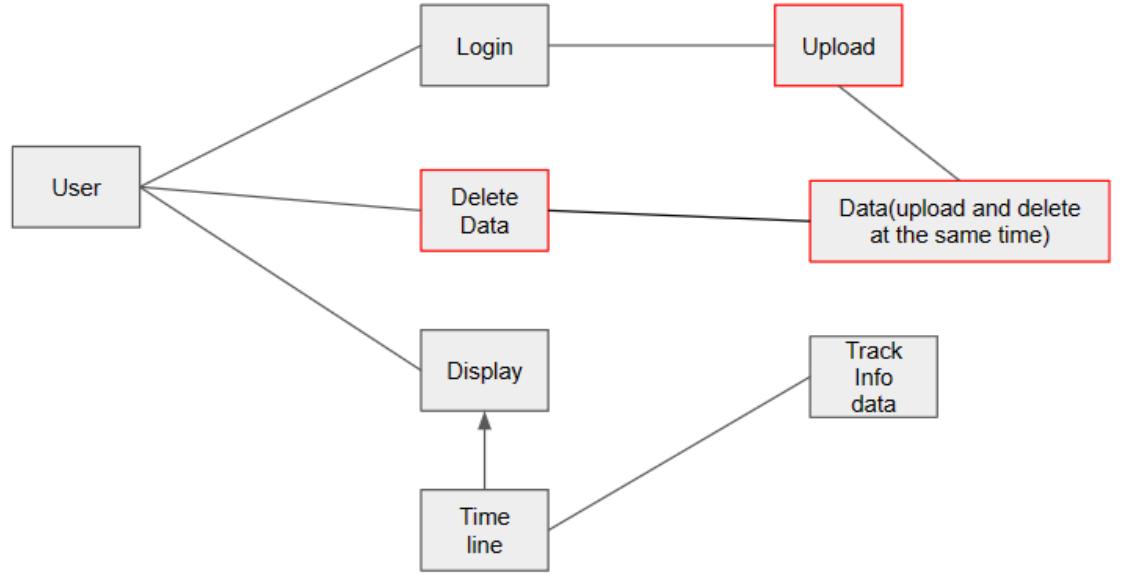
Use Case Diagram



Case 2: General User, Store manager, Shopping for store needs.

Use case: James is a store manager of a big liquor store. In his store he sells more than just alcohol. The store also sells juice, fresh products and candy but since it's not the main seller of the store he has to order all the items from different places. Due to the problem of not coming from the company website it creates a lot of problems for his store inventory. James has a lot of deliveries coming from different websites everyday either from company shipping or other online service and it's been difficult to keep track of all the orders since there are simply too many of them. He is looking for a product that puts all the order tracking information into one site so he can easily manage it. The website will collect his order info and he should be able to delete the track info they don't want to see.

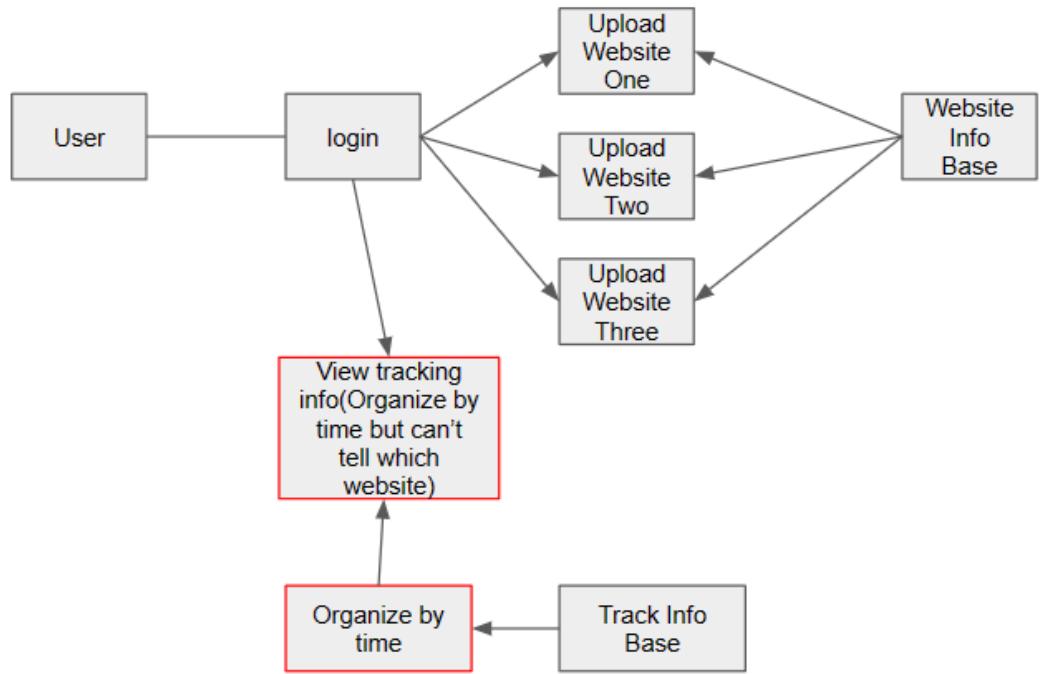
Use Case Diagram



Case 3: General User, 70 year old man getting order from son and daughter.

Use case: Bruce is a 70 year old man and has 5 children and a lot of grandchildren. His children and grandchildren love him very much and because of the distance between each other they can't visit him very often so the way they express their love is buying stuff online and sending it to him. Bruce likes to plan his schedule ahead so he needs to know when stuff is delivered so plan ahead but since he is not familiar with technology and there are too many websites for him to check. The experience has been good so far therefore he desperately needs a better way to handle it. System would show his order when he input the delivery website info.

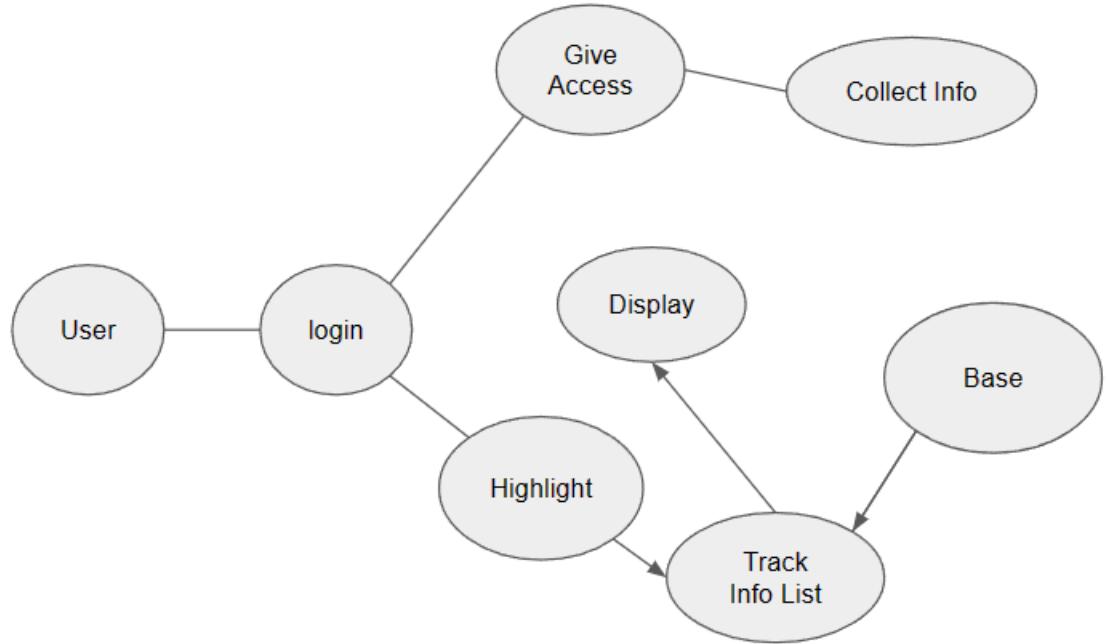
Use Case Diagram



Case 4: General User, 25 year old business woman does not have much free time.

Anna is a business woman and her schedule is always packed. She is very busy everyday so she does not have time to do in store shopping or cooking. Inorder to fulfill her needs she orders supplies, groceries and takeout online everyday. Since she is a very busy woman, she does not have much free time and that's why she orders things online a lot but lately she feels ordering online doesn't help her a lot because just to keep track of her order information has taken too much of her time even though she is familiar with modern technology. She wants something that could save her valuable time. This app would organize it by time difference.

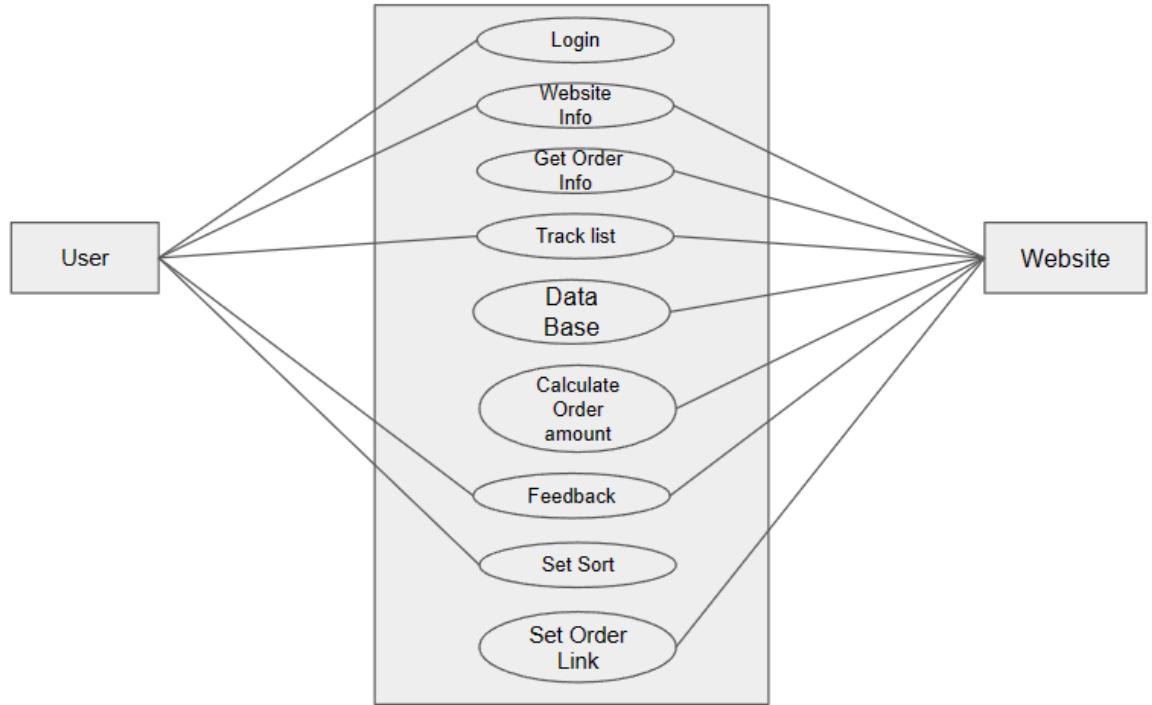
Use Case Diagram



Case 5: General User, Transshipment warehouse manager, deals with orders every single day.

Use case: Kyle works at an international shipping company as a transshipment warehouse manager. His company mainly takes orders from one country and sends them to the world. Since his job is transshipment warehouse manager, he would order from all kinds of websites and the number of orders could be large. His company already has a website that can track orders but it is not efficient enough. The order information lists are not organized and the web page design is not concise, all the websites get mixed into one list which makes his job very difficult. He is looking for a better product to replace it. When uploading the delivery website Info it should say which is which. User can highlight the Track Info

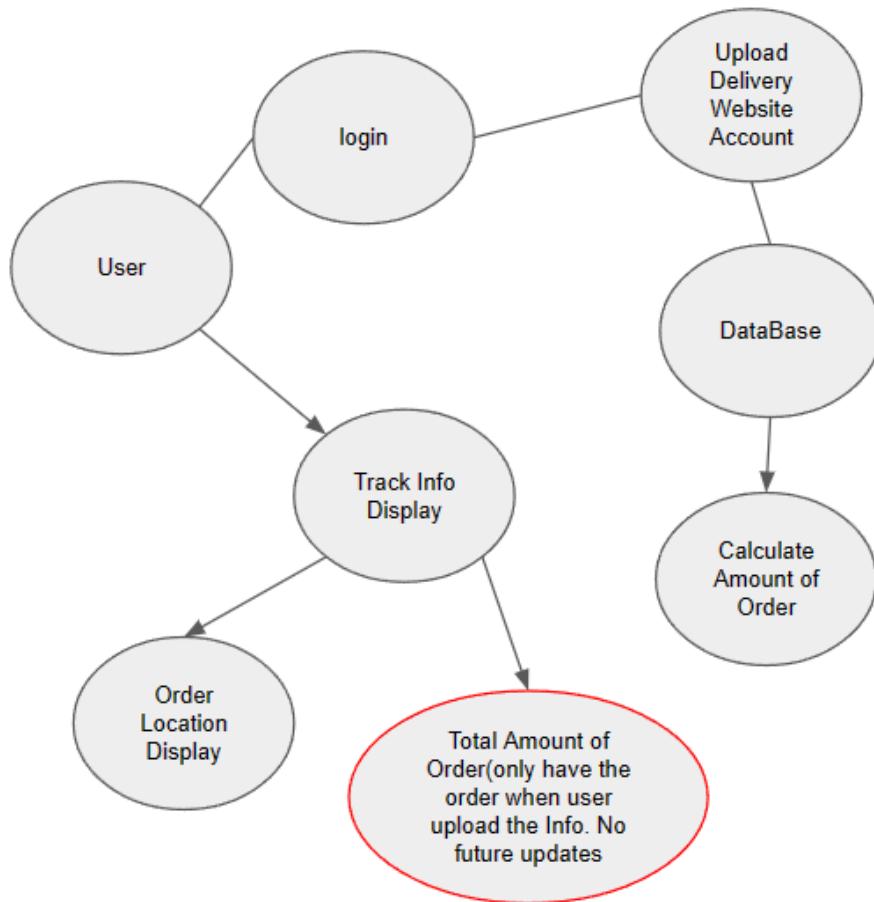
Use Case Diagram



Case 6: General User, Regular teenage shopper

Use case: Kaly is a 17 year old teenage girl who knows how to use the internet. She loves to dress up and everyday before leaving the house she will spend a lot of time on makeup to make sure to show her best side. This means she has great shopping needs like dress, shoes and makeup. On a regular time she would go shopping with her friend and enjoy the fun of it but due to the pandemic she can't do that while she still needs to leave the house for school so she starts purchasing goods online. Since there are a lot of things she needs and she can't always buy it on one website, she had multiple websites to do that. During the experience she had to open each website and see her order tracking Info and to her it is very cumbersome. She wants something that can help her to improve the experience. It would provide the total amount of orders she has. Provide a link to the original website when clicking on the order also she will be able to give feedback to improve the experience.

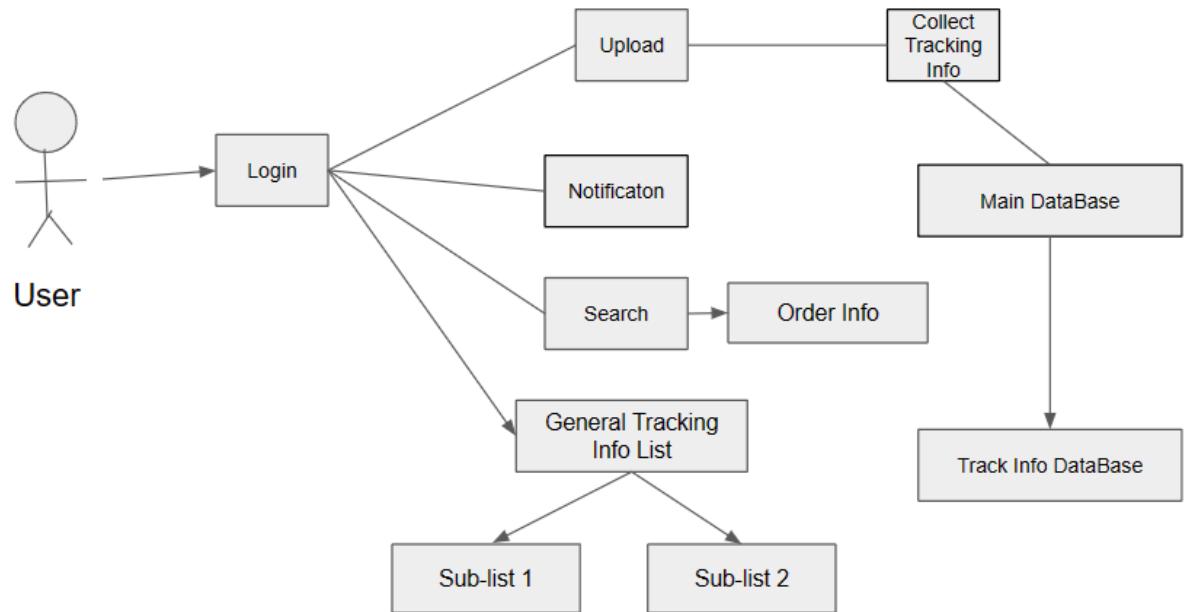
Use Case Diagram



Case 7: General User, 62 year old stay home wife

Use case: Molly is a very frugal person. In her life she has many hobbies but there is one that catches her heart the most and that is cooking. Growing up she loves to cook and many years later it hasn't changed. Since she is a very frugal person she will go to all the those website to buy ingredients when they are on sale only, problem is, she doesn't know how to use it so she always had her daughter or son to help her do it but when they are not home and she need to check the status for her order it gets very painful. She would spend hours of her time trying to solve it but got nowhere so she wished there was something that could help her with it. This application would collect all her order info once she input it. Count how many websites in total. It will be able to see the order location and where it goes.

Use Case Diagram



Case 8: General User, College student

Use case: As a person who grew up in the Internet era, John is very comfortable using the Internet. As a college student, he shared a house with two other friends. It happened that they were not people who liked outdoor sports. They liked to stay at home and play games in their spare time, so he often went online to purchase the supplies the three of them needed because of their different needs. He needs to go to different websites to make purchases, and even though he is very familiar with using the website, the cumbersome logistics check makes him impatient after all. He wants to find an app that can collect all the logistics information for him so that he doesn't have to look for it one by one. Able to search order by entering tracking number. One time upload only. It will have a Notification function also it will have a sub-list, for example inside the order list it will have an amazon order list, doordash order list and so on.

III. Main Terms, Entities, and Data Structures

a. User login (password, username, email, phone number) (UserId, userpswd, userEmail,)

We will need to store our user's information in our database in order for them to have all of it saved with us. This also allows them to log in whenever they need to check their orders. All this information will be encrypted so all of the information would be difficult to get from anyone. We will be using let's encrypt to keep all this text encrypted.

b. Tracking numbers and links (trackNum, trackLink)

A lot of the websites we're working with either have a tracking number or a link where the user can keep track of their orders. This will also help our team to make sure everything is being tracked and updated accordingly.

c. Amount of orders

Our users might make more than one order and would want to keep track of all of them. We will store the number of items they've ordered to keep count and to be able to show them more than one order. This also helps the user to have a list of all their orders all in one website without having to switch.

d. Accounts from different websites

To make it easier for users we will be storing some of the user's accounts in our database so we can get the information for their orders on their account. This way we can access their tracking numbers or links to keep them updated on their orders.

e. Privacy (Amount of attempted logins?)

We shall include private information in our database that also needs to be encrypted like the passwords of our users.

f. Location

Users shall be able to see where their package is at and where the package is going to.

g. Order Category

The orders shall have a category depending on the item they ordered. For example whether it was clothing, electronics, or food.

h. Amount/Transaction

On the orders, the user should be able to see how much they've spent on the item they've ordered.

i. Order Information

Users shall see the details about the item they've ordered from the website.

j. Deleted Orders

Users shall have the option of deleting their past orders in case they don't need it anymore. The software shall store the deleted orders in case for about 7 days and delete them permanently after.

k. Supplier/Website

We shall be using information from our suppliers and other websites to provide the most information to our users on their orders.

l. Updates

We shall inform our users of our rolled out updates to keep them updated on what is new.

m. Notifications

Users shall receive notifications about their order status and when it arrives so they won't miss anything.

n. Customer Support Tickets

In case a customer has any questions or has any problems, they can start a support ticket with us and we will respond back to them in a timely manner.

o. Customer Reviews

When a user orders an item we shall gather information from the website they ordered from including the reviews. This shall allow our users to keep an eye on the product if it is good or not.

p. Data from our customers

We shall collect data from our customers in order to ensure the best experience for our users.

q. Administration

We shall be able to login to our administrative accounts in order to do some testing with features that haven't come out yet.

r. Recommendations

From the data we collect from our users, we shall give them recommendations of what they might order next.

s. Order Status

Our users will have an updated status of their package. This will tell them the time and location of the item.

t. Return/Refund

If by any chance our user needs to return or refund an item they've ordered. There will be an option for them to choose this, it will send them to the suppliers website where they can start a return process.

u. Refund Status

Once the user starts a refund, they shall be able to track the item if they need to ship it back.

v. Messages

Our users shall send developers messages in order to help them out with a problem they might have.

w. FAQ (Frequently Asked Questions)

Some questions that our users will be asked frequently in messages. We will store these in a separate section of our software in case they have any doubts of how to use something.

x. Payment Status

Some of our users might choose the option of paying monthly or weekly. We shall also keep them updated whether their next payment is coming up or if they payment went through already. This could also notify our user if the payment was successful after they've bought something.

y. Links to Suppliers

We shall include helpful links that send our users to the suppliers website in case they need help from their end or they need to order again.

IV. Functional Requirements

User

- 1.1 User shall be able to track all their packages with tracking information
- 1.2 User shall be able to add tracking information
- 1.3 User shall be able to delete tracking information
- 1.4 User shall be able to login
- 1.5 User shall be able to create an account
- 1.6 User shall be able to delete their account
- 1.7 User shall be able to update their profile information
- 1.8 User shall be able to recover password
- 1.9 User shall be able to log in to access their tracking information
- 1.10 User shall be able to see their history of completed tracked orders.
- 1.11 User shall be able to hide tracking history
- 1.12 User shall be able to print tracking history
- 1.13 User shall be able to save their tracking history into a file
- 1.14 User shall be able to filter their tracking information
- 1.15 User shall be able to sort their tracking information
- 1.16 User shall be able to receive email notification of tracking updates
- 1.17 User shall be able to write a product review
- 1.18 User shall be able to submit a ticket for help
- 1.19 User shall be able to send a message
- 1.20 User shall be able to receive a message
- 1.21 User shall be able to delete a message

- 1.22 User shall be able to view messages
- 1.23 User shall be able to delete a product review
- 1.24 User shall be able to edit a product review
- 1.25 User shall be able to view a product review
- 1.26 User shall be able to rate a product review
- 1.27 User shall be able to create a family account
- 1.28 User shall be able to become part of a family account

Businesses

- 2.1 Businesses shall be able to track their own packages
- 2.2 Businesses shall be able to register and create an account
- 2.3 Businesses shall be able to manually add tracking information
- 2.4 Businesses shall be able to delete tracking information
- 2.5 Businesses shall be able to upload their tracking information
- 2.6 Businesses shall be able to update their tracking information
- 2.7 Businesses shall be able to log in to access their tracking information
- 2.8 Businesses shall be able to view their tracking history
- 2.9 Businesses shall be able to hide tracking info
- 2.10 Businesses shall be able to print tracking history
- 2.11 Businesses shall be able to save their tracking history as a file
- 2.12 Businesses shall be able to filter their tracking info
- 2.13 Businesses shall be able to sort their tracking info
- 2.14 Businesses shall be able to send a message
- 2.15 Businesses shall be able to receive a message

2.16 Businesses shall be able to write a user review

2.17 Businesses shall be able to delete a user review

2.18 Businesses shall be able to view a user review

2.19 Businesses shall be able to edit a user review

2.20 Businesses shall be able to rate a user review

Admin

3.1 Admin shall be able to access all data

3.2 Admin shall be able to modify any data

3.3 Admin shall be able to suspend any account

3.4 Admin shall be able to create any type of account

3.5 Admin shall be able to send a message

3.6 Admin shall be able to view another account

3.7 Admin shall be able to create a log

3.8 Admin shall be able to view logs

System

4.1 System shall be able to collect traffic data

4.2 System shall be able to store traffic data to improve user experience.

4.4 System shall be able to analyze traffic data

4.5 System shall be able to recommend businesses

Messages

5.1 Messages shall be able to be sent

5.2 Messages shall be able to be received

5.3 Messages shall be able to be stored

5.4 Messages shall be able to be viewed

5.5 Messages shall be able to be replied to

5.6 Messages shall be able to be deleted

Tracking Information

6.1 Tracking information shall be able to be stored

6.2 Tracking information shall be able retrieved in real time according to shipping carrier updates

V. List of non-functional requirements

1. Performance:
 - 1.1. The system needs to smoothly handle a minimum of 1000 concurrent users without slowing down.
 - 1.2. Updates to tracking information should happen in real-time, with no more than a 5-second delay from the actual event.
2. Expected Load:
 - 2.1. The system should be prepared to manage a 50% increase in traffic during peak shopping seasons (like Black Friday and Cyber Monday).
 - 2.2. Even during high traffic periods, users shouldn't experience response times exceeding 2 seconds
3. Security:
 - 3.1. Users' personal data shall be safeguarded through stand encryption protocols.
 - 3.2. Only authorized personnel should access sensitive data.
 - 3.3. To stay secure, systems shall have regular security audits and penetration tests to spot and fix vulnerabilities to further validate the safety and protection of the client's data.
4. Storage:
 - 4.1. The system should be capable of storing tracking information for a minimum of 2 years, which is essential for historical reference and auditing.
 - 4.2. As data grows, we should have adaptable storage solutions to accommodate it.
5. Availability:
 - 5.1. Users shall be able to access the system at least 90% of the time.
 - 5.2. In case of server or data center failures, the system shall have backup plans (failover mechanisms) to ensure uninterrupted service.
6. Fault Tolerance:
 - 6.1. System should have automated backup and disaster recovery processes in place.

7. Usability:
 - 7.1. System's user interface that's intuitive and easy to use for both customers and shipping personnel.
8. Compliance:
 - 8.1. System shall follow all shipping regulations and laws of any place of operation.
 - 8.2. Regular checks and updates will ensure ongoing compliance.
9. Logging and Monitoring:
 - 9.1. System shall keep comprehensive logs of system activities for auditing and debugging purposes.
 - 9.2. Real-time monitoring tools will provide insights into system performance and health.
10. Platform/Browser Compatibility:
 - 10.1. Develop the application using web design that shall ensure usability on different platforms including devices
 - 10.2. OrderOwl shall be tested on multiple browsers and devices to confirm the compatibility of the application

VI. Competitive Analysis

Competitive Features Analysis

Feature/ Company	Route https://route.com/	ShopApp https://shop.app/	Pkge.net https://pkge.net/
Strength	<ul style="list-style-type: none"> - Simple UI but more filled & animated - Package protection - Percentage of money to reforestation - Previews a demo of what the app - Can sync with Amazon - Keeps track of all purchases when offline; no need to add tracking number - Tracks all previous orders and includes images available - Real time tracking 	<ul style="list-style-type: none"> - Animated and simple UI - Presents hook as first thing user sees - Direct QR code to app to download - Real time tracking - Visual map tracking - Includes the return policy of each package tracking - Includes order receipt per tracking - Has their own payment method: Shop Pay - Has an AI search for users to find what they need. Acts like a personal shopper and searches for all possible purchasing options from all kinds of stores. - Previews a demo of what the app/works looks like 	<ul style="list-style-type: none"> - Easy to follow UI - Shipping services from different countries - Tracks over 850+ carriers - Can add descriptions to tracked orders. - Visual map tracking - Add tracking the tracking number - Adds images to the products bought - Can receive email updates

Weaknesses	<ul style="list-style-type: none"> - Does not advertise their social media on their website - No option to track orders from social media sites such as Instagram, Facebook market, etc. - Limited actions and too simple on the website version. The best version would be the app. 	<ul style="list-style-type: none"> - Does not advertise all their social media on their website. Only Instagram and Twitter - Advertises self more as a shopping site than a tracking site - No option to track orders from social media sites such as Instagram, Facebook market, etc. - Seems to advertise itself better via their app. 	<ul style="list-style-type: none"> - Works better as an app than as a website - Little presence on social media - UI simple and not engaging - Have to add a tracking number in order to add it to your tracked orders instead of it connecting to your email to track orders.
Pricing	Free download	Free download	Free download
Social Media	<ul style="list-style-type: none"> - Instagram - TikTok - Twitter - Facebook 	<ul style="list-style-type: none"> - Instagram - Twitter - TikTok - Twitter 	<ul style="list-style-type: none"> - Instagram - Facebook
Onboarding Experience	Very easy to navigate around and is very minimalistic. Not difficult for a new user to pick up.	Easy to navigate and all the important buttons or information is highlighted perfectly. There's no overwhelming amount of information, and the website is very entertaining to explore. It has a nice color scheme as well; easy on the eyes. Website guides users to understand what their app does and then ends with QR code to download	When a user first appears on a website, the UI is very easy to understand and the main components seem to be the tracking number search bar, and the log-in/ register button. When scrolling down, it becomes more cluttered and overwhelming with a lot of text. Easy to navigate and minimalistic.
Feature/ Company	Ship24 https://www.ship24.com/shops	Parcels https://parcelsapp.com/	

Strength	<ul style="list-style-type: none"> - Tracks shipping from 17 global shops, 9 N. American shops, 3 S./Central American shops, 9 European shops, 3 E. European shops, 6 Chinese shops, 7 Asian shops, 3 Oceania shops, 6 African shops, & 3 Middle E. Shops - Tracks from 66 different online shops - Live tracking updates - Beginner user friendly - Simple UI (few buttons/more explanations) - Notifications - Identify package delivery exceptions - Offers about 25 different language options 	<ul style="list-style-type: none"> - Can track from 36 different online shopping websites - Over 50 different courier and postal services supported - Has an app - Just need tracking number and the app does the rest - Able to track with multiple carriers at once - Offers 9 different languages - Tracks deliveries from worldwide services - Previews a demo of what the app/works looks like. 	
Weaknesses	<ul style="list-style-type: none"> - Cluttered UI when scrolling down the page - No option to track orders from social media sites such as Instagram, Facebook market, etc. - No demo of the actual product, ie the tracking dashboard, or example of how the interface look/works like - No social media presence. 	<ul style="list-style-type: none"> - UI too busy. Especially when you start scrolling down - Seniors/people who lack casual-high tech experience will struggle to navigate themselves through the website - App a little too plain. Would need to read every package entry title to know what it is instead of an image - No social media advertised. - No option to track orders from social media sites such as Instagram, 	

		<p>Facebook market, etc.</p> <ul style="list-style-type: none"> - If someone wants to look up a certain carrier, then they have to scroll through a whole list 	
Pricing	Free for up to 3 packages a month but after that its \$3.99-\$1,199 depending on how many packages will be tracked per month. There are different plans.	Free download	
Social Media	None	None	
Onboarding Experience	Easy to navigate around the website with a simple nav bar. User's aren't overwhelmed with too many options and the main locations (sign up or track an order) are easy to find.	<ul style="list-style-type: none"> - Easy to know where to download apps and where to input tracking numbers, but when scrolling down, way too much information is given and is overwhelming. If a new user was looking for their first tracking app, it could be difficult to understand where to begin. 	

Competitive Features vs. OrderOwl Planned Features

Feature	Route https://route.com/	ShopApp https://shop.app/	Pkge.net https://pkge.net/
Real Time Tracking	++	+	++
Track Number Search Bar	-	-	+
History of Orders	+	+	+
Calendar Tracker	-	-	-

Entry Label Customization	-	-	-
Hidden Orders	-	-	-
Feature	Ship24 https://www.ship24.com/shops	Parcels https://parcelsapp.com/	Our Future Product
Real Time Tracking	+	+	++
Track Number Search Bar	+	+	+
History of Orders	+	+	+
Calendar Tracker	-	-	++
Entry Label Customization	-	-	++
Hidden Orders	-	-	++

+ Feature exists

++ Superior

- Does not exists

Based on our thorough competitive analysis, we were able to identify common features that were shared amongst websites that dedicate themselves to tracking online orders. OrderOwl will follow these fundamental features at minimum in addition to other new and unique features that will differentiate our product to others that completely lack in existing solutions. Starting off with the option for users to organize their packages into not only the list of orders and past orders, but also a list for hidden orders. Compared to other products, users are able to only see a list of their current tracked orders or their archived delivered orders, but never an option for users to hide certain tracked orders. With this new feature, it would give users the privacy and discretion that is not found within other similar products. Say a user shares the account with another person, and one user bought a gift for the other user but it's a surprise. The hidden feature would help hide that order within a hidden list. Additionally, another unique feature we shall implement is the option for users to label order entries with whatever they would like so they can better organize their orders. One example of this could be labeling an order with "mom's birthday gift" instead of the actual gifted product's name.

This allows a sense of personalization within our platform. Lastly, our product shall give users an overview of their orders throughout the year, through the option of looking at a calendar and having expected order deliveries be highlighted on their expected dates. This will help users keep track of pre-orders or general orders that may be delivered months later. The features that OrderOwl will commit to, will offer a superior online order tracking experience to all kinds of people. These features will make sure to set us apart from other competition so we can become people's first choice in tracking services.

VII. High-level system architecture and technologies used

1. Server Host: Amazon AWS EC2 t2.micro (1vCPU 1GB Ram)
2. Operating System: Ubuntu 22.04 Server
3. Database: MySQL 8.0.24
4. Web Server: Apache HTTP Server 2.4.57
5. Server-Side Language: Java 21 LTS
6. Additional Technologies:
 - 6.1. Web Framework: Solid JS v1.7.11, Tailwind CSS v3.3.3
 - 6.2. API Framework: Spring Boot 3.1.4
 - 6.3. IDE: IntelliJ; Visual Studio Code
 - 6.4. SSL Certificate: Let's Encrypt
 - 6.5. Domain Name: Cloudflare
7. Supported Browsers:
 - 7.1. Firefox
 - 7.2. Safari
 - 7.3. Chromium Based Browsers
 - 7.3.1. Chrome
 - 7.3.2. Edge

VIII. Checklist:

Item	DONE/ON-TRACK-ISSUE
Team found a time slot to meet outside of the class	DONE
Github master chosen	DONE
Team decided and agreed together on using the listed SW tools and deployment server	DONE
Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing	DONE
Team lead ensured that all team members read the final M and agree/understand it before submission	DONE
Github organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.)	DONE

IX. List of team contributions:Part 1- Team Lead:

Team Members	Contribution	Score
Belu Velazco	<ul style="list-style-type: none">● In charge of section 6 in documentation● Hosted, prepped, and guided all team meetings● Posted team meeting summaries/notes/recordings after every meetings● Attended all in-class meetings with professor● In charge of peer reviewing section 7, 4, and 5● Actively communicates within discussion channel● Set deadlines for tasks for the team● Created server host and AWS account● Created branches on GitHub● Filled in and completed READ ME file● Initiates check-ins with the whole team● Created milestone folders on GitHub● Participated● Participated in coming up with a project idea● Filled, completed, and successfully pushed their About Me page● Created a Discord	9

	<p>Server dedicated to archiving important documents; meeting reports, and other useful notes that were already shared in the class discussion channel</p> <ul style="list-style-type: none"> ● Collected members' availabilities and found time for all of us to meet during the weekday ● Worked on executive summary ● Reviewed final milestone 1 documentation ● Participated in the brainstorming of project name and other ideas 	
David Lien	<ul style="list-style-type: none"> ● In charge of section 4 of documentation ● Attended all in-class meetings with the professor and team meetings and actively participates in both ● In charge of peer reviewing section 5 and 6 ● Actively communicates within discussion channel ● Completed tasks by deadline (if needed more time communicated in advance and completed by extension) ● Filled, completed, and successfully pushed their About Me page 	9

	<ul style="list-style-type: none"> ● Participated in coming up with a project idea ● Worked on executive summary ● Checked over Milestone 1 document ● Participated in the brainstorming of project name and other ideas ● Reviewed final milestone 1 documentation 	
Komaldeep Kaur	<ul style="list-style-type: none"> ● Worked on section 4 of documentation ● Attended all in class meetings with professor and half of team meetings ● Weekly communication within discussion channel ● Filled, completed, and successfully pushed their About Me page ● Participated in the brainstorming of project name and other ideas ● Formatted first half of the M1 document ● Peer reviewed section 5. ● Reviewed final milestone 1 documentation 	5
Jimmy Pan	<ul style="list-style-type: none"> ● Created/formatted About Me pages ● Participated in the brainstorming of project name ● Filled, completed, and successfully pushed their About Me page 	9

	<ul style="list-style-type: none"> ● In charge of peer reviewing section 2 ● Set up the database ● Helped with creation of the server ● In charge of section 7 in documentation ● Attended all in class meetings with professor and team meetings ● Actively communicates within discussion channel ● Helped create branches on GitHub ● Completed tasks by deadline (if needed more time communicated in advance and completed by extension) ● Participated in coming up with a project idea ● Set up Apache, MySQL, Let's Encrypt, Deploy to Apache, and subdomain ● Created script to update the A record of the subdomain to be the new IP address whenever the server starts up again ● Created script to auto build and deploy latest versions available on GitHub ● Worked on executive summary ● Reviewed final milestone 1 documentation ● Participated in the 	
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	brainstorming of project name and other ideas	
Mankit Yeung	<ul style="list-style-type: none"> ● In charge of section 2 in documentation ● Attended all in class meetings with professor and team meetings ● Communicates within discussion channel and is up to date with information ● In charge of editing and formatting last half of the document ● Participated in coming up with a project idea ● Worked on executive summary ● Filled, completed, and successfully pushed their About Me page ● Reviewed final milestone 1 documentation ● Participated in the brainstorming of project name and other ideas 	9
Luis Ramirez	<ul style="list-style-type: none"> ● In charge of section 3 of documentation ● Attended all in class meetings with professor and team meetings ● Helped create branches in GitHub ● Actively communicates within discussion channel ● Worked on executive summary ● Filled, completed, and 	9

	<p>successfully pushed their About Me page</p> <ul style="list-style-type: none"> ● Participated in the brainstorming of project name and other ideas ● Reviewed final milestone 1 documentation 	
Tin Nguyen	<ul style="list-style-type: none"> ● In charge of section 5 of documentation ● Attended all team meetings and all except 1 in-class meeting with the professor <ul style="list-style-type: none"> ○ Communicates when missing a meeting ahead of time ● Actively communicates within discussion channel ● Worked on executive summary ● Filled, completed, and successfully pushed their About Me page ● Checked over Milestone 1 document ● Reviewed final milestone 1 documentation ● Participated in the brainstorming of project name and other ideas 	9

SW Engineering CSC648-848-05 Fall2023

[OrderOwl](#)

Team 06

Team Lead: Rita Belú Velazco, rvelazco@mail.sfsu.edu

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GitHub Master: Luis Ramirez

Document Editor: Mankit Yeung

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Milestone 2

November 2, 2023

History Table:

Revision	Date
M2V2	11/02/23
M2V1	10/13/23
M1V2	10/12/23
M1V1	09/21/23

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I. Data Definitions:

a. Registration (passwordID, UserID, emailID, firstNameId, lastNameId)

User shall be able to register to our site and use our services with OrderOwl. We shall request the user a password, username, email, first name and last name. We need the username to be unique in order for no confusion to happen with other accounts that have been created. For the user's password the user shall create a password that must have at least one capital letter, special character, and a minimum of 10 characters. We shall also request an email as well in order send an email with a confirmation link to finalize the creation of their account. Finally, the user's email shall be used to receive updates about their packages.

b. User login (password, username, email) (UserId, userpswd, userEmail)

We shall store our users information in our database in order for their information to be saved within our application for future use. The user shall use their information to log back into OrderOwl and to view their tracked packages. All of the users information will be stored in our database encrypted for the safety of our users. Our team shall use "Let's Encrypt" in order to encrypt the users information in case of any hacking attempts to our software.

c. Tracking numbers and links (trackNum, trackLink)

A lot of the websites we're working with offer a tracking number or a link where the user can keep track of their orders. This will also help our team to make sure everything is being tracked and updated accordingly. We will store this information in the database so our users won't lose their tracking information.

d. Amount of orders/Order History

Our users might make more than one order and would want to keep track of all of them. We will store the number of items they've ordered to keep count and to be able to show them more than one order. This also helps the user to have a list of all their orders all in one website without having to switch. The user will have no limit on the amount of orders on the list, we will store all of the orders in our database and as well as their history of completed tracked orders.

e. Accounts from different websites

To make it easier for users, we will be storing some of the user's accounts in our database so we can get the information for their orders on their account. This way we can access their tracking numbers or links to keep them updated on their orders. After we get access to this information, we will make sure to encrypt it so no one will be able to look at this information.

f. Order Category

The orders shall have a category depending on the item they ordered, such as clothing, electronics, food, or other categories. This will allow the user to have a better experience navigating through all their orders. There will be no need to scroll through so many orders in order to find a specific one. In case the user doesn't see a category that fits their order, they shall be able to create their own category. This shall work sort of like a music playlist, but this time we are putting in orders to be able to track.

g. Order Information

Users shall see the details about the item they've ordered from the website. This shall provide the user with a description of the item they ordered in case they forget what it was. In addition, the order information should contain the amount they paid for the order, when they bought it, and the quantity of items under an order if applicable.

h. Deleted Orders

All our user's orders will be stored in our database after they are uploaded. After the user decides to delete the order from their account, the tracking information for that order will be gone from our database and account.

i. Updates

Before we roll out updates we will store the information in our database in order to be ready to push it out for the public. We shall inform our users of our rolled out updates to keep them updated on what is new. Sometimes when a user uses an updated application, some stuff might be moved around or there might be new features.

j. Notifications

We will be sending out notification to users whenever they have an upcoming delivery. We will store the notifications in our database to get a basic template of what we are sending out to our users. This could potentially lead to less packages getting stolen and more people being ready to receive their package.

k. Data from our customers

We shall collect data from our customers in order to ensure the best experience for our Users. We will never give away or sell the information we receive from our users. We will only use it for the benefit of a better experience for users on OrderOwl.

l. Administration

Admin shall be able to login to their administrative accounts in order to do some testing with features that haven't come out yet. We will store login information for admin usage separate from regular users. This will help us to test out features that are not out yet before sending it out.

m. Return/Refund

We will be storing the refund and return information in our database for the user to see the tracking information as well. We shall also change the information on how much money they got back from their refund. This shall allow the user to keep track if they ever received the money back from the shipper.

n. FAQ (Frequently Asked Questions)

Some questions that our users will be asked frequently in messages. We will store these in a separate section of our OrderOwl website in case they have any doubts of how to use something. Users shall be able to find their answer quicker than having to wait for a message back from an admin. We shall update this list whenever we notice a pattern of the same question going on.

o. Sharing

Users will be able to share tracked packages amongst friends, family, or others to keep more than one person updated on the tracking of an order. Users will only be able to share the packages that are stored in your account because we will be able to share from our database where it is saved.

p. Hidden Packages

When our users use our software they will have the option of hiding their package. Even though it is hidden, it will still be in our database the entire time it is hidden, it will just look like it was deleted. There will be a tab of hidden orders in order to be able to check on them still.

q. Privacy

We will be taking care of privacy by encrypting in our database the users information and tracking information they've saved on our software.

II. Prioritized Functional Requirements:

a) Priority 1 (must have):

User:

- 1.1 User shall be able to track all their packages with tracking information.
- 1.2 User shall be able to add/delete tracking information.
- 1.3 User shall be able to login.
- 1.4 User shall be able to create/delete their account.
- 1.5 User shall be able to update their profile information.
- 1.6 User shall be able to recover password when needed.
- 1.7 User shall be able to see/hide their history of completed tracked orders.
- 1.9 User shall be able to sort their tracking information.
- 1.11 User shall be able to write product reviews.
- 1.12 User shall be able to submit a ticket for help.
- 1.13 User shall be able to send/receive messages.
- 1.14 User shall be able to view/delete messages.
- 1.15 User shall be able to delete or edit product reviews they've written.
- 1.16 User shall be able to view a product review other users post.
- 1.17 User shall be able to rate a product review.

Admin:

- 3.1 Admin shall be able to access all data.
- 3.2 Admin shall be able to modify any data.
- 3.4 Admin shall be able to create any type of account.
- 3.5 Admin shall be able to send messages.
- 3.6 Admin shall be able to view another account.
- 3.7 Admin shall be able to create a log.
- 3.10 Admin shall have the ability to conduct system maintenance and updates without disrupting user access.
- 3.11 Admin shall be able to receive and review user feedback and reports regarding system performance and functionality.

System:

- 4.1 System shall be able to collect traffic data.
- 4.2 System shall be able to store traffic data to improve user experience.
- 4.5 System shall be able to recommend businesses/products.
- 4.6 System shall have the ability to predict traffic patterns and provide suggested routes for optimization.

Notification:

- 5.1 Notification shall be able to be sent.
- 5.2 Notification shall be able to be received.
- 5.3 Notification shall be able to be stored.
- 5.4 Notification shall be able to be viewed.
- 5.5 Notification shall be able to be replied to.
- 5.6 Notification shall be able to be deleted.
- 5.7 Notification shall support multimedia attachments (e.g., images, documents).
- 5.8 Notification shall be time stamped to indicate the date and time of sending or receiving.
- 5.9 Messages shall support different message formats (e.g., text, voice, video).

Tracking Information:

- 6.1 Tracking information shall be able to be stored.
- 6.3 Tracking information shall maintain an up to date dispatch alerts.
- 6.2 Tracking information shall be able retrieved in real time according to shipping carrier updates
- 6.4 Tracking information shall maintain an up to date database.

b) Priority 2 (desired):

User:

- 1.8 User shall be able to save their tracking history into a file.
- 1.10 User shall be able to receive email/text notification of tracking updates.
- 1.18 User shall be able to create a family account.
- 1.19 User shall be able to become part of a family account.

Admin:

- 3.3 Admin shall be able to suspend any account if needed.
- 3.9 Admin shall be able to assign specific access levels and permissions to different user roles (e.g., standard user, moderator).
- 3.12 Admin shall have the authority to implement security protocols, including password policies and two-factor authentication, for user accounts.

System:

- 4.4 System shall be able to analyze traffic data.
- 4.7 System shall allow users to set custom alerts or notifications based on specific traffic conditions or events.

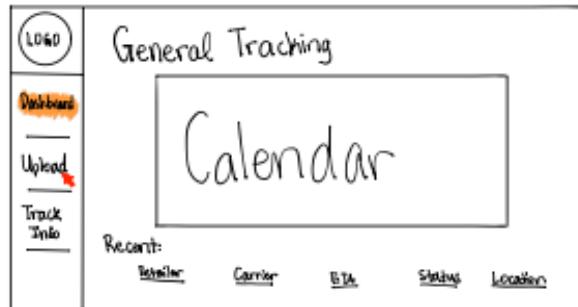
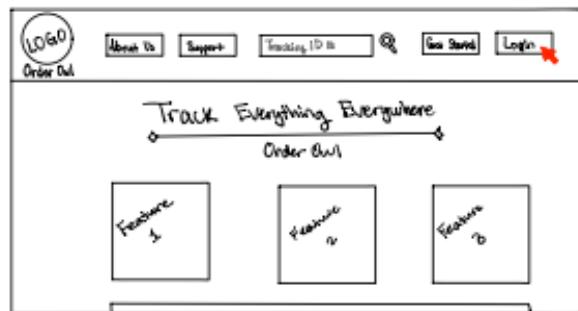
Tracking Information:

- 6.5 Tracking information shall be accessible through a mobile application for on-the-go access.
- 6.6 The system shall integrate with external data sources to enhance tracking accuracy (e.g., weather conditions affecting delivery).

III. UI Mockups and Storyboards (high level only):



Alex is in college and has gotten into the business of being a purchasing agent. He buys stuff online ahead of time and needs to be able to keep track of all his ordering information.



Here Alex can upload all new tracking information.

New Tracking Info

Tracking #:

123456789012

Retailer: eBay

Carrier Info: FedEx

More Info.

Basic Info: #123456789012
eBay 04/21/2013
Carrier FedEx Status: Pending

Arr. Updates:

MAP

All of his tracking information can be found in the tracking info part.

Retailer	Carrier	ETA	Status	Location	Address
eBay	FedEx	04/21/2013	Pending	LA, USA	—
eBay	UPS	04/21/2013	Pending	NY, USA	—
Amazon	Amazon	04/21/2013	Shipped	NY, USA	—

Here on the dashboard page, he can also see his most recent additions.

General Tracking

Recent:

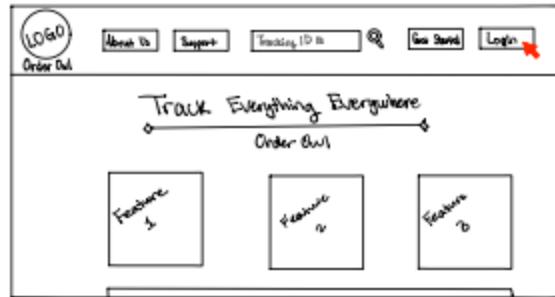
Retailer	Carrier	ETA	Status	Location
eBay	FedEx	04/21/2013	Pending	LA, USA

Calendar

USE CASE 2:



As a store manager, James needs to keep track of all the orders coming in for his store.



Here, he can upload all new purchases of new products.

New Tracking Info

Tracking #:

123456789012

Retailer: eBay Carrier Info: FedEx

More Info:

MAP

Basic Info: #123456789012
Retailer: eBay ETA: 09-22-2008
Carrier: FedEx Status: Packaging

All Updates:

- Y
-
-
-
-
-
-
-

Search:

Retailer	Carrier	ETA	Status	Location	Address
eBay	FedEx	Out for Mail	Packaging	LA, USA	—
eBay	UPS	Out for Mail	Packaging	NY, USA	—
Amazon	Airmail	Out for Mail	Shipped	NY, USA	—

More Info:

MAP

Basic Info: #123456789012
Retailer: eBay ETA: 09-22-2008
Carrier: FedEx Status: Packaging

All Updates:

- Y
-
-
-
-
-
-
-

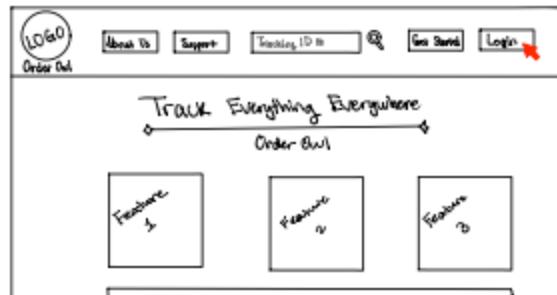
Search:

Retailer	Carrier	ETA	Status	Location	Address
eBay	UPS	Out for Mail	Packaging	NY, USA	—
Amazon	Airmail	Out for Mail	Shipped	NY, USA	—

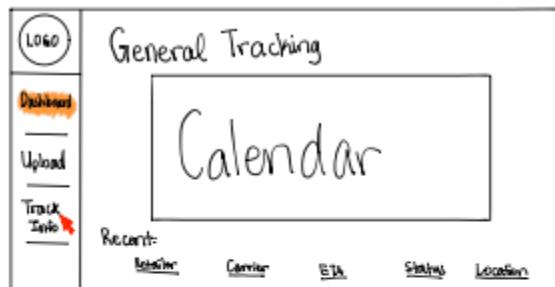
USE CASE 3:



Bruce is a 70 year old man with lots of family far away from him. They like to buy him gifts, but they are often from different sites, making it difficult for him to navigate and know when they are coming.



Once he uploads the tracking information, he is able to see all basic tracking info and when it is coming on the track info page.

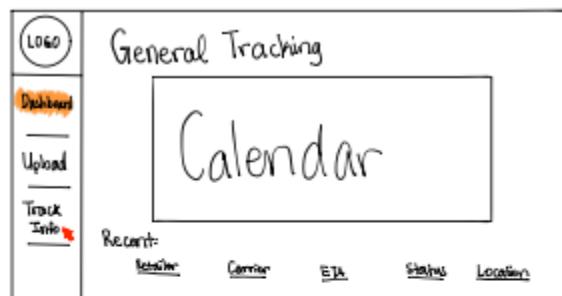
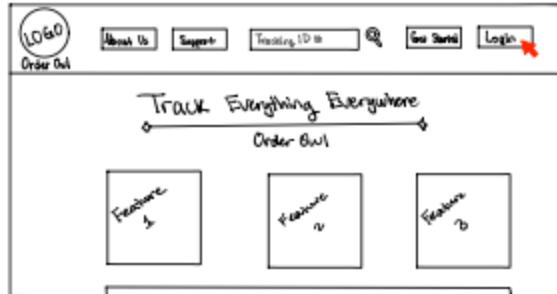


Retailer	Carrier	ETA	Status	Location	Address
eBay	FedEx	Oct 21 2013	Pending	LA, USA	_____
eBay	UPS	Oct 21 2013	Pending	NY, USA	_____
Amazon	Amazon	Oct 21 2013	Shipped	SF, USA	_____

USE CASE 4:



Anna is a business woman who does not have a lot of time. She orders a lot of things but has found it to be too time consuming to keep track of all her order info from differnt websites.



She can organize it by ETA (estimated time of arrival).

Retailer	Carrier	ETA	Status	Location	Address
eBay	FedEx	Oct 21 2023	Packaging	LA, USA	—
eBay	UPS	Oct 21 2023	Packaging	NY, USA	—
Amazon	Americam	Oct 21 2023	Shipped	SP, Spain	—

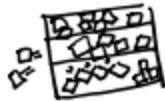
By clicking on it multiple times, it can organize it from earliest to latest arrival times and latest to earliest arrival times.

Retailer	Carrier	ETA	Status	Location	Address
eBay	FedEx	Oct 21 2023	Pending	LA Testing	_____
Amazon	Amazon	Oct 26 2023	Shipped	LA Testing	_____
eBay	USPS	Oct 27 2023	Pending	NY, USA	_____

Retailer	Carrier	ETA	Status	Location	Address
eBay	USPS	Oct 27 2023	Pending	NY, USA	_____
Amazon	Amazon	Oct 26 2023	Shipped	LA Testing	_____
eBay	FedEx	Oct 21 2023	Pending	LA Testing	_____

USE CASE 5:

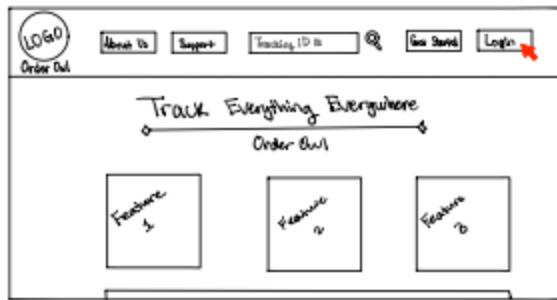
Before:



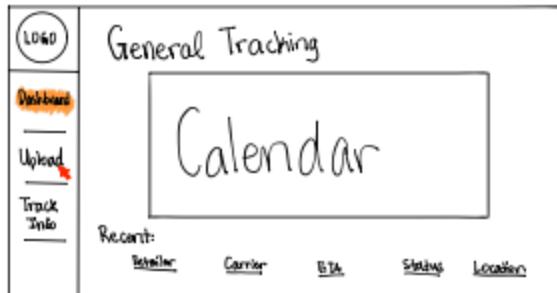
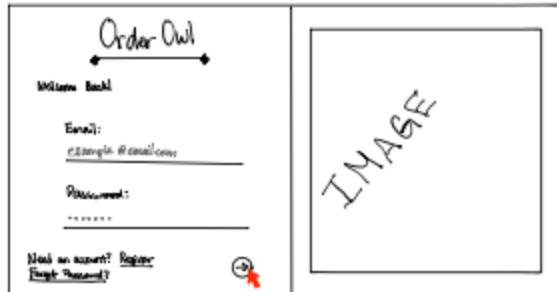
After:



This is Kyle. He works at an international shipping company as a transshipment warehouse manager. He finds the company tracking website to be insufficient. He comes across OrderOwl and finds that our website managers the tracked packages better.



He logs in to his account to upload a new number to be tracked.



New Tracking Info

Tracking #:

Retailer: e.Bay Carrier Info: FedEx

More Info:

MAP

Basic Info: #123456789012
Shipped: Oct 12, 2018
Carrier Status: FedEx Pending

Arr. Updates:

Search:

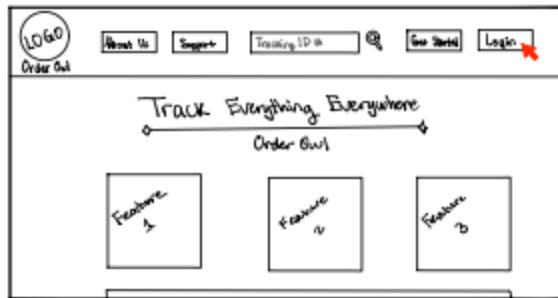
Retailer	Carrier	ETA	Status	Location	Address
e.Bay	FedEx	Oct 14 2018	Pending	LA, USA	—
e.Bay	UPS	Oct 17 2018	Pending	NY, USA	—
Amazon	AirMail	Oct 19 2018	Shipped	SP, Spain	—

After adding the new tracking number, he can see the new entry among his other entries that he added.

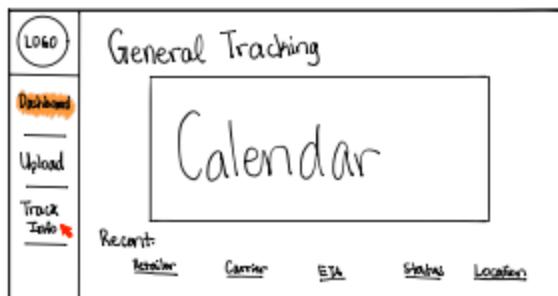
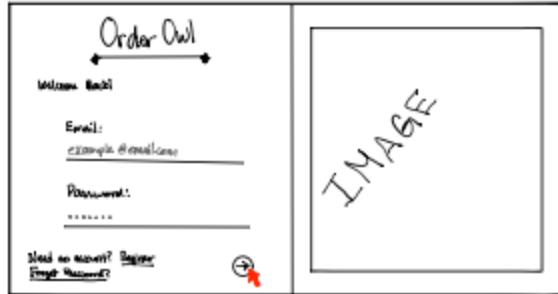
USE CASE 6:



This is Kaly. She is a 17 year old girl who loves to shop. She used to go out shopping with her friend all the time, but once the pandemic started, she resorted to do all her shopping online. With all the different packages she order, she needs a place to keep track of all of them for her. This is where OrderOwl comes in. She is able to keep track of all her orders here, and knows when each of them are going to arrive.



After she logs in, she can view all her tracked packages and click into them for more details about each package.





Total Search

Retailer	Carrier	ETA	Status	Location	Address
eBay	FedEx	Oct 15 2023	Packaging	Untracking	_____
eBay	UPS	Oct 27 2023	Packaging	MF, USA	_____
Amazon	Amazon	Oct 29 2023	Shipped	SP, Sorting	_____



More Info.

Basic Info: #1133000000
Shipping: eBay Due 11/08
Carrier: FedEx Packaging

MAP

All Updates:

- Y
-
-
-

USE CASE 7:

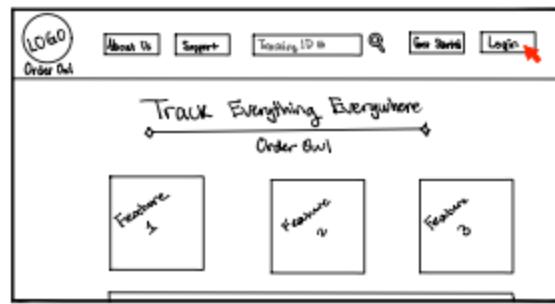
• Before:



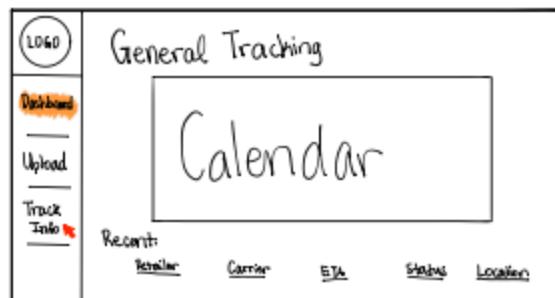
• After:



Molly is a 62 year old stay at home wife. She loves to cook and orders her ingredients online. She would source her ingredients from different websites. Being non-tech savvy, she has a hard time tracking her ingredients across multiple websites, even with the help of her children. OrderOwl keeps track of all her orders which makes it much easier for her to keep track of her purchases by herself.



She starts by login into her account, then checks on the status of her



She then uploads the most recent tracking number she got from the order she just made. And now it is being tracked by our page.

Total Items: 3						
Retailer	Carrier	ETA	Status	Location	Address	
eBay	FedEx	Oct 18 2023	Packaging	LA Sorting	—	
eBay	FedEx	Oct 18 2023	Packaging	LA Sorting	—	
Amazon	Amazon	Oct 19 2023	Shipped	NY Sorting	—	

More Info:

Basic Info: #1123456789012
Retailer: eBay ETA: Oct 18, 2023
Carrier: FedEx Status: Packaging

Alt. Updated:

MAP

New Tracking Info

Tracking #:

Retailer: Carrier Info:

Total Items: 3						
Retailer	Carrier	ETA	Status	Location	Address	
eBay	FedEx	Oct 18 2023	Packaging	LA Sorting	—	
eBay	FedEx	Oct 18 2023	Packaging	LA Sorting	—	
Amazon	Amazon	Oct 19 2023	Shipped	NY Sorting	—	

More Info:

Basic Info: #1123456789012
Retailer: eBay ETA: Oct 18, 2023
Carrier: FedEx Status: Packaging

Alt. Updated:

MAP

Total Items: 3						
Retailer	Carrier	ETA	Status	Location	Address	
eBay	FedEx	Oct 18 2023	Packaging	LA Sorting	—	
eBay	FedEx	Oct 18 2023	Packaging	LA Sorting	—	
eBay	UPS	Oct 19 2023	Packaging	NY USA	—	
Amazon	Amazon	Oct 19 2023	Shipped	NY Sorting	—	

USE CASE 8:

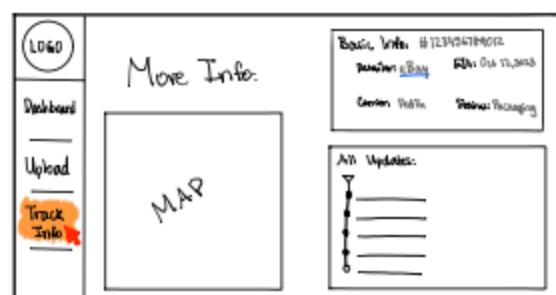


This is John. He and his roommates are indoor people, so he purchases most of the supplies they need from the internet. Because each person has their own needs, he has to go to different websites to order everything. Even though he is good at using the internet, he still finds it cumbersome to go to each website to track their order. This is where OrderOwl helps keep track of all his packages right from our website.

He can do things like look up orders from specific retailers among other things.

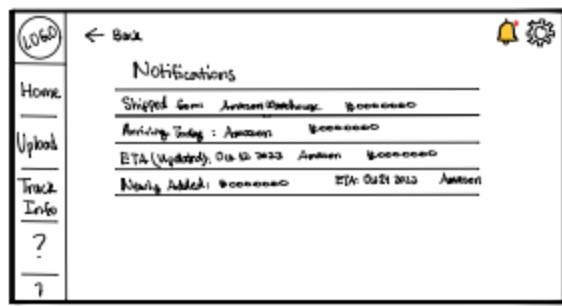
Total Items: 3						
Retailer	Carrier	ETA	Status	Location	Address	
eBags	FedEx	Oct 12 2023	Packaging	US Sorting	—	
eBags	UPS	Oct 17 2023	Packaging	NY, USA	—	
Amazon	Amazon	Oct 17 2023	Shipped	US Sorting	—	

Total Items: 3						
Retailer	Carrier	ETA	Status	Location	Address	
eBags	FedEx	Oct 12 2023	Packaging	US Sorting	—	
eBags	UPS	Oct 17 2023	Packaging	NY, USA	—	



He also gets notifications on updates to each of his packages.

Total Items: 3						
Retailer	Carrier	ETA	Status	Location	Address	
eBags	FedEx	Oct 12 2023	Packaging	US Sorting	—	
eBags	UPS	Oct 17 2023	Packaging	NY, USA	—	
Amazon	Amazon	Oct 17 2023	Shipped	US Sorting	—	



IV. High Level Database Architecture and Organization:

1. DB organization:

a. Main entities:

Users (Strong)

1. user_id (key, numeric)
2. email (composite, multivalue, alphanumeric)
3. name (composite, alphabetic)
4. phone number (multivalue, numeric)
5. address (composite, multivalue, alphanumeric)
6. role (alphabetic)

Tracking Information (Weak)

1. tracking_id (key, numeric)
2. date (composite, multivalue, alphanumeric)
3. tracking_number (alphanumeric)
4. status (alphabetic)
5. location (alphanumeric)
6. user_id (foreign key, numeric)
7. hidden (boolean)
8. retailer (alphanumeric)

Notifications (weak)

1. notification_id (key, numeric)
2. user_id (foreign key, numeric)
3. tracking_id (foreign key, numeric)
4. content (multivalue, alphanumeric)
5. timestamp (numeric)

Retailers/Supplier (Strong)

1. name (key, alphanumeric)
2. email (composite, multivalue, alphanumeric)
3. address (composite, multivalue, alphanumeric)
4. website (composite, alphanumeric)
5. role (alphabetic)

Admin (Strong)

1. admin_id (key, numeric)
2. username (alphanumeric)
3. email (composite, multivalue, alphanumeric)
4. role (alphanumeric)
5. password (alphanumeric)

Tracking History (Strong)

1. history_id (key, numeric)

- 2. user_id (fk, numeric)
 - 3. tracking_id (fk, numeric)
 - 4. date (numeric)
 - ii. Calendar (Weak)
 - 1. user_id(fk, numeric)
 - 2. history_id (fk, numeric)
 - 3. calender_id
 - iii. Q and A questions (Weak)
 - 1. question_id (key, numeric)
 - 2. user_id (fk, numeric)
 - 3. admin_id (fk, numeric)
 - 4. date (composite, alphanumeric)
 - 5. content (composite, multivalue, alphanumeric)
 - iv. Q and A answers (Weak)
 - 1. answer_id (key, numeric)
 - 2. admin_id (fk, numeric)
 - 3. user_id (fk, numeric)
 - 4. date (composite, alphanumeric)
 - 5. content (composite, multivalue, alphanumeric)
 - v. Admin (Strong)
 - 1. admin_id (key, numeric)
 - 2. email (composite, multivalue, alphanumeric)
 - 3. username (alphanumeric)
 - 4. role (alphabetic)
- b. Relationships
- i. Admin
 - 1. Admin manages one or more Registered User
 - 2. Admin manages one or more Retailer
 - 3. Admin can answer zero or more questions
 - ii. Registered User
 - 1. Registered User is managed by zero or more Admin
 - 2. Each Registered User can track zero or more Tracking Information
 - 3. Each Registered User can upload zero or more tracking information to track
 - 4. Each Registered User can track zero or more tracking information
 - 5. Each Registered user may have zero or more items in Tracking History
 - 6. Each Registered User can receive zero or more Notifications
 - 7. Each Registered User can ask zero or more questions

8. Each Registered User can view one and only one calendar
- iii. Retailer
 1. Retailer is managed by zero or more Admin
 2. Each Retailer can upload zero or more Tracking Information
- iv. Tracking Info
 1. A tracking information can be tracked by one or more Registered User
 2. A tracking information can be tracked by one or more Unregistered User
 3. Each tracking information must be uploaded by at least one Retailer
 4. Each tracking information must be uploaded by at least one Registered User
 5. Each tracking information must be uploaded by at least one Unregistered User
 6. Each tracking information can be tracked by at least one Registered User
 7. Each tracking information can be tracked by at least one Unregistered User
 8. Each tracking information can be tracked by at least one Retailer
 9. Each tracking information must be part of one and only one Tracking History
 10. Each tracking information can alert Notifications zero or many times
 11. Each tracking information contains one or more item
- v. Unregistered User
 1. Unregistered User may track zero or up to three tracking information per application visit
 2. Each Unregistered User can upload zero or three tracking information to track
 3. Each Unregistered User can track zero or more tracking information
- vi. Tracking History
 1. Each Tracking History may be connected to zero or more Registered User
 2. Each Tracking History can be connected to zero or more Calendars
 3. Each Tracking History can contain zero or more Tracking Information
- vii. Notification
 1. Each Notification must be sent to one or more Registered User

2. Each Notification must be alerted by Tracking Information only once

viii. Questions

1. Each question can be asked by one and only one Registered User
2. Each question is connected to zero or more Answers

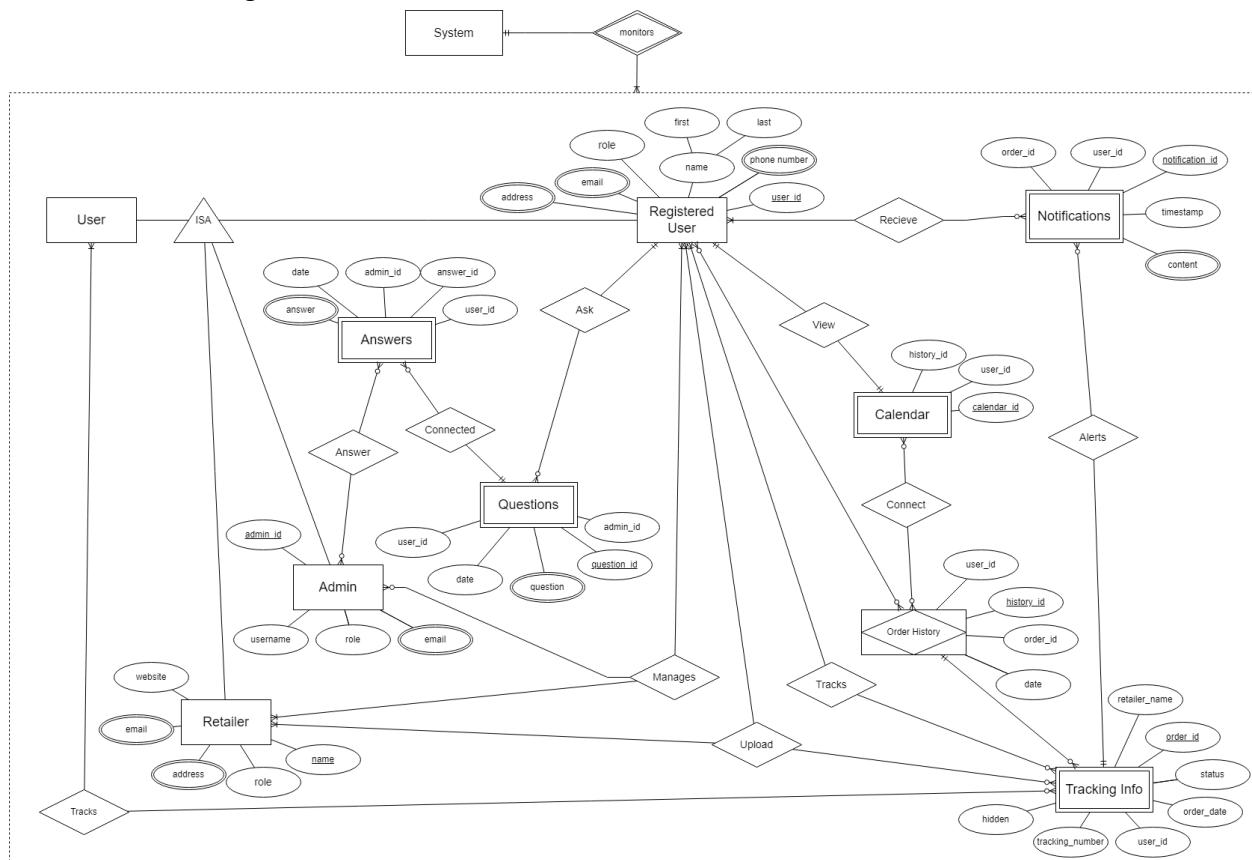
ix. Answers

1. Each answer can be answered by one and only one Admin
2. Each answer is connected to one and only one Question

x. Calendar

1. Each Calendar shall be connected to at least one user
2. Each Calendar shall receive their information from zero or more tracking history

c. Diagram



2. Media Storage
 - a. We will keep images, video, and audio in the file system.
 - b. We will need GPS data
 - c. Will use relative link: application/backend/src/main/MediaStorage
3. Search/Filter architecture and implementation
 - a. We are planning to use a combination of Spring Boot and query commands through our Java application.
 - b. We will organize a search based on the best match based on information given in the input.
 - c. DB Terms to be searched: tracking number, address, and Retailer name.
 - d. By using Spring Boot using the application.properties file to connect to OrderOwl's database, then sending SQL queries, and returning the results of those queries. OrderOwl's search algorithm shall be able to traverse through the database by meeting certain criterias. SQL queries shall be met with these standards:
"SELECT t FROM TrackingEntity t WHERE t.trackingNumber LIKE %:searchText% OR t.retailer LIKE %:searchText% OR t.address LIKE %:searchText%"
 - e. As of this milestone, the data is organized by id

V. High Level APIs and Main Algorithms:

1. High Level APIs
 - a. Shipping Carrier
 - i. This API will allow OrderOwl to retrieve real-time tracking information and delivery status from shipping carriers similar to FedEx, UPS and USPS. It will enable OrderOwl to integrate with major shipping companies for shipment tracking.
 - b. GPS/Mapping
 - i. This API will allow OrderOwl to provide mapping and location services. This will allow user experience by offering precise location data and mapping ability. It allows OrderOwl to display real-time tracking information to users which will ensure they can easily track and visualize the location of their orders.
 - c. Notification and email
 - i. Notification and email API allows OrderOwl to keep users informed about their orders in real-time through these channels of communication. This is an important component of OrderOwl. By enabling notification via email or SMS, this will allow OrderOwl to send order status updates, tracking information, delivery confirmations, and important alerts. This will keep users well informed even when not on the website providing a convenient and complete way of staying up to date with their online orders.
 - d. Thumbnail Retrieval
 - i. This API will allow OrderOwl to retrieve a picture for each order it is tracking. This thumbnail will be displayed next to the shipping status when we view the shipment. The API will connect with various online retailers to collect and display thumbnail images of products included in users' orders.

e. Database

- i. This API will be a bridge between OrderOwl and its database management system. It enables the application to interact with the database in a secure manner by encapsulating the SQL commands in a data object. Some functionality of this api are data retrieval, storage, modification, and searching. By using an API, the user will never need to learn how to use SQL to interact with the database.

2. Non-trivial Algorithms

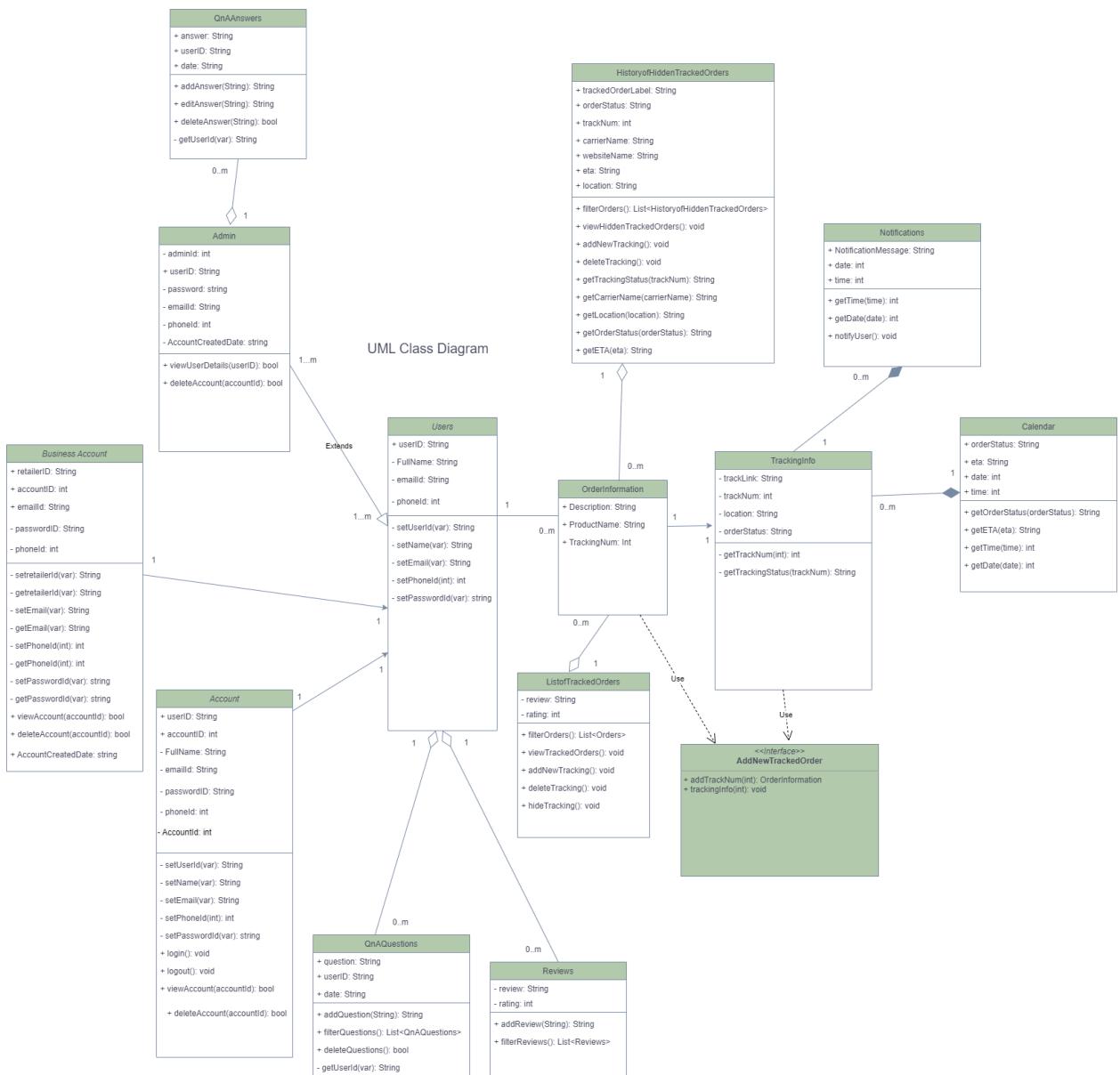
a. Search Recommendations

- i. This algorithm will help users with recommended items that might be on their list and if there is no tracking list available then it will redirect to an add tracking number page. We plan to use this as a way to show users tracking information they might have meant to search. For example if a user entered a misspelled word the search algorithm should show users close matches to that word.

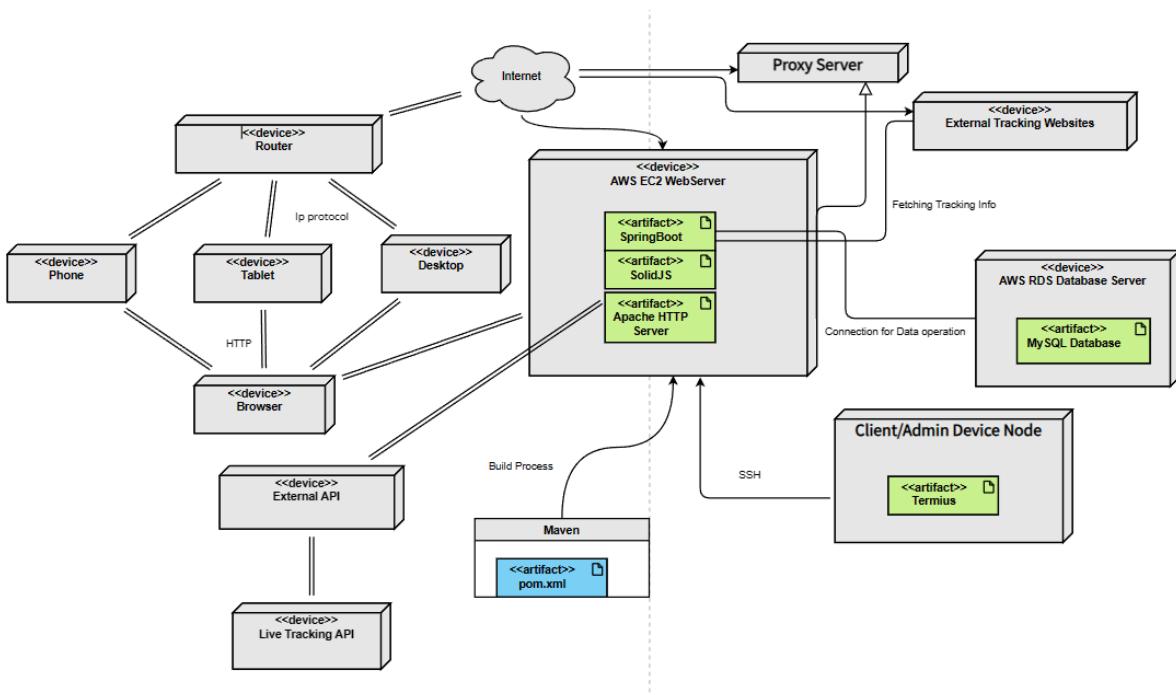
3. Tech Stack Change

- a. We have added Spring Boot to our techstack to handle the HTTP responses and to work with the database.

VI. High Level UML Diagrams:



VII. High Level Application Network and Deployment Diagrams:



VIII. Identify Actual Risks for your Project at this Time:

- Skill risks:

1. The skill risk we are having in this project is that we are using SolidJS, which we have never used before, so learning a new tool would definitely cause quite an amount of time to do; thus a risk.
-We can resolve this problem by giving ourselves enough time to study. We could also have people helping each other out so it could speed up the process.
2. We are required to have database and computer network knowledge and none of us have taken computer networks and only two members are taking databases right now.
- The professor will go over these two topics in class so all of us can learn from it and improve. We can also schedule office hour appointments to ask the processor to clarify any necessary questions.
3. In this project we will need to use tools like AWS, and Cloudflare that we have not used before and the unfamiliarity of them would slow down our progress.
- For this risk, the way to solve it is to use it and learn about it. The more we interact with it the more we will know.

- Schedule risks:

1. When we split our team into two smaller teams, to work on our prototype, it became difficult to schedule meetings and assign deadlines within these sub-teams.
- The entire team would discuss a time that everyone agreed on. We have everyone in the team to fill out an availability sheet to help us on the schedule issue. We could also have two different groups make up their own schedule just between the team members.
2. When members cannot meet deadlines.
- Sometimes due to unexpected issues, members will have to push back deadlines. When it happens, we can all communicate to make this work. For example when members can't meet the deadline they would let the team know what happened and some members in the team that finish early on their part could help out.

- Technical risks:

1. Developing a way to connect all those tracking websites together and taking all the tracking information into our website will be difficult.
- We understand this risk could be the biggest problem for our project. How we are going to solve this problem is to do the necessary research to learn what is the way we can put this into practice. We would also ask as many questions as we can so we can succeed.

2. Finding a way to connect data from the website into the MYSQL database.
 - We would ask as much as we can, attend the office and do research online to find out how it works. Also we could use the class notes from CSC 317 and CSC 413 to help us on the process.
 3. Since our project will have to collect many types of data, we will need to build a database that fits our requirements and that will be difficult.
 - We have members taking a database class right now and we could use them to help with our project. We would also do research and ask questions when facing obstacles.
 4. Create an API that fits for our use.
 - In order to tackle this risk we will need to do research and again ask the professor for help.
- Teamwork risks:
 1. We were having issues when working on the prototype. In this milestone when split the team up into two groups, front end and back end but when it comes to split up the code work it is a little tricky.
 - How we are going to solve this risk is we would discuss it in the team meeting and then the front end team would have their front end team meeting and so is the back end team so we can keep our progress going.
 2. When we have multiple people work on the same part.
 - We could find out a way to have each member have a separate code file to be in charge of and work on it by themselves.
 - Legal/content risks:
 1. In our prototype we will track products from sites and those sites like amazon already have their version of cargo tracking and it could create a problem that we are taking the user from their websites into ours because it could lower their user daily activity and it is a very important point to the internet company.
 - Instead of replacing the tracking system of sites like Amazon, We can integrate their tracking interface within our platform. By clicking on the link the user will still link to the original tracking system.
 2. In our product we would need to get access to the user account for those websites so we could know if there is an order. There might be a legal problem in it.
 - We could ask the user to fill out an agreement that allows us to do that. We could also learn what the competitors do and we could do that as well.

IX. Project Management:

For this milestone, we split up the overall work like Milestone One in the sense that the first half, regarding the documentation, is checkpoint #1, and the second half, regarding the actual application/vertical-prototype, is checkpoint #2. Within our checkpoint #1, we distributed the work amongst members so each member is either taking charge and/or working with a partner on sections for the documentation. We decided to focus on the documentation first as a lot of the documentation is focused on the design and planning for the layout of our vertical prototype; thus our first deadline was to complete these sections to the best of our abilities. Once we completed the first drafts of these sections, we assigned everyone another section to peer review, so every section has had at least a second set of eyes to check if it followed requirements. During this peer review period, we also started working on the actual vertical prototype itself; checkpoint #2. For this checkpoint, we split the team into two sub units: the front end team and the back end team. Each team had their own set of tasks relating to their team's focus and both teams regularly discussed whenever the front-end and back-end met within the code. The back-end team had a bit of a hard time developing this section of the vertical prototype because this side of application development is not something that the back-end team members had much experience with. The back-end team had to work closely together by sharing resources and progress status and creating zoom meeting work spaces; similarly as the front-end team who worked together to bring our mockups/storyboard designs to reality. Some of the tools that we used for our project management included the use of Trello, which is where we would organize our incomplete and completed tasks for both checkpoints, and Discord, which is where we created threads for the sub units (back-end team and front-end team) and other topics that needed a separate space for discussion aside from the general chat. Overall, our game plan was to break up this milestone into much smaller parts, attack them in priority order, and constantly keep each other updated on the progress of the entire Milestone 2 progress.

X. Detailed List of Contributions:Team Lead:

Team Members	Contribution	Score
Belu Velazco	<ul style="list-style-type: none">● In charge of sections 6, 9, and 10● Edited Milestone 1 V 2 and M2V2● Created Trello board and Milestone 2 document (set up Milestone 2 document)● Frequently gave updates on progress on assigned tasks as well as checked in with members on their progress● Assigned deadlines to tasks and sections within the milestone● Checked on progress of vertical prototype and gave feedback when needed● Worked with back-end team to help with and work on registration● Set up the folders and files for back end● Provided resources to help with prototype development● Gave feedback to documentation throughout the milestone● Reminded team about requirements that need to be met within both “checkpoints” of the milestone● Led team meetings and wrote up team meeting reports after every meeting	7

	<ul style="list-style-type: none"> ● Always kept updated with the discussion channel and made sure to respond to messages within 1-2 hours ● Hosted workshop meetings towards the end of the milestone for the development of the prototype ● Scheduled 2 back-to-back office hour appointments ● Actively participated and communicated 	
David Lien	<ul style="list-style-type: none"> ● In charge of sections 5 and part of 4 ● Worked with back-end team regarding search algorithm and finished registration ● Provided resources to help with the development of the vertical prototype ● Actively participated and communicated ● Attended all in-class and outside-of-class meetings ● Attended and hosted workshop meetings toward the end of the milestone ● Actively kept up to date with back end thread and general channel ● Helped other teammates 	8
Komaldeep Kaur	<ul style="list-style-type: none"> ● In charge of section 2 ● Worked on part of section 3 regarding the mockup for use case 1 ● Worked with front-end team and worked on 	Team Lead's score: 5 Komal's score: 7

	<ul style="list-style-type: none"> upload page • Participated and communicated • Attended all in-class and outside-of-class meetings • Joined in on a workshop meeting towards the end of the milestone • Formatted the first half of the documentation 	
Jimmy Pan	<ul style="list-style-type: none"> • In charge of section 3 specifically on creating the mockups for use cases 2-8 • Worked with the front-end team regarding the homepage, dashboard, upload page. And helped modify and edit others • Participated and communicated • Attended all in-class and outside-of-class meetings • Helped other teammates • Provided resources to help with prototype development • Created logo for our application • Attended office hour appointments • Provided resources to help with the development of the vertical prototype • Constantly kept updated with the front end part of our prototype • Actively worked with teammates 	8
Mankit Yeung	<ul style="list-style-type: none"> • In charge of section 8 	8

	<p>and part of section 7</p> <ul style="list-style-type: none"> ● Helped come up its hook and added it to the homepage ● Worked with front-end team regarding the homepage and tracking information pages ● Actively participated and communicated ● Attended all in-class and outside-of-class meetings ● Attended office hour appointments ● Actively worked with teammates ● Helped other teammates ● Attended workshop meetings towards end of the milestone ● Actively updated on progress ● Formatted last half of the documentation and did peer reviews for sections ● Edited Milestone 1 V 2 	
Luis Ramirez	<ul style="list-style-type: none"> ● In charge of section 1 ● Worked with back-end team regarding login ● Provided resources to help with the development of the vertical prototype ● Actively communicated and participated ● Helped other teammates ● Attended all in-class and outside-of-class meetings ● Constant updates on parts ● Joined in on workshop zoom meetings with team towards end of the 	8

	<p>milestone</p> <ul style="list-style-type: none"> ● Actively worked with teammates 	
Tin Nguyen	<ul style="list-style-type: none"> ● In charge of part of section 4 and part of section 7 ● Worked with back-end team regarding search algorithm ● Participated in team meetings ● Attended all in-class meetings except for one but informed the team ahead of time ● Attended all outside-of-class meetings ● Joined in one workshop meeting over zoom towards the end of the milestone. ● Edited Milestone 1 V 2 	6

SW Engineering CSC648-848-05 Fall2023

OrderOwl

Team 06

Team Lead: Rita Belú Velazco, rvelazco@mail.sfsu.edu

Front End Lead: Jimmy Pan

Back End Lead: Tin Nguyen

GitHub Master: Luis Ramirez

Document Editor: Mankit Yeung

M3 Editor: Komaldeep Kaur

Database Master: David Lien

Milestone 3

December 2, 2023

History Table:

Revision	Date
M2V2	12/02/23
M2V1	11/02/23
M2V2	11/02/23
M2V1	10/13/23

M1V2	10/12/23
M1V1	09/21/23

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I. Data Definitions:

a. Registration (passwordID, UserID, emailID, firstNameId, lastNameId)

User shall be able to register to our site and use our services with OrderOwl. We shall request the user a password, username, email, first name and last name. We need the username to be unique in order for no confusion to happen with other accounts that have been created. For the user's password the user shall create a password that must have at least one capital letter, special character, and a minimum of 10 characters. We shall also request an email as well in order send an email with a confirmation link to finalize the creation of their account. Finally, the user's email shall be used to receive updates about their packages.

b. User login (password, username, email) (UserId, userpswd, userEmail)

We shall store our users information in our database in order for their information to be saved within our application for future use. The user shall use their information to log back into OrderOwl and to view their tracked packages. All of the users information will be stored in our database encrypted for the safety of our users. Our team shall use "Let's Encrypt" in order to encrypt the users information in case of any hacking attempts to our software.

c. Tracking numbers and links (trackNum, trackLink)

A lot of the websites we're working with offer a tracking number or a link where the user can keep track of their orders. This will also help our team to make sure everything is being tracked and updated accordingly. We will store this information in the database so our users won't lose their tracking information.

d. Amount of orders/Order History

Our users might make more than one order and would want to keep track of all of them. We will store the number of items they've ordered to keep count and to be able to show them more than one order. This also helps the user to have a list of all their orders all in one website without having to switch. The user will have no limit on the amount of orders on the list, we will store all of the orders in our database and as well as their history of completed tracked orders.

e. Accounts from different websites

To make it easier for users, we will be storing some of the user's accounts in our database so we can get the information for their orders on their account. This way we can access their tracking numbers or links to keep them updated on their orders. After we get access to this information, we will make sure to encrypt it so no one will be able to look at this information.

f. Order Category

The orders shall have a category depending on the item they ordered, such as clothing, electronics, food, or other categories. This will allow the user to have a better experience navigating through all their orders. There will be no need to scroll through so many orders in order to find a specific one. In case the user doesn't see a category that fits their order, they shall be able to create their own category. This shall work sort of like a music playlist, but this time we are putting in orders to be able to track.

g. Order Information

Users shall see the details about the item they've ordered from the website. This shall provide the user with a description of the item they ordered in case they forget what it was. In addition, the order information should contain the amount they paid for the order, when they bought it, and the quantity of items under an order if applicable.

h. Deleted Orders

All our user's orders will be stored in our database after they are uploaded. After the user decides to delete the order from their account, the tracking information for that order will be gone from our database and account.

i. Updates

Before we roll out updates we will store the information in our database in order to be ready to push it out for the public. We shall inform our users of our rolled out updates to keep them updated on what is new. Sometimes when a user uses an updated application, some stuff might be moved around or there might be new features.

j. Notifications

We will be sending out notification to users whenever they have an upcoming delivery. We will store the notifications in our database to get a basic template of what we are sending out to our users. This could potentially lead to less packages getting stolen and more people being ready to receive their package.

k. Data from our customers

We shall collect data from our customers in order to ensure the best experience for our Users. We will never give away or sell the information we receive from our users. We will only use it for the benefit of a better experience for users on OrderOwl.

l. Administration

Admin shall be able to login to their administrative accounts in order to do some testing with features that haven't come out yet. We will store login information for admin usage separate from regular users. This will help us to test out features that are not out yet before sending it out.

m. Return/Refund

We will be storing the refund and return information in our database for the user to see the tracking information as well. We shall also change the information on how much money they got back from their refund. This shall allow the user to keep track if they ever received the money back from the shipper.

n. FAQ (Frequently Asked Questions)

Some questions that our users will be asked frequently in messages. We will store these in a separate section of our OrderOwl website in case they have any doubts of how to use something. Users shall be able to find their answer quicker than having to wait for a message back from an admin. We shall update this list whenever we notice a pattern of the same question going on.

o. Sharing

Users will be able to share tracked packages amongst friends, family, or others to keep more than one person updated on the tracking of an order. Users will only be able to share the packages that are stored in your account because we will be able to share from our database where it is saved.

p. Hidden Packages

When our users use our software they will have the option of hiding their package. Even though it is hidden, it will still be in our database the entire time it is hidden, it will just look like it was deleted. There will be a tab of hidden orders in order to be able to check on them still.

q. Privacy

We will be taking care of privacy by encrypting in our database the users information and tracking information they've saved on our software.

II. Prioritized Functional Requirements:

a) Priority 1 (must have):

User:

- 1.1 User shall be able to track all their packages with tracking information.
- 1.2 User shall be able to add/delete tracking information.
- 1.3 User shall be able to login.
- 1.4 User shall be able to create/delete their account.
- 1.5 User shall be able to update their profile information.
- 1.6 User shall be able to recover password when needed.
- 1.7 User shall be able to see/hide their history of completed tracked orders.
- 1.9 User shall be able to sort their tracking information.
- 1.12 User shall be able to submit a ticket for help.
- 1.19 User shall be able to post one or more questions.
- 1.20 User shall be able to view the overview calendar.
- 1.21 User shall be able to view any month within a year in advance or within the past year.
- 1.22 User shall optionally be able to provide their feedback for the application.
- 1.23 User shall be able to choose whether they would like a personal or business account if they were to register.

Admin:

- 2.1 Admin shall be able to access all data.
- 2.2 Admin shall be able to modify any data.
- 2.4 Admin shall be able to create any type of account.
- 2.6 Admin shall be able to view another account.
- 2.10 Admin shall have the ability to conduct system maintenance and updates without disrupting user access.
- 2.11 Admin shall be able to receive and review user feedback and reports regarding system performance and functionality.

2.13 Admin shall be able to post one or more answer replies to questions posted by users.

System:

- 3.1 System shall be able to collect traffic data.
- 3.2 System shall be able to store traffic data to improve user experience.

Notification:

- 4.1 Notification shall be able to be sent.
- 4.2 Notification shall be able to be received.
- 4.3 Notification shall be able to be stored.
- 4.4 Notification shall be able to be viewed.
- 4.6 Notification shall be able to be deleted.
- 4.8 Notification shall be time stamped to indicate the date and time of sending or receiving.

Tracking Information:

- 5.1 Tracking information shall be able to be stored.
- 5.3 Tracking information shall maintain an up to date dispatch alerts.
- 5.2 Tracking information shall be able retrieved in real time according to shipping carrier updates
- 5.4 Tracking information shall maintain an up to date database.
- 5.6 Tracking information shall update the overview calendar with ETA dates for tracked orders.

Overview Calendar:

- 6.1 Overview Calendar shall be able to mark the dates when orders are estimated to arrive.
- 6.2 Overview Calendar shall begin on the month a registered user signs up on.
- 6.3 Overview Calendar shall have a year in advance for a registered user to view.

6.4 Overview Calendar shall have the past year saved for a registered user to view.

b) Priority 2 (desired):

User:

- 1.8 User shall be able to save their tracking history into a file.
- 1.10 User shall be able to receive email notification of tracking updates.
- 1.24 User shall be able to edit the name of the label on a tracked order item.

Admin:

- 2.3 Admin shall be able to suspend any account if needed.
- 2.9 Admin shall be able to assign specific access levels and permissions to different user roles (e.g., standard user, moderator).
- 2.12 Admin shall have the authority to implement security protocols, including password policies and two-factor authentication, for user accounts.

Tracking Information:

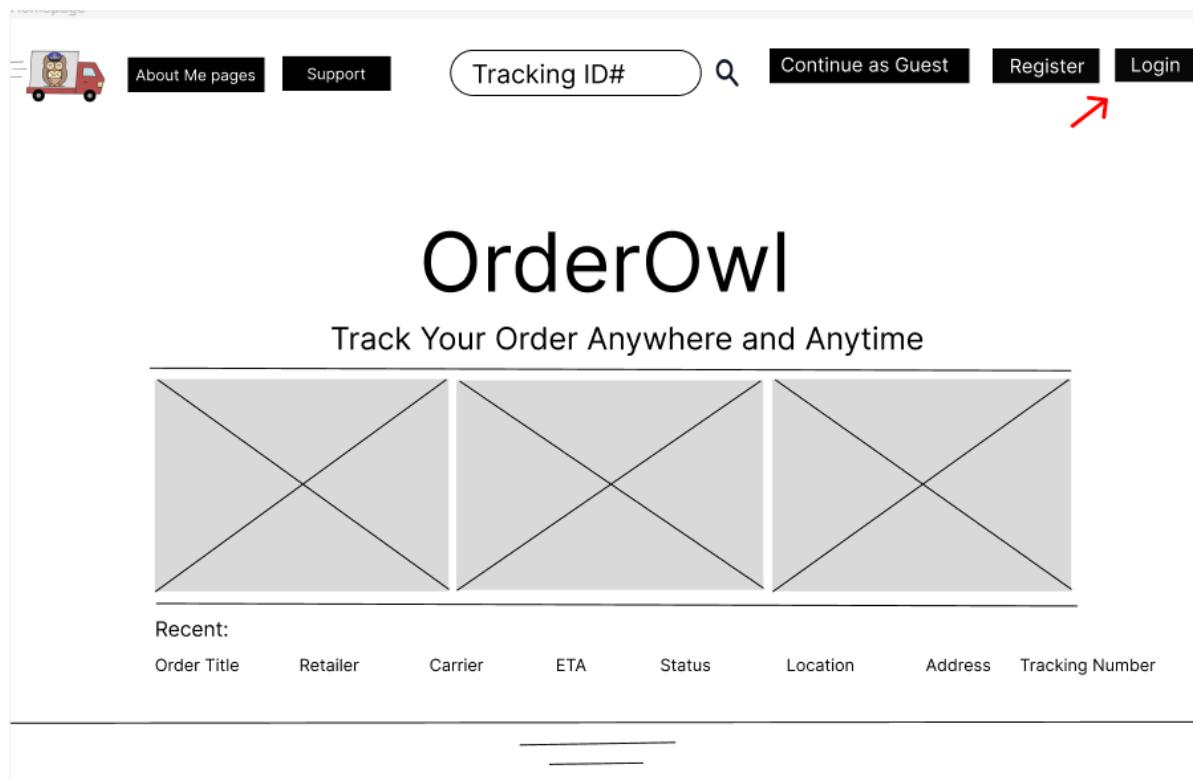
- 5.5 Tracking information shall be accessible through a mobile application for on-the-go access.

Overview Calendar:

- 6.5 Overview Calendar shall not include the ETA dates for hidden orders.
- 6.6 Overview Calendar shall contain embedded links on each ETA date and redirect a registered user to its page for more information.

III. Wireframes Based on your Mockups/Storyboards:

Use Case 1:



OrderOwl

Welcome back

Email

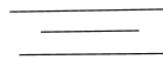
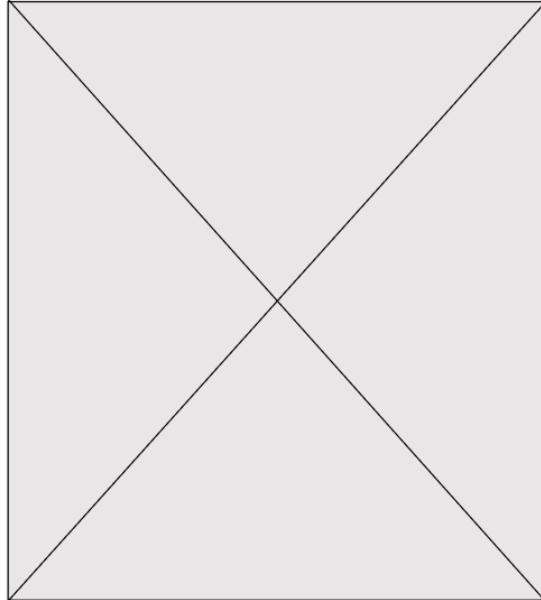
test@gmail.com

Password

12345678!A

Need an account? [Register](#)

[Forgot Password](#)



Dashboard

Tracking ID#

November

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Upload

TrackInfo

Arriving soon:

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number

Upload

Tracking Number Order Title

A2D1V4 Drive

Visible

Hidden

Footer:



This screenshot shows a more detailed tracking dashboard. The left sidebar has 'Dashboard' selected. The main area is titled 'General Tracking' and 'Dashboard'. It includes a search bar with 'Tracking ID#' and a magnifying glass icon. Below the search is a monthly calendar for November. A section for 'Arriving soon:' lists an order with details: Order Title (Drive), Retailer (Amazon), Carrier (Amazon), ETA (OCT 29), Status (Shipped), Location (7th.SF), Address (124,17th SF), and Tracking Number (A2D1V4). A 'More Info' button is at the bottom right.

General Tracking

Dashboard

Tracking ID#

November

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Arriving soon:

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number
Drive	Amazon	Amazon	OCT 29	Shipped	7th.SF	124,17th SF	A2D1V4

[More Info](#)

Use Case 2:

The screenshot shows the OrderOwl homepage. At the top, there is a navigation bar with a red truck icon, links for "About Me pages", "Support", and a search bar labeled "Tracking ID#". To the right of the search bar are buttons for "Continue as Guest", "Register", and "Login". A red arrow points to the "Login" button.

OrderOwl

Track Your Order Anywhere and Anytime

Recent:

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number

OrderOwl

Welcome back

Email

test@gmail.com

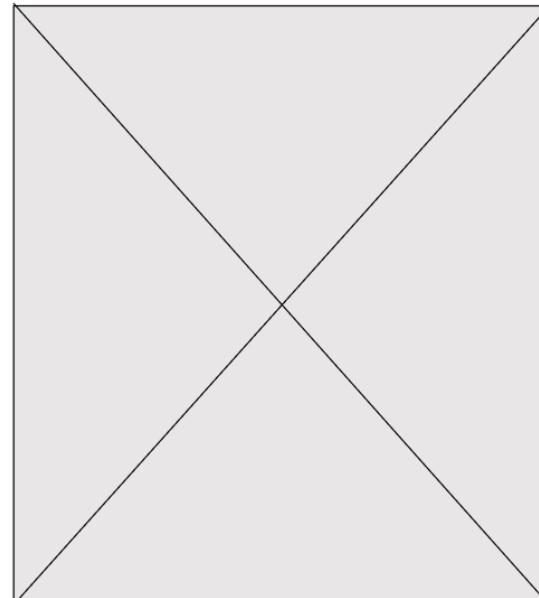
Password

12345678!A

Need an account? [Register](#)

[Forgot Password](#)

Submit 



General Tracking

Dashboard

Tracking ID# 

November

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Upload 

TrackInfo

Arriving soon:

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number
-------------	----------	---------	-----	--------	----------	---------	-----------------

New Tracking Info

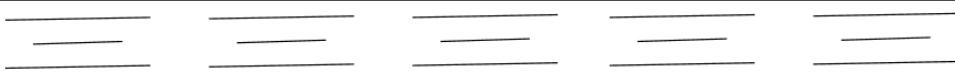
Upload

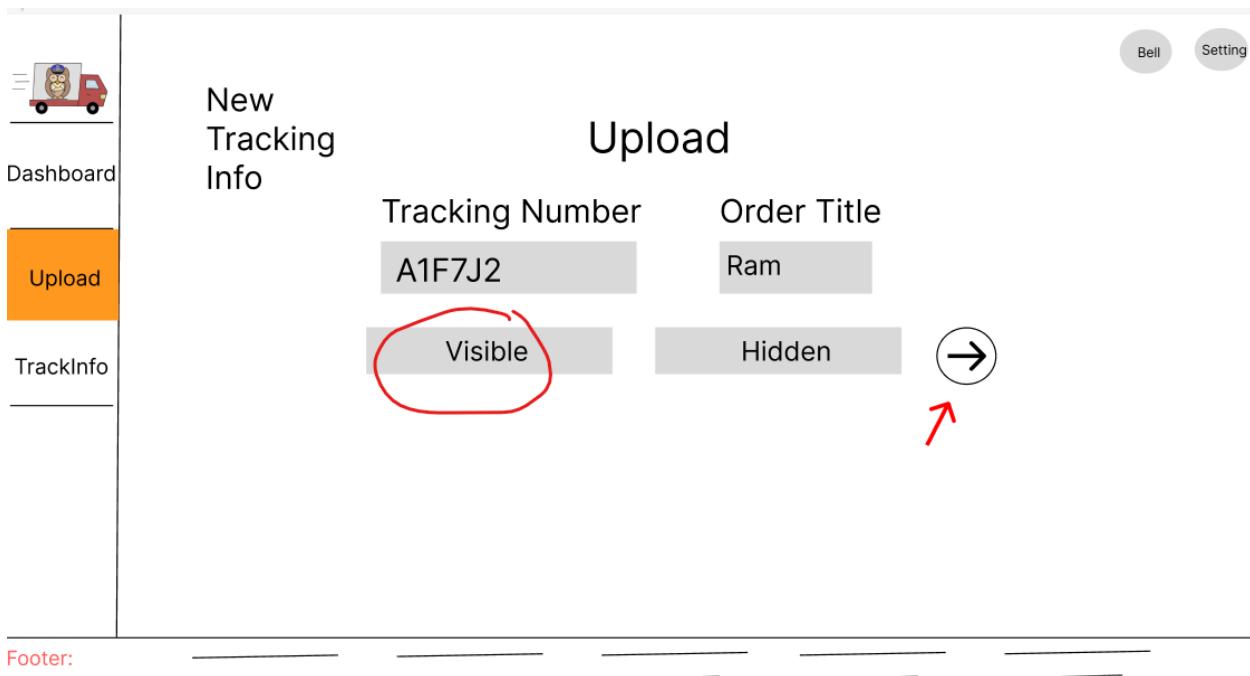
Tracking Number Order Title

Visible 

Hidden 

Footer: 





This screenshot shows a general tracking dashboard. The left sidebar has icons for Dashboard, Upload, and TrackInfo, with 'Dashboard' selected. The main area is titled 'General Tracking Dashboard'. It includes a search bar for 'Tracking ID#', a calendar for November, and a table for tracking arriving soon. The table has columns for Order Title, Retailer, Carrier, ETA, Status, Location, Address, and Tracking Number. Two entries are listed: 'Drive' (ETA OCT 29, Shipped, 7th.SF, 124,17th SF, A2D1V4) and 'Ram' (ETA OCT 30, Shipped, NY, Wall St, 124,17th SF, A1F7J2). Each entry has a 'More Info' button.

General Tracking

Dashboard

Tracking ID#

November

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Arriving soon:

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number
Drive	Amazon	Amazon	OCT 29	Shipped	7th.SF	124,17th SF	A2D1V4
Ram	Amazon	Amazon	OCT 30	Shipped	NY, Wall St	124,17th SF	A1F7J2

[More Info](#) [More Info](#)

Use Case 3:

The screenshot shows the OrderOwl homepage. At the top, there is a navigation bar with a truck icon, links for "About Me pages" and "Support", a search bar containing "Tracking ID#", and buttons for "Continue as Guest", "Register", and "Login". A red arrow points to the "Login" button. Below the navigation bar, the main heading "OrderOwl" is displayed in large letters, followed by the subtitle "Track Your Order Anywhere and Anytime". There are three large, light-gray rectangular boxes with a large 'X' drawn through them, likely placeholder areas for tracking information. Below these boxes, a section titled "Recent:" lists categories: Order Title, Retailer, Carrier, ETA, Status, Location, Address, and Tracking Number. A horizontal scrollbar is visible at the bottom of the page.

OrderOwl

Welcome back

Email

test@gmail.com

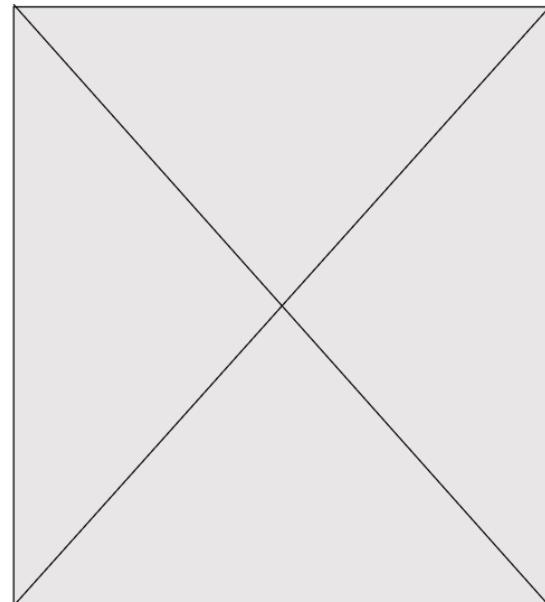
Password

12345678!A

Need an account? [Register](#)

[Forgot Password](#)

→ Submit



General Tracking

Dashboard

Setting

Upload

TrackInfo

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

Arriving soon:

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number
Drive	Amazon	Amazon	OCT 29	Shipped	7th.SF	124,17th SF	A2D1V4
Ram	Amazon	Amazon	OCT 30	Shipped	NY, Wall St	124,17th SF	A1F7J2

More Info More Info



Search: GO

Setting

Dashboard

Upload

TrackInfo

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number
Drive	Amazon	Amazon	Oct 29 2023	Shipped	SF, 7th ave	124,17th SF	A2D1V4
Ram	Amazon	Amazon	Oct 30 2023	Shipped	NY, Wall St	124,17th SF	A1F7J2

X X





Search: Go

Setting

Dashboard	<u>Order Title</u>	<u>Retailer</u>	<u>Carrier</u>	<u>ETA</u>	<u>Status</u>	<u>Location</u>	<u>Address</u>	<u>Tracking Number</u>	X
	Ram	Amazon	Amazon	Oct 30 2023	Shipped	NY, Wall St	124,17th SF	A1F7J2	X

Upload

TrackInfo

Use Case 4:

The screenshot shows the OrderOwl homepage. At the top, there is a navigation bar with icons for a truck and a person, followed by links for "About Me pages", "Support", "Tracking ID#", a search bar, "Continue as Guest", "Register", and "Login". A red arrow points to the "Login" button.

OrderOwl

Track Your Order Anywhere and Anytime

Recent:

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number

OrderOwl

Welcome back

Email

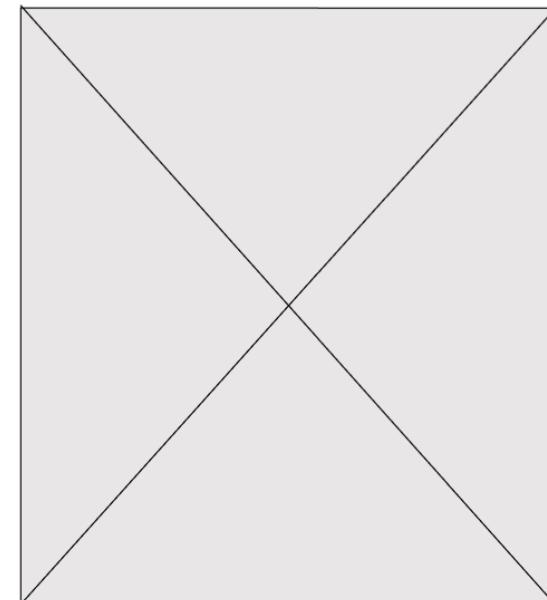
test@gmail.com

Password

12345678!A

Need an account? [Register](#)

[Forgot Password](#)



General Tracking

Dashboard

Tracking ID# 

Setting

Calendar November

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Upload 

TrackInfo

Arriving soon:

Order Title	Retailer	Carrier	ETA	Status	Location	Address	Tracking Number
-------------	----------	---------	-----	--------	----------	---------	-----------------

New Tracking Info

Upload

Tracking Number Order Title

A2D1V4 Drive

Visible  Hidden 

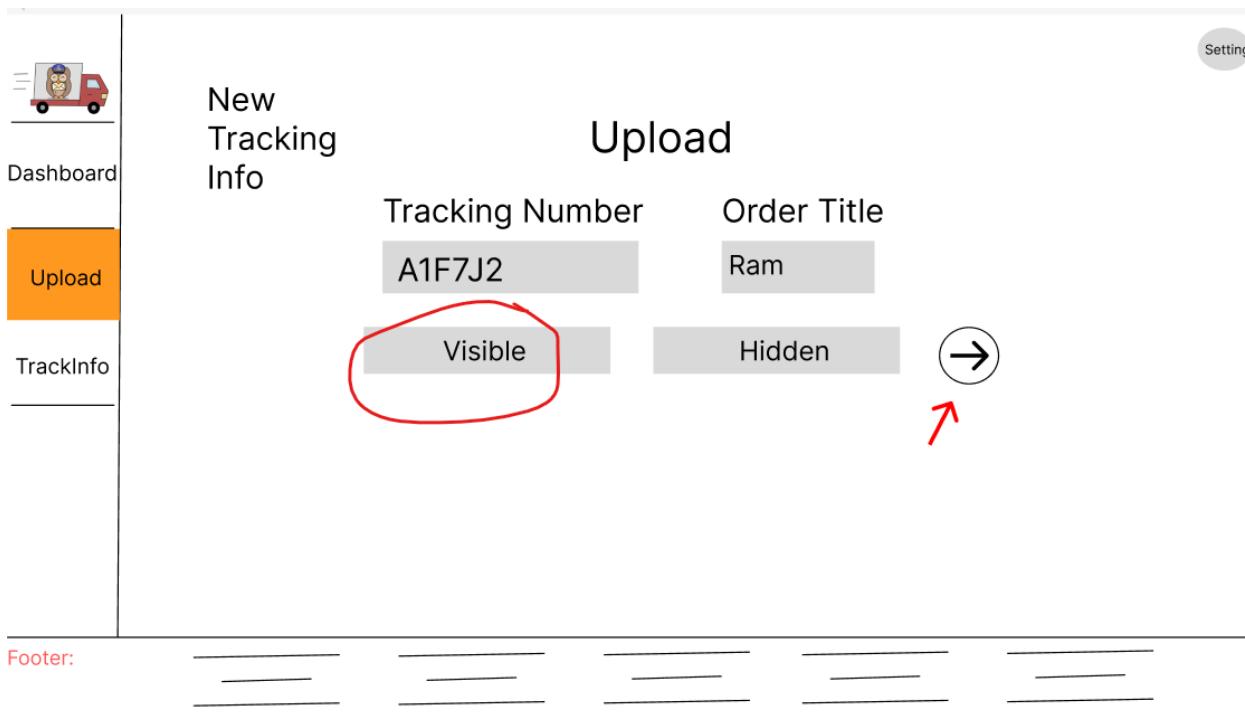
Setting

Dashboard

Upload

TrackInfo

Footer: 



The screenshot displays a mobile application interface with a vertical navigation bar on the left and three main content sections on the right.

Vertical Navigation Bar:

- Dashboard
- Upload (highlighted with an orange background)
- TrackInfo

Content Sections:

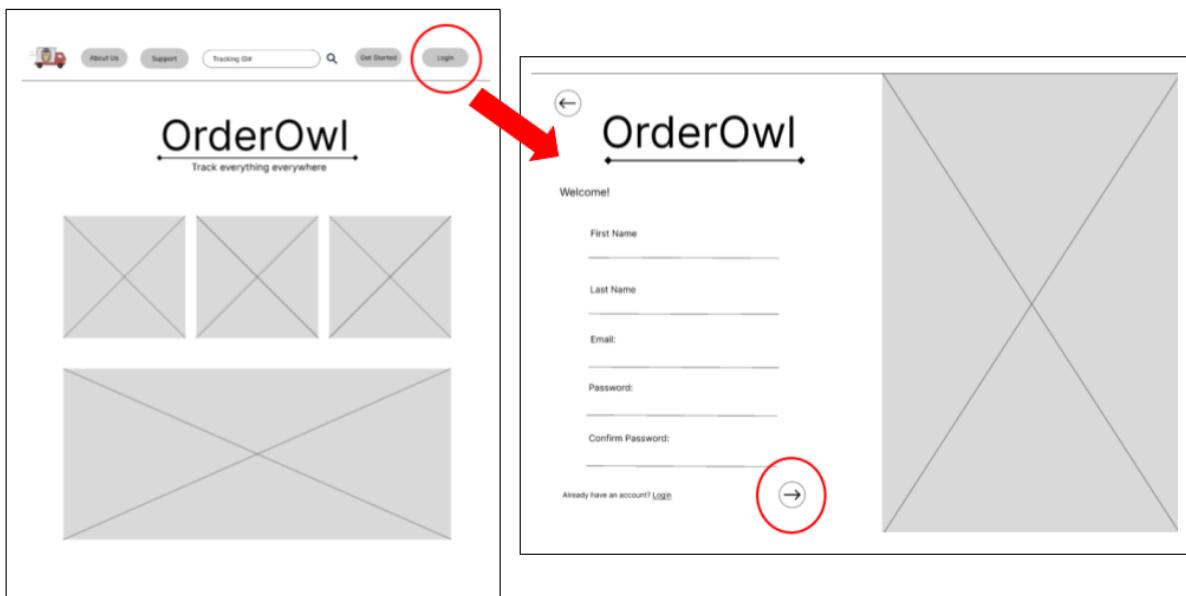
- Top Section:** Contains a placeholder for a logo image labeled "LOGO". To the right is a "Basic Info" card with the following details:
 - Basic Info: #A1F7J2
 - Retailer: Amazon ETA: OCT 30 2023
 - Carrier: Amazon Status: ShippedA "Setting" button is located in the top right corner of this section.
- Middle Section:** Contains a placeholder for a map image labeled "MAP". To the right is a "All Updates:" section showing a list of tracking updates with arrows indicating scrollable content.
- Bottom Section:** Contains a "New Tracking Info" form with fields for "Tracking Number" (E7A5E2) and "Order Title" (Computer). Below these fields are two buttons: "Visible" (circled in red) and "Hidden". A large red arrow points from the "Visible" button towards the "Hidden" button.

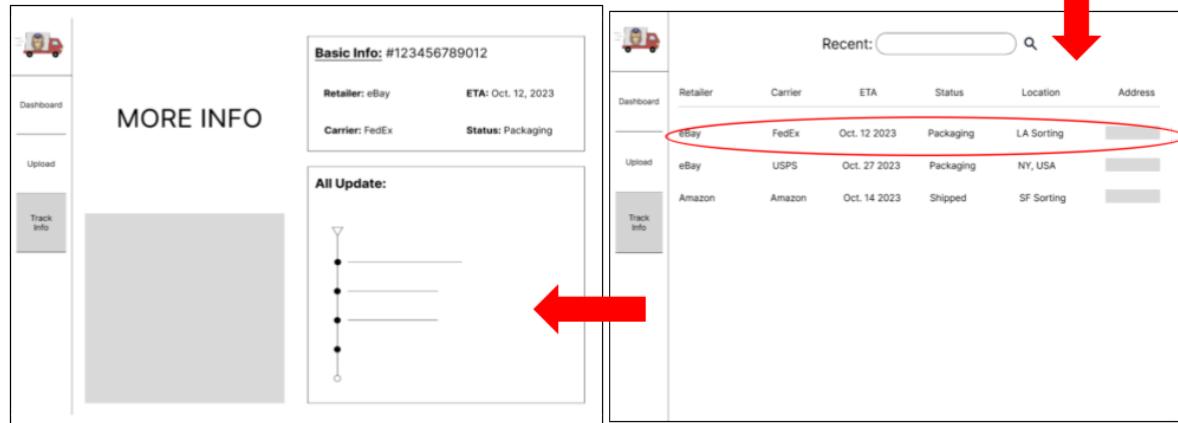
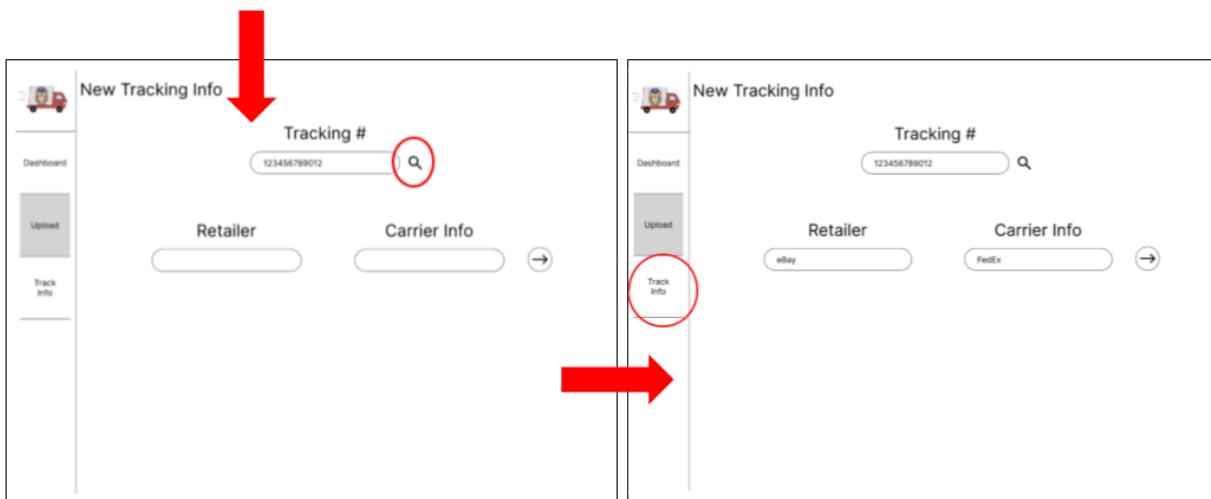
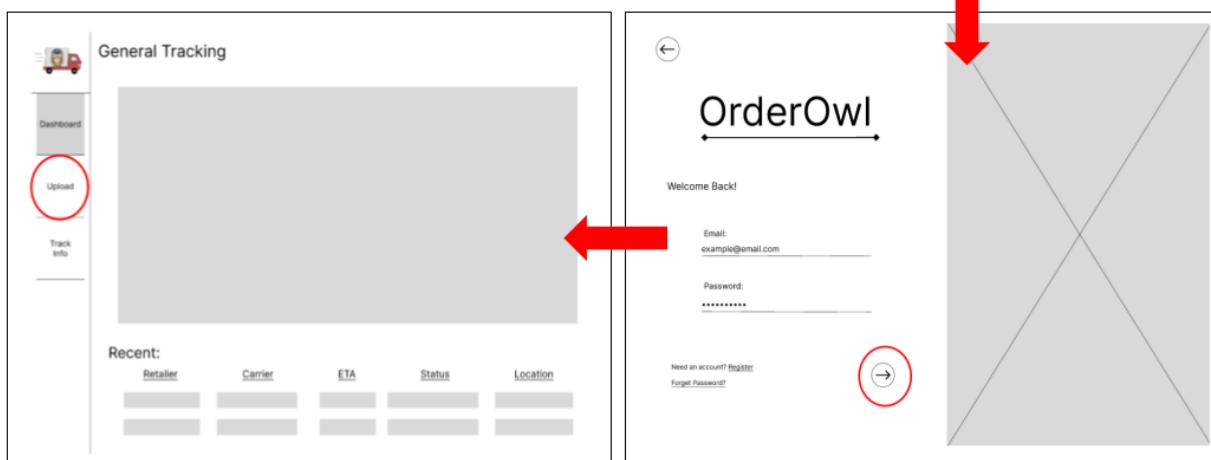
Footer:

Team06 25

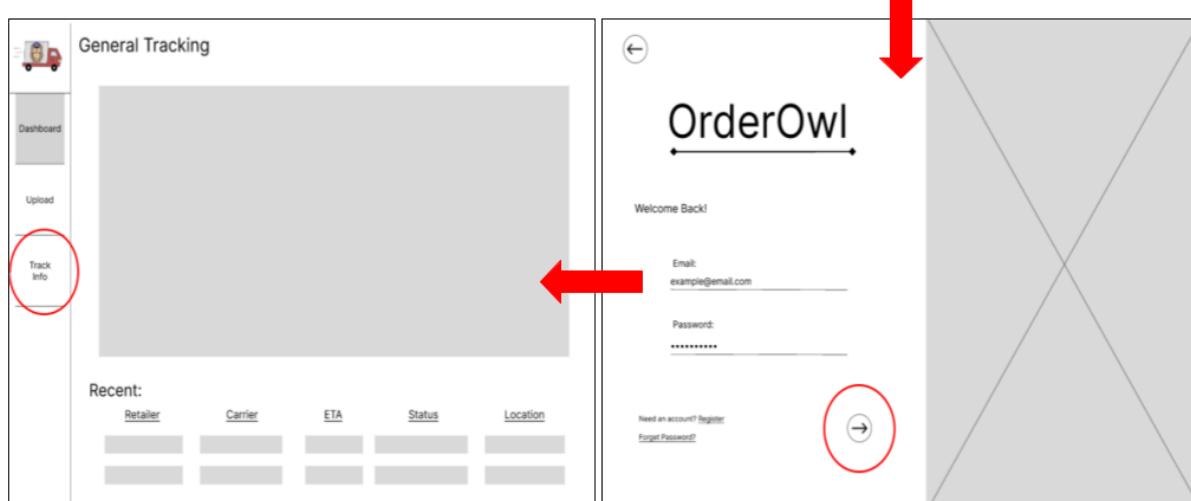
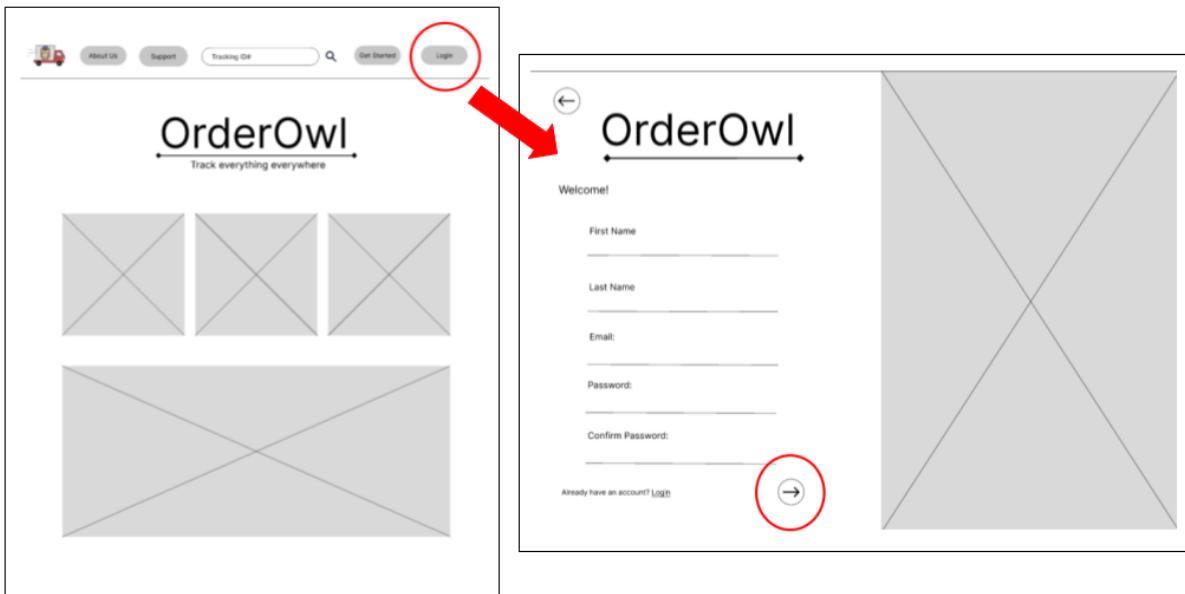


Use Case 5:





Use Case 6:





New Tracking Info

Tracking #

Dashboard

123456789012



Upload

Retailer

Carrier Info

Track
Info



New Tracking Info

Tracking #

Dashboard

123456789012



Upload

Retailer

Carrier Info

Track
Info

eBay

FedEx





Recent:

Dashboard

Retailer	Carrier	ETA	Status	Location	Address
eBay	FedEx	Oct. 12 2023	Packaging	LA Sorting	[REDACTED]
Upload	eBay	USPS	Oct. 27 2023	Packaging	NY, USA
Track Info	Amazon	Amazon	Oct. 14 2023	Shipped	SF Sorting



Dashboard

MORE INFO

Upload

Track Info

Basic Info: #123456789012

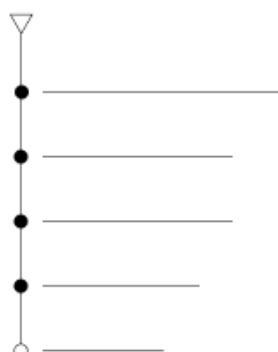
Retailer: eBay

ETA: Oct. 12, 2023

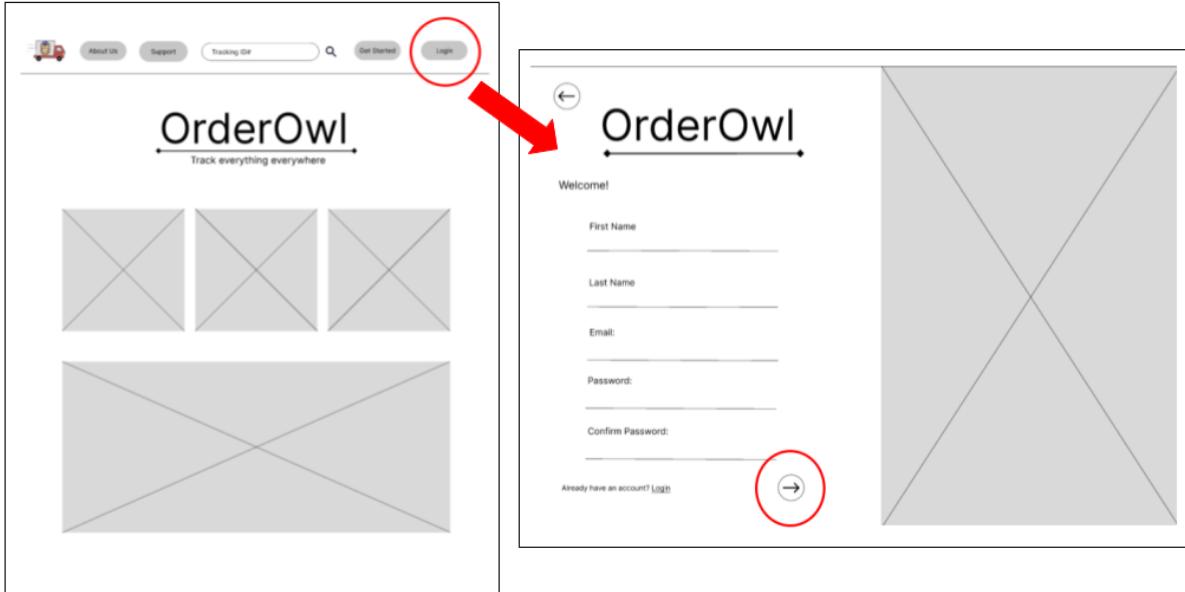
Carrier: FedEx

Status: Packaging

All Update:



Use Case 7:



The image shows a wireframe of the General Tracking dashboard. On the left, there is a sidebar with three items: 'Dashboard' (selected), 'Upload', and 'Track Info'. The main content area is titled 'General Tracking' and features a large blue-bordered placeholder. Below this, there is a section titled 'Recent:' with five categories: 'Retailer', 'Carrier', 'ETA', 'Status', and 'Location', each with a corresponding gray placeholder bar.



New Tracking Info

Tracking #

Dashboard

123456789012



Upload

Retailer

Carrier Info

Track
Info



New Tracking Info

Tracking #

Dashboard

123456789012



Upload

Retailer

Carrier Info

Track
Info

eBay

FedEx





Recent: 

	Retailer	Carrier	ETA	Status	Location	Address
Dashboard	eBay	FedEx	Oct. 12 2023	Packaging	LA Sorting	[REDACTED]
Upload	eBay	USPS	Oct. 27 2023	Packaging	NY, USA	[REDACTED]
Track Info	Amazon	Amazon	Oct. 14 2023	Shipped	SF Sorting	[REDACTED]

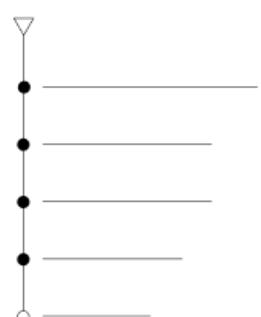


MORE INFO

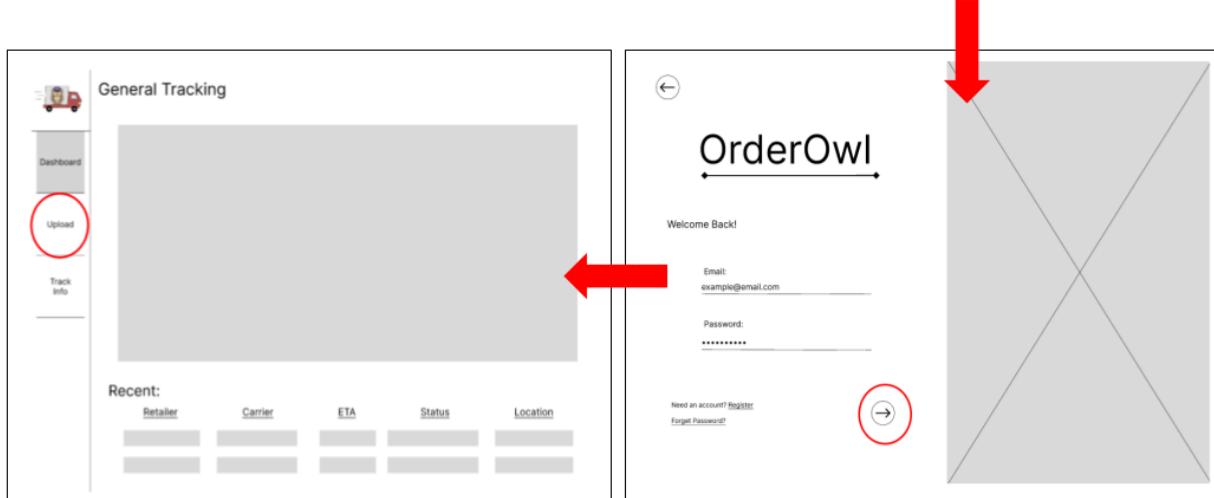
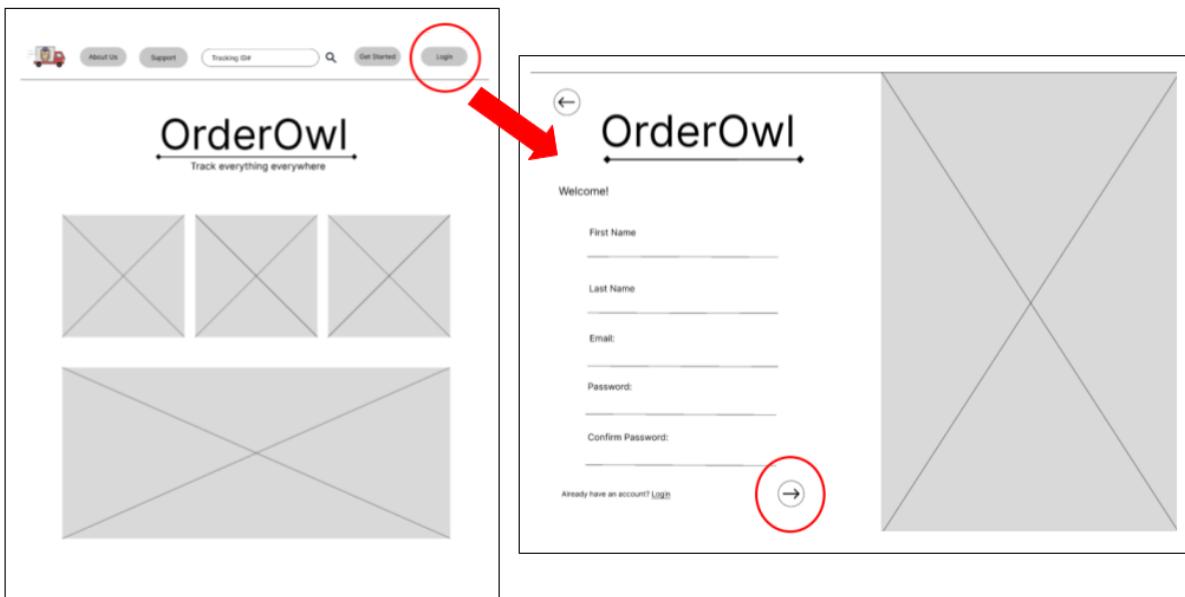
Basic Info: #123456789012

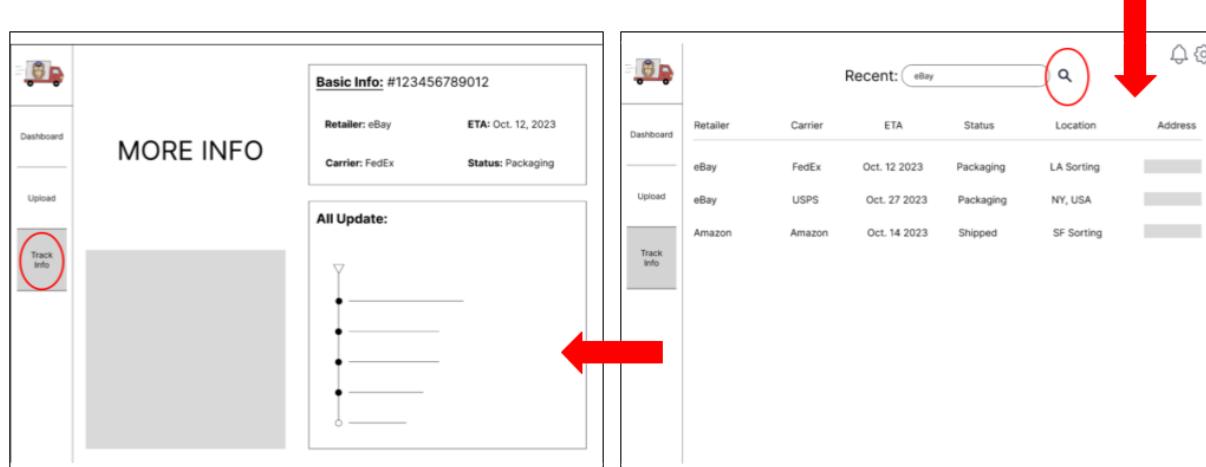
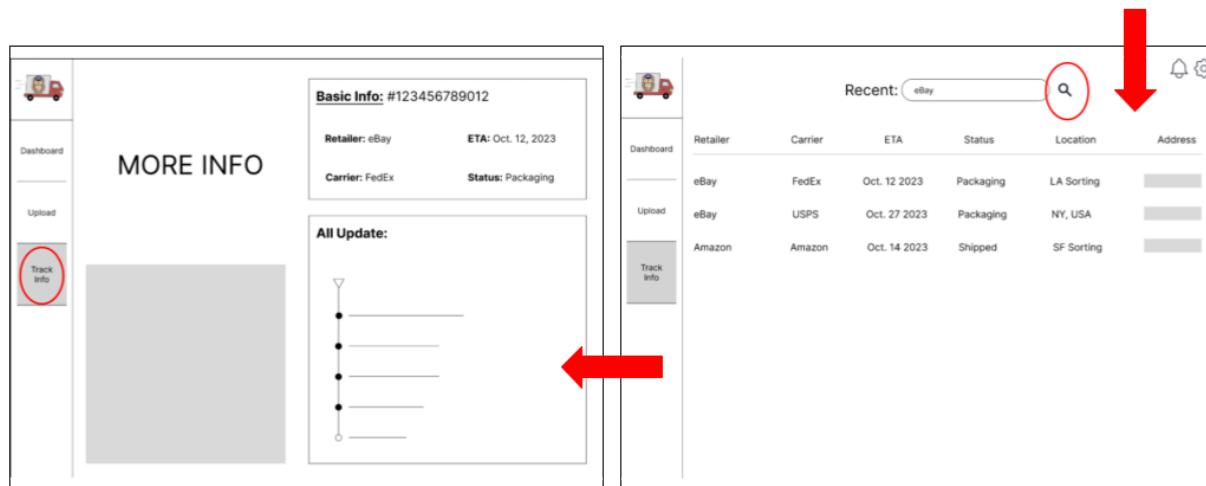
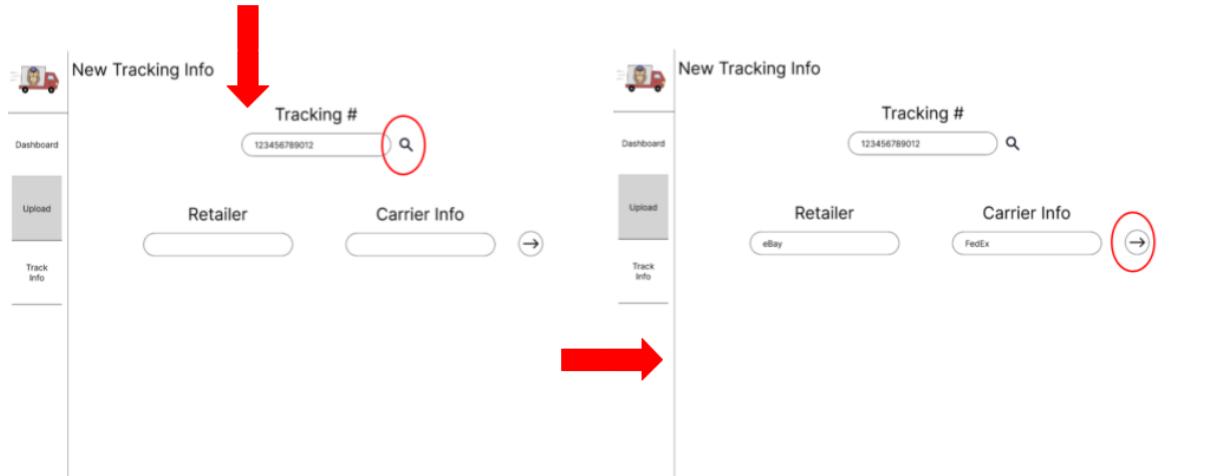
Retailer: eBay	ETA: Oct. 12, 2023
Carrier: FedEx	Status: Packaging

All Update:



Use Case 8:



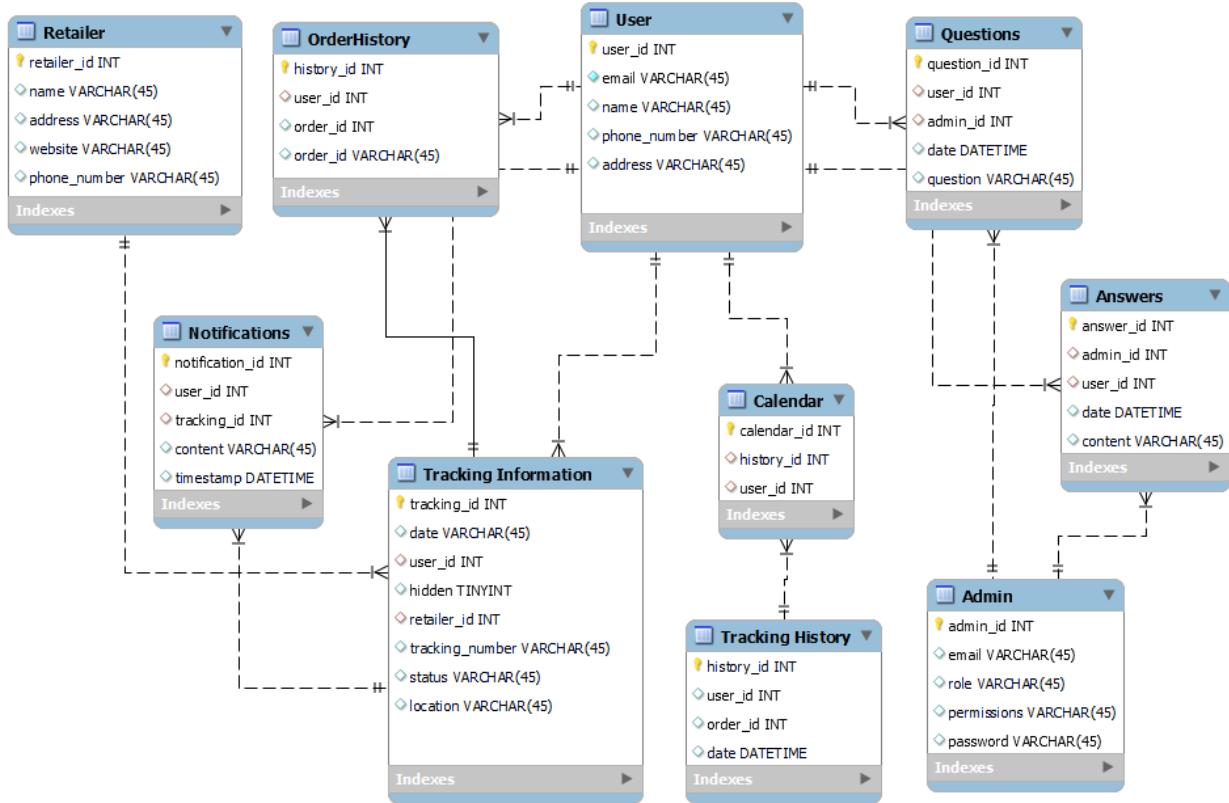


	Retailer	Carrier	ETA	Status	Location	Address
Dashboard	eBay	FedEx	Oct. 12 2023	Packaging	LA Sorting	[redacted]
Upload	eBay	USPS	Oct. 27 2023	Packaging	NY, USA	[redacted]
Track Info	Amazon	Amazon	Oct. 14 2023	Shipped	SF Sorting	[redacted]

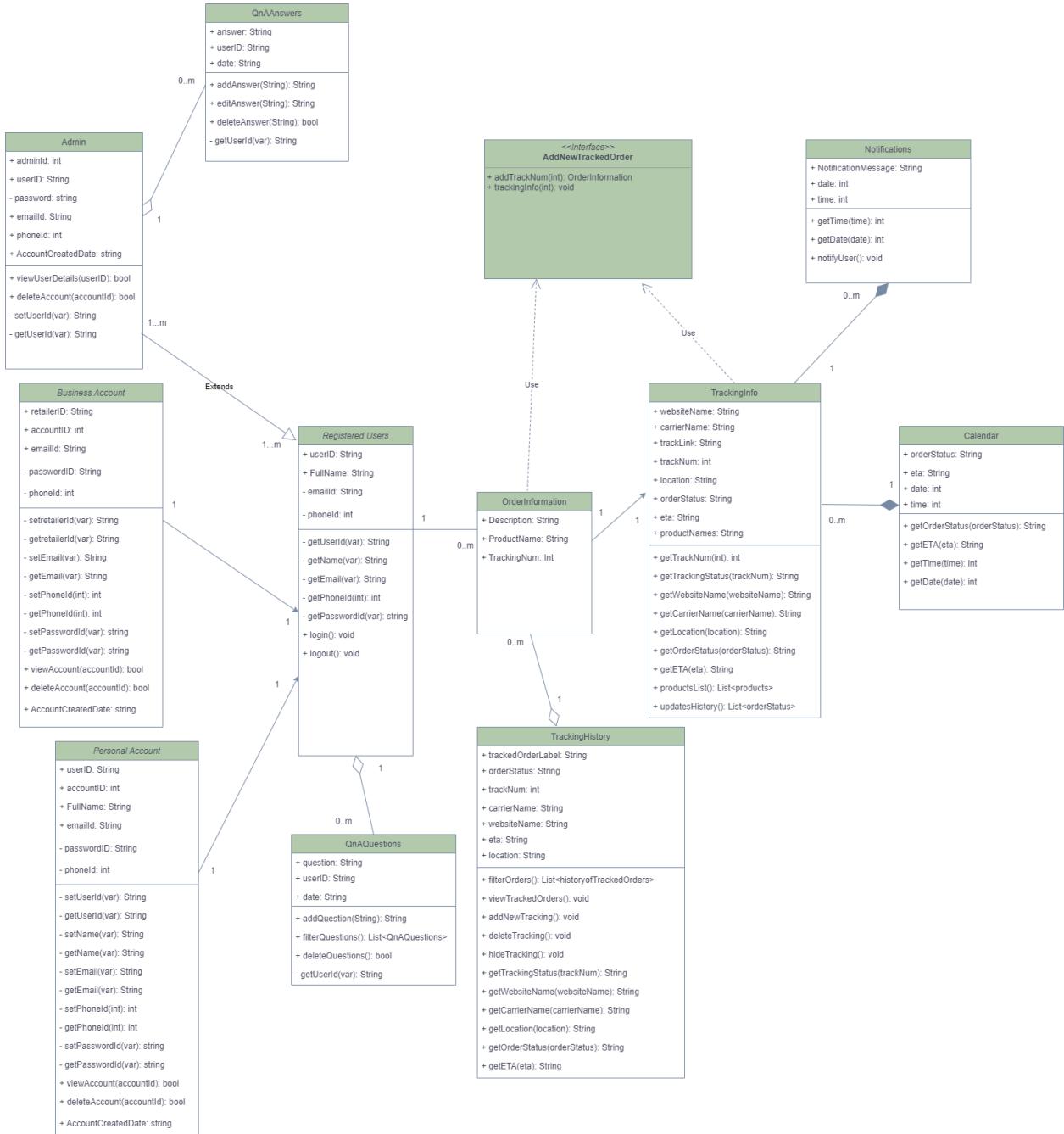
← Back  

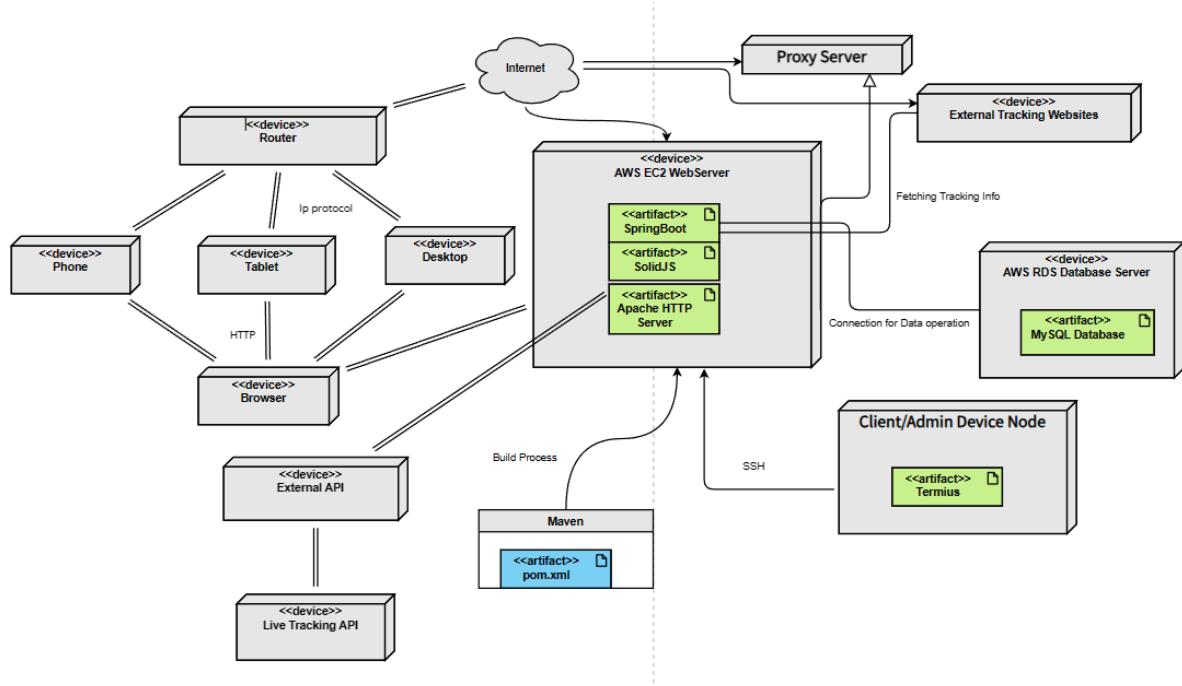
	Shipped from:	Arriving Today:	ETA (Updated):	Newly Added:
Dashboard	Amazon Warehouse	Amazon	Oct. 12, 2023	#00000000
Upload				#00000000
Track Info				ETA: Oct. 14, 2023 Amazon #00000000

IV. High Level Database Architecture and Organization:



V. High Level Diagrams:





VI. Detailed List of Contributions:

Team Lead:

Team Members	Contribution	Score
Belu Velazco	<ul style="list-style-type: none">● Revised section 6 from M2V1 to M2V2● In charge of section 5 on M3● Took notes from use case 8 to report back to team and notify what our application needs● Actively participated and communicated● Hosted and led all team meetings● Created report summaries for all weekly meetings● Set internal deadlines● Checked in with the team and reminded about deadlines● Revised and completed section 2 for M2V2 and completed M3● Held and called for emergency meeting when needed● Attended and signed up for office hours for the team● Assigned tasks to team members● Gave feedback for the entire M2V2 documentation and checked with each section requirements.● Edited and updated cover page and table of contents page for M3 documentation.● Worked on the	8

	<p>notification center for the front-end.</p> <ul style="list-style-type: none"> ● Edited and formatted section 3 wireframes ● Set up a submission email. 	
David Lien	<ul style="list-style-type: none"> ● Revised part of section 4 from M2V1 to M2V2 ● In-charge of section 4 on M3 ● Took notes from use case 7 to report back to team and notify what our application needs ● Actively participated and communicated ● Joined and participated in all weekly meetings except for 1, but communicated that they couldn't come ahead of time ● Joined and participated in all class meetings ● Actively participated and communicated during an emergency meeting. ● Worked on the back-end of the prototype. 	9
Komaldeep Kaur	<ul style="list-style-type: none"> ● Worked on the revisions for section 2 for M2V2 ● Worked on section 2 for M3 ● Worked on mockups/storyboards for use cases 1-4 for section 3 from M2V1 to M2V2 ● Took notes from use case 3 and 4 to report back to team and notify what our application needs ● Actively participated and communicated 	7

	<ul style="list-style-type: none"> ● Joined and participated in all weekly meetings ● Joined and participated in all class meetings except for 1, but communicated that they couldn't come ahead of time ● Actively participated and communicated during an emergency meeting. ● Edited MS and M2V2 ● Worked on the front-end of the prototype. ● Formatted documents. 	
Jimmy Pan	<ul style="list-style-type: none"> ● Worked on mockups/storyboards for use cases 5-8 for section 3 from M2V1 to M2V2 ● Took notes from use case 5 to report back to team and notify what our application needs ● In charge of section 3 use cases 5-8 on M3 ● Participated ● Joined and participated in all in-class and weekly team meetings ● Actively participated and communicated during an emergency meeting. ● Worked on the front-end of the prototype regarding formatting, the settings page, guest popup, registration validation, linked tracing with backend, and other components. 	7
Mankit Yeung	<ul style="list-style-type: none"> ● Revised section 7 from M2V1 to M2V2 ● In charge of section 3 use cases 1-4 on M3 	9

	<ul style="list-style-type: none"> ● Took notes from use case 1 to report back to team and notify what our application needs ● Actively participated and communicated ● Joined and participated in all weekly team and in-class meetings ● Actively participated and communicated during an emergency meeting. ● Met all internal deadlines ● Worked on the front-end of the prototype. ● Worked on section 5 on M3 ● Formatted MS and M2V2 ● Helped set up wireframes for section 3. 	
Luis Ramirez	<ul style="list-style-type: none"> ● Revised section 1 from M2V1 to M2V2 ● In charge of section 1 on M3 ● Took notes from use case 6 to report back to team and notify what our application needs ● Actively participated and communicated ● Joined and participated in all weekly team and in-class meetings ● Actively participated and communicated during an emergency meeting. ● Met all internal deadlines. ● Worked on the back-end of the prototype. ● Tested all use cases. 	9

Tin Nguyen	<ul style="list-style-type: none"> ● Revised parts of section 4 and 7 from M2V1 to M2V2 ● Took notes from use case 2 to report back to team and notify what our application needs ● Actively participated and communicated ● Joined and participated in all class meetings ● Actively participated and communicated during an emergency meeting. ● Worked on the back-end of the prototype. ● Worked on section 5 on M3 ● In charge of section 4 on M3 	9
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SW Engineering CSC648-848-05 Fall2023

OrderOwl

Team 06

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Front End Lead: Jimmy Pan

Back End Lead: Tin Nguyen

GitHub Master: Luis Ramirez

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Milestone 4

December 6, 2023

History Table:

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M2V1	11/02/23

M2V2	11/02/23
M2V1	10/13/23
M1V2	10/12/23
M1V1	09/21/23

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I. Product summary:

Name of product: Order Owl

URL: <https://orderowl.jpkit.us/>

Nowadays, online shopping has become a part of people's everyday lives, and, to be frank, so has the frustration of keeping track of multiple orders from various retailers too. This is where OrderOwl steps in to become every online shopper's little assistant. Our product offers a centralized solution for tracking all your packages, regardless of where they're coming from. From international orders, to orders from your local stores, our simple motto says it all: "Track Your Order Anywhere, Anytime". With OrderOwl, the days of scrolling through countless emails or visiting numerous websites to check the status of your deliveries are over. Our platform is user-friendly, efficient, and requires no commitment, allowing anyone to quickly check the delivery status of any package using just a tracking number. Our application not only attends to personal use, but also for businesses of any size who could use a helping hand with their shipments or product orders.

For those who choose to register with OrderOwl, the benefits are even greater. Registered users have the convenience of saving all their order information in one place. Simply enter your tracking number once, and OrderOwl will automatically update you on the progress of your delivery through notifications and visual map updates. This registration not only saves time but also helps in organizing your orders effectively. Furthermore, the platform allows you to personalize your experience by organizing your orders into custom folders sorted by retailers, title your orders to a label that best helps you, or try out one of OrderOwl's unique features of listing an order as "hidden" so it does not appear on your main dashboard. OrderOwl offers a level of customization like no other so that your dashboard is tailored to your specific needs and preferences, making online shopping more organized and less stressful. This application also comes with a calendar that will give you a nice overview of when orders are set to be delivered. For businesses, one gets everything that a personal registered account would have, with the addition of reminders for frequent orders, and a separate page dedicated to shipments from your business; whether it be a small hand-crafts business to a larger clothing store. Let OrderOwl help support and make your business thrive! The platform is designed with the user in mind through its intuitive interface which makes navigation simple and straightforward; even for those who are not as tech-savvy. The website's design is sleek and modern, ensuring that users have a pleasant experience each time they log in.

In conclusion, OrderOwl is more than just a tracking tool; it's the overall solution for managing online orders. It simplifies the process of tracking packages from multiple retailers, offers a range of customization options such as business/personal accounts, and provides a user-friendly interface that makes online shopping a breeze. Whether you're a frequent online

shopper or occasionally purchase items from the internet, OrderOwl is here to make your life easier and your online shopping experience more enjoyable.

a) Priority 1 Functions:

Registered Users:

- 1.1 Registered Users shall be able to track all their packages with tracking information.
- 1.2 Registered Users shall be able to add tracking information.
- 1.3 Registered Users shall be able to login.
- 1.4 Registered Users shall be able to create an account.
- 1.5 Registered Users shall be able to update their profile information.
- 1.7 Registered Users shall be able to see their history of completed tracked orders.
- 1.9 Registered Users shall be able to sort their tracking information.
- 1.20 Registered Users shall be able to view the overview calendar.
- 1.21 Registered Users shall be able to view any month within a year in advance or within the past year.
- 1.22 Registered Users shall optionally be able to provide their feedback for the application through email.
- 1.23 Registered Users shall be able to choose whether they would like a personal or business account when they register.
- 1.25 Registered Users shall be able to choose to register for an account or continue as a guest
- 1.26 Registered Users shall be able to label each tracked package with a custom title.
- 1.27 Registered Users shall be able to view their tracked orders alphabetically.
- 1.28 Registered Users shall be able to search for any tracked order by their carrier name.
- 1.29 Registered Users shall be able to search for any tracked order by their order title.

- 1.30 Registered Users shall be able to search for any tracked order by their retailer.
- 1.31 Registered Users shall be able to view a counter of currently tracked orders.
- 1.32 Registered Users shall be able to view their tracked orders in reverse alphabetical order.
- 1.33 Registered Users shall be able to get a list of most to least relevant results when doing a search.
- 1.34 Registered Users can send an email for help
- 1.35 Registered Users can send an email for questions
- 1.36 Registered Users can access the support page
- 1.37 Registered Users can access the About Me page to learn about the team.
- 1.38 Registered Users shall be able to sort their tracked orders into hidden or visible lists.
- 1.39 Registered Users shall be able to delete tracking information.
- 1.40 Registered Users shall be able to create their own titles for tracked orders.
- 1.41 Registered Users shall be able to delete their account.
- 1.42 Registered Users shall be able to create a custom pin to access their hidden list
- 1.43 Registered Users shall be able to sort their tracked orders into hidden
- 1.44 Registered Users shall be able to access their hidden lists.
- 1.45 Registered Users shall be able to save all their tracked orders to their accounts.
- 1.46 Registered Users shall be able to edit their account information after initial registration.
- 1.47 Registered Users shall be able to edit their account's first and last name after registration
- 1.48 Registered Users shall be able to receive email notifications of tracking updates.

Unregistered Users:

- 9.1 Unregistered Users shall be able to track all their packages with tracking information.
- 9.2 Unregistered Users shall be able to add tracking information.
- 9.3 Unregistered Users shall be able to create an account.
- 9.4 Unregistered Users shall be able to sort their tracking information.
- 9.5 Unregistered Users shall be able to view the overview calendar.
- 9.6 Unregistered Users shall be able to view any month within a year in advance or within the past year.
- 9.7 Unregistered Users shall optionally be able to provide their feedback for the application through email.
- 9.8 Unregistered Users shall be able to choose to register for an account or continue as a guest
- 9.9 Unregistered Users shall be able to label each tracked package with a custom title.
- 9.10 Unregistered Users shall be able to view their tracked orders alphabetically.
- 9.11 Unregistered Users shall be able to search for any tracked order by their carrier name.
- 9.12 Unregistered Users shall be able to search for any tracked order by their order title.
- 9.13 Unregistered Users shall be able to search for any tracked order by their retailer.
- 9.14 Unregistered Users shall be able to view a counter of currently tracked orders.
- 9.15 Unregistered Users shall be able to view their tracked orders in reverse alphabetical order.
- 9.16 Unregistered Users shall be able to get a list of most to least relevant results when doing a search.
- 9.17 Unregistered Users can send an email for help
- 9.18 Unregistered Users can send an email for questions
- 9.19 Unregistered Users can access the support page
- 9.20 Unregistered Users can access the About Me page to learn about the team.

- 9.21 Unregistered Users shall be able to sort their tracked orders into hidden or visible lists.
- 9.22 Unregistered Users shall be able to delete tracking information.
- 9.23 Unregistered Users shall be able to create their own titles for tracked orders.

Business Accounts:

- 8.1 Business Accounts shall be able to have access to all personal account features.
- 8.2 Business Accounts shall be able to upload tracking numbers for their shipments.
- 8.3 Business Accounts shall be able to upload their business license.
- 9.4 Business Accounts shall have their shipments and deliveries tracked on the calendar.

Admin:

- 2.1 Admin shall be able to access all data.
- 2.2 Admin shall be able to modify any data.
- 2.4 Admin shall be able to create any type of account.
- 2.6 Admin shall be able to view another account.
- 2.10 Admin shall have the ability to conduct system maintenance and updates without disrupting user access.
- 2.11 Admin shall be able to receive and review user feedback and reports regarding system performance and functionality.

System:

- 3.1 System shall be able to collect traffic data.
- 3.2 System shall be able to store traffic data to improve user experience.

Notification:

- 4.9 Notifications shall be sent to users via email regarding tracking updates.

Tracking Information:

- 5.1 Tracking information shall be able to be stored.
- 5.3 Tracking information shall maintain an up to date dispatch alerts.
- 5.2 Tracking information shall be able retrieved in real time according to shipping carrier updates
- 5.4 Tracking information shall maintain an up to date database.
- 5.5 Tracking information shall be accessible through a mobile application for on-the-go access.
- 5.6 Tracking information shall update the overview calendar with ETA dates for tracked orders.

Overview Calendar:

- 6.1 Overview Calendar shall be able to mark the dates when orders are estimated to arrive.
- 6.2 Overview Calendar shall begin on the month a registered user signs up on.
- 6.3 Overview Calendar shall show the estimated deliveries of the month.
- 6.4 Overview Calendar shall contain embedded links for tracked orders.
- 6.5 Overview Calendar shall keep track of estimated deliveries.
- 6.6 Overview Calendar shall be updated according to any estimated delivery changes.

II. Usability test plan:

Objective:

Our objective for our usability test plan aims to introduce to our users a set of innovative features that you wouldn't commonly see in other applications or software. **The features include the ability to add titles to orders, seamlessly check/monitor delivery dates on the calendar, hide orders that have been uploaded to their account, create a separate business account with the name of the business and a personal account, and be able to sort your orders at your liking.** The inclusion of these functions are important for our software because we don't see a lot of other applications that allow users to use these types of features. It is also important for us to have these functions in order to give reason to the user to use our software rather than just using the site they ordered from. This is something we focused on as well because we can offer a more personalized and efficient platform such as being able to sort and track your orders at your own timing. Additionally, we also want to emphasize user safety and privacy when it comes to the items they order particularly through the option to hide an order. Testing the calendar feature we offer is vital to ensure users can effectively track their delivery dates.

Descriptions per Function:

i. System setup:

For the system to be set up correctly, we need to make sure that when you can see our homepage, the buttons and images load just fine. They should start by registering to use all of the features that we have to offer. This is important to have hidden orders on your account, being a guest would not be possible to upload an order as hidden. If there are no orders set up on our site, you can try uploading these tracking numbers, "ABC123456" or "XYZ101010". Once you use one of these tracking numbers, you should see the information of the order on your screen. Additionally, our product is universally compatible with all major mobile browsers. Whether our users are on iOS with Safari, Android with Chrome, or any other mobile browser, they are guaranteed a fluid and efficient experience, ensuring that our product is accessible and convenient for everyone, regardless of their mobile browser preference.

ii. Starting point:

The user should be starting at our homepage of orderowl. In this location they should see the option of registering with us. All of our functions should be starting here because this is the main part where you can get to everything you need regarding uploading and tracking orders.

iii. Intended Users:

Being able to sort functions, we aim this feature to those that make a lot of orders and

want to be able to find specific ones easily. Changing the name of your order makes this even better because you can have similar names of orders and find them easily when sorting. This also helps those that need to keep the name of the order private.

iv. URL:

The user should be going to our site, “orderowl.jpkit.us”.

Tests/Use Cases	% Completed	Errors	Comments	Efficiency
Add Title to Order	100%	none	User was freely able to add a title to their order	5 seconds
ETA Orders on Calendar	100%	none	User can see their orders on calendar if delivered in the month.	5 seconds
Hide Order	50%	Hidden list won't show up	User was able to upload their order into hidden but when they access hidden list, their order does not show up	10 seconds
Business or Personal Account	50%	No errors	User feels like the difference between both accounts aren't large.	10 seconds
Sort Orders	100%	none	User was able to sort their orders depending on the column.	5 seconds

Questionnaire:

Adding a Title to Your	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
------------------------	-------------------	----------	---------	-------	----------------

Order					
It was easy to add a title to your order					check
The title was uploaded after you inserted it					check
Adding title to order was helpful				check	

Check Delivery Dates on Calendar	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Your orders appeared up on the calendar			check		
You see the order on the date it will be delivered					check
The order you uploaded appeared on the calendar			check		

Hiding an Order	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
You were					check

able to upload the hidden order to the hidden list					
You see all the hidden orders that were uploaded	check				
Your hidden order pin let you access your hidden order list		check			

Create a Business or Personal Account	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
When registering you had the option of choosing between user personal and business					check
User sees the difference between the personal pages and the business pages			check		
You were able to access both type of			check		

accounts, personal and business					
---------------------------------------	--	--	--	--	--

Sorting Orders	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
You were able to find what to click on to change the sorting of your orders					check
All the sorting options worked properly (Retailer, carrier, tracking number, location, and address)					check
Sorting options were helpful to find specific orders			check		

III. QA test plan:

- 1. Updates to tracking information should happen in real-time, with no more than a 5-second delay from the actual event.**

Test objectives:

- Objectives
 1. Ensure that the system update the tracking information in real time
 2. Make sure that the delay in updating tracking information does not exceed 5 seconds from the actual event.
- Purpose of Objectives
 1. To ensure the system's ability to have timely and accurate updates.
 2. To ensure the system meets the ideal performance criteria set for real-time updates.

HW and SW setup:

- URL (orderowl.jpkit.us)
- Any browser

Feature to be tested:

- The real-time tracking of the upload

QA Test Plan:

Number #	Test Title	Description	Test Input	Expected Output	Pass/Fail
1	Check system stability	Test Amazon order # upload	"A2B4C6"	Information shows up no more than five second	pass
2	Delay time check	Test eBay order # in upload	"123456789012"	Information shows up no more than five second	pass
3	Check if multiple order upload in short period but create time delay	Test if uploading multiple order # would affect the time	"A1B2C3D4" "A2B4C6"	Information shows up no more than five second	pass

2. OrderOwl shall be tested on multiple browsers and devices to confirm the compatibility of the application.

Test Objectives:

- Objectives
 - 1. Ensure that the website suitable across all browsers
 - 2. Ensure that the user has the same experience no matter what browser they are using.
- Purpose of the objectives
 - 1. To ensure cross-browser functionality, focusing on accessibility, usability, and user interface consistency.
 - 2. To identify any compatibility problem that could affect the user experience.

HW and SW setup:

- URL (orderowl.jpkit.us)
- Microsoft edge
- Firefox
- Chrome

Feature to be tested:

- Compatibility of the OrderOwl application on different web browsers

QA Test Plan:

Number #	Test Title	Description	Test Input	Expected Output	Pass/Fail
1	Check website compatibility through different browser	Test the website in Microsoft edge	URL provided	UI doesn't change due to different browser	Pass
2	Check website compatibility	Test the website in Firefox	URL provided	UI doesn't change due to different browser	Pass
3	Assess if application be able to perform the same experience no matter what browser are in	Test the website in Chrome	URL provided	UI doesn't change due to different browser	Pass

3. Users shall be able to access the system at least 90% of the time.

Test Objectives:

- Objectives
 - 1. To ensure that the system is accessible to users at least 90% of the time, have a high reliability.
 - 2. To measure and verify the system's uptime and accessibility.
- Purpose of the Objectives
 - 1. To measure the system's operational reliability and its ability to remain accessible to users in regular condition.
 - 2. To identify any potential issues that could lead to accessibility problems.

HW and SW setup:

- URL (orderowl.jpkit.us)
- Any browser

Feature to be tested:

- System availability and uptime.

QA Test Plan:

Number #	Test Title	Description	Test Input	Expected Output	Pass/Fail
1	Check website functionality in different time case 1	Test the application functionality at morning	try login	Login works perfectly	pass
2	Check website functionality in different time case 2	Test the application functionality at afternoon	try register an account	able to register an account	pass
3	Check website functionality in different time case 3	Test the application functionality at night time	try upload an order (Try "A1B2C3D4")	able to upload an order and can see it through dashboard or tracking page	pass

4. Only authorized personnel should access sensitive data.

Test Objectives:

- Objectives

1. To ensure that the system's security effectively safeguards individual account data by ensuring that personal data is only accessible to the actual owner.
2. To ensure that the system privacy controls prevent the visibility of personal information across different accounts.

- Purpose of the Objectives

1. To ensure the system's security and privacy measures in place for protecting personal information.
2. To ensure that the system has data protection which maintains user trust and privacy.

HW and SW setup:

- URL (orderowl.jpkit.us)
- Any browser

Feature to be tested:

- Access Control System for sensitive data.

QA Test Plan:

Number #	Test Title	Description	Test Input	Expected Output	Pass/Fail
1	Prevent unauthorized user to sensitive data	Test Unauthorized User Access	Continue as guest in the website and check homepage where it said recent, check dashboard and trackinfo page	User won't be able to see any order information in the dashboard, homepage and trackInfo page	Fail
2	Test security control at authorized user	Test Authorized User Access (login user)	Have a registered account and already uploaded a tracking number	After login user will be able to see their order information in homepage, dashboard and track info page	Fail
3	Assess system's ability at identifying role change	Test the Role Change Impact	Use that registered account that already create and have order uploaded to login check for orders and logout then continue as guest and check orders again	User will be able to see the order info when they login but when they logout then continue as guest they won't be able to see the order info they saw when they logged in	Fail

5. System's user interface that's intuitive and easy to use for both personal and business accounts.

Test Objectives:

- Objective
 1. To ensure that the system's user interface which is UI is intuitive and user-friendly for both personal and business account users.
 2. To ensure the UI design is easy to use, minimizing the learning curve and enhancing user experience.
- Purpose
 1. To measure the usability of the UI for different types of user, ensuring it meets the needs and expectations of both personal and business account users.
 2. Identifying any potential issue that causes confusion and inefficiency and to make sure the interface meets the satisfying standards of usability and accessibility.

HW and SW setup:

- URL (orderowl.jpkit.us)
- Any browser

Feature to be tested:

- User Interface Design and Usability for personal and business accounts.

QA Test Plan:

Number #	Test Title	Description	Test Input	Expected Output	Pass/Fail
1	Easy interface	Test Account Navigation and Basic Operations	User logs in to their account , navigate to upload or profile page and have the all basic functionality work	The user should be able to perform all these task smoothie without any guide	pass
2	Check application's in complex situation	Test the usability in completing a complex task	Complex test: register an new business account and upload the tracking number(A1B2C3D4) and then check it at tracking page	The user should be able to complete all these task without confusion	pass

3	Check website functionality in different account	Test the basic website functionality	Test the upload function and see the tracking information in tracking page but do this in guest account, registered personal account and business account	The tester should have a smoothie user experience in all those account	pass

IV. Code Review:

- a) The coding style the team shall use is 2 spaces in indentation instead of tabs, each line of code should approximately have 150 characters, and each line of code should be having an empty line between different logical code blocks. Overall, the team should leave else statements and curly brackets without any line breaks as well. This helps ensure the team isn't leaving any newline empty and headers/bodys of functions will be more organized to read.

b)

The screenshot shows a code review interface with two main sections. The top section displays a Java file named `util.ts` containing a function `sortBy`. The bottom section displays another Java file named `util.ts` containing a function `getURL`. Both files are annotated with feedback comments in the code editor.

```
// Feedback:  
// The Structure of the code looks good.  
// However, from the variable names it is not quite cleare what is done here. For example:  
// what are objects? what are we sorting?  
// what are keys? why numbers?  
// are we only sorting by value names? values only?  
// We would suggest to use variable names that are more meaningful.  
  
export function sortBy(objects: any, key: string, direction?: string | number) {  
    direction = Number(direction) || 0;  
  
    if (!objects || !key) {  
        return objects;  
    }  
  
    objects = [...objects];  
  
    const sorted = objects.sort((a: any, b: any) => {  
        if (typeof a[key] == "number" && typeof b[key] == "number") {  
            if (a[key] > b[key]) {  
                return 1;  
            }  
            if (a[key] < b[key]) {  
                return -1;  
            }  
        } else {  
            if (String(a[key]).toLowerCase() > String(b[key]).toLowerCase()) {  
                return 1;  
            }  
            if (String(a[key]).toLowerCase() < String(b[key]).toLowerCase()) {  
                return -1;  
            }  
        }  
        return 0;  
    });  
    return direction == 0 ? sorted : sorted.reverse();  
}  
  
export function getURL(retailer: string) {  
    switch (retailer.toLowerCase()) {  
        case "amazon":  
            return "https://www.amazon.com/";  
        case "best buy":  
            return "https://www.bestbuy.com/";  
        case "ebay":  
            return "https://www.ebay.com/";  
        case "target":  
            return "https://www.target.com/";  
        case "walmart":  
            return "https://www.walmart.com/";  
        default:  
            return "#";  
    }  
}
```

EXPLORER

- ✓ FEEDBACKTEAM01
 - auth
 - .idea
 - .gitignore
 - misc.xml
 - modules.xml
 - workspace.xml
 - auth
 - J AuthenticationController.java
 - J AuthenticationRequest.java
 - J AuthenticationResponse.java
 - J AuthenticationService.java
 - J RegisterRequest.java
 - auth.iml
 - sort orders
 - TS util.ts

J AuthenticationService.java

```

1  * Credit: Amigoscode Youtube Channel (https://youtu.be/VVn9G9nfH0)
2  * This is java class handles creating and authenticating a client
3  */
4  package com.orderowl.api.auth;
5
6  import com.orderowl.api.config.JwtService;
7  import com.orderowl.api.registration.Role;
8  import com.orderowl.api.registration.User;
9  import com.orderowl.api.registration.UserRepository;
10 import lombok.RequiredArgsConstructor;
11 import org.springframework.security.authentication.AuthenticationManager;
12 import org.springframework.security.authentication.UsernamePasswordAuthenticationToken;
13 import org.springframework.security.crypto.password.PasswordEncoder;
14 import org.springframework.stereotype.Service;
15
16 /**
17  * Feedback:
18  * Overall well structured and clear code. Well done.
19  */
20
21 @Service
22 @RequiredArgsConstructor
23 public class AuthenticationService {
24
25     // repository directly interacts with the database
26     private final UserRepository repository;
27     // we use bcrypt to encode our passwords
28     private final PasswordEncoder passwordEncoder;
29     // this is the java web token (JWT) service used to authorize access to protected APIs
30     private final JwtService jwtService;
31     // this springboot class helps us check if the request input is valid and verified
32     private final AuthenticationManager authenticationManager;
33
34
35     public AuthenticationResponse register(RegisterRequest request) {
36         var existingUser = repository.findByEmail(request.getEmail());
37
38         if (existingUser.isPresent()) {
39             throw new RuntimeException("Email exists");
40         }
41
42         var user = User.builder()
43             .firstname(request.getFirstname())
44             .lastname(request.getLastname())
45             .email(request.getEmail())
46             .password(passwordEncoder.encode(request.getPassword()))
47             .role(Role.USER)
48             .build();
49
50         repository.save(user);
51         // this token is later used to validate the client and access protected APIs
52         var jwtToken = jwtService.generateToken(user);
53         return AuthenticationResponse.builder()
54             .token(jwtToken)
55             .build();
56     }
57
58     public AuthenticationResponse authenticate(AuthenticationRequest request) {
59         /*
59          * Feedback:
60          * To us it is not quite clear whether this authenticate function returns anything?
61          * Does it error check?
62          * What if it doesn't authenticate?
63          */
64         authenticationManager.authenticate(
65             new UsernamePasswordAuthenticationToken(
66                 request.getEmail(),
67                 request.getPassword()
68             )
69         );
70
71         var user = repository.findByEmail(request.getEmail())
72             .orElseThrow();
73
74         var jwtToken = jwtService.generateToken(user);
75         return AuthenticationResponse.builder()
76             .token(jwtToken)
77             .build();
78     }
79
80 }
81
82 
```

OUTLINE

TIMELINE

The files we shared with Group 1 for review were AuthenticationService from our backend and Sort Orders from our frontend. We chose these specific files for feedback because of the critical roles they play in our applications functionality and user experience are highly effective. We'd like the feedback to strengthen the security and usability aspects of our application and ensure an efficient user friendly experience for our customers.

V. Self-check on best practices for security:

1. List major assets you are protecting

- a. User Information
 - i. Name (first and last)
 - ii. Address
 - iii. Email
- b. Business Information
 - i. Email
 - ii. Business License

2. Confirm that you encrypt PW in the DB (describe the process and show real examples (i.e screenshots.....))

- a. When we accept the login form from the frontend we will run it through our User builder which will build the user with the password encoder. The encoder is set to encrypt with BCrypt. We then save the built user with the hashed password into the repository.

```
var user = User.builder()  
    .firstname(request.getFirstname())  
    .lastname(request.getLastname())  
    .email(request.getEmail())  
    .password(passwordEncoder.encode(request.getPassword()))  
    .role(Role.USER)  
    .build();  
  
repository.save(user);
```

b.

▼Request Payload [view source](#)

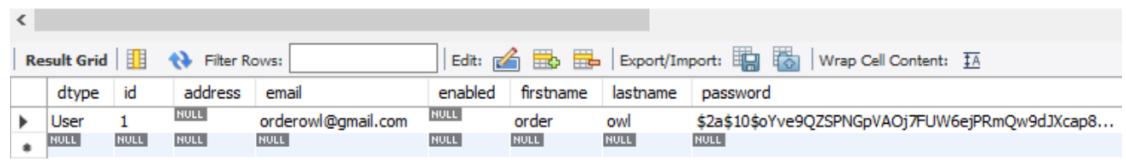
```
{firstname: "order", lastname: "owl", email: "orderowl@gmail.com", password: "oooo"}  
email: "orderowl@gmail.com"  
firstname: "order"  
lastname: "owl"  
password: "oooo"
```

c.



1 • SELECT * FROM orderowlDb.users;

d.



	dtype	id	address	email	enabled	firstname	lastname	password
▶	User	1	NULL	orderowl@gmail.com	NULL	order	owl	\$2a\$10\$oYve9QZSPNGpVAOj7FUW6ejPRmQw9dJXcap8...
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

3. Confirm Input data validation (list what is being validated and what code you used)

– we request you validate search bar input;

- a. We are validating password, search bar queries and uploading tracking numbers.

b. Password

```
password: z.string()  
    .min(8, { message: "Password must be at least 8 characters long" })  
    .regex(/^[A-Z]/, { message: "Password must contain at least one uppercase letter" })  
    .regex(/^[0-9]/, { message: "Password must contain at least one number" })  
    .regex(/[^A-Za-z0-9]/, { message: "Password must contain at least one symbol" }),  
i. };
```

c. Search Bar query

```
@GetMapping(path = "/search")  
public List<Tracking> searchTracking(@RequestParam("searchText") @Min(3) @Max(30) @NotNull String searchText) {  
  
    return trackingService.searchTracking(searchText);  
i. }
```

- ii. With the annotations, we require the search to be not null and a minimum of 3 chars and a maximum of 30.

d. Delete Tracking Number

```
@DeleteMapping(path = "/delete/{id:[0-9]*}")  
public ResponseEntity<String> deleteTrackingById(@PathVariable("id") Long id) {  
  
i. }
```

- ii. We require the ID to be a digit.

VI. Self-check: Adherence to original Non-functional Specs:

Category	Non-Functional Requirement	Status
Performance	1.1 The system needs to smoothly handle a minimum of 1000 concurrent users without slowing down.	DONE
Performance	1.2 Updates to tracking information should happen in real-time, with no more than a 5-second delay from the actual event.	DONE
Expected Load	2.1 The system should be prepared to manage a 50% increase in traffic during peak shopping seasons (like Black Friday and Cyber Monday).	DONE
Expected Load	2.2 Even during high traffic periods, users shouldn't experience response times exceeding 2 seconds	DONE
Security	3.1 Users' personal data shall be safeguarded through stand encryption protocols.	DONE
Security	3.2 Only authorized personnel should access sensitive data.	DONE
Storage	4.1 The system should be capable of storing tracking information for a minimum of 2 years, which is essential for historical reference and auditing.	DONE
Availability	5.1 Users shall be able to access the system at least 90% of the time.	DONE
Usability	7.1 System's user interface that's intuitive and easy to use for both customers and	DONE

	shipping personnel.	
Compliance	8.1 System shall follow all shipping regulations and laws of any place of operation.	DONE
Compliance	8.2 Regular checks and updates will ensure ongoing compliance.	DONE
Logging and Monitoring	9.1 System shall keep comprehensive logs of system activities for auditing and debugging purposes.	ON TRACK
Platform/Browser Compatibility	10.1 Develop the application using web design that shall ensure usability on different platforms including devices	ON TRACK
Platform/Browser Compatibility	10.2 OrderOwl shall be tested on multiple browsers and devices to confirm the compatibility of the application	ON TRACK
Coding Standards	11.1 The team shall use 2 spaces for indentation instead of tabs.	DONE
Coding Standards	11.2 The team shall have 150 max characters per line of code.	ON TRACK
Coding Standards	11.3 The team shall have an empty line between different logical code blocks.	DONE
Coding Standards	11.4 The team shall leave the else statement and curly brace without a line break and its body will be on the next line.	DONE
Coding Standards	11.5 The team shall not leave an empty new line between the function header and body.	DONE

VII. Detailed List of Contributions:

Team Lead:

Team Members	Contribution	Score
Belu Velazco	<ul style="list-style-type: none">● Worked on the front-end side of the login and registration page by adding● Led all team meetings● Set deadlines and did every other day check-ins halfway through the milestone● Organized threads within discussion channel● Wrote up meeting summaries/reports● Hosted some of the workshop calls● Came to every in-class meeting● Worked on product summary; section 1● Worked on section 6 and 7 for documentation● Gave feedback and did code review for Team 1's code.● Consistent participation and communication● Redesigned Upload page and added a choose carrier drop down menu that fit Shippo's needs (later removed due to switching to EasyPost)● Reached out to pair up with a team for section 4: code review<ul style="list-style-type: none">○ Sent out email with the code we	8

	<ul style="list-style-type: none"> wanted to get feedback on <ul style="list-style-type: none"> ○ Sent out email with the feedback from team 6 to team 1's code. ● Created complaint/feedback template for team ● Sent email for extension ● Created TOS Agreements page ● Created buttons for hidden and visible list ● Created Hidden order list page ● 	
David Lien	<ul style="list-style-type: none"> ● Worked on getting USPS API permission ● Set up EasyPost ● Tested tracking using real tracking number ● Was ready to lead a team meeting when team lead was ill ● Worked on authentication and authorization ● Started some workshop calls ● Joined and participated in every team meeting ● Came to every in-class meeting ● Worked on section 5 for documentation ● Consistent participation and communication ● Worked on code for users to edit pre-existing profile information. <ul style="list-style-type: none"> ○ Work in progress ● Added order titles to database 	10

	<ul style="list-style-type: none"> ● Made it so users could choose personal or business; back-end ● Deployed server ● Implemented EasyPost API to track real orders. ● Did testing for section 2 and 3 ● Helped teammates 	
Komaldeep Kaur	<ul style="list-style-type: none"> ● Worked on product summary; section 1 ● Joined and participated in every team meeting ● Came to every in-class meeting ● Came up with ideas for business side of our application ● Worked on changing the header for our homepage regarding feedback from our M3 prototype → added 3 separate buttons for guest login, user login, and registration ● Participated and communicated during team meetings ● Worked on section 6 of M4V1 documentation ● Added password requirements checker to registration page ● Volunteered to take up tasks ● Formatted M4V1 document ● Fixed wording for section 2 summary ● Checked coding style for code files. ● Took charge of section 6 of M4V1. 	8

Jimmy Pan	<ul style="list-style-type: none"> ● Worked on sorting orders; front-end ● Joined and participated in every team meeting ● Came to every in-class meeting ● Created page for personal user profile ● Worked on calendar feature to update with estimated time arrivals ● Worked on section 2 for documentation ● Gave feedback and did code review for Team 1's code. ● Participated during team meetings ● Fixed google maps so they appear ● Fixed Login page ● Helped other front-end team members with questions ● Fixed TOS checkbox for validation ● Fixed alignment on images for login and registration page. 	8
Mankit Yeung	<ul style="list-style-type: none"> ● Added images to homepage; front-end ● Joined and participated in every team meeting ● Came to every in-class meeting ● Worked on section 3 for documentation ● Worked on adding order titles into our tracking page and upload page so users can upload a title for their tracked orders. ● Gave feedback and did code review for Team 	9

	<p>1's code.</p> <ul style="list-style-type: none"> ● Gave feedback and did code review for our code that we sent to Team 1. ● Consistent participation and communication ● Fixed redirection of the registration button on the homepage ● Updated section 3 of Milestone 3 v2 ● Worked on pop-ups for guests and entering a pin to access hidden orders. 	
Luis Ramirez	<ul style="list-style-type: none"> ● Worked on hidden orders; back-end ● Created pin system for users to access their hidden orders list ● Discussed hidden ● Started some workshop calls ● Joined and participated in every team meeting ● Came to every in-class meeting ● Worked on section 2 ● Checked how our application looked on Microsoft Edge, Google Chrome, Opera, Firefox, and Safari. ● Worked on making some pages responsive to other devices ● Consistent participation and communication 	10

Tin Nguyen	<ul style="list-style-type: none"> ● Joined and participated in every team meeting ● Came to every in-class meeting ● Worked on back-end for the business and personal accounts unique feature ● Worked on implementing Google Maps ● Fixed search query to make sure most relevant popped up ● Worked on section 3 and 6 for documentation ● Participated and communicated during team meetings ● Added Google maps API 	7
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III. Detailed List of Contributions:

Team Lead:

- **Team member: Belu**
 - Score: 8
 - Contributions:
 - This member led every team meeting both in person and online. They Recorded all team meetings and wrote up summary reports on what was gone over as well as the deadlines and assigned tasks created for every week. They worked within the front-end team and showed efforts to help within the back-end team. They were a part of the team that worked on the business and personal unique feature and created pages and shared ideas on how to make both accounts differ from one another. They put in a lot of passion, commitment, and effort into the project and took up any task that was left to complete or needed help on. If something was unfinished or needed correcting at the last minute on the documentations, they would be on it before submission dates. Regarding the documentation sections, they worked on competitive analysis and checklist (M1), high level UML diagrams (M2), functional requirements in addition to helping out the wireframes (M3), product summary (M4), post analysis (M5), and did the contribution lists for all the documents. They set up the Trello board and constantly updated and changed it, in addition to also creating a separate discord server as an “archive server” which would hold important documents and messages from the main class discussion channel. They regularly communicated with the team and kept track of how tasks were being completed. They did their best to become a member that others can lean on for support and made themselves always available in responding messages online. They set up milestones through documents and did the majority of what a team lead should do in regards to guiding the team through milestones.
 - Signature:



Belur Elayangoz

- Team member: David

- Score: 9
 - Contributions:

- This team member actively showed passion, initiative, and commitment to the project since the beginning of the semester. This member contributed a lot to the back-end area of the project and was a great team player within the back-end team. He was not only in charge of the database side of our project, but he also put in a lot of work and hours into the authentication and validation side of our application. He set up APIs and looked into how our application could track real orders in which he discovered and implemented EasyPost. Regarding documentation he worked on and updated functional requirements (M1), the high level database architecture and organization (M2), the high level apis and main algorithms (M3), and the self-check on best practices for security (M4). They also worked on editing documents for the second versions. He helped others and was always ready to help out on more once his own assigned tasks were completed. He communicated well, always completed his assigned tasks, and participated a lot within the creation of the project. This member was always there during intense moments (deadline days, emergencies, etc) and showed the team that they were happily open to team work.
 - Signature:

Davidlien

- Team member: Komal

- Score: 7
- Contributions:
 - This team member showed great improvement over the milestones to the team and the project. They put in a lot of effort into becoming a good team member as they communicated their schedules and availability, as well as their updates on their tasks. They participated during team meetings both in and out of class, and they also actively incorporated ideas into the project such as how the business account should differ from the personal account. They were willing to take up tasks when they completed theirs and they worked within the front-end team in the design development of the project. They helped read and format all the milestone documents before submissions and proofread some sections to make them sound more professional as well. Regarding the documentation sections they worked on functional requirements (M1 and M3), helped with the UI mockups and storyboards (M2), and the product summary (M4). They also worked on editing documents for the second versions.
- Signature:

Komaldeep Kaur

- Team member: Jimmy

- Score: 9
- Contributions:
 - This member was an incredibly skilled member within the front-end team. They were the top contributor regarding the code and were constantly fixing details for the front-end. They were very knowledgeable within SolidJS and Tailwind CSS and they provided a lot of helpful documents in addition to helping other members in the development of the front-end of

the project. They also contributed a lot of input in the decision of what our tech stack should be. This member joined all the team meetings both in person and in class and voiced out a lot of ideas within the design of our application. They heavily took charge in the design of our project which gave the rest of the front-end team a great foundation to follow. They had a lot of passion as they hand drew the logo too. They were also in charge of our calendar unique feature and our other unique feature of sorting user's orders. They were always ready to fix problems within the application, they set up the server, connected the back-end with the front-end, wrote up guides on setting up mySQL, and so much more. They truly put in a lot of effort and passion into this project. Regarding the documentation sections, they were in charge of the high-level system architecture and technologies used (M1), the UI mockups and storyboards (M2), and the wireframes (M3). They also worked on editing documents for the second version.

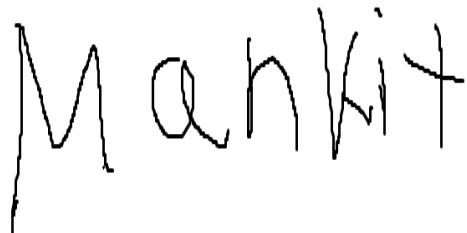
- Signature:



- **Team member: Mankit**

- Score: 8
- Contributions:
 - This member has always been a very active and great member within the team. They put in a lot of hours and passion into the project as they always communicated ideas and generally with other members. They joined and participated in every team meeting both in class and outside of classes, and they were always responsive to messages. They were a member that would complete all their tasks on time and would be willing to help out others on their tasks as well. They were in charge of our unique feature of having our users create labels/titles for their orders in addition to always helping out with the formatting of all the documentations before submissions. They were also an active member within the front-end team. Regarding the documentation sections, they were in charge of the main use cases (M1), high level application network and deployment diagrams in addition to identifying actual risks for our project at the time (M2), wireframes (M3), and writing up test plans for the QA test plan (M4). They also worked on editing documents for the second versions.

- Signature:



Mahkit

- Team member: Luis

- Score: 8
- Contributions:
 - This member has been a very active and passionate member within the project and especially within the back-end team. They showed great commitment to the project through the amount of hours and research that they put into it. They attended all team meetings both in person and online and always participated. He was our GitHub master so he was always in charge of merging our development branch to our master branch for submissions and also helped others with any GitHub related questions or tasks. He was in charge of our hidden orders unique feature and also worked on the registration and login aspects of Order Owl. Regarding documentation sections he was in charge of main terms, entities, and data structures (M1), data definitions (M2 and M3), and wrote up the tests for the usability test plans (M5). They also worked on editing documents for the second versions.
- Signature:

A handwritten signature in black ink, appearing to read "Tin".

- Team member: Tin
 - Score: 6
 - Contributions:
 - This member actively participated in team meetings both in class and online a lot. They voiced out ideas and put in a lot of work into the initial development of our application. They were a part of the back-end team where they were in charge of implementing Google maps, as well as worked on security and database related tasks. They also worked on password encryption, login, and tracking APIs. Regarding the documentation sections, they were in charge of the list of non-functional requirements (M1), high level application network and deployment diagrams (M2), high level diagrams (M3), and did some testing for the QA test plans (M4). They also worked on editing documents for the second versions. They joined in workshop calls and did a lot of research for the development of the application.
 - Signature:

A large, stylized, handwritten signature in black ink, appearing to read "Tin".

IV. Post Analysis (team lead):

The main challenges that our team faced were communication, procrastination, time management, accountability within team members, and the organization of our work or tasks. Starting off with communication, due to the variety of different schedules that all members had for work and/or classes, it caused a lot of us to have a hard time communicating about the project around the same time. The majority of the team would start being more active once deadlines approached, but during the earlier days within a milestone, the chats would be more on the quieter end. We especially ran into this challenge during milestone 2, but we made sure to have this milestone be a lesson to us for the following ones. I think some of the improvements we made to better communication was by incorporating bi-daily check-ins within the discussion channel to heighten participation (during milestone 4) and halfway through the semester we started to do verbal check-ins during online team meetings where members would give the team updates and/or concerns, and then “popcorn” to another member. Although these methods helped, it would have been great to have started these methods towards the beginning of the semester. In addition we could also do daily check-ins and/or in-person team meetings. We did try to schedule some in-person meetings, but sadly due to our schedules it became too difficult to do so, but I think if we had at least 1 in-person meeting during milestones, it would help make team meetings more engaging. Moving onto the next challenge, our team ended up having a pattern in which we would end up really focusing and putting more effort into the projects towards the last week of a milestone. We struggled on progressing on tasks in a consistent manner. Some solutions to this would be to have dedicated workshop meetings where we could all dedicate time to work on the project at the same time. We had workshop calls but they were more optional than mandatory. In reality, this issue depends on everyone’s individual time management regarding their workload schedule, but with the addition of dedicated workshop time, I think it could have solved our procrastination issue. Time management was a general challenge within the team, and I think that the team lead played a big part in this. As the team lead, I should have been more strict about deadlines and on tasks being completed. Towards the beginning of the semester, I think I was too forgiving about deadlines not being met and due to this, a lot of tasks throughout the semester were being completed during the week of deadlines. This plays within the responsibility of the team lead to guide and keep the team on track. Our next challenge was member accountability, where we may have had issues within our team or the project but hardly took the time to address and find solutions to the issues. I think that this came from the fear of speaking up within the team, but without addressing issues within teamwork or the project itself, leads to unresolved problems that could have developed worse as time went on. As a team we have to keep each other accountable, so for a solution we should have brought up these teamwork/project issues/concerns within team meetings. Overall, although these are all challenges that we had as a team, we did try our best to fix them throughout the milestones, and aside from these challenges, we put in a lot of passion into the project and worked as a team to create Order Owl.