Living in Milan – a practical guide for students

1. Introduction

Nowadays moving to Milan for studying purposes is a fairly common practice. A lot of students move (especially from Middle and Southern Italy) to Milan to attend university (bachelor, master degrees and PhDs). Moving to a complex and dynamic city such as Milan is not always easy, especially for all those students who come from smaller cities (or even small villages) spread all over Italy. Being transplated in such a caothic city may lead students to feel lost and disorienteted in the middle of all possibilities that the city has to offer.

2. Business Problem

The aim of the project is to help students to have a synthetic and global view of all the possibilities that Milan has to offer and how this opportunities are spread all over the territor. Where useful facilities are located? Which NILs (which are divisions of the territory that can be interpreted exactly as neighbourhoods) offer the best amusement possibilities? Where and which kind of restaurants, bar, pubs are available in the city? The project tries to answer to all this kind of questions and, moreover, takes into consideration even the average age of each NIL and the distribution of all the universities in the city to best fit the necessities of new students.

3. Data

A huge amount of useful datasets about the city of Milan can be found at the following link: https://dati.comune.milano.it/dataset. Here the municipal administration, stores a lot of different datasets (more than 1000) that contain informations about very different topics. The datasets we are going to use in the project are mostly in the ".json" and ".geojson" format.

3.1 First dataset

The first dataset is about the different NILs (or most commonly neighbourhoods) of Milan. The fields in the dataset must be interpreted as follows:

1. ID_NIL : stands for "Nuclei di identità locali", which represents neighbourhoods of Milan
2. NIL : name desciption of the neighbourhood
3. Valido_dal : indicates the sarting validity date of the data
4. Valido_al : indicates if the neighbourhood is still valid nowadays
5. Fonte : indicates if the neighbourhoods data are approved
6. Shape_Length : linear extension of the neighbourhood
7. Shape_Area : area extension of the neighbourhood
8. OBJECTID : unique id
9. geometry : spatial coordinates of the boundaries of the neigbourhood

3.2 Second dataset

The second dataset is necessary to asscoiate to each NIL its ltitude and longitude coordinates, which will be necessary for the application of the Foursquare API. The fields in the dataset must be interpreted as follows:

1. id_nil : stands for "Nuclei di identità locali", which represents neighbourhoods of Milan
2. nil_name : name desciption of the nil (neighbourhood)
3. lng : calculated longitude for the nil (neighbourhood)
4. lat : calculated latitude for the nil (neighbourhood)

3.3 Third dataset

The third is huge and contains a lot of different data about population. Different indicators about population are stored in the dataset, but in the project we will be interested in the average age for each NIL of the city. The fields in the dataset must be interpreted as follows:

1. `Anno` : year of census (tha data are available for 1991, 2001 and 2011)
2. `Territorio` : division of the territory (for example dvision by NIL)
3. `Indicators` : indicator analyzed (different types of indicators are stored all together in the dataset)
4. `Definizione` : description of the indicator taken into consideration
5. `Valore indicatore` : numeric value for the indicator taken into consideration

3.4 Fourth dataset

The last dataset is about universities in Milan. The fields in the dataset must be interpreted as follows:

1. `T_LAUREA` : course of study available inside the university
2. `DENOMINAZ` : denomination of the university
3. `LONG_X_4326` : longitude coordinate of the university
4. `LANG_Y_4326` : latitude coordinate of the university

3.5 Foursquare API

In the project we will make use of Foursquare API. We will need data about different venues in the city. In order to get that kind of informations we will use "Foursquare" locational information. Foursquare is a location data provider with information about all manner of venues and events within an area of interest. Such information includes venue names, locations, menus and even photos. As such, the foursquare location platform will be used as the sole data source since all the stated required information can be obtained through the API.