LORE guidelines

LORE provides guidelines (towards humans) for creating/transforming relations that are used in Linked Data

Rationale:

1) Create more recall on queries

2) LORE can apply computational rules to transform such relations to a more formal and standardized set of relations.

LORE guidelines

Linked Data publishers can be taught some basic distinctions between:

- URIs and literals
- Action relations and ontological relations
- Individuals and classes
- …

The guidelines are ordered so that the most basic understanding is assumed for the first guidelines.

1) Restrict the number of relations

Both for achieving a high recall on queries, as for knowledge management reasons, a low number of relations is desired.

2) Reuse standardized relations

Examples:

- LORE relations
- RDF, RDFS and OWL
- Dublin Core
- Foaf
- OBO
- SKOS
- Good relations
- ...

3) Use mnemonic URIs for relations

Examples:

- partOf
- contains
- has-function

Do not use numbers. Using only labels for human communication may require extra **computational power** and **programming efforts**. URIs should be more stable than labels and definitions.

4) Use a verb in labels

Examples:

- **Is** part of
- Contain**s**
- **Has** function

The use of a verb provides an interpretation of the relation. An example of where it went wrong: 'Rolegroup' in SNOMED CT, where is meant: 'includes' or 'has part' or 'assumes the existence of'. Conjugation should be in **third person singular**.

5) Use *has*-relations for attributes

The attributes in attribute-value schemes can be transformed to relations. E.g.:

- Attribute: temperature → has temperature
- Attribute: length → has length
- Attribute: author → has author

6) Add range classes

When the name of a relation consists of “has+word”, e.g. “has function”, “has author”, then find the intended class (function, author) and add it as the range

- URI:has-function rdfs:range URI:function
- URI:hasAuthor rdfs:range URI:author
- URI:hasTemperature rdfs:range URI:temperature

7) Distinguish relations to literals

To literal

- has temperature
- has length
- has price
- has description

To URI

- has writer
- has location
- has brand

Relations that target numbers (and literals in general) cannot be dealt with in the same way.

8) Add processes to action relations

LORE provides a special meta-relation that enables to connect a relation with a (process) class. E.g.:

Subject: URI:has-creator

Predicate: LORE:relationHasTargetToOutput

Object: URI:creating_process

9) etc.