

# Finding the Perfect Hotel

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## 1. Introduction

### 1.1 Problem

My current employer wants me to do a business trip in Los Angeles (LA), giving me control of the entire trip. A quick internet search created a huge list of hotels that I had a hard time sorting with the available tools. The business is going to happen at the heart of downtown LA so I want to be as close as possible, and the rating of it needs to be high since I care about quality.

### 1.2 Interest

This example problem can be expounded upon and fine-tuned for specific company's needs in business travel. Examples are finding a walking distance hotel for smaller commute times, finding quality food locations around the hotel, and even finding special venues to take employees to.

## 2. Data acquisition and cleaning

### 2.1 Data sources

I only used Foursquare data for my sources. Just to push Foursquare to the test and see if it alone is a viable source.

### 2.2 Data Cleaning

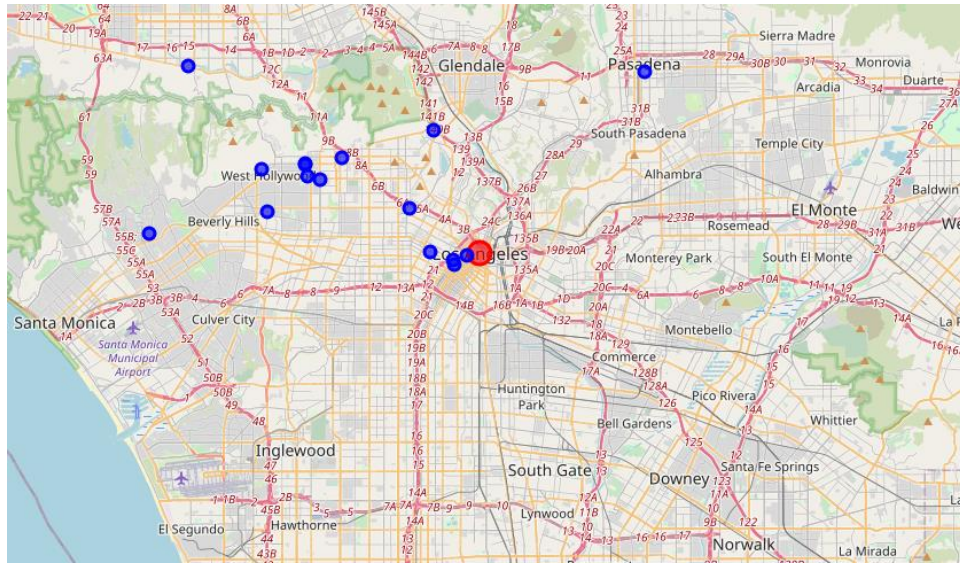
I first downloaded the location data first of all hotels in LA. I then looked at the first couple data rows and determined there was a lot of unusable data due to being irrelevant for my problem.

The way I cleaned the data from getting Foursquare was just removing the rows that were not hotels or duplicates. Some hotels were categorized as office, some non-hotels were labeled as hotels and etc. Bringing the total number of rows from 30 down to 16.

Name	Category
D Pet Hotels	Pet Service
Wag Hotels	Pet Service
W Hotels The Store	Boutique
Hotel Surplus Outlet	Furniture /Home Store

(Example Data I Removed)

With the cleaned data I mapped it to see how it looked. I quickly noticed the map had clear unintentional boundaries.



(Mapped location of all the Hotels after cleaning data)

After some research it was the city limits of LA. That entire area is just a combination of several cities together. Considering I just want downtown LA area hotels, it is not a concern of mine.

Combining the rating table with the location table I was able to see side by side of how far each hotel was from downtown LA and the rating of each hotel.

Name	Distance	Ratings
Andaz West Hollywood	12891	8.2
W Los Angeles – West Beverly Hills	18308	7.3
Omni Los Angeles Hotel	721	6.5
Hotel Solarie	2772	5.7

(Partial of Final Data Table I Used)

### 3. Methodology

I explored various Foursquare data tools that I could use for finding the perfect hotel for my business trip. The idea of finding a hotel next a few art galleries, or next to the ocean, maybe even with the nicest restaurants in the area; all of which would be nice to have. Picking just distance and rating seemed the most attractive for my purpose.

Distance of the hotel and the convention location was the main priority of mine. I wanted to be in walking distance of the convention just to avoid the LA rush hour traffic. I live in a Midwest town for my own happiness, and the thought of spending a lot of time in traffic horrifies me. Making the hotel being in walking distance my main priority.

The rating of the hotel was also a priority of mine. I prefer being cozy over any other luxury a location can provide. I need to be feeling great for this convention and the only way is to get a good night's sleep.

Other data I was looking at, but didn't use, was venues and prices. I do love food and museums and I wanted to experience the best of LA's venues. Considering this was a strict business trip I tossed that out. The other data point I was thinking of using was price. I'm a fairly cheap person so I thought about adding price into my data. I didn't use price just because I was going to get reimbursed for all my expenses on this trip. For my personal use price was of no issue.

## **4. Results**

I am going to choose to stay at Omni Los Angeles Hotel at California Plaza for my business trip. It has the lowest distance to the center of downtown LA and was the 3<sup>rd</sup> highest ranking on the ratings. Having my needs filled I am happy with my pick.

My second choice was Andaz West Hollywood – a concept by Hyatt. It is the highest rating hotel but the distance is over 18 times the distance, requiring transportation between the hotel and convention.

## **5. Discussion**

### **5.1 Observations**

Going through my data I noticed a few observations that needed to be addressed. None of these observations would affect my result but moving forward into a more challenging location-based code they need to be addressed.

First were the city limits. The city limits noticed on my map is very awkward and when pulling the information (regardless of my radius in the code) no hotels outside the city limits were accounted for.

Second was the rating limitations. Only 5 of the 16 hotels on my list had rating information from Foursquare on it.

### **5.2 Recommendations**

Moving forward I would recommend using more data than just from Foursquare. I was extremely disappointed in how clutter my data was and how poor the rating system was. Half of the information I pulled about hotels in LA was just cluttered with other venues as noted as above (16/30). I also only received 1/3 rating results of the remaining data (5/16).

## **6. Conclusion**

In summary I found the hotel I want to stay at for my business trip. I identified location distance of the hotel to my business meeting and I found the ratings of the hotels around the area. This code could help

future companies pick where employees stay at for business trips or could be used by family traveling and wanted to be in walking distance of various venues.