

A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green color. They are positioned diagonally, with the blue one partially covering the green one.

Opening a new pharmacy in the Seville, Spain metropolitan area

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1. Introduction



- The primary objective of the pharmaceutical industry is to research, discover and develop new medicines that can improve the health and quality of life of people who suffer from a health problem.

BUSINESS PROBLEM

- Opening a new pharmacy, also known as chemist or drugstore, is a high-risk investment that involves strategic decision making.
- Aspects taken into consideration for selecting an appropriate place to open a new pharmacy are:
 - Demand for pharmacies and medicinal products
 - Closeness to hospitals or medical offices
 - Closeness to gyms or sport centers

1. Introduction

TARGET AUDIENCE:

The main target audience for this project will be developers and investors in the Seville, Spain metropolitan area.

Description of the data and how it will be used to solve the problem:

In this project geospatial information of the metropolitan area of Seville, Spain will be selected in order to open a new pharmacy.



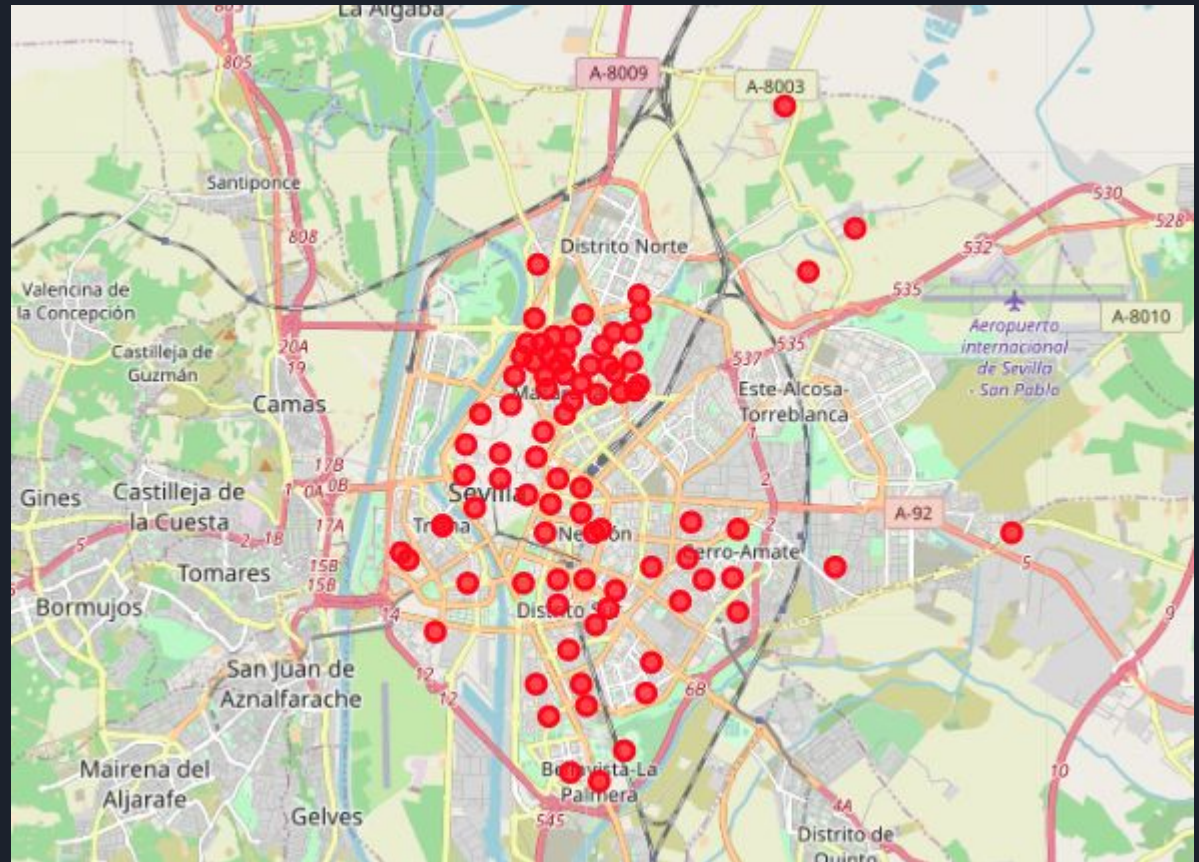


2. Methodology

- Geospatial information was retrieved for the spots of interest. The list of districts and neighborhoods of Seville were obtained from: <https://urbansevilla.es/distritos-y-barrios-de-sevilla/> to be used as input for a geolocalization service.
- The Foursquare API was used to retrieve the list of hospitals in the city and other venues close to the different neighborhoods.
- The different neighborhoods were analyzed and finally clustered in order to obtain the neighborhoods that present a low number of pharmacies but at the same time contain a large number of hospitals and gyms.

3. Results

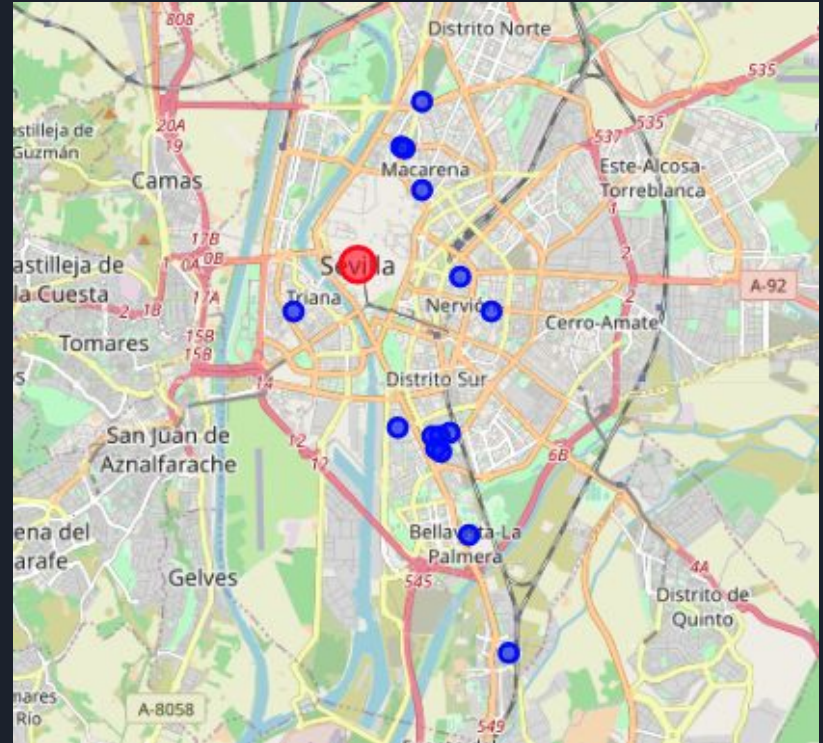
Sevilla neighborhoods included in the analysis.



3. Results

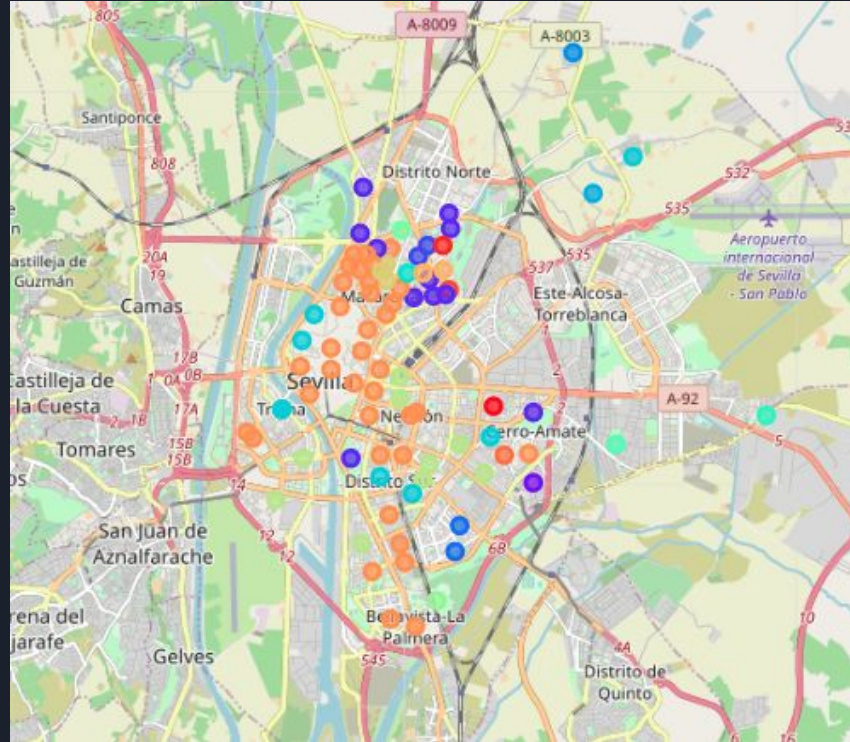
Sevilla Hospitals included in the analysis.

- 0 Hospital Infanta Luisa
- 1 Hospital Universitario Virgen del Rocío
- 3 Hospital Infantil Virgen del Rocio
- 8 Hospital de Rehabilitación y Traumatología
- 12 Hospital Viamed Santa Ángela de la Cruz
- 14 Hospital Victoria Eugenia - Cruz Roja Sevilla
- 15 Hospital Santa Isabel
- 17 Hospital Regional Virgen Macarena
- 21 Hospital San Juan de Dios
- 22 Hospital Duques del Infantado
- 23 Hospital Sagrado Corazón
- 25 Hospital Provincial de San Lázaro
- 26 Hospital Quirón Sagrado Corazón
- 29 Hospital Militar - Sevilla
- 32 Sala Ecografía Hospital Virgen Macarena



3. Results

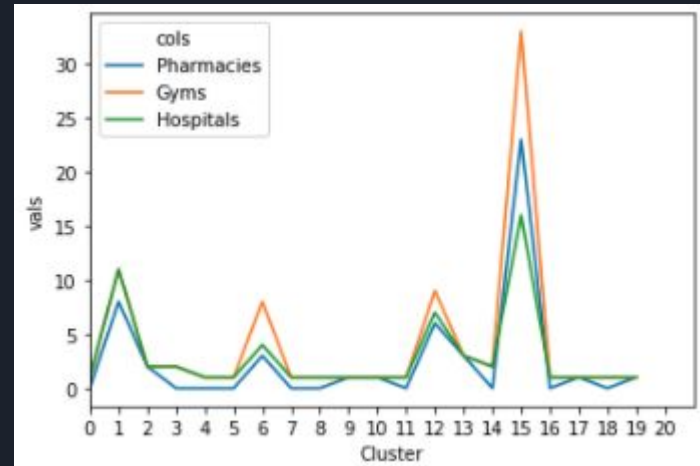
The 20 clusters identified according to neighborhoods' venues.



3. Results

Line plot representing the ratio between pharmacies, hospitals and gyms.

The higher the gap between the pharmacies line (blue) and the gyms and hospitals lines (respectively orange and green), the better the cluster for locating a new pharmacy.





4. Discussion

- The best cluster considered for starting a new pharmacy would be cluster 15, composed of 103 neighborhoods.
- This cluster exhibits the lowest number of pharmacies and at the same time, exhibits a large number of hospitals and gyms whose users require medical attendance.
- A limitation of the present study would be not taking the population rate into consideration.



5. Conclusion

The following neighborhoods, corresponding to cluster 15, are the most appropriate or setting up a new pharmacy.

0	Bellavista
1	Heliópolis
2	Elcano-Los Bermejales
4	Pedro Salvador-Las Palmeritas
6	El Arenal
7	Encarnación-Regina
8	Alfalfa
9	San Bartolomé
11	San Gil
12	Museo
13	Santa Catalina
15	San Julián
18	Juan XXIII
32	Pío XII
34	El Carmen
35	Cruz Roja-Capuchinos
40	Polígono Norte
41	La Paz-Las Golondrinas
42	La Palmilla-Doctor Marañón
44	Macarena 3 Huertas-Macarena 5
46	El Cerezo
47	Doctor Barraquer-Grupo Renfe-Policlínico
48	Retiro Obrero
51	León XIII-Los Naranjos
54	Las Avenidas
55	Nervión
56	San Bernardo
58	La Florida
59	La Buhaira
61	San Roque
88	Huerta de la Salud
90	Giralda Sur
93	Tabladilla-La Estrella
94	Bami
101	Barrio León
102	El Tardón-El Carmen



THANK YOU FOR YOUR ATTENTION