



EventMad Project

Open Data & Knowledge Graph

Group 07

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Goals

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Introduction

2 Open databases provided by the Madrid City Council on cultural events in the city and the installations

- Activities, performances and exhibitions
- Locations
- Schedules
- Description

Tool that provides quick access to Madrid's cultural offerings, allowing users to tailor their searches based on personal interests and enhancing the cultural experience in the city

Goals

1

Facilitate Access to Cultural Information

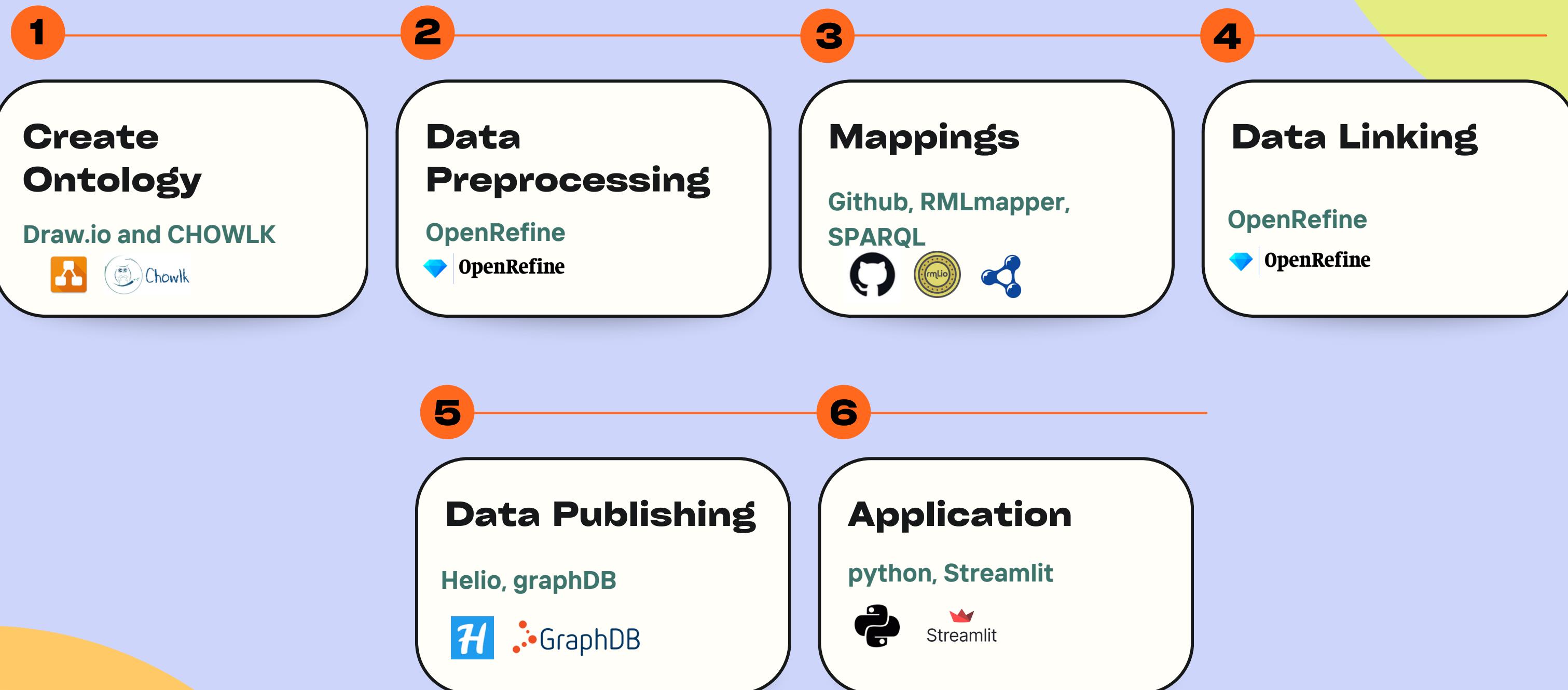
2

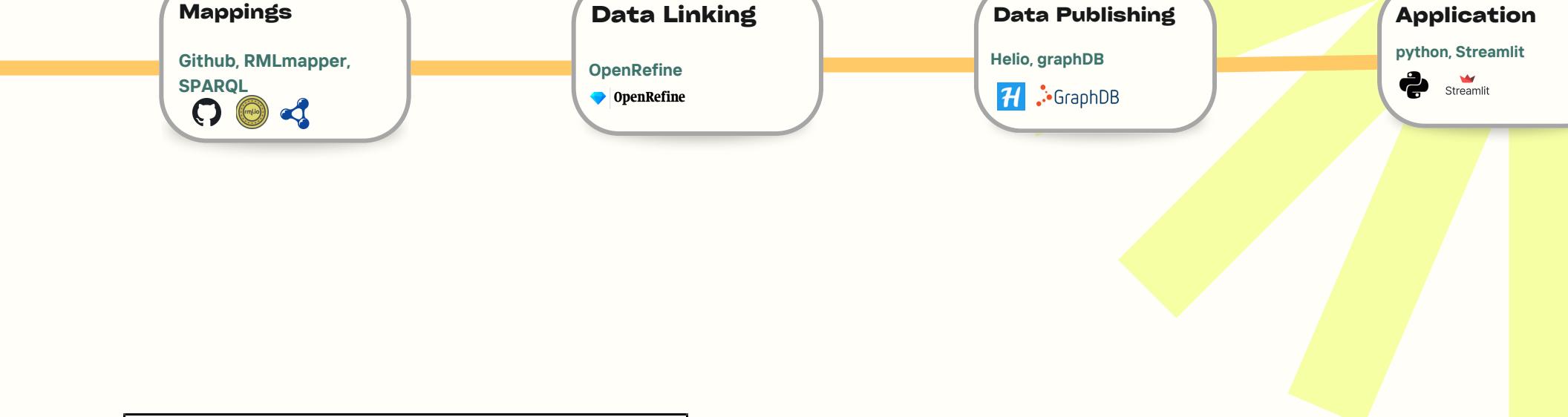
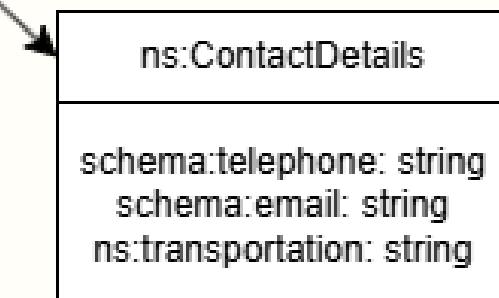
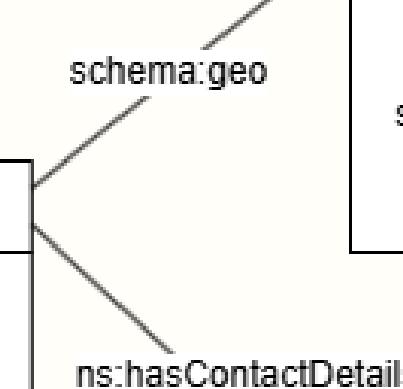
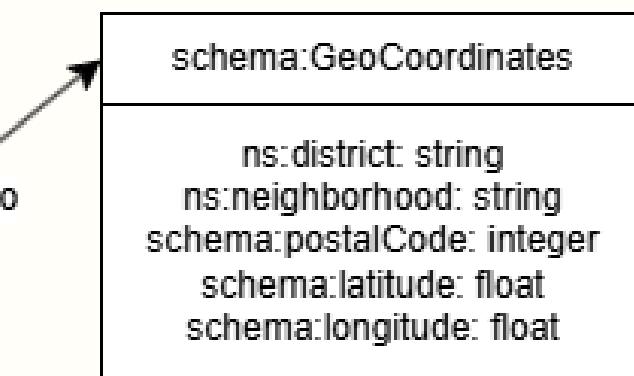
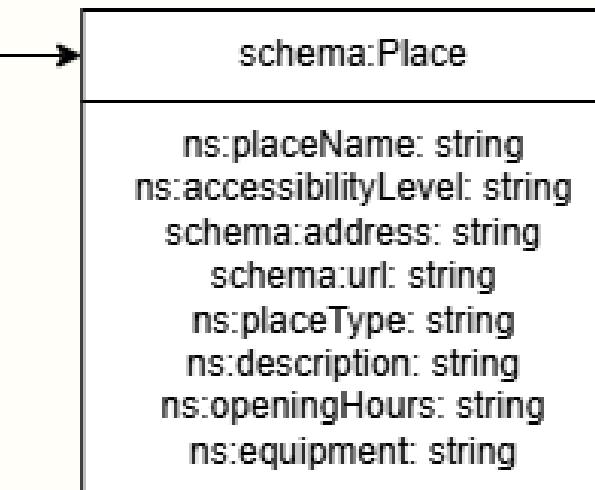
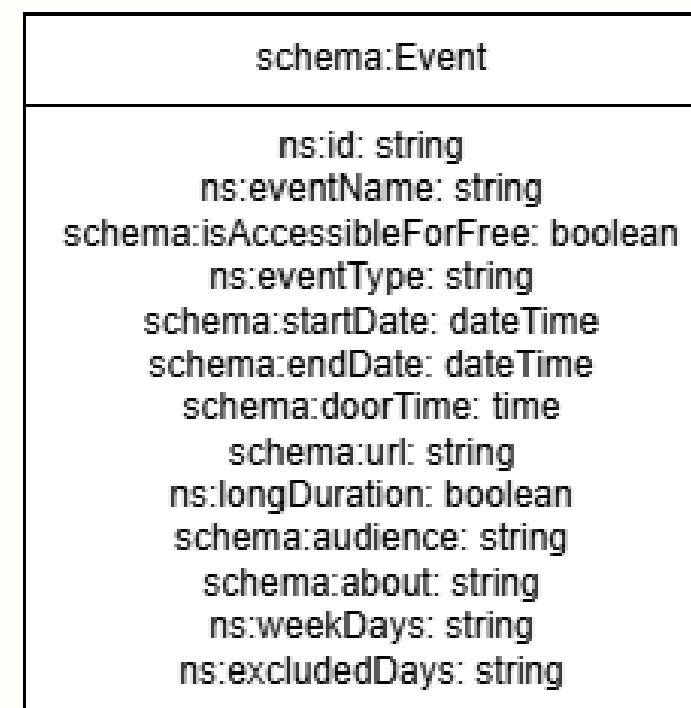
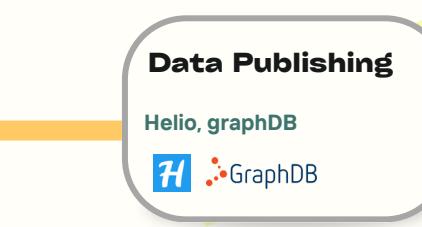
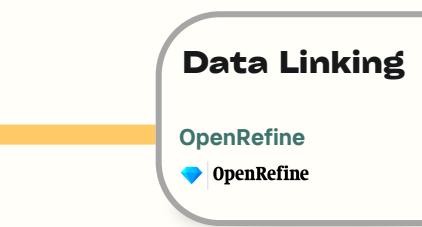
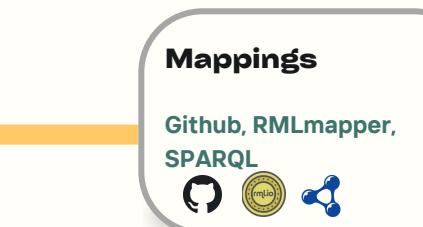
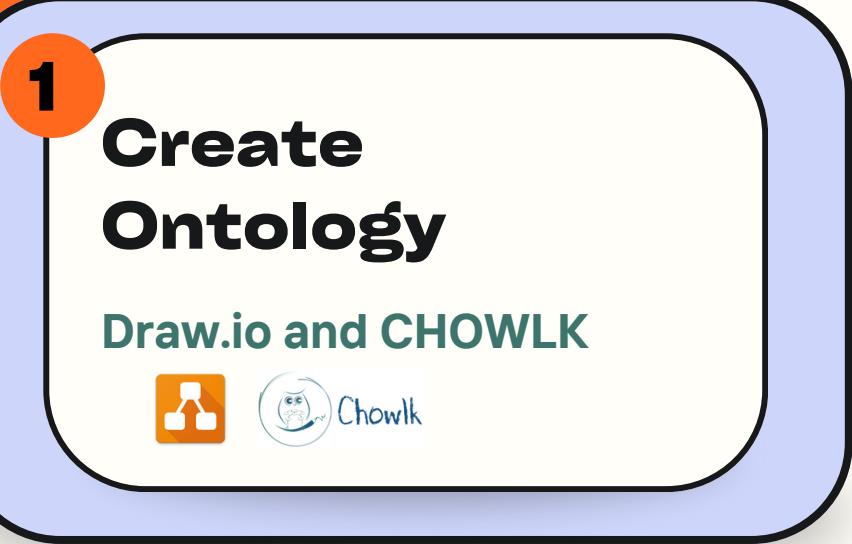
Innovate Accessibility to Open Data

3

Application of Knowledge in Data Analysis and Visualization

Methodology





2

Data Preprocessing

OpenRefine
OpenRefine

Mappings

Github, RMLmapper,
SPARQL



Data Linking

OpenRefine
OpenRefine

Data Publishing

Helio, graphDB
GraphDB

Application

python, Streamlit
Streamlit

1389 rows

Extensions Wikibase

Show as:		rows	records	Show:	5	10	25	50	100	500	1000	rows	« first	< previous	1	next >	last »
All	ID-EVENTO	TITULO	PRECIO	GRATUITO	LARGA-DURACION	DIAS-SEMANA	DIAS-EXCLUIDOS	FECHA	FECHA-FIN								
2.	12548630	17. ^a edición Mi primer festival de cine Talleres		0	0			2024-11-23 00:00:00.0	2024-11-23 23:59:00.0								
3.	12513819	17 ^a edición Mi primer festival de cine	Varios, consultar programa de actividades	0	1	D		2024-11-10 00:00:00.0	2024-11-24 23:59:00.0								
4.	12548497	17 ^a edición Mi primer festival de cine Talleres	3,5 euros	0	0			2024-11-16 00:00:00.0	2024-11-23 23:59:00.0								
5.	12470350	30 AÑOS DEL PERIÓDICO TETUÁN 30 DÍAS		1	1	L,M,X,J,V,S,D		2024-09-26 00:00:00.0	2024-10-25 23:59:00.0								

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Mappings

Github, RMLmapper,
SPARQL



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OpenRefine

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RML

```
@prefix rr: <http://www.w3.org/ns/r2rml#> .
@prefix rml: <http://semweb.mmlab.be/ns/rml#> .
@prefix ql: <http://semweb.mmlab.be/ns/ql#> .
@prefix schema: <http://schema.org/> .
@prefix ns: <http://madrid.events.com/> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@base <http://madrid.events.com/ns#> .
@prefix xml: <http://www.w3.org/XML/1998/namespace> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .

### TriplesMap for Event ###
<#TriplesMapEvent> a rr:TriplesMap;
  rml:logicalSource [
    rml:source "Dataset-Updated-events-new.csv";
    rml:referenceFormulation ql:CSV
  ];
  rr:subjectMap [
    rr:template "http://madrid.events.com/event/{ID-EVENTO}";
    rr:class schema:Event
  ];

  rr:predicateObjectMap [
    rr:predicate ns:id;
    rr:objectMap [ rml:reference "ID-EVENTO"; rr:datatype xsd:string ]
  ]
```

RDF

```
<http://madrid.events.com/event/10590577> <http://madrid.events.com(eventName> "Conferencia: Pierre-auguste Renoir".
<http://madrid.events.com/event/10590577> <http://madrid.events.com(eventType> "ConferenciasColoquios".
<http://madrid.events.com/event/10590577> <http://madrid.events.com(hasPlace> <http://madrid.events.com/installation/Centro%20Cultura%20Salmer%C3%B3n%20%28Chamart%C3%ADn%29> .
<http://madrid.events.com/event/10590577> <http://madrid.events.com(id> "10590577".
<http://madrid.events.com/event/10590577> <http://madrid.events.com(longDuration> "false"^^<http://www.w3.org/2001/XMLSchema#boolean> .
<http://madrid.events.com/event/10590577> <http://schema.org/about> "Ciclo: El Impresionismo. Pierre-Auguste Renoir, a diferencia del resto de los impresionistas, fue pintor de la figura humana. Su pasión por los maestros del pasado y una especial atención a la mujer y a la sensualidad nos regala algunas de las imágenes más bellas del Impresionismo. Ponente: Belén G. Naharro." .
<http://madrid.events.com/event/10590577> <http://schema.org/audience> "Sin información".
<http://madrid.events.com/event/10590577> <http://schema.org/doorTime> "19:00:00"^^<http://www.w3.org/2001/XMLSchema#time> .
<http://madrid.events.com/event/10590577> <http://schema.org/endDate> "2024-10-30T23:59:00Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> .
```

4

Data Linking

OpenRefine



Data Publishing

Helio, graphDB
 GraphDB

Application

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 Streamlit

BARRIO	WIKIDATA_BARRIO	DISTRITO	WIKIDATA_DISTrito
Cortes	https://wikidata.org/entity/Q2535 	Centro	https://wikidata.org/entity/Q1763376
Cortes	https://wikidata.org/entity/Q2535637	Centro	https://wikidata.org/entity/Q1763376

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Data Publishing

Helio, graphDB



Application

python, Streamlit



GraphDB

events

Source: <http://madrid.events.com/graph/events>

subject predicate object context all Explicit only Show Blank Nodes Download as Visual graph

Filter query results Compact view Hide row numbers

	subject	predicate	object	context
1	http://madrid.events.com/event/10590577	rdf:type	http://schema.org/Event	http://madrid.events.com/graph/events
2	http://madrid.events.com/event/10606981	rdf:type	http://schema.org/Event	http://madrid.events.com/graph/events
3	http://madrid.events.com/event/10633173	rdf:type	http://schema.org/Event	http://madrid.events.com/graph/events
4	http://madrid.events.com/event/10634056	rdf:type	http://schema.org/Event	http://madrid.events.com/graph/events
5	http://madrid.events.com/event/10791370	rdf:type	http://schema.org/Event	http://madrid.events.com/graph/events
6	http://madrid.events.com/event/11234187	rdf:type	http://schema.org/Event	http://madrid.events.com/graph/events

6

Application

python, Streamlit



Streamlit

```
import streamlit as st
from SPARQLWrapper import SPARQLWrapper, JSON
import pandas as pd
import folium
from streamlit_folium import st_folium
```

```
endpoint_url = "http://localhost:7201/repositories/madrid_events"
sparql = SPARQLWrapper(endpoint_url)
sparql.setReturnFormat(JSON)
```

Results

X

Start date
2023/01/01

End date
2025/12/31

Free

Select Audiences
Choose an option

Select Accessibility
Choose an option

Select Districts
Choose an option

Select Neighborhoods
Choose an option

RUNNING... Stop Deploy :

Map of Events

The map displays a dense distribution of event locations primarily in the northern and eastern parts of the Madrid metropolitan area. The event pins are concentrated in neighborhoods such as La Dehesa de Navalcarbón, Las Rozas de Madrid, Majadahonda, Aravaca, Pozuelo de Alarcón, and Boadilla del Monte. The map also shows parts of the city of Madrid and surrounding towns like Fuenlabrada and Alcalá de Henares.

Conclusion and Future Work

User-friendly application for accessing cultural events

Real-time visualization on a city map, allowing users to view, filter, and customize their search based on interests

- Add statistics
- Better visualization
- Link additional sources
- Mobile version
- Personalized event recommendations and alerts

THANK YOU!