



HODS

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WHAT IS HOODS ?

- HOusing Open Data Survey
- Overview of different neighbourhoods of Barcelona
- Combination a multitude of data from a variety of different sources
- Tool that can facilitate the tedious decision-making-process of choosing the barrio most suitable for given quality of life demands

WHY HOODS ?

- Internet introduced challenges with the collection of useful data
 - Main issues: sheer amount clickable pages, fact-checking, filtering
 - This problem has become increasingly visible in deciding where to move
 - Choice of neighbourhood in a given city
-



HOODS

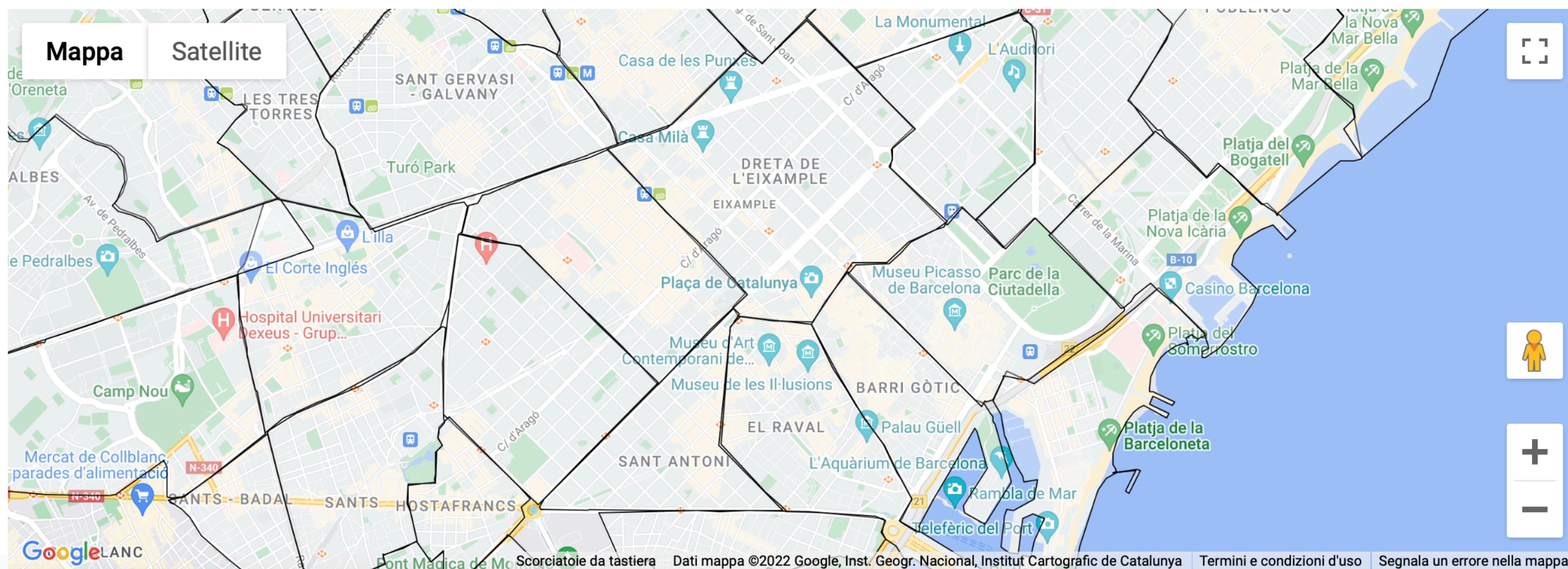
HOusing Open Data Survey

Search an Address in Barcelona

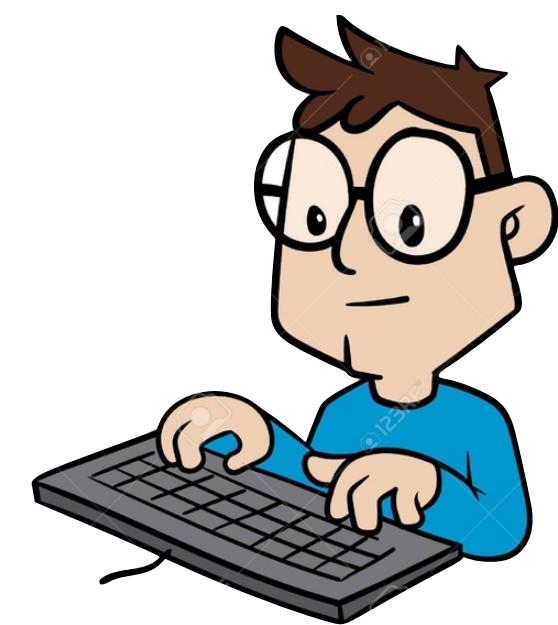
Max commute time

Priorities

Search



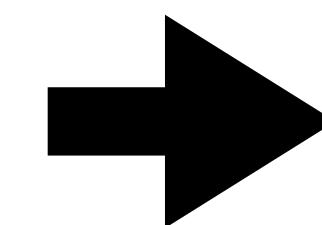
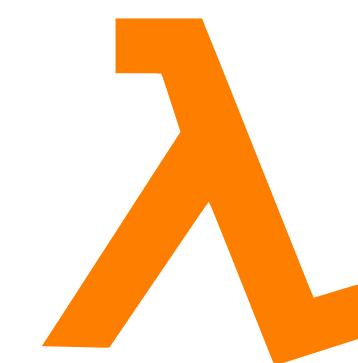
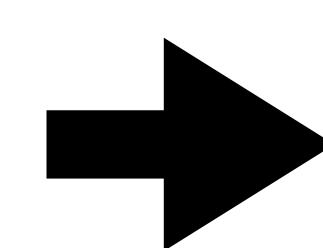
CALCULATION OF THE SCORES



user types an address

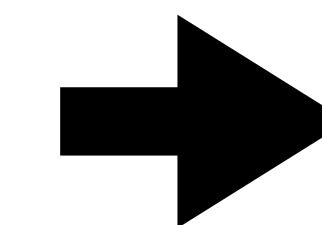
+

priorities



$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

formula to calculate the scores



color the map

SCORING FORMULA

$$Score = \frac{RentScore + DistanceScore + LocationScore * HasLocations}{2 + HasLocations}$$

$$RentScore = \min(\max(RentScore', 0), 5)$$

$$RentScore' = 5 * \frac{1 - (Rent - MinimumRent)}{MaximumRent - MinimumRent}$$

Rent = Rent of individual barrio

$$MaximumRent = AverageRent + \frac{AverageRent}{2.5}$$

$$MinimumRent = AverageRent - \frac{AverageRent}{2.5}$$

$$DistanceScore = \max(DistanceScore_{Walking}, DistanceScore_{PublicTransport})$$

$$DistanceScore_i = \min(\max(DistanceScore'_i)); i \in m$$

$$DistanceScore'_i = \begin{cases} 5 * \frac{1 - (Time - 10)}{MaxTime} & \text{if } Time \leq MaxTime \\ 0 & \text{otherwise} \end{cases} \quad i \in m;$$

$$m \in \{Walking, PublicTransport\}$$

Time = Time from commute location to individual Barrio

MaxTime = Maximum time the user is willing to take in the commute

$$LocationScore = \frac{\sum_{i=t} LocationScore'_i * HasLocation'_i}{\sum_{i=t} HasLocation'_i}$$

LocationScore'_i = Average Score of i kind of location in Google Maps; $i \in t$

$$Haslocations'_i = \begin{cases} 1 & \text{if } i \text{ kind of location is important for the user} \\ 0 & \text{otherwise} \end{cases} \quad i \in t$$

t = Types of locations = bars, cafes, discos, parks, playgrounds, restaurants

$$HasLocations = \begin{cases} 1 & \text{if at least one kind of location is important for the user} \\ 0 & \text{otherwise} \end{cases}$$



HOODS

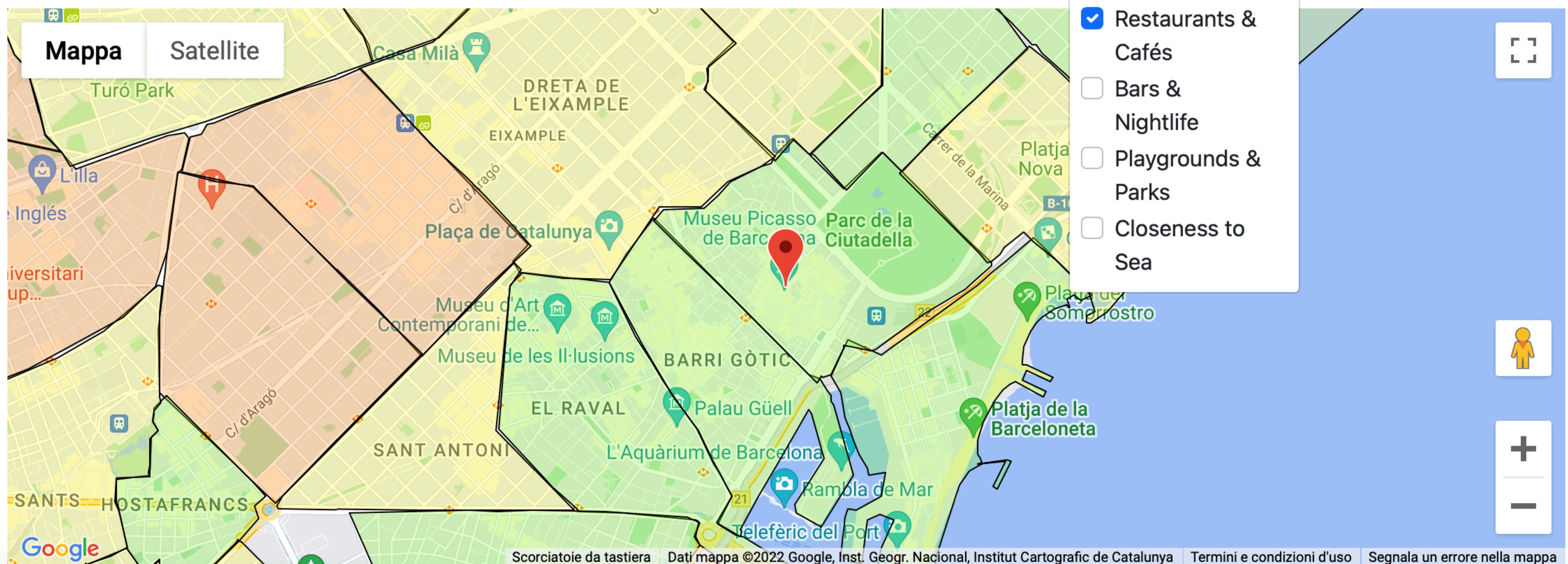
HOusing Open Data Survey

Carrer de Montcada, 15-23, 08003 Barcelona, Spagna

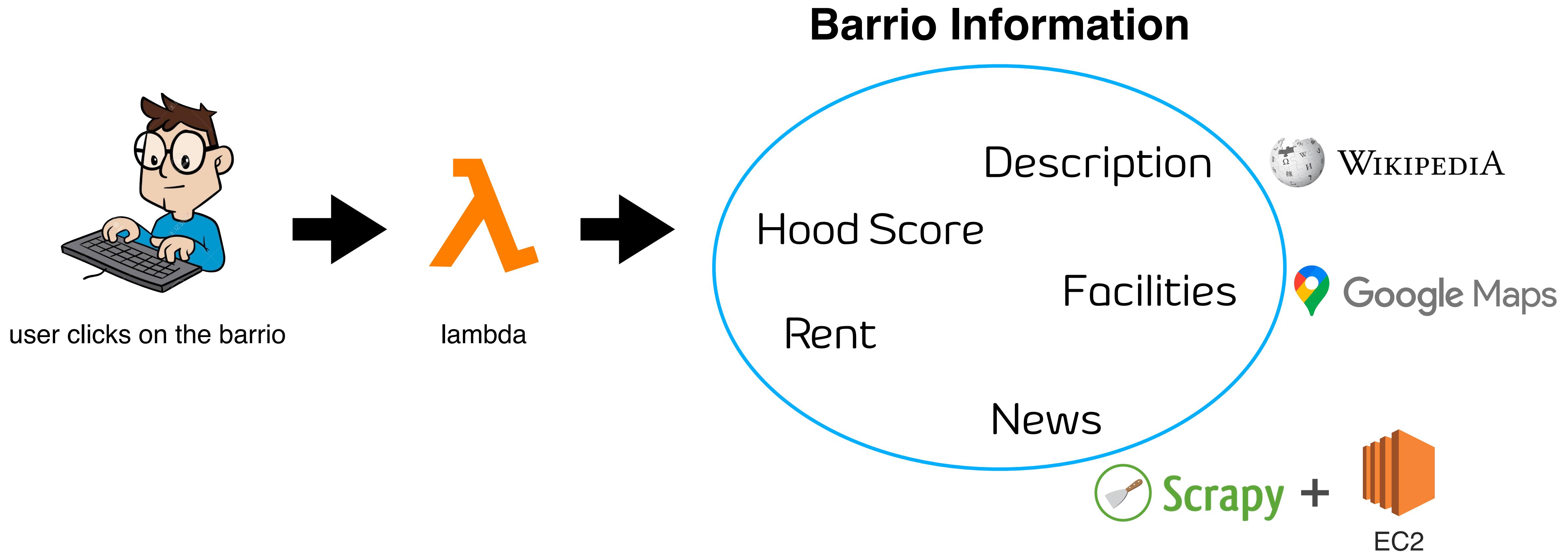
25

Priorities ▾

Search



BARRIO INFORMATION





Carrer de Montcada



News

HOODScore: 1.8

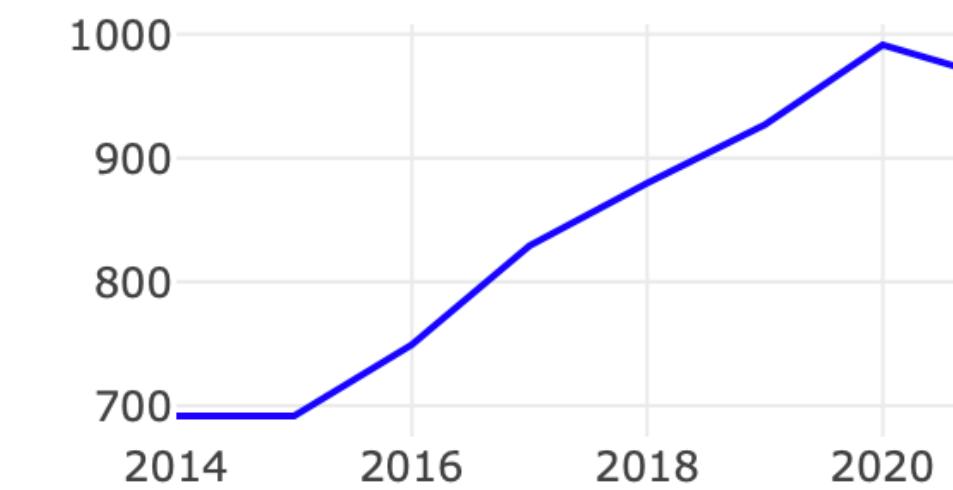
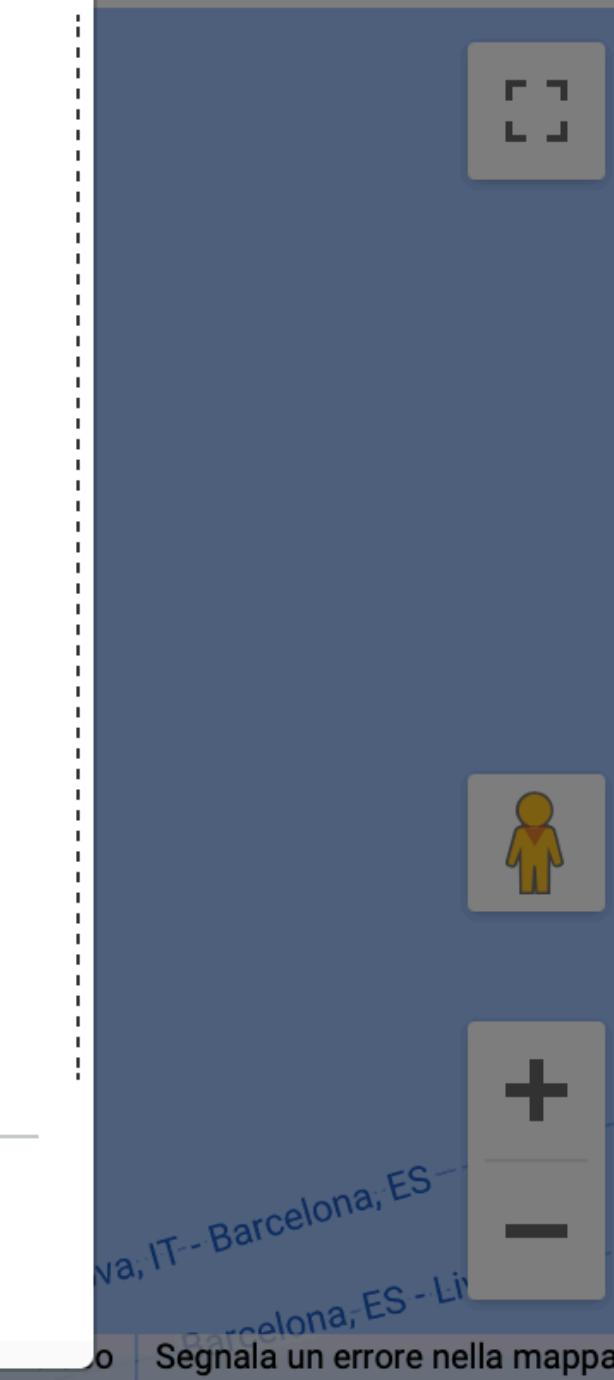
- Distance from workplace: **58 mins**
- Travel mode: **walking**
- Restaurants: **40**
- Cafes: **32**
- Bars: **39**
- Parks: **30**
- Playgrounds: **20**
- Nightclubs: **27**

Average rent in 2021: **963.6**

District: **Gràcia**

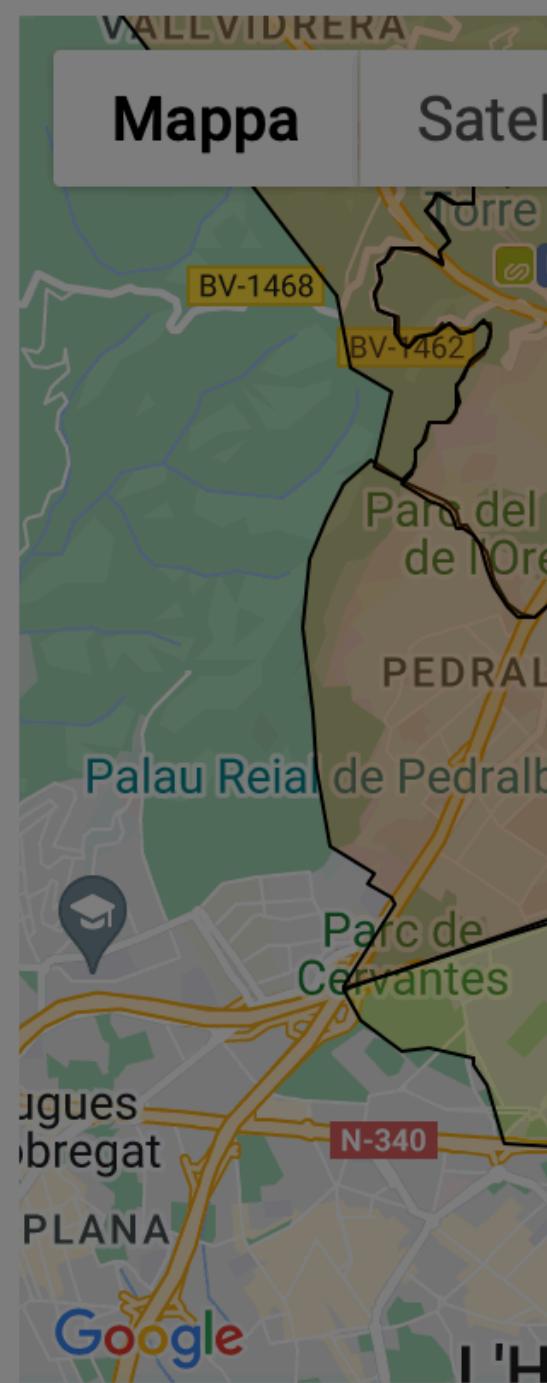


Vila de Gràcia (Catalan pronunciation: [ˈbilə ðə ˈyɾasi.ə]), also known as Gràcia , is a neighborhood in the Gràcia district of Barcelona , Catalonia (Spain). This neighborhood was the main core of the old town of Gràcia that included also Camp d'en Grassot i Gràcia Nova . [...]

Rent price by year**Search**



Carrer de Montcada



La Vila de Gràcia

• Parks: 30

- Playgrounds: **20**
- Nightclubs: **27**



Average rent in 2021: **963.6**

News

Barcelona homenajea a Francis Picabia - 27/05/2022 - 07:00

Los entornos de la Escuela Rius i Taulet de Gràcia serán más seguros y saludables - 24/05/2022

- 16:56

Las culturas populares como espacios de cohesión social en la ciudad - 24/05/2022 - 15:46

Entrega de premios de los Juegos Florales Escolares de Gràcia 2022 - 24/05/2022 - 12:00

ACTAS, 25 años trabajando por el derecho al trabajo digno de las personas con discapacidad y trastorno de salud mental - 23/05/2022 - 11:49

La ciudadanía de Barcelona, más feminista, abierta y animalista - 22/05/2022 - 10:41

Cortometrajes sobre Ghana en la Biblioteca Vila de Gràcia - 20/05/2022 - 13:42

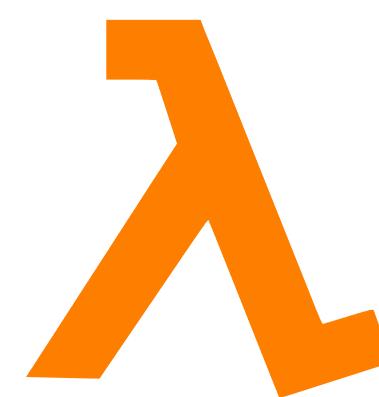
Reconocimiento a las entidades centenarias vinculadas con la ciudad - 20/05/2022 - 10:23

Search

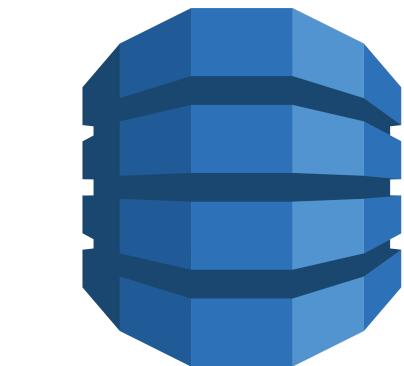


Barcelona, IT - Barcelona, ES
Segnala un errore nella mappa

TECHNOLOGIES



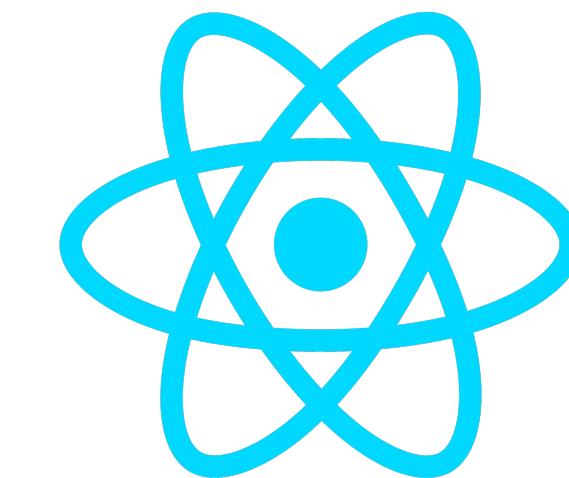
LAMBDA



DYNAMO



EC2



React



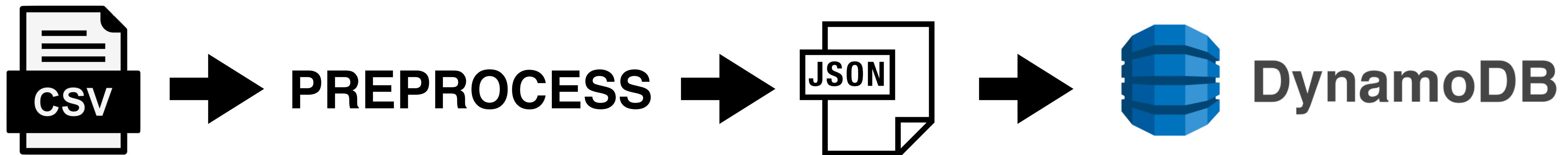
Scrapy

Google Maps APIs

RENT PRICES DATA

- Barcelona Open Data provides a csv for every year from 2014 to 2021
 - Average monthly rent and the per m² price in euro for every barrio
 - 10 districts and 73 barrio
 - Format complicates database queries
 - Offline processing step using python scripts
-

RENT PRICES DATA

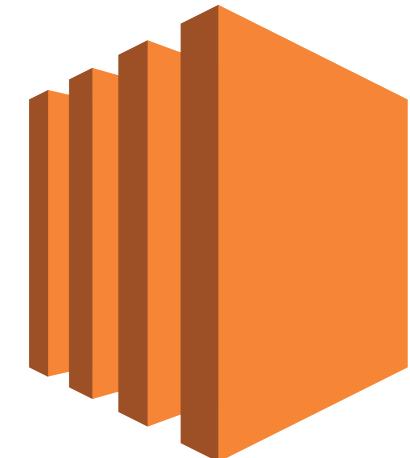


SCRAPE NEWS

- Python script on EC2 instance
- Periodically scrape of the news of every district from Ajuntament Barcelona
- Saving of the items in DynamoDB



DYNAMO



EC2



SCRAPE NEWS

The screenshot shows the homepage of the Ajuntament de Barcelona website for the District of les Corts. The top navigation bar includes links for www.barcelona.cat, search, language selection (Català), and the Ajuntament logo. Below the navigation is a banner featuring a bronze statue of a person wearing a face mask walking past a building with large windows. Overlaid on the banner is text for the District of les Corts and information about the Barri de Pedralbes.

L'AJUNTAMENT ▾ SERVEIS I TRÀMITS ▾ GUIA DEL DISTRICTE ▾ EL DISTRICTE I ELS SEUS BARRIS ▾ CONEIXEU EL DISTRICTE ▾ CONTACTE

Districte de
les Corts

f t y i

El 31 de maig se celebra el Consell de Barri de Pedralbes

El dimarts 31 de maig, a partir de les 18 h, torna el Consell de Barri de Pedralbes a la Casa Cantàbrica (carrer Sor Eulàlia d'Anzizu, 45).

MÉS INFORMACIÓ

Consell
de Barri de
Pedralbes

SCRAPE NEWS

[L'AJUNTAMENT](#) ▾ [SERVEIS I TRÀMITS](#) ▾ [GUIA DEL DISTRICTE](#) ▾ [EL DISTRICTE I ELS SEUS BARRIS](#) ▾ [CONEIXEU EL DISTRICTE](#) ▾ [CONTACTE](#)

Notícies

Protegits més d'una trentena d'arbres per garantir-ne la conservació

MEDI AMBIENT I SOSTENIBILITAT. El catàleg d'arbres d'interès local incorpora 32 exemplars.

27/05/2022 - 12:14

El 31 de maig se celebra el Consell de Barri de Pedralbes

El dimarts 31 de maig, a partir de les 18 h, torna el Consell de Barri de Pedralbes a la Casa Cantàbria (carrer Sor Eulàlia d'Anzizu, 45).

24/05/2022 - 13:50

Afectacions a la mobilitat per la Cursa Diagonal DiR-Guardia Urbana

ESPORTS. En serà la vuitena edició, la primera després de la pausa deguda a la pandèmia.

27/05/2022 - 10:37

L'Escola Paideia obre el seu pati els dissabtes d'aquest mes

L'escola obrirà el seu pati al veïnat els dissabtes 28 de maig, i 4, 11 i 18 de juny, de 10.30 a 13.30 h.

26/05/2022 - 14:23

Les activitats de les Corts, fins al 5 de juny de 2022

Si no et vols perdre res del que passa al territori, descarrega l'agenda d'activitats que t'oferim a continuació.

26/05/2022 - 14:19

Els Radars de la Maternitat i Sant Ramon celebren els 10 anys

Del 7 a l'11 de juny se celebren els deu anys de la creació de la Taula Radars de la Maternitat i Sant Ramon amb debats, teatre i concerts.

26/05/2022 - 13:15

Les Corts celebra la primera edició de la Festa de la Primavera amb bona acollida

Aquest passat cap de setmana, els carrers i places de les Corts s'han omplert d'activitats per celebrar l'arribada de la primavera. Esport, mostres de comerç i restauració, tallers, concerts, xerrades i molt més.

25/05/2022 - 14:24

El CE Laietà organitza un torneig de futbol 3x3

El tradicional torneig se celebrarà dissabte 28 de maig, de 9 a 14 hores a les instal·lacions del club.

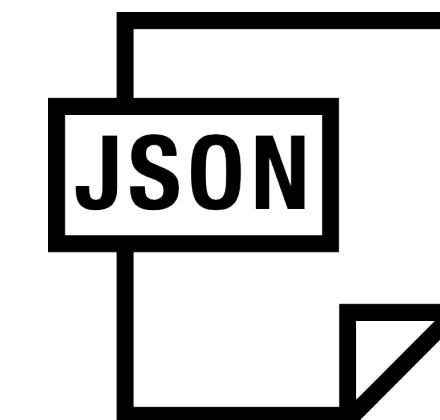
25/05/2022 - 13:54

SCRAPE DESCRIPTION-IMAGE

- Python script to get descriptions and images from wikipedia



WIKIPEDIA



LIVE DEMO

PROJECT MANAGEMENT

- 3 meetings per week with distribution of responsibilities
 - Everybody details the progress and the obstacles
 - The problems are addressed with fresh inputs of the other group members
 - In general, 1/2 task per group member
 - We develop and test locally and deploy as soon as a functionality is ready
-

CONCLUSION

- We implemented a **tool** that can facilitate the decision of choosing the most suitable barrio for given quality of life demands
 - We combined different **technologies** such as AWS services, APIs and scraping
 - We developed a **website** in order to provide the application
 - **Last but not least:** group management, troubleshooting, teamwork and team building
-

T**H****A****N****K** **Y****O****U** !
