

CAPSTONE PROJECT: BATTLE OF THE NEIGHBORHOODS

Recommendation for Gym / Fitness Center installation

Final Assignment: Capstone Project: Battle of Neighborhoods

Table of Contents

Contents

INTRODUCTION AND BUSINESS PROBLEM	1
DATA	2

INTRODUCTION AND BUSINESS PROBLEM

Taking care of the body has become one of the biggest concerns of our century. Due the increased demand, more and more centers are created, which is leading to a tough competition.

The owner of one Gym / Fitness center in France, wants to settle in the United States. Due to USA high diversity and very large size, he asked me for help in order to find the best place for the installation of his Gym / Fitness center. The best locality is defined bases on the following criteria:

- Location with high average income.
- Location with high population rate.
- Near activity area such as park, playground etc.
- Near residential district, university/school and offices.
- low amount of competition (less or no gym / fitness centers around)

DATA

we will need to access following data:

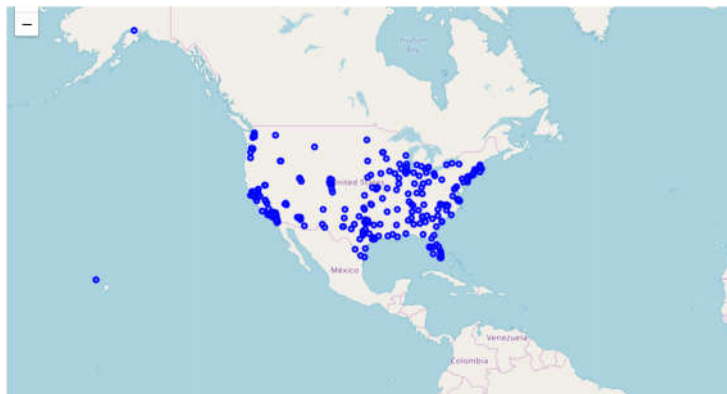
- List of all the cities in United States with population density and coordinates
https://en.wikipedia.org/wiki/List_of_United_States_cities_by_population

Five first cities with their coordinate and population density

[17]:

	City	State	Population density in Km2	Radius	Latitude	Longitude
0	New York[d]	New York	10,933/km2	17363.755354	40.6635	-73.9387
1	Los Angeles	California	3,276/km2	21649.480363	34.0194	-118.4108
2	Chicago	Illinois	4,600/km2	15076.471736	41.8376	-87.6818
3	Houston[3]	Texas	1,395/km2	25248.762346	29.7866	-95.3909
4	Phoenix	Arizona	1,200/km2	22750.824161	33.5722	-112.0901

Plotting of all the cities of USA that we have extracted



- List of all the cities in United States with Per Capita Income
https://en.wikipedia.org/wiki/List_of_United_States_counties_by_per_capita_income

[22]:

	Country-equivalent	State	Per capita income	Population
0	New York County	New York	\$62,498	1,605,272
1	Arlington	Virginia	\$62,018	214,861
2	Falls Church City	Virginia	\$59,088	12,731
3	Marin	California	\$56,791	254,643
4	Alexandria City	Virginia	\$54,608	143,684

Furthermore, we will use Foursquare (<http://www.foursquare.com/>) to get the venues in each city of United State:

- The high school venues of the Localities.
- The universities venues of the Localities.
- The offices venues of the Localities.
- The Gym / fitness of the localities.
- The park, playground of the localities.

After this step, data will be leverages in order to determine which locality is the most appropriate in order to find the best place