Applied DS Capstone - Final Project

The Battle of Neighborhood: Night at the Museum (in Paris)

Francesca Collu

November 2020

Introduction

If you only had a couple of days of holidays and you were really into art, which Parisian arrondissement should you head on in order to optimize your time of vacation in the museums capital in the world? In the present report, we will search an answer to this question.

Overview of the Problem

Paris, the capital of France and one of the most visited city in Europe, has been crowned the museum capital of the world as well, accounting for 297 museums. The variety of art expression in Paris is clear in the several shapes of it: not only museums, but also cinemas, theaters, monuments, music venues, outdoor sculptures and so on.

The aim of this report is to analyze the distribution of all the Paris art venues, such as art galleries, libraries, movie theaters, historic sites, theaters, science museums. The target audience of this problem is the art enthusiasts who find themselves in Paris, wondering in which neighborhood they should be staying in for the vacation in order to spend as much time as they can visiting a specific kind of art venue. For the same purpose, another target audience of this problem is also a travel agency, that is planning an itinerary for a journey in Paris for some clients.

Data Sources

In order to accomplish the goal set in the previous section, several data sources have been used and they can be summed up in the following way:

- Districts of Paris Wikipedia page[1]: data was scrapped from this page to create a dataframe with the arrondissements of Paris. In fig. 1 we can see the table where I get the Parisian arrondissements and their names;
- Geocoder: this Python geocoding library was used to identify the geographical coordinates of all the districts of Paris. Thanks to Geocoder, it has been possible to retrieve the dataframe with the arrondissements

[1] `https://en.wikipedia.org/wiki/Arrondissements_of_Paris`

en.wikipedia.org/wiki/Arrondissements_of_Paris#Arrondissements

Arrondissements [edit]

Arrondissement (R for Right Bank, L for Left Bank)	Name	Area (km^2)	Population (2017 estimate)	Density (2017) (inhabitants per km^2)	Peak of population	Mayor	2020-2026
Paris Centre 1st (I^{er}) / 2nd (II^{e}) / 3rd (III^{e}) / 4th (IV^{e}) R	Louvre, Bourse, Temple, Hôtel-de-Ville	5.59 km^2 (2.16 sq mi)	100,196	17,924	before 1861	Ariel Weil (PS)	
5th (V^{e}) L	Panthéon	2.541 km^2 (0.981 sq mi)	59,631	23,477	1911	Florence Berthout (DVD)	
6th (VI^{e}) L	Luxembourg	2.154 km^2 (0.832 sq mi)	41,976	19,524	1911	Jean-Pierre Lecoq (LR)	
7th (VII^{e}) L	Palais-Bourbon	4.088 km^2 (1.578 sq mi)	52,193	12,761	1926	Rachida Dati (LR)	

Figure 1: Table from Wikipedia page of the districts of Paris.

and their coordinates, as we can see in fig. 2 draw the map of the arrondissements, shown in fig. 3;

- Places API of Foursquare: it has been used to extract the data about the venues of the city, in particular the name, location and category of each venue. In this way it has been possible to retrieve the dataframe shown in fig. 4.

	Arrondissement	Name	Latitude	Longitude
0	Paris Centre 1st (Ier) / 2nd (IIe) / 3rd (IIIe...	Louvre, Bourse, Temple, Hôtel-de-Ville	48.857101	2.353064
1	5th (Ve) L	Panthéon	48.846210	2.346110
2	6th (VIe) L	Luxembourg	48.847580	2.340940
3	7th (VIIe) L	Palais-Bourbon	48.860830	2.318590
4	8th (VIIIe) R	Élysée	48.869317	2.316878
5	9th (IXe) R	Opéra	48.882110	2.327990
6	10th (Xe) R	Entrepôt	48.842150	2.375990
7	11th (XIe) R	Popincourt	48.859350	2.376010
8	12th (XIIe) R	Reuilly	48.845002	2.389365
9	13th (XIIIe) L	Gobelins	48.834504	2.353472
10	14th (XIVe) L	Observatoire	48.835960	2.334260
11	15th (XVe) L	Vaugirard	48.839450	2.300620

Figure 2: Dataframe containing the districts of Paris and their coordinates.

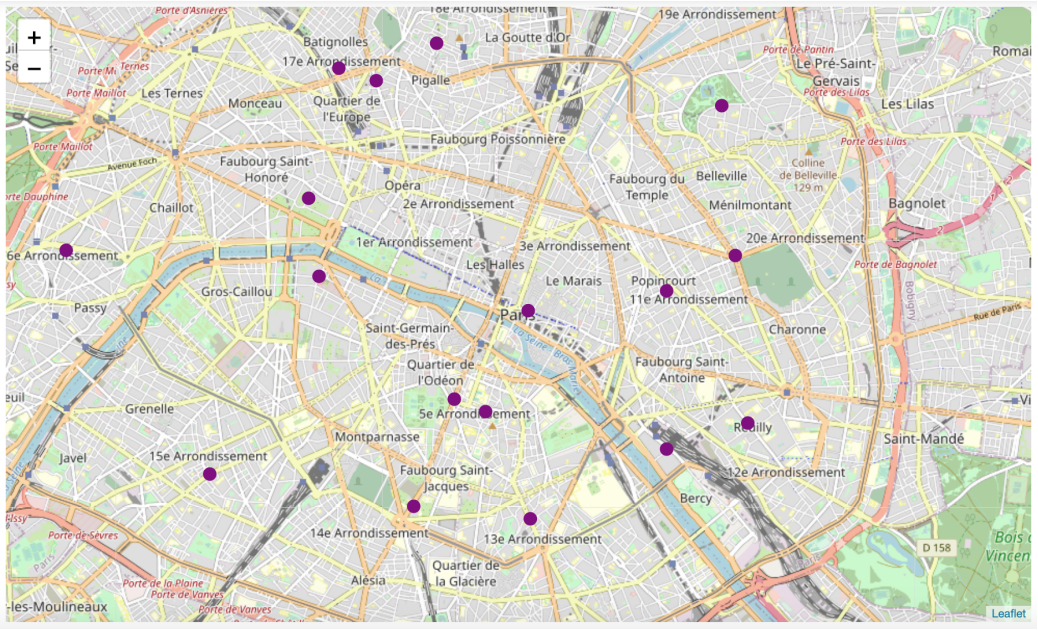

Figure 3: Maps of Paris. The purple circles point out the arrondissements.

	Arrondissement	Arrondissement Latitude	Arrondissement Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Paris Centre 1st (Ier) / 2nd (IIe) / 3rd (IIIe...	48.857101	2.353064	Fleux'	48.858763	2.354161	Furniture / Home Store
1	Paris Centre 1st (Ier) / 2nd (IIe) / 3rd (IIIe...	48.857101	2.353064	Place de l'Hôtel de Ville – Esplanade de la Li...	48.856925	2.351412	Plaza
2	Paris Centre 1st (Ier) / 2nd (IIe) / 3rd (IIIe...	48.857101	2.353064	Maison Aleph	48.857348	2.354873	Pastry Shop
3	Paris Centre 1st (Ier) / 2nd (IIe) / 3rd (IIIe...	48.857101	2.353064	Galerie Azzedine Alaïa	48.857545	2.355217	Art Gallery
4	Paris Centre 1st (Ier) / 2nd (IIe) / 3rd (IIIe...	48.857101	2.353064	Parc Rives de Seine	48.855510	2.351419	Park

Figure 4: Dataframe of the venues in Paris, retrieved with Places API of Foursquare.