Coursera Capstone Project

By Rebecca Rebuck

1. Introduction

This project covers information meant to be used by a specified hotel to aid in customer satisfaction. The hotel being used for this particular project is the Hyatt Regency Atlanta in Atlanta, GA.

Hotels frequently provide information about things to do in the area as a means of attracting more customers to their hotel. This project seeks to provide the target audience (the hotel in question), with relevant information that they can then share with their customer base. The category of venue data for this project will be focused on "Arts and Entertainment."

2. Data

Data for this project utilizes the Foursquare API to provide venue data. The data will be focused within a certain radius from the hotel's location so as to provide information that can be considered relevant and convenient. "Arts and Entertainment" is an overarching category for venues in the Foursquare API, and venues that fall under that umbrella also have a more specific category associated with them. The initial data query was made for the broad category and then further subdivided during data exploration.

Information about the parameters for the specific type of query used can be found at https://developer.foursquare.com/docs/api-reference/venues/search-enterprise/.

3. Methodology

The first step was to acquire the latitude and longitude for the Hyatt Regency Atlanta by using a geolocator. From there, a call was able to be made to the Foursquare API. This call was specified to pull venues that were within a **250 meter** radius of the hotel. And while the limit for venues was set to 100, only **44 venues** were returned that fit the "Arts and Entertainment" category. This information was then put into a data frame and cleaned to show only information related to each venue's category and location data. A portion of the data frame can be seen in Figure 1 below.

Figure 1: Venue Dataframe

|	name	categories	lat	lng	labeledLatLngs	distance	postalCode	cc	city	state	country	formattedAddress	address	crossStreet
0	Time To Escape	Theme Park	33.759987	-84.386530	[{'label': 'display', 'lat': 33.759987, 'lng':...	183	30303	US	Atlanta	GA	United States	[Atlanta, GA 30303, United States]	NaN	NaN
1	Kristofer Laméy Art & Design	Art Gallery	33.761969	-84.385580	[{'label': 'display', 'lat': 33.761969, 'lng':...	104	30303	US	Atlanta	GA	United States	[Atlanta Marriott Marquis tower two 285 Peacht...	Atlanta Marriott Marquis tower two 285 Peachtr...	Peachtree Center Avenue and Baker street
2	Dragon Con Tolkien Track Room	General Entertainment	33.760954	-84.385223	[{'label': 'display', 'lat': 33.76095359320138...	150	NaN	US	Atlanta	GA	United States	[Marriott Marquis (L401-L403), Atlanta, GA, Un...	Marriott Marquis	L401-L403
3	Downtown Countdown	General Entertainment	33.761695	-84.387235	[{'label': 'display', 'lat': 33.76169524007424...	55	30303-1294	US	Atlanta	GA	United States	[Hyatt Regency Atlanta, 265 Peachtree St NE, A...	Hyatt Regency Atlanta, 265 Peachtree St NE, At...	NaN
4	Crunch Bunch Panel	General Entertainment	33.761109	-84.387253	[{'label': 'display', 'lat': 33.761109, 'lng':...	81	NaN	US	Atlanta	GA	United States	[Atlanta, GA, United States]	NaN	NaN

A folium map was then created to give a visual representation of the venues in relation to the hotel. Because there was a focus on only pulling venues that would be in a convenient location relative to the hotel, all the venues were within a few blocks of the hotel. Figure 2 shows the resulting map.

Figure 2: Venue Map
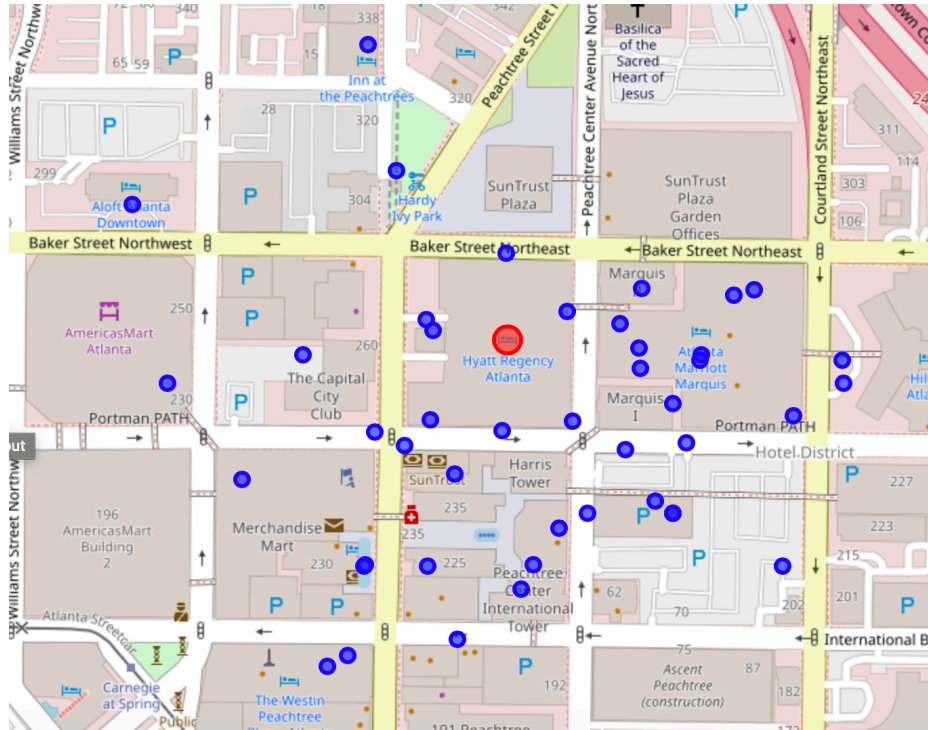
The data was then categorized by the venues' subcategories and put into a plot as seen in Figure 3. The subcategory with the highest count was "General Entertainment." Figure 3 gives a very general idea of what sorts of venues are available in the area.

Figure 3: Venue Category Plot
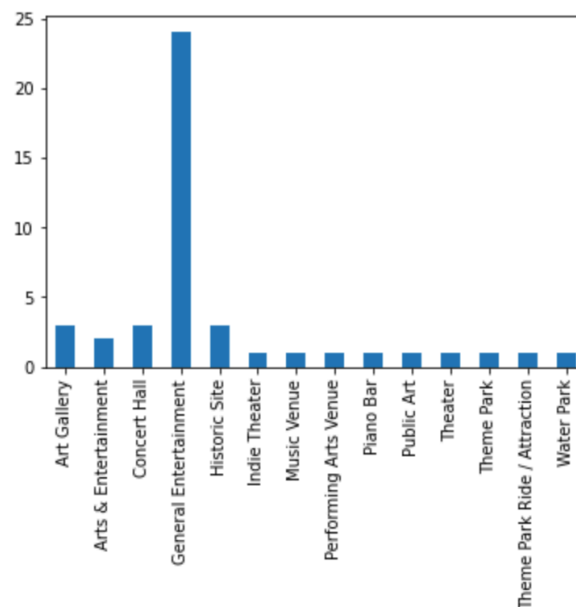
4. Results

The results of the project highlight that there are a number of venues available in the area for the hotel to advertise to their customers. The hotel is situated in an area that provides access to a variety of "Arts and Entertainment" venues that are all within a few blocks of the hotel.

5. Discussion

"Arts and Entertainment" is a rather large category, and the hotel may decide that they need to narrow down to a more specific type of venue category in order to best advertise to their customers. This project is only designed to be a starting point into this sort of inquiry. Having a general idea of where to start creates a foundation for a more advanced project.

The hotel could also decide that a broader search is needed to give a more rounded view of available venues in the area, not just those that fall under "Arts and Entertainment." In which case, this project still provides a good starting point for making that sort of decision.

6. Conclusion

This project provides a general baseline for the Hyatt Regency Atlanta about the venues in the area within the "Arts and Entertainment" category. This baseline can be used to determine which venues to advertise to their customers, or determine that further information or inquiry is required.