

Introduction where you discuss the business problem and who would be interested in this project.

My partner and I moved to Toronto, and we want to start a new business.

The business we want to set up is a Stationery shop, in which we want to sell books and school supplies for children, but with an ecological point of view, trying to sell products with recycled material.

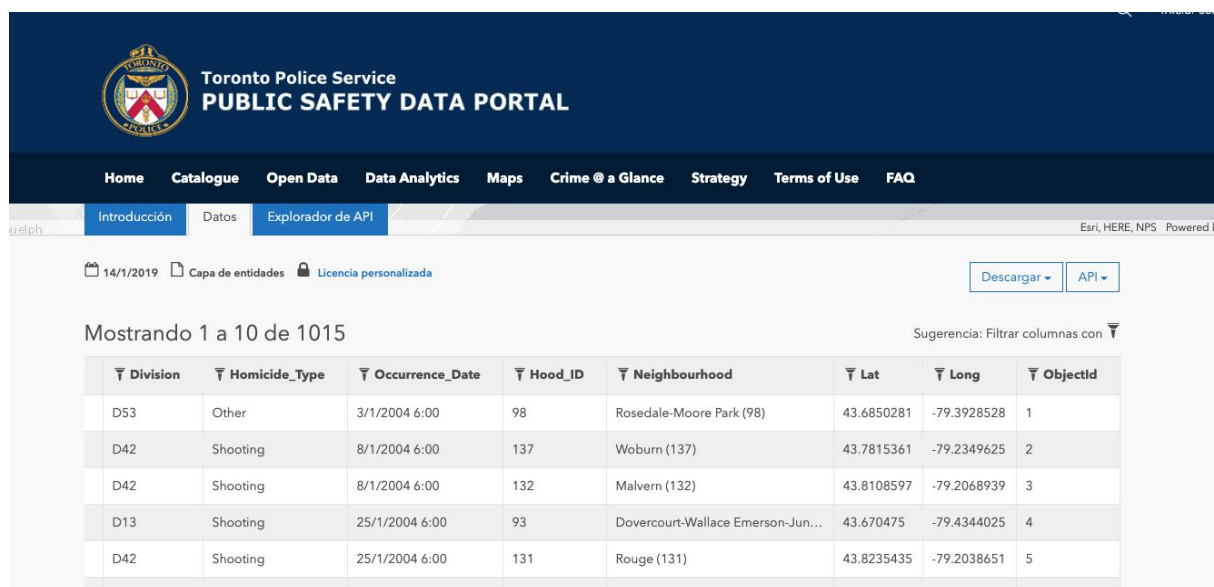
However, we don't know the city of Toronto very well, therefore we want to analyze the situation of the city, and for this we want to look for:

- A safe place
- Near schools
- That there is not much competition

Data where you describe the data that will be used to solve the problem and the source of the data.

To solve the information needs we have about the city of Toronto we need the following data sources.

- A safe place - We need a crime index in the regions of the city of Toronto



The screenshot shows the Toronto Police Service Public Safety Data Portal. The header includes the Toronto Police Service logo and the title 'PUBLIC SAFETY DATA PORTAL'. Below the header is a navigation bar with links: Home, Catalogue, Open Data, Data Analytics, Maps, Crime @ a Glance, Strategy, Terms of Use, and FAQ. The main content area shows a table of homicide data. The table has columns: Division, Homicide_Type, Occurrence_Date, Hood_ID, Neighbourhood, Lat, Long, and Objectid. The table displays 10 rows of data, showing various divisions and neighborhoods with their respective homicide types and dates.

| Division | Homicide_Type | Occurrence_Date | Hood_ID | Neighbourhood | Lat | Long | Objectid |
|----------|---------------|-----------------|---------|-----------------------------------|------------|-------------|----------|
| D53 | Other | 3/1/2004 6:00 | 98 | Rosedale-Moore Park (98) | 43.6850281 | -79.3928528 | 1 |
| D42 | Shooting | 8/1/2004 6:00 | 137 | Woburn (137) | 43.7815361 | -79.2349625 | 2 |
| D42 | Shooting | 8/1/2004 6:00 | 132 | Malvern (132) | 43.8108597 | -79.2068939 | 3 |
| D13 | Shooting | 25/1/2004 6:00 | 93 | Dovercourt-Wallace Emerson-Jun... | 43.670475 | -79.4344025 | 4 |
| D42 | Shooting | 25/1/2004 6:00 | 131 | Rouge (131) | 43.8235435 | -79.2038651 | 5 |
| D31 | Stabbing | 20/2/2004 6:00 | 26 | Davenport-Peddie (26) | 43.7200167 | -79.5084345 | 6 |

- Near schools - Number of schools and their location

```
dataframe = json_normalize(venues)
pd.DataFrame(dataframe).head()
```

| location.formattedAddress | location.labeledLatLngs | location.lat | location.lng | location.neighborhood | location.postalCode | location.state | name | referralId | venuePageId |
|---------------------------------------------------|---------------------------------------------------|--------------|--------------|-----------------------|---------------------|----------------|-------------------------------------------|--------------|-------------|
| [575 Bay St. (at Dundas St. W), Toronto ON M5G... | [{"label": "display", "lat": 43.65564568498175... | 43.655646 | -79.382737 | NaN | M5G 2C5 | ON | Ted Rogers School of Management | v-1574759203 | NaN |
| [155 College St. (at McCaul St.), Toronto ON M... | [{"label": "display", "lat": 43.65923191282564... | 43.659232 | -79.393254 | NaN | M5T 3M7 | ON | Dalla Lana School of Public Health | v-1574759203 | NaN |
| [105 St. George St. (University of Toronto), T... | [{"label": "display", "lat": 43.6647972002443... | 43.664797 | -79.398576 | NaN | M5S 3E6 | ON | Rotman School of Management | v-1574759203 | NaN |
| [439 University Ave. (at Dundas St. W), Toront... | [{"label": "display", "lat": 43.65453291877178... | 43.654533 | -79.387831 | NaN | NaN | ON | Ontario Public School Boards' Association | v-1574759203 | NaN |
| [64 Baldwin Street Toronto | [{"label": "display", "lat": ... | | | | | | Beverly | v- | |

- That there is not much competition - Number of stores related to my business

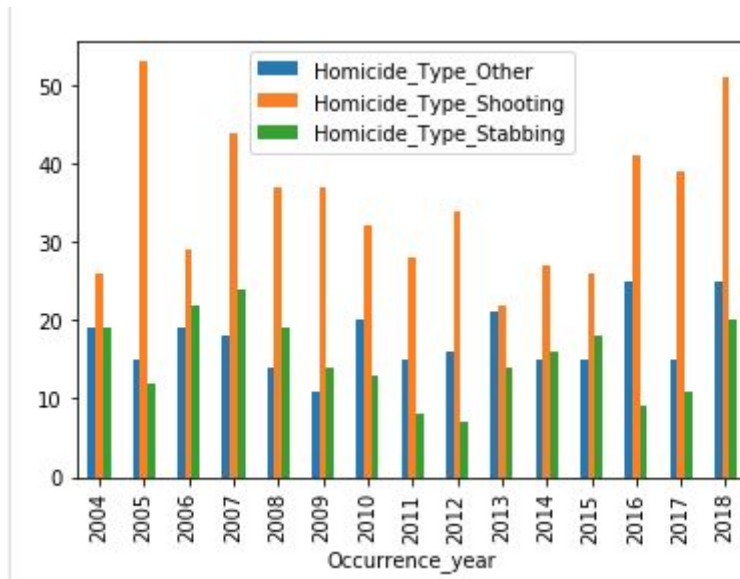
```
pd.DataFrame(dataframe).head()
```

Out[65]:


| distance | location.formattedAddress | location.labeledLatLngs | location.lat | location.lng | location.postalCode | location.state | name | referralId | venuePageId |
|----------|---------------------------------------------------|-----------------------------------------------------|--------------|--------------|---------------------|----------------|--------------------|--------------|-------------|
| 2174 | [887 Queen St W (nr Walnut Ave.), Toronto ON M... | [{"label": "display", "lat": 43.645665, "lng": ... | 43.645665 | -79.411644 | M6J 1G5 | ON | The Paper Place | v-1574759403 | 102345330 |
| 1133 | [191 Baldwin St, Toronto ON M5T 1M1, Canada] | [{"label": "display", "lat": 43.654556, "lng": ... | 43.654556 | -79.401260 | M5T 1M1 | ON | Lit Paper & Glass | v-1574759403 | NaN |
| 1927 | [99 Yorkville Ave, Toronto ON, Canada] | [{"label": "display", "lat": 43.67094261959884... | 43.670943 | -79.391872 | NaN | ON | Paper Things | v-1574759403 | NaN |
| 1615 | [1 Yonge St, Toronto ON M5E 1W7, Canada] | [{"label": "display", "lat": 43.6429251, "lng": ... | 43.642925 | -79.374186 | M5E 1W7 | ON | Crepe Paper Crafts | v-1574759403 | 496121219 |
| 2369 | [116 Massey Street, Toronto ON, Canada] | [{"label": "display", "lat": 43.64497586917162... | 43.644976 | -79.413871 | NaN | ON | Paper Bag Records | v-1574759403 | NaN |

Methodology section which represents the main component of the report where you discuss and describe any exploratory data analysis that you did, any inferential statistical testing that you performed, if any, and what machine learnings were used and why.

The first thing I wanted to do is analyze the crime rate of the city of Toronto and check if it is a safe city analyzing the type of crimes that have been made.



To do this I got a data source from <http://data.torontopolice.on.ca/> and with that information and we analyzed this data and we saw in which places of the city they had commented.



Toronto Police Service

PUBLIC SAFETY DATA PORTAL

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Explorador de API

14/1/2019

Capa de entidades

Licencia personalizada

Descargar

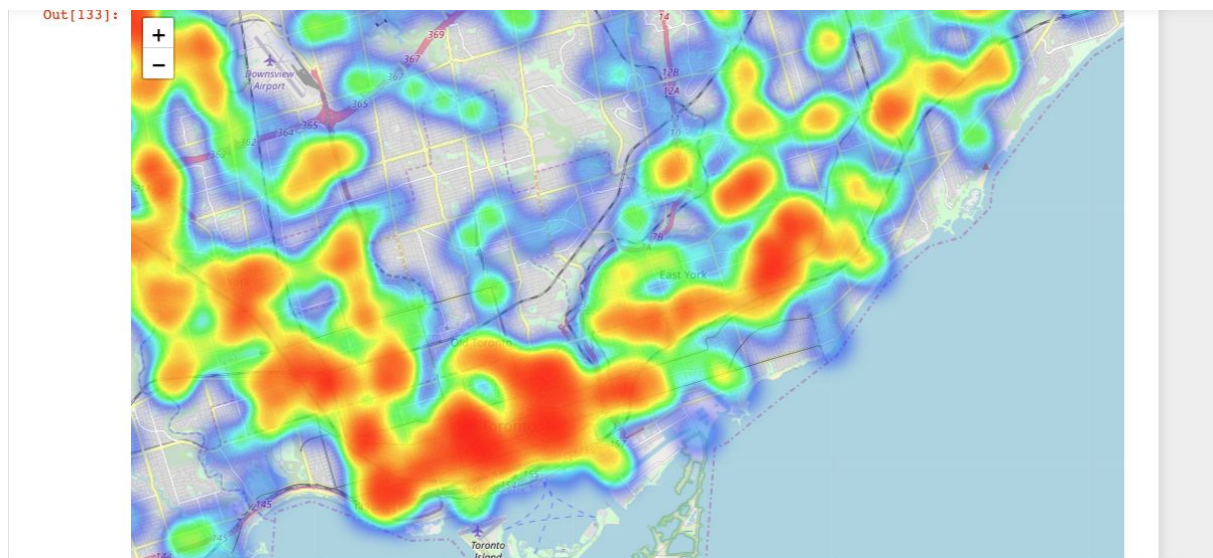
API

Mostrando 1 a 10 de 1015

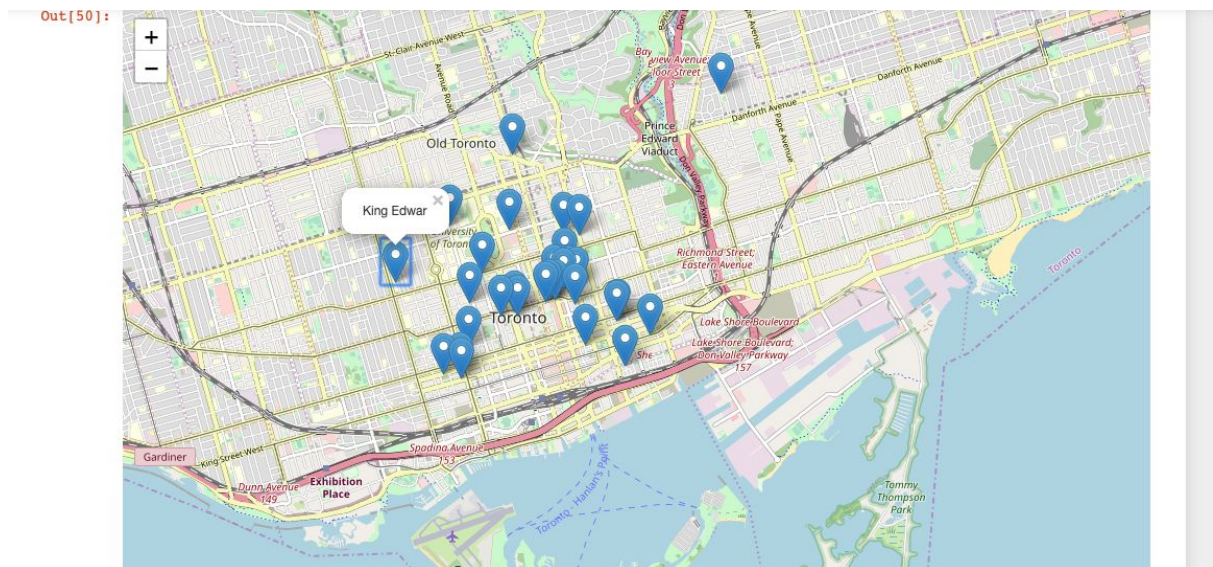
Sugerencia: Filtrar columnas con

| Division | Homicide_Type | Occurrence_Date | Hood_ID | Neighbourhood | Lat | Long | Objectid |
|----------|---------------|-----------------|---------|-----------------------------------|------------|-------------|----------|
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Heat map of homicides in Toronto:



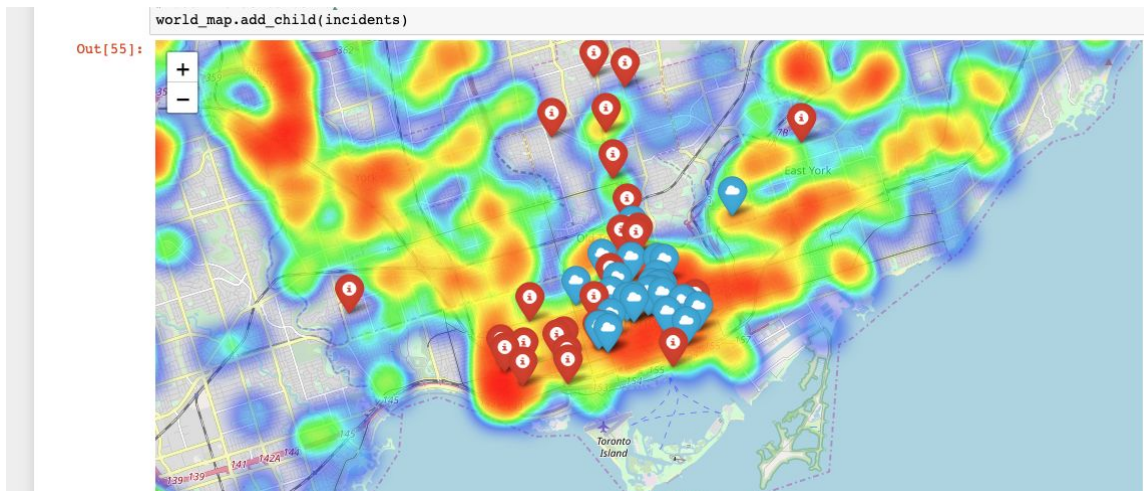
Next I made a call to the Foursquare API to place on the map the schools and those similar to mine in the city.



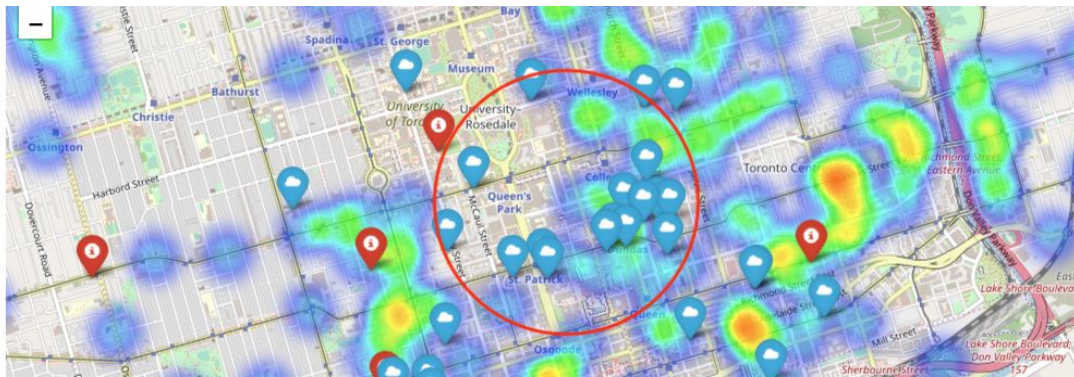
Place all the data on a map to visually see the best place to place my store.



Then to be able to make the correct analysis we must insert all the information in a map to be able to see the ideal location.



if we zoom in on the map



We see an ideal place to place our store