Exploring cultural data from UNESCO using semantic technologies:

Key concepts of RDF

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RDF

The Resource Description Framework is a data model.

RDF[1] is:

- a framework for describing resources on the web
- part of the semantic web activity
- a W3C[2] Recommendation from 10 February 2004
- designed to be read and understood by computers

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[1]https://www.w3schools.com/XML/xml_rdf.asp
[2]World Wide Web

Statements or triplets

In RDF, information is represented by *statements* or *triplets* of
$resource_1$ - relation - $resource_2$ called:

1. **suject**
2. **predicate**
3. **object**

Examples of statements:

- CLIHC   is a   congress
- UNESCO   is an   international organization

Components of RDF

- The components of RDF could be International Resource Identifiers (URIs[3] $\subseteq$ IRIs), literals (basic values such as strings, dates, numbers) and black nodes

- While IRIs are based on unicode, URIs are based on ASCII code

- Examples of IRIs are the following:
    - `https://schema.org/Organization`
    - `http://www.something.com/someFile.owl#`

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[3]Uniform Resource Identifiers

Statements are often represented by using graphs. For example:

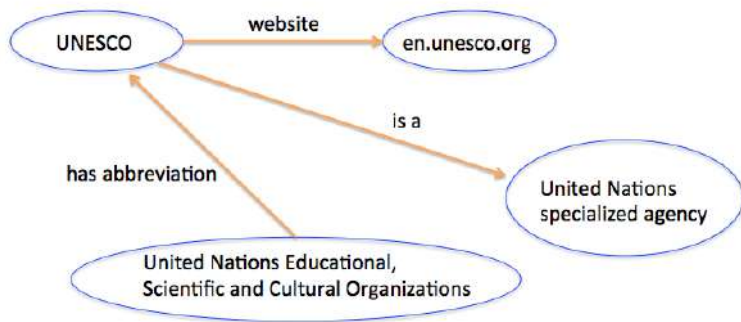**Fig. 1.** An RDF graph with several statements.

```
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix ws: <http://www.mauxmedina.com/re12/workshop#> .

ws:UNESCO ws:hasAbbreviation "UNESCO" ;
          ws:website "en.unesco.org";
          rdfs:label "United Nations specialised agency"@en,
                     "Agencia especializada de las Naciones Unidas"@es.

ws:workshop rdfs:comment "Let's explore some UNESCO data".
```

Fig. 2. Example of RDF statements using the Turtle syntax.

Fig. 3. Using the Turtle validator.

Thanks a lot! ☺

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