# **Tourist Events**

Knowledge and Data Integration Project

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## **Objective**

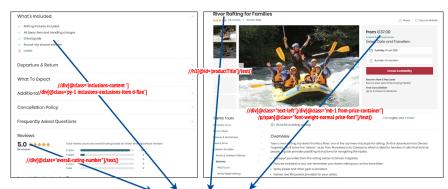
#### Project goal and expectation

- aims to build custom vocabulary terminologies for unambiguously representing event entities prevalent in various datasets at our disposal and incorporate existing entity types, object and data properties in order to minimize redefinition of the same concepts.
- Eventually, our ideal application is expected to respond with a set of chronological events suited to the taste of the user being concerned, and help to facilitate transportation management between geographical points as a secondary infrastructural service.

#### Project scope

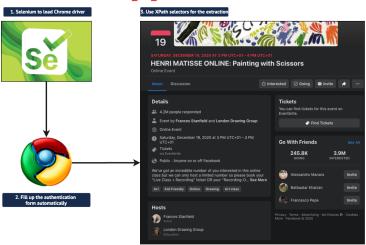
The scope of the project is spatially restricted to Comune of Trento and temporally the datasets from early the year to the end of the year.

## **Data Extraction [1]**



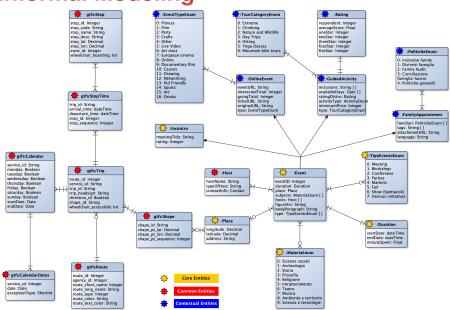
21 lines (21 sloc) | 69,1 KB ("title": "Mafting Extra", "duration": "2 hours", "category": "Extreme", "dep\_place": "Via Gole, Dimaro TN, Italy", "dep\_time": null, "img\_src": "https://media ("title": "Rio Black Carvening", "duration": "4 hours", "category": "Climbing", "dep place": "Via dei Legionari Decosloyacchi, 14, 38652 Arco TM, Italy", "dep t ("title": "Fun Climb", "duration": "4 hours", "category": "Climbing", "dep\_blace": "Via dei Legionari Cocoslovacchi, 14, 38852 Arco TN, Italy", "dep\_time": "2 5 ("title": "Felvice Canvenine", "Guration": "4 hours", "category": "Nature and Mildlife", "dee place": "1: Via dei Lepionari Cecoslovacchi, 14, 39862 Arco TN, I 6 ("title": "From Trento: Private Day Tour by Car: the Great Dalomites Read", "duration": "7 hours", "category": "Day Trips", "dep\_place": null, "dep\_time": "7: 7 {"title": "The glacial lakes of the Cevedale", "duration": "7 hours", "category": "Hiking", "dep.place": "Idropejo Srl, Via Ettore Colombo, 16, 38804 Pejo TN, 8 ("title": "River Rafting for Families", "duration": "1 hour&mbspl5 minutes ", "category": "Extreme", "dep\_place": "Doloniti Camping Village & Wellness Resort, ("title": "Via Ferrata Rio Ruzza", "duration": "4 hours", "category": "Climbing", "deg\_place": "Via dei Legionari Cecoslovacchi, 39, 38862 Arco TM, Italy", "de it ("title": "8-Day Bike Tour in the Delegites", "duration": "5 to 7 hours", "category": "Day Trips", "dep place": "Albergo Pangrama, Via Templari, 51, 38636 Pan-("title": "Via Ferrata Colodri 2.8", "duratios": "3 to 4 hours", "category": "Nature and Nildlife", "dep\_place": "Via dei Legionari Cocoslovacchi, 14, 38862 Ar 12 ("title": "Crosscountry Bike Route to Campo from Malcosine, Lake Garda", "duration": "5 hours", "category": "Nature and Wildlife", "des place": "Via Navene Vo 13 ("title": "Yoga individual lessens", "duration": "1 hour", "category": "Yoga Classes", "deg\_place": "B68 Mia Mason, Streda del, Via del Piz, 9, 38832 Canazei ("title": "From Trents: Private Day Tour by car: The Heart of the Eastern Dolomites", "duration": "9 hours", "category": "Day Trips", "dep\_place": null, "dep\_ If ("title": "Rental and tours with Electric bike quide on Monte Rondone or Pinkumbes on the lakes", "duration": "2 hours", "category": "Mountain Sike Tours", "d ("title": "Easy Bike Route with MBT Guide on Hante Baldo: the Red Tour", "duration": "5 hours", "category": "Nature and Wildlife", "deg\_place": "Via Navene W 17 ("title": "Monte Baldo Private Miking Tour", "duration": "6 to 7 hours", "category": "Day Trips", "dep\_place": "37018 Malcesine, VR, Italy", "dep\_time": "18:00 18 ("title": "Dolonites Full-day Tour from Lake Garda", "duration": "11 hours", "category": "Day Trips", "day place": "1: Largo Faselo Bitinico, 1, 25819 Sirmione 19 ("title": "Full-day Lake Garda Tour", "duration": "9 hours", "category": "Day Trips", "dec place": "1: Corso Italia, 80, 37016 Garda VM. Italy", "dec time": nu ("title": "Lake Garda Tour by Coach with Ferry Ride Included", "duration": "9 to 11 hours", "category": "Day Trips", "dep\_place": "1: Via Capitelli, 17, 25010

## **Data Extraction [2]**



Instead of using scrapy, here seleniums's custom selectors are utilized. Since locating exact element containing a particular data was hard, it had a few anomalities.

## **Informal Modeling**

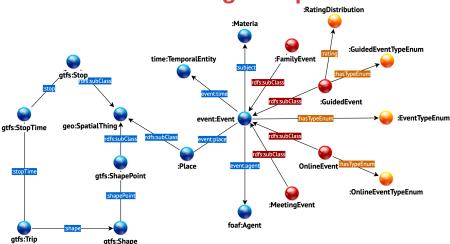


## **Pre-existing Representations**

- schema: for 'TheaterEvent' to be meaningful in the application scenario, it has to contain 'producers', 'cast', 'stage designer' etc. Ideosyncrasies in available data records diverge from each other too much (NLP or Named Entity Recognition in Italian).
- event: customizability offered while keeping a simple profile made up of foaf, time and geo ontologies.

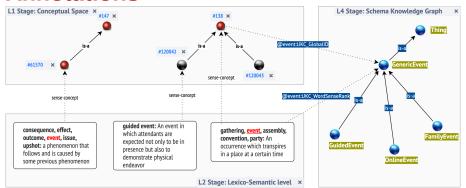


L4 Schema Knowledge Graph



Although GTFS ontology provides a comprehensive set of transportation etype specifications, the flexibility with object and data properties are given to the developer.

### **Annotations**



#### Example

**Online Event** (Word Form: *Remote Event*) GID: 120042: A special type of event with the participants prompted to engage in remotely

**Online Event Type** (Word Form: *Remote Event Category*) GID: 120045: Enumerated types for the online events, including such as painting, sightseeing and visiting museums

# Data Processing

## **Preprocessing and Normalization**

- Enumeration of possible event categories
- Date and Time format conversion into uniform expressions (e.g. The facebook dataset just annotates their date and time in only-human readable format such as 'Today AT 5AM')
- Construction of new data field out of existing properties (e.g. Computing duration in minutes from the starting and ending dates of events)
- Dealing with natural languages (e.g: dal 2020/12/20 al 2020/12/21 ora 5PM to startDate: 2020-12-20T17:00:00 etc.)

## Meeting data requirements

#### Date

- Split the field 'Quando'
- Extract the From To dates
- 3 Convert the dates in standard form
- 4 Create new fields for From to dates
- 5 Populate the values in new fields

#### **Date**

- Extract text from 'Prezzo'
- Check if the text contains any number
- If number is in the text: Extract the number and populate it
- 4 Else: Put price as zero '0'

```
"Title", "Guorosenete al museo, apportamenti per i piudeff piccoll",
"Rating": "
"Power": "('Castello del Bourconsiglio", 'Via Bernardo (lesio')",
"Proz. Lisel", "2023-23-25 80-80-80",
"Altra Informazion";
"no informazion";
"no informazion";
"no informazion";
"noticle",
"massicle",
"massicle di ottoro ritorna l'appuntamento settiamanale per famiglio, organizza
"Di parte del storo ritorna l'appuntamento settiamanale per famiglio, organizza
"Si parte, "",
"massicle di ottoro ritorna l'appuntamento settiamanale per famiglio, organizza
"Si parte, "",
"on Storie da castello:"
",
"materia_ida": [
22,
25,
5
```

## Meeting data requirements [3]

- Extract the list of categories from 'materia'
- 2 Create a dictionary of unique categories and provide unique IDs to each category
- Loop over the meeting data
- Add a new field 'Materia ID'
- Populate the category IDs for the respective category in 'Materia'

## Facebook data requirements: Sample

- Extract the list of categories from 'materia'
- 2 Create a dictionary of unique categories and provide unique IDs to each category
- Loop over the meeting data
- Add a new field 'Materia ID'
- Populate the category IDs for the respective category in 'Materia'

```
*Mosts*:[

"Mosts*:[

"Mosts*:[
```

## Result [1]



## Result [2]

