EE461L Project Proposal - Munch

Team

Canvas Group: Lavender
Project Moniker: Munch
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URLs

Google Drive: https://drive.google.com/open?id=1g54bKffVb4Ezu9NKIyyImS_LYHZAqezE
Github Repo: https://github.com/MunchApp

Vision

Munch is a real-time food truck locator. Implemented as an android app, there will be two different types of users: Customers and Food Truck Owners. Food truck owners will have all of the functionality that users have, as well as the ability to manage a list of food trucks. Customer accounts will be able to create searches for nearby food trucks, leave reviews once they have visited, and verify the location of a food truck. These searches can be refined by distance, cuisine, price, and rating. Owners will be used to update food truck listings and notify their customers their location, hours, and menu changes. Each food truck will have a “Munch Reputation.” This value will represent a food trucks overall rating based on the reviews and reliability. The higher the “Munch Reputation,” the higher that food truck will appear in customer searches. Munch also has a stretch goal of understanding a user’s food truck visiting habits and thus understanding their eating preferences, thus being able to recommend food trucks that the user is likely to enjoy.

The nature of food trucks is that they are flexible for the owners. They can change locations and hours depending on the day, food availability, and many other factors. Munch allows owners to change their location and hours in real time depending on changing conditions. This makes sure customers are not disappointed if a food truck is closed or not in the same location as provided on Yelp or Google, and also makes sure prospective customers know the actual hours and location of these food trucks.

There are many websites and apps that have a food truck database, but there is no specific app that allows food truck owners to update hours and location in real time easily. Also, a lot of the databases online do not have nearly all the food trucks that exist listed on their websites, so a lot of options never get displayed. With Google Maps, there is a lot of information, but changing it is not very user friendly and easily accessible for busy food truck owners. Simply put, there is not an existing app that easily combines all of the information out there on food trucks into a single place, and this is why Munch is desirable..

Data Sources, Scraping, and Database

Munch will scrape data from the Google Places API and Yelp reviews to initially populate the app, and then use user reviews for further population. Munch will also scrape from local websites like roaminghunger.com and foodtrailersaustin.com, and we will cross check this information to make sure that Munch has the most relevant data out there. Within the app, we will have a database for our user account information that stores user password, username, and account info. Munch's second database will store reviews and food truck information such as hours of operation, menus, price range, location, and other relevant information.

Requirements:

6 Use Cases:

1. Creating an account as a user

   As a user, I want to create an account on the Munch app so that I can get real time information about food trucks in my area.
2. Registering a food truck on Munch

   As an owner of a food truck, I want to claim or register a new food truck within the Munch app, that way I can show updated information for my business.
3. Searching for a food truck

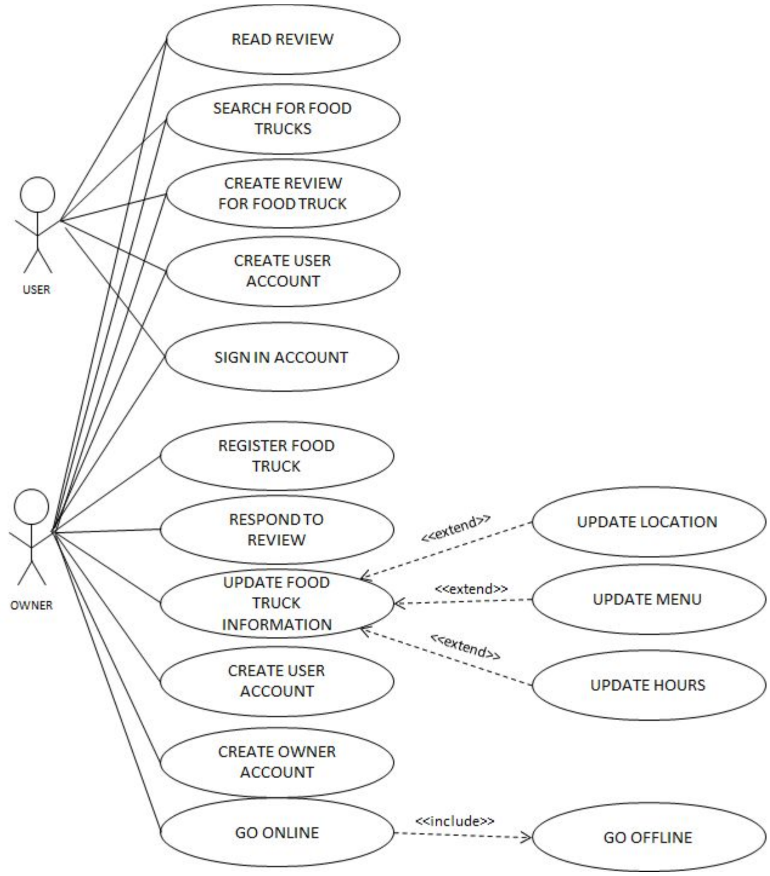
   As a user, I want to search for a food truck so that I can find out all the available options for getting the food I am craving.
4. Reviewing a food truck

   As a user, I want to review a food truck so that I can let people know what food trucks are reliable and have good food.
5. Replying to reviews

   As an owner, I want to reply to customer reviews so that I can address issues they may have had or thank them for a good review.
6. Opening or closing your food trucks

   As an owner, I want to change the status of my food truck to open or closed so that I can let customers know when I am available.

Use Case Diagram:



Formal Use Case - Creating an Account as an Owner

Project: Munch, a real-time food truck locator

Use Case: Create Owner Account

Stakeholders and Interest:

Food Truck Owner: wants to create an account on Munch

System Server: wants to add verified user information to the database

Primary Actor: Owner

Goal: Owner creates account to create food truck listing in app

Precondition: Food Truck Owner has downloaded the app

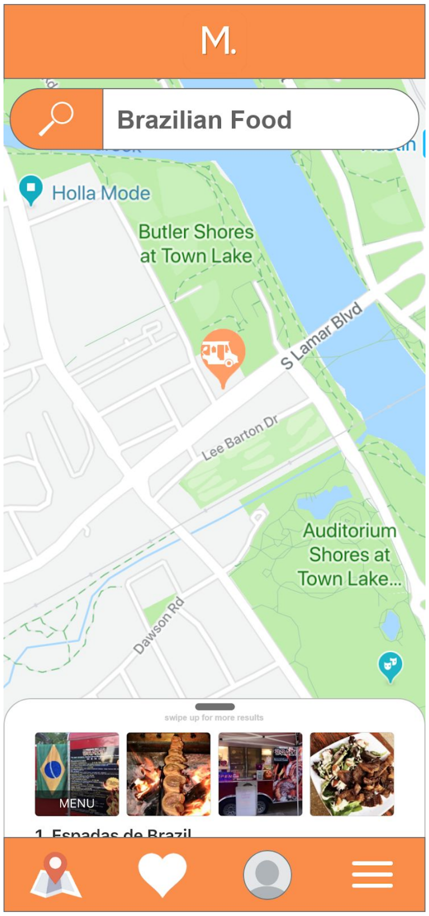
Trigger: Owner indicates desire to create an account

1. Owner inputs in desired username and password
2. Owner inputs in personal information: name and contact information
3. Owner selects existing food truck listing or creates a new listing
4. Owner inputs food truck information: location, hours, menu
5. System verifies ownership of food truck listing
6. System adds owner information to database
7. System informs owner account has been created
8. Owner can now access account and look at their listing

Extensions:

1. Owner enters in invalid username and password
    a. Owner is prompted to choose alternate username and password
2. Owner does not fill in relevant food truck information
    a. Owner is prompted to fill in the required information
3. Owner's internet connection goes down while setting up account
    a. Error message appears prompting user to check internet connection

Interface:

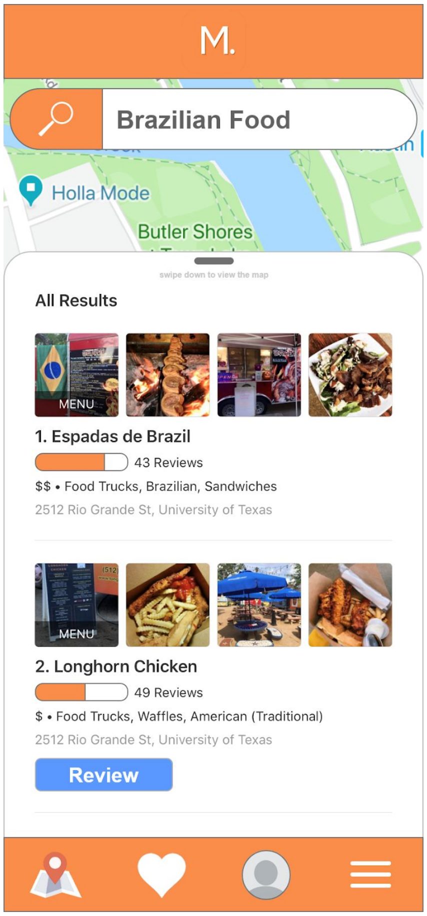

M.

Brazilian Food

swipe up for more results

MENU

1. Espadas de Brazil


M.

Brazilian Food

swipe down to view the map

All Results

MENU

1. Espadas de Brazil

43 Reviews

$$ • Food Trucks, Brazilian, Sandwiches

2512 Rio Grande St, University of Texas

MENU

2. Longhorn Chicken

49 Reviews

$ • Food Trucks, Waffles, American (Traditional)

2512 Rio Grande St, University of Texas

Review

Planning and Scheduling:

Phase	Overview	Details
1	Mockups and object models completed with get routes, and login and main pages	Mockups for each page of the app completed including all flows. All object models are completed GET routes for objects completed in backend Domain acquired

		Unit tests for get routes Setup gh projects board Have login functionality working Have welcome page working Users can see profile
2	Allow user sign ups and allow owners to claim food truck	Start implementing mockups in app Use MongoDB or GraphQL for db Track unit testing coverage, ensure 90% Setup jenkins for backend tests Usable app, just not populated with food trucks Owners can edit food truck information Users can post reviews
3	Scrape yelp and gmaps for existing food trucks and populate local places	Access GMaps and Yelp APIs for finding existing food trucks and reviews and start populating our database. Full functionality should be available in the app now
4	Have fully functioning application	Refactor codebase Work on stretch goals NLP on reviews ML for recommendations Open maps for

Tools, Software, and Frameworks:
Mockups: Adobe XD
Front End: React Native/React.js/Vue.js/Android
Back End: Go
Dev Tools: Docker, Jenkins, Github Projects, Github
Testing: Go, Espresso
DB: MongoDB/GraphQL
Cloud Provider: Heroku until limitations, then AWS

Feasibility:

- The app itself should be functional, but the amount of users and and food trucks that use the app will ultimately determine the overall effectiveness of the app. This app is created with eventual growth in mind, so the initial appearance of the app may not entirely reflect the app's full functionality.
  - If the project gets popular, the app needs to be scalable for a larger user base
- The sources we use do not update their food truck locations, hours and times, therefore the information we scrape is not correct and reliable. Ideally, users would be able to correct this, however to keep the scope smaller we are most likely not integrating this idea into the app.

- People attempt to claim food trucks that aren't actually theirs. The process for verifying a food truck owner may lead to some issues. We will have owners submit their food truck paperwork so we can verify that they are the owner, however registered food trucks will just rely on manual verification.
- People try to create multiple accounts. Users may try to create multiple accounts to submit multiple reviews. Although we cannot fully prevent this, we can implement measures that lower the chance of this happening. One possible solution is to have a check for the same email address to prevent someone from using the same email for multiple accounts. Another solution is to somehow verify that someone has actually visited the food truck by a scan or proximity check. This will make it more time consuming for someone to leave multiple reviews, but may also lead to less reviews in general. The first solution is the most feasible and easily implementable while the second may make the scope of the project too big.
- Spam bots create spam reviews. Similar to the example above, having a bots that make accounts to spam reviews may be a problem. The second solution in the example above can mitigate this because it will make it much more difficult for a spam bot to leave reviews.
- Menu's constantly changing. Food truck menus may change throughout the year. Owners have the responsibility of updating their menus on the app, and users can inform the owner that the menu is out of date. By letting the owner know that the menu is out of date through the app, we can make sure that the users are getting the most up to date information and that the owner is consistently using the app.

Feedback

From Ashwin:

You mention that truck owners can sign up for this service. How do you plan to achieve this? Have you started or plan to start some communications between food truck owners? How can we verify that this was successful? Do you foresee this communication to be a potential issue down the line in your project?

- Food truck owners are no longer **required** to sign up for the app, but it does help maintain the accuracy of their location and hours if they do. In the long term, ideally our team would approach food trucks and pitch our app however this is not required for the app to be fully functional. Any food truck functionality can be demonstrated by creating a mock food truck and demonstrating all of the features from the food truck’s perspective. Since we removed the complexity of requiring owners to sign up for the app, we do not foresee this being a potential issue.

Can you trust the sources you plan to scrape? You mention that some sites are old and not up to date, and some have inconsistent or inaccurate information.

- We plan to scrape many sources and cross check our information between the sources. We also plan to do regular scraping to make sure that if information changes, it is quickly updated in our app. Additionally, a stretch goal of the project would be to have users submit changes to food truck information and to have other users, or our team, confirm it.