



# Envitas Sprint Review #2

Jeffrey, Mike, Gabriel, Cho, Topher



# Overall Project Update

- We pivoted ideas!
- ~~SneakerX~~ → Munch
  - Why?
    - Novelty
    - Competition and differentiating factors
    - Effectiveness of data prediction
    - Data API access

# MUNCH

## Pitch Deck

Jefferey, Topher, Gabriel, Mike, Cho



# The Problem



All "Specials" results in New York, NY

1. Gourmets Fine Foods & Tapas Cafe

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

2. Nini

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

3. El Rio Yucatan Restaurant

**GOOD** Mexican, Mexican, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Mexican, Mexican, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

4. Boqueria Soho

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

5. Tomato Taverne Gallega

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

6. Dako

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

7. Poco Loco Mediterranean Cuisine

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

8. Alta

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

9. Casa Mono

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

10. Cartita

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online

Cocina Artesa Bar

**GOOD** Spanish, Tapas, Wine Bar, Mexican

Open Now • Delivery • Takeout • Order Online

Cuisine: Spanish, Tapas, Wine Bar, Mexican

Delivery service: Open Now • Delivery • Takeout • Order Online

Order Online



yelp

spanish

New York, NY



Spanish restaurants in nyc

Maps Near Times square Images Web Results Best Upscale

About 23,600,000 results (0.37 seconds)

Results for New York, NY Choose area

Places

Rating • Cuisine • Price • Hours



**Salinas Restaurant**  
4.6 ⭐⭐⭐⭐ (1.1K) - \$50–100 - Spanish  
136 9th Ave  
**Closed** - Opens 5:30 PM Tue  
Chic Spanish choice with a garden room



**Casa Mono**  
4.5 ⭐⭐⭐⭐ (1.4K) - \$50–100 - Spanish  
52 Irving Pl  
**Closed** - Opens 12 PM  
Buzzy Spanish tapas restaurant



**Tia Pol**  
4.5 ⭐⭐⭐⭐ (620) - \$50–100 - Spanish  
205 10th Ave  
**Closed** - Opens 3 PM Tue  
Tiny Spanish tapas restaurant

More places →

## More Categories

- Restaurants
- Latin American
- Bars
- Nightlife
- Food
- Caribbean
- Cuban
- Mexican
- Tapas/Small Plates
- Wine Bars
- Spanish
- Tapas Bars
- Salvadoran
- Event Planning & Services
- Sports Bars
- Fast Food
- Hot Dogs
- Tacos
- Venues & Event Spaces
- American
- Cafes
- Food Trucks
- Italian
- Juice Bars & Smoothies
- Mediterranean
- Puerto Rican



## More Features

### General Features

- Open At: 2:26 AM
- Open Now 5:27 AM
- Takes Reservations
- Accepts Credit Cards
- Offers Delivery
- Outdoor Seating
- Good for Kids
- Good for Groups
- Gender-neutral restrooms
- Open to All
- Offers Apple Pay
- Offers Takeout
- Wheelchair Accessible
- Has TV
- Dogs Allowed
- Offers Military Discount
- Walter Service

### Alcohol

Search

## More Features

### Alcohol

### Meals Served

### Music

### Parking

- Street
- Garage
- Valet
- Private Lot
- Validated

### Wi-Fi

### Smoking

Search

# Key Features



+



## Restaurant Search

- Flexible LLM Search to quickly find restaurants
- Narrow down the search

## Conversational

- Talk to the AI and ask questions back and forth
- Very specific queries



# Google Search vs ChatGPT Search

Posted by u/delete\_d1s 11 months ago  
3.3k This is why I use ChatGPT more than Google now

i.imgur.com/zQ9w8m... ↗

Other ↗

Popular llm ais?

A screenshot of a Reddit post comparing Google search and ChatGPT search results for the query "popular llm ais". The post includes a screenshot of a Google search result and a screenshot of a ChatGPT interface.

**Google Search Results:**

- The search bar shows "popular llm ais".
- The results page shows a snippet: "There are several popular LLM (Large Language Model) AIs, some of which are:" followed by a list of 5 LLMs.
- The first item in the list is "1. GPT-3 (Generative Pre-trained Transformer 3) developed by OpenAI".
- The second item is "2. T5 (Text-to-Text Transfer Transformer) developed by Google".
- The third item is "3. BERT (Bidirectional Encoder Representations from Transformers) developed by Google".
- The fourth item is "4. XLNet (eXtreme Multi-Label Learning with Neural Networks) developed by Carnegie Mellon University and Google".
- The fifth item is "5. RoBERTa (Robustly Optimized BERT Approach) developed by Facebook AI Research (FAIR)".

**ChatGPT Interface:**

- The interface shows the Google logo and a search bar.
- The results are presented in a grid format with three columns: Examples, Capabilities, and Limitations.
- Examples:**
  - "Explain quantum computing in simple terms" →
  - "Got any creative ideas for a 10 year old's birthday?" →
  - "How do I make an HTTP request in Javascript?" →
- Capabilities:**
  - Remembers what user said earlier in the conversation
  - Allows user to provide follow-up corrections
  - Trained to decline inappropriate requests
- Limitations:**
  - May occasionally generate incorrect information
  - May occasionally produce harmful instructions or biased content
  - Limited knowledge of world events after 2021

A screenshot of a ChatGPT interface comparing Google search and ChatGPT search results for the query "popular llm ais". The interface features a central "VS" icon.

**Google Search Results:**

- The search bar shows "popular llm ais".
- The results page shows a snippet: "There are several popular LLM (Large Language Model) AIs, some of which are:" followed by a list of 5 LLMs.
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**ChatGPT Comparison:**

- VS**
- Examples:**
  - "Explain quantum computing in simple terms" →
  - "Got any creative ideas for a 10 year old's birthday?" →
  - "How do I make an HTTP request in Javascript?" →
- Capabilities:**
  - Remembers what user said earlier in the conversation
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  - Trained to decline inappropriate requests
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  - May occasionally produce harmful instructions or biased content
  - Limited knowledge of world events after 2021

## Why not for restaurant search?



# Discover New Places to Eat!

I am looking for a great Spanish restaurant in NYC. I love jamon stuff and we also enjoy tapas style restaurants. For a date night. Lively place preferred.



Spanish Restaurant

Tapas Style

Lively Ambiance

Date Night

Jamon Dishes

New York City

# Example Search Results



- **Socarrat Paella Bar** (Multiple Locations): Reviews rave about their authentic paellas and a huge selection of both classic and creative tapas. Many mention the lively atmosphere, fueled by flamenco performances and sangria.



Socarrat Paella Bar NYC

Featured review:

5/5 Stars | Olivia: "The paella was absolutely incredible - the perfect amount of socarrat (the crispy rice at the bottom). And the live music made for such a fun atmosphere, perfect for our date night!"



- **El Quinto Pino**: Tapas lovers swoon over the innovative takes on traditional dishes at El Quinto Pino. Reviews consistently mention the cozy-yet-lively atmosphere created with dim lighting and upbeat Spanish music.



El Quinto Pino NYC

Featured Review:

5/5 Stars | Isabella: "My new favorite spot! Every single bite of tapas was bursting with flavor, and the sangria was on point. Will definitely be back for date night - the ambience was perfect."



# GPT Agent, RAG, and Function Calling



# Dataset



## Yelp Open Dataset

An all-purpose dataset for learning



The Yelp dataset is a subset of our businesses, reviews, and user data for use in connection with academic research. Available as JSON files, use it to teach students about databases, to learn NLP, or for sample production data while you learn how to make mobile apps.

## The Dataset



6,990,280 reviews



150,346 businesses



200,100 pictures



11 metropolitan areas

908,915 tips by 1,987,897 users

Over 1.2 million business attributes like hours, parking, availability, and ambience  
Aggregated check-ins over time for each of the 131,930 businesses

### business.json

Contains business data including location data, attributes, and categories.

```
{  
    // string, 22 character unique photo id  
    "photo_id": "..._nN_DhLxxTwkwPmxe9hw",  
  
    // string, 22 character business id, maps to business in business  
    "business_id": "tnhfDvS1l8EaGSXZGiUQg",  
  
    // string, the business's name  
    "name": "Garaje",  
  
    // string, the full address of the business  
    "address": "475 3rd St",  
  
    // string, the city  
    "city": "San Francisco",  
  
    // string, 2 character state code, if applicable  
    "state": "CA",  
  
    // string, the postal code  
    "postal code": "94107",  
  
    // float, latitude  
    "latitude": 37.7817529521,  
  
    // float, longitude  
    "longitude": -122.39612197,  
  
    // float, star rating, rounded to half-stars  
    "stars": 4.5,  
  
    // integer, number of reviews  
    "review_count": 1198,  
    ...}
```

### Yelp Dataset Photos

#### photo.json

Duplicate of photo.json from the main dataset.

```
{  
    // string, 22 character unique photo id  
    "photo_id": "..._nN_DhLxxTwkwPmxe9hw",  
  
    // string, 22 character business id, maps to business in business  
    "business_id": "tnhfDvS1l8EaGSXZGiUQg",  
  
    // string, the photo caption, if any  
    "caption": "carne asada fries",  
  
    // string, the category the photo belongs to, if any  
    "label": "food"  
}
```

#### photos/

Directory containing the photos themselves as "(photo\_id).jpg".

### review.json

Contains full review text data including the user\_id that wrote the review and the business\_id the review is written for.

```
{  
    // string, 22 character unique review id  
    "review_id": "...zDsx_SD6obehz9vW9uAWA",  
  
    // string, 22 character unique user id, maps to the user in user  
    "user_id": "Ho3Ju77x1rfm-VQRs_8g",  
  
    // string, 22 character business id, maps to business in business  
    "business_id": "tnhfDvS1l8EaGSXZGiUQg",  
  
    // integer, star rating  
    "stars": 4,  
  
    // string, date formatted YYYY-MM-DD  
    "date": "2016-03-09",  
  
    // string, the review itself  
    "text": "Great place to hang out after work: the prices are decen",  
  
    // integer, number of useful votes received  
    "useful": 0,  
  
    // integer, number of funny votes received  
    "funny": 0,  
  
    // integer, number of cool votes received  
    "cool": 0  
}
```

# Gabriel Sprint Update + Demo: Database Filtering from Natural Language Query

## Step 1: Send to GPT4

Pandas Query Agent:

1. User's query
2. Database schema
3. Special prompt



I am looking for a great Spanish restaurant in NYC. I love jamon stuff and we also enjoy tapas style restaurants. For a date night. Lively place preferred.

business_id	name	address	city	state	postal_code
z8_615EhXSNuPfwJYQMA	Great Wraps	3393 Peachtree Rd NE	Atlanta	GA	30326
Q2vefhAtGhtCGQ0K1FI7cw	Piece of Cake	3215 Roswell Rd NE	Atlanta	GA	30305
TbZDLpB01-Eb02LfMySrEg	First China Restaurant	5295 Buford Hwy NE	Atlanta	GA	30348
bP6goJ00wRnM3AVy45Kn9w	Papi's Cuban & Caribbean Grill	216 Ponce De Leon Ave NE	Atlanta	GA	30308
yCeEnvVAGQQ8PeeWJ0P12g	Nature's Table Bistro	6000 N Terminal Pkwy, Concourse E Centrepoint, Concourse E	Atlanta	GA	30328

Step 2: GPT4 returns to the backend only the **custom pandas code** necessary to perform the **filtering**.



Step 3: Llama Index's **agent** executes the code, **filtering the dataset** based on the identified hard criteria.

Spanish Restaurant Tapas Style Lively Ambiance Date Night Jamon Dishes New York City

# Prompt for Pandas Query

```
# Create a PandasQueryEngine
restaurant_query_engine = PandasQueryEngine(df=restaurant_df, verbose=True)

restaurant_prompt = PromptTemplate(
    template="""
You are working with a pandas dataframe named 'df'.
The dataframe contains information about restaurants in Atlanta.

Columns:
- name: Name of the restaurant (string)
- categories: Categories the restaurant belongs to (string)
- city: City where the restaurant is located (string)
- stars: Yelp rating of the restaurant (float)
- review_count: Number of reviews for the restaurant (integer)

Follow these instructions:
1. Identify the hard criteria from the user's query.
2. Convert the query to executable Python code using Pandas.
3. Filter the restaurant data based on the identified criteria.
4. Sort the filtered data by the 'stars' column in descending order.
5. Return the 'name', 'review_count', and 'stars' columns of the top 5 results.
6. The output should be a Pandas expression that can be executed on the DataFrame.

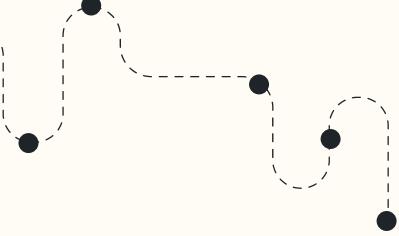
Example Pandas expressions:
- Filter by category and city, sort by stars, and return top 5 names, review counts, and stars:
df[(df['categories'].str.contains('Mexican')) & (df['city'] == 'Atlanta')].sort_values('stars', ascending=False).head(5)[['name', 'review_count', 'stars']]

- Filter by multiple categories and review count, sort by stars, and return top 5 names, review counts, and stars:
df[(df['categories'].str.contains('Italian|Pizza')) & (df['city'] == 'Atlanta') & (df['review_count'] > 100)].sort_values('stars', ascending=False).head(5)[['name', 'review_count', 'stars']]

Query: {query_str}

Expression:"""
)

restaurant_query_engine.update_prompts({"pandas_prompt": restaurant_prompt})
```



# DEMO

# Jeffrey Sprint Update

- AWS EC2 Instance + IAM + VPC
- AWS RDS
- Installed mongoimport package
- Constructed SQL Schema for Dataset

## Next Steps and further considerations

- Integrate EC2 with RDS
- Implement schema and push data to RDS using mySQL or postgreSQL
- Security and fault tolerance
- Homemade burndown

# Cho Sprint Update

- Backend database selection
- Installed MongoDB on EC2
- Tested MongoDB on EC2

## Next steps

- Test/Integrate PostgreSQL as backend database on EC2
- Look into PopSQL, a chatbot that specializes in SQL queries with chat features

# Topher Sprint Update

- AWS EC2 instance testing
- AWS RDS connection testing
- GitHub README updates and logo creation

## Next steps

- Connect Gabriel's work with Llama Index to the database
- Work with Mike to update frontend
- Test robustness of GPT4 Pandas queries

# Mike Sprint Update + Demo

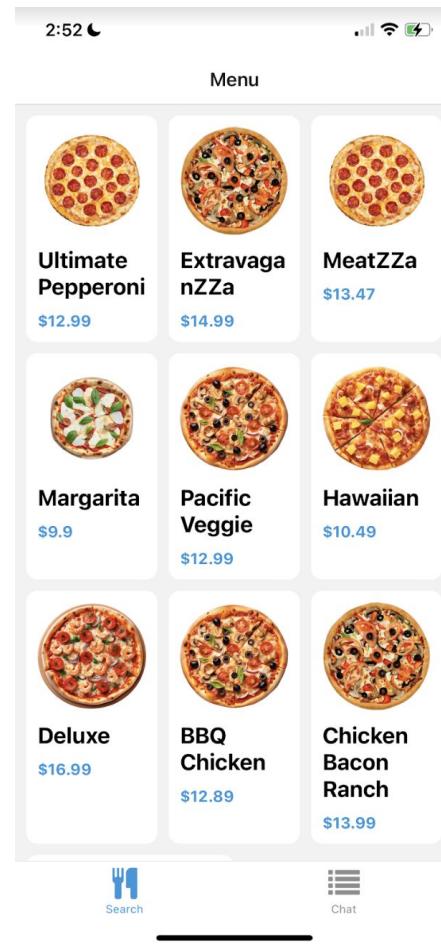
-Expo Go

-RN, Testflight

The screenshot shows the file structure of an Expo project:

- expo
- assets
- data
- ts
- orders.ts
- products.ts
- tests
- maps
- node\_modules
- src
  - app
    - tabs
    - menu
    - useColorScheme
    - index.tsx
    - index.js
    - layout.tsx
    - index.ts
    - layout.tsx
    - index.tsx
    - index.js
    - two.tsx
    - three.tsx
    - four.tsx
    - five.tsx
    - style.tsx
    - Themed.tsx
    - useClientOnlyValue.ts
    - useClientOnlyValue.web.ts
    - useColorScheme.ts
    - useColorScheme.web.ts
  - components
    - tests
    - EditScreenLink.tsx
    - ExternalLink.tsx
    - ProductListItem.tsx
    - StyleLink.tsx
  - constants
  - types
  - ignore
  - iosIcon
  - babel.config.json
  - expo-env.ts
  - package-lock.json
  - tscconfig.json

```
1 import React from 'react';
2 import FontAwesome from 'expo/vector-icons/FontAwesome';
3 import { Link, Tabs } from 'expo-router';
4 import { Pressable } from 'react-native';
5
6 import Colors from 'src/assets/colorScheme';
7 import { useColorScheme } from 'src/components/useColorScheme';
8 import { useClientOnlyValue } from 'src/components/useClientOnlyValue';
9
10 // You can explore the built-in icon families and icons on the web at https://icons.expo.dev/.
11
12 export default function TabLayout() {
13   const colorScheme = useColorScheme();
14
15   return ;
16 }
17
18 export default function TabLayout() {
19   const colorScheme = useColorScheme();
20
21   return (
22     <Tabs
23       screenOptions={({
24         tabBarColor: Colors[colorScheme ? 'light' : 'dark'],
25         // Disable the static render of the header on web
26         // to prevent a hydration error in React Navigation v6.
27         headerShown: useClientOnlyValue(true),
28       })}>
29       <Tab.Screen name="index" options={{ href: null }} />
30       <Tab.Screen
31         name="menu"
32         options={{
33           tabBarLabel: 'Menu',
34           headerShown: false, //How do you change the header name
35           tabBarIcon: ({ color }) => <TabBarIcon name="cutlery" color={color} />, //Where does the cutlery icon come from
36           headerTitle: () => <Link href="/menu" asChild>
37             <Pressable>
38               <({ pressed }) => (
39                 <Link href="/menu" asChild>
40                   <Pressable>
41                     <({ pressed }) => (
42                       <Text>{pressed ? 'P' : 'M'} </Text>
43                     </Pressable>
44                   </Pressable>
45                 </Link>
46               </Pressable>
47             </Link>
48           </headerTitle>
49         </Tab.Screen>
50       <Tab.Screen name="orders" options={{ href: null }} />
51     </Tabs>
52   );
53 }
54
55 <Error> TransformError: SyntaxError: /Users/mikeyu/Desktop/FoodOrdering/src/app/tabs/_layout.tsx: Unexpected token (35:2)
56
57 <Error> TransformError: SyntaxError: /Users/mikeyu/Desktop/FoodOrdering/src/app/tabs/_layout.tsx: Unexpected token (35:2)
58
59 <Error> TransformError: SyntaxError: /Users/mikeyu/Desktop/FoodOrdering/src/app/tabs/_layout.tsx: Unexpected token (35:2)
```



# Sprint #3 and Deadlines Backlog

The image shows a digital whiteboard interface with three main columns: Backlog, Current Sprint Todo, and In Progress. The background of the board features a photograph of a calm lake with trees reflected in the water.

- Backlog:**
  - V1 AI Chatbot (March 4)
  - Configure Host for WebApp (March 4)
  - Create Authentication UI and Backend Plugin (March 4)
  - Construct WebApp opening page (March 11)
  - Data Accessible (March 18)
  - V2 AI Chatbot (March 18)
  - Integrate Chatbot with UI (March 25)
  - Integrate Chatbot with Data Access llama index (March 25)
- Current Sprint Todo:**
  - create login authentication (MY)
  - Prompt bar, render items (MY)
  - Connect frontend to server (testflight) (CR MY)
- In Progress:**
  - Mike Connect w Topher on TestFlight Access and testing distribution (CR)
  - import data to SQL and configure data access (CC)

At the bottom of each column, there is a "+ Add a card" button and a small edit icon.

Questions?