SW Engineering CSC 648
Spring 2023
Team 06
Milestone 02 Part 1

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Executive Summary

There is a lot of money to be made in food delivery services here at SFSU! Currently, if a student wants food delivered to him or her, that person would order, pay exorbitant prices, and have to meet at agreed upon locations to pick up the food. It's not even a true delivery service! It's more of like a "meet me halfway" sort of deal, where they're paying to bring the food just a little bit closer! We want your help in fixing these issues to make our community better and make a hell of a lot of money doing so. We want to make an app that combines our specific knowledge of the campus with food services to provide students, faculty and staff with an even better delivery experience coupled with discounted prices and deliveries that actually make it to your door! Our team is perfect for this task as we are all highly motivated, excited young minds with a boldness that will surprise you. Our communication is solid and we aren't afraid of bringing up difficulties that might slow down the process. On top of that, we come from many different backgrounds that should provide a flurry of diversity and different approaches to problem solving. If you provide the fundings, we'll provide the team to tackle the logistics and make this dream a reality.

2) Data Glossary and Description

User Types

- Unregistered user: can browse all restaurants' information such as category, menu, rating, address, delivery time, etc. Can perform full search to look for restaurants. Can sort search results by rating, price, or delivery time. Does not need to register or log in.
- Customer: SFSU students, faculty, and staff. Has all the privileges granted to unregistered users, but can also place orders. Needs to register and log in.
- Restaurant manager: the person who registers their restaurant and manages their menu and orders. Needs to register and log in.
- Driver: the person who delivers orders to customers. Can accept or decline a delivery assignment. Needs to register and log in.
- Admin: can approve or reject a restaurant's registration. Has their account set up directly within the database. Does not need to register.

Data Entities

- Restaurant: a business that registers for our service to provide their food to customers. A restaurant contains the following subcomponents:
    - name
    - address
    - phone
    - email
    - category
    - logo
    - rating
    - minimum delivery time
    - registration status
- Category: the type of food that a restaurant serves. A category contains a name that represents a type of cuisine, e.g. Mexican, Chinese.
- Dish: a particular item of prepared food served at a restaurant. A dish contains the following subcomponents:
    - name
    - price
    - description
    - picture
    - the restaurant at which the dish is served
- Order: a request from a customer for some dishes at a restaurant. An order contains the following subcomponents:
    - customer who placed the order
    - restaurant fulfilling the order
    - order date and time
    - order total
    - delivery fee
    - driver assigned
    - delivery address
    - order status
- Order dish: a particular dish on a single order. An order dish contains the following subcomponents:
    - information that identifies the dish
    - the order to which the dish belongs
    - quantity

3) Prioritized Functional Requirements

Priority 1 - must have

- Unregistered Users
    1. Unregistered users shall be displayed a list of restaurants and the restaurant's information
    2. Unregistered users shall be able to view a restaurant's menu and pricing, and estimated time of delivery
    3. Unregistered users shall be able to add dishes to their shopping cart
    4. Unregistered users shall be able to create an account by filling in a registration form
- Customers
    5. Customers shall be required to sign up using their SFSU email
    6. Customers shall enter the location at campus they want their order to be delivered to
    7. Customers shall order their requested food after checking out their shopping cart
- Drivers
    8. Drivers shall be required to sign up by showing proof they are able to drive
    9. Drivers shall be displayed a list of orders they can deliver
    10. Drivers shall be able to see specific information about an order
- Restaurants
    11. Restaurants shall be required to sign up by registering the restaurant's information
- Admins
    12. Admins shall be required to approve all restaurant applications before they go live

Priority 2 - desired

- Unregistered Users
    13. Unregistered users shall be displayed a map of the surrounding restaurants of the SFSU campus
    14. Unregistered users shall be able to search for their desired restaurants by entering text into a search bar
    15. Unregistered users shall be able to view restaurants of specific categories
    16. Unregistered users shall be required to sign up or sign in as a customer after they order
- Customers
    17. Customers shall be able to rate restaurants they have ordered from

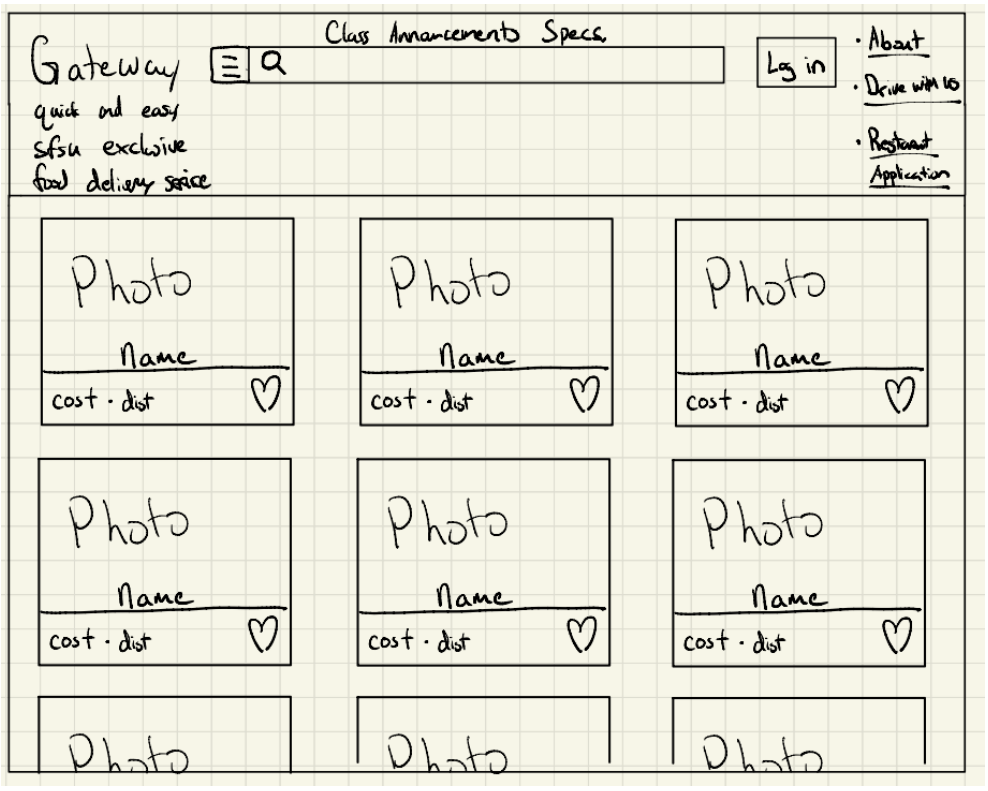
18. Customers shall be given discounts on their orders at the discretion of restaurants

- Drivers
    19. Drivers shall be displayed a map showing pick up and drop off locations for their deliveries
- Restaurants
    20. Restaurants shall be told to wait for approval upon registration
    21. Restaurants shall be able to add new dishes to their menu after approval from an admin
    22. Restaurants shall be able offer discounts of their menu items
    23. Restaurants shall be able to delete their dishes at will
- Admins
    24. Admins shall have access to data of all users
    25. Admins shall be required to approve all changes to a restaurant's menu before they go live

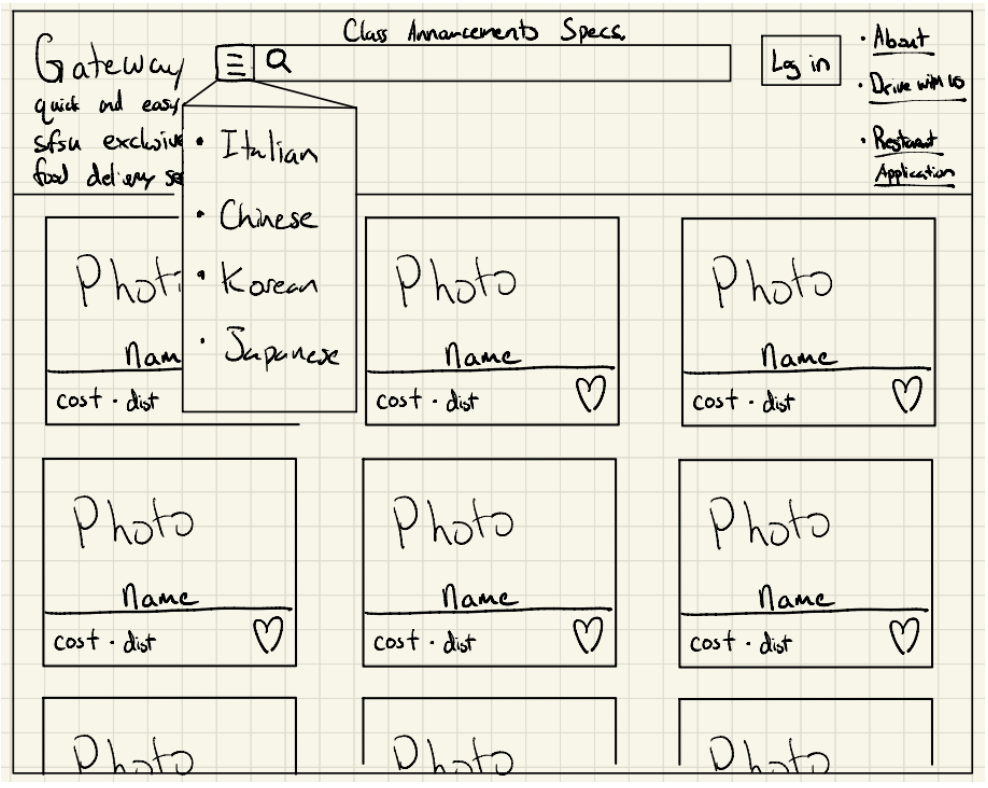
Priority 3 - opportunistic

- Unregistered Users
- Customers
    26. Customers shall be able to favorite restaurants
- Drivers
- Restaurants
    27. Restaurants shall be able to change information about dishes after approval from an admin
- Admins

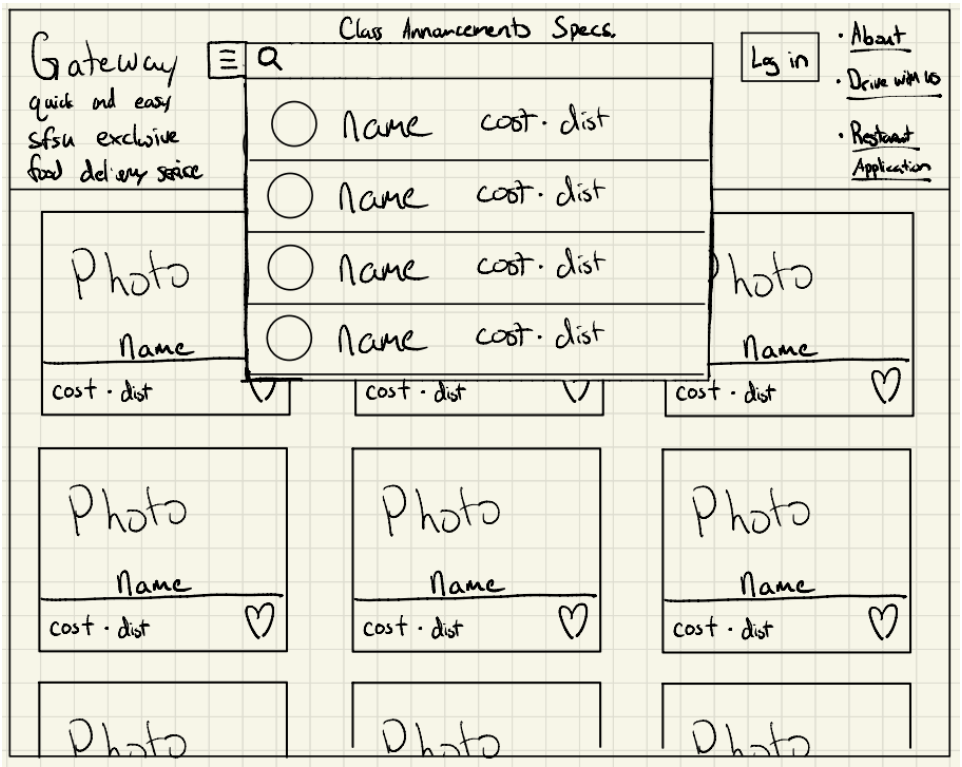
4) UI Storyboards



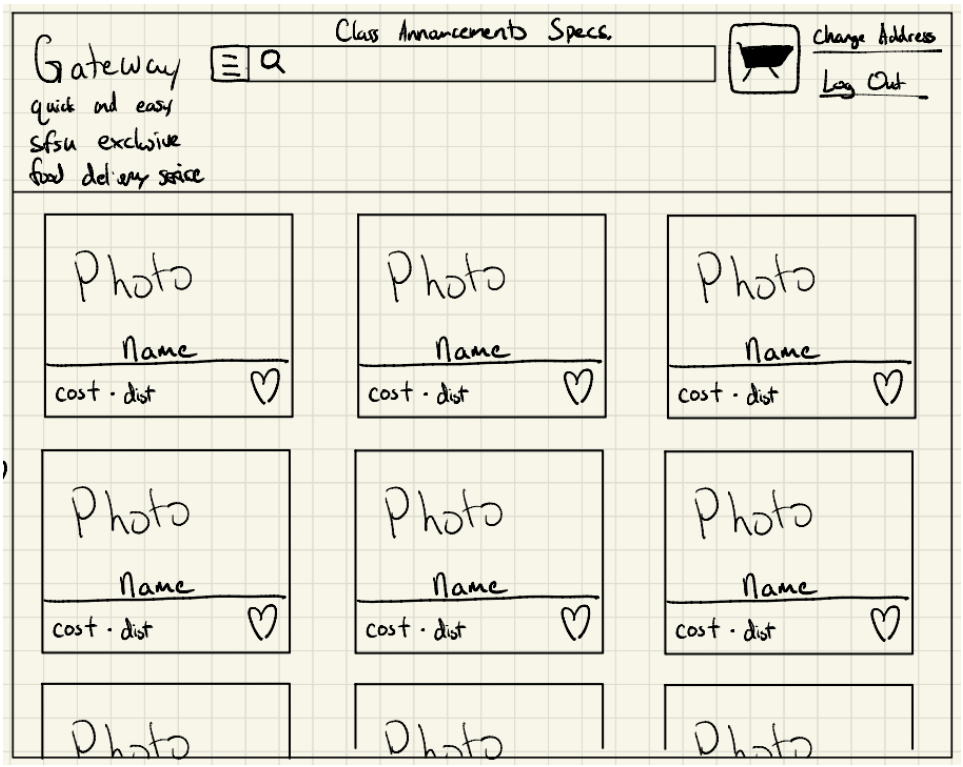
Home page - Default



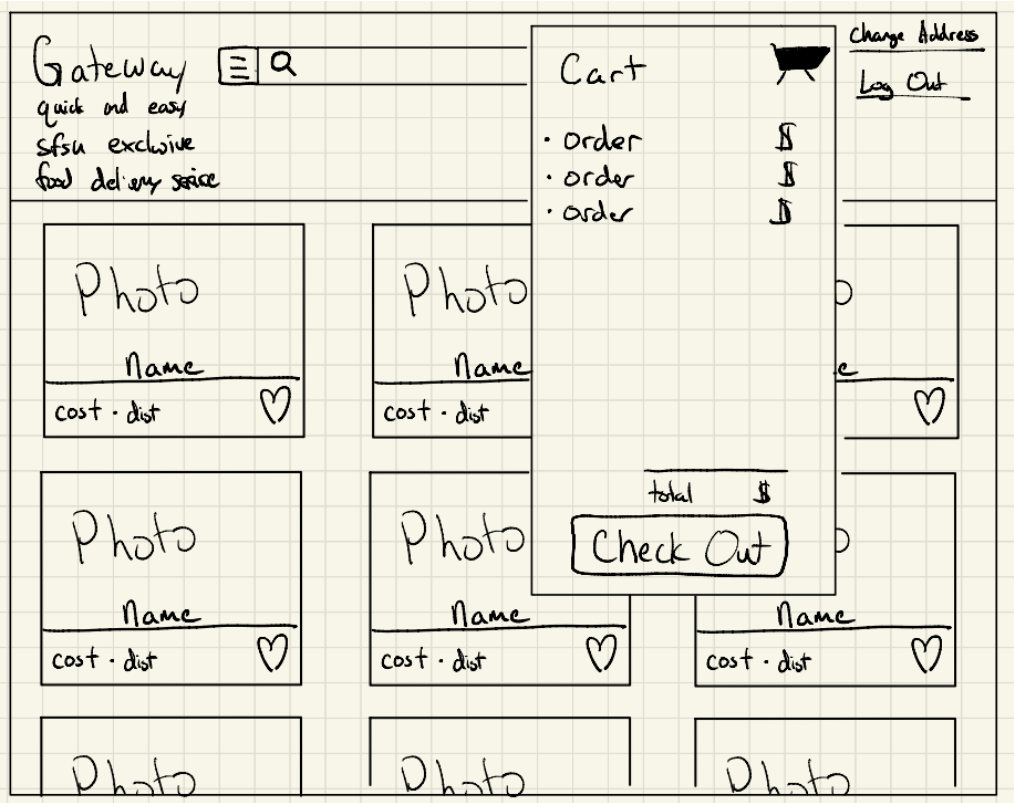
Home page - Home page Drop Down



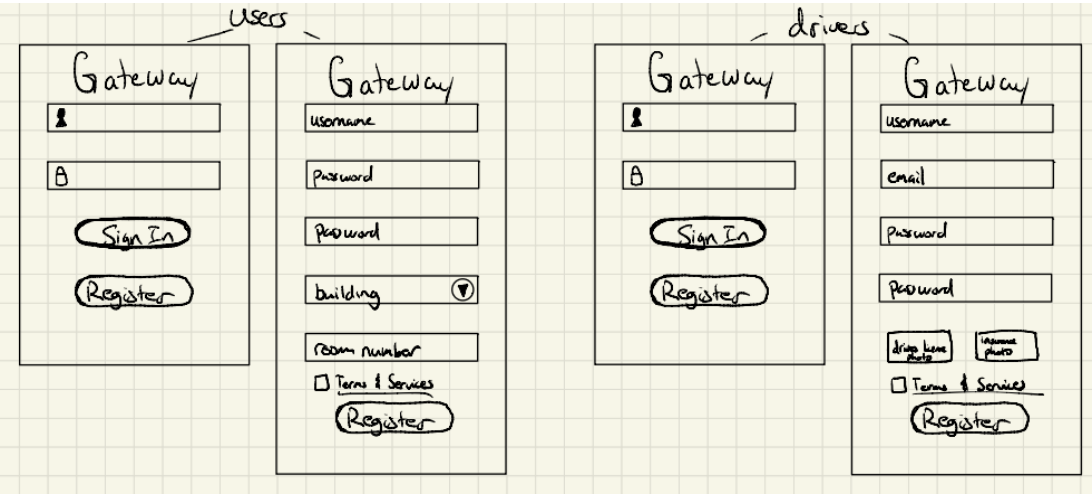
Home page - Text Search



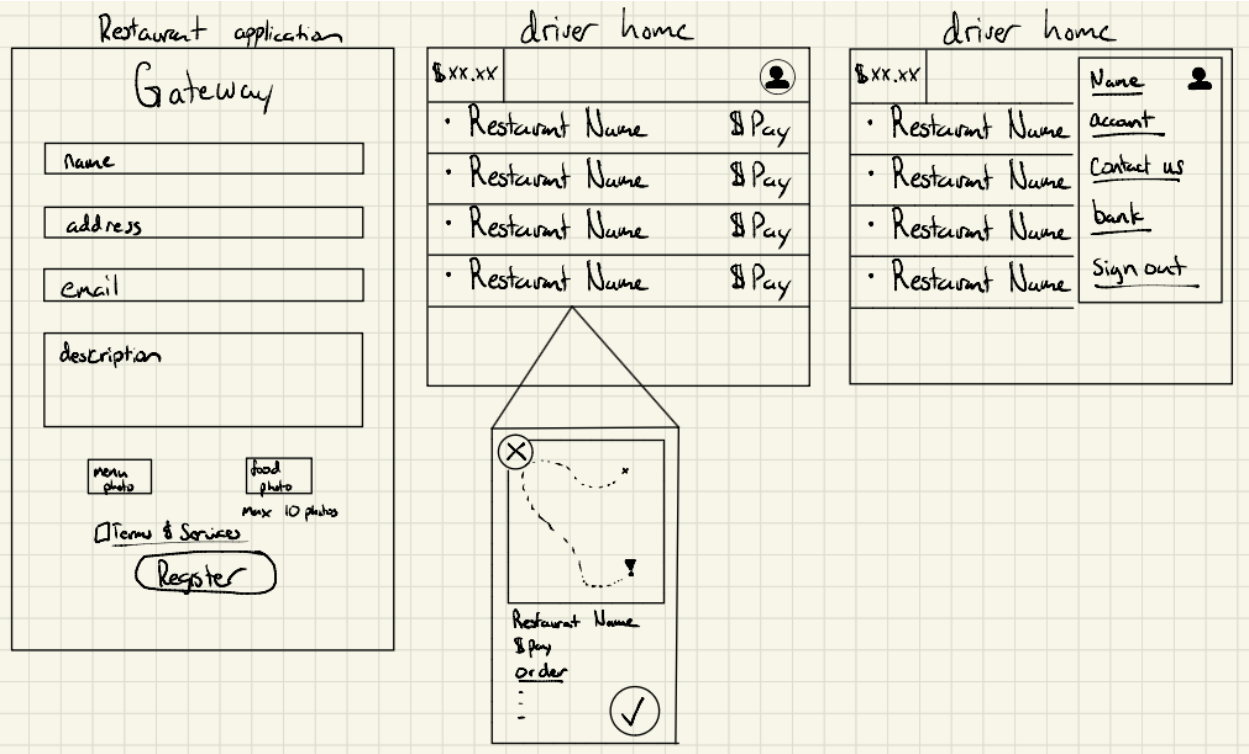
Home page - Text Search



Home page - Checkout



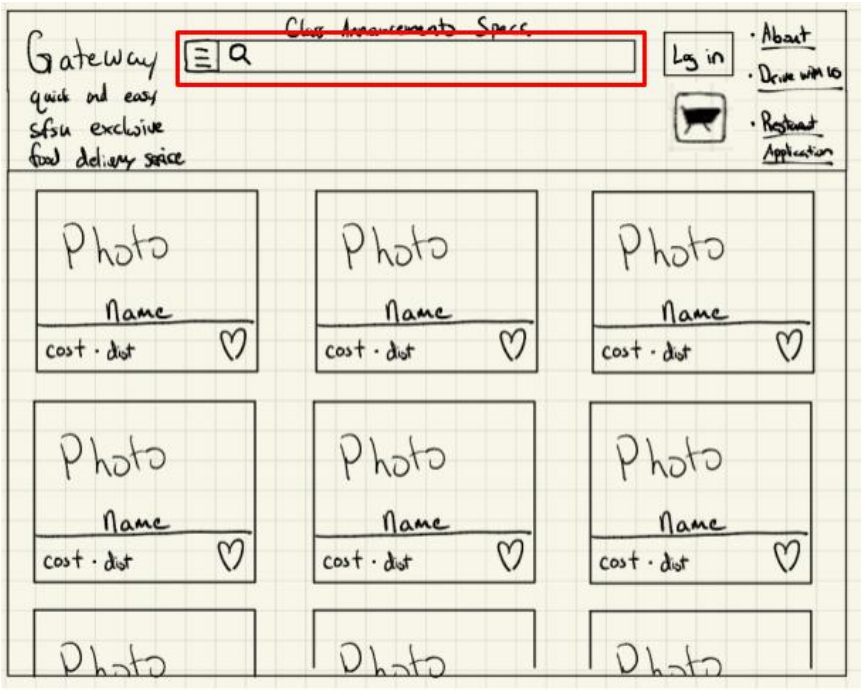
Login Page



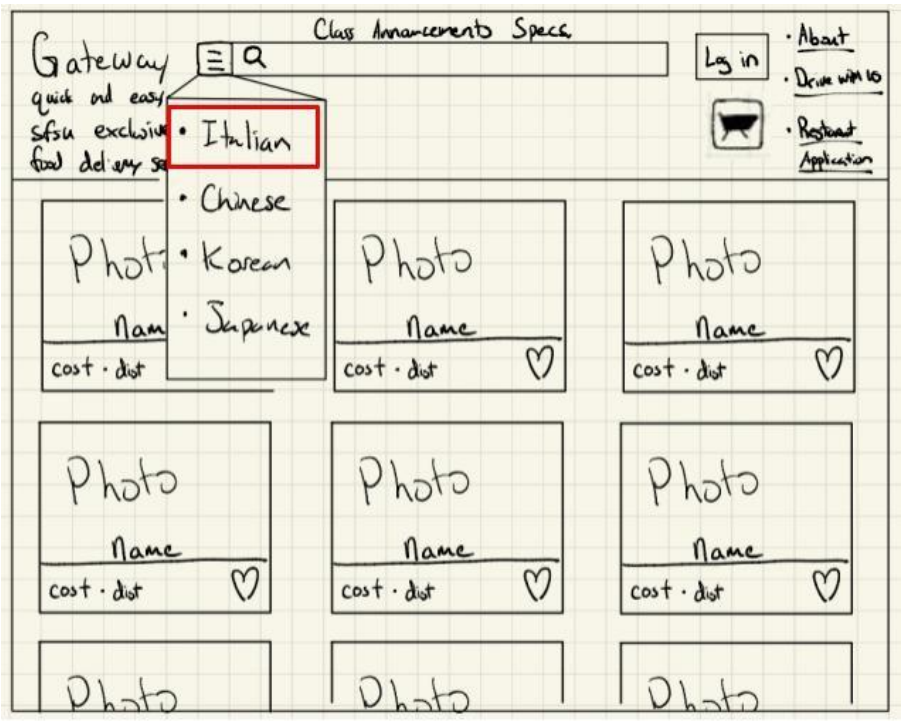
Restaurant Application - Driver Home

Restaurant User Page

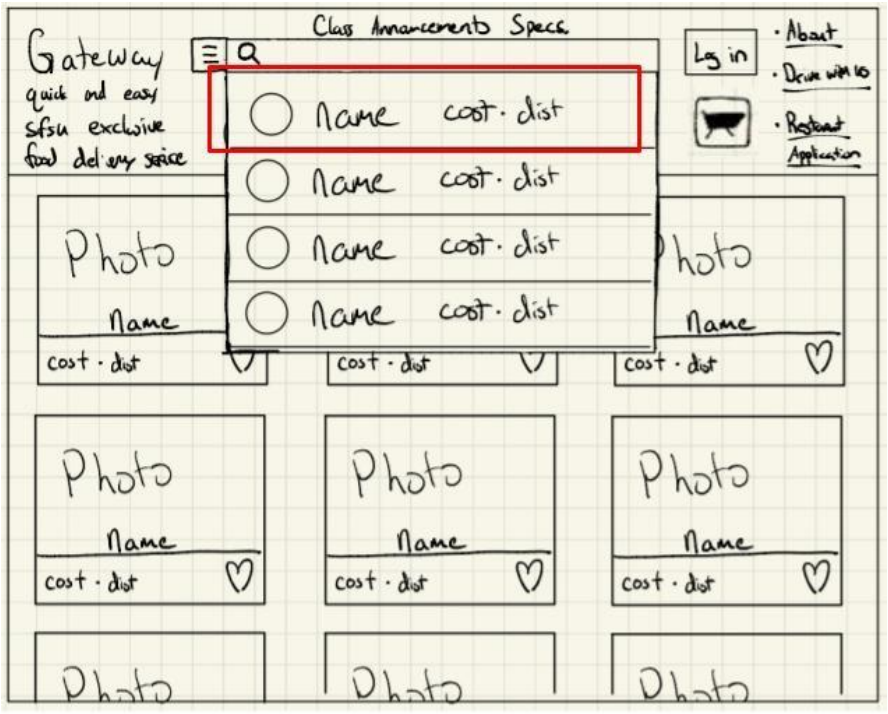
Rick opens up the app on his phone and is not logged in. He searches for the food he wants through the search bar and adds them to his shopping cart. Right before checkout he is asked to login. He proceeds to log in and completes the order.



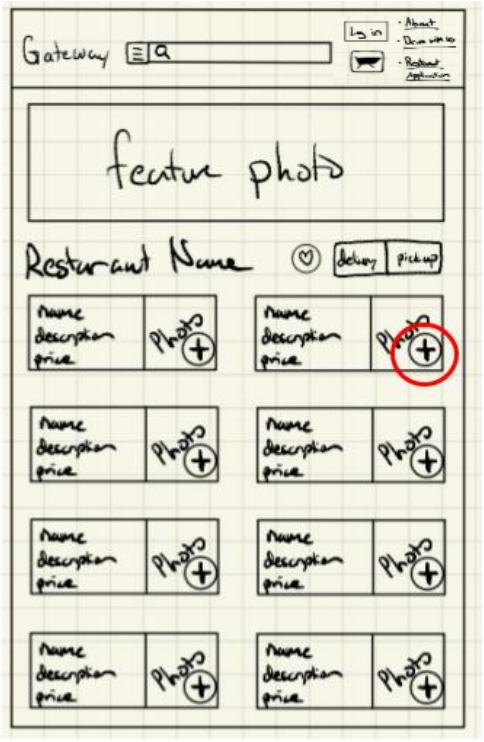
Unregistered users have the ability to search for restaurants



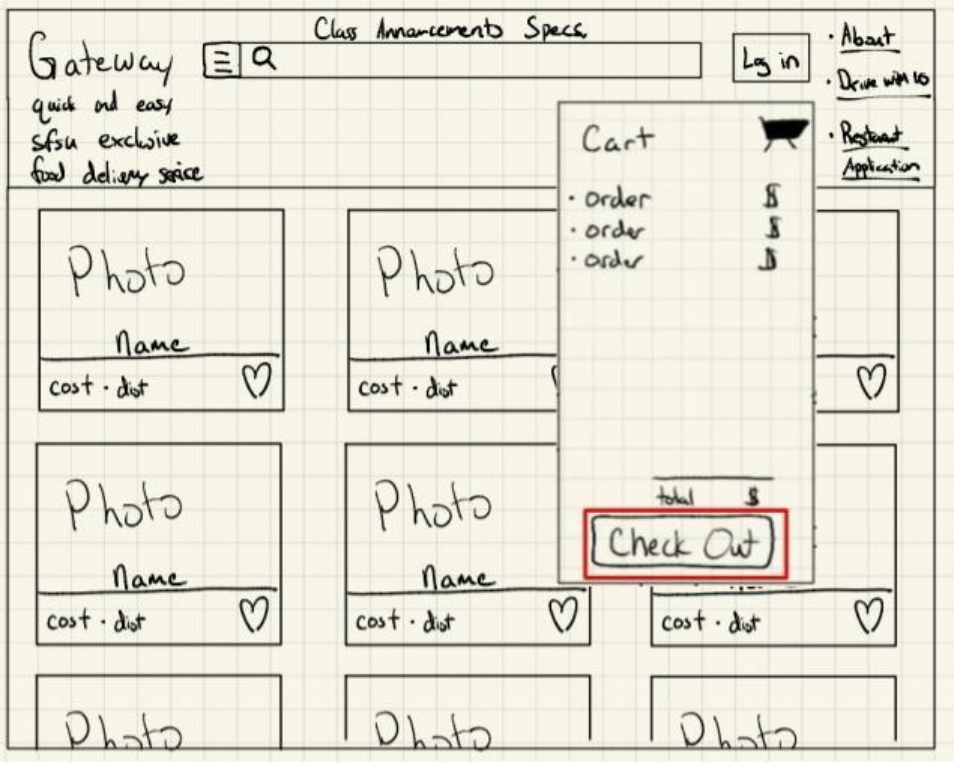
The dropdown menu lets users choose their desired category of food



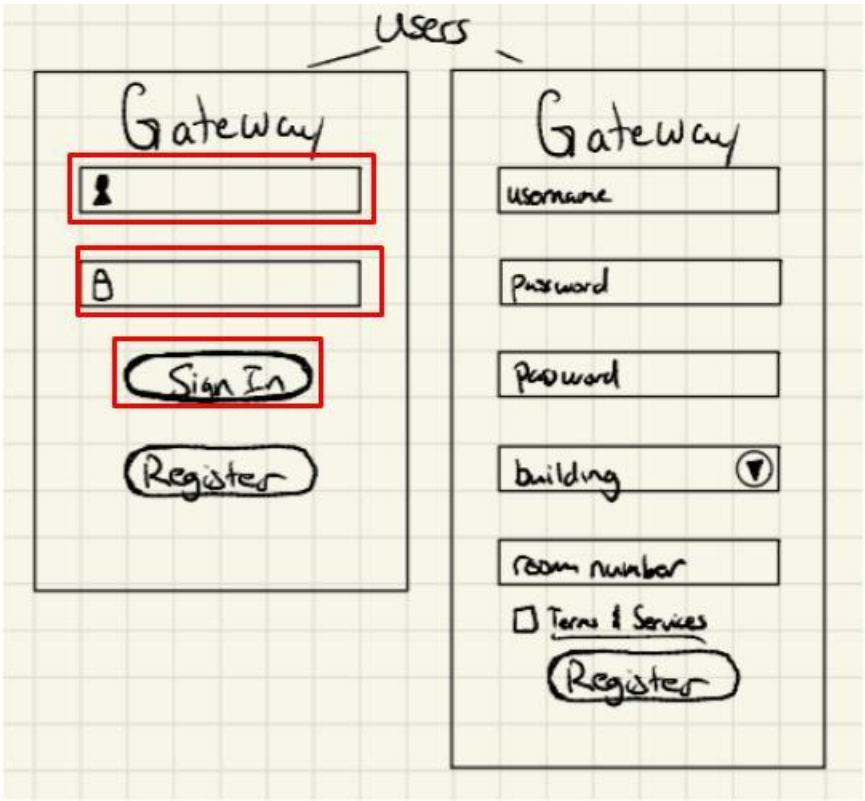
Unregistered users can click on a search result to go to a restaurant's page



Clicking on the plus button by each dish adds it to the shopping cart

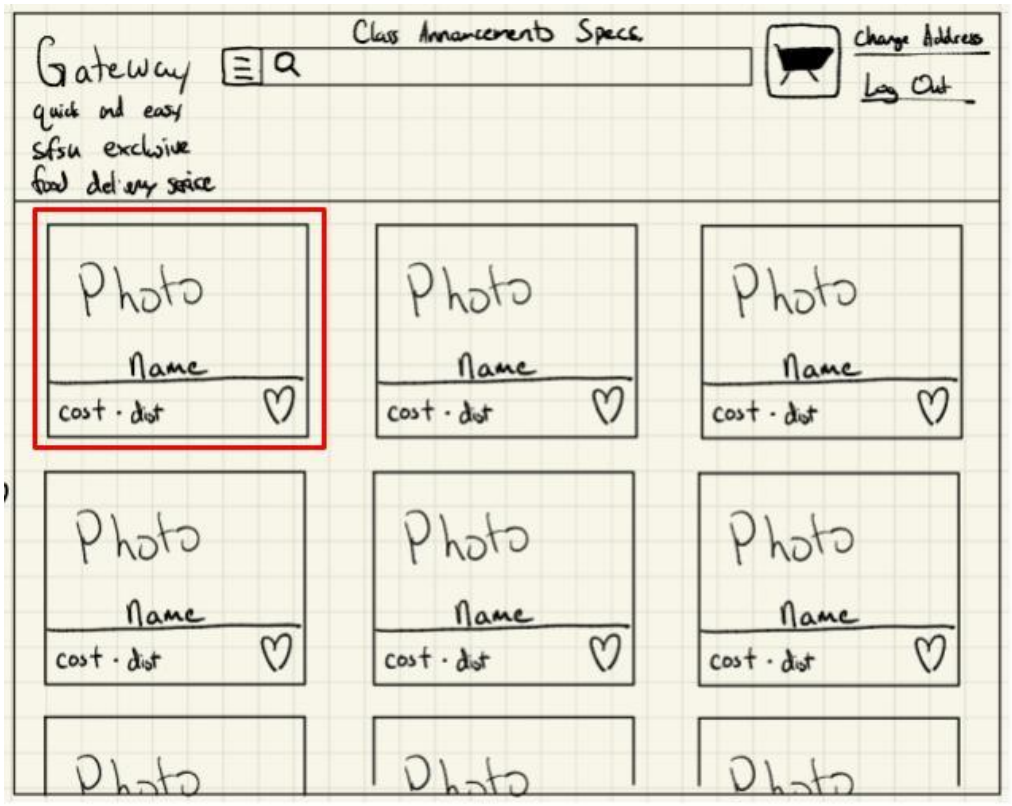


Unregistered users can add orders to a shopping cart and check it out

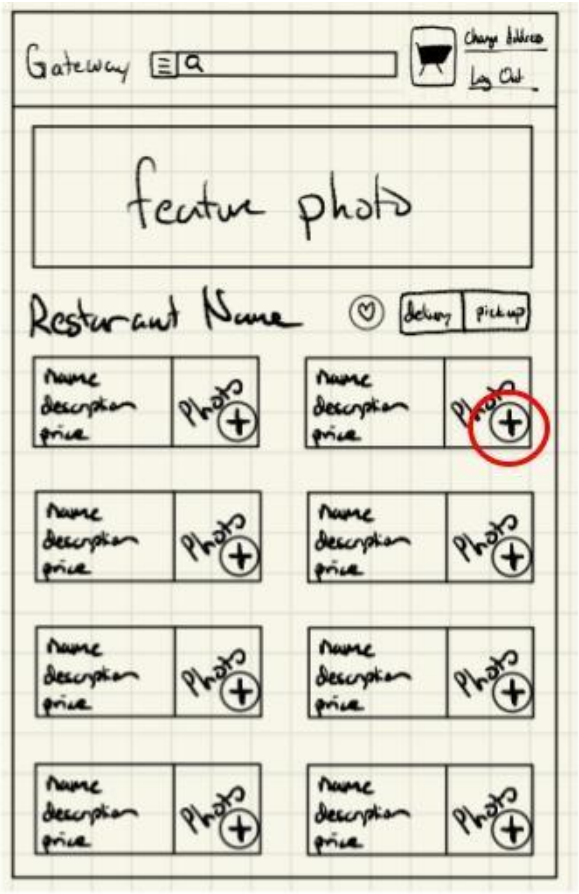


Unregistered users have to login or sign up after check out

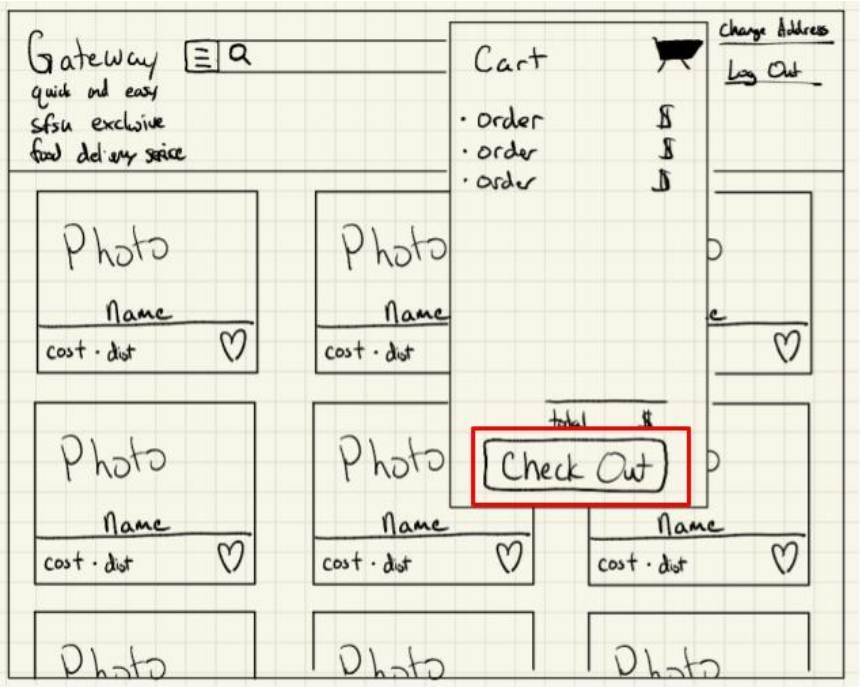
Mary opens up her laptop and navigates to our site. Since she uses the site often, she is already logged in. She selects the order she wants and makes her order by checking out the shopping cart.



Clicking on a picture of a dish sends the customer to the restaurant's page

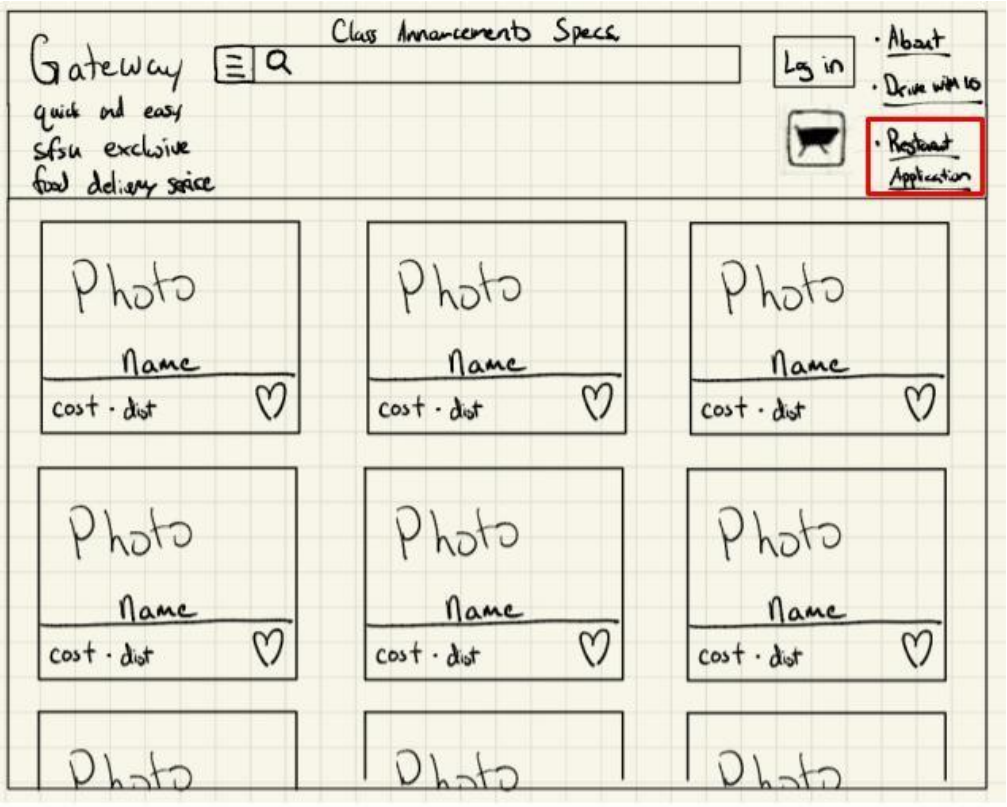


Clicking on the plus button by each dish adds it to the shopping cart

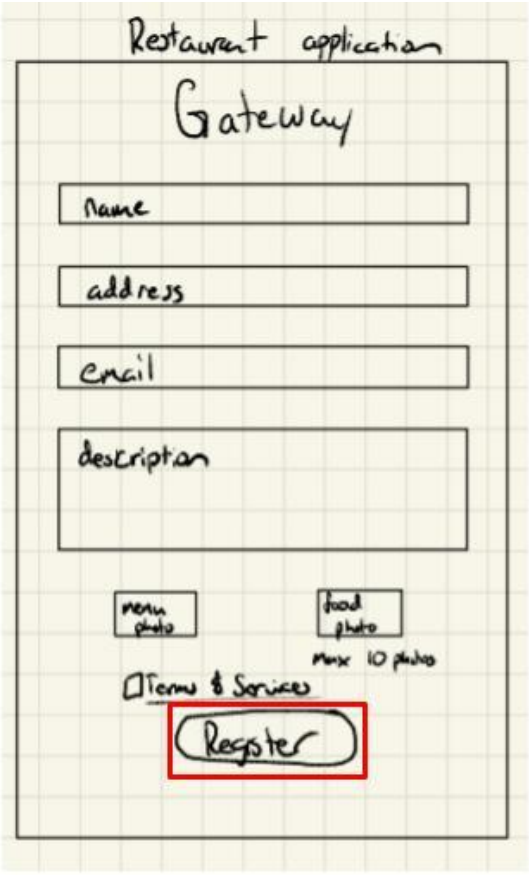


Customers that are logged in can order their food by checking out

William wants to promote his restaurant. He enters the restaurant portal in the navbar and goes to the restaurant registration form. After he submits this form, he is told to wait for approval.



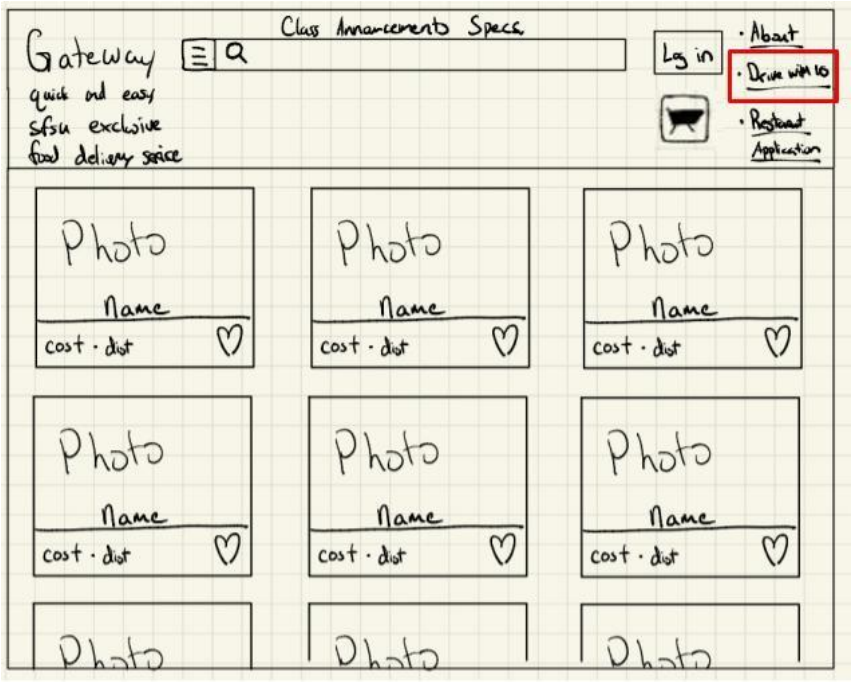
Restaurants can register an account by clicking on their respective button



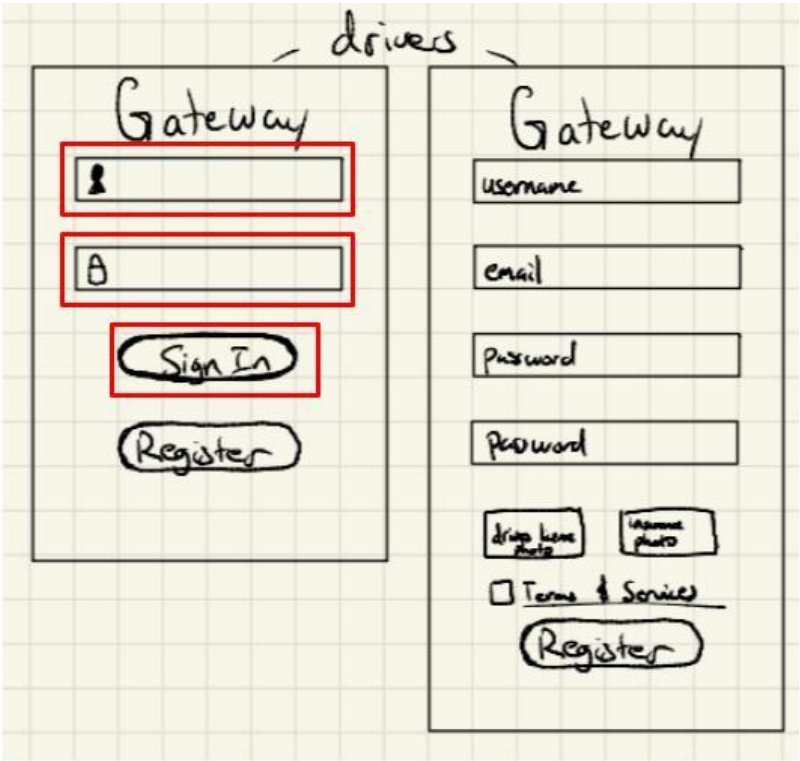
After filling out the form, restaurants will send their registration for approval

Restaurants will be told to wait for approval after they register

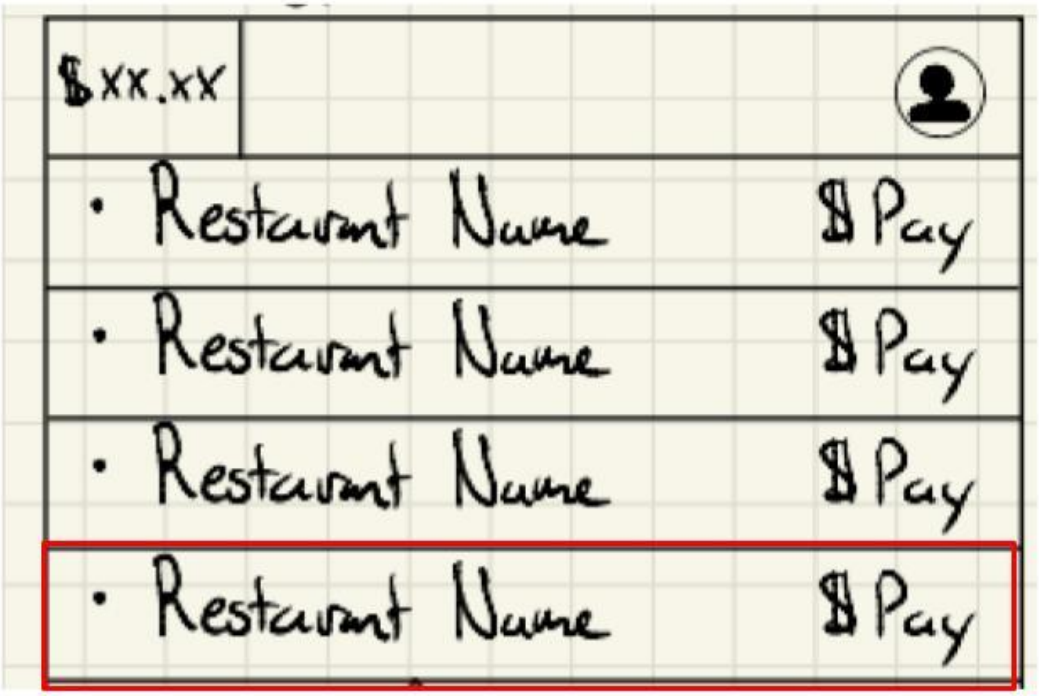
Jane opens up the app and logs in as a driver. She notices a few orders close by using the map and the pick up/drop off instructions. She accepts the deliveries and can begin picking up the food.



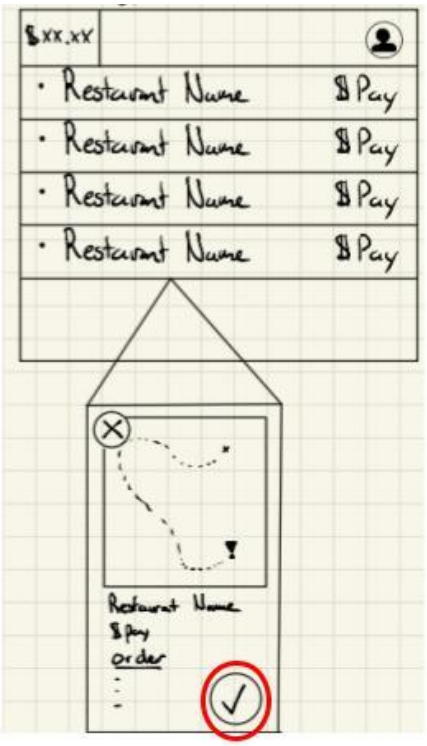
Drivers can log in by entering their respective portal



Drivers will log in through the driver portal



Drivers can see all orders but information is vague so they have to click on them if they wish to view more detailed information



Drivers will accept an order by clicking a checkbox after seeing more detailed information on an order

5) High Level Architecture, Database Organization summary

Database Organization

- Customer
    - **PK**: customer_id
    - full_name
    - hashed_password
    - phone
    - email
    - building
    - room
- Driver
    - **PK**: driver_id
    - full_name
    - hashed_password
    - driver_license
    - insurance
    - email
    - phone
- Restaurant
    - **PK**: restaurant_id
    - **FK**: category_id
    - address
    - name
    - phone
    - email
    - logo
    - rating
    - average delivery time
    - registration status
- Category
    - **PK**: category_id
    - name
- Dish
    - **PK**: dish_id
    - **FK**: restaurant_id
    - name
    - description

    - price
    - picture
- Order
    - **PK**: order_id
    - **FK**: customer_id
    - **FK**: restaurant_id
    - **FK**: driver_id
    - delivery_address
    - order_date_time
    - total
    - delivery_fee
    - status
- OrderDish
    - **PK, FK**: order_id
    - **PK**, **FK**: dish_id
    - Quantity

Media Storage

Photos and media will be stored directly into the database in BLOB format.

Search

- SQL precise search for categories from database column called “category” ANDed with
- %like search on text field

6) Identify actual key risks for your project at this time

- Skill Risks
    - One problem we may have is that a team member does not know how to implement some of the functions that we have planned for our application.
        - That team member can consult other team members or search for online resources to figure out what to do. If even that does not work, our team can consult the instructor or class CTO.
- Schedule risks
    - A team member may be unable to complete work that they were assigned because of other commitments they have outside of the class.

        - They can try their best to complete their given task and tell the team when they believe they cannot finish it. After understanding the situation, the rest of the team can finish it in their stead.
- Technical risks
    - A team member may be unable to test their code if they have issues setting up all of the software tools or frameworks that our team is using.
        - They can ask for help from other team members to see how they have set up the software tools or frameworks. If that doesn't work, they could search online or ask the team to test their code.
- Teamwork risks
    - The frontend or backend teams may not understand what they will need to implement in order for the other team to do their work.
        - The teams will communicate on Discord to monitor each others' progress. Each team can tell the other if they need a specific function implemented.
- Legal/content risks
    - Our team may use an image in our project, such as a restaurant logo or dish picture, that should not be used due to copyright.
        - If we find that there is an image we cannot use in our project, we can find an image that is free to use to replace the old image with.

7) Project management

As with Milestone 2, future milestones will be met by splitting the work into tasks that will be delegated to individuals or subgroups to complete. These subgroups are split into front end and back end development, and are composed of a lead and a support.

Communication will be handled in person once a week with a SCRAM meeting, as well as 2 additional weekly meetings held over voice call. These meetings will be used to regroup and discuss next steps, or to discuss progress on current tasks. When needed, we may hold extra voice call meetings with respect to members' schedules, with agreed upon times chosen by using when2meet.com to line up free time slots.

Discord is our choice platform for voice calls and other on-demand communication, including but not limited to checking in with members, and members announcing their current progress. Discord also serves as an organizational space, where we will be keeping a bulletin board of important tasks and information, and using specific, predesignated spaces for discussion of certain tasks.