

**FOOOD**

# University of Washington Bothell COVID-19-Safe Food Finder Report

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# Table of Contents



3	<b>Summary</b>
4	<b>Project Overview</b>
5	<b>Hunt Statement</b>
6	<b>Journey Map</b>
7	<b>Storyboard</b>
8	<b>Requirement Specifications</b>
	<i>Basic</i>
9-10	Functional Requirements
11	Non-Functional Requirements
	<i>Delighters</i>
12-13	Functional Requirements
14	Non-Functional Requirements
15-19	<b>Information Architecture</b>
20	<b>Low Fidelity Prototype</b>
21	<b>High Fidelity Prototype</b>
22	<b>Design Logistics</b>
23	<b>Branding</b>
24-27	<b>Usability Testing</b>
28	<b>Reflection</b>

# Executive Summary

During Covid-19, many people struggled to enjoy going to restaurants and enjoying their meals with friends and families due to the fact that some restaurants aren't strictly requiring any covid precautions. Our ethnographic research shows that many people stopped going out to restaurants because they suffer from health conditions and are scared to get covid or spread it to others. Our research also shows that many people refused to wear masks or follow social distance and that created an issue for those who wanted to remain safe during the pandemic.

As a team, we examined the needs of our users and came up with a user-friendly app that meets their needs. We wanted to give our users the opportunity to find restaurants, whether they're looking for safety or if they're just looking for a place close by.

Overall, our research aimed to find ways to provide a meaningful and seamless experience for students and faculty at the University of Washington Bothell.



# Project Overview



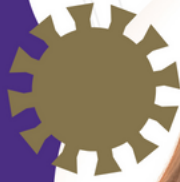
Our objective was to explore how current UWB students and staff want to continue enjoying food while keeping themselves and others safe during covid. We began our research with ethnographic research to get a general idea of who our users were. This gave us an insight into things we liked, and disliked, and our main goal which was to satisfy the user. We thought making an app would be best because it is portable and user-friendly, users can log in and use the app from anywhere and at any time. Furthermore, our group completed competitive and inspirational alternatives apps and websites for design inspiration. Usability testing was conducted to test ease of use, how well the user is able to navigate through the app, and other relative information. From here, we drafted our research plan and came up with our research questions to help us with our research, and design process and raise any design or research issues. After creating our primary and secondary personas, we were able to understand what kind of audience we were targeting, which then helped us come up with a hunt statement to serve as a tool to narrow down our design and research process. Besides finding a clean and safe restaurant for our users, our team also came up with an alternative channel such as adding maps so the users don't have to leave the app to search the distance of their preferred destination. We also created user journey maps to empathize with our users. Later on, we came up with interview questions to ask our users to better understand which features they liked the most and how we can fix any issues that came up after completing our usability study. Lastly, we designed our high fidelity prototypes and completed another usability test to make sure our app is user-friendly and ready to share with our users.

# Hunt Statement



FOOOD.  
CSS480

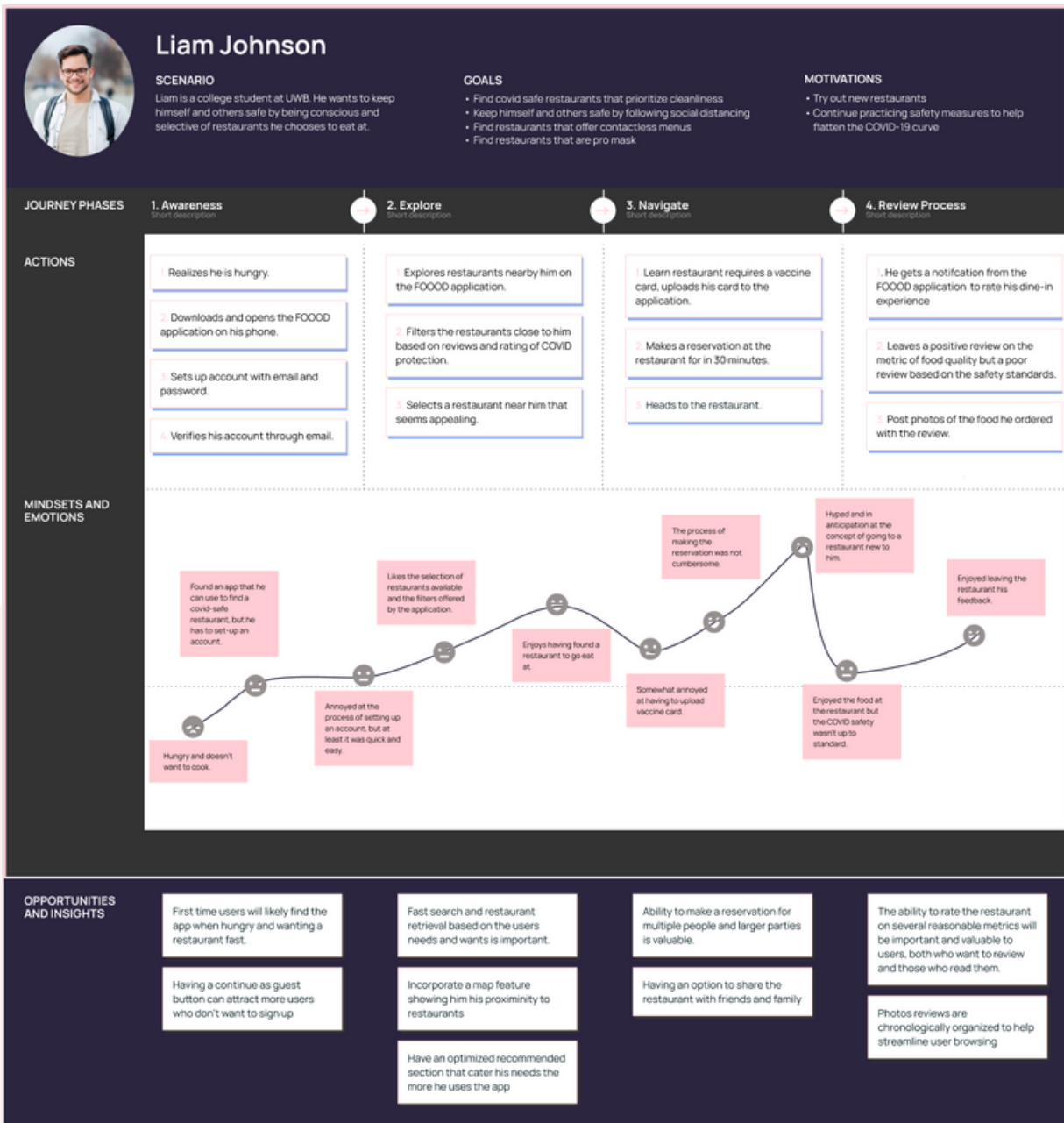
## THE HUNT



1. Understand how UW Bothell students are choosing restaurants based on their health concerns during COVID-19.
2. In order to gain insights on ways to build a reliable mobile application so they can easily find restaurants that cater to their needs during COVID-19 and allow them to feel safe.



# Journey Map



Based on our research, we've produced a journey map that illustrates where we feel the opportunity lies within the greater area that our solution is exploring. The journey map explores Liam's process using the FOOOD application to find a restaurant with the best COVID safety rating. He uploads his vaccination card and proceeds to make a reservation. The food at the restaurant was good, but COVID-19 safety standards were not met. Lastly, he proceeds to take a picture of the food and post his review on the whole experience.



# Storyboard



## HUNGRY LIAM

TEAM FOOOD.

Liam is very hungry...  
What should he do??



Liam is hungry but is worried to go out to eat during covid. He checks his phone for options.



Liam finds an app that helps other find restaurants that are covid safe. The app is called FOOOD.



Liam is amazed see the amount of local restaurants that are covid safe, that he didn't even realize.



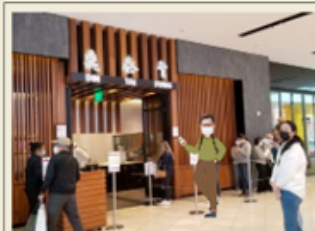
Liam checks to see how a restaurant keeps their guests and workers safe of covid using their cleanliness rating.



Before choosing a restaurant, Liam uploads his vaccine card to create a QR code for easy scanning.



Liam notices the Din Tai Fung nearby still requires mask and vaccine, so he puts himself on the waitlist.



Liam arrives at Din Tai Fung and opens up his app for the restaurant to scan the QR Code.



While dining, Liam receives a notification from FOOOD to write a review on Din Tai Fung.



Liam leaves a 5 star review for the food, service and the cleanliness that made him feel very comfortable.

We created a storyboard that focuses on our most important delighter feature(s) and addresses the opportunity shown in the Journey Map. Below includes our key person(s), and how we expect to place them in the context of our planned application, and show them overcoming challenges to reach their goal by utilizing our inventive solution.

# Requirement Specification

To ensure its delivery of the scenario(s) that provide the core value proposition(s). We have identified the most critical functional and non-functional requirements for our proposed application.

*Below is the requirement specification:*

**FR** stands for functional requirement

**NFR** stands for nonfunctional requirement

**D** stands for delighter requirement

**B** stands for basic requirement





# Requirement Specification: Basic

## Functional Requirements



### FR-B-01

1.0: Upon logging in or continuing from a guest account, the users should be shown the “home screen” of the app, consisting of a map of their location (using Google Maps API), a search bar, and icons for several tabs including bookmarks and settings.

1.1: The system shall access a database of COVID infections in order to provide an infection “heatmap” feature. The heatmap feature will be a toggleable option of the map feature.

### FR-B-02

2.0: Should the user enter a search query, the search results shall display the first 10 closest restaurants that meet the search criteria. Other matching search results can be loaded by selecting “Show More Results” below the first 10 loaded results.

2.1: If there are less than 10 restaurants that meet the search criteria exactly, similarly-named restaurants to the search keyword within a 50-mile radius of the user’s location will be added to the search results, provided they meet all other criteria presented by the search filters.

2.2: The user must be able to search for specific restaurants using the restaurant’s name or address as a search query.

2.3: The user must be able to search for restaurants by type of restaurant or the restaurant’s food country of origin in the search query.

2.4: The system shall allow users to select search filters when searching for restaurants, allowing them many options to specify restaurants by numerous metrics such as location, hours, ratings, etc.

2.5: The system shall be able to prioritize open restaurants in the search results.

### FR-B-03

3.0: The user shall be able to post a review of their experience at the restaurant, allowing for the user to include a text description, related pictures, and a rating from 1 to 5 stars.

3.1: The user shall be able to post a more specific review of a restaurant if they are inclined, allowing the user to review the restaurant on metrics of service, food quality, and safety standards, and rate each of those metrics on a rating from 1 to 5 star and upload related pictures to those metrics.

# Requirement Specification: Basic



## Functional Requirements

<b>FR-B-04</b>	<p>4.0: The user shall be able to check the most recent and accurate waitlist for a restaurant when available, including the current estimated wait time.</p> <p>4.1: The user shall be able to join the waitlist and choose the length they're willing to wait.</p> <p>4.2: The user shall be able to cancel their spot on the waitlist.</p> <p>4.3: The user shall be able to check the average peak hours of a restaurant and see live updates on whether it's currently busy or not.</p>
<b>FR-B-05</b>	<p>5.0: The user shall be able to check available reservations of any restaurant from a calendar format.</p>
<b>FR-B-06</b>	<p>6.0: The user shall be able to create a reservation at a restaurant at a given date and time, provided that the reservation is available.</p> <p>6.1: The user shall be able to include their phone number in a reservation for easy contact when their wait is over.</p> <p>6.2: When making a reservation, the user should be able to specify the number of individuals attending the reservation, within reason, and check whether the reservation has space for that many individuals.</p> <p>6.3: When a user checks their reservation, they should be able to edit the time, date, party number, or cancel the whole reservation. The user may only set times and dates to other available times and dates.</p>
<b>FR-B-07</b>	<p>7.0: The login screen shall allow registered users to log in to the application using their existing credentials or an associated 3rd party account.</p> <p>7.1: The system should prompt users to reset their password after 3 failed attempts.</p> <p>7.2: The user shall be able to have the choice to sign up and log in with their Google Account or Facebook account.</p> <p>7.3: Users shall be notified of login attempts from new devices or repeated login attempts, 3 or more, via email.</p> <p>7.4: The user must be able to use the service with a guest login that allows them access to the non-personalized features of the application.</p>

# Requirement Specification: Basic

## Non-Functional Requirements



<b>NFR-B-01</b>	1.0: Information displayed by the system should be up-to-date and accurate, and have little to no conflict with information on other platforms, provided the information on those platforms is also up-to-date and accurate.
<b>NFR-B-02</b>	2.0: The system must be capable for hosts with high-demand requests, such as bulk searches. 2.1: The system must search for restaurants that the user input in 5 ms or less. 2.2: The system must progressively load all search results in the result list and on the map within 1 second or less.
<b>NFR-B-03</b>	3.0: The system must have at least 99.95% uptime.
<b>NFR-B-04</b>	4.0: The system shall be able to request access to the user's current location and display restaurants nearby.
<b>NFR-B-05</b>	5.0: The system will only allow a given user to have up to 2 waitlists and reservation spots on the same date and time within a 2 hour reservation time frame.
<b>NFR-B-06</b>	6.0: The system will only allow reservations for up to 6 guests, or it will prompt the user to call the restaurant to make a reservation for a larger party.
<b>NFR-B-07</b>	7.0: The system must authenticate the user whenever they log into the system.

# Requirement Specification: Delighter

## Functional Requirements



**FR-D-01**

1.0: The default number of loaded search results prior to selecting “show more” can be changed from the settings, up to a maximum of 99 loaded results, and down to a minimum of 1 loaded result.

1.1: The prioritization of open restaurants by the search algorithm can be turned off in the settings tab.

**FR-D-02**

2.0: If the user enters a search query containing a specific type of cuisine that is not recognized by the database as being a part of a name with an exact match to an existing restaurant, the system must automatically filter search results to limit restaurants to only those serving that type of cuisine. The system will not consider one-word restaurant names for comparison with potential cuisine types.

2.1: The user should be able to use the search query to add filters using key phrases such as near me, vegan, etc.

**FR-D-03**

3.0: Restaurant managers and owners may register for a specific type of account that grants editing access to their particular restaurant’s page, given proof of employment.

3.1: Users with a restaurant-manager marked account shall be able to change the hours, menu, mask/vaccination policy, temperature check availability, reservations list, and a waitlist of their restaurant. They must not be able to edit existing reviews or ratings.

**FR-D-04**

4.0: The system shall have a speech-to-text system built in the search bar, to accommodate all users including people with disabilities.

**FR-D-05**

5.0: A registered user shall be able to follow and unfollow other users, as well as receive followers and get unfollowed by other users.

**FR-D-06**

6.0: The user shall be able to review, give ratings, and post pictures for specific categories related to the restaurant such as service, food quality, COVID safety rating, etc.

# Requirement Specification: Delighter

## Functional Requirements



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<b>FR-D-07</b>	<p>7.0: The system should be able to register a vaccination card from the user's phone camera or webcam, and read its relevant information into a form template. The system should additionally be able to turn this form into a QR code that can be scanned by any smartphone to open a digital version of the vaccination card.</p> <p>7.1: The user is able to integrate their vaccination card within their profile to speed up the check-in process for restaurants that require vaccination.</p>
<b>FR-D-08</b>	<p>8.0: The user is able to post questions on a restaurant's page and receive answers from the business owner(s) and fellow users.</p>
<b>FR-D-09</b>	<p>9.0: Non-guest users shall be able to save their favorite restaurants to their bookmarks. Bookmarked restaurants' overview pages can be accessed from a list within the bookmarks tab.</p>
<b>FR-D-10</b>	<p>10.0: The user shall be able to earn points and badges for each time they dine-in and/or check in to a restaurant.</p> <p>10.1: Users may display badges they have earned on their profile.</p>
<b>FR-D-11</b>	<p>12.0: The system shall verify that uploaded vaccine cards match the user's name and date of birth.</p>

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# Requirement Specification: Delighter

## Non-Functional Requirements



<b>NFR-D-01</b>	1.0: The system must have at least 99.9999% uptime.
<b>NFR-D-02</b>	2.0: The system shall have both a light mode and dark mode UI available for the app. The user should be able to switch between these UIs in the settings tab.
<b>NFR-D-03</b>	<p>3.0: Reviews, accounts, and photographs can be reported by any user to a moderation team by users on the basis of inappropriate, irrelevant, or completely inaccurate content. Moderators will review such content and if such conditions are met that the content should be removed from the platform within 3 days of the report's posting.</p> <p>3.1: The platform should be free of botting, scam accounts, or other such user accounts typically used to attack the integrity of the platform. This includes "troll" accounts that sign up for the platform solely to leave inaccurate reviews in bulk or attack other users.</p>
<b>NFR-D-04</b>	<p>4.0: The system will support auto-identification of images using machine learning in order to support vision-impaired users. Image captions should be accurate at least 90% of the time.</p>

# Information Architecture



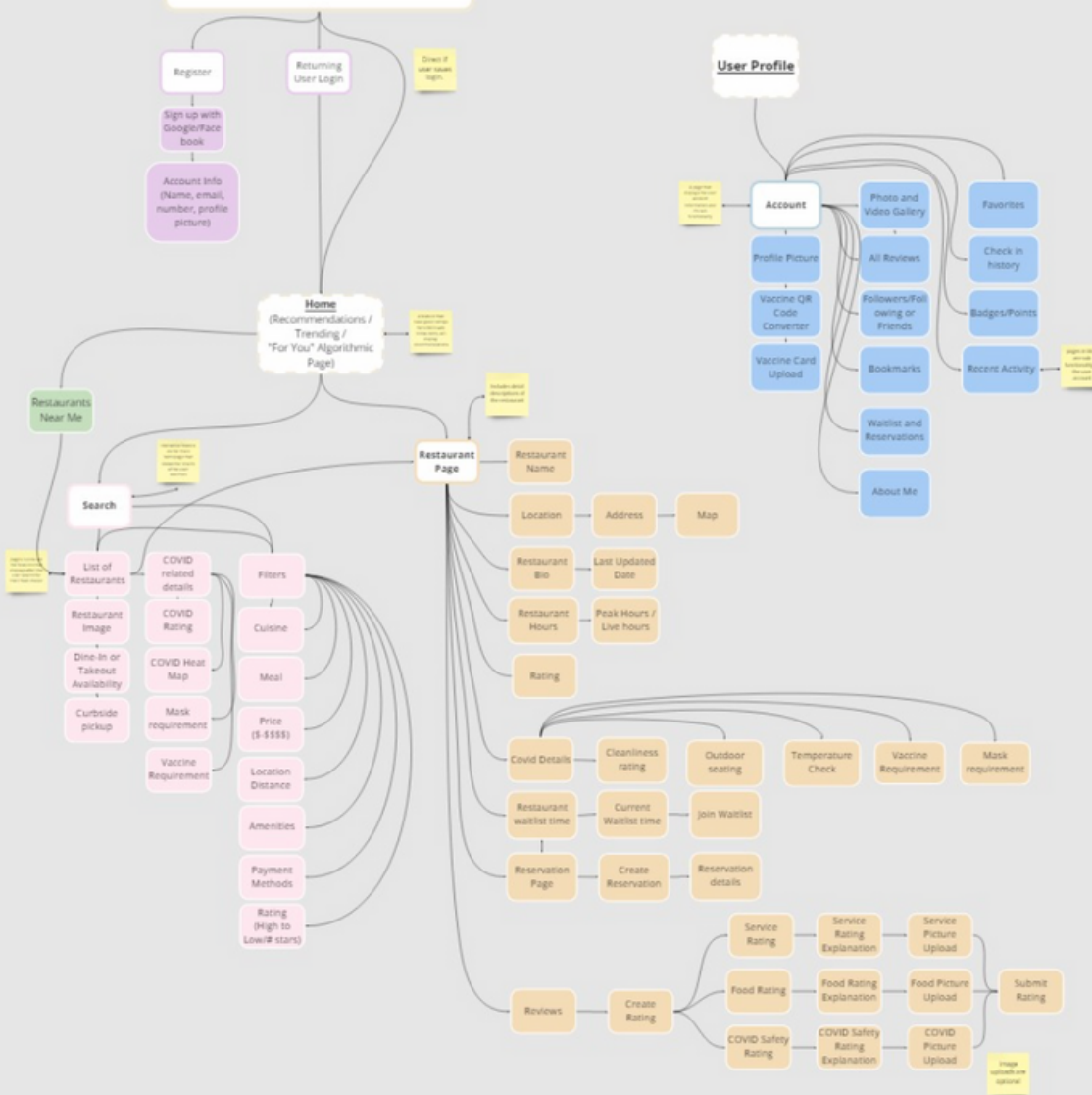
Based on our research, we've created a high-level information architecture. Using what we've learned in class, plus our team version of card sorting and task scenarios. Included below are the key information and decision points that we are using to shape the wireframes.



# Information Architecture



## FOOOD. LANDING PAGE



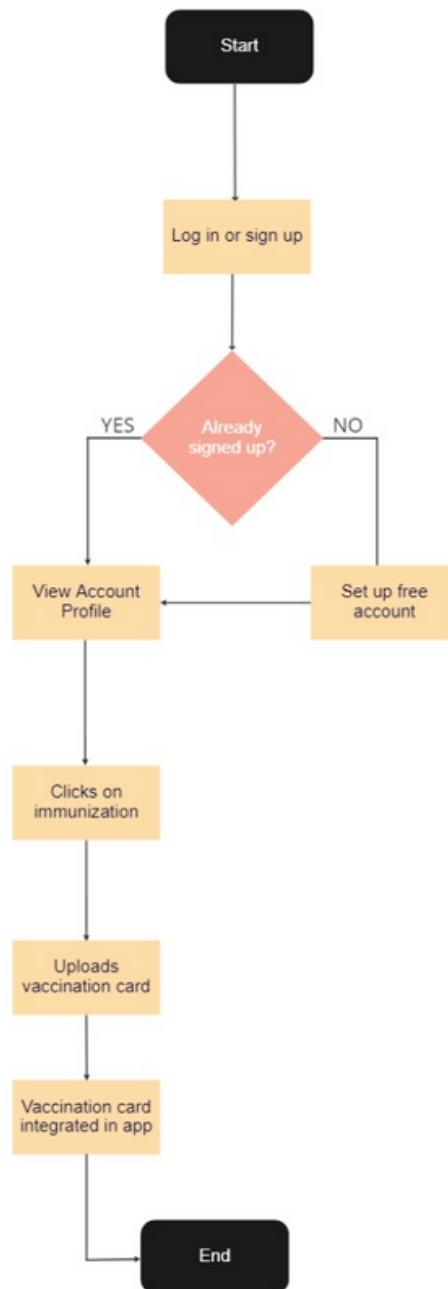
## SITEMAP LEGEND



# Information Architecture



## COVID Vaccination Card Integration

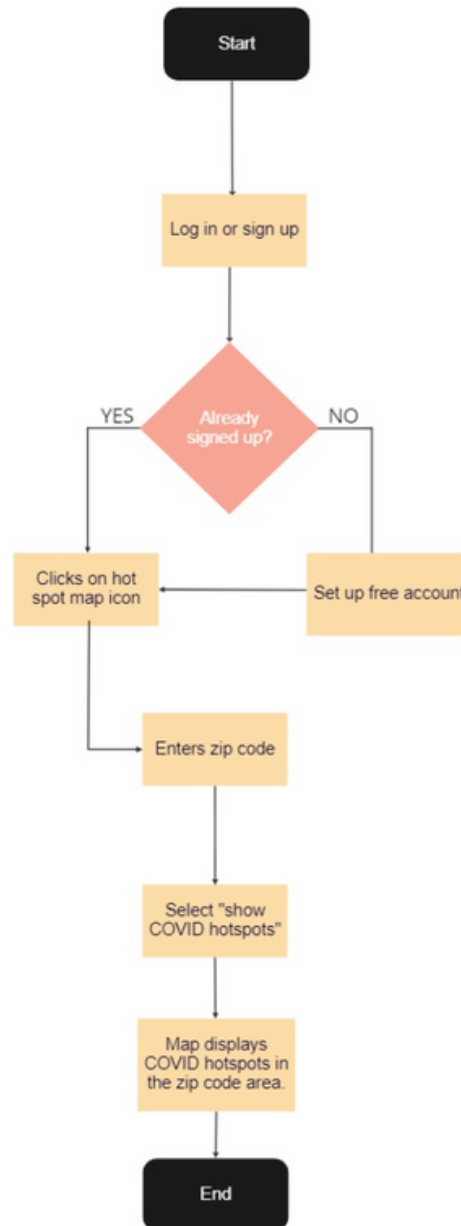


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# Information Architecture



## Hot spots of Recent COVID Spikes in the Area

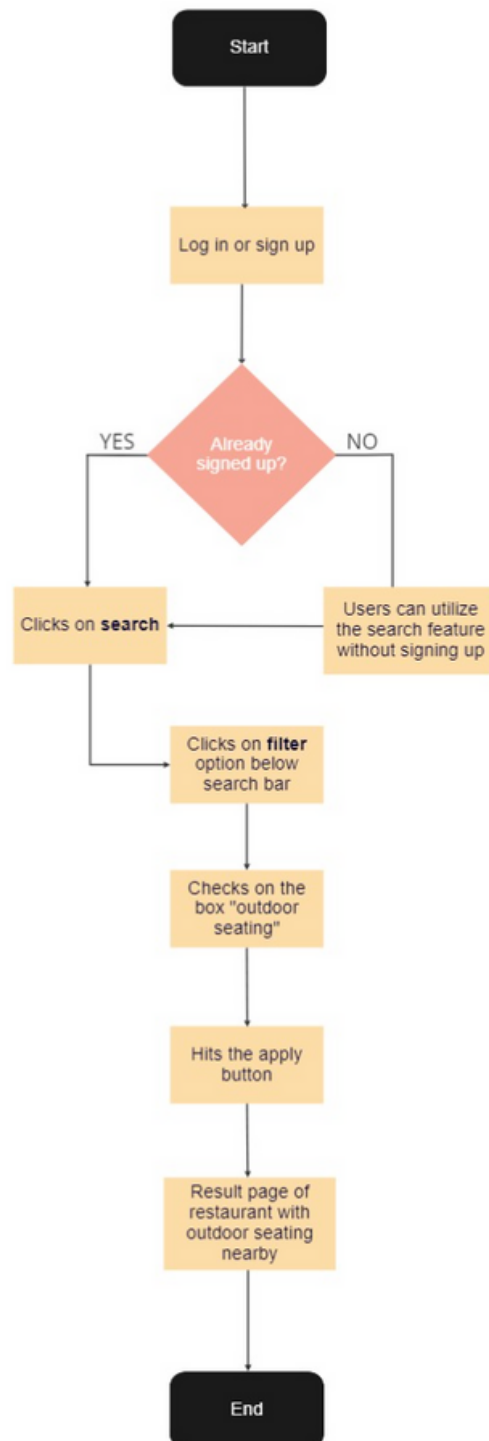


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# Information Architecture



## Finding Restaurants with Outdoor Seating

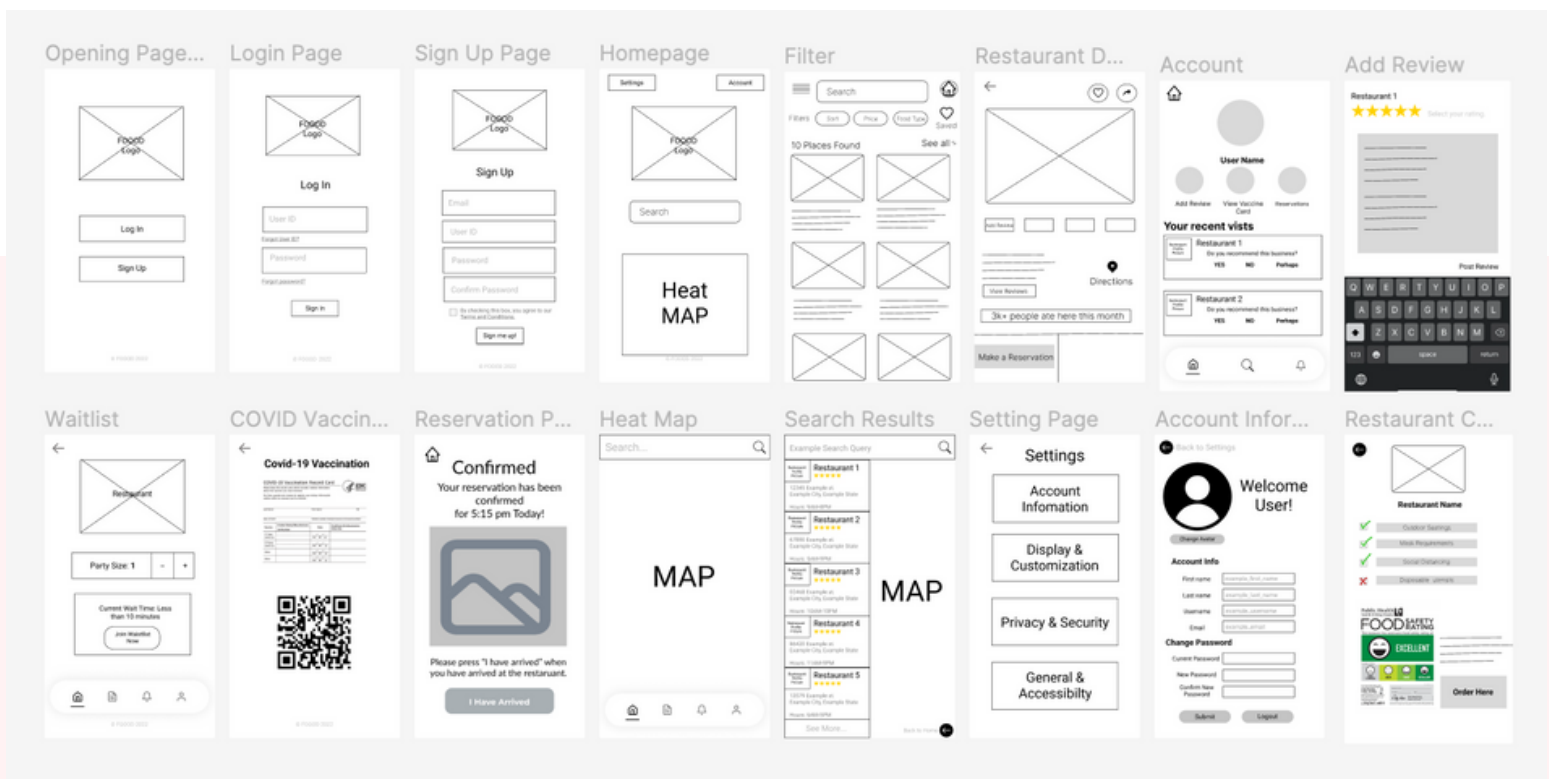


# Low-Fidelity Prototype



We produced a low-fidelity prototype based on our information architecture research to assist us in the early visualization of our design solutions, allowing testers to provide feedback and enhance our design and control flow. When provided feedback on a low-fidelity prototype, we are more open to revisions.

Our low-fidelity prototype is shown below:

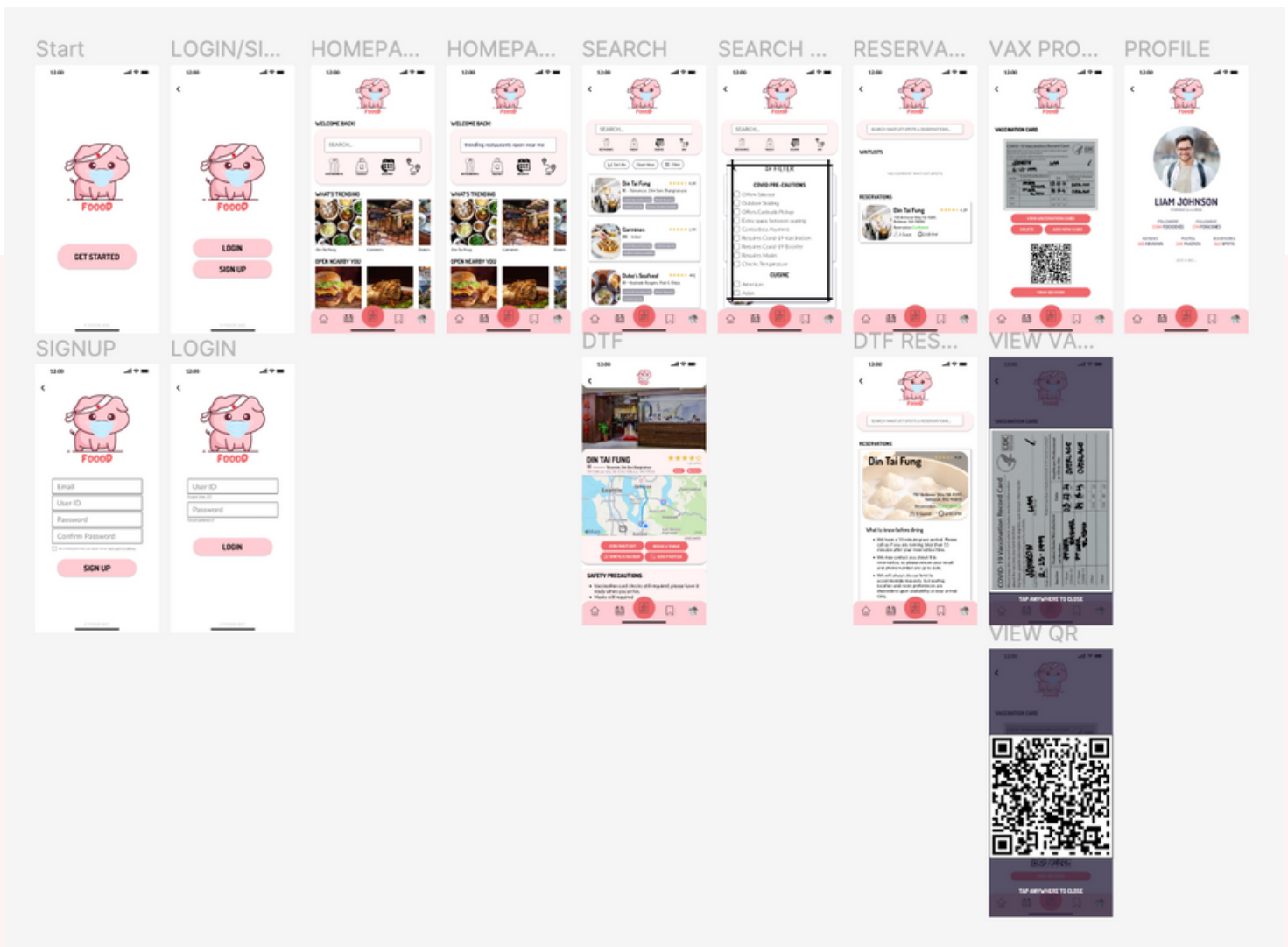


# High-Fidelity Prototype



Based on the feedback from the testers, we also created a high-fidelity prototype. This allowed us to examine a more accurate picture of the user interface and collect more useful human performance data, such as how seamless the transition from the homepage to placing a reservation was.

The high-fidelity prototype is shown below:



# Design Logistics

## Rationale

The FOOOD logo is a pig wearing a mask in a chibi (cute) art style. The pig provides an innate association with food (both as a food product and through traditional symbolism of the pig as a glutton), as well as matching our welcoming pink color scheme to help entice new users. The mask and medical wear relate the design to COVID, and the safety practices thereof, to symbolize the importance of the app for the user's health.

## Map Integration

The map feature was integral to the design as it allows potential customers to find, book, and get directions to a restaurant all within the app. This would be limiting the number of times the customer has to leave the app giving more room for potential ads and a better flowing user experience for the customer.





# Branding

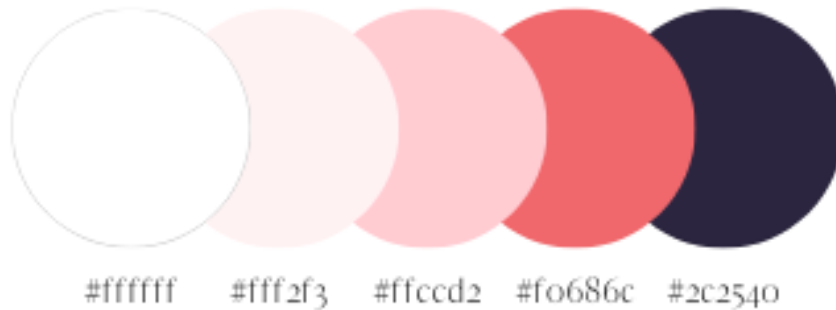


Our color choices and logo are supposed to help invoke feelings of affection or familiarity with the customer and help to make them view the app in a more positive light.

Primary fonts:

DOSIS LATO

Color Scheme:



#ffffff

#fff2f3

#ffccd2

#f0686c

#2c2540

# Usability Testing

## Research Questions: (from Requirements Interviewing)

### Dining Habits

- What factors are most important in deciding which restaurant to buy food from?
- When you are eating out, are you usually alone or in a group setting?
- What review sites do you like to use in order to decide where to eat?
- Do you prefer eating out or ordering takeout? Why?
- What are some worries you may have when it comes to dining out during covid?
- What do you look for when searching for a restaurant to eat at during covid?
- What do you think restaurants can do to help the public feel safe going to their restaurant during covid?
- What do you believe a restaurant can do to be more transparent about COVID-19 precautions to ensure safety?



# Usability Testing

**Work Experience** (Note: if the interviewee has never been employed, skip this section)

- What profession do you work in?
- How do you feel about your health and safety on the job?
- Does your workplace have a mask mandate?
- Does your workplace require employees to be vaccinated?
- How do you feel about the statewide mask mandate lift?
- Can you tell me a time when a customer refuses to comply with the rules? What actions were taken during the situation?
- If you were working during the initial emergence of COVID (2019-2020), did the emergence of COVID and the lockdowns have a major impact on your workplace's business, customers, etc.? If so, what impacts?



# Usability Testing

## Application-Related Needs

- What does an application need for you to consider using it?
- What does an application need for you to consider using it over other applications of a similar type?
- Would you prefer to use applications that offer a breadth of information from the beginning or offer limited information for quick browsing with the option to expand the information available? Why?
- What are your pain points when using applications generally? How best do you believe these pain points can be remedied?
- What makes an app user-friendly, especially enough for those who aren't familiar with technology?
- Would you be interested in an app that shows you COVID-friendly restaurants?
- What would you say your main motivation would be in using an application designed to help with dining-in in restaurants during COVID-19?



# Usability Testing

## Method

To collect our data, we had users go through our prototype, and informed them to try and execute the following three task scenarios:

- Check if a restaurant offers outdoor seating.
- Make a reservation with that restaurant.
- View your vaccine card.

We collected qualitative feedback based on their feedback during and after the navigation process. Each team member collected feedback for one test.

## Data Analysis

One major observation we noted in our studies was the focus on the UI, despite the prototype being in the wireframe development stage at the time of testing. Many users had smaller gripes about the placement of icons or the consistency of menus in the UI.

Users thought the navigation was fairly logical and the app- especially the vaccine card storage feature- was handy. The layout was for the most part straightforward, although there was some confusion as to the difference between the user profile and account settings.

## Conclusion

Drawing upon these observations, the primary directive for the next wave of development for our prototype was to improve the UI. We wanted to create a sleek, clean interface that users can easily navigate, with a consistent layout to avoid confusion. As you can see from our high-fidelity prototype, many aspects of the UI were improved from the wireframe; the theme, color scheme, inclusion of our logo, fonts, screen layout, and consistency of the bottom menu bar were all implemented in the high fidelity prototype.





# Reflection

We've learned that the smallest actions make the biggest difference. One of our test subjects for our usability testing pointed out that our home button was repetitive because it was in multiple different locations. By simply deleting the extra home button, it makes the user experience more streamlined. One small change can make a world of a difference in terms of efficiency, effectiveness, and satisfaction. Our group chose to start with low fidelity and that allowed us to focus on the user experience rather than the user interface. Lastly, we've learned that making a product that exceeds user expectations is difficult. Meeting the basic needs of users is the first hurdle in achieving user satisfaction. To make a product stand out, it must have good performance while offering delight to users. Our next steps would be refining the information architecture and flow of our mobile application. We would like to conduct more user testing to improve our prototype.

Furthermore, we would like to conduct ethnographic research to find possible delighter that our users might want and help us stand out from competitors. Gamification may be included in our future prototype to engage users and add more elements of fun and interactiveness to our prototype. At this stage in prototype development, it can also be noted that we are at such a point where we could go forth in developing this prototype into a working application through software development and that further development of the prototype itself would be done to improve the user experience rather than meet the requirements for the minimum viable product.