Capstone Project
The Battle of Neighborhoods

Opening a XXL Store in Vienna, Austria

Overview

1)Background and Interest

2)Data acquisition

3)Methodology and Analysis

4)Result

1.1 Background

- XXL Sports & Outdoor GMBH is a Scandinavian sports retailer which is expanding in Austria.
- Vienna offers a wide variety of sportive activity.
- But there is also a lot of competition on the sporting goods market.
- Therefore analyzing locations is key for finding the perfect position for a new store.

1.2 Problem

- Austrias national sport is skiing, the skiing market might be the hardest to enter.
- Long-established specialized shops, especially in western regions.
- Smarter to focus on the eastern regions e.g. the city of Vienna and its immediate surroundings.
- find the right balance between a place with too much competition and one that’s
- too remote to reach.
- I looked at locations where places are nearby, where sport equipment is needed.

1.3 Interest

This project is meant for stakeholders at XXL Sports & Outdoor GMBH as aid when searching for the next location to open a new store.

2.1 Data source

- Locations for sport facilities as well as places of competing stores in Vienna from the Foursquare API
- The locations of the XXL stores are from the Homepage https://www.xxlsports.at/store-finder
- For comparisons official city map of Vienna https://www.wien.gv.at/stadtplan/en/

2.2 Feature selection

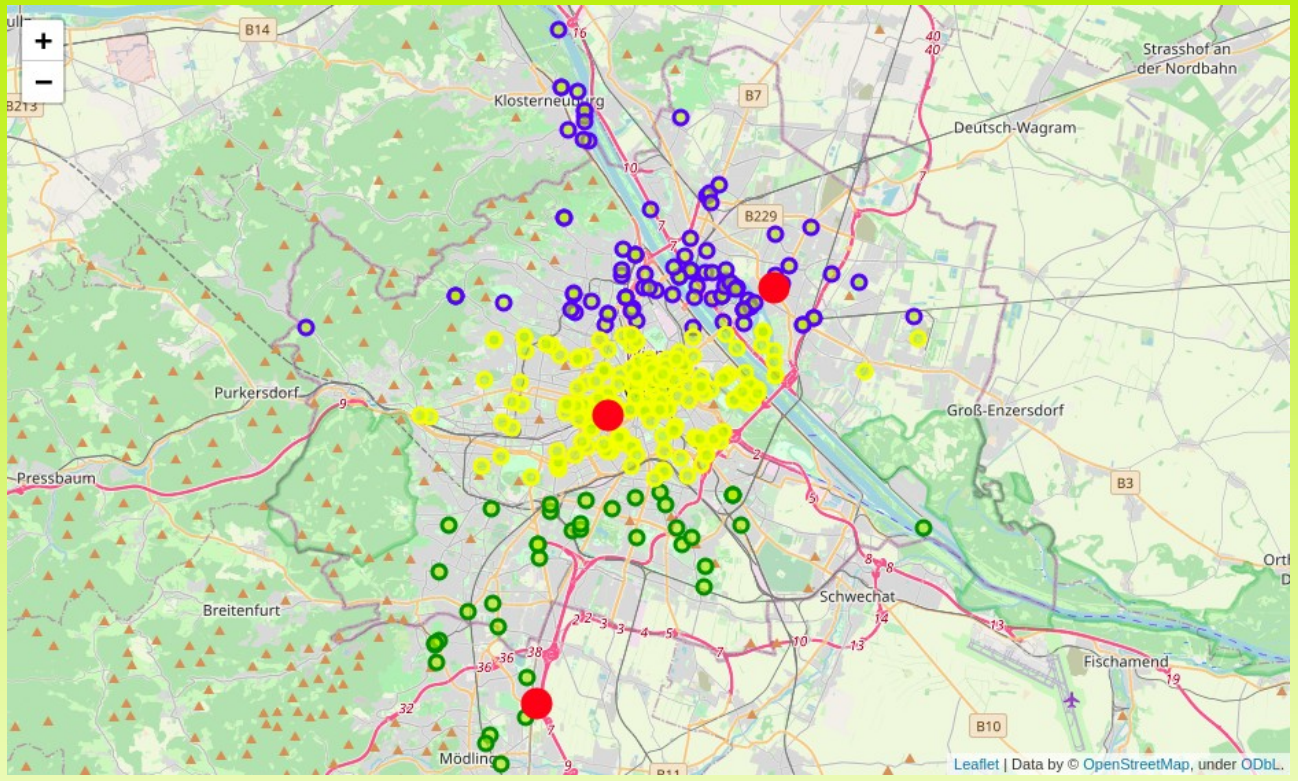
- Two datasets using the Foursquare API.
  - One for sporting goods shops in Vienna (name, coordinates and category)
  - The second dataset will contain the same information about sport facilities.
- The data collected from Foursquare will be saved as csv files
- Then read into pandas dataframes.
- For visualization I will create a Folium map.

Methodology and Analysis

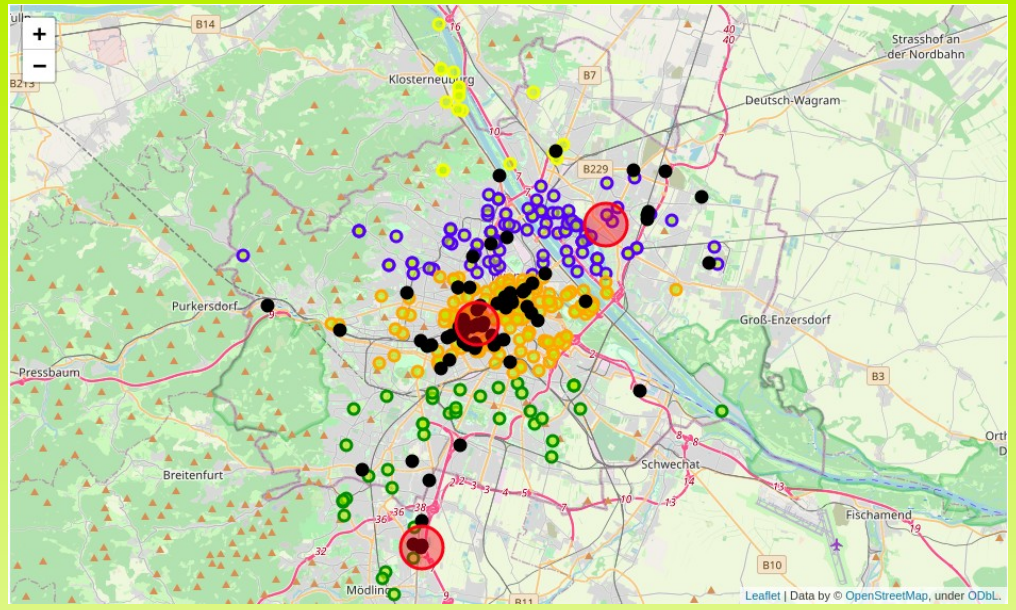
- The goal of this project is to find the perfect location for a new store.
- Neighborhood should be surrounded by different sport-related venues.
- Apply k-Means Clustering to make segmentations of venues.
- There should be no competitors in the same cluster.
- When a matching cluster is found, the coordinates of the future store location will be calculated to be the closest point possible to the venues

needed for performance and which data sources will be used:

- number of sport facilities in Vienna
- number of sport shops in Vienna
- segmentation of sport venues in 4 clusters to match the location of 4 stores
- distance of the final location in relation to the other points in the cluster
- checking for traffic connection and public transport

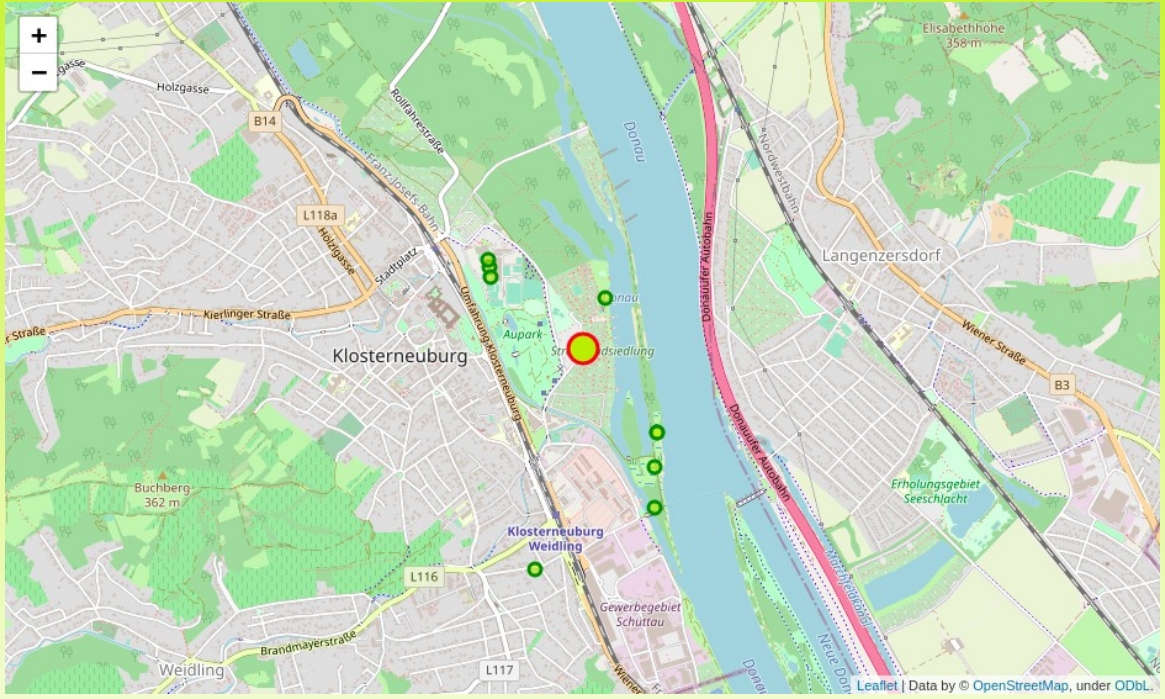


Clustered venues with existing XXL Stores (red)



- Clustered venues in 4 regions (yellow, blue, orange, green)
- Competing sport stores (black)
- Existing XXL Stores (red)

4. Result


Holzgasse
B14
Rollfährestraße
Franz-Josefs-Bahn
L118a
Holzgasse
Stadtplatz
Kierlinger Straße
Klosterneuburg
Umfahrung Klosterneuburg
Aupark
Donau
Donauufer Autobahn
Nordwestbahn
Elisabethhöhe
358 m
Langenzersdorf
Wiener Straße
B3
Erholungsgebiet
Seeschlacht
Buchberg
362 m
Klosterneuburg
Weidling
L116
Gewerbegebiet
Schuttau
Brandmayerstraße
Weidling
L117
Leaflet | Data by © OpenStreetMap, under ODbL.

The found position in Klosterneuburg satisfies all criteria stated in the first part:

- Sport facilities are nearby
- There is hardly any competition around
- Enough stores which invite to stroll
- The main train station with a park and ride site is just around the corner

5. Conclusion

- In this project I set a goal to find a new location for the next XXL Sports & Outdoor store in Vienna
- two prerequisites: close proximity to any sport-related venue and shopping possibilities but not too much competition.
- I utilized the Foursquare API to generate a list of sport facilities.
- I used k-Means clustering to segment the venues in 4 areas.
- Focus on 4th area where is no store yet
- Repeated the first steps for new vantage point.
- The final location was found by calculating the center of mass of the sporting facilities in the area.
- A final step was to check if any form of public transport and traffic connection was nearby.