Capstone project: "The Battle of Neighbourhoods. Frankfurt am Main"

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Introduction to business problem

▶ Frankfurt is a global hub for commerce, culture, education, tourism and transportation, it is the 5th largest city and the financial capital of Germany. This leads to a huge variation of restaurants, bars, night spot, shops, museums and etc. But in this project I would like to consider one part of everyday life of locals: opportunity to make sport.

▶ This project can be interesting for businesspeople who want to open Fitness/Gym in Frankfurt, and they need to know a geographical distribution of sport facilities in different areas of Frankfurt am Main.

Data description

- For this project we need following data:

- Geographical data of Frankfurt boroughs with names and coordinates;

- List of sport facilities for each borough.
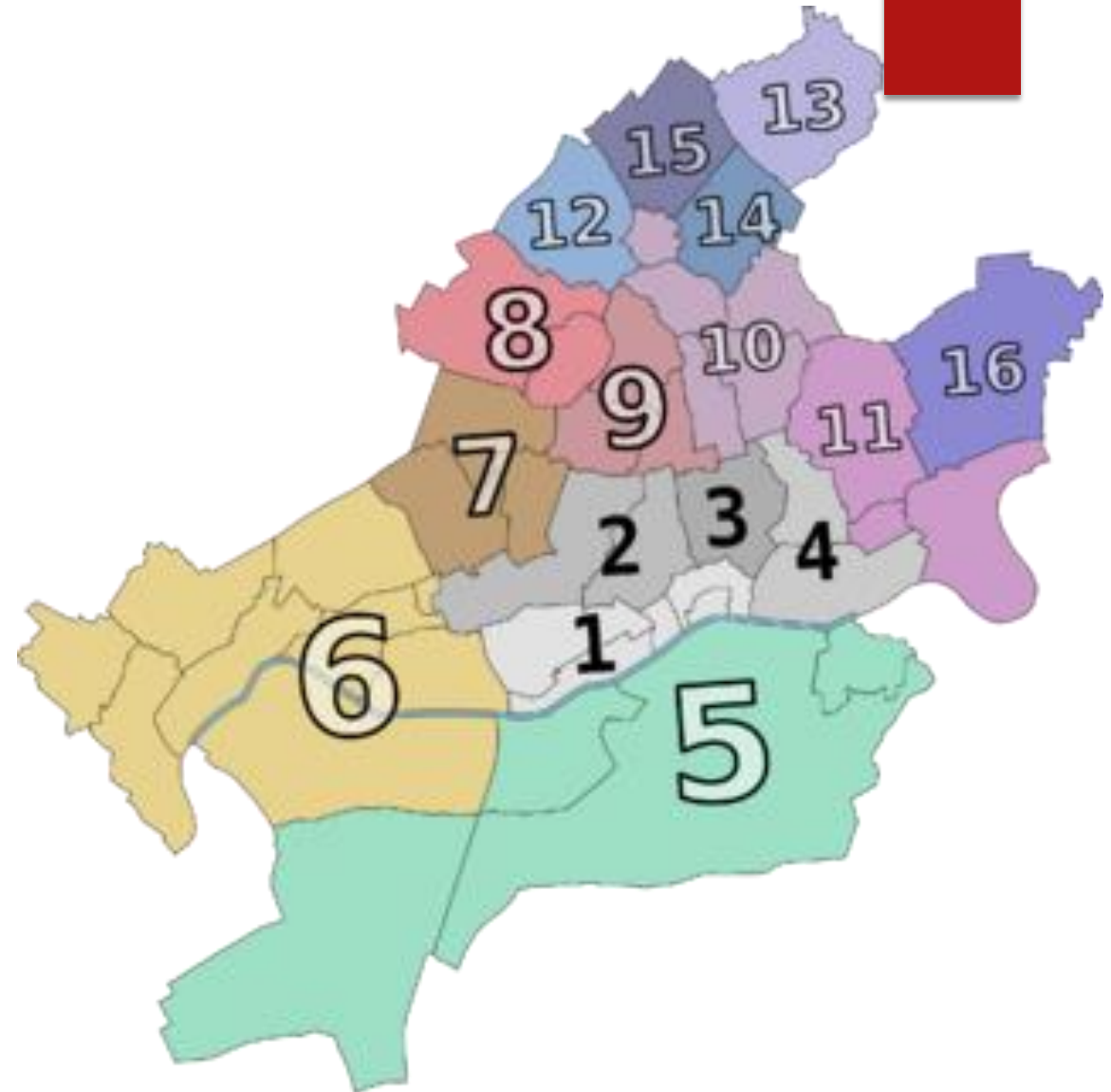
- Following source were used:

- List of areas in Frankfurt am Main: Wikipedia [1];

- Foursquare API [2] with request by specific category;

- Foursquare list of categories [3] to get an id of interested venues;

- GeoJson file with map of Frankfurt am Main [4].

Methodology

- Pandas;

- Requests;

- Bs4;

- Numpy;

- Nominatium;

- Matplotlib .cm and matplotlib.colors;
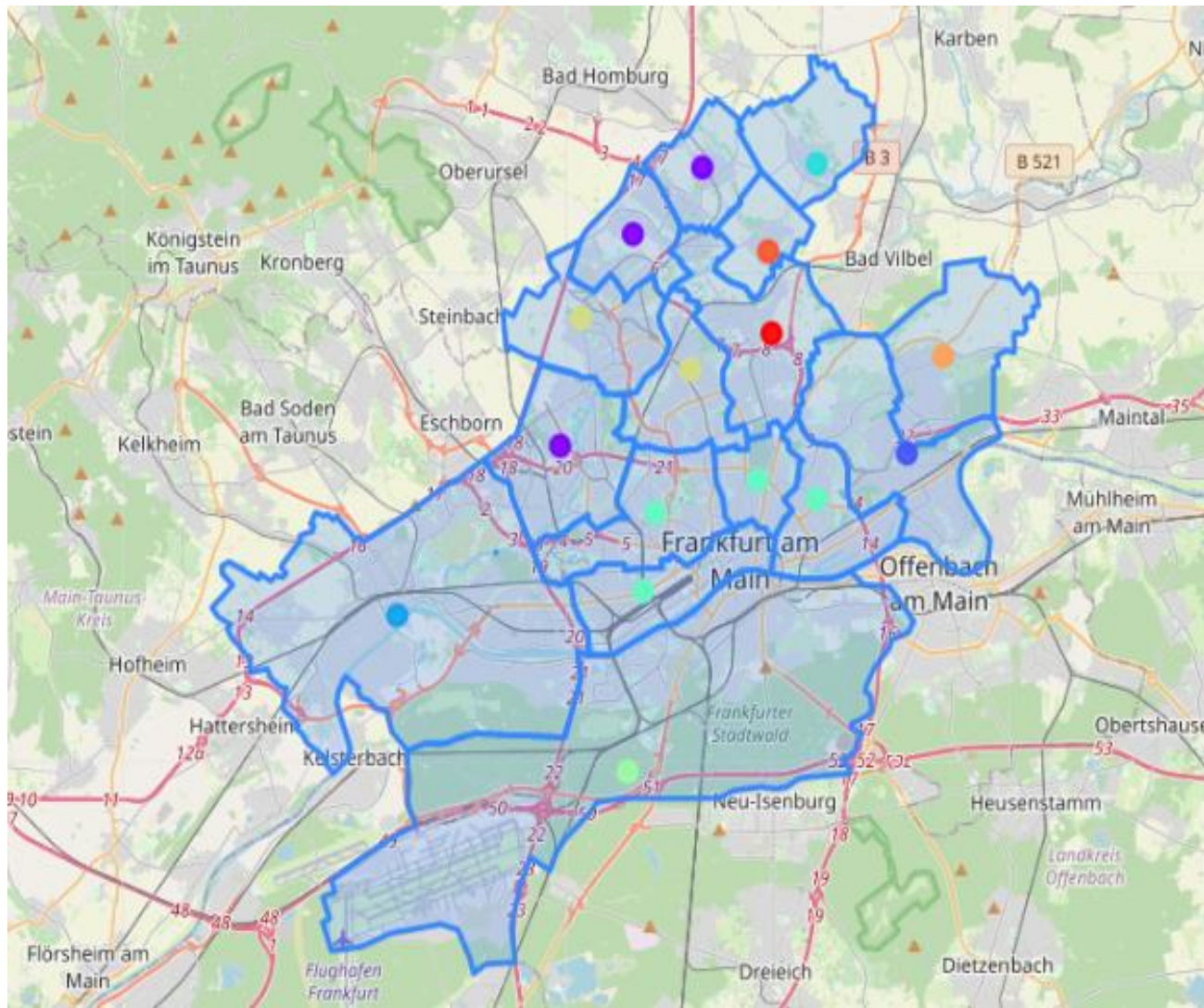
- Sklearn;

- Folium;

- Geocoder.

Results and discussion

Nr.	Borough	Neighbourhood
1	Innenstadt I	Gallus, Gutleutviertel, Bahnhofsviertel, Altstadt, Innenstadt
2	Innenstadt II	Bockenheim, Westend-Süd, Westend-Nord
3	Innenstadt III	Nordend-West, Nordend-Ost
4	Bornheim/Ostend	Ostend, Bornheim
5	Süd	Flughafen, Sachsenhausen-Süd, Sachsenhausen-Nord, Oberrad, Niederrad
6	West	Schwanheim, Griesheim, Nied, Sossenheim, Höchst, Unterliederbach, Zeilsheim, Sindlingen
7	Mitte-West	Rödelheim, Praunheim, Hausen, STB 343
8	Nord-West	Niederursel, Heddernheim, STB 426 (Praunheim-Nord)
9	Mitte-Nord	Eschersheim, Ginnheim, Dornbusch
10	Nord-Ost	Eckenheim, Preungesheim, Berkersheim, Frankfurter Berg, Bonames
11	Ost	Seckbach, Riederwald, Fechenheim
12	Kalbach/Riedberg	Kalbach-Riedberg
13	Nieder-Erlenbach	Nieder-Erlenbach
14	Harheim	Harheim
15	Nieder-Eschbach	Nieder-Eschbach
16	Bergen-Enkheim	Bergen-Enkheim

Distribution of sport facilities in Frankfurt am Main city

Cluster distribution in Frankfurt am Main city

Conclusion

In this project density of indoor sport venues were analysed. Areas with the highest density and top 3 popular categories were determined. Further decisions where and what kind of sport venue to open lays on businesspeople who are interested.