

SKOS



in a nutshell
fabien, gandon, inria

Simple

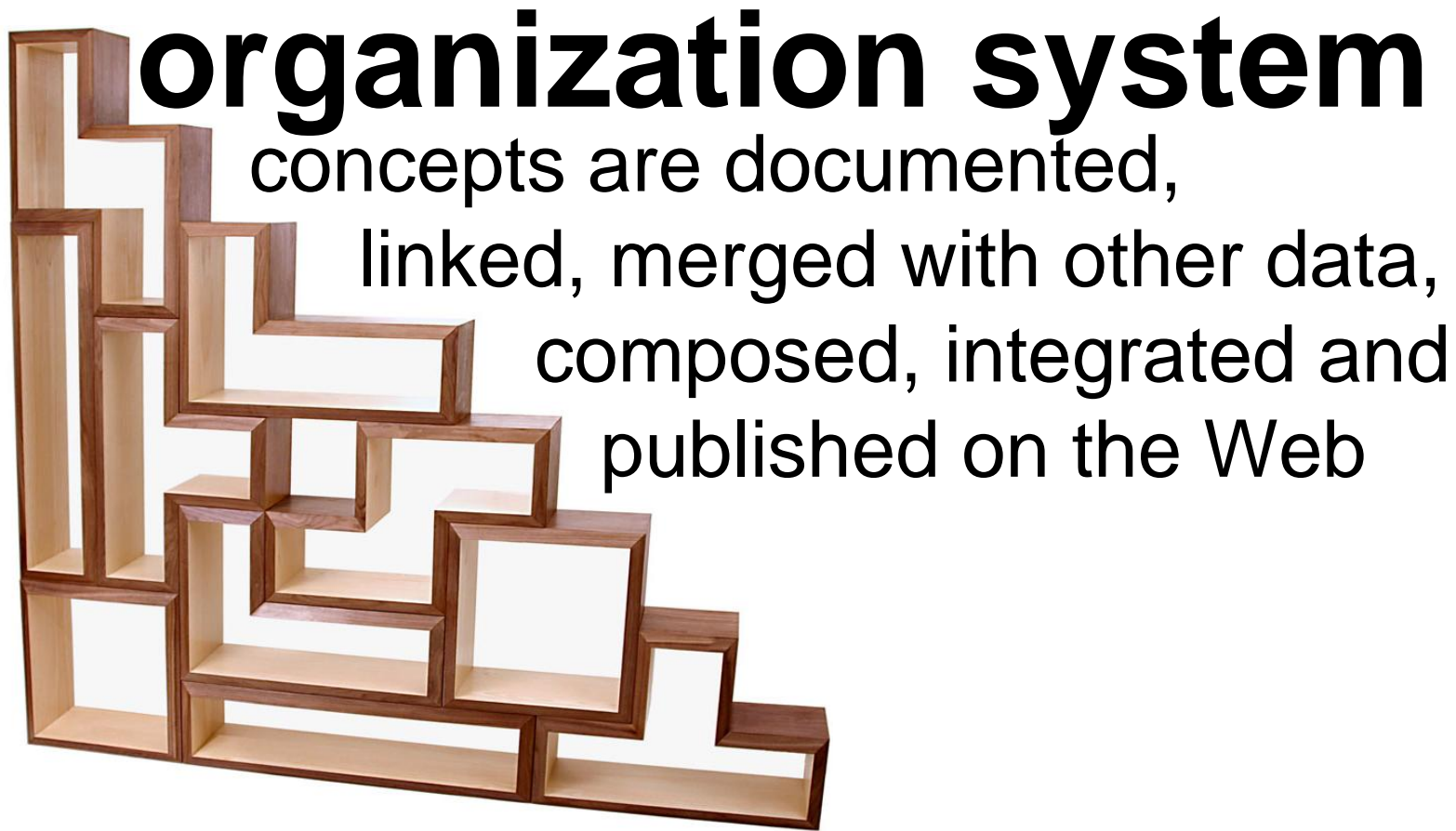
Knowledge

Organization

System

SKOS knowledge

thesauri,
classifications,
subjects,
taxonomies,
folksonomies,
... controlled
vocabulary



organization system

concepts are documented,

linked, merged with other data,

composed, integrated and

published on the Web



not a competitor of RDF/S or OWL but an
application of RDF/S & OWL

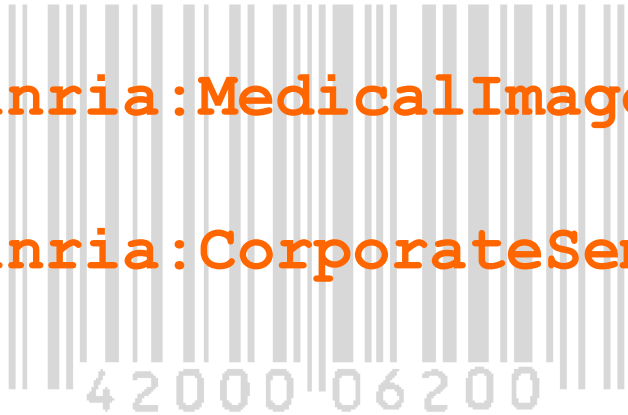
concepts

are identified by URIs using RDF  triples e.g.

`inria:Mathematics rdf:type skos:Concept.`

`inria:MedicalImagery rdf:type skos:Concept.`

`inria:CorporateSemanticWeb rdf:type skos:Concept.`





natural language expressions to refer to concepts

inria:CorporateSemanticWeb

skos:prefLabel "corporate semantic web"@en;

skos:prefLabel "web sémantique d'entreprise"@fr;

skos:altLabel "corporate SW"@en;

skos:altLabel "CSW"@en;

skos:hiddenLabel "web semantique d'entreprise"@fr.

specialized labels are three
pairwise disjoint descendants of RDF labels...

... one preferred label per language used as *descriptor*

... alternative labels, synonyms, abbreviations, acronyms

... hidden labels for internal processing.

constraints

one preferred label per language

inria:CorporateSemanticWeb

```
skos:prefLabel "corporate semantic web"@en;  
skos:prefLabel "corporate SW"@en;
```



constraints

a label is either preferred or alternate

inria:CorporateSemanticWeb

```
skos:prefLabel "corporate semantic web"@en;  
skos:altLabel  "corporate semantic web"@en;
```



constraints

a label is either preferred or hidden

inria:CorporateSemanticWeb

```
skos:prefLabel "corporate semantic web"@en;  
skos:hiddenLabel "corporate semantic web"@en;
```



constraints

a label is either alternative or hidden

```
inria:CorporateSemanticWeb
```

```
skos:altLabel "corporate semantic web"@en;  
skos:hiddenLabel "corporate semantic web"@en;
```



semantic relationships

the links a concept maintains to other concepts...

... **broader** and **narrower** concepts

... concepts somehow **related**.



broader / narrower relationships
assert that a concept is broader/narrower
in meaning



... **broader** and **narrower** are inverse relations

... **broader** and **narrower** are not transitive but
broaderTransitive and **narrowerTransitive** are.

relationships

 example

inria:CorporateSemanticWeb

skos:broader w3c:SemanticWeb;

skos:narrower inria:CorporateSemanticWiki;

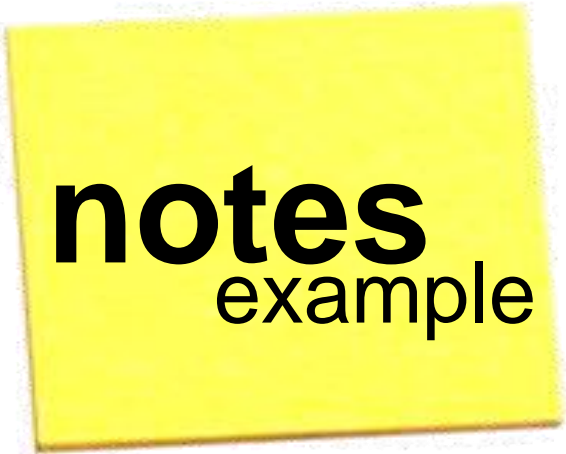
skos:related inria:KnowledgeManagement.

notes for general documentation purposes...

- ... **scopeNote** an indication of how the use a concept is limited in practice.
- ... **definition** a complete explanation of the intended meaning of a concept.
- ... **example** of the use of a concept

notes for general documentation purposes...

- ... **historyNote** describes significant changes to the meaning or the form of a concept
- ... **editorialNote** for administrative housekeeping, TODOs, or warnings
- ... **changeNote** to keep tracks of changes administration and maintenance



notes example

inria:CorporateSemanticWeb

```
skos:scopeNote "only within KM community";  
skos:definition "a semantic web on an intranet";  
skos:example "Nokia's internal use of RDF gateway";  
skos:historyNote "semantic intranet until 2006";  
skos:editorialNote "keep wikipedia def. uptodate";  
skos:changeNote "acronym added by fabien".
```



schemes

are compiled sets of concepts

ConceptScheme class & **inScheme** relationship to link a concept to a scheme.

hasTopConcept relationship for the entry points of the narrower / broader hierarchy

example
scheme

inria:CorporateSemanticWeb

skos:inScheme inria:ResearchTopics.

link

schemes



map concepts from different schemes using the properties: **exactMatch**, **broadMatch**, **narrowMatch** and **relatedMatch**.

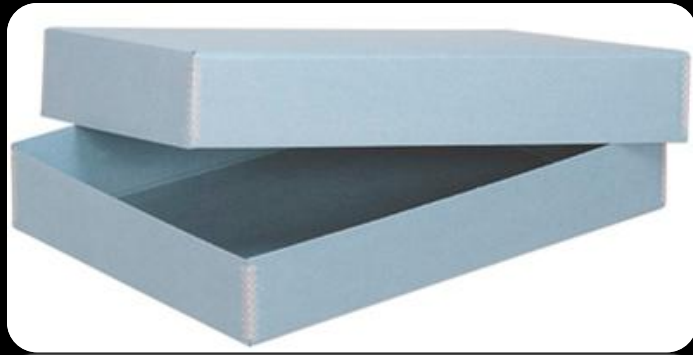
advanced

SKOS



Collection class to tie specific concepts together with the **member** property ; OrderedCollection class to order a collection of label as list with the **memberList** property.

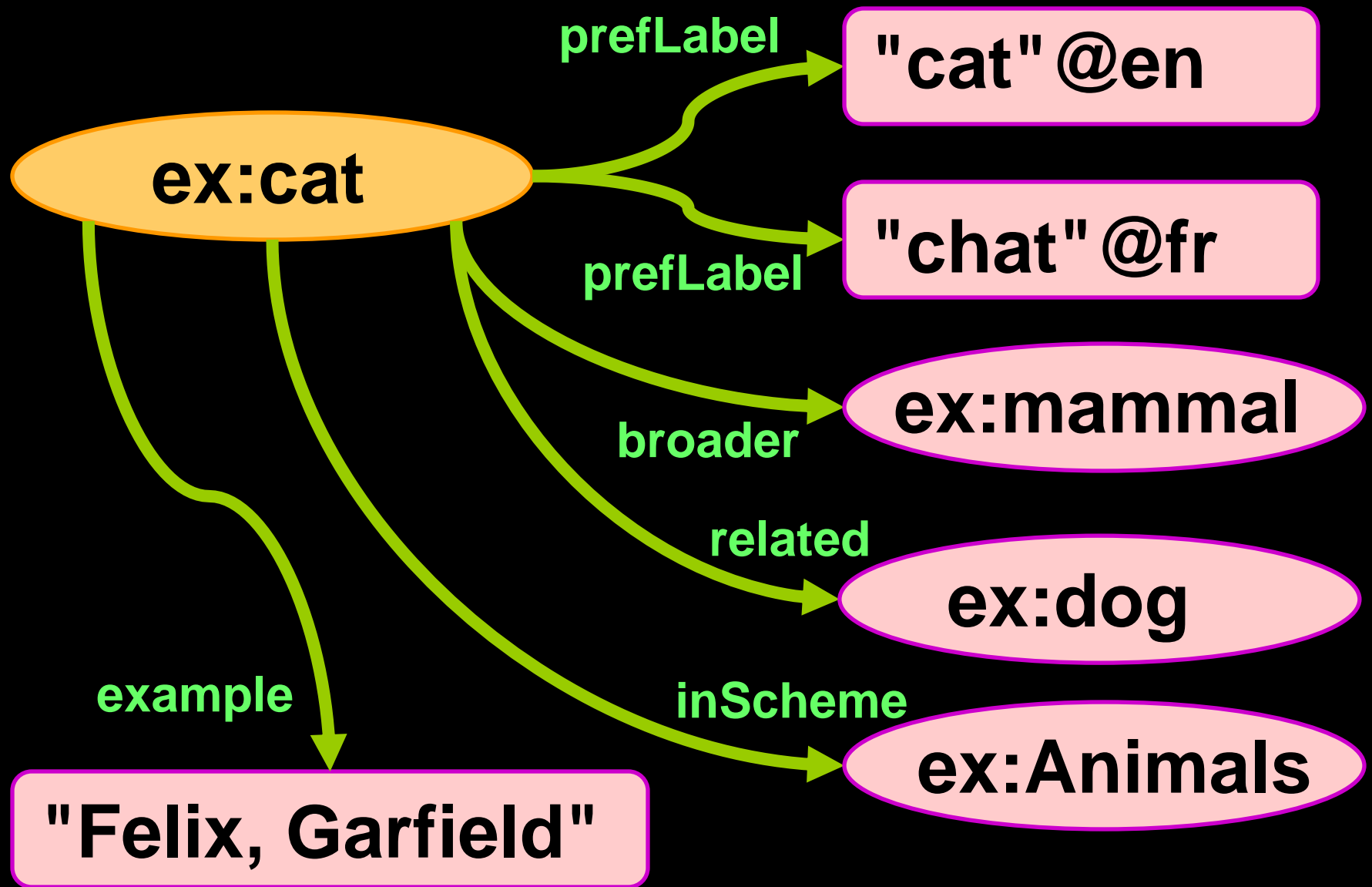
LabelRelation class to represent relationships between labels with properties **labelRelated** and **seeLabelRelation**



take home summary

simple concepts

organization labels with preferences,
relationships & narrower / broader hierarchies,
modularity through schemes ,
readable descriptions in notes.



fabien, gandon

