

# *Linked Data Standards (SKOS)*

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**SKOS: A W3C Recommendation**

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(Who gets by with a little help  
from Ed Summers)

# What is it?

## *Simple* Knowledge Organisation System(s)

- SKOS is an ***RDF Vocabulary***...
- for ***declaring*** and ***publishing taxonomies, thesauri*** or ***classification schemes***, for use in a distributed, decentralised information system (i.e. a semantic web).
- for **describing Concepts** and **creating relationships between Concepts and Terms**
- A practical application of **RDF**
- the application of library science to the semantic web.
  - SKOS provides a **formal language** for representing **controlled, structured vocabularies**

# RDF Vocabularies

- RDFS/OWL Classes and properties describing a single knowledge domain
- Can be described using OWL (Web Ontology Language) or RDFS (RDF Schema)
- Relatively simple compared to Ontologies

# OWL Ontologies

- RDFS/OWL Classes and properties describing a complex knowledge domain
- Must be described using OWL, but may include RDFS properties
- Relatively complex compared to simple RDF Vocabularies
- Makes use of multiple RDF Vocabularies

# The SKOS data model

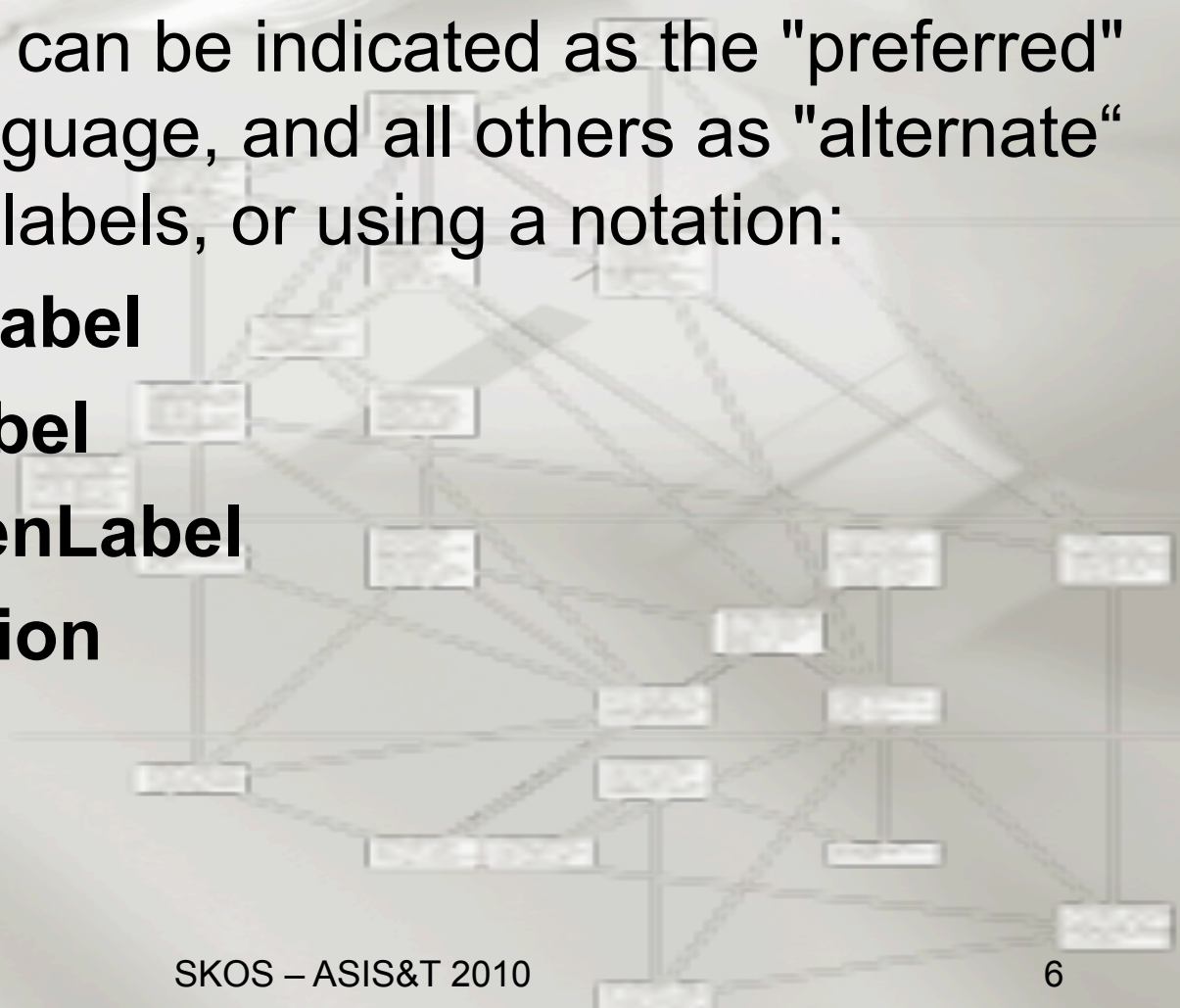
...views a knowledge organization system as a **concept scheme** comprising a set of **conceptual resources** (*concepts*).

- These concept schemes and conceptual resources are identified by URIs.
- The model is multilingual and ***extensible***
- ***Not intended to be used to describe ‘things’ that are not concepts***
  - Can describe/define the concept ‘car’
  - Cannot describe/define the properties of **a** car

# *Concepts can be...*

**labeled** with any number of strings. One label, in any given language, can be indicated as the "preferred" label for that language, and all others as "alternate" labels, "hidden" labels, or using a notation:

- **skos:prefLabel**
- **skos:altLabel**
- **skos:hiddenLabel**
- **skos:notation**



# *Concepts can be...*

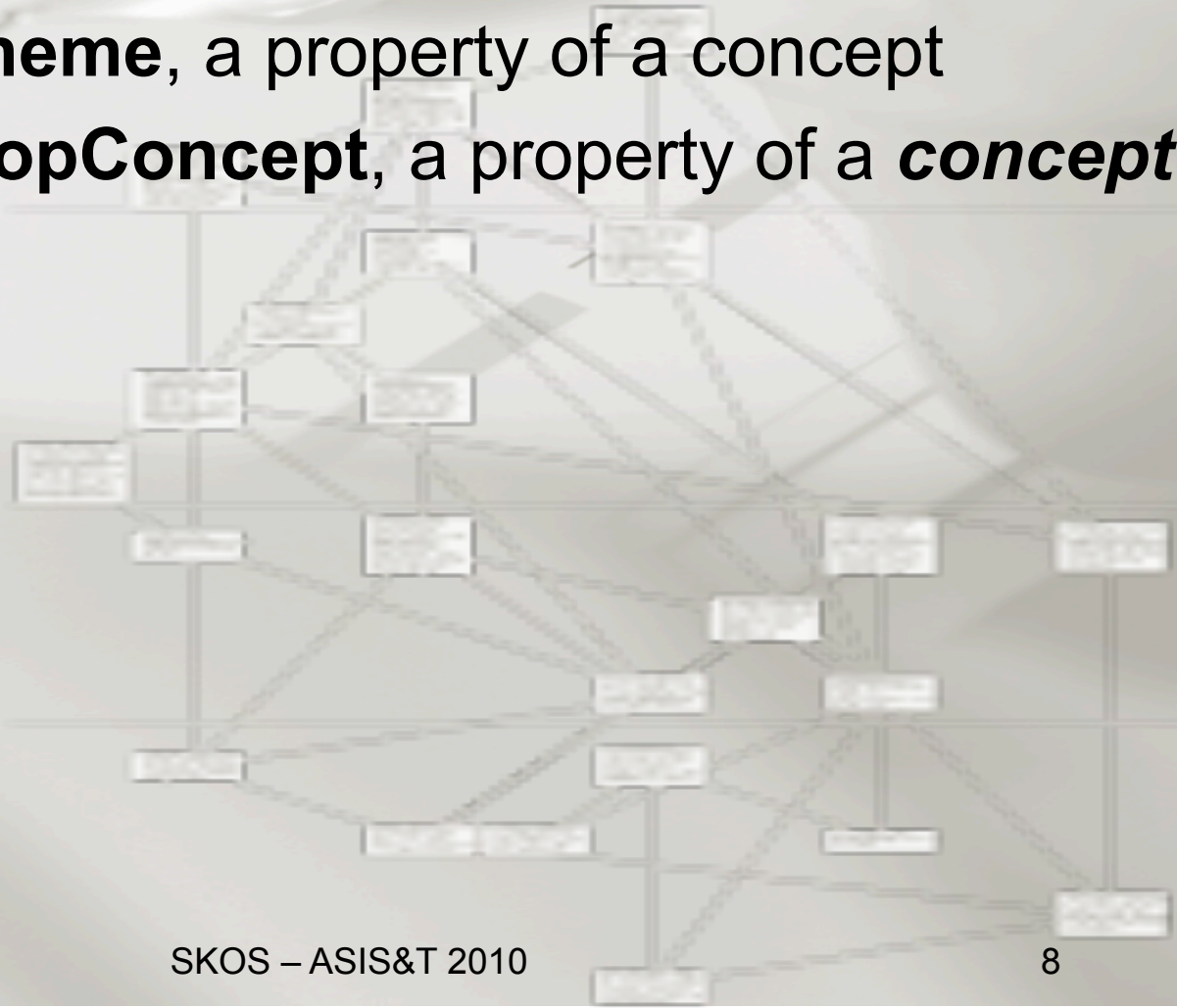
**documented** with any number of notes of various types. This is intended to provide an extensible framework for more specific types of notes:

- **skos:note**
- **skos:changeNote**
- **skos:definition**
- **skos:editorialNote**
- **skos:example**
- **skos:historyNote**
- **skos:scopeNote**

# *Concepts can be...*

**linked** to one or more concept schemes.

- **skos:inScheme**, a property of a concept
- **skos:hasTopConcept**, a property of a *concept scheme*.





# *Concepts can be...*

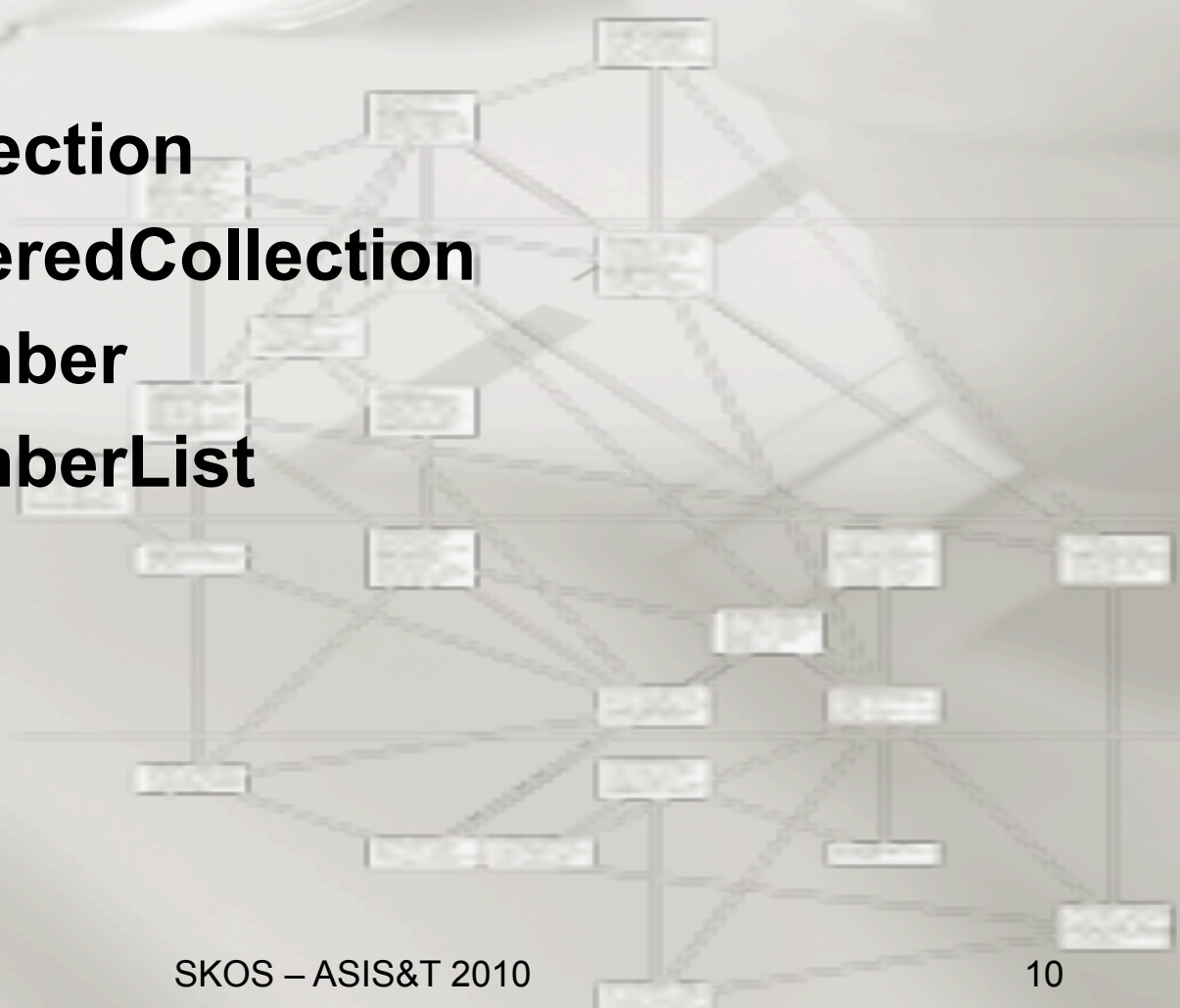
**linked** to other concepts within the same concept scheme.

- Hierarchical links:
  - **skos:broader** and **skos:narrower**
  - **skos:broaderTransitive** and **skos:narrowerTransitive**
- Associative links:
  - **skos:related**

# *Concepts can be...*

**grouped** into **collections**, which can be labeled and/or ordered.

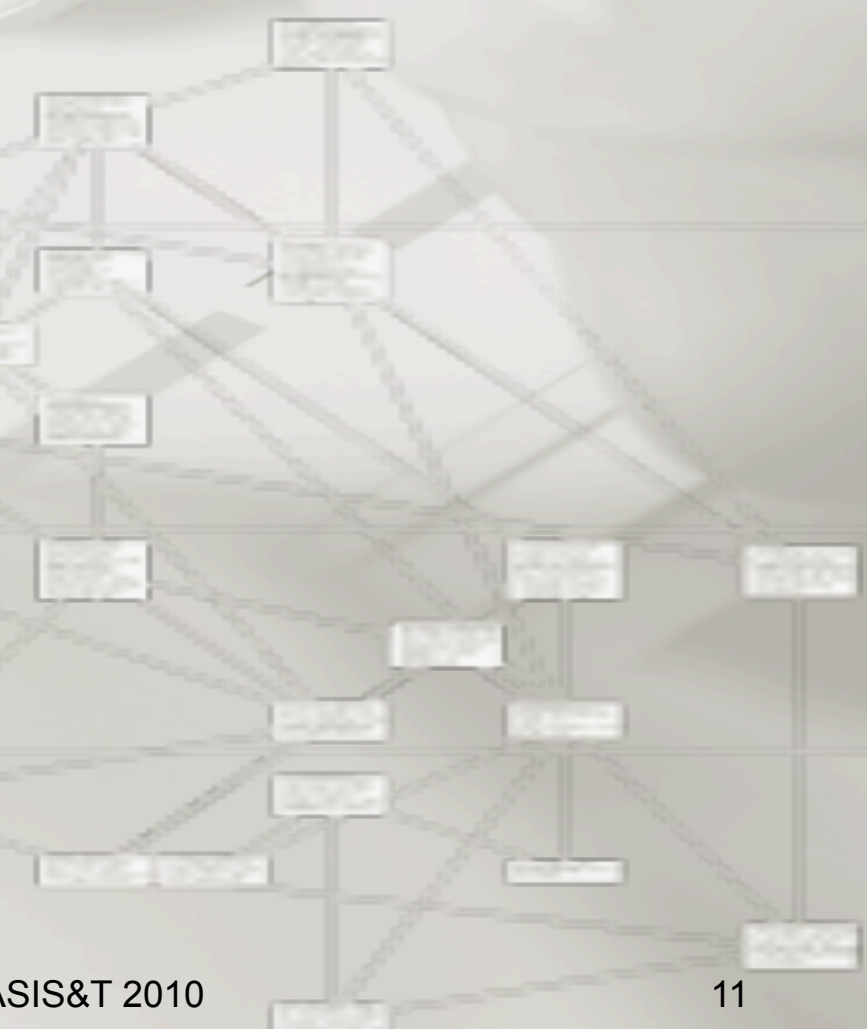
- **skos: Collection**
- **skos: OrderedCollection**
- **skos: member**
- **skos: memberList**



# *Concepts* can be...

mapped to other concepts in *different* concept schemes.

- Hierarchical mapping:
  - **skos:broadMatch**
  - **skos:narrowMatch**
- Associative mapping:
  - **skos:relatedMatch**
  - **skos:closeMatch**
  - **skos:exactMatch**



# *skosxl...*

allows labels to be resources:

<b>skosxl:Label</b>	The skosxl:Label Class
<b>skosxl:literalForm</b>	The skosxl:Label Class
<b>skosxl:prefLabel</b>	Preferred skosxl:Label
<b>skosxl:altLabel</b>	Alternate skosxl:Label
<b>skosxl:hiddenLabel</b>	Hidden skosxl:Label
<b>skosxl:labelRelation</b>	Links Between skosxl:Labels

# SKOS Documentation

- **W3C Semantic Web Deployment Working Group**
  - W3C Recommendation Track  
<http://www.w3.org/2006/07/SWD/>
- **SKOS Use Cases and Requirements**
  - W3C Working Group Note (August 18, 2009)  
<http://www.w3.org/TR/skos-ucr/>
- **SKOS Reference and Primer**
  - W3C Recommendation (August 18, 2009)  
<http://www.w3.org/TR/skos-reference>  
<http://www.w3.org/TR/skos-primer>
- **SKOS Web Site**
  - <http://www.w3.org/2004/02/skos/intro>
  - LCSH, SKOS and Linked data  
<http://arxiv.org/abs/0805.2855>

# JES & Co.

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