Map visualisation

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Map visualisation

Prepare data of sentiments as a GeoJSON FeatureCollection for using on a OpenStreetMap with the vanilla-js-web-component-leaflet-geojson to look like this.

Setup

[ ]:
```
!pip install pandas
```

Preparando los datos

[2]:
```
import pandas as pd

versos_al_paso_geo_url = 'https://github.com/migupl/sentimientos-al-paso/raw/
↪main/notebooks/output/versosalpaso_sentiment_text-davinci-003_geo.csv'
versos_al_paso_geo = pd.read_csv(versos_al_paso_geo_url, sep=';',␣
↪encoding='utf-8')
versos_al_paso_geo.columns
```

[2]:
```
Index(['Unnamed: 0', 'id', 'latitud', 'longitud', 'autor', 'barrio', 'verso',
       'direccion', 'sentiment', 'quarter', 'district', 'city'],
      dtype='object')
```

[3]:
```
sentiments_by_district = versos_al_paso_geo.groupby('district')
pd.pivot_table(versos_al_paso_geo[['district', 'sentiment']], index='district',␣
↪columns='sentiment', aggfunc=len, fill_value=0)
sentiments_by_district
```

[3]:
```
<pandas.core.groupby.generic.DataFrameGroupBy object at 0x7fdf6c0aacd0>
```

[4]:
```
no_of_districts = len(versos_al_paso_geo.district.unique())
print(f'There are {no_of_districts} districts')
```

```
There are 21 districts
```

[5]:
```
pd.pivot_table(versos_al_paso_geo[['district', 'sentiment']], index='district',␣
↪columns='sentiment', aggfunc=len, fill_value=0)
```

[5]:

```
sentiment              negative  neutral  positive
district
Arganzuela                    1        4        48
Barajas                       0        0        11
Carabanchel                   2        7        72
Centro                        1        2        67
Chamartín                     0        4        71
Chamberí                      1        0        63
Ciudad Lineal                 0        1        77
Fuencarral-El Pardo           2        4        59
Hortaleza                     0        5        51
Latina                        1        7        67
Moncloa-Aravaca               3        2        58
Moratalaz                     0        1        30
Puente de Vallecas            0        5        53
Retiro                        1        1        45
Salamanca                     1        3        59
San Blas - Canillejas         1        1        51
Tetuán                        2        2        39
Usera                         0        4        42
Vicálvaro                     0        1        22
Villa de Vallecas             1        0        11
Villaverde                    1        2        30
```

Define GeoJSON Feature

[6]:

```python
import json

def geojson_feature(latitude: float, longitude: float, author: str, verse: str,␣
 ↪sentiment: str) -> json:
    colors_name = {'negative': 'red', 'neutral': 'yellow', 'positive': 'green'}
    return {
        'type': "Feature",
        'geometry': {
            'type': "Point",
            'coordinates': [longitude, latitude]
        },
        'properties': {
            'popupContent': f'<strong>{verse}</strong><br>- <cite>{author}</
 ↪cite>',
            'icon': {
                "iconUrl": f'https://raw.githubusercontent.com/migupl/
 ↪svg-vectors-and-icons/main/heart-like/heart-{colors_name[sentiment]}.png',
                "iconSize": [41, 41],
                "iconAnchor": [20, 41],
                "popupAnchor": [1, -34]
            },
        }
    }
```

Prepare the GeoJSON’s FeatureCollection by district

```
[7]: geojson = {}
     for name, group in sentiments_by_district:
         features = []
         for index, row in group.iterrows():
             feature = geojson_feature(row.latitud, row.longitud, row.autor, row.
      ↪verso, row.sentiment)
             features.append(feature)

         geojson[name] = {
             'type': "FeatureCollection",
             'features': features
         }

     keys = geojson.keys()
     keys
```

```
[7]: dict_keys(['Arganzuela', 'Barajas', 'Carabanchel', 'Centro', 'Chamartín',
     'Chamberí', 'Ciudad Lineal', 'Fuencarral-El Pardo', 'Hortaleza', 'Latina',
     'Moncloa-Aravaca', 'Moratalaz', 'Puente de Vallecas', 'Retiro', 'Salamanca',
     'San Blas - Canillejas', 'Tetuán', 'Usera', 'Vicálvaro', 'Villa de Vallecas',
     'Villaverde'])
```

Test that there are 21 districts

```
[8]: import unittest

     tc = unittest.TestCase()
     no_of_keys = len(keys)
     tc.assertEqual(21, no_of_keys)
```

Save JSON for later use

```
[12]: js_content = f"""
      const data = {geojson};
      export {{ data }}
      """
```

```
[14]: js_file_path = './output/sentiments_by_district_geo.js'
      with open(js_file_path, 'w') as f:
          f.write(js_content)
```